CITY OF
CHULA VISTA

Otay Ranch Eastern Urban Center (EUC) Sectional Planning Area (SPA) Plan

Draft Second Tier Environmental Impact Report

Second Tier EIR #07-01

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EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) is an informational document intended for use by the City of Chula Vista, other public agencies, and members of the general public in evaluating the potential environmental effects of the proposed Eastern Urban Center (EUC) Sectional Planning Area (SPA) Plan located in the Otay Ranch subregion of the City. The proposed SPA Plan is a document that refines and implements the land use plans, goals, and objectives of the Otay Ranch General Development Plan (GDP) for the development of the EUC.

CEQA Statute Section 21002 requires that an EIR identify the significant effects of a project on the environment and provide measures or alternatives that can mitigate or avoid these effects. This Draft EIR evaluates the environmental effects associated with development of the proposed EUC SPA Plan and discusses the manner in which the SPA Plan's significant effects can be reduced or avoided through the implementation of mitigation measures or feasible alternatives to the proposed project. In accordance with Section 15130 of the CEQA Guidelines, this EIR also includes an examination of the effects of cumulative development.

The Otay Ranch GDP Program Final EIR (EIR 90-01, SCH #89010154) is incorporated by reference in accordance with CEQA Guidelines Section 15168(d). This Draft EIR addresses environmental issues associate with the EUC that were not evaluated at a project level in the Otay Ranch GDP Program Final EIR and updates information in the Otay Ranch GDP EIR pertaining to the EUC SPA Plan area.

This summary provides a brief synopsis of the project description, project alternatives, and the results of the environmental analysis presented in this EIR document.

1. PROJECT LOCATION AND SETTING

The Otay Ranch GDP planning area lies within the East Planning Area of the City of Chula Vista. The EUC is located in the northeastern portion of the approximate 9,500-acre Otay Valley Parcel of the Otay Ranch GDP project area. Telegraph Canyon Road and the EastLake Community bound the Otay Valley parcel on the north; Lower Otay Lake and the Arco Olympic Training Center from the eastern limits; the Otay River Valley encompasses the southern limits; and other recent development, including Sunbow I and II, the Otay Landfill, and the Coors Amphitheater and Water Park, comprise the western limits. The EUC is an approximately 237-acre parcel located at the east side of State Route 125 (SR-125) between Birch Road and Hunte Parkway. The proposed EUC SPA Plan site comprises approximately 207 acres, or approximately 90 percent, of the total EUC land area.

The EUC parcel consists of fairly flat mesa tops and gently rolling hills within the high point of the Otay Ranch, with elevations ranging from approximately 520 feet above mean seal level (MSL) in the southeast corner of the site to a high of approximately 640 feet above MSL in the center of the property. The EUC area has historically been used for grazing and agriculture and no development presently occurs on the site. The project site is surrounded by existing Otay Ranch development, including the Otay Ranch Town Center (Planning Area Twelve) to the north, north of Birch Road; Village Seven to the west, west of SR-125; and Village Eleven to the east; east of EastLake Parkway.

2. PROJECT BACKGROUND

The proposed EUC SPA Plan is part of the designated EUC planning area within the Otay Ranch GDP. The Otay Ranch GDP was adopted by both the Chula Vista City Council and the San Diego County Board of Supervisors in October 1993. Both agencies were involved in the development and approval of the plan because the planning area included land falling within the jurisdiction of both agencies. The GDP was amended in December 2005. The GDP establishes land plans, design guidelines, objectives, policies, and implementation measures that apply to all portions of Otay Ranch while supporting a balance of housing, shops, workplaces, schools, parks, civic facilities, and open spaces on a total of approximately 23,976.5 acres. The majority of development is intended to be clustered in villages, with conveniently located features and well-defined edges such as the Chula Vista greenbelt, open spaces, and wildlife corridors.

Under the implementation program for the Otay Ranch GDP, review and City Council approval of SPA plans is required before final development entitlements can be considered. The GDP defines the EUC as a regional center that would contain the most intense development in Otay Ranch and would serve as the urban heart of the region. Uses and intensities are intended to create a lively 24-hour environment, with a creative combination of uses, building types and amenities. These uses include regional retail commercial, hotel, office uses, and medium to high density residential uses. Retail and office development within the EUC would be of an intensity compatible with a “downtown” urban center. The most intense development is concentrated near the transit station, with building heights and sizes gradually decreasing near the edge of the planning area.

3. PROJECT DESCRIPTION

The proposed project consists of four components, including (1) the EUC SPA Plan, (2) the off-site Soils Stockpiling Area (SSA); (3) off-site Salt Creek Sewer Lateral Improvement Area (SCSL); and (4) the off-site Poggi Canyon Sewer Improvement Area (PCSI).

A. EUC SPA Plan

The proposed SPA Plan is comprised of the following land uses: a maximum of 2,983 multi-family residential units; a maximum of 3.487 million square feet of non-residential floor area; approximately 16 acres of urban parks; a potential approximately 5.5-acre elementary school site; an approximately one-acre fire station site; and approximately 30 acres of street right-of-way. Development would occur in ten specific districts, including five residential neighborhood districts, two gateway districts, a business district, a mixed-use civic/office core district, and a main street district. Although the orientation of specific districts may be more residential or non-residential in character, mixed use would be permitted within all districts. The EUC SPA Plan establishes density/intensity ranges for each district, although density/intensity may be transferred between districts.

The SPA Plan would feature an internal grid street system, with a primary (4-lane major) north-south street providing uninterrupted access between Birch Road and Hunte Parkway. The SPA Plan would provide two access points on Birch Road, three access points on EastLake Parkway, and two access points on Hunte Parkway. A greenway trail linking with the City's Greenway Trail system would enter the EUC via Bob Pletcher Way on the west and exit the EUC via a pedestrian bridge across EastLake Parkway on the east. The EUC would provide a transit station and guideways for Bus Rapid Transit (BRT) and Chula Vista Transit (CVT). Transit stops would be located within ¼ mile of the majority of uses in the EUC.

Site preparation and grading for the EUC would occur under one of two options: Grading Option 1 and Grading Option 2. The estimated earthwork quantity under Grading Option 1 would be approximately 3.6 million cubic yards of cut and fill. Earthwork would be balanced between the EUC and off-site locations, with 2.5 million cubic yards of fill to remain in the EUC and 1.1 million cubic yards to be exported off-site to an approximately 30.3-acre parcel to the south in the designated Village Nine. Grading Option 2 recognizes that adjacent property owners may not consent to off-site grading and balances quantities within the project site and a portion of the remainder of the EUC, including the Hunte Parkway right-of-way. Under this option, the estimated earthwork quantity under Option 2 would comprise 3.2 million cubic yards of cut and fill. Under this option, the grading necessary for the construction of the off-site portions of Streets A, B, C and M, and Hunte Parkway is evaluated.

Development of the EUC SPA Plan would occur non-sequentially to allow flexibility based on market changes or regulatory constraints and public infrastructure needs/requirements. It is assumed that construction could begin in late 2009 with buildout of all residential units within the EUC SPA Plan area by Year 2020, along with approximately two million square feet of non-residential uses. The remainder of the project is estimated to be built out by Year 2030.

The proposed EUC SPA Plan is consistent with the maximum residential development and non-residential floor area set forth in the Otay Ranch GDP and no amendments of the General Plan or GDP are required.

B. Off-site Soils Stockpiling Area (SSA)

Under Grading Option 1, the approximately 59-acre off-site SSA to the south would be affected. Therefore, stockpiling on the SSA is evaluated in the EIR as a potential component of the proposed project. Stockpiling activities include grading and compaction of fill soils. Grading would be completed in one or two phases. Under the single phase, stockpiling and grading would be completed in approximately 12-18 months and under the two-phase, the first phase would be completed in 9 months and second phase would be completed in 12 months.

C. Off-site Salt Creek Sewer Lateral Improvement Area (SCSL)

The SCSL would involve the addition of a 173-foot, 15-inch diameter sewer line to the Salt Creek trunk sewer within an approximate 1.44-acre area. The proposed sewer pipeline would be installed using a combination of conventional open trench excavation and boring and jacking. The SCSL will also include modification of an upstream manhole. This project would be short-term in nature.

D. Off-site Poggi Canyon Sewer Improvement Area (PCSI)

The PCSI involves the replacement of a section of 18-inch line with a section of 21-inch line within the Olympic Parkway and Brandywine Avenue intersection. The PCSI project would require an approximately 8-foot-wide, 14-foot-deep excavation trench. This project would be short-term in nature.

E. Discretionary Actions

A discretionary action is an action taken by an agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. The following discretionary actions are associated with the proposed EUC project and would be considered by the Chula Vista Planning Commission and City Council:

(1) Adoption of the SPA plan and associated documents including, but not limited to:

- SPA Plan,
- Form Based Code (Planned Community District Regulations & Village Design Plan),
- Public Facilities Financing Plan/Fiscal Impact Analysis,
- Air Quality Improvement Plan,
- Water Conservation Plan,
- Non-renewable Energy Conservation Plan,

- Affordable Housing Plan, and
- Urban Parks, Recreation, Open Space & Trails Plan.

(2) Approval of Tentative Subdivision Map to establish the layout of land uses, developable and open space lots, and infrastructure requirements for the EUC;

(3) Certification of a Final EIR and adoption of a Mitigation Monitoring and Reporting Program pursuant to the California Environmental Quality Act (CEQA).

Potential future discretionary actions may include approval and adoption for a Parks Agreement and a Development Agreement. If it is determined that either of the agreements deviates from the impacts analyzed in this EIR, additional environmental review will be conducted prior to approval of the Agreement, in accordance with CEQA.

In addition, this EIR may be used by other responsible agencies to implement the proposed project, including the Regional Water Quality Control Board.

4. ENVIRONMENTAL ANALYSIS

Table ES-1, *Summary of Environmental Impacts and Mitigation Measures,* on page ES-8 summarizes the project's impacts according to established thresholds under each environmental issue, proposed mitigation measures, and potential significant and unavoidable impacts after the implementation of all feasible mitigation measures as analyzed in detail in Section 4.0 of this EIR.

5. PROJECT ALTERNATIVES

Three project alternatives have been evaluated in the Draft EIR. These include: (1) the "No Project" Alternative;" (2) the "Reduced Density Alternative;" and (3) the "Adjusted Land Use Mix" Alternative. The No Project Alternative assumes that no SPA Plan would be developed within the EUC, and the existing land uses within the project site would remain unchanged. Accordingly, this alternative would be equivalent to the conditions discussed under existing conditions for each category analyzed in this Draft EIR. The project site would remain in agricultural use or remain fallow. Since no development would occur, environmental impacts associated with construction and development would be avoided. The No Project Alternative would avoid the proposed EUC SPA Plan's significant and unavoidable impacts associated with the permanent change in visual character of the project site from open space to dense urban development; construction and operation air emissions; cumulative traffic impacts on three segments of the I-805 freeway; and permanent loss of Farmland of Local Importance. However this alternative would be less beneficial than the project in meeting the General Plan and GDP objectives that call for the Eastern Urban Center to function as the high-density, mixed use downtown and regional heart of the Otay Ranch Subarea and East Planning Area.

In addition, the No Project would be less beneficial in that it would not provide a link in the City's Greenway Trail; it would not remediate existing stockpiled soils that have the potential to impact downstream habitat; it would not remediate soils containing OPCs associated with the former use of pesticides in the project site; and it would not provide affordable housing, as would the proposed project. The No Project Alternative would not achieve any of the project objectives and would be inconsistent with the General Plan and GDP. As school, fire, and library sites would not be provided this alternative would result in a significant impact on these region-serving public services.

The Reduced Density Alternative ("Alternative 2") would reduce overall development by 25 percent, resulting in a total 2,237 residential units and 2.62 million square feet of non-residential floor area. This alternative assumes that the project's library and fire station would be respectively reduced commensurate with reduced demand. The Greenway Trail would be developed as under the proposed EUC SPA Plan. In addition, a 5- to 6-acre school site would be provided as under the proposed project. However, parkland and in lieu fees would be proportionately reduced by 25 percent for a total of 11.72 acres of parkland and in lieu fees equivalent to 5.8 acres, for a total equivalent to 17.5 acres. Alternative 2 would meet the basic objectives of the projects, but assumes that the EUC would have an overall lower building profile than anticipated under the Otay Ranch GDP. In contrast to the proposed project, this alternative would be inconsistent with the General Plan and GDP and would, therefore, require a General Plan Amendment and GDP Amendment. Alternative 2 would reduce impacts that are population based and, therefore, would have incrementally less impact on services and utilities. Due to reduction in daily and peak hour traffic, this alternative would incrementally reduce impacts associated with mobile air quality, mobile noise, and traffic, including four previously significantly impacted intersections prior to mitigation. However, this alternative would not reduce the project's significant and unavoidable impacts associated with the permanent change from open space to dense urban development, construction and operation air emissions, cumulative traffic on three segments of I-805, and the permanent loss of Farmland of Local Importance.

The Adjusted Land Use Mix Alternative ("Alternative 3") would change the project's mix of land uses, including a 62.5 percent increase in residential units and a 53.5 percent decrease in total non-residential floor area. Alternative 3 would provide 1.62 million square feet of non-residential uses (including an elementary school) and 4,850 residential units. Other changes from the EUC SPA Plan would be a 40 percent reduction in hotel rooms, and an increase in parkland (20.37 acres of parkland and seven parks, compared to the proposed project which would provide 15.63 acres of parkland and six parks). Although Alternative 3 would provide 30 percent more parkland than the proposed project, as residential uses would increase 62.5 percent, parkland obligation would respectively increase. High Rise Commercial/Office floor area and civic/public facilities would be the same as under the proposed project and the reduction in non-residential floor area would be primarily made with respect to regional and local retail uses. Alternative 3 would generate 52,097 fewer trips than the proposed project. There would be a corresponding reduction in A.M. and P.M. peak hour trips. As with the proposed project, all impacts to the study area intersections and roadway segments would be

reduced to less than significant. Significant and unavoidable impacts along three segments of the I-805 freeway would not be avoided with the alternative.

Alternative 3 would not implement the GDP in providing a mixed-use environment in which residential uses are intermixed with a strong retail component to the same extent as the EUC SPA Plan. In addition, it would exceed the GDP and General Plan estimated residential units for the EUC by 62.5 percent. The 53.5 percent reduction in non-residential floor area would be less in keeping with the objective to establish a flexible and responsive land use and facility plan which assures project viability in existing and future economic cycles, since Alternative 3 is predominantly residential. Due to the change in the balance of residential and non-residential uses, Alternative 3 would not implement the goals, objectives, and policies of the Chula Vista General Plan and the Otay Ranch GDP to achieve a mixed-use urban place that sets itself apart from surrounding suburban villages to the same extent as the proposed project. Amendments to the General Plan and GDP would be required to implement this alternative. Alternative 3 would have the same significant and unavoidable impact as the project regarding the change in the open space character of the project site to dense urban use and would not avoid the project's significant and unavoidable impact construction and operation air emissions; permanent loss of Farmland of Local Importance; and cumulatively significant and unavoidable impacts on three segments of the I-805 freeway. In addition, unlike the proposed project, Alternative 3 would have a significant and unavoidable impact on schools. Alternative 3 would have an incrementally greater impact on geology, fire, police, library, water, wastewater, solid waste, and population.

The No Project Alternative would be the environmentally superior alternative, as it would entirely avoid the proposed project's significant and unavoidable reduction of open space, air quality, loss of agricultural lands, and cumulative impacts on the I-805. However, as the No Project Alternative is determined to be environmentally superior, an environmentally superior alternative must also be identified among the remaining alternatives. Thus, Alternative 2 is identified as the environmentally superior alternative as it would incrementally reduce traffic; mobile and stationary operational air emissions; operational noise; biological resources, water quality, exposure to geologic hazard; demand for fire and emergency services, police services, schools, libraries, water supply, wastewater, solid waste services; and impacts affecting global climate change. However, as with Alternative 3, this alternative would not eliminate any of the project's significant and unavoidable impacts associated with the change in the open space character of the project site; construction and operation emissions, and loss of Farmland of Local Importance.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Land Use:		
Threshold 1: Physically divide an established community (incompatibility with adjacent and surrounding uses.		
Construction and operation of the project (EUC SPA Plan and off-site SSA, SCSL, and PCSI) would not physically encroach upon or physically divide existing established communities or land uses. The proposed project would be compatible with existing and planned adjacent land uses. Therefore, impacts with respect to this threshold would be less than significant.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Threshold 2: Conflict with any applicable land use plan, policy, regulation, or agency with jurisdiction over the project, adopted for the purpose of avoiding or mitigating an environmental effect.		
Construction and operation of the project would be consistent with all applicable land use plans and policies, and other regulatory plans. Therefore, impacts with respect to this threshold would be less than significant.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Threshold 3: Conflict with any applicable habitat conservation plan or natural community habitat conservation plan.		
Construction and operation of the proposed project would be consistent with the MSCP and RMP regarding preservation standards, sensitive resource studies, maintenance and monitoring programs, and	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
control of water runoff and water quality and, therefore, impacts with respect to this threshold would be less than significant.		
Landform Alteration/Aesthetics:		
Thresholds 1 and 2: 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.		
Construction and operation of the project would not significantly impact view resources. However, a mitigation measure is recommended to ensure that future development in an 89-foot portion of the project site along Hunte Parkway would meet the City's Scenic Roadway standards.	**Mitigation Measure 4.2-1:** Prior to approval of landscape improvement plans that involve the 89-foot portion of the EUC SPA Plan's District 10 abutting Hunte Parkway, the Applicant shall demonstrate to the satisfaction of the City Engineer that future development, slope grading and landscaping, signage and utilities will enhance the scenic quality of the route.	Less than significant with mitigation
Threshold 3: Substantially degrade the existing visual character or quality of the site and its surroundings.		
Development of the site would change the undeveloped, open character of the project site to one of high-density urbanized uses, which is considered to be a potentially significant impact.	No feasible mitigation measures have been identified that would reduce this impact to a less than significant level.	Significant and unavoidable impact regarding the visual change from open space to urban development.
Threshold 4: Be inconsistent with General Plan, GDP or other objectives and policies regarding visual character thereby resulting in a significant physical impact.		

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
The project would be consistent with the General Plan's policies that address aesthetic character and landform. Therefore, potential impacts with respect to this threshold would be less than significant.	No significant impacts have been identified, no mitigation measures are required.	Less than significant
Threshold 5: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.		
Light and glare impacts would be less than significant. However, because potential impacts associated with shade, shadow and wind access impact cannot be determined until the specific locations, sizes, and orientation of future buildings are established, this impact is considered potentially significant.	**Mitigation Measure 4.2-2:** In accordance with Section 04.04.001 of the FBC, prior to design review approval for any structure eight stories and above, the Applicant shall prepare to the satisfaction of the Development Services Director, a light, shadow and wind pattern analysis demonstrating that adjacent shadow-sensitive uses are not shadowed for more than 3 hours between 9:00 A.M. and 3:00 P.M. during the winter or for more than 4 hours between 9:00 A.M. and 5:00 P.M. during the summer or any approved City-standard in place at the time the light, shadow and wind pattern analysis is performed.	Less than significant with mitigation.
Threshold 6: Alter areas of sensitive landforms or grade steep slopes that may be visible from future development and roadways that negatively detract from the prevailing aesthetic character of the site or surrounding area.		
Exposed slopes and other alterations in EUC SPA Plan area or the SSA would not detract from the prevailing aesthetic character of the site or surrounding area. Grading associated with off-site roads under Grading Option 2 would be temporary	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
until the adjacent property is developed with planned uses and ultimate grades. Thus, landform alteration impacts would be less-than-significant.		
Transportation:		
Threshold 1: Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).		
Intersections:		
Potentially significant impacts would occur at the following intersections:		
Horizon Year 2010 With Project: • Intersection #7 • Intersection #8	*Horizon Year 2010 With Project:* **Mitigation Measure 4.3-1:** Intersection #7: Prior to implementation of the first phase of the project (with 1st EDU) at the intersection of Olympic Parkway/Brandywine Avenue, the Applicant shall secure or construct the re-striping of the northbound approach to include one thru lane and one shared thru-right lane and coordinate SB I-805 Ramps through Brandywine on Olympic Parkway.	
Horizon Year 2015 With Project: • Intersection #8	**Mitigation Measure 4.3-2:** Intersection #8: Prior to implementation of the first phase of the project (with 1st EDU) at the intersection of Olympic Parkway/ Heritage Road, the Applicant shall secure or construct the addition of a southbound right-turn overlap phase.	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Horizon Year 2020 With Project: • Intersection #19	*Horizon Year 2020 With Project:* **Mitigation Measure 4.3-3:** Intersection #19: Prior to implementation of the third phase of the project (3,070 proposed project EDU's) at the intersection of Main Street/Heritage Road, the Applicant shall secure or construct the addition of dual northbound and dual eastbound right-turn lanes.	Less than significant with mitigation.
Horizon Year 2030 With Project: • Intersection #1 • Intersection #7 • Intersection #15 • Intersection #16 • Intersection #19 • Intersection #21	*Horizon Year 2030 With Project:* **Mitigation Measure 4.3-4:** Intersection #1: Prior to implementation of the final phase of the project (5,270 proposed project EDU's) at the intersection of Telegraph Canyon Road/Heritage Road, the Applicant shall secure or construct the addition of an exclusive westbound right-turn lane and widening of the north leg to provide three thru lanes. **Mitigation Measure 4.3-5:** Intersection #15: Prior to implementation of the final phase of the project (at 5,270 proposed project EDU's) at the intersection of Birch Road/La Media Road, the Applicant shall secure or construct the conversion of a westbound thru lane into a shared westbound thru/right-turn lane. **Mitigation Measure 4.3-6:** Intersection #16: Prior to implementation of the final phase of the project (at 5,270 proposed project EDU's) at the intersection of Birch Road/Magdalena Avenue, the Applicant shall secure or construct the addition of an exclusive eastbound right-turn lane.	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	Mitigation Measure 4.3-7: Intersection #19: Prior to implementation of the final phase of the project (at 5,270 proposed project EDU's) at the intersection of Main Street/Heritage Road, the Applicant shall secure or construct the addition of a dual northbound and a dual eastbound right-turn lanes and the addition of a dual southbound right-turn overlap phase. **Mitigation Measure 4.3-8:** Intersection #21: Prior to implementation of the final phase of the project (at 5,270 proposed project EDU's) at the intersection of Rock Mountain Road/Magdalena Avenue, the Applicant shall secure or construct the addition of a dual southbound left-turn lane and a dual northbound right-turn lane.	
Roadway Segments: If the SR-125/Otay River Valley interchange is not constructed, the Hunte Parkway segment between SR-125 and Street A would operate over capacity under Year 2030 with Project conditions. All other road segments would operate at acceptable levels of service because intersections along the road segments would operate at acceptable levels of service.	**Mitigation Measure 4.3-9:** Hunte Parkway (SR-125 to Street A): Prior to 5,270 EDU's and if SR-125 and the Otay Valley Road interchange is not constructed, the Applicant shall secure or construct two auxiliary lanes on this roadway segment as determined necessary by the City Engineer.	
Freeway Segments: Potentially significant impacts would occur in the following Horizon years:	No mitigation measures are available to reduce the projects significant cumulative impact with respect to freeway segments.	Significant and unavoidable impact: • NB Interstate 805 – Telegraph Canyon Road to Olympic

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Year 2015 With Project: • SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway *Year 2020 With Project :* • NB Interstate 805 – Telegraph Canyon Road to Olympic Parkway • SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway *Year 2030 Build-Out With Project:* • NB Interstate 805 – Telegraph Canyon Road to Olympic Parkway • SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway • SB Interstate 805 – Olympic Parkway to Main Street		Parkway (2020 and 2030 – Cumulative) • SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway (2015, 2020, and 2030 – Cumulative) • SB Interstate 805 – Olympic Parkway to Main Street (2030 – Cumulative)
<u>Project Boundary Intersections:</u> Potentially significant impacts would occur in the Year 2030 Build-Out With Project: • Hunte Parkway and EastLake Parkway • Hunte Parkway and Street A.	**Mitigation Measure 4.3-10:** Prior to completion of the entire project (8,035 proposed project EDU's), at the Hunte Parkway/EastLake Parkway intersection, the Applicant shall secure or construct a right-turn overlap phase for the eastbound, westbound, and northbound movements. **Mitigation Measure 4.3-11:** Upon connection of Street A to Hunte Parkway, the Applicant shall secure or construct the Hunte Parkway/ Street A intersection	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	with a fourth eastbound through lane, a dual northbound left-turn lane, and a southbound right-turn overlap phase.	
Other Traffic Issues: The project would have a potentially significant impact with respect to consistency with the PFFP thresholds.	**Mitigation Measure 4.3-12:** The Applicant, in cooperation with the City of Chula Vista, shall monitor the necessary timing to construct the SR-125 and Rock Mountain Road interchange to ensure that this improvement is constructed prior to surpassing the PFFP threshold of 5,270 proposed project EDU's. **Mitigation Measure 4.3-13:** The Applicant shall construct or enter into an agreement with the City of Chula Vista to construct and secure, in accordance with Section 18.16.220 of the Municipal Code, the required street improvements, including traffic signals, prior to the approval of the final map that contains the cumulative EDU trigger. **Mitigation Measure 4.3-14:** On-site streets and boundary intersections shall be constructed in accordance with the PFFP. Boundary intersections shall be constructed to their full-proposed build-out geometry when the connecting on-site links are constructed. All street improvement plans shall show project boundary intersections to the satisfaction of the City Engineer.	Less than significant with mitigation
GMOC Analysis Threshold 2: Exceed, either individually or cumulatively, a LOS standard established by the County CMP agency for designated roads or highways.	No mitigation measures are necessary.	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Impacts on CMP roadway segments (both directions of Olympic Parkway between I-805 and Hunte Parkway) in both peak periods would operate at LOS C or D, with and without the proposed project. Thus, impacts with respect to CMP roadway segments would be less-than-significant.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Threshold 3: Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).		
Alternative Transportation		
The proposed project would be consistent with General Plan and GDP policies regarding alternative transportation. Significant traffic delays along BRT routes due to stop controlled intersections could occur. This is considered to be a potentially significant impact.	**Mitigation Measure 4.3-15:** The Applicant shall install traffic signals in streets with exclusive BRT transitways throughout the entire site so that future transit signal priority treatments can be used and signals can be interconnected.	Less than significant with mitigation
Air Quality		
Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan or General Plan policies.		
The EUC SPA Plan would conflict with SDAPCD's currently approved RAQS, which are based in part on the City's prior General Plan (adopted in 1992 and updated in 2001).	No feasible mitigation measures have been identified that would reduce this impact to a less than significant level.	Significant and unavoidable impact with respect to inconsistency with SDAPCD's current RAQS.
Threshold 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.		

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Maximum construction-related regional emissions would exceed the daily significance thresholds for PM_{10}, $PM_{2.5}$, CO, NOx and VOC. Regional operation-related emissions at milestone years (2010, 2015, 2020 and 2030) would exceed the daily significance thresholds for NOx, CO, VOC, PM_{10} and $PM_{2.5}$, but are not expected to exceed the thresholds for SOx. Localized CO hotspots analysis demonstrates a less-than-significant impact for all study intersections.	**Mitigation Measure 4.4-1:** Prior to approval of any grading permits, the following requirements shall be placed on all grading plans, and shall be implemented during grading of each phase of the project to minimize construction emissions: • All unpaved construction areas shall be sprinkled with water or other acceptable dust control agents during site grading or demolition activities at least twice daily; • Additional watering shall be applied during windy days or until dust emissions are not visible; • Trucks hauling dirt and debris shall be properly covered or maintain at least 12 inches of freeboard to reduce windblown dust and spills; • A 20 mile-per-hour speed limit on unpaved surfaces shall be enforced; • Dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement; • On-site stockpiles of excavated material shall be covered or watered; • Approach routes to the site shall be cleaned daily of construction-related dirt; • Pave permanent roads as quickly as possible to minimize dust;	Significant and unavoidable impact: The project would exceed the significance thresholds for VOC, NO_x, CO, PM_{10} and $PM_{2.5}$ during the most intense construction period and project operation.

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	• Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry; • Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads; • Remove any visible track-out into traveled public streets within 30 minutes of occurrence; • Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred; • Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads; • Minimize simultaneous operation of multiple construction equipment units; • All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. All equipment shall have catalytic reduction for gasoline-powered equipment and injection timing retard for diesel-powered equipment; • General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues should turn their engines off when not in use to reduce vehicle emissions; and	

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	• Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.	
Threshold 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.		
Project emissions would exceed thresholds for PM_{10}, $PM_{2.5}$, and, as the San Diego Air Basin (SDAB) is currently classified as non-attainment for these emissions, emission levels would be significant.	No mitigation measures are available to reduce cumulative emissions during project operation.	Significant and unavoidable: No feasible mitigation exists to reduce VOC, NO_x, CO, PM_{10} and $PM_{2.5}$ to less than threshold levels during operation.
Threshold 4: Expose sensitive receptors to substantial pollutant concentrations.		
Temporary fugitive dust emissions during mass grading would exceed the significance threshold. Impacts related to localized mobile-source CO and Toxic Air Contaminants (TAC) emissions during construction and operation would be less than significant. However, to ensure compliance with established TAC thresholds, a mitigation measure is recommended. Project traffic can contribute to microscale carbon monoxide "hot spots;" however, project-generated traffic would have a negligible effect on projected 1-hour and 8 hour CO concentrations at respective	Mitigation Measure 4.4-1, above, shall be implemented to reduce dust emissions and other particulates during construction. **Mitigation Measure 4.4-2:** Prior to approval of the building permit for any uses which are regulated for TAC emissions by the SDAPCD, the Applicant must demonstrate to the satisfaction of the Director of Planning and Building that the use complies with established criteria (such as those established by SDAPCD Rule 1200).	Significant and Unavoidable: No mitigation measures are available that would reduce temporary fugitive dust during construction, to less than significant levels.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
intersection locations. The proposed project would not cause any new or exacerbate any existing CO hotspots. Thus, impacts related to localized mobile-source CO emissions would be less than significant.		
Toxic Air Contaminants (TAC) emissions related to diesel particulate emissions during construction would be temporary by nature and would not result in significant impacts with respect to long-term "Individual Cancer Risk." Therefore, project-related toxic emission impacts during construction would be less than significant. As the proposed development is predominantly residential and commercial, it is not expected to introduce new substantial stationary sources of TAC emissions during operation.		
The project may expose new residential and other sensitive-receptor uses to off-site (non-project) TACs associated with mobile sources (traffic on SR 125). The project's health risk assessment (HRA), based on a 9-year exposure duration, estimated that the cancer incidence risk associated with siting residential uses in the vicinity of the highway would be below 10 in one million, and, when added to the overall background risk from regional emissions, would result in total risk within or near the range of existing background risk in the area. With regard to the future school site, an HRA to address a potential future elementary school will be performed under future separate environmental	**Mitigation Measure 4.4-3:** Prior to design review approval for any development that includes sensitive uses within 500 feet of the centerline of SR-125, such as residential, schools, day care facilities and parks, the Applicant shall demonstrate to the satisfaction of the Director of Development Services consistency with any city, State or federal standard, regarding airborne cancer risks from mobile emissions from the highway, in place at the time. The Applicant may use data from the health risk assessment conducted for this EIR to determine compliance with a new standard. If inconsistent with the standards, site-specific design measures shall be implemented, to the satisfaction of the Director of Development Services, to reduce the potential impact to meet the adopted standards.	

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
review by the school district. However, the general location of the proposed school site in the south-central portion of the project site is consistent with CARB's siting recommendations regarding compatible adjacent and nearby land-uses.		
Threshold 5: Create objectionable odors affecting a substantial number of people.		
Odor impacts associated with construction materials, uses, and the off-site Otay Landfill would be less than significant.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Noise:		
Thresholds 1 and 4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project; Expose persons to or generation of excessive groundborne vibration or groundborne noise levels.		
Potential sources of noise related to the proposed project include temporary construction noise, traffic generated noise, noise from on-site land uses, including the elementary school, parks, and noise from commercial uses. Future on- or off-site sensitive receptors within 250 feet on- (with the project site) or off-site (SSA, SCSL Improvement, or PCSI) grading activities or construction could experience short term nuisance noise levels during such activities. However,	**Mitigation Measure 4.5–1:** Prior to approval of any grading permit, the following measures shall be placed as notes on all grading plans, and shall be implemented during grading of each phase of the project to minimize construction noise impacts: a) Exterior construction activities within 250 feet of noise sensitive uses shall be prohibited Monday through Friday from 10:00 P.M. to 7:00 A.M., and from 10:00 P.M. to 8:00 A.M. on Saturdays and Sundays, in accordance with the City of Chula Vista Municipal Code Section 17.24.050.J.	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
compliance with the City's Municipal code would reduce this impact to below a level of significance. Exposure to ground-borne vibration would be less than significant.	b) Noise-generating equipment operated at the project site shall be equipped with effective noise control devises, i.e., mufflers, lagging, and/or motor enclosures. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated. c) Construction truck routes and equipment shall, to the extent feasible, avoid residential areas and roadways adjacent to noise sensitive receptors. **Mitigation Measure 4.5–4** Concurrent with the first submittal of construction plans for the fire station, a noise study shall be prepared to ensure that appropriate noise attenuation measures are implemented capable of reducing the exterior generator noise at the property lines consistent with Table III of Chapter 19.68 of the Municipal Code.	
<u>Thresholds 2 and 3: Expose persons to or generation of noise levels in excess of standards established in the Chula Vista General Plan or noise ordinance, or applicable standards of other agencies; and result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.</u>		
An increase of 4.1 and 5.4 dBA CNEL along the highest traveled roadway segments of Birch Road would exceed the significance threshold. Project-related traffic would be below the 3.0 dBA significance threshold and less than audible.	**Mitigation Measure 4.5–2(a):** Prior to approval of design review permits for residential uses on lots directly adjacent to a proposed park site or the future EUC elementary school site, a detailed acoustical analysis report shall	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
On-site noise sensitive uses would be exposed to noise levels that exceed the City's exterior noise standard of 65 CNEL for residential development and other noise sensitive uses. Noise impacts due to on-site stationary sources such as roof-top HVAC equipment and the fire station and the fire station emergency generator would be significant. Outdoor noise generated by schools and parks, including sports activities, is considered to have potentially significant impact on adjacent sensitive uses.	be prepared by a qualified acoustical consultant to ensure that interior noise levels due to exterior sources will be at or below 45 CNEL. Building plans will be available during design review and will permit the accurate calculation of building acoustical evaluation including wall structures sound transmission loss for habitable rooms. For these lots, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 CNEL. Consequently the design for these units may need to include mechanical ventilation or air conditioning systems to provide a habitable interior environment with the windows closed based on the results of the detailed interior acoustical analysis. **Mitigation Measure 4.5–2(b):** As part of the review process for final EUC park designs, park site plans shall be reviewed by the City to ensure that hard-court areas (basketball, tennis, etc.) and active play fields are located as far as feasible from existing or proposed residential uses with outdoor patios or gathering areas. The goal and performance standard for this measure is to avoid outdoor noise levels that exceed 65 CNEL for residential uses that include outdoor patios or common gathering areas that are located adjacent to park sites. This measure shall be implemented to the satisfaction of the City prior to final approval of applicable park site plans. **Mitigation Measure 4.5–2(c):** The City shall consult with the Chula Vista Elementary School District prior to or during the environmental review process for the proposed elementary school to recommend that the school site is	

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	planned such that hard-court areas and active play fields are located as far as feasible from existing or proposed residential uses with outdoor patios or gathering areas. The goal and performance standard for this measure is to avoid outdoor noise levels that exceed 65 CNEL for residential uses with outdoor patios or common gathering areas that are located adjacent to a school site. **Mitigation Measure 4.5–3:** Prior to approval of design review permits for commercial and public buildings, the following shall be implemented: a) Air conditioning, cooling and ventilating equipment and any other noise-generating equipment shall be screened, shielded and/or sound buffered from surrounding streets and land uses. An acoustical analysis shall be performed by a qualified acoustical consultant to verify the specific details of this mitigation measure including; geometrical dimensions and construction materials. b) Loading docks and trash collection areas shall properly be screened or enclosed and shall not be oriented toward adjacent sensitive uses. **Mitigation Measure 4.5–5** Prior to approval of design review permits for sensitive uses, such as residential use, libraries, daycare facilities, neighborhood parks and playgrounds, planned for areas forecasted to exceed an exterior noise level of 65 CNEL (based on Table 4.5-7 of the EIR), the following shall occur:	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	a) An acoustical analysis shall be performed for residential structures to ensure that interior noise levels due to exterior sources will be at or below 45 CNEL. Outdoor use areas such as terraces and balconies shall not be encouraged for residential structures that front major roadways, such as SR-125, Birch Road, EastLake Parkway, and Hunte Parkway. For these residential use areas, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior design standard of 45 CNEL. Consequently the design for these units may need to include mechanical ventilation or air conditioning systems to provide a habitable interior environment with the windows closed based on the results of the interior acoustical analysis. b) To reduce exterior noise levels to 65 CNEL or lower at outdoor sensitive uses (i.e., residential courtyards, parks, and passive recreation areas), a combination of sound barrier walls, earthen berms, and landscaping shall be designed and implemented by a qualified acoustical consultant. Alternatively, outdoor uses shall be located behind buildings (not facing traffic corridors) in a manner that shields outdoor sensitive uses from roadway noise and reduces the exterior noise level to 65 CNEL or below. **Mitigation Measure 4.5-6:** Athletic fields if placed in development areas where noise from traffic exceeds or is forecasted to exceed 70 dBA CNEL (based on Table 4.5-7 of the EIR), shall incorporate the following:	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	a) Sound barrier walls or earthen berms of sufficient height and length shall be designed by a qualified acoustical consultant to reduce exterior noise levels to 70 CNEL or lower; or b) Passive recreation areas, such as picnic tables, shall be located away from the roadway as far as possible. **Mitigation Measure 4.5-7:** The applicant may, at any time during implementation of the proposed project, submit a revised noise study prepared by a qualified acoustical consultant that takes into consideration site grading based on final grading plans and locations of intervening structures to establish new noise contours on the site. The noise study shall be approved by the City, and may be used to implement the noise mitigation measures of this section.	
Threshold 5: Be inconsistent with General Plan, GDP or other objectives and policies regarding noise thereby resulting in a significant physical impact.		
The project would be consistent with General Plan Environmental Element policies that pertain to noise.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Cultural Resources:		
Thresholds 1 and 2: Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5; Cause a substantial adverse change in the significance of an		

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
archaeological resource as defined in CEQA Guidelines Section 15064.5.		
The proposed project would not result in a significant impact on known archaeological resources, but could result in significant impacts to archaeological resources that may be uncovered during clearing and grading.	**Mitigation Measure 4.6-1:** Prior to issuance of land development permits, including clearing or grubbing and grading permits, the applicant shall provide confirmation and incorporate into grading plans, to the satisfaction of the Environmental Review Coordinator, that an archeological monitor will be present during all cutting of previously undisturbed soil. **Mitigation Measure 4.6-2:** During the initial grading of previously undisturbed soils within the EUC SPA Plan area, limits of grading or site preparation for either Grading Options 1 or 2, and SCSL Improvement Area, prehistoric and historic resources may be encountered. In the event that the monitor identifies a potentially significant site, the archaeological monitor shall secure the discovery site from further impacts by delineating the site with staking and flagging, and by diverting grading equipment away from the archaeological site. Following notification to the City, the archaeological monitor shall conduct investigations as necessary to determine if the discovery is significant under the criteria listed in CEQA and the environmental guidelines of the City. If the discovery is determined to be not significant, grading operations may resume and the archaeological monitor shall summarize the findings in a letter report to the City following the completion of mass grading activities. The letter report shall describe the results of the on-site archeological monitoring, each archaeological site observed, the scope of testing conducted, results of laboratory analysis (if	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	applicable), and conclusions. Any artifacts recovered during the evaluation shall be curated at a curation facility approved by the City. **Mitigation Measure 4.6-3:** For those prehistoric/historic resources that are determined to be significant, alternate means of achieving mitigation shall be pursued. In general, these forms of mitigation include: 1) site avoidance by preservation of the site in a natural state in open space or in open space easements, 2) site avoidance by preservation through capping the site and placing landscaping on top of the fill, 3) data recovery through implementation of an excavation and analysis program, or 4) a combination of one or more of the above measures. Procedures for implementing the alternative forms of mitigation described herein are further detailed in the Mitigation Monitoring and Reporting Program adopted as part of the Otay Ranch General Development Program EIR, EIR 90-01. For those sites that are found to be significant resources and for which avoidance and preservation is not feasible or appropriate, the Applicant shall prepare a Data Recovery Plan. The plan will, at a minimum, include the following: 1) a statement of why data recovery is appropriate as a mitigating measure, 2) a research plan that explicitly provides the research questions that can reasonably be expected to be addressed by excavation and analysis of the site, 3) a statement of the types and kinds of data that can reasonably be expected to exist at the site and how these data will be used to answer important research questions, 4) a step-by-step discussion of field and laboratory methods to be employed, and	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	5) provisions for curation and storage of the artifacts, notes, and photographs will be stated. In cases involving historic resources; however, archival research and historical documentation shall be used to augment field-testing programs. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Environmental Review Coordinator. All significant artifacts collected during the implementation of the Data Recovery Plan shall be curated at a facility approved by the City. **Mitigation Measure 4.6-4:** Following the completion of mass grading operations, the Applicant shall prepare a plan that addresses the temporary onsite presentation and interpretation of the results of the archaeological studies for the proposed project. This could be accomplished through exhibition within a future community center, civic building and/or multi-purpose building. This exhibition will only be for temporary curation of those materials being actively used for interpretation and display, and that permanent curation of artifacts and data will be at a regional repository when one is established. All significant artifacts collected during the implementation of the Data Recovery Plan shall be permanently curated at a facility approved by the City.	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 3: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.		
Geological formations underlying the EUC SPA Plan area and off-site improvement areas have a high sensitivity for paleontological resources. Therefore, on-site grading and off-site site preparation with either grading option as well as off-site excavation associated with the SCSL Improvement Area have the potential to result in significant impacts to paleontological resources. No impact to paleontological resources is anticipated in the PCSI Area due to the fact that the site has been previously disturbed by construction of the Poggi Canyon sewer.	**Mitigation Measure 4.6-6:** Prior to the issuance of grading permits for the EUC SPA Plan Area, limits of grading for either Grading Options 1 or 2, and the SCSL Improvement Area, the Applicant shall confirm to the City that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques). A pre-grade meeting shall be held among the paleontologist and the grading and excavation contractors. **Mitigation Measure 4.6-7:** A paleontological monitor shall be onsite at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations (i.e., San Diego, Otay, and Sweetwater formations) to inspect cuts for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.) The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall be onsite on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive geologic formations (i.e., unnamed river terrace deposits and the Mission Valley Formation) to inspect cuts for contained fossils.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	a) The monitor shall be onsite on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (i.e., Lindavista Formation and Santiago Peak Volcanics [metasedimentary portion only] to inspect cuts for contained fossils. He or she shall periodically (every several weeks) inspect original cuts in deposits with an unknown resource sensitivity (i.e., Quaternary alluvium). b) In the event that fossils are discovered in unknown, low, or moderately sensitive formations, the Applicant shall increase the per-day field monitoring time. Conversely, if fossils are not discovered, the monitoring, at the discretion of the Planning Department, shall be reduced. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics, metavolcanic portion).	
	Mitigation Measure 4.6-8: When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	isolated mammal teeth, it may be necessary in certain instances and at the discretion of the paleontological monitor to set up a screen-washing operation on the site. **Mitigation Measure 4.6-9:** Prepared fossils along with copies of all pertinent field notes, photos, and maps shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.	
Threshold 4: Disturb any human remains, including those interred outside of formal cemeteries.		
On-site grading and off-site site preparation with either grading option as well as off-site construction associated with the SCSL Improvement Area have the potential to result in significant impacts to human remains. No impact to human remains is anticipated in the PCSI Area due to the fact that the site has been previously disturbed by construction of the Poggi Canyon Sewer.	**Mitigation Measure 4.6-5:** If human remains are discovered during grading or site preparation activities within the EUC SPA Plan area, limits of grading for either Grading Options 1 or 2 and the SCSL Improvement Area, the archaeological monitor shall secure the discovery site from any further disturbance. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American. The MLD will assist the City in determining what course of action shall	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	be taken to deal with the remains. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Environmental Review Coordinator. The Archaeological Monitor shall summarize the findings in a letter report to the City following the completion of mass grading activities.	
Threshold 5: Be inconsistent with General Plan cultural and paleontological policies thereby resulting in a significant physical impact.		
The project and off-site construction sites would be consistent with the General Plan's cultural resources policies and would be less than significant with respect to this threshold.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Biological Resources:		
Threshold 1: A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Wildlife Service.		
The project would have the following substantial adverse effect, both directly and through habitat modifications, on sensitive wildlife species. • Ground nesting raptor species, including the northern harrier and burrowing owl, would be impacted within the EUC SPA Plan and SSA.	**Mitigation Measure 4.7-1:** Prior to issuance of any land development permits, including clearing and grubbing or grading permits for the EUC project site and the SSA, the applicant shall retain a City-approved biologist to conduct focused surveys for the northern harrier to determine the presence or absence of this species within 900 feet of the construction area, if construction will occur during the breeding season (January 15 through July 31) (excluding areas west of	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
• The northern harrier, burrowing owl, white-tailed kite, and San Diego black-tailed jackrabbit would be impacted by the loss of 159.2 acres of agricultural lands utilized as foraging habitat. • The coastal California gnatcatcher would be temporarily impacted within the SCSL Improvement Area. The project may have significant indirect effects on the MSCP Preserve associated with construction noise avian breeding seasons, water quality, introduction of non-native exotic plant species following construction, and human intrusion. Modifications associated with the SCSL would temporary impact 0.16 acre of Diegan coastal sage scrub.	SR-125). The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the City for review and approval. If active nests are detected by the City-approved biologist, a biological monitor should be on-site during construction to minimize construction impacts and ensure that no nests are removed or disturbed until all young have fledged. **Mitigation Measure 4.7-2:** Prior to issuance of any land development permits (including clearing and grubbing or grading permits) for the EUC project site and the SSA, the applicant shall retain a City-approved biologist to conduct focused pre-construction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the City-approved biologist shall prepare a passive relocation mitigation plan subject to the review and approval by the City to avoid impacts from construction-related activities. **Mitigation Measure 4.7-4:** For any work proposed to be initiated between February 15 and August 15, prior to issuance of any land development permits, including clearing, grubbing, grading, and construction permits associated with improvements to the off-site SCSL, a pre-construction survey for the coastal California gnatcatcher must be performed in order to reaffirm the presence and extent of occupied habitat. The pre-construction survey area for the coastal California gnatcatcher shall encompass all habitat within the project work zone as well as a 300-foot buffer extending from	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	the study area as delineated on Figure 5 of the HELIX biological technical report. The pre-construction survey must be performed to the satisfaction of the Environmental Review Coordinator (ERC) by a qualified biologist familiar with the City's MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the ERC for review and approval prior to the issuance of any land development permits and prior to initiating any construction activities. If the coastal California gnatcatcher is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within the occupied habitat from February 15 through August 15 and on-site noise reduction techniques shall be incorporated, as appropriate. The ERC shall have the discretion to modify the buffer width depending on site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the ERC following the review and approval of the pre-construction report. **Mitigation Measure 4.7-5:** Prior to issuance of land development permits, including clearing, grubbing, grading and construction permits for the off-site SCSL project, the applicant shall provide a revegetation plan for 0.16 acre of Diegan coastal sage scrub to the satisfaction of the City's Environmental Review Coordinator (ERC). The revegetation plan must be prepared by a qualified City-approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The applicant shall also be required to implement the revegetation plan subject to the oversight and approval of the ERC. **Mitigation Measure 4.7-6:** Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the off-site SCSL, the applicant shall install fencing in accordance with CVMC 17.35.030. Prominently colored, well-installed fencing and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for the off-site SCSL. Prior to release of grading and/or improvement bonds, a qualified biologist shall provide evidence that work was conducted as authorized under the approved land development permit and associated plans. **Mitigation Measure 4.7-7:** A biological monitor shall attend all pre-construction meetings and be present during the removal of any vegetation associated with the modifications to the off-site SCSL. Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the SCSL project, the applicant shall provided written confirmation that a City-approved biological monitor has been retained and shall be on-site during clearing, grubbing, and/or grading activities to ensure that the approved limits of disturbance are not exceeded. The biological monitor shall also be on-site during the placement and removal of the	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	proposed High Line to ensure that removal or damaging of native vegetation does not occur. The biological monitor shall be authorized to halt all associated project activities that may be in violation the City's MSCP Subarea Plan. **Mitigation Measure 4.7-8:** Prior to issuance of land development permits, and prior to construction activities occurring in areas containing sensitive biological resources within the off-site SCSL, all workers shall be educated by a City-approved biologist to recognize and avoid those areas which have been marked as sensitive biological resources.	
Threshold 2: A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service.		
Careless placement of the temporary high line facility in the off-site SCSL area could impact sensitive biological resources. Also, the proposed jack and bore process in the off-site SCSL area has the potential to cause "frac-out". These impacts would be considered significant.	See Mitigation Measures 4.7-7 and 4.7-8, above. In addition the following mitigation measure is required: **Mitigation Measure 4.7-12:** Prior to issuance of any grading permits associated with the off-site SCSL, the Applicant shall prepare a Frac-Out Contingency Plan (FCP) shall be prepared to the satisfaction of the City Engineer and the City's ERC. The FCP shall establish operational procedures and responsibilities for the prevention, containment, notification, and clean-up of the inadvertent release of drilling fluid (frac-out) that could potentially occur with the	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	proposed directional drilling under Salt Creek. Issues addressed in the plan shall include but not be limited to: • Spoil stockpile management; • Hazardous materials storage and spill cleanup; • Site-specific erosion and sediment control; • Procedures for timely detection of frac-outs; and • Any other BMPs to ensure protection of sensitive biological resources in the adjacent Preserve areas and minimize water quality impacts as described in the SWPPP. If a frac-out event were to occur during the boring and jacking process, work should cease immediately, and measures should be taken to contain the frac-out slurry in as small an area as possible. The biological monitor shall contact the City and appropriate resource agencies within 24 hours of the frac-out and provide an initial assessment of impacts to native vegetation. Mitigation for the impacts will be coordinated in conjunction with the City and resource agencies.	
Threshold 3: A substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.		

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
No impacts to wetlands would occur within the EUC SPA Plan, SCSL, or PCSI areas. However, potentially significant indirect impacts may occur to the jurisdictional feature downstream of the SSA due to changes in surface runoff.	See Mitigation Measure 4.7-12, above. The following mitigation measures also apply: **Mitigation Measure 4.7-9:** Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the EUC project site (including the off-site SSA) or SCSL, the applicant shall provide written confirmation that Mitigation Measure 4.9.2 (Hydrology and Drainage), requiring a National Pollutant Discharge Elimination System permit (NPDES) and Storm Water Pollution Prevention Plan (SWPPP), has been fulfilled to the satisfaction of the City Engineer. **Mitigation Measure 4.7-10:** Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the off-site SSA, the Applicant shall install temporary orange biological fencing shall be installed along the limits of grading in areas adjacent to sensitive biological resources to avoid impacts on such resources. All fencing, including temporary fencing, shall be shown on the project grading plans. Prior to and during construction, the City's Mitigation Monitor shall verify that biological fencing is properly installed and maintained. **Mitigation Measure 4.7-11:** To protect the jurisdictional feature downstream of the off-site SSA, a City-qualified biologist shall attend a pre-construction meeting prior to initiating grading on the off-site SSA. The biologist shall be on-site to monitor all vegetation clearing and periodically thereafter to ensure implementation of appropriate resource protection measures.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.		
Impacts to the California gnatcatcher could result if construction activities occur within occupied habitat during the breeding season for this species (February 15 and August 15). The project would impact nesting bird species protected by the MBTA and California Fish and Game Code occurring within the EUC SPA Plan, SCSL Improvement Area, and SSA.	**Mitigation Measure 4.7-13:** To avoid any direct impacts to raptors and/or any migratory birds, removal of habitat that supports active nests on the proposed area of disturbance (within the EUC project site, SCSL, or SSA) should occur outside of the breeding season for these species (January 15 to August 31). If removal of habitat on the proposed area of disturbance (within the EUC project site, SCSL, or SSA) must occur during the breeding season, the applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 5 and 6: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.		
The proposed project would have an indirect, long-term, potentially significant impact related to biological resources management unless the Otay Ranch regional open space is preserved proportionally and concurrently with development.	**Mitigation Measure 4.7-3:** Prior to recordation of each final map, the applicant shall convey land within the Otay Ranch RMP Preserve at a ratio of 1.188 acres for each acre of development area, as defined in the RMP.	Less than significant with mitigation
Agricultural Resources:		
Thresholds 1 and 2: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use; and/or involves other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use; Conflict with existing zoning for agricultural use or a Williamson Act contract.		
Impacts associated with the permanent removal of approximately 207 acres of designated Farmland of Local Importance are considered potentially	**Mitigation Measure 4.8-1:** The Agricultural Plan included in the EUC SPA Plan shall be implemented as development proceeds in the proposed EUC	Significant and unavoidable: Impact on interfacing agricultural and urban uses

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
significant. The implementation of Grading Option 1, which would transport and stockpile soils from the project site to the SSA, would further affect approximately 59 acres of adjacent Farmland of Local Importance (remainder of the EUC and a portion of Village Nine). Grading Option 2, which would transport and stockpile soils to the remainder of the EUC including the Hunte Parkway right-of-way (approximately 28.5 acres) would similarly result in the loss of Farmland of Local Importance in this area. In addition, without implementation of the proposed Agricultural Plan, noise, odors, insects, rodents, and chemicals associated with interim agricultural operations on the site could create indirect, short-term, potentially significant impacts between the agricultural uses and urban uses. No impacts regarding the Williamson Act contract lands, or conflicts with existing zoning for an agricultural use would occur in the EUC SPA Plan area, the SSA, or the SCSL Improvement Area and PCSI area. The construction of the SCSL Improvement and PCSI would have no impact with respect to agricultural activities.	SPA Plan area. The following measures shall be implemented to the satisfaction of the City of Chula Vista's Development Services Director: • Prior to approval of each building permit, the Applicant shall ensure that a 200-foot fenced buffer shall be maintained between development and ongoing agricultural operations on the property; • In those areas where pesticides are to be applied, the farmland owner shall utilize vegetation to shield adjacent urban development (within 400 feet) from agriculture activities. • If permitted interim agricultural uses require the use of pesticides, the farmland owner shall notify adjacent developed property owners of potential pesticide application a minimum of 10 days prior to application through advertisements in newspapers of general circulation. Limits shall be established as to the time of day and type of pesticide applications that may be used. The use of pesticides shall comply with federal, state, and local regulations.	would be reduced to below significance. However, no mitigation measures are available to reduce the incremental and cumulative loss of Farmland of Local Importance to a less than significance level.
<u>Threshold 3: Be inconsistent with General Plan agricultural resource policies thereby resulting in a significant physical impact.</u>		
As the EUC SPA Plan includes an Agricultural Plan that addresses the opportunity for limited agricultural and related uses to occur as an interim	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
land use within the EUC SPA Plan area. Therefore the proposed project is consistent with applicable objectives and policies of the General Plan.		
Hydrology and Water Quality:		
Threshold 1: Result in an increase in pollutant discharges to receiving waters (including impaired water bodies pursuant to the Clean Water Act Section 303(d) list), result in significant alteration of receiving water quality during or following construction, violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.		
Project construction would alter the quantity and composition of surface runoff through grading of site surfaces, construction of impervious streets, building development, introduction of urban pollutants, and irrigation for landscaped areas which are considered potentially significant impacts to water quality. Project operation would increase the amount of surface water runoff due to the introduction of impermeable surfaces and would increase urban pollutants in surface water runoff. This is also considered to be a potentially significant water quality impact. In addition, the potential presence of DDT in on-site soils is considered to be a potentially significant impact to surface water quality.	**Mitigation Measure 4.9-1:** Prior to issuance of each grading permit for the EUC SPA Plan, the SSA, the Salt Creek Sewer Lateral Improvement, and the Poggi Canyon Sewer Improvement Area or any land development permit, including clearing and grading, the Project Applicant(s) shall submit a Notice of Intent (NOI) and obtain coverage under the National Pollutant Discharge Elimination System (NPDES) permit for Construction Activity from the State Water Resources Control Board (SWRCB). The permit requires development of a Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Plan that shall be submitted to the City Engineer and the Director of Public Works. The SWPPP shall be incorporated into the grading and drainage plans and shall provide for implementation of construction and post-construction Best Management Practices (BMPs) on site to reduce the amount of sediments and pollutants in construction and post-construction	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	surface runoff before it is discharged into off-site storm water facilities. The BMPs shall include measures to mitigate potentially significant indirect impacts to the jurisdictional feature approximately 300 feet downstream of the off-site Soils Stockpiling Area. The grading plans shall note the condition requiring a SWPPP and Monitoring Plans. **Mitigation Measure 4.9-2:** Prior to issuance of each grading permit, a detailed drainage system design study shall be prepared in accordance with the City of Chula Vista's standards and shall be reviewed and approved by the City Engineer. **Mitigation Measure 4.9-3:** Permanent treatment controls BMPs shall be included as part of the proposed project in accordance with Section 2c of the City of Chula Vista SUSMP, the City of Chula Vista Development Storm Water Manual, 2008, and the final Water Quality Technical Report for McMillin Eastern Urban Center (WQTR) to the satisfaction of the City Engineer. **Mitigation Measure 4.9-4:** As development plans for individual parcels are prepared, parcel owners shall choose from the on-site storm water management measures included in the menu in Appendix I of the final Water Quality Technical Report for McMillin Eastern Urban Center (WQTR) and submit a supplemental report to the WQTR to verify sizing to the satisfaction of the City Engineer. If an option other than what is shown on the menu is chosen by the parcel owner, a	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	project-specific WQTR shall be prepared for each parcel, referencing the final WQTR for information relevant to regional design concepts (e.g., downstream conditions of concern) to the satisfaction of the City Engineer. **Mitigation Measure 4.9-5:** Upon development, each land use shall be divided into Drainage Management Areas (DMA). This will include not only streets within the parcel, but also buildings, parking lots or structures, and other areas. As each DMA would generally drain to an IMP, the specific design of these features, including their proximity to structures and how runoff would be collected and discharged from them, shall be subject to approval by the Geotechnical Engineer for the proposed project. This shall be evaluated on a lot by lot basis after rough grading is completed and prior to constructing any improvements or structures. All development within the proposed project shall be subject to the City of Chula Vista's SUSMP at the time of grading permit issuance. **Mitigation Measure 4.9-6:** Should Grading Option 2 be implemented, the interim condition above ground detention basin in the southern drainage shall be reassessed and approved by the City Engineer when the pads within the triangular wedge are developed in order to detain for the ultimate condition. **Mitigation Measure 4.9-7:** In the preparation of all site plans, the Applicant(s) shall implement Low Impact Development Best Management Practices	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	(LID BMPs), unless underground treatment and detention facilities such as sand filters, underground storage and infiltration facilities, etc., are proposed. The Applicant(s) shall monitor and mitigate any erosion in downstream locations that may occur as a result of on-site development. **Mitigation Measure 4.9-8:** The Applicant(s) shall comply with the City of Chula Vista Development Storm Water Manual Limitation of Grading requirements, which limit disturbed soil area to 100 acres, unless expansion of a disturbed area is specifically approved by the Director of Public Works. With any phasing resulting from this limitation, if required, the Applicant shall provide erosion and sediment control BMPs in areas that may not be completed, before grading of additional area begins. **Mitigation Measure 4.9-9:** As a result of the NPDES Municipal Permit, Order No. R9-2007-0001, and phasing of the EUC SPA Plan development, the Applicant(s) shall comply with the City's Interim Hydromodification Criteria or Hydrograph Modification Management Plan, as applicable, addressed regionally at the EUC SPA Plan level concurrent with Grading and Improvement Plans for major streets. **Mitigation Measure 4.9-10:** Prior to the issuance of any building permit resulting in an increase in permanent impermeable area, each Applicant wanting to develop within the EUC SPA Plan is required to develop and implement post-construction SUSMP and BMPs in accordance with the most recent regulations at the time of Grading or Building	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	Permit issuance. In particular, Applicants are required to comply with the requirements of the NPDES Municipal Permit, Order No. R9-2007-0001, and the City of Chula Vista Development Storm Water Manual dated January 2008, or any re-issuances thereof. Specifically, Applicants shall incorporate in the proposed project design structural on-site design features to address Site Design and Treatment Control (BMPs) as well as LID and HMP requirements. Any of said requirements may be waived if the applicant demonstrates, to the satisfaction of the City Engineer, that regional facilities exist to address such requirements.	
Threshold 2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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).		
While grading at the proposed EUC SPA Plan could result in shifts in the direction of groundwater flow on a micro-scale, the overall flow of groundwater would not change. The principal aquifer, Otay River would ultimately receive the additional runoff to replenish groundwater in addition to the existing basin discharge. Therefore, no significant impacts to groundwater supply/quantity would occur. Filtering would occur during percolation and the groundwater quality is currently poor; however, development of the project could result in increased exposure to urban pollutants that could affect groundwater quality. This	See Mitigation Measures 4.9-2 through 4.9-4, above.	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
is considered a potentially significant impact. In addition, the potential presence of DDT in on-site soils is considered to be a potentially significant impact to groundwater quality.		
Threshold 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site, or City of Chula Vista Engineering Standards for storm water flows and volumes.		
The project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. Nonetheless, with the project site entirely developed, paved, or landscaped, stormwater runoff could result in substantial off-site erosion to downstream facilities or flooding. These are considered to be potentially significant impacts. As implementation of the proposed project would result in the project site being converted to urban uses with minimal exposed soils areas that could be subject to erosion, on-site erosion impacts are considered to be less-than-significant.	See Mitigation Measures 4.9-5 through 4.9-7, above.	Less than significant with mitigation.

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or place structures within a 100-year flood hazard area as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map which would impede or redirect flood flows.		
The proposed project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. With the site entirely developed, paved, or landscaped, a substantial increase in the rate or amount of water surface runoff could occur, resulting in flooding on- or off-site. This is considered to be a potentially significant impact. Even though the project includes features to reduce the amount and rate of runoff, features are also prescribed as mitigation measures to assure implementation and facilitate monitoring through buildout of the project. As the off-site improvements do not involve development of habitable structures or other permanent impermeable surfaces that would cause a permanent increase in surface water runoff or off-	See Mitigation Measure 4.9-4, above.	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
site flooding, no significant impacts would be associated with the improvements under this threshold.		
Threshold 5: Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.		
See Threshold 1, above, regarding water quality impacts. See Threshold 3, above, regarding decreased permeability. Regarding stormwater runoff, runoff would be directed from the project site to off-site drainage facilities. While the existing drainage facilities serving the northern and central drainage basins would accommodate the stormwater, the existing downstream facilities serving the southern basin would not. Thus, impacts to the storm water system serving the southern drainage basin are considered to be potentially significant. Even though the project proposes drainage facilities for the southern basin, a mitigation measure is included to address this potential impact to ensure implementation and facilitate monitoring through buildout of the project.		

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 6: Be inconsistent with General Plan, GDP or other objectives and policies regarding water quality thereby resulting in a significant physical impact.		
The project would be consistent with the General Plan's Environmental Element policies that pertain to protection of water quality.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Geology and Soils:		
Threshold 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and/or landslides.		
Due to the presence of potential liquefiable soils in the EUC SPA Plan area and SCSL Improvement Area, seismic-related impacts regarding unstable soils are considered to be potentially significant. Also, grading activities associated with either of the two grading options in combination with future irrigation and changes in drainage could result in potentially significant slope instabilities or landslides within the EUC SPA Plan area. The exposure of people and structures to severe ground shaking generated from potential earthquakes along active faults in the region would be less than significant since future development projects would be constructed in accordance with the City's Grading Ordinance current seismic design specifications,	**Mitigation Measure 4.10-1:** Prior to the issuance of each grading permit within the EUC SPA Plan area, the Applicant shall verify that the applicable recommendations in the *Geotechnical Investigation* prepared by Geotechnics Incorporated, dated March 1, 2007, and the *Updated Seismic Design Parameters* report prepared by Geotechnics Incorporated, dated December 15, 2008 for the Eastern Urban Center have been incorporated into the project design and construction documents to the satisfaction of the City Engineer of the City of Chula Vista. **Mitigation Measure 4.10-2:** Prior to the approval of grading permits for placement of soils within the off-site SSA, the Applicant shall ensure that the	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
current UBC standards and other regulatory requirements.	applicable recommendations in the *Geotechnical Recommendation for Proposed Import Soils Second Revision, Otay Ranch Parcel "C",* dated July 10, 2007, and the *Preliminary Geotechnical Investigation Parcel "C" Portion of Otay Ranch,* dated August 30, 2006*,* both prepared by Pacific Soils Engineering, Inc., have been incorporated into the grading plans to the satisfaction of the City Engineer of the City of Chula Vista. **Mitigation Measure 4.10-3:** Prior to issuance of the grading permit for the SCSL Improvement, the City shall ensure that the applicable recommendations in the *Geotechnical Investigation for the Proposed Salt Creek Gravity Sewer Interceptor Project, Leighton & Associates,* dated October 2000, have been incorporated into the project to the satisfaction of the City Engineer of the City of Chula Vista.	
<u>Threshold 2: Result in substantial soil erosion or the loss of topsoil.</u>		
Compliance with applicable regulatory requirements and the recommendations contained within applicable geotechnical reports would ensure that erosion and loss of topsoil would be less than significant during construction activities. However, heavy seepage and deep saturation resulting in surficial slope failures, soil erosion, and/or loss of topsoil is considered potentially significant.	See Mitigation Measures 4.10-1 through 4.10-3, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.		
The presence of loose compressible materials on the project site, including residuum, colluvium, alluvium and the surface of the fill slope in the southeast portion of the site, could become unstable as a result of the proposed project. As a result, the potential for land sliding, lateral spreading, liquefaction and/or collapse is considered to be potentially significant.	See Mitigation Measures 4.10-1 through 4.10-3, above.	Less than significant with mitigation
Threshold 4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.		
The predominately clayey sand and sandy clay materials within the Otay Formation, as well as the colluvium, alluvium, and residuum, have a moderate to high expansion potential. Development of structures on these soils could create substantial risks to life or property. This is considered a potentially significant impact.	See Mitigation Measures 4.10-1 through 4.10-3, above.	Less than significant with mitigation
Threshold 5: Be inconsistent with General Plan geotechnical policies thereby resulting in a significant physical impact.		
The proposed project would be consistent with the General Plan policies that pertain to geology and soils.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Fire Services:		
Threshold 1: Result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.		
The analysis of the EUC SPA Plan's construction impacts assumes the development of the proposed fire station. Construction impacts are analyzed in Sections 4.4, Air Quality; 4.5, Noise; 4.6, Cultural Resources; 4.7; Biological Resources; 4.9, Hydrology and Water Quality; and 4.10, Geology and Soils of the EIR.	See construction mitigation measures under Air Quality; Noise; Cultural Resources; Biological Resources; Hydrology and Water Quality; and Geology and Soils, above.	See construction significance levels under respective Air Quality, Noise, Cultural Resources, Cultural Resources, Biological Resources, Hydrology and Water Quality, and Soils and Geology sections, above.
Threshold 2: Reduce the ability of properly equipped and staffed fire and medical units to respond to calls throughout the City within seven minutes in 80 percent of the cases.		
The anticipated increase in residential population of 7,696 people and the employment base of 3.4 million square feet of non-residential development would increase demand on fire and emergency	**Mitigation Measure 4.11.1-1:** Prior to the approval of each building permit, the Applicant shall pay Public Facilities Development Improvement Fees (PFDIF) in	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
medical services. The increase in demand would be significant if a fully operational and appropriately equipped and staffed fire station is not provided commensurate with the demand on fire and emergency medical services. Fire flow requirements for individual projects within the EUC could be significant depending upon the ultimate building height and structure type.	accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP. **Mitigation Measure 4.11.1-2:** In order to determine the SPA Plan's increased demand on fire services and potential to exceed GMOC standards, the City of Chula Vista shall continue to monitor the Chula Vista Fire Department responses to emergency fire and medical calls and report the results to the GMOC on an annual basis. **Mitigation Measure 4.11.1-3:** Prior the approval of each building permit and to the satisfaction of the City of Chula Vista Fire Marshall, the proposed project shall meet the provisions of the City's adopted California Fire Code. In meeting said provisions, the project shall also meet the minimum fire flow requirements based upon construction type and square footage. **Mitigation Measure 4.11.1-4:** The applicant shall deliver a site for a future fire station in accordance with the triggers/phasing prescribed in the PFFP. **Mitigation Measure 4.11.1-5:** Subject to approval of the City Council, in lieu of paying the required impact fee, the Applicant may satisfy that requirement through a written agreement by which the Applicant agrees to either pay the fee or build the facility in question, pursuant to the terms of the agreement.	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 3: Be inconsistent with General Plan, GDP, and other objectives and policies regarding fire protection and emergency medical services thereby resulting in a significant physical impact.		
The EUC SPA Plan would be consistent with General Plan and GDP objectives and policies that pertain to fire services and emergency medical services.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Police Services:		
Threshold 1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.		
Future growth associated with the proposed EUC SPA Plan is anticipated in the General Plan and would not require the construction of new or expanded police facilities. Existing physical facilities are adequate to handle police protection for the proposed project.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant with mitigation.
Threshold 2: Exceed the threshold standard to respond to 81 percent of Priority I emergency calls throughout the city within seven minutes and maintain an average response time to all Priority I calls of 5 minutes and 30 seconds or less; Exceed the threshold standard to respond to 57 percent of		

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Priority II urgent calls throughout the city within seven minutes and maintain an average response time to all Priority II calls of 7 minutes and 30 seconds or less.		
The CVPD currently does not meet GMOC thresholds for responses to Priority II calls. The proposed EUC SPA Plan would increase demand on police protection, which could increase response times if additional police officers are not provided commensurate with demand. This is considered a significant impact prior to mitigation.	**Mitigation Measure 4.11.2-1:** Prior to the issuance of each building permit for any residential dwelling units, the Applicant(s) shall pay Public Facilities Development Impact Fees (PFDIF) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP, unless stated otherwise in a separate development agreement. **Mitigation Measure 4.11.2-2:** The City of Chula Vista shall continue to monitor the CVPD responses to emergency calls and report the results to the GMOC on an annual basis. **Mitigation Measure 4.11.2-3:** Prior to approval of each design review permit, site plans shall be reviewed by the CVPD to ensure the incorporation of CPTED features and other recommendations of the CVPD, including, but not limited to, controlled access points to parking lots and buildings; maximizing the visibility along building fronts, sidewalks, paesos, and public parks; and providing adequate street, parking lot, and parking structure visibility and lighting.	Less than significant with mitigation

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 3: Be inconsistent with General Plan, GDP or other objectives and policies regarding police protection thereby resulting in a significant physical impact.		
The EUC SPA Plan would be consistent with the General Plan policies that pertain to police services.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
School Services:		
Threshold 1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for educational facilities services.		
Project implementation would result in a significant impact to elementary schools unless construction of an elementary school coincides with student generation and associated service demands. Provision of school facilities is the responsibility of the school district when additional demand warrants.	**Mitigation Measure 4.11.3-1:** Prior to the issuance of each building permit, the Applicant(s) shall provide the City with evidence or certification by the CVESD that any fee charge, dedication, or other requirement levied by the school district has been complied with or that the district has determined the fee, charge, dedication or other requirements does not apply to the construction. **Mitigation Measure 4.11.3-2:** Prior to approval of a final map for private development on lots 26 or 27 of the Tentative Map, the Applicant shall provide evidence	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	from the CVESD that the site has not been determined by the district to be needed for use as a school site.	
Threshold 2: The proposed SPA Plan project locates schools: 1. In areas where disturbing factors such as traffic hazards, airports, or other incompatible land uses are present; 2. In areas where they are not integrated into the system of alternative transportation corridors, such as bike lanes, riding and hiking trails, and mass transit; 3. Where private elementary and secondary schools are not spaced far enough from public schools and each other to prevent a concentration of school impacts; 4. Without at least 10 usable acres for an elementary school; 5. Without a central location to residential development; 6. Adjacent to a street or road which cannot safely accommodate bike, foot, and vehicular traffic; 7. In areas not adjacent to parks, thereby discouraging joint field and recreation facility uses;	See Geology and Soils and Hazards and Risk of Upset, above (Mitigation Measures 4.10-1 and 4.12-9, respectively).	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
8. At an unsafe distance from contaminants or toxins in the soil or groundwater from landfills, fuel tanks, agricultural areas, power lines, utility easements, and so on; or 9. Inside of floodplains; on unstable soils; or near fault lines: The potential exists for OCPs, methane, or other organic gases at the future school site to exceed CVESD and State standards and for potential unstable soils to occur on-site. These issues are addressed in Sections 4.10, Geology and Soils and 4.12, Hazards and Risk of Upset.		
Threshold 3: Be inconsistent with General Plan, GDP, or other objectives and policies regarding school facilities thereby resulting in a significant physical impact: The proposed EUC SPA Plan would be consistent with the Chula Vista General Plan objectives and policies pertaining to schools primarily because the Applicant has been working with the school district to obtain the preferred site and vision for the elementary school. In addition, the PFFP will identify the school requirements for the EUC and will identify measures to ensure the site is delivered when needed by the district. The proposed project would be consistent with the GDP's description of the EUC because an elementary school is being provided.	See Mitigation Measures 4.11.3-1 and 4.11.3-2, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Library Services:		
Threshold 1: Result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.		
The analysis of the EUC SPA Plan's construction impacts assumes the development of a library. Construction impacts are analyzed in Sections 4.4, Air Quality; 4.5, Noise; 4.6, Cultural Resources; 4.7; Biological Resources; 4.9, Hydrology and Water Quality; and 4.10, Geology and Soils of the EIR.	See construction mitigation measures under Air Quality; Noise; Cultural Resources; Biological Resources; Hydrology and Water Quality; and Geology and Soils, above.	See construction significance levels under respective Air Quality, Noise, Cultural Resources, Cultural Resources, Biological Resources, Hydrology and Water Quality, and Soils and Geology sections, above.
Threshold 2: Fail to provide 500 square feet of library space, adequately equipped and staffed, per 1,000 population.		
Impacts would be significant if the proposed library were not provided commensurate with demand.	**Mitigation Measure 4.11.4-1:** Prior to the issuance of each building permit for any residential dwelling units, the Applicant shall pay required Public Facility Development Impact Fees in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	Mitigation Measure 4.11.4-2: The Applicant shall deliver a site for the public library in accordance with the PFFP. **Mitigation Measure 4.11.4-3:** Subject to approval of the City Council, in lieu of paying the required impact fee, the Applicant may satisfy that requirement through a written agreement by which the Applicant agrees to either pay the fee or build the facility in question, pursuant to the terms of the agreement.	
Threshold 3: Be inconsistent with General Plan, GDP or other objectives and policies regarding library services thereby resulting in a significant physical impact.		
The project is consistent with General Plan objectives and policies pertaining to library services.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Parks and Recreation, Open Space and Trails:		
Threshold 1: Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.		
The project would have a less than significant impact with respect to the physical deterioration of existing park and recreational facilities.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 2: The project would require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.		
The analysis of the EUC SPA Plan's construction impacts assumes the development of parks and recreational facilities. Construction impacts are analyzed in Sections 4.4, Air Quality; 4.5, Noise; 4.6, Cultural Resources; 4.7; Biological Resources; 4.9, Hydrology and Water Quality; and 4.10, Geology and Soils of the EIR.	See construction mitigation measures under Air Quality; Noise; Cultural Resources; Biological Resources; Hydrology and Water Quality; and Geology and Soils, above	See construction significance levels under respective Air Quality, Noise, Cultural Resources, Cultural Resources, Biological Resources, Hydrology and Water Quality, and Soils and Geology sections, above.
Threshold 3: The project fails to meet the City's threshold standard of three acres of neighborhood and community parkland per 1,000 residents.		
A potentially significant impact could result, due to increased demand on existing parkland and facilities, if dedication of parkland and development of new recreation facilities does not coincide with project implementation and project population growth.	**Mitigation Measure 4.11.5-1:** Prior to approval of the final map(s), or for projects not requiring a final map prior to building permit approval, for residential projects, the Applicant(s) shall dedicate parkland and pay in lieu fees for the area covered by the final map(s). The delivery of said parkland and payment of in lieu fees shall be in accordance with the fees and phasing approved in the Public Facilities Financing Plan for the SPA Plan and an EUC Park Agreement, subject to approval of the Directors of Recreation and Development Services.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	Mitigation Measure 4.11.5-2: Prior to issuance of each building permit for any residential dwelling units, the Applicant(s) shall pay recreation facility development impact fees (part of the Public Facilities Development Impact Fee) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP for the SPA Plan, subject to approval of the Directors of Recreation and Development Services. **Mitigation Measure 4.11.5.3:** The Applicant may, subject to City Council approval, enter into a written agreement with the City identifying the Applicant's parkland acreage dedication, park development improvements, and in lieu fee obligations and the timing and method of satisfying those obligations. If the Applicant and the City enter into such an agreement, the Applicant may satisfy its parkland dedication, improvement and in lieu fee obligations pursuant to the terms of that agreement.	
Threshold 4: Be inconsistent with General Plan, GDP or other relevant plan objectives and policies regarding parks thereby resulting in a significant physical impact.		
The proposed project would be consistent with applicable policies of the General Plan, GDP, Greenbelt Master Plan, and Parks and Recreation Master Plan.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Water Services:		
Threshold 1: Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.		
The impact to water storage and pumping facilities would be significant if construction of facilities does not coincide with anticipated growth. As fire flow requirements are a function of the size and materials of structures, and no structure locations or specifications are available at this time, fire flow pressure requirements are not known at this time and could be significant.	**Mitigation Measure 4.11.6-2:** Prior to approval of the first final map, the applicant shall provide a Sub-Area Master Plan (SAMP) to the Otay Water District. Water facilities improvements shall be financed or installed on-site and off-site in accordance with the fees and phasing in the approved PFFP and SAMP. The SAMP shall include, but shall not be limited to: • Existing pipeline locations, size, and capacity; • The proposed points of connection and system; • The estimated water demands and/or sewer flow calculations; • Governing fire department's flow requirements (flow rate, duration, hydrant spacing, etc); • Agency Master Plan; • Agency's planning criteria (see Sections 4.1 through 4.3 of the Water Agencies Standards) • Water quality maintenance; and • Size of the system and number of lots to be served.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 2: Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.		
The increase in demand for water would not have a significant impact on the ability of OWD to provide service to the proposed project. Mitigation measures are recommended to ensure water availability.	**Mitigation Measure 4.11.6-1:** Prior to issuance of each building permit, the permit applicant shall deliver to the City service availability letters from the appropriate water district. **Mitigation Measure 4.11.6-3:** Prior to approval of the first final map, the applicant shall obtain OWD's approval of a Sub Area Master Plan (SAMP) for both potable and recycled water. Any on-site and off-site facilities identified in the SAMP required to serve a final mapped area shall be secured or constructed by the applicant prior to the approval of the final map.	Less than significant with mitigation
Threshold 3: Impacts would be significant if the project exceeded the City's Growth Management threshold standards which seek to ensure that adequate supplies of quality water appropriate for intended uses, are available. Standards require the following actions: - The applicant must request and deliver to the City service availability letters from the appropriate water district for each project; - The applicant is required to submit a Water Conservation Plan along with the SPA Plan application;		

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
- The project plans shall ensure an adequate supply of water on a long-term basis prior to the development of each Otay Ranch SPA.		
The project would comply with the City's service availability requirements and would be consistent with the City's threshold standards that seek to ensure adequate supplies of water.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Threshold 4: Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding water supply thereby resulting in a significant physical impact.		
The project would be consistent with applicable water services policies and with Objective GM-1 of the General Plan regarding the City's commitment to ensuring adequate public services commensurate with need.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Wastewater Services:		
Threshold 1: The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the providers existing commitments.		
The development of the EUC would be consistent with the growth anticipated by the Otay Ranch GDP and would not result in a determination by the City	No significant impacts have been identified, and no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
of Chula Vista or METRO that it has inadequate capacity to serve the proposed project's projected demand in addition to the providers' existing commitments. Although additional capacity may need to be acquired from METRO or other sources to support buildout of the proposed project and other anticipated development in the City, building permits within the EUC would only be issued once the City Engineer has determined that adequate treatment capacity exists. As no development would occur in the absence of adequate treatment capacity, no impacts associated with inadequate treatment capacity would occur.		
Threshold 2: The project would require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of would cause significant environmental effects.		
With respect to the capacity of off-site sewage conveyance lines, mitigation measures are recommended to ensure that the proposed project would not exceed the capacity of any line in the existing wastewater conveyance system by more than 75 percent of pipe capacity for pipes greater than 12-inch in diameter or 50 percent for pipes 12-inch or less in diameter. Construction of sewer facilities has the potential to result in significant short-term air emissions (including dust; noise; impacts on biological, archaeological, and paleontological resources; erosion; and ground water contamination. (Please see Sections 4.4, Air	**Mitigation Measure 4.11.7-1:** Prior to design review approval and in accordance with the Intensity Transfer provisions in the EUC SPA Plan, the Applicant(s) shall provide a wastewater technical report with each proposed project requesting an intensity transfer. The technical report shall demonstrate to the satisfaction of the City Engineer that adequate wastewater infrastructure will be available to support the transfer. The transfer of residential density shall be limited by the ability of sewerage facilities to accommodate flows (as shown in Figure 4.11-7, *Allowable EDU's in the On-site Sewer System*).	Less than significant with mitigation.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Quality; 4.5 Noise; 4.6 Cultural Resources; 4.7, Biological Resources; and 4.9, Hydrology and Water Quality, above which provide mitigation for any construction impacts of off-site improvements.) In addition, the proposed project would require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Therefore, additional capacity would need to be acquired from METRO or other sources. The means by which additional treatment capacity would be acquired is unknown and the development of additional capacity may require construction of new treatment facilities. As the location and scope of construction for any newly developed treatment facilities is unknown, the development of treatment capacity beyond the City's existing and allocated capacity may result in a potentially significant environmental impact, even understanding that such projects would likely be subject to environmental review	**Mitigation Measure 4.11.7-2:** Prior to issuance of the first building permit related to any uses within the portion of the EUC served by the Poggi Canyon System, and to the satisfaction of the City Engineer, the developer shall: • Bond for the improvement of the constrained reach at Brandywine Avenue (Reach P270) with the first final map for the project. • Monitor sewer flows within the Poggi Canyon Sewer Basin to the satisfaction of the City Engineer and submit quarterly reports to the City upon the issuance of the first building permit for the EUC; • Obtain the approval for the improvement plan and any necessary environmental permits for Reach P270 prior to the first final "B" map, unless otherwise approved by the City Engineer; • Commence construction of Reach P270 upon reaching a d/D of 0.75, unless otherwise approved by the City Engineer; • Complete construction of Reach P270 the sooner of one year after occupancy of the first unit sewering to the Poggi Canyon System, or a d/D of 0.85, unless otherwise approved by the City Engineer; • Not seek building permits within the Poggi Canyon Sewer Basin if any segment of the Poggi Canyon Trunk Sewer achieves a d/D of 0.85, or the City Engineer has determined, at his sole discretion, that there is not	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	enough San Diego METRO treatment capacity for the proposed project; and • Upon the completion of the Rock Mountain Trunk Sewer, divert those Village Seven flows from the Poggi Canyon Sewer Basin that were ultimately designed to flow to Salt Creek Sewer Basin so that additional capacity is provided for the EUC's permanent flows. **Mitigation Measure 4.11.7-3:** Prior to issuance of the first building permit related to any uses within the portion of the EUC served by the Village Eleven sewer lateral to the Salt Creek Sewer Interceptor, and to the satisfaction of the City Engineer, the developer shall: • Bond for the improvement of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor with the first final map for the proposed project; • Monitor sewer flows within the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor to the satisfaction of the City Engineer and submit quarterly reports to the City upon the issuance of the first building permit for the proposed project that sewers to the Salt Creek System; • Obtain the approval for the improvement plan and any necessary environmental permits for the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor prior to the first final "B" map covering	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	any parcel that sewers to the Salt Creek System, unless otherwise approved by the City Engineer; • Commence construction of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor upon reaching a d/D of 0.75, unless otherwise approved by the City Engineer; • Complete construction of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor the sooner of one year after occupancy of the first unit sewering to the Salt Creek System, or a d/D of 0.85, unless otherwise approved by the City Engineer; • Not seek building permits within the Salt Creek Sewer Basin if any portion of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor achieves a d/D of 0.85, or the City Engineer has determined, at his sole discretion, that there is not enough San Diego METRO treatment capacity for the proposed project; and • Upon the completion of the Rock Mountain Trunk Sewer, divert those temporary flows from the constrained reach along the Village Eleven lateral to the sewer within Bob Pletcher Way. **Mitigation Measure 4.11.7-4:** Prior to issuance of each building permit, the applicant shall pay the DIF at the rate in effect at the time of building permit issuance and corresponding to the sewer basin that the building will	

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	permanently sewer to, unless stated otherwise in a development agreement that has been approved by the City Council.	
Threshold 3: Sewage flows and volumes shall not exceed City Engineering Standards: (1) 75 percent of capacity for mains over 12 inches and 50 percent of capacity for mains 12 inches and smaller; and (2) a cleaning velocity of 2 fps, or a minimum slope of 1 percent.		
See Threshold 2, above.	See Mitigation Measures 4.11.7-2 and 4.11.7-3, above.	Less than significant with mitigation
Threshold 4: Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding water supply thereby resulting in a significant physical impact.		
The project would be consistent with General Plan objectives and policies pertaining to wastewater services.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Solid Waste Services:		
Threshold 1: The project would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.		
The proposed project is included in, and consistent with, the General Plan's projected population growth, for which adequate future landfill capacity is anticipated. With the availability of adequate solid disposal capacity and the implementation of the City's	No significant impacts have been identified, and no mitigation measures are required.	Less than significant.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
recycling policies and solid waste reduction programs that are applicable to the EUC and City at large, no significant solid waste impacts have been identified for the proposed EUC SPA Plan. Thus, the project would have a less than significant impact with respect to solid waste disposal capacity.		
Threshold 2: The project does not comply with federal, state, and local statutes and regulations relating to solid waste:	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
The project would be consistent with all applicable statutes and regulations, and would have a less than significant impact with respect to solid waste collection and management.		
Hazards and Risk of Upset:		
Threshold 1: Is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment would be created.		
The EUC SPA Plan, SSA, SCSL, and PCSI areas are not listed in any regulatory databases. However, the proposed fire station would require the use fuel storage tanks containing hazardous materials.	**Mitigation Measure 4.12-6:** Concurrent with the first submittal of construction plans for the fire station, the fire station design shall demonstrate to the satisfaction of the Director of Development Services and Fire Marshal that the above-ground fuel tanks comply with applicable local, State and Federal fuel storage and containment regulations.	Less than significant.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Thresholds 2 & 3: Creates a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials; Creates a significant hazard to the public or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.		
Potentially significant impacts could result from the exposure of construction workers and the public to any OCP-containing soils in Areas A, B, and C of the EUC SPA Plan area. Exposure may result from any OCP-containing soils that would be released or become airborne during excavation, be left uncovered on-site, or exported off-site.	**Mitigation Measure 4.12-1:** Prior to approval of grading permits, the following note shall be placed on the grading plans to the satisfaction of the City Engineer: "Grading with Areas A, B, and C, as shown in Figure 2 of the *Organic Pesticide Assessment and Soil Reuse Plan* (prepared by Geocon dated June 5, 2007, revised October 4, 2007), shall be managed in accordance with the remediation measures included in the *Organic Pesticide Assessment and Soil Reuse Plan* (prepared by Geocon dated June 5, 2007, revised October 4, 2007) to the satisfaction of the City Engineer." The grading plans shall demonstrate compliance with the 2007 Geocon report. **Mitigation Measure 4.12-2:** In accordance with the City's waste management ordinances and Stormwater Manual, the applicant shall implement Best Management Practices in Areas A, B, and C, during the excavation and placement of soil from the upper two feet of existing grade, so that dust, erosion, excessive pooling, and stormwater runoff do not pose a problem at the site to the satisfaction of the City Engineer.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
	Mitigation Measure 4.12-3: Prior to issuance of building permit, information regarding Pacific Waste Services' Households Hazardous Waste Collection Facility shall be posted within each residential unit.	
Threshold 4: Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.		
The presence of organic toxins and gases at the future school site may exceed CVESD and state standards for public schools; thus the project would have a potentially significant impact with respect to this threshold.	See Mitigation Measures 4.12-1 and 4.12-3, above.	Less than significant with mitigation.
Thresholds 5 & 6: Is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the project area; Is located within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the project area.		
Hazards associated with the poor visibility of tall structures under construction or rooftop cranes may contribute to an airport-related hazard, due to the proximity of Brown Field and aircraft over flight of the EUC under VFR or circle-to-land procedures. Also, as buildings, rooftop cranes and other temporary	**Mitigation Measure 4.12-4:** Prior to issuance of building permits, the FAA shall be notified of each high-rise building, structure or construction equipment that would be 800 feet or more above MSL (275 feet above Brown Field ground level). FAA recommendations regarding marking and/or lighting shall be incorporated into unfinished high rise	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
construction equipment in the EUC may exceed 170 feet in height, these structures would be approximately 270 feet higher than the Brown Field runway elevation. This may present an aircraft safety hazard.	buildings, rooftop cranes, finished high rise buildings, and any other tall structures.	
Threshold 7: Impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.		
Impacts with respect to emergency preparedness and evacuation would be less than significant.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant
Threshold 8: Expose people or structures to a significant risk or loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas.		
Although the EUC SPA Plan area is not designated as "wildlands," vacant lands in which weeds and brush have not been controlled in close proximity to occupied uses may present a potentially significant wildfire hazard.	**Mitigation Measure 4.12-5:** Brush and weed control within open space and undeveloped areas of the EUC not used for agricultural purposes, shall be implemented as applicable in accordance with the City's Urban-Wildland Interface Code.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Threshold 9: Increase in urbanization would result in an increase in the uses, transport, storage, and disposal of hazardous waste materials and an associated increase in the risk of an upset condition in the area.		
Operation of the project would involve the routine use of common landscaping, construction, and cleaning materials that may be hazardous to the environment, if not managed according to state statutes and manufactures' recommendations.	**Mitigation Measure 4.12-3:** Prior to issuance of building permit, information regarding Pacific Waste Services' Households Hazardous Waste Collection Facility shall be posted within each residential unit.	Less than significant with mitigation
Threshold 10: Historic use of pesticides which would result in soil contamination and health effects.		
Potentially significant impacts could result from the exposure of construction workers and the public to any OCP-containing soils in Areas A, B, and C of the EUC.	See Mitigation Measures 4.12-1 and 4.12-2, above.	Less than significant with mitigation
Threshold 11: Be inconsistent with General Plan, GDP, and other objectives and policies regarding hazards thereby resulting in a significant physical impact.		
The project would be consistent with the General Plan objectives and policies that pertain to brush management and the handling and disposal of hazardous materials.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Housing and Population:		
Threshold 1: Induce substantial population growth in an area, either directly (i.e., through the development of new homes or businesses) or indirectly (i.e., through extension of roads or other infrastructure.		
The proposed project's maximum development level would not induce substantial population growth in the area beyond that already planned under the Otay Ranch GDP and Chula Vista General Plan. Thus, population growth inducement would be less than significant.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Threshold 2: Displace substantial numbers of existing households or people, necessitating the construction of replacement housing elsewhere.		
The project would not displace any existing households or people. No impacts with respect to this threshold would occur.	As no impacts have been identified, no mitigation measures are required.	Less than significant
Threshold 3: Is inconsistent with Chula Vista General Plan and GDP Housing Objectives.		
The proposed project would be consistent with the General Plan's and GDP's housing objectives and policies. Impacts with respect to these plans would be less than significant.	As no significant impacts have been identified, no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Global Climate Change:		
Thresholds 1: Conflict with or obstruct goals or strategies of the California Global Solutions Act of 2006 (AB32) or related Executive Orders.		
By incorporating proposed project features, the project would result in GHG emission rates 31 percent lower than "business as usual". Because these project features would reduce project GHG emissions and are consistent with the State's CAT strategies, the project would not conflict with or obstruct the State's goals regarding global climate change and impacts in this regard would be less than significant. Regarding GHG emissions from construction activities, construction of the proposed project would incorporate construction "best practices," that would reduce GHG emissions. These "best practices" represent an improvement above conventional construction practices, and thus are an improvement above "business as usual." Therefore, impacts in this regard would be less than significant.	No significant impacts have been identified, and no mitigation measures are required.	Less than significant
Threshold 2: A substantially increased exposure of the project from the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006 (AB32.		
The project has the potential to result in one or more of the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006 because of the identified significant air quality impacts. Regarding water supply, it is	See Air Quality, Transportation, and Water mitigation measures, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
considered premature and speculative to make an assessment of impacts under CEQA of how climate change would affect water availability for the project. With implementation of Air Quality mitigation measures and water conservation project features, impact would be considered less than significant.		
Cumulative Impacts:		
Land Use		
The cumulative analysis incorporates the General Plan EIR by reference. The General Plan EIR includes projects within the four planning areas, and encompasses the Otay Ranch GDP in the East Planning Area. The project would be consistent with applicable objectives and policies of the General Plan, including policies relevant to the scale and type of development envisioned by the GDP. Of two large-scale, related projects encompassed by the General Plan analysis (the Chula Vista Bayfront Master Plan and the Otay Ranch General Development Plan), the EIR for the Village Two, Three, and a Portion of Four SPA Plan (within the Otay Ranch GDP) identified a significant and unavoidable inconsistency with General Plan policies. However, the proposed project would not cumulatively contribute to this land use impact as the project was determined to be consistent with all applicable land use and land compatibility policies. Therefore, cumulative	No significant impacts have been identified, and no mitigation measures are required.	Less than significant

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
impacts with respect to land use would be less than significant.		
Landform/Aesthetics		
The General Plan EIR finds that future development would result in substantial changes to landforms and visual quality in currently undeveloped portions of the East Planning Area. The General Plan EIR concluded that the conversion of open, rolling hills to developed condition would be cumulatively significant. In addition, the Otay Ranch GDP Program EIR, states that, as the proposed EUC SPA Plan would convert undeveloped, rural land to dense urbanized uses, impacts regarding the change in the existing visual character or quality of the site are considered significant. No feasible mitigation measures would reduce this impact to a less than significant level, as any development of the EUC would impact existing open space. The proposed project and related projects in the East Planning Area would cumulatively contribute to the diminishment of open space. Therefore, the project and related projects would have a cumulatively significant aesthetic impact.	No feasible mitigation measures have been identified that would reduce this cumulative impact to a less than significant level.	Significant and unavoidable cumulative impact regarding the reduction of open space due to urban development.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Transportation		
The General Plan and the Otay Ranch GDP Program EIRs conclude that, even though mitigation measures exist to reduce traffic-related impacts, the incremental cumulative impacts of future projects would remain significant and unmitigable. The project and related projects, including the Village Two, Three, and a Portion of Four SPA Plan would mitigate traffic impacts on streets segments and intersections to less than significant levels. However no feasible mitigation measures are available to the project and related projects to reduce impacts on the I-805 freeway to less than significant levels. Therefore, the project and related projects would have a significant and unavoidable cumulative impact with respect to this freeway.	See Mitigation Measures 4.3-1 through 4.3-15, above regarding street and intersection impacts. No mitigation measures are available to reduce the significant cumulative impact with respect to freeway segments.	Less than significant with respect to streets and intersections. Significant and unavoidable cumulative impact on three sections of the I-805 freeway:
Air Quality		
The proposed EUC SPA Plan would have significant direct impacts on ambient air quality due to emissions of CO, NOx, VOC, PM_{10} and $PM_{2.5}$ that would exceed the City of Chula Vista's significance thresholds. Emissions above threshold standards would occur during both project's construction and operation phase. The EIR for the related project, the Village Two, Three, and a Portion of Four SPA Plan, similarly concludes that significant cumulative impacts with respect to attainment and PM_{10} and other emission	No mitigation measures are available to reduce the significant cumulative air quality impact.	Significant and unavoidable cumulative impact with respect to inconsistency with VOC, NO_x, CO, PM_{10} and $PM_{2.5}$ threshold standard and the SDAPCD's current RAQS.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
standards would occur. Therefore, the proposed project combined with the related development within the EUC SPA Plan Area and other related projects in the region would result in a cumulatively significant impact.		
A health risk assessment was performed to quantify cancer risk above background for residences proposed to be built near SR-125. However, the absence of adopted numeric standards directly related to the increased exposure to TACs resulting from the location of proposed residences in close proximity to highly utilized roadways makes it too speculative to determine significance at the project level. There are currently no standards adopted by federal, State, or regional agencies establishing acceptable levels of cumulative exposure to or health risks from airborne TACs. Consequently, a determination as to the cumulative level of significance related to potential health risks resulting from implementation of the proposed development and related projects is also too speculative at this point in time.		
Noise		
The project and related projects represented by the General Plan EIR could exacerbate noise levels to a magnitude that significantly impacts receivers where traffic volumes are projected to result in noise level increases of more than 3 dB,	See mitigation measures 4.5-1 through 4.5-7, above.	Significant and unavoidable cumulative impact with respect to noise level increases at key intersections

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
particularly at key intersections. As mitigation to reduce high noise levels at existing receiver sites is not available, the General Plan EIR concluded that, noise impacts are cumulatively considerable, significant, and not mitigated. Project-related traffic is estimated to increase mobile noise from 0.4 to 2.4 dBA and would be below the 3.0 dBA significance threshold. The proposed project EIR concludes that project-specific mitigation measures would reduce noise impacts to less than significant. Nonetheless, the cumulative noise increase resulting from the proposed project in combination with related projects is expected to exceed the 3.0 dBA significance threshold on key roadway segments and is considered cumulatively significant.		
<u>Archaeological and Historic Resources</u>		
The project and related projects encompassed in the General Plan would extend development into areas that may contain historical or archaeological resources. The proposed project would not result in a significant impact on known archaeological resources, but could result in significant impacts on archaeological resources that may be uncovered during project development. Impacts associated with related projects in the area have been determined to be significant and unavoidable. The project has proposed mitigation measures to reduce project-related impacts on cultural	See Mitigation Measures 4.6-1 through 4.6-5, above.	Significant and unavoidable cumulative impact with respect to archaeological resources.

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
resources to a less than significant level. However, while any individual project may avoid or mitigate the direct loss of a specific resource, the effect would be considerable when considered cumulatively. Therefore, the project and related projects would have a significant cumulative impact with respect to historical and archaeological resources.		
Paleontological Resources		
The project and related projects encompassed in the General Plan would extend development into areas that may contain paleontological resources. The proposed project would not result in a significant impact on known paleontological resources, but could result in significant impacts on paleontological resources that may be uncovered during project development. Impacts associated with related projects in the area have been determined to be significant and unavoidable. The project has proposed mitigation measures to reduce project-related impacts on paleontological resources to a less than significant level. However, similar to the conclusion of the Village Two, Three and Portion of Four EIR, mitigation measures would reduce cumulative paleontological impacts to below significance due to the fact that the discoveries of paleontological resources would contribute to important scientific information about	See Mitigation Measures 4.6-6 through 4.6-9, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
the natural history in southwestern San Diego County.		
Biological Resources		
The General Plan EIR concluded that cumulative impacts on biological resources would be less than significant, with compliance with the MSCP Subarea plan (which prevents significant impacts on biological resources). The proposed project would have temporary direct and indirect impacts on the Subarea Plan's designated Preserve during the SCSL Improvement. These impacts within the Preserve are addressed and mitigated in accordance with the requirements of the MSCP. Because compliance with the MSCP Subarea Plan avoids cumulative impacts on biological resources and, because the proposed project provides measures that meet the obligations of the plan, the project and related projects, which would be required to comply with applicable MSCP policies, would not have a significant cumulative impact on biological resources.	See Mitigation Measures 4.7-1 through 4.7, above.	Less than significant with mitigation
Agricultural Resources		
The General Plan EIR concluded that, as no farmlands of Statewide Importance existed in the city, cumulative impacts would be less than significant. However, the proposed project would result in the loss of Farmland of Local Importance and, as such, have a significant and unavoidable impact with respect to agricultural resources. The EIR for the related Village Two, Three, and a Portion of Four	See Mitigation Measure 4.8-1, above.	Significant and unavoidable cumulative impact with respect to agricultural resources

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
SPA Plan also concluded that development would result in the permanent loss or impairment of agricultural lands. Therefore, the project and related projects would have a cumulatively significant impact with respect to agricultural resources.		
Hydrology and Water Quality		
The General Plan EIR concluded that compliance with General Plan policies EE2.5, which require construction and land development techniques pursuant to applicable SWRCB and RWQCB requirements, including compliance with all federal, state, and regional water quality objectives, and General Plan Public Facilities objectives would ensure that hydrology and water quality impacts would be self-mitigating and not significant. The project and related projects would be in compliance with existing regional water quality protection programs and City drainage standards. In addition, potential impacts would be reduced to less than significance through the implementation of proposed mitigation measures. Therefore, the project and related projects would have a less than significant impact with respect to water quality and hydrology.	See Mitigation Measures 4.9-1 through 4.9-10, above.	Less than significant with mitigation
Geology and Soils		
General Plan policies require an engineering analysis to identify potential seismic hazards prior to construction and allow for project-specific design	See Mitigation Measures 4.10-1 through 4.10-3, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
to avoid seismic hazards. Significant geological impacts could occur within the project site and region due to the presence of potentially liquefiable soils (although the potential is identified as low in the project's geotechnical report), slope instability, or soils expansion. The City's Grading Ordinance current seismic design specifications, current UBC standards and other regulatory requirements would be implemented to address geological hazards. Although the proposed project and related projects could result in potentially significant geological impacts associated with liquefaction or other land failure, impacts are site specific and not cumulative in nature. Therefore, the project and related projects would not have significant cumulative impact with respect to geology and soils.		
<u>Fire Services</u>		
The project and related projects encompassed in the General Plan would increase demand for fire services. According to the General Plan EIR, the City's threshold standards regarding fire service prohibit projects that are out of compliance with those standards. In addition, the City's Growth Management regulations tie the pace of development in the EUC SPA Plan to the provision of public facilities and improvements. The impacts of the proposed project and related projects on fire services would be reduced to less than significance by compliance with their respective PFFP's. The proposed EUC SPA Plan also	See Mitigation Measures 4.11.1-1 through 4.11.1-5, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
incorporates a fire station site in the Mixed-Use Civic/Office Core District that would meet the minimum demand of the proposed EUC SPA Plan and surrounding area. With the implementation of mitigation measures, the project and related projects would not have significant cumulative impact on fire services.		
Police Services		
The project and related projects would increase demand on police services. City's threshold standards regarding police services prohibit projects that are out of compliance with those standards. In addition, the City's Growth Management regulations tie the pace of development in the EUC SPA Plan to the provision of public facilities and improvements. The impacts of the proposed project and related projects on police services would be reduced to less than significance through compliance with their respective PFFP's. However, the CVPD currently does not meet the GMOC thresholds for Priority II calls and, as development of the proposed project would increase demand on police services, including five additional officers, project impacts on police services would be significant. However, with the implementation of mitigation measures, the impact of the proposed project, combined with the related projects, would not have a significant cumulative impact on police services	See Mitigation Measures 4.11.2-1 through 4.11.2-3, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Schools		
The project and related projects would increase demand on schools and result in the need for additional schools. The provision of schools is the responsibility of the school district when additional demand is warranted. Impacts resulting from development completed in conformance with the proposed General Plan are considered to be self-mitigating because policies of the General Plan accommodate projected student population, ensure that school services and facilities are concurrent with need, and are based on a quantitative threshold standard. The implementation of PFFP requirements attached to new development would reduce impacts to a less than significant level. Therefore, the project and related projects would not have a significant cumulative impact on school services.	See Mitigation Measures 4.11.3-1 and 4.11.3-2, above.	Less than significant with mitigation
Libraries		
The project and related projects would increase demand for library services. The City's threshold standards for libraries may prohibit projects that are out of compliance with those standards. In addition, the City's Growth Management regulations tie the pace of development in the EUC SPA Plan to the provision of public facilities and improvements. The impacts of the proposed project and related projects on libraries would be reduced to less than significance by compliance	See Mitigation Measures 4.11.4-1 through 4.11.4-3, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
with their respective PFFP's. The proposed EUC SPA Plan also incorporates a library site in the Mixed-Use Civic/Office Core District that would to serve the population of the EUC and would help to alleviate the current deficiency in library space in the City. With implementation of mitigation measures to ensure PFFP compliance, the project and related projects would not have a significant cumulative impact on library services.		
Parks, Recreation, Open Space, and Trails		
The project and related projects would increase demand on parks, open space, and recreational facilities. The City's threshold standard of three acres of park land per 1,000 population for all new development is considered self-mitigating. Projects that are out of compliance with this standard may be prohibited. In addition, the City's Growth Management regulations tie the pace of development in the EUC SPA Plan to the dedication of park land or in lieu fees. The proposed project and related projects are required to provide for parkland and, if necessary, equivalency fees to meet the City's GMOC Threshold for parks. However, a potentially significant impact could result if dedication of parkland does not coincide with project implementation. With the implementation of mitigation measures and GMOC requirements, the	See Mitigation Measures 4.11.5-1 through 4.11.5-4, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
proposed project and related projects would not have a significant impact on park resources.		
Water		
The project and related projects would increase demand for potable and recycled water. The development of the project would be consistent with the growth anticipated by the Otay Ranch GDP and would not result in a determination by the City of Chula Vista or OWD that it has inadequate capacity to serve the projects' projected demand in addition to the providers' existing commitments. Building permits for the project and related projects would only be issued once the OWD has determined that adequate water supply exists. Although the regional water supplier has concluded that water available to service the proposed project would be adequate, impacts associated with water supply and infrastructure are considered cumulatively significant, in accordance with the General Plan EIR.	See Mitigation Measures 4.11.6-1 through 4.11.6-3, above	Significant and unavoidable impact with respect to water supply and infrastructure.
Wastewater		
The project and related projects would increase demand on wastewater services. Based on recent flow analysis as part of the City's Wastewater Master Plan, the City has begun discussions with the City of San Diego to identify a mechanism for the provision of additional treatment capacity. The project's estimated daily sewage rate of 0.852 mgd	See Mitigation Measures 4.11.7-1 through 4.11.7-4, above.	Less than significant with mitigation

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Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
of wastewater combined with demand from other planned projects would require sewage treatment capacity beyond the City's existing capacity rights and allocated additional treatment capacity. However, implementation of GMOC policies, which pace development in accordance with treatment capacity, would avoid significant cumulative impacts associated with treatment capacity. With monitoring of treatment capacity prior to the approval of building permits, the project and related projects would not have a significant cumulative impact on wastewater facilities.		
Solid Waste		
The project and related projects would increase demand on the Otay Landfill, which is expected to have sufficient capacity until 2028. City policies to reduce the solid waste stream, including recycling and waste-to-energy programs, could further reduce demand on the landfill. Cumulative impacts could also be reduced by additional solid waste and recycling facilities, transporting trash outside the region to less impacted areas, and meeting state-mandated recycling goals. As the proposed project is included in, and consistent with, the General Plan's projected population growth and projects and related projects would be required to comply with the City's waste disposal policies, the project and related projects would have a less than	No significant impacts have been identified, and no mitigation measures are required.	Less than significant

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
significant impact with respect to solid waste management.		
Hazards/Risk of Upset		
The project and related projects may use hazardous materials, which are subject to existing state and federal regulations, during construction and operation phases. In addition, General Plan Objective EE 19 assures that new development would not be approved if a potential exists for hazardous materials use and transport to affect residents. The project would mitigate potentially significant impacts associated with the exposure of construction workers and the public to OCPs occurring in soils in Areas A, B, and C of the EUC, or high-rise buildings in the proximity of Brown Field approach or departure flight paths. With compliance with mitigation measures and existing regulations, the project and related projects would not have a significant cumulative impact with respect to hazards and risk of upset.	See Mitigation Measures 4.12.1 through 4.12-6, above.	Less than significant with mitigation
Housing and Population		
The project and related projects would increase population growth in the region. Forecasted growth is based on existing adopted land use designations and zoning, including Specific Plan areas and the GDP. The proposed project would be consistent with the General Plan's growth projections based on the Otay Ranch GDP's multi-family housing designation for the EUC SPA Plan of 2,983 units and projected population of 7,696.	No significant impacts have been identified and no mitigation measures are required.	Less than significant

Table ES-1

Summary of Environmental Impacts and Mitigation Measures

Impact	Mitigation Measures	Significance after Mitigation
Related projects in the region have been determined to be less than significant with respect to housing and population impacts. As the proposed project and related projects would not be significant with respect to housing and population, cumulative impacts would be less than significant.		
Global Climate Change		
The project is estimated to represent a net increase of 0.037 percent of 2004 State-wide total emissions at buildout in 2030, although a sizeable percentage of the operational GHG emissions are already generated through future occupants' and visitors' current activities. Executive Order S-3-05 establishes GHG emissions targets for the state and has resulted in the California Climate Action Team (CAT)'s published recommendations and strategies for reducing GHG emissions and reaching the targets established in the executive order. The proposed project, by implementing GHG reducing project features, results in an estimated increase of only 0.037 percent in 2004 State-wide emissions and supports of the State's goals related to the reduction of greenhouse gases. Thus, cumulative impacts with respect to GHG would be less than significant.	See Transportation, Air Quality, and Water mitigation measures, above.	Less than significant with mitigation

1.0 INTRODUCTION

1.1 PURPOSE AND LEGAL AUTHORITY

This document is a Second Tier Environmental Impact Report (EIR) that addresses the environmental effects of the proposed Eastern Urban Center (EUC) Sectional Planning Area (SPA) Plan (proposed project) of the Otay Ranch General Development Plan/Subregional Plan (GDP). The proposed project requires the discretionary approval of the City of Chula Vista City Council. As such, the project is subject to the requirements of the *California Environmental Quality Act (CEQA)*. Accordingly, this EIR has been prepared in accordance with CEQA (Public Resources Code Section 21000 et seq.) and the *City of Chula Vista's Environmental Review Procedures*. Pursuant to Section 21067 of CEQA and Sections 15367 and 15050 through 15053 of the *State CEQA Guidelines*, the City of Chula Vista (City) is the Lead Agency under whose authority this EIR has been prepared.

In accordance with Section 15121 of the CEQA Guidelines, the purpose of the EIR is to serve as an informational document that:

> *"…will inform public agency decisionmakers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."*

This EIR provides decision-makers, public agencies, and the public with detailed information about the potential for significant adverse environmental impacts to occur as a result of the proposed project. Similarly, Responsible Agencies will use this EIR to fulfill their legal authority associated with permits issued for the proposed project. The analysis and findings in this document reflect the independent judgment of the City of Chula Vista.

Pursuant to CEQA Section 21093, this EIR tiers from the *Otay Ranch GDP Final Program EIR* (EIR 90-01/SCH #89010154) and the *General Plan Update EIR* (EIR 05-01; SCH #2004081066). As stated in the CEQA Guidelines, Section 15152 (a), the term tiering refers to:

> *"…using analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy document) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."*

As a second tier document, this EIR relies upon EIRs 90-01 and 05-01 to determine whether or not the proposed project, located within the Otay Ranch, is consistent with previously approved polices or ordinances. In accordance with CEQA Section 21094, those effects which the Lead Agency

determined were either mitigated or avoided pursuant to the findings of these EIRs, or examined in sufficient detail to enable those effects to be mitigated or avoided through implementation of mitigation measures or standard conditions, do not need to be addressed in this second tier EIR document. Rather, this EIR focuses on the environmental effects associated with development of the proposed EUC SPA Plan that were not evaluated at a project level in the Otay Ranch GDP Program EIR. Further, this EIR updates information in the Otay Ranch GDP Program EIR pertaining to the EUC to reflect changes in the project and its circumstances since approval of the Otay Ranch GDP Program EIR and adoption of the General Plan Update.

In addition to the Otay Ranch GDP Program EIR, this Second Tier EIR uses the information included in the environmental documents, prepared in accordance with CEQA, associated with each stage of the Otay Ranch planning and development process. Each of these prior certified EIRs are herein incorporated by reference. This EIR contains information summarized from these prior documents to facilitate the reader's review of this document where necessary. These documents are available for review at the City of Chula Vista, Planning and Building Department, located at 430 F Street, Chula Vista, California 91910.

Pursuant to CEQA Guidelines Section 15161, this document has also been prepared as a "Project EIR" and is "focused primarily on the changes in the environment that would result from the development" (i.e., the build out of the proposed EUC SPA Plan). Where environmental impacts have been determined to be potentially significant, this EIR presents mitigation measures directed at reducing those adverse environmental effects. The development of mitigation measures provides the Lead Agency with ways to substantially lessen or avoid the significant effects of the project on the environment, to the degree feasible. Alternatives to the proposed project are presented to evaluate whether there are alternative development scenarios that can further minimize or avoid significant impacts associated with the project.

1.2 HIERARCHY OF OTAY RANCH PLANNING DOCUMENTS

A. General Plan

California law requires that each County and City adopt a General Plan "for the physical development of the County or City, and of any land outside its boundaries which…bears relation to its planning." (Government Code Section 65300) Each General Plan must be internally consistent, and all discretionary land use plans and projects must also be consistent with the General Plan.

The City of Chula Vista City Council adopted an updated General Plan on December 13, 2005 (Resolution Nos. 2005-424, 2005-425, 2005-426). The City's General Plan outlines goals, policies and objectives for land use in the City in response to the community's vision for the City. The General Plan also guides day-to-day City decision making to ensure that there is continuing progress toward the attainment of General Plan goals.

The General Plan Update revised policies and land uses previously prescribed for the EUC in the Otay Ranch GDP.

B. Otay Ranch GDP

Otay Ranch is an approximately 23,000-acre master planned community in southern San Diego County within the limits of the City of Chula Vista. The Otay Ranch GDP includes plans for multiple urban villages and town centers, a resort village, a university site, a regional technology park, a regional open space preserve, freeway commercial area, the Eastern Urban Center (proposed project), industrial areas and two rural estate planning areas. Overall, there are approximately 11,375 acres of open space within the Otay Ranch Preserve.

In addition to establishing community-wide land use policies, the Otay Ranch GDP includes an Overall Design Plan, which presents a design context for Otay Ranch that serves as a basis for Village Design Plans prepared as part of the EUC SPA Plan process, as discussed below.

The Otay Ranch GDP groups residential areas into "Villages." The heart of the village is the Village Core. Pursuant to the guidelines in the Otay Ranch GDP, Village Cores are strategically located within each village. These are mixed-use areas designed to contain essential facilities and services such as elementary schools, shops, civic facilities, child-care centers, local parks, and higher-density housing.

Portions of the Otay Ranch GDP were updated as part of the General Plan Update process. Included as part of that update were revisions to the policies and land uses prescribed for the EUC.

C. SPA Plans

The Otay Ranch GDP is implemented through additional, more detailed planning processes prior to the subdivision of land called "Sectional Planning Areas" (SPA) plans. A SPA Plan implements the plans, policies and objectives of the Otay Ranch GDP, by defining land uses, development standards, and zoning for a particular portion of the Otay Ranch community. Further, SPA Plans establish design criteria and define precisely the type and amount of development permitted. Section E.1.a of the Otay Ranch GDP specifies the contents of a SPA Plan.

D. Subdivisions and Building Permits

Upon the approval of SPA plans, property may be subdivided in accordance with the California Subdivision Map Act and the applicable Subdivision Ordinances. Thereafter, building permits may be issued. The proposed project includes a Tentative Map (TM) for development of the EUC. The action to which this EIR applies is the approval of the SPA and TM. It is anticipated that final maps and development permits needed for project implementation will be sufficiently similar to the program described in this report to obviate the need for subsequent environmental review.

1.3 ENVIRONMENTAL REVIEW PROCESS

This Draft EIR was prepared following input from the public, responsible, and affected agencies through the EIR scoping process. In accordance with Section 15082 of the State CEQA Guidelines, a Notice of Preparation (NOP) was prepared and distributed to responsible and trustee agencies, affected agencies, and other interested parties on April 12, 2007. Per Section 15381 of the CEQA Guidelines, the term "responsible agency" includes "all public agencies other than the Lead Agency which have discretionary approval power over the project." A "trustee agency" is identified in Section 15386 of the CEQA Guidelines as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California."

The NOP is a required document that must be submitted to the State Clearinghouse to officially solicit participation in determining the scope of the EIR. The State Clearinghouse distributed the EUC NOP to involved state agencies, including: Office of Historic Preservation, Department of Fish and Game, Native American Heritage Commission, Department of Transportation, Air Resources Board, and Regional Water Quality Control Board. The NOP was also sent directly by the City of Chula Vista to federal, other state, county, and local agencies, as well as to other persons of interest (Appendix A). In addition, the NOP was posted at the Office of the San Diego County Clerk for 30 days. A public scoping meeting was held on May 2, 2007 to further solicit public input. A copy of the NOP is provided in Appendix A of this EIR.

An Initial Study prepared by the City prior to issuance of the NOP indicated that an EIR was required for the project. This Draft EIR focuses on the environmental impacts identified as potentially significant during the Initial Study and scoping process (listed in Section 1.4, below). All issues not evaluated in detail in Chapter 4.0 of this EIR are evaluated as Effects Found Not to be Significant (Section 7.1).

This Draft EIR is being circulated for 45 days for public review and comment in accordance with Section 15087 of the CEQA Guidelines. Interested parties may provide comments on the Draft EIR in written form. The EIR and all related technical appendices are available for review at the offices of the City of Chula Vista, Planning and Building Department, located at 430 F Street, Chula Vista, California 91910 and the Chula Vista Public Library, 365 F Street, Chula Vista, California 91910.

Upon completion of the public comment period, a Final EIR will be prepared that will provide written responses to comments received on the Draft EIR. Responses to written comments received from any public agencies will be made available to those agencies at least ten days prior to the public hearing during which the certification of the Final EIR will be considered. These comments and their responses will be included in the Final EIR for consideration by the Chula Vista City Council.

Prior to approval of the project, the City, as the Lead Agency and decision-making entity, is required to certify that the EIR has been completed in compliance with CEQA, that the proposed project has been reviewed and the information in this EIR has been considered, and that this EIR reflects the independent judgment of the City. As defined by Public Resource Code (PRC) Section 21081,

CEQA also requires the City to adopt "findings" with respect to each significant environmental effect identified in the EIR. For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- The project has been altered to avoid or substantially lessen significant impacts identified in the Final EIR;
- The responsibility to carry out the above is under the jurisdiction of another agency; or
- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

In addition, when approving a project, public agencies must adopt a Mitigation Monitoring and Reporting Program (MMRP), describing the changes that were incorporated into the project or made a condition of project approval in order to mitigate or avoid significant effects on the environment in compliance with PRC Section 21081.6. The MMRP is adopted at the time of project approval and is designed to ensure compliance with the measure during project implementation. Upon approval of the proposed project, the City will be responsible for the implementation of the proposed project's MMRP.

Environmental impacts may not always be mitigated to a less-than-significant level. When this occurs, impacts are considered significant and unavoidable. If the City concludes that the proposed project would result in significant and unavoidable impacts, which are identified in this Draft EIR, the City must adopt a "statement of overriding considerations" prior to approval of the proposed project in compliance with PRC Section 21081. Such statements are intended under CEQA to provide a written means by which the Lead Agency balances the benefits of the proposed project and the significant and unavoidable environmental impacts. Where the Lead Agency concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, the Lead Agency may find such impacts "acceptable" and approve the project.

1.4 SCOPE AND CONTENT OF THIS EIR

The content of this EIR was established based on the findings in the Initial Study and public and agency input. In accordance with CEQA, the analysis in the EIR is focused on issues determined in the Initial Study to be potentially significant, whereas issues found in the Initial Study to have less than significant impacts or no impacts do not require further evaluation. This EIR analyzes in detail the following environmental issues:

- land use, planning and zoning
- agricultural resources
- hydrology and water quality
- geology and soils

- biological resources
- landform alteration/aesthetics
- noise
- air quality
- cultural resources (historic, archaeological and paleontological)
- transportation, circulation and access
- population and housing
- hazards/risk of upset
- public services and utilities (fire, police, schools, libraries, water, sewer, and solid waste)
- parks, recreation, trails and open space
- global climate change

The content and format of this EIR are designed to meet the current requirements of CEQA and the State CEQA Guidelines. The EIR is organized into chapters summarized below:

- Executive Summary, presents a summary of the proposed project and alternatives, potential impacts and mitigation measures, and impact conclusions regarding significant unavoidable adverse impacts and effects not found to be significant.

- Chapter 1.0, Introduction, describes the purpose and use of the EIR, provides a brief overview of the environmental review process, and outlines the organization of the EIR.

- Chapter 2.0, Environmental Setting, describes the physical setting for the proposed project. It describes the existing conditions for the project site at the time of the distribution of the NOP.

- Chapter 3.0, Project Description, includes a discussion of the project location, the objectives of the proposed project, details of the proposed project, and a listing of the discretionary actions and approvals required to implement the proposed project.

- Chapter 4.0, Environmental Impact Analysis, includes an analysis of each of the environmental issues outlined above and consists of a description of the existing conditions or setting for each issue area before project implementation, methods and assumptions used in the impact analysis, thresholds for determining the significance of impacts, impacts that would result from the proposed project prior to mitigation, applicable mitigation measures that would eliminate or reduce significant impacts, and the level of significance after implementation of mitigation measures.

- Chapter 5.0, Cumulative Impacts, discusses the potentially significant cumulative impacts that may result from the proposed project when taking into account the related or cumulative impacts resulting from other reasonably foreseeable past, present and future projects within and surrounding the Otay Ranch GDP area.

- Chapter 6.0, Growth-Inducing Impacts, discusses the potential growth-inducing impacts of the proposed project, including the potential of the proposed project to foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

- Chapter 7.0, Mandatory CEQA Sections, provides a discussion of the irreversible environmental changes to the natural environment resulting from the implementation of the proposed project. This section also contains a summary of the issue areas that were determined in the Initial Study for the proposed project to result in less than significant environmental impacts. Furthermore, the significant unavoidable impacts that would result from project implementation are summarized in this section.

- Chapter 8.0, Alternatives, evaluates the environmental effects of feasible project alternatives, including the No Project Alternative. It also identifies the environmentally superior project.

- Chapter 9.0, Lead Agency/Project Applicant, Preparers and References, identifies the documents (printed references) and individuals (personal communications) consulted in preparing this EIR. This chapter also lists the individuals involved in preparation of this EIR and organizations and persons consulted to ascertain supporting information to support the EIR analyses.

- Appendices, present data supporting the analyses or contents of this EIR. The appendices include the following:

  – Appendix A: Notice of Preparation, Comment Letters and Scoping Meeting Materials

  – Appendix B: Traffic Impact Analysis

  – Appendix C: Air Quality Technical Report

  – Appendix D: Noise Impact Study

  – Appendix E: Phase 1, Cultural and Paleontological Assessment

  – Appendix F: Biological Resources Reports

  – Appendix G: Hydrology and Water Quality Reports

  – Appendix H: Geotechnical Reports

  – Appendix I: Water Supply Reports

  – Appendix J: Sewer Studies

  – Appendix K: Hazards/Risk of Upset Reports

  – Appendix L: Global Climate Change Worksheets.

2.0 ENVIRONMENTAL SETTING

This chapter presents a general description of the physical environment of the proposed Otay Ranch Eastern Urban Center (EUC). A more detailed description of the physical environment is discussed on an issue-by-issue basis for each topical issue area in Chapter 4.0, Environmental Impact Analysis. Information related to the environmental setting contained in the *Otay Ranch GDP Program Environmental Impact Report (EIR 90-01/SCH #89010154)* is incorporated by reference in this section and in the following sections, as appropriate.

2.1 PROJECT LOCATION AND REGIONAL SETTING

Regionally, the City of Chula Vista is an incorporated City located approximately 12 miles south and southeast of the downtown area of the City of San Diego and four miles north of the Otay Mesa border crossing via the SR-125 toll road. Chula Vista is approximately 50 square miles in extent. The regional setting is depicted in Figure 2-1, *Regional Location Map,* on page 2-2.

Otay Ranch is located within the East Planning area of the City, which predominantly consists of master planned communities in various stages of development, and of open space. The East Planning Area is generally bounded on the west by Interstate 805; on the north by State Route 54 and the Sweetwater River Valley, where the City's corporate and Sphere of Influence boundaries lie; on the northeast and east by Highway 94, within unincorporated San Diego County, in the San Miguel Mountain/Proctor Valley area; and on the south within and adjacent to the boundaries designated by the Otay Ranch GDP. Land within the unincorporated portion of the County of San Diego is also located east of the site outside of the East Planning Area, and land within the jurisdiction of the City of San Diego is located south of the project site along the banks of the Otay River and the Otay River Valley.

The approximately 237-acre EUC is located in the northeastern portion of the approximate 9,500-acre Otay Valley Parcel of the Otay Ranch GDP project area. The Otay Valley Parcel is the largest of the three parcels that comprise Otay Ranch. The other two Otay Ranch development areas are the Proctor Valley Parcel and the San Ysidro Mountain Parcel. Telegraph Canyon Road and the EastLake Community bound the Otay Valley Parcel on the north; Lower Otay Lake and the Arco Olympic Training Center are the eastern limits; the Otay River Valley encompasses the southern limits; and other recent development, including Sunbow I and II, the Otay Landfill, and the Coors Amphitheater and Water Park, comprise the western limits of the Otay Valley Parcel.

The EUC is divided into three land ownerships. The proposed project covers the majority (approximately 207-acres) of the EUC and is owned by the Corky McMillin Companies. The remaining ownerships will be entitled separately from the proposed project. A more detailed discussion of land ownership is provided in Chapter 3.0, Project Description.

N

0 .5 1 Mile

Source: Google Earth, 2009; Thomas Bros., 2009.

Figure 2-1
Regional Location Map

2.2 SURROUNDING LAND USES

The project site and surrounding uses are illustrated in Figure 2-2, *Surrounding Land Uses,* on page 2-4. As shown in Figure 2-2, the EUC is bordered by Birch Road on the north, Hunte Parkway on the south, EastLake Parkway on the east and SR-125 on the west.

Existing and proposed land uses surrounding the EUC include planned single- and multi-family residential neighborhoods, commercial uses, institutional, and research and development uses. The surrounding Villages all feature school sites, public parks and open space, as well as a range of residential densities.

Specifically, the Otay Ranch Town Center (part of Planning Area Twelve), an approximately 865,000-square-foot commercial center, is located directly to the north of the project site across Birch Road.

Otay Ranch Village Eleven is located to the east and northeast across EastLake Parkway. Village Eleven is in the process of being built out with suburban residences, a commercial center, a public park, and public school sites, including an elementary school, and a combined middle and high school. To the southeast and south of Hunte Parkway is Village Ten. While the majority of Village Ten is currently undeveloped, a charter middle school is currently being constructed on approximately 26 acres (including the school and offsite borrow area) in the northern portion of the Village. To the south of the project site across Hunte Parkway, and just west of the Village Ten, is Otay Ranch Village Nine. Village Nine is currently undeveloped. To the west of the EUC and west of the SR-125 is Village Seven, which is currently under construction and consists of single- and multi- family residential neighborhoods, a site for a public park, Olympian High School and a site for a future elementary school. Village Six, which is substantially developed, is located to the northwest of the EUC, also west of SR-125. Village Six contains a mix of residential uses, a public park, an elementary school, and a private high school and religious facility. Of the immediately surrounding Otay Ranch Villages, Village Six is the most complete at the current time.

Region-serving recreational uses that would serve the entire Otay Ranch, including the EUC, include a future 70-acre community park less than one mile to the west, west of Village Seven, and the larger Otay Valley Regional Park approximately 1.25 miles to the south.

2.3 EXISTING ON-SITE CONDITIONS

The Otay Ranch is former agricultural ranch land historically used for ranching, grazing and dry farming. The EUC SPA Plan area is currently vacant and is generally comprised of gently sloping terrain covered with primarily non-native grasslands crossed by a series of dirt roads and old cattle trails. Additional information regarding on-site biological resources is provided in Section 4.7 of this EIR.

N

0 1200 2400 Feet

Source: Yahoo Local Maps, 2009.

Figure 2-2
Surrounding Land Uses

Natural on-site drainages trend east-west and flow into Wolf Canyon. The upper portion of Wolf Canyon within the EUC (herein referred to as the Wolf Canyon Fill Site) was used to dispose of excess fill generated during mass grading operations for the Planning Area Twelve Otay Ranch Town Center. The Wolf Canyon Fill site is currently covered with various stockpiles of construction material and debris. Two drainages in the southern portion of the site drain south toward the Otay River Valley. A portion of the southwestern drainage was previously filled during adjacent grading operations associated with the construction of EastLake Parkway. Manufactured slopes exist along the northern side of the property along Birch Road. Portions of the northern part of the site were also used as borrow/fill site for construction of the Otay Ranch Town Center. On-site elevations range from approximately 520 feet above mean seal level (MSL) in the southeast corner of the EUC site to a high of approximately 640 feet above MSL in the center of the property. The existing topography of the site is shown in Figure 2-3, *Existing Site Topography,* on page 2-6. Additional information regarding the topographic character of the EUC is provided in Section 4.2, Landform Alteration/Aesthetics, of this EIR.

2.4 EXISTING OFF-SITE CONDITIONS

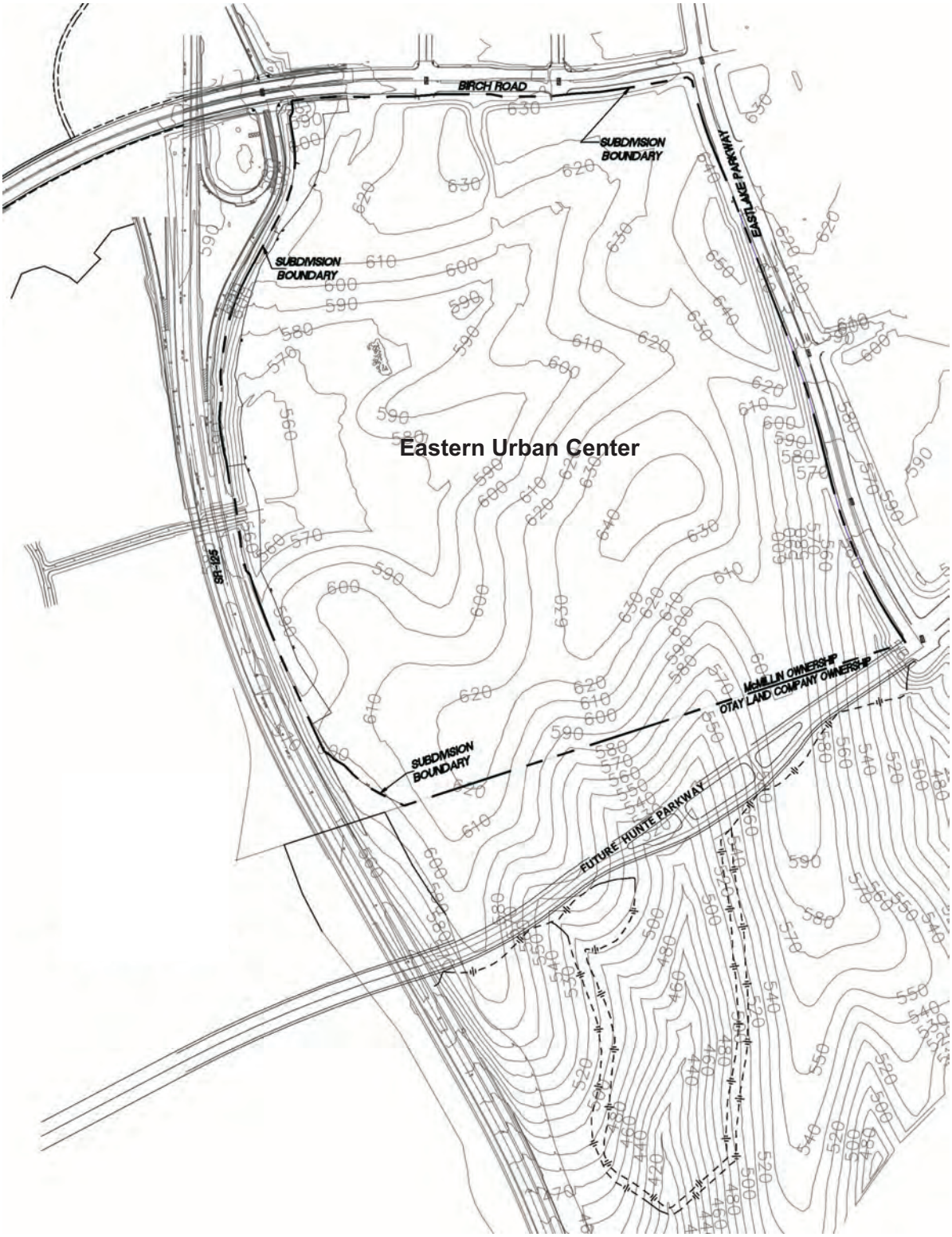
In addition to development within the proposed EUC SPA Plan boundaries, the proposed project involves construction related activities in three separate off-site areas located within the City of Chula Vista. The location of these three off-site improvements is shown in Figure 2-4, *Location of Off-Site Improvement Areas,* on page 2-7. The location, surrounding uses, and existing conditions at each of these sites are described below.

A. Off-site Soils Stockpiling Area

As discussed in Chapter 3.0, Project Description, the proposed project includes off-site stockpiling of soils. The SSA is located directly south of the EUC SPA Plan area on a portion of the vacant Village Nine. It is dominated by agricultural land that has been subjected to annual tilling. This area is located on a large, flat mesa that is bisected by one ephemeral drainage swale and is approximately 200 feet above MSL. Surrounding land uses include agricultural lands to the north, east, and south and SR-125 to the west.

B. Off-site Salt Creek Sewer Lateral Improvement Area

As discussed in Section 3.0, the proposed project includes an upgrade to an existing 173-foot section of the Salt Creek Trunk Sewer. The off-site Salt Creek Sewer Lateral (SCSL) Improvement Area includes existing paved and dirt access roads, dirt staging areas, underground sewer and water lines, manholes, and a small portion of Salt Creek. Surrounding land uses include open rolling hills supporting non-native grassland, Diegan coastal sage scrub, and riparian habitat within Salt Creek. The study area has historically been used for ranching and grazing; however portions have been revegetated with native coastal sage scrub. The elevation within the SCSL Improvement Area is approximately 360 feet above MSL. Salt Creek flows in a southwesterly



N

0 300 600 Feet

Source: Cinti Land Planning, 2009.

Figure 2-3
Existing Site Topography

N

0 1200 2400 Feet

Source: Yahoo Local Maps, 2009.

Figure 2-4
Location of Off-Site Improvement Areas

direction through the study area and into the Otay River. The Applicant is proposing to construct this improvement via a pipe-jacking method to minimize surface impacts.

C. Off-site Poggi Canyon Sewer Improvement Area

As discussed in Section 3.0, the proposed project includes an upgrade to an existing 110-foot section of the Poggi Canyon Trunk Line Sewer. The Poggi Canyon Sewer Improvement (PCSI) Area occurs within an existing paved roadway at the intersection of Olympic Parkway and Brandywine Avenue. The construction area for this improvement is approximately 0.02 acres (880 square feet) within Lane #1 of the westbound side of Olympic Parkway. The surrounding land use is predominantly residential.

2.5 ACCESS

In addition to Birch Road, EastLake Parkway and Hunte Parkway, the EUC area is regionally served by the I-805 freeway and specifically served by the SR-125 toll road. A freeway interchange is constructed at SR-125 and Birch Road, and a future interchange is planned at SR-125 at Hunte Parkway. Both Birch Road and Hunte Parkway are designated major arterials. Bob Pletcher Way, located between Birch Road and Hunte Parkway, will connect Village Seven to the EUC via an existing underpass under SR-125. Additional information regarding adjacent circulation and freeways is provided in Section 4.3, Transportation, of this EIR.

In addition, the Metropolitan Transit Development Board's regional public transit system and local transit are planned to traverse the Otay Valley Parcel's urban villages, with an existing transit stop and Park and Ride facility located in the Otay Ranch Town Center and a future transit stop in the EUC.

2.6 CLIMATE

The climate of the region is characterized by warm, dry summers and mild, wet winters. Clear skies predominate much of the year due to a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell also drives the dominant on-shore circulation and helps to create subsidence and radiation temperature inversions. Subsidence inversions occur during the warmer months when descending air associated with the high-pressure cell comes into contact with cool marine air. Radiation inversions typically occur on winter nights when air near the ground cools by radiation and the air aloft remains warm. Additional information about regional and local climate is provided in Section 4.4, Air Quality of this EIR.

3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

McMillin Otay Ranch, LLC (the Project Applicant) proposes to develop its 206.6-acre (approximately 207-acre) ownership within the 237-acre Otay Ranch Eastern Urban Center (EUC) in Chula Vista, California. The EUC represents the planned extension of development within the Otay Ranch General Development Plan (GDP) area. Located along the State Route 125 South Tollway (SR-125) between Birch Road and Hunte Parkway, the EUC would be accessible to the residents of Chula Vista, San Diego and border region.

As envisioned by the GDP, the EUC Sectional Planning Area (SPA) Plan would refine and implement the land use plans, goals, objectives, and policies of the City of Chula Vista General Plan and Otay Ranch GDP, as amended in 2005, for the EUC. The EUC SPA Plan defines in more detailed terms, the development parameters for the EUC, including land use mix, design criteria, primary circulation pattern, and infrastructure requirements. The character and form of the proposed project would be implemented through a series of guidelines and development standards prescribed in the *Otay Ranch Eastern Urban Center SPA Planned Community (PC) District Regulations and Village Design Plan*, which is a "form-based" code prescribing design standards as well as land use standards. The PC District Regulations and Village Design Plan is part of the proposed SPA, and it would serve as an important tool to guide the City in its review and evaluation of schematic, preliminary, and final plans for each individual project to be built within the EUC. The proposed project including elements of the SPA and Tentative Map (TM) are described in this section.

The development proposed by the Project Applicant pursuant to the proposed SPA Plan is referred to as the "proposed project," and is the focus of this EIR.

3.2 PROJECT LOCATION AND OWNERSHIP

A. Project Location

The EUC SPA Plan site and surrounding Otay Ranch villages are illustrated in Figure 3-1, *Location/SPA Boundary*, on page 3-2. The project site is bounded by SR-125 on the west, Birch Road on the north, EastLake Parkway on the east and the ownership boundary of the EUC, just north of the future location of Hunte Parkway on the south. Adjacent to the project site are the Otay Ranch Village Seven, to the west across the SR–125 right-of-way, and the Freeway Commercial development (Otay Ranch Town Center) to the north. Both the EUC and the Otay Ranch Town Center are located within Planning Area Twelve. Suburban development is located on the adjacent Village Eleven to the northeast. The undeveloped

N

0 600 1200 Feet

Source: Cinti Land Planning, 2009.

Figure 3-1
Location/SPA Boundary

university site and Village Nine are located to the southeast and south of the project site. As previously shown in the aerial photo depicted in Figure 3-1, the surrounding Otay Ranch villages are at various stages of development, including some finished areas, areas under construction, and currently vacant land. Land uses surrounding the EUC are more fully described in Chapter 2.0, Environmental Setting.

B. Ownership

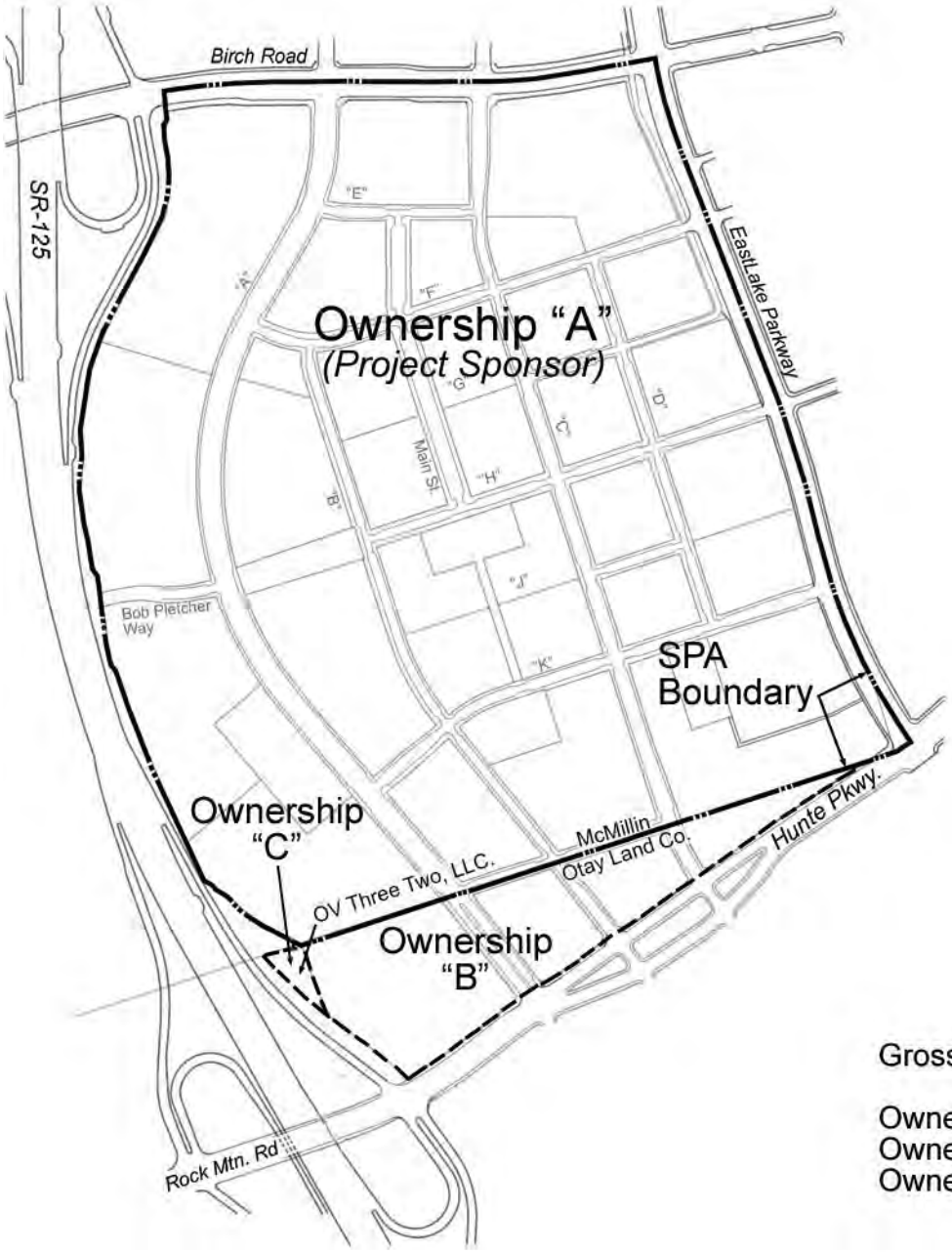
The EUC is comprised of three ownerships, shown as Ownerships A, B, and C, in Figure 3-2, *EUC Ownership Map,* on page 3-4. The SPA Plan addresses only land uses proposed for Ownership A, which is owned by the Project Applicant. The adoption of the SPA would grant entitlements to the land owned by the Project Applicant only. The remaining acreage within the EUC (comprising two parcels totaling approximately 23.0 acres) is not part of the proposed project, but is addressed to some degree in the context of total planning for the EUC, including consistency with other adopted plans, community structure, and community infrastructure. Hence, the SPA Plan and this EIR will address some issues with respect to the entire planning area and others with respect to only the Applicant's property. Descriptions of facilities and features outside of the Applicant's ownership may be discussed at a conceptual level to demonstrate how a coherent urban center as a whole could be implemented. At such point that application(s) for development of the remainder of the EUC are filed, approval of the proposal(s) would require either amendments to the SPA or the approval of another SPA Plan and independent environmental review.

The allocated uses for the three ownerships in the EUC are summarized in Table 3-1, *Ownership and GDP Land Use Allocation,* on page 3-5. The development allocations have been divided among the three ownerships based on acreage. As shown in Table 3-1, the Project Applicant's ownership comprises 90.04 percent of the total developed acreage within the approximately 237-acre EUC. Therefore, 90.4 percent of the corresponding amounts of residential units and non-residential development potential allowed by the GDP has been allocated to the Applicant's ownership. The development statistics set forth for Ownership A correspond to the allocations represented in Table 3-1 to the nearest 1/10th acre. However, development statistics may change based on more precise engineering calculations. Any minor adjustments in the SPA Plan's future subdivisions and site plans, must comply with the Subdivision Map Act, as determined by the City of Chula Vista.

3.3 BACKGROUND

A. Regional Context

Otay Ranch includes a full range of land uses including residential, commercial, and retail with supporting civic and public uses such as libraries, parks, schools, and approximately 11,375 acres of supporting open space. Due to the size and complexity of Otay Ranch, both



Gross Acres*

Ownership "A"	206.6
Ownership "B"	22.2
Ownership "C"	0.7

** The gross acres shown do not include the perimeter arterials. The acres indicated for ownerships "B" & "C" are approximate.*

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Figure 3-2
EUC Ownership Map

Source: Cinti Land Planning, 2009.

Table 3-1

Ownership and GDP Land Use Allocation

Ownership	Development Area Owned (Acres)	Percent of Total	Share of Non-Residential (SF)	Share of Residential (DU)
Ownership A (Applicant)	206.6	90.04	3,487,000	2,983
Ownership B	22.2	9.66	374,000	320
Ownership C	0.7	0.30	12,000	10
Total	**229.5**	**100**	**3,872,000**	**3,313**

Note: The Development Areas exclude arterial highways.
Source: Eastern Urban Center SPA Plan, Table B (July 2008).

the planning and environmental documentation for the specific planning areas or villages within the Otay Ranch have been tiered. The first tier of planning and environmental analysis included the *Otay Ranch General Development Plan* (GDP)/*Subregional Plan (SRP)* and a *Final Program Environmental Impact Report* (EIR 90-01/SCH #89010154), which was adopted by the Chula Vista City Council and the San Diego County Board of Supervisors on October 28, 1993. The EUC is located entirely within the GDP, an element of the Chula Vista General Plan. The Otay Ranch GDP was most recently updated on December 5, 2005 concurrently with the City's General Plan Update and associated *General Plan Update EIR* (EIR 05-01; GPA 01-03). The proposed SPA Plan and this EIR are second-tier documents that tier off the Otay Ranch GDP EIR (EIR 90-01) and General Plan Update EIR (EIR 05-01).

The EUC and Freeway Commercial sites are described in the Otay Ranch GDP as Planning Area Twelve. The following excerpt from the Otay Ranch GDP describes the vision for Planning Area Twelve (Chapter 1 Section F.12.a):

> *Planning Area Twelve is approximately 368 acres in size and is located in the center of the Otay Valley Parcel. It contains both the Eastern Urban Center (EUC) and the Freeway Commercial (FC) areas. The topography in this area consists of several broad knolls. Planning Area Twelve is positioned at the center of the Otay Ranch community, where the three major circulation systems converge. These three systems include open space network, the proposed SR-125 highway and the proposed bus rapid transit system.*

Because of differences in character and development timing factors, the GDP allows the EUC and the designated Freeway Commercial area to prepare separate SPA plans and to enter separate approval processes. As such, development of the Freeway Commercial area was approved as a separate SPA from the EUC and is currently known as the Otay Ranch Town Center.

The boundaries and acreage of the proposed EUC are consistent with the Otay Ranch GDP description above. The total EUC SPA Plan area is approximately 207 acres of the 237-acre EUC described in the GDP.

B. EUC Vision

The GDP provides a basic description of the development to be located within the EUC, a list of components, development statistics, and a generalized map of land use locations. Consistency of a SPA with the GDP and subsequent discretionary applications is evaluated according to allocated total land area, which may not vary by more than 15 percent for each individual village. Acres of mixed-use and medium-high and high-density residential uses for a village may not exceed the GDP/SRP specified acres. The EUC is shown in the context of the surrounding GDP in Figure 3-3, *Otay Ranch Adopted General Development Plan,* on page 3-7.

Chapter 1 of the GDP describes the EUC as follows:

> *The EUC is an urban center, serving regional commercial, financial, residential, professional, entertainment, and cultural needs. This prime location is designated as the Eastern Urban Center to announce its role as the heart of the eastern territories in South San Diego County. The center will be a viable and intense mixture of uses that will act as a magnetic downtown, drawing residents, visitors and businesses. Surrounding land uses in the adjacent Village Nine, particularly its town center; the University Campus; Regional Technology Park; and the Freeway Commercial area are expected to relate closely to the EUC.*
>
> *The center will be composed of buildings of varying orientations. It will contain specialty land uses, as well as shopping and entertainment uses, and uses supportive of the university campus. Landmark architecture will be encouraged to create a pronounced identity. An internal circulation system will provide for pedestrians, bus and bus rapid transit connections. This system will provide efficient access throughout the Eastern Urban Center and to the ultimate bus rapid transit line through this region.*

Designated uses and density at the buildout of the Eastern Urban Center is as follows:

- 3,313 multi-family high density residential units;
- Build-out population of approximately 8,548;
- Regional and specialty shopping;
- Multi-Use Cultural Arts Facility (including civic arts/theaters and museums) Regional Purpose Facilities;

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Source: Cinti Land Planning, 2009.

Figure 3-3
Otay Ranch Adopted General Development Plan

- Local Parks;
- Business Parks;
- Visitor Commercial;
- Transit Station;
- An Elementary School and a High School as required by the applicable districts;
- Urban Open Space Corridor;
- Library and Civic Facilities;
- Fire Station;
- Affordable Housing.

The total EUC development under the GDP is summarized in Table 3-2, *GDP Land Use Table for the EUC,* on page 3-9. The mix of uses shown in Table 3-2 is subject to the following GDP policy:

> *The mix of uses is representative of the expectations and intended character of the Eastern Urban Center. The final land use mix and distribution of uses shall be determined at the SPA planning level. Variation from the uses identified in* Table 3-2 *may be approved subject the following findings:*
>
> *The intended character and purpose of the Eastern Urban Center is maintained;*
>
> *The distribution of uses is compatible with the adopted uses in adjacent villages; and*
>
> *The viability of the Eastern Urban Center is maintained or enhanced.*

3.4 STATEMENT OF PROJECT OBJECTIVES

Section 15124(b) of the *California Environmental Quality Act (CEQA) Guidelines* (14 Cal. Code Regs. 15000 et. seq.) states that the Project Description shall contain "a statement of the objectives sought by the proposed project." Section 15124(b) of the CEQA Guidelines further states, "the statement of the objectives should include the underlying purpose of the project."

The SPA Plan identifies project objectives that implement the aforementioned GDP land use description and guidelines for the EUC, as indicated below:

- Implement the goals, objectives, and policies of the Chula Vista General Plan, particularly the Otay Ranch General Development Plan.

Table 3-2

GDP Land Use Table for the EUC
(As adopted in 2005)

EUC Component of Planning Area Twelve

	Dwelling Units				Acreage*****								
Use	**SF Units**	**MF Units**	**Total Units**	**Dens**	**Res. Ac.**	**Park Ac.***	**CPF Ac.****	**Sch. Ac.*****	**C'ml Ac.*****	**Open Sp.**	**Art.**	**Tot.**	**Approx Pop+**
EUC		3,313	3,313	41.2	80.4	25.6	11.9	35.0			8.0	106.9	8,548
Regional Commercial									29.4			29.4	
Visitor Commercial									11.0			11.0	
Cultural									5.0			5.0	
Off.: Low Rise/Bus.									19.0			19.0	
Off.: Med/High Rise									11.5			11.5	
OTHER:++										1.5		1.5	
EUC Total	0	3,313	3,313	41.2	80.4	25.6	11.9	35.0	75.9	1.5	8.0	238.3	8,548

* *Actual Park Size to be determined by Parks Master Plan at the SPA Plan level, park acreage based on ratio of 3.0-acres per 1000 persons.*

** *CPF acreage based on ratio of 1.39 acres per 1,000 persons. Square footage equivalent may be considered at SPA Plan level.*

*** *School acres will divert to residential if not needed for schools.*

**** *May include mixed and multi-use.*

***** *The maximum permitted non-residential areas may alternatively be measured in square-feet up to the maximum projected yield of 5,179,000 square-feet.*

\+ *Population coefficient is at 3.3 persons per single-family unit and 2.58 persons per multi-family unit.*

++ *Fire Station*

Source: Exhibit 60, Otay Ranch General Development Plan, as amended (December 2005).

- Implement Chula Vista's Growth Management Program to ensure that public facilities are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements.

- Foster development patterns which promote orderly growth and prevent urban sprawl.

- Maintain and enhance a sense of community identity within the City of Chula Vista and surrounding neighborhoods of Otay Ranch.

- Establish unique urban standards for administration, streets, parking, parks, lighting, on-site signing, setbacks, heights, and other development requirements to achieve an urban place that sets itself apart from surrounding suburban villages.

- Establish a high density, mixed-use regional urban center which also reserves a public transit right-of-way (ROW or easement), and transit stops for extension of the San Diego regional public transit system to reduce reliance on the automobile to access uses within the center and destinations served by the transit system.

- Promote synergistic uses both within the urban center and between uses in adjacent development areas to balance activities, services and facilities.

- Contribute to the unique Otay Ranch image and identity which differentiates Otay Ranch from other communities.

- Implement development consistent with the provisions of the Otay Ranch resource conservation and management plans.

- Establish a flexible and responsive land use and facility plan which assures project viability in consideration of existing and future economic cycles.

3.5 DESCRIPTION OF THE PROPOSED PROJECT

The proposed project is comprised of a proposed SPA Plan and Tentative Map (TM) for the EUC. The components of the SPA Plan and TM are described below. In addition, discretionary actions and other approvals required to implement the SPA and TM are identified.

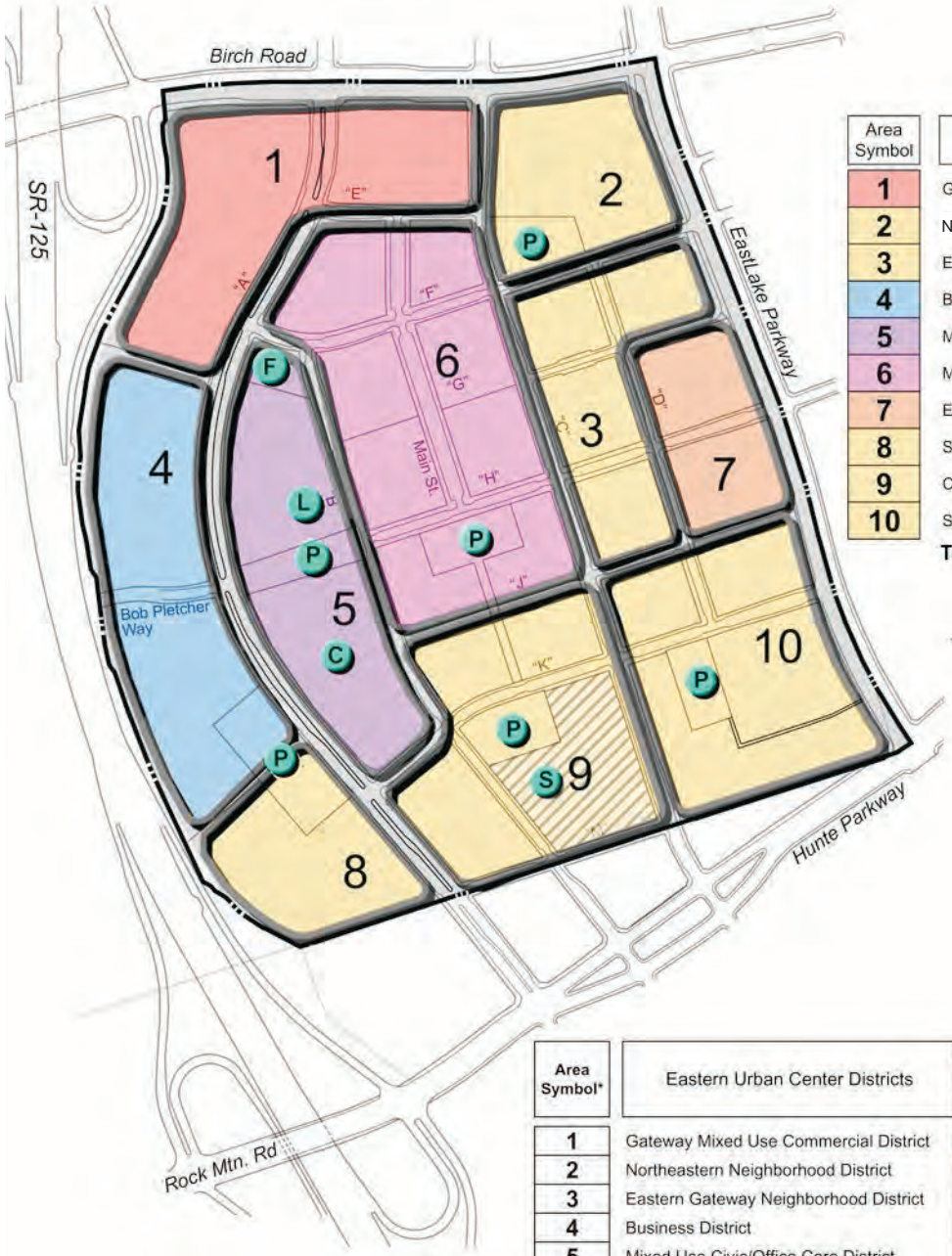
A. SPA Plan

(1) Development Concept

Various factors influence the ultimate design of the EUC. The primary design influence is the intended role as a regional commercial and social activity center. Other influences include the existing and planned adjacent development patterns, Chula Vista General Plan policies, and GDP provisions governing adjoining undeveloped land, including the regional open space system, off-site circulation, the proximity to the future community park in Village Four, public facility connections and planned land uses for adjacent properties.

Based on design influences, the SPA proposes a complex land use pattern. The SPA provides land use guidance but is not intended to establish specific types and densities of development at the neighborhood level. Since the entire EUC would have a mix of land uses, both horizontally and vertically, a typical land use pattern of discrete uses is not applicable. However, various areas within the proposed project would have different characteristics associated with a predominant land use and urban design motif.

Development statistics for the proposed project are illustrated in Figure 3-4, *Site Utilization Plan,* on page 3-11. Although conceptual in nature, the Site Utilization Plan establishes ten specific



Area Symbol	Eastern Urban Center Districts	Acres
1	Gateway Mixed Use Commercial District	22.7
2	Northeastern Neighborhood District	13.2
3	Eastern Gateway Neighborhood District	17.2
4	Business District	25.4
5	Mixed Use Civic/Office Core District	23.3
6	Main Street District	34.7
7	Eastern Gateway District	9.6
8	Southwestern Neighborhood District	12.5
9	Central Southern Neighborhood District	24.4
10	Southeastern Neighborhood District	23.6
	Total*	**206.6**

** Does not include perimeter arterial highways*

Area Symbol*	Eastern Urban Center Districts	Non-residential Sq. Ft. *(000's)* Permitted			Residential Dwelling Units Permitted		
		Low	Target	High	Low	Target	High
1	Gateway Mixed Use Commercial District	100	400	700	0	50	100
2	Northeastern Neighborhood District	2	120	200	150	300	500
3	Eastern Gateway Neighborhood District	5	50	250	150	400	750
4	Business District	500	1,362	1,900	0	100	150
5	Mixed Use Civic/Office Core District	100	900	1,000	0	200	300
6	Main Street District	80	240	400	100	533	800
7	Eastern Gateway District	10	170	400	50	200	300
8	Southwestern Neighborhood District	2	50	200	300	500	700
9	Central Southern Neighborhood District	2	45	100	130	500	650
10	Southeastern Neighborhood District	2	150	200	200	200	450
Maximum, Not to Exceed, Totals		**3,487**			**2,983**		

Potential Public Components

- P Park
- L Library
- F Fire Station
- S Potential Elementary School*
- C CPF Site

Note: *District 10 may also be an alternative for the Elementary School Site.*

Notes:

1. ** Numeric Area Symbols do not represent phases.*
2. *The allocation of intensity in each district shall be based on the building height regulations in the EUC Form Based Code.*

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Figure 3-4
Site Utilization Plan

Source: Cinti Land Planning, 2009.

districts totaling approximately 207 acres of developed area, including 154 acres of residential and non-residential uses, approximately 16 acres of urban parks, an elementary school site of five to six acres, a fire station site of approximately one acre, and approximately 30 acres of street right-of-way. The districts and their internal and external relationships are depicted in Figure 3-5, *Community Structure,* on page 3-13.

As illustrated in Figure 3-5, the EUC would comprise a variety of defined neighborhoods and districts, and an internal street grid and a circulation system that would provide a variety of access points to the EUC from surrounding streets. The "Main Street District" would be central to the EUC, with the "Mixed Use Civic/Office Core District" and "Business District" to the west, "Gateway Mixed Use Commercial District" to the north. All of these areas would be primarily non-residential in character, although residential uses would be permitted within the land use mix. The residential neighborhoods, located primarily east and south of the "Main Street District", would each have their own park and a residential character, as residential uses would predominate. However, non-residential uses would also be allowed. Public uses would be integrated in appropriate locations, and the transportation system would accommodate a variety of transportation modes, including public transit. The individual districts and other key components of the SPA Plan are described below.

(a) EUC Districts

(i) Residential Districts

The proposed EUC SPA Plan would allow development of up to 2,983 multi-family residential units in a variety of urban residential products. While the greatest residential densities would surround Main Street, the EUC also incorporates a series of residential neighborhoods organized around neighborhood parks. Residents within these neighborhoods would have access to a variety of services, such as a community and neighborhood retail and office, market, neighborhood shops and restaurants, and active recreation areas within walking distance.

The Planned Community (PC) District Regulations and Village Design Plan comprise the EUC Form Based Code (FBC). The FBC describes the Urban Design Vision for the residential districts as follows:

- Variety of housing products and forms;
- Street oriented urban format housing with shared public spaces;
- Located within strolling distance to the main street hub and urban parks;
- A safe and clean urban lifestyle choice;

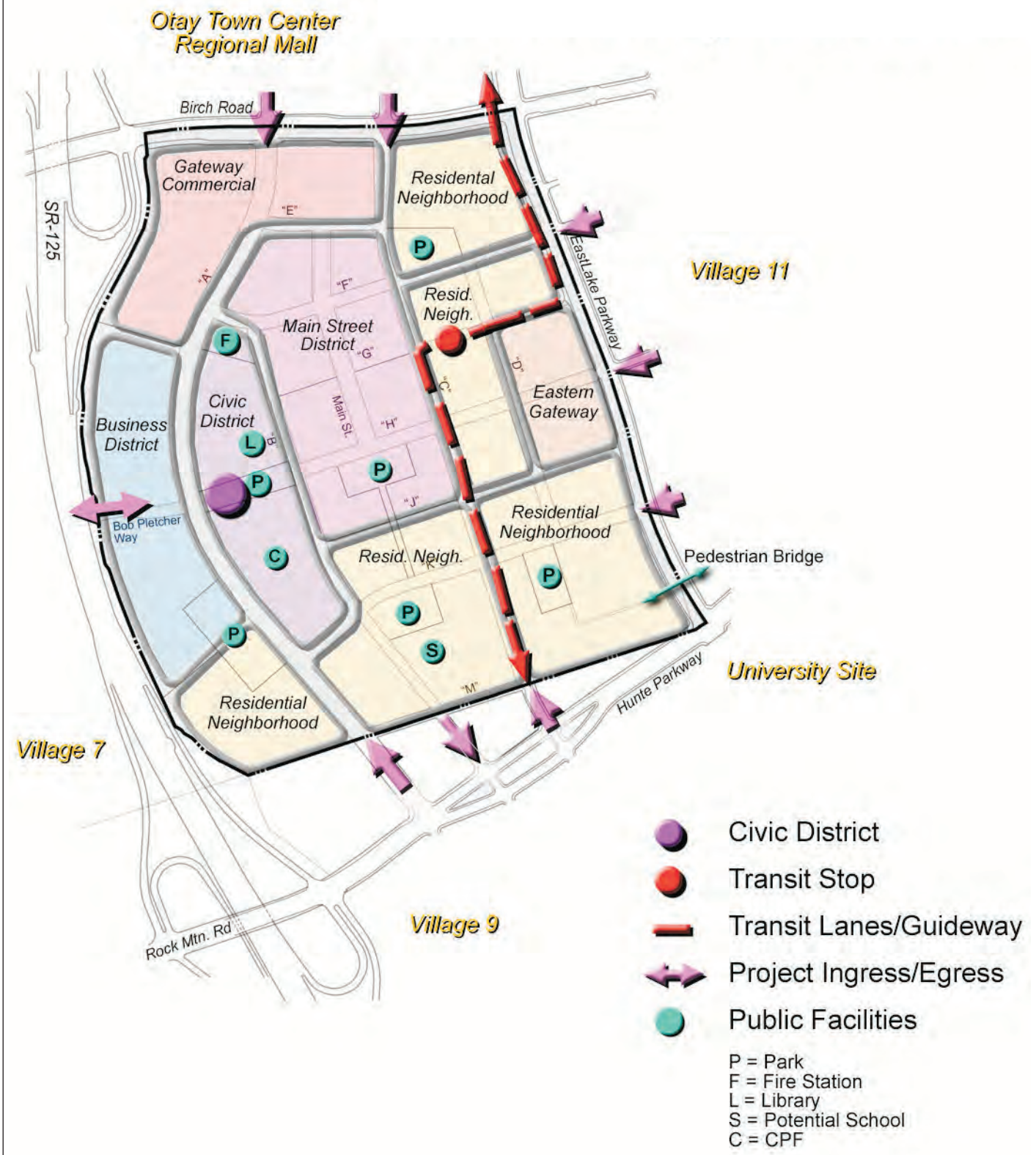

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Figure 3-5
Community Structure

Source: Cinti Land Planning, 2009.

- A leisurely walk to work, shopping, transit, restaurants, and evening entertainment;
- Lifestyle based on the street oriented activities instead of backyard patios;
- A place to live distinct yet intertwined lives;
- A place for social interaction instead of home/yard maintenance; and
- A high speed connected lifestyle.

The FBC also describes the overall site planning guidelines, architecture and landscape guidelines for development within the residential districts.

(ii) Business District

The Business District would provide a major office complex within the South County region, including up to two million square feet of offices. Occupants would benefit from proximity and visibility from SR-125. The Business District is envisioned as a complement to other uses in the EUC, bringing expanded employment opportunities to the community, energizing Main Street, introducing a significant daytime population, and providing riders for area transit. A system of internal vehicular and pedestrian connections linking plazas and public spaces would link development parcels, which would vary in size to accommodate different sized businesses.

The FBC describes the Urban Design Vision for the Business District as follows:

- Clean, simple, high quality corporate and multi tenant offices;
- High quality “urban campus” setting with distinctive landscape features;
- Prominent building entries off primary streets and/or internal plazas;
- Orientation to attract high tech and service tenants;
- Buildings near the street; parking areas tucked behind the typical condition. Exceptions to be permitted, particularly where interim solutions for phased intensity may allow parking along the street; and
- Within convenient walking distance of amenities, i.e., restaurant, hotels, entertainment, etc.

The FBC also describes the overall site planning guidelines, architecture and landscape guidelines for development within the Business District.

(iii) Main Street District

The Main Street District, which would be the most active and urban component of the proposed project, would provide a mixed-use, pedestrian environment that combines office and residential uses over ground floor retail. The key component of the Main Street District would be entertainment, including retail uses, restaurants, bars, and cafes generating daytime and nighttime activity. Public spaces accommodating street fairs, community events, and farmers markets, would further support Main Street as the "place to be." The urban character of this district would be enhanced with interior plazas, paths, and jogging trails and a central town square. As such, this district will have a "downtown" commercial character.

The FBC describes the Urban Design Vision for the Main Street District as follows:

- Continuous 3-4 story mixed-use buildings, i.e., office, residential, hotel (uses include ground level retail);
- Vibrant, high energy, eclectic mixed-use pedestrian-oriented precinct;
- "Around-the-clock" activity;
- Visually interesting secondary entry gateway (portal) from Birch Road;
- Special lighting & signage to provide drama and upscale elegance; and
- High quality pedestrian connections to districts beyond as well as parking with shared parking preferred.

The FBC describes the overall site planning guidelines, architecture and landscape guidelines for development within the Main Street District.

(iv) Mixed Use Civic/Office Core District

The EUC's role as an important urban core would be reinforced by the presence of a Civic Core. This district would function as the symbolic and ceremonial focus of community government and culture. Cultural activities such as a public library, museum, multi-purpose venue and/or concert hall would attract broad community interest, augment the public life of Chula Vista, and enliven the EUC. The larger parcels proposed are appropriate to accommodate major uses.

The FBC describes the Urban Design Vision for the Mixed-Use Civic/Office Core District as follows:

- "Heart of the EUC"; and

- Civic Plaza provides the key place-making feature and focus for public events with connections to surrounding activities.

The FBC also describes the overall site planning guidelines, architecture and landscape guidelines for development within the Mixed-Use Civic/Office Core District.

(v) Gateway Districts

Two Gateway Districts are included in the Site Utilization Plan, the "Gateway Mixed Use Commercial District" and the "Eastern Gateway District". The Gateway Districts would serve as the portals that serve as a transition from surrounding areas into the core of the EUC. Landmark buildings announcing the EUC as a special place would distinguish these districts. The Gateway Mixed Use Commercial District along Birch Road would provide a retail transition from the Otay Ranch Town Center to the north, while announcing arrival with landmark architecture into the EUC. Landmark buildings may include hospitality and hotel uses. This district will emphasize horizontal mixed-use but vertical mixed-use may be present.

The FBC describes the Urban Design Vision for the Gateway Mixed Use Commercial District as follows:

- Northern Landmark and anchor project of the EUC;
- Early phase, urban mixed-use "gateway" to the EUC; and
- Prominent locale across from the Otay Ranch Town Center (regional lifestyle retail center).

The FBC of the SPA Plan describes the Urban Design Vision for the Eastern Gateway District as follows:

- Creates a unique distinguishable entrance for the eastern gateway;
- Located within strolling distance of shopping, transit, restaurants and entertainment;
- Shared courtyards promote social interaction and a sense of community; and
- Street oriented housing promotes a unique urban lifestyle.

The FBC also describes the overall site planning guidelines, architecture and landscape guidelines for development within these Gateway Districts.

(b) Development Intensity and Transfer

The SPA Plan would provide guidance for future development at the subdivision and improvement plan level, and is the basic reference for determining permitted land uses, densities, total units, and required public facilities. Even though the SPA contains specific guidance and reflects the City's intent for determining the density and desired character of the EUC, it is not intended to be used in a manner that predetermines the development solution for each District or Neighborhood. There may be development proposals where the intended character and purpose of the EUC can be maintained yet result in inconsistencies with the total intensity established for a particular district, or for the total intensity of all districts. To provide for these instances, the following regulations are provided in the FBC to permit and regulate the transfer of intensity. Every project other than those at the target intensity shall require an intensity transfer to insure that the maximum intensity is achieved at full maturity. Any reduction in intensity in any district must be met with a corresponding increase in another district and vice versa.

Transfers Within Intensity Range of a District. Unless a proposed project is exactly consistent with the target intensity shown on the Site Utilization Plan, an intensity transfer is required. If it is within the intensity range shown on the Site Utilization Plan, then it will be assumed to be consistent with intended EUC character. The Zoning Administrator shall approve the proposed intensity transfer as an administrative matter, subject to the following findings:

a. That the transfer maintains the intended mixed use character of the EUC;

b. That a corresponding increase or decrease in another district is included in the proposed transfer so that overall SPA intensities will not be exceeded or reduced;

c. That the project applicant has received a recommendation for approval of the intensity transfer from the Master Developer; and

d. That the project applicant has received a recommendation for approval of the intensity transfer from the Master Developer (as defined in the Form Based Code) and from all property owners that would have a change in their intensity due to the proposed intensity transfer.

Transfers of Intensity Between Districts. Transfers of intensity between districts above the high end of any district's intensity range may also be approved by the Zoning Administrator as an administrative matter, subject to the following findings. The findings would require that the transfer would not result in the overall EUC SPA Plan intensity for both the 2,983 residential units and non-residential 3.487 million square feet to be exceeded.

a. That the transfer maintains the intended mixed use character of the EUC;

b. That the transfer is consistent with the urban design concepts and the district principles outlined in the FBC;

c. That a corresponding increase or decrease in another district is included in the proposed transfer so that overall SPA intensities will not be exceeded or reduced;

d. That the project applicant has provided supporting technical studies, to the satisfaction of the Zoning Administrator, that indicate adequate infrastructure will exist to support the intensity transfer;

e. That the project applicant has agreed to provide any necessary amended documents reflecting the intensity transfer for the public record;

f. That the project applicant has received a recommendation for approval of the intensity transfer from the Master Developer, and written approval from all property owners that would have a change in their intensity.

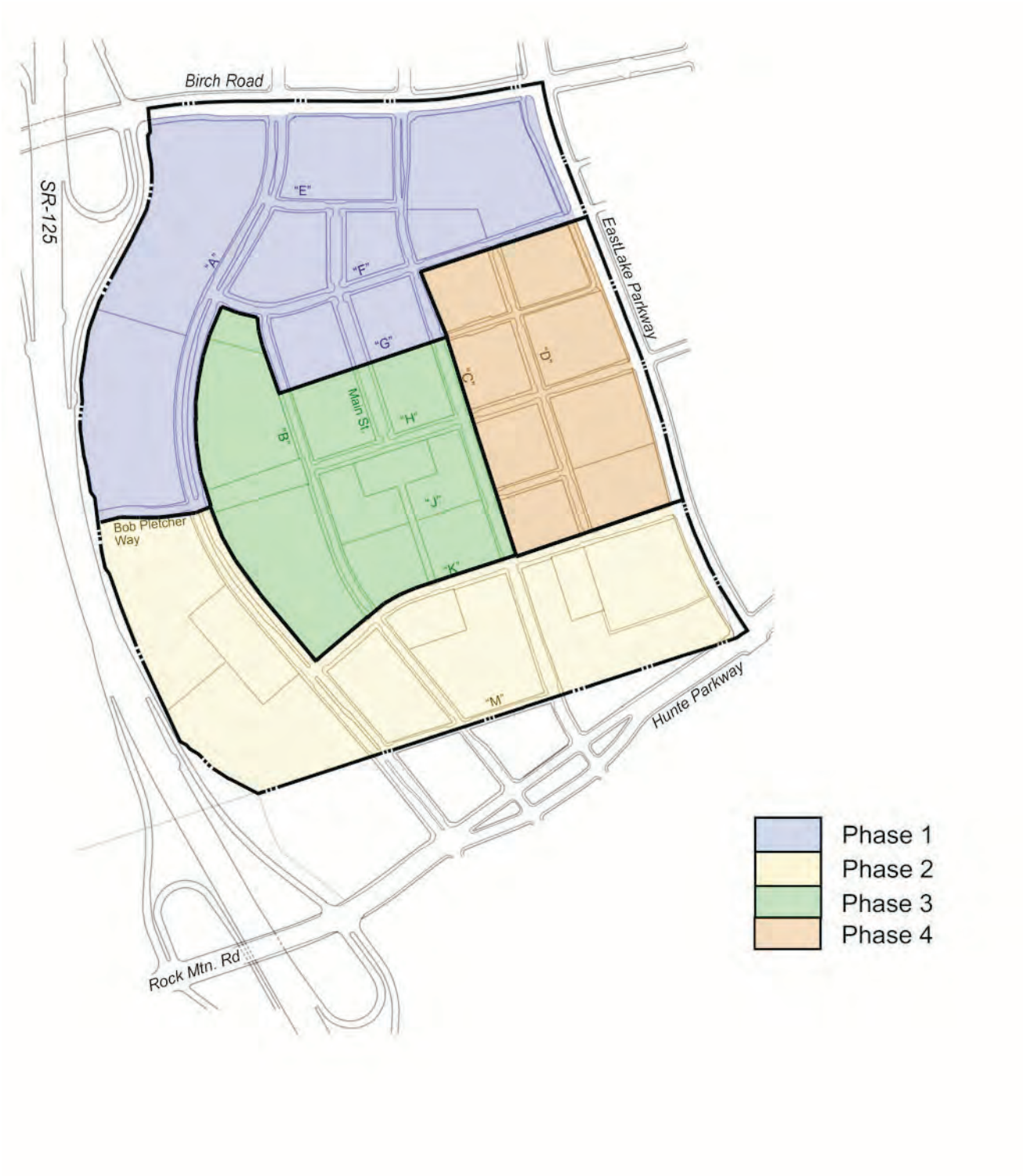
(c) Development Phasing

The development of the EUC SPA would be completed in four primary phases as shown on Figure 3-6, *Construction Phasing SPA*, on page 3-19. Each phase consists of all or portions of one or more districts. The Conceptual Phasing Plan is based on anticipated market demand for development and is consistent with the EUC SPA Public Facilities Financing Plan (PFFP).

The Phasing Plan is non-sequential in order to allow flexibility based on market changes or regulatory constraints and public infrastructure needs/requirements. It imposes specific facilities requirements, per the PFFP, for each development increment, regardless of the phase it is located within. Construction of the major on-site streets that serve the multiple phases would be phased according to the provisions of the PFFP.

Although the actual level of development over time is difficult to predict given uncertainties associated with future market and regulatory conditions, it is assumed, based on input from the Project Applicant, that construction would begin in late 2009 with buildout of all residential units within the EUC SPA Plan area by Year 2020 (approximately a ten-year buildout), along with approximately two million square feet of non-residential uses. The remainder of the project is estimated to be completed by Year 2030.

Development would begin at the edges of the EUC off the existing arterials (Birch Road and EastLake Parkway). Initial phases of residential development would be lower density product consistent with multifamily development in adjacent villages, as anticipated in the Otay Ranch GDP. Residential densities, and building mass and scale would increase from the edges into the center and western portions (employment district) of the project.



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Source: Cinti Land Planning, 2009.

Figure 3-6
Construction Phasing SPA

The first phase of development associated with the EUC SPA Plan is expected to be along Birch Road and would include a mix of land uses with residential, retail, hospitality, mixed use and office development. Subsequent phases would be developed from the southern boundary of the EUC north and west, depending on market conditions and product acceptance.

(2) PC District Regulations & Village Design Plan (Form Based Code)

The EUC FBC blends the regulations typically found in Planned Community District Regulations with the guidelines typically found in a village design plan. The specific provisions of the SPA Plan set forth in the FBC and related SPA documents would supersede the applicable sections of the Chula Vista Municipal Code (CVMC) Title 19, Zoning Ordinance. The FBC includes extensive site-specific design standards, definitions, and implementation processes for development and use within the planning area. If an issue is not addressed in the SPA Plan or FBC, then applicable City-wide regulations would apply in accordance with Title 19, Zoning, of the *Chula Vista Municipal Code* for the PC Zone.

The FBC is predicated on the belief that activities within the buildings are less important than the form and relationships between buildings and public spaces. The FBC describes the physical character and arrangement of dominant land use of the project.

The FBC, which would be adopted as part of the proposed SPA Plan, would serve as an important tool that would guide the City in its future review and evaluation of schematic, preliminary and final plans for each individual project to be built in the EUC. Throughout these regulations, the label “land use” has been replaced by “building type” (e.g., “land use districts become “building type” districts) reflecting the expanded scope of these regulations. The design and character of a building is more established by the type of building rather than the list of uses that are permitted within it.

The fundamental regulatory design component is the public realm, which is the area experienced by residents and visitors as they move within the project area along any circulation or public space. The streetscape is the primary determinant of the design character of the project and variations in streetscapes would help define various districts within the EUC. The streetscapes are not limited to the vehicular component, but include the design of the street, sidewalks, landscape planting and character of the adjacent building façade or structure. Streetscape standards are combined with urban form districts (building height, massing and relationships) and other design elements (landscape, parks and plazas, lighting parking and signing) to define the physical design environment. When these designed elements are combined with the more traditional use and development regulations, the regulatory scheme for the EUC is complete. These regulations include an overall design concept, which is described in Chapter 2 of the FBC. This overall perspective provides the context for the more detailed regulations.

The EUC is intended to be a mixed-use area including some mid- to high-rise buildings with diverse architecture and a highly urban character, providing social, civic, and activity areas such as pedestrian plazas, cultural arts facilities, a library, etc. The entire EUC SPA Plan area would allow mixed land uses, both horizontally and vertically, to a certain degree so a typical land use pattern of discrete uses is not applicable. However, various portions within the EUC would have different characteristics associated with a predominant land use and a specific urban design motif.

The EUC SPA Plan would implement a flexible regulatory approach to land planning that would allow for maximum creativity in mixing land uses to achieve a high quality mix of land uses. The EUC's flexible regulatory approach based on the FBC would allow a range of design and land use options. In addition, the majority of landscape design and treatments for the EUC would be developed or refined at the review/site plan stage of design. The landscape would have a distinctively urban character, integrating planting with hardscape. The overall landscape design for the EUC focuses on pedestrian streetscapes and trail alignments. The street system would also contribute to the community structure and street-landscaping treatments would be used as community design elements. The peripheral arterials would have a distinctively different dominant tree species and/or planting pattern to create a specific appearance for each street category. The EUC SPA Plan has been divided into Landscape Zones to differentiate the varying locations. Each zone, including Main Street (Zone A); Entry Streets (Zone B); Residential Neighborhoods (Zones C, D, E, F, and G); Civic (Zone H); Mixed Use/Office (Zone I and J) and SR-125 Edge (Zone K), would feature a different landscape character defined by the careful selection of street trees, planting, signage, street furniture and, in some cases, paving. These zones would help in wayfinding and defining the identity of each neighborhood district.

In addition, the FBC defines the administrative procedures and requirements to provide clear direction to property owners and developers within the EUC regarding permit and plan approvals. A key element of the administration of the FBC is design review. The FBC requires the pre-application review of a future project by the Master Developer and the City. Subsequently, the actual Design Review submittal together with related permit applications would be reviewed by the City. Design Review shall be in accordance with the City of Chula Vista Municipal Code except that the Zoning Administrator shall have the authority for review and approval of any application that includes a non-residential building less than 30,000 SF, or residential uses not exceeding 200 DU. However, the Zoning Administrator shall have, at his sole discretion, the right to refer such Design Review application to the Design Review Board for their action.

Design review is intended to provide sufficient detail in site planning, architectural design, and landscape architectural design to enable specific project design to be reviewed with respect to compliance with the FBC and related SPA documents. Whether a future project is comprised of an individual building or a group of buildings, Design Review submittals will be required to address the entire block at a conceptual level. This will emphasize the importance of design

context and continuity of streetscapes within the EUC. Subsequent to design review, site plan and architectural review will be an administrative process that will be completed as part of the building permit process to ensure that construction is in compliance with prior design review approvals.

(3) Mobility

The EUC Mobility Plan provides for a transportation system that extends existing routes and constructs planned facilities for a variety of transportation modes. The Plan incorporates vehicular and non-vehicular modes of transportation, but emphasizes pedestrian circulation and a walkable environment.

(a) Access

Regionally, vehicular access to the site is provided by I-805 via Olympic Parkway and SR-125 at Birch Road. The General Plan provides for the eventual extension of the regional transit system into Otay Ranch, extending south from the Freeway Commercial areas through the EUC and continuing south into Village Nine and ultimately to the International Border. The EUC is considered a transit village and is required to locate transit alignments and transit stations within its boundaries. Future final maps within the EUC will be conditioned to dedicate right-of-way or easements for the transit system.

Locally, Olympic Parkway via EastLake Parkway and Birch Road provide access to the site. Once constructed by others, Hunte Parkway will provide project access from the south.

(b) On-site Circulation

The roadway pattern through the EUC is illustrated in Figure 3-7, *EUC Circulation Plan,* on page 3-23. As shown in Figure 3-7, access would be provided via multiple entries on Birch Road and EastLake Parkway. Internal circulation, which would consist of a street grid of four lane, modified three-lane, collector and two-lane roadways, would provide multiple routes to any internal location. Wider streets, including four-lane major streets (Streets A and C), are planned for the two northern entries off Birch Road, the southern entry from Hunte Parkway. These street segments would be larger to accommodate the greater traffic volumes expected in these areas. A modified 4-lane Village entry street design on Street C would accommodate the 2-way Bus Rapid Transit alignment. The internal core streets provide two-lanes of travel with on-street parking consistent with the pedestrian-oriented urban character of the EUC.

(c) Regional Trails and Pedestrian Corridors

The EUC would provide a link in the Regional Urban Open Space Corridor via a varying width Regional “Greenway” Trail that would lead from Village Seven under SR-125 and through the

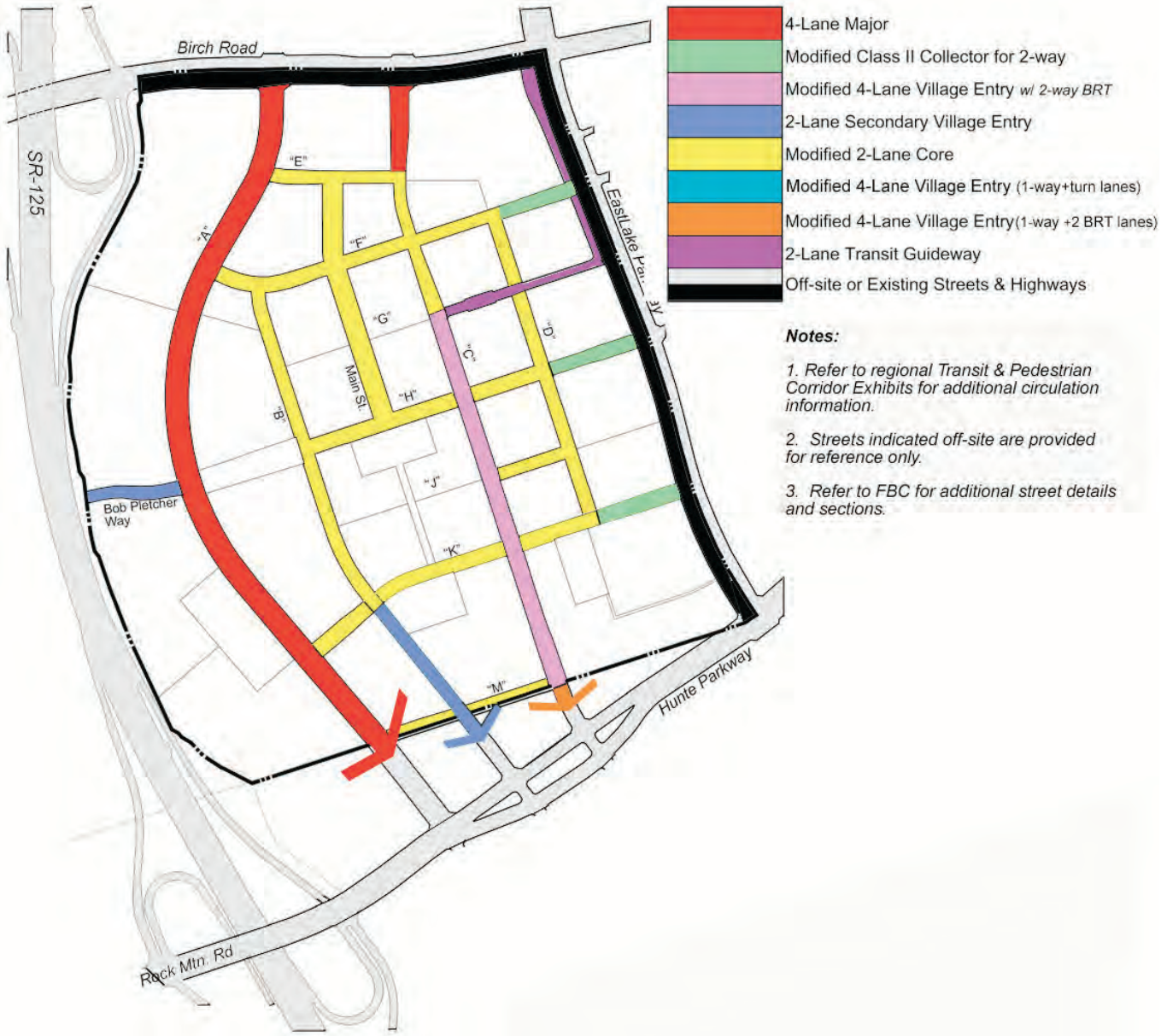

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Figure 3-7
EUC Circulation Plan

Source: Cinti Land Planning, 2009.

EUC to a pedestrian bridge over EastLake Parkway. The Greenway Trail, which would be located adjacent to streets or within parks, would connect activity centers within the EUC, including public plazas, urban parks, the Main Street District and the Civic Core. The regional trail would be designed with a continuity of width and alignment, special paving materials, distinctive signage, banners, and lighting, and coordinated street furniture, so that it would be recognized as a major pedestrian route connecting to destinations throughout the Otay Ranch Community and beyond. Design standards and guidelines for the Regional Trail are set forth in the FBC. A second regional corridor, the Village Pathway, would cross the north edge of the EUC along the Birch Road frontage. These two trails are depicted in Figure 3-8, *Regional Trails and Bike Lanes,* on page 3-25. Figure 3-8 also illustrates the EUC's internal bike lanes and the regional bike lanes around the EUC periphery.

A system of pedestrian corridors would be provided throughout the EUC to enhance and support pedestrian activity. Pedestrian routes and pedestrian oriented features would be a major component of the EUC's circulation system and urban design. The FBC requires the development of a system that would connect public places to encourage social interaction among residential and to promote a "park once" objective for vehicles. Pedestrian elements also include pedestrian routes, such as paseos or mew streets that are not located along a public street right-of-way. The EUC's pedestrian routes are depicted in Figure 3-9, *Pedestrian Corridors,* on page 3-26.

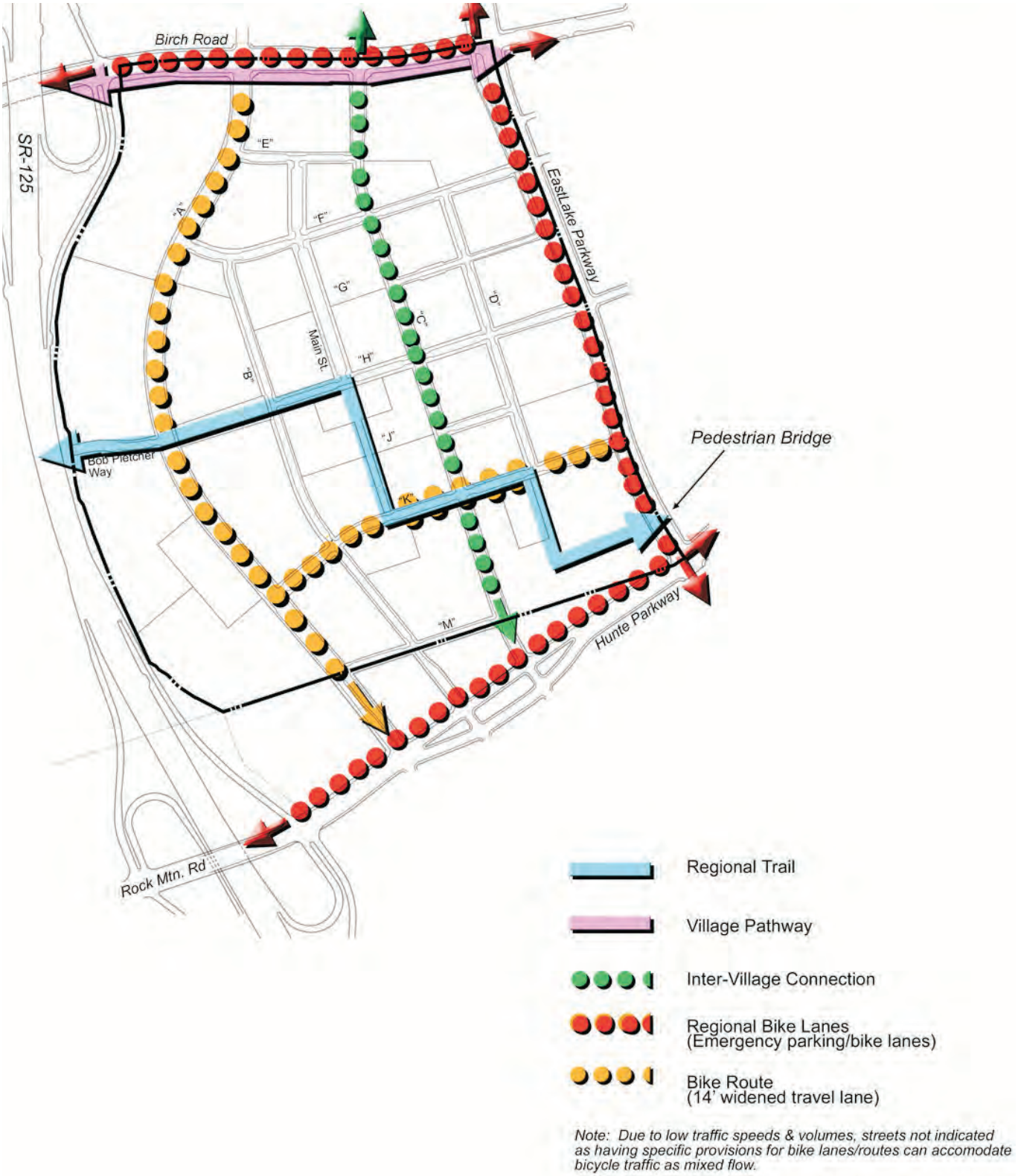
(d) Transit

Bus transit, including the Bus Rapid Transit (BRT) and Chula Vista Transit (CVT), would traverse the EUC via guideways in a portion of the EUC. The two-way transit guideway would extend south from the Otay Ranch Town Center along the western limits of EastLake Parkway and would enter the EUC at Street G. The transit would continue in dedicated lanes westbound on Street G to a transit station located along Street G between and Streets C and D. The proposed BRT route and transit stop is shown on the previously referenced Figure 3-7. North- and southbound dedicated transit lanes would be provided in Street C. Transit stops would be located within ¼ mile of the majority of uses in the EUC.

(4) Public Facilities and Services

The Otay Ranch GDP establishes the following goal regarding the provision of public facilities:

- Assure the efficient and timely provision of public services and facilities to developable areas of Otay Ranch concurrent with need.



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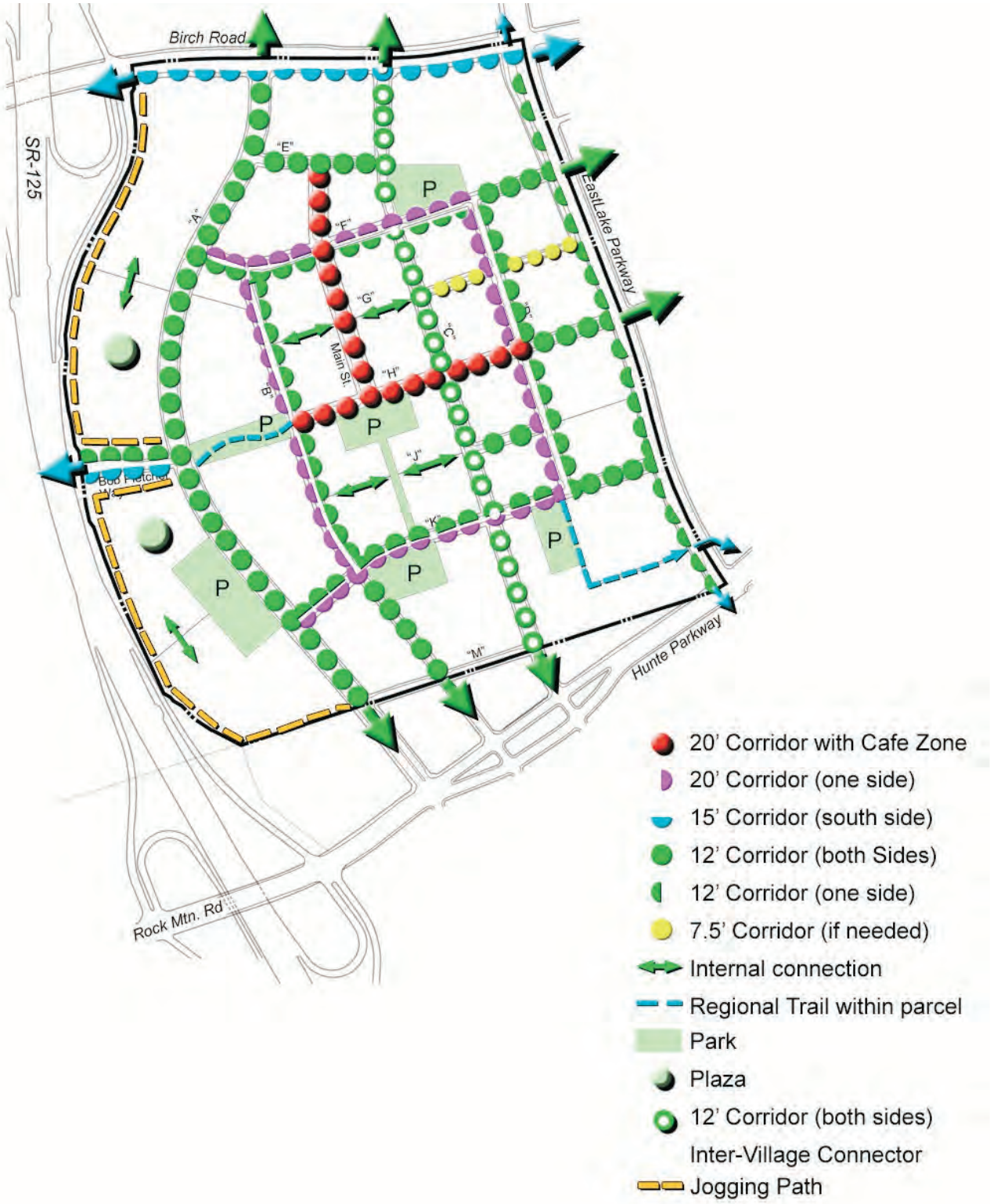
Source: Cinti Land Planning, 2009.

Figure 3-8
Regional Trails and Bike Lanes



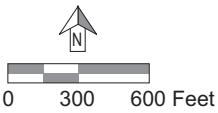


Figure 3-9
Pedestrian Corridors

Source: Cinti Land Planning, 2009.

(a) Potable Water System

The Otay Water District's *Water Supply Assessment and Verification Report* (approved July 2007) confirms the availability of a long-term water supply to meet the demands of the proposed EUC in conjunction with other planned and future uses over a 20-year planning horizon and in single and multiple dry years. The projected water demand for the proposed project is 908,381 gpd. This projection is based on an expected mix of uses, but could vary as the project matures. However, as land uses may vary, the overall project demand will not be increased and is considered a worst-case projection.

As discussed in Section 4.11.6, the EUC's demand projection is included in the water demand and supply forecasts within the Urban Water Management Plans and other water resource planning documents of the Otay Water District (OWD), San Diego County Water Authority and Metropolitan Water District of Southern California. These documents also demonstrate that sufficient water supplies or the actions necessary to develop these supplies have been identified to meet the projected demand of the proposed project. In addition, the SPA's Sustainability Element includes a Water Conservation Plan that presents measures to respond to the long-term need to conserve water in new development. The EUC lies within OWD's Central Area System 980 Pressure Zone (PZ), which primarily includes new developments west of the Lower Otay Lakes Reservoir. The 980 PZ is currently served by two 5-million gallon storage tanks, although OWD's current planning includes an additional 20 million-gallon tank. An existing 20-inch main along EastLake Parkway and a 12-inch main in Birch Road would provide water to the EUC.

Based on preliminary land use data and information provided by OWD, the construction of off-site water storage or distribution piping will not be required to serve the proposed EUC project. The OWD's proposed 20-mpd water tank, which is required to serve growth west of the Lower Otay Reservoir, is currently incorporated into the OWD's Capital Improvements Program (CIP) for PZ 980. In addition, current treatment facilities, including recycled water treatment, are adequate to meet projected demand.

On-site potable water facilities will include 8- to 16-inch diameter pipes in a network of looped distribution mains. Current planning for the EUC takes into account high-rise buildings up to 15 stories. Additional information about the on-and off-site water system is provided in Section 4.11.6.

(b) Recycled Water System

The EUC would use recycled water for landscape irrigation. Recycled water supply is currently available to the Otay Ranch area from both the 1.3 million gallons per day (mgd) capacity Ralph W. Chapman Water Recycling Facility and from the City of San Diego's 15.0 mgd South Bay Water Reclamation Plant. Recycled water demand is projected to be 63,861 gallons per day (gpd). It is anticipated that the proposed project will receive recycled water via

connections to OWD's 944 Recycled Water Pressure Zone. Existing recycled water distribution mains include a 12-inch main in Birch road and an existing 12-inch main in EastLake Parkway. Under the OWD's *Capital Improvement Program (CIP)*, a future 8-inch main in Hunte Parkway and a connection in Bob Pletcher Way, under SR-125 to an existing 8-inch recycled water main, are planned. The project would not require the construction of any additional recycled water facilities. Additional information about the proposed recycled water system is provided in Section 4.11.6.

(c) Sewer Service

Sewage generation from the proposed project is estimated to be 851,504 gpd. This projection is based on an expected mix of uses, but could vary as the project matures. However, as land uses may vary, the overall project demand will not be increased and is considered a worst-case projection.

On-site and off-site sewage improvements would be required to serve the proposed project. An existing 10-inch sewer main in Birch Road will serve the northern lots of the EUC. This pipeline will ultimately convey sewer flows to the Poggi Canyon Trunk Sewer. A majority of the remaining portion of the EUC will flow by gravity to a proposed diversion structure along Bob Pletcher Way at the westerly end of the project. This structure will temporarily divert sewer flows back toward EastLake Parkway where it will flow in a recently constructed 12-inch sewer in EastLake and Hunte Parkways and connect to and existing 12-inch sewer at the intersection of Hunte Parkway and Exploration Falls Drive. This sewer ultimately connects to the Salt Creek Interceptor. This interim diversion will continue until such time that the Rock Mountain Trunk Sewer can be constructed and placed into service. The remaining portion of the site would be graded such that it could not flow by gravity to the diversion structure along Bob Pletcher Way. These lots will permanently sewer east into EastLake Parkway, then south into Hunte Parkway where it will continue to the connection to the Salt Creek Interceptor.

Two off-site sewer line improvements are evaluated in this Draft EIR. Improvements to off-site sewer facilities, including the Poggi Canyon Trunk Sewer and the Salt Creek Sewer Lateral would be required prior to issuance of the first building permits related to any uses within the portion of the EUC served by these respective systems. The Poggi Canyon Sewer Improvement (PCSI) Area is located within the Olympic Parkway right-of-way near Brandywine Avenue in the City of Chula Vista, approximately 3.5 miles west of the proposed project. The Salt Creek Sewer Lateral (SCSL) Improvement Area is an approximately 1.44-acre site, located in an unnamed southeast flowing drainage. This site is located just north of the confluence of the drainage with Salt Creek, approximately 1.1 miles west of the project site.

In order to serve future uses within the north portion of the EUC, the first area proposed for development, the Poggi Canyon Trunk Sewer Reach P265/P270 would need to be replaced. Construction to increase capacity of this pipeline would require the installation of approximately 110 linear feet of 21-inch diameter pipe located within the paved roadway at the intersection of

Olympic Parkway and Brandywine Avenue. To remove the existing pipeline, this alternative would require an approximately 8-foot-wide, 14-foot-deep excavation trench. Staging and stockpiling would be located within the paved roadway and proper erosion protection would be implemented to prevent surface runoff.

The majority (west, central, and south portions) of the EUC would be served by the Rock Mountain Trunk Sewer (RMTS), which ties into the Salt Creek Interceptor to the southwest of the EUC. This sewer main may not be completed prior to the development of the EUC. The Project Applicant proposes to install a 173-foot, 15-inch diameter sewer line to the Salt Creek trunk sewer to serve the fully developed tributary area. The 15-inch pipeline would be constructed adjacent to the existing 12-inch sewer installed to serve the Otay Ranch Village Eleven subdivision. Upon completion of the 15-inch sewer and connection to the Salt Creek trunk sewer, the existing 12-inch sewer will serve to provide emergency backup in case of blockage within the 15-inch sewer. The proposed sewer pipeline will be installed using conventional open trench excavation for portions of the length of the pipeline, and will use a boring and jacking method of construction for the portions of the pipeline traversing sensitive wetland resources to avoid impacts to these areas. The SCSL project will include the installation of two additional manholes and tie-ins to the existing manholes along the existing 12-inch line and at the SCSL. Modification to the upstream manhole will include the capability to split the sewer flows between the 12-inch and 15-inch parallel pipelines, thus providing redundancy in the event of blockage within the 15-inch sewer. Modification to the Salt Creek manhole will also be necessary to connect the new 15-inch pipeline to the existing 24-inch Salt Creek line. Additional information about the on-and off-site sewage system is provided in Section 4.11.7.

(d) Storm Water Drainage System

Drainage facilities will be provided for the collection of urban runoff on-site and connections to the existing storm drain systems. The northerly 20.4 acres of the site drains northerly then westerly to Poggi Canyon. This portion of the site will be served by an on-site storm drain system that will convey runoff to an existing storm drain in Birch Road. As discussed in more detail in Section 4.9, on-site runoff from the northern portion of the site will co-mingle with runoff from off-site areas of Otay Ranch Villages Six, Seven and Planning Area Twelve and discharge into the existing Poggi Canyon Regional Detention Facility. The storm drain system and the existing Poggi Canyon Regional Detention Facility were designed assuming the area of the EUC contributing to the basin would be 20.4 developed acres. The proposed grading and drainage design will not exceed 20.4 acres draining into this system.

The central portion of the site will be served by an on-site storm drain system that will convey runoff westerly under SR-125 to Otay Ranch Village Seven. The runoff from the central portion of the EUC will commingle with runoff from SR-125 and Otay Ranch Village Seven. This runoff will be discharged into the existing Wolf Canyon Water Quality and Extended Detention Basins, which ultimately discharge into Wolf Canyon. The storm drain system and the existing Wolf

Canyon Water Quality and Extended Detention Basins were designed assuming the area of the EUC contributing to the system would be approximately 164 acres. The proposed grading and drainage design will not exceed approximately 164 acres draining into this system.

The southern portion of the site drains southerly to the Otay River via two distinct unnamed drainages. While anticipated by the General Plan and GDP, presently there is no downstream development along these drainages. On-site measures will be used to manage discharged rates and durations for runoff discharging southerly from the EUC project site for protection from downstream erosion. In addition, on-site measures for 10-, 50- and 100-year detention for flood control purposes will be implemented. The on-site measure will consist of one or a combination of the following, to be determined during design: Low Impact Development (LID) measures sized for decentralized flow control throughout the southerly draining portion of the EUC and/or underground detention facilities located on-site. Additional information about the proposed drainage facilities is provided in Section 4.9.

(e) Roads

Roads and other public circulation facilities of the EUC are discussed above in the Mobility section.

(f) Schools

The proposed EUC would generate approximately 624 elementary school, 188 middle school and 283 high school aged children at full buildout. The SPA Plan incorporates an elementary school site of five to six acres into the Central Southern Neighborhood (District 9). The General Plan indicates the potential for a combined high school/middle school to be constructed by the Sweetwater Union High School District adjacent to the EUC in Village Eleven. An additional high school is located west of the EUC in Village Seven. Therefore, a middle/high school site is not required within the EUC. Additional information regarding schools is provided in Section 4.11.3.

(g) Police

The Chula Vista Police Department currently provides police services to the project area from its existing police facility in downtown Chula Vista. The proposed EUC would increase the demand for police protection services; however no police sub-stations are required for the EUC. It should be noted that should a station or storefront be desired by the City in the future, such a use would be compatible with the Mixed Use Civic/Office District or Business District in the EUC.

The principles of “Crime Prevention through Environmental Design (CPTED)” will be recognized during the design and implementation of the EUC to reduce the opportunity for criminal activity and to help foster social interaction among residents and visitors. These

principles include but are not limited to: controlling access points to public and private spaces, maximizing visibility of public areas, and using building and structure features, orientation and design to reinforce and define boundaries between public and private spaces. Additional information regarding police services is provided in Section 4.11.2.

(h) Fire

The City of Chula Vista Fire Department will serve the proposed EUC. American Medical Response provides emergency medical services on a contract basis. The proposed EUC would increase the demand on fire and emergency medical services. The EUC SPA Plan and Site Utilization Plan provides a site for a full service fire station (see Figure 3-4, *Site Utilization Plan*). The station will have an "urban" design with two stories and located close to the street, consistent with the EUC urban character goals. A conceptual site plan for the fire station is shown in Figure 3-10, *Conceptual Fire Station Site Plan,* on page 3-32. Additional information regarding fire and emergency medical services is provided in Section 4.11.1.

(i) Library

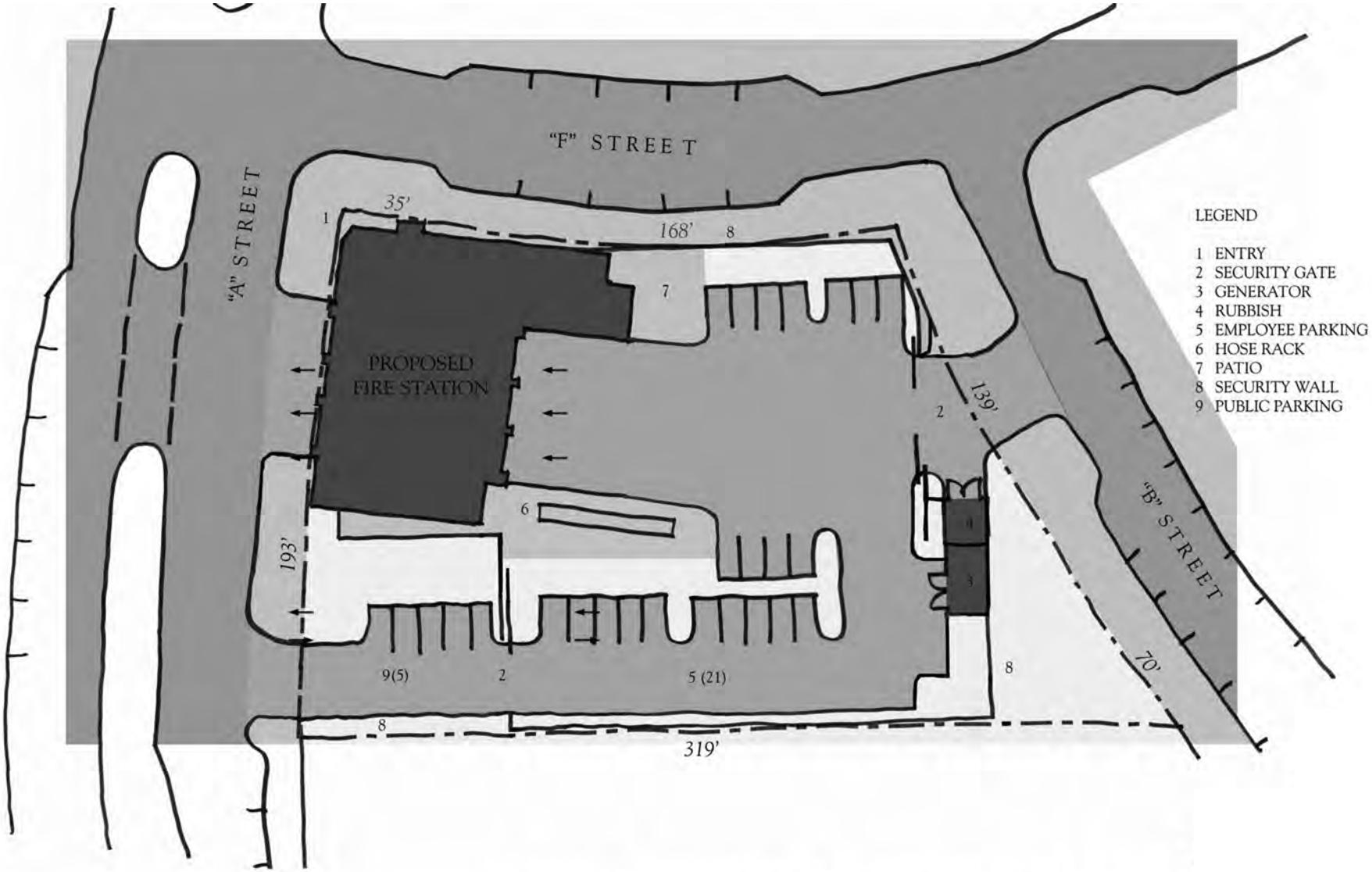
The Otay Ranch Facility Implementation Plan calls for the location of an approximately 36,750 SF "main" library in the EUC and/or one or more village libraries, thereby reducing the size of the main library within the EUC. The proposed EUC SPA Plan and Site Utilization Plan includes a library site within the civic core that will provide the opportunity for library sponsored or supported cultural events (see Figure 3-4, *Site Utilization Plan*).

(j) Community Purpose Facilities

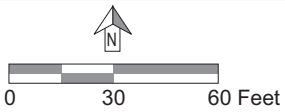
The EUC projected population would generate the demand for 10.7 acres of Community Purpose Facilities (CPF). This demand has been partially fulfilled with CPF credit from the Applicant's previous projects. Approximately 1.36 acres of CPF acreage or equivalent square footage is required to meet the project's CPF obligation. Compliance with the CPF provision requirements will be monitored at each stage of the Design Review process as provided in the EUC PC District Regulations administrative monitoring requirements.

(k) Other Public Facilities

The Mixed Use Civic/Office District provides a location for other civic facilities, which may include a cultural arts facility.



Parcel 7 - Proposed Site Plan (3 Bays and 11 Bunks) - Two Levels



Source: Cinti Land Planning, 2009.

Figure 3-10
Conceptual Fire Station Plan

(5) Grading Concept

Grading of the project site may be conducted under either of two alternative programs. Variations within these programs may also occur. Grading Concept - Option 1 recognizes anticipated development to the south of the Project Applicant's property and balances grading quantities through the export of material to approximately 59 acres of the adjacent land owner's property. This land is located south of and adjacent to the SPA Plan area, including the remainder of the EUC and a portion of the designated Village Nine. The estimated earthwork quantity under Option 1 would be approximately 3.6 million cubic yards of cut and fill. Earthwork would be balanced between the EUC and off-site locations, with 2.5 million cubic yards of fill to remain in the EUC and 1.1 million cubic yards to be exported off-site to the adjoining property to the south referred to herein as the Off-site Soils Stockpiling Area (SSA).

Grading Concept - Option 2 recognizes that adjacent property owners may not consent to off-site grading and balances quantities within the project site and a portion of the remainder of the EUC including the Hunte Parkway right-of-way. The estimated earthwork quantity under Option 2 would comprise 3.2 million cubic yards of cut and fill. Under this option, the grading necessary for construction of the portions of Streets A, B, C, and M, and Hunte Parkway that are located off-site is evaluated. Figure 3-11, *Grading Concepts (Options 1 & 2),* on page 3-34 illustrates Grading Options 1 and 2.

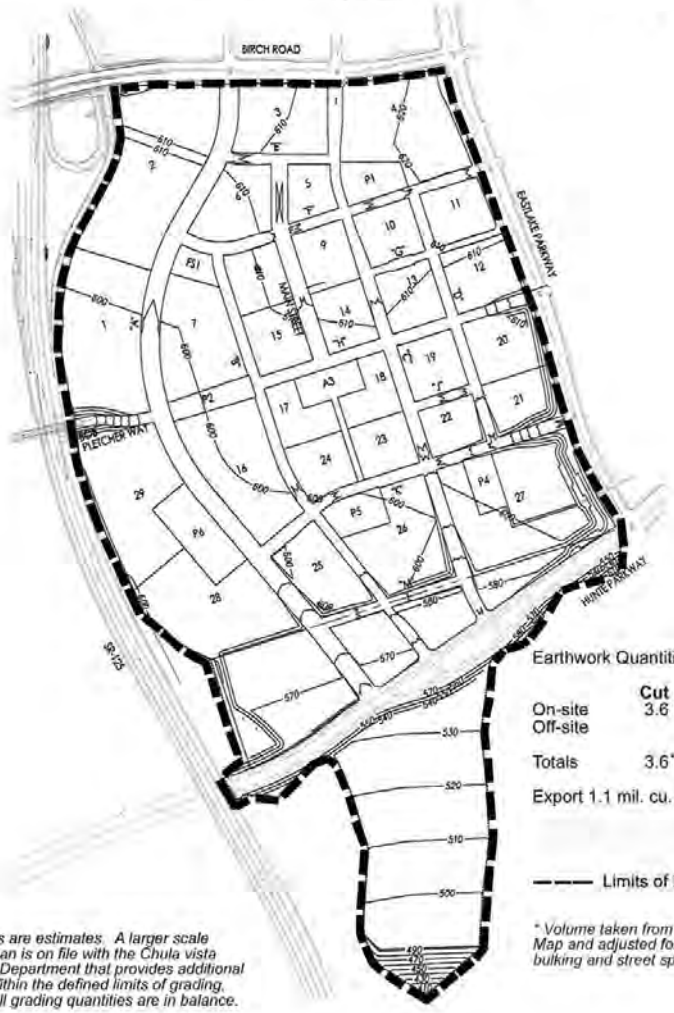
(6) Parks Master Plan

The Parks Master Plan for the EUC encompasses an overall program of urban parks, recreation, open space and trail facilities. The EUC Park Master Plan strives for consistency with the Chula Vista General Plan and Otay Ranch GDP, and identifies the types, quantities, and locations of facilities provided at each EUC park site. The goal of the Park Master Plan is to describe the elements necessary to ensure a rich variety of recreation opportunities, while satisfying recreation needs of the project residents.

The SPA Plan would incorporate a variety of public parks, as listed in Table 3-3, *EUC Park Summary*, on page 3-35, and shown on Figure 3-12, *Parks Plan,* on page 3-36. As shown in Table 3-3, EUC Park Summary, the SPA Plan provides a total of 15.63 acres of parkland, consisting of the Civic Park, a Town Square Park with its 40-foot wide connection to Street K, four urban scale neighborhood parks, office plazas, and dedicated jogging/walking promenade.

The current Park Land Dedication Ordinance (CVMC Section 17.10.040) requires 3 acres of parkland per 1,000 population, based on a multi-family occupancy factor of 2.61 persons (CVMC Section 17.10.110) per household. Based on the CVMC defined coefficient factor, the project's 2,983 units would generate a demand for 23.36 acres of parkland. In addition to the 15.63 acres of parkland described above, remaining park obligation would be provided for through the payment of in lieu fees to the City.

Grading Concept
Option 1



Earthwork Quantities *(mil. cu. yds.)*

	Cut	Fill
On-site	3.6	2.5
Off-site		1.1
Totals	3.6*	3.6*

Export 1.1 mil. cu. yds.

——— Limits of Disturbance

** Volume taken from EUC Tentative Map and adjusted for anticipated bulking and street spoils.*

Notes:
Quantities are estimates. A larger scale Lotting Plan is on file with the Chula vista Planning Department that provides additional detail. Within the defined limits of grading, the overall grading quantities are in balance.

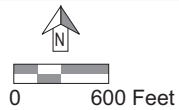
Grading Concept
Option 2

Earthwork Quantities *(mil. cu. yds.)*

Cut	Fill
3.2	3.2

——— Limits of Disturbance

Notes:
Quantities are estimates. A larger scale Lotting Plan is on file with the City of Chula Vista that provides additional detail.



Source: Cinti Land Planning, 2009.

Figure 3-11
Grading Concepts (Options 1 & 2)

Table 3-3

EUC Park Summary

Park		Acres
P-1 (Northeast Park)		1.97
P-2 (Civic Plaza)		1.62
P-3 (Town Square)		2.28
P-4 (Southeast Park)		1.51
P-5 (South Central Park)		1.90
P-6 (Southwest Park)		3.60
Office Plaza, jogging path, promenades		2.75
	Subtotal	*15.63*
In Lieu Fees Reinvested		
On-site [a]		5.88
Off-site [b]		1.85
	Total	**23.36**

[a] *In lieu fees representing 5.88 acres of park obligation to be reinvested on-site.*
[b] *In lieu fees representing 1.85 acres of park obligation to be utilized off-site.*

Source: Eastern Urban SPA Plan, Urban Parks, Recreation, Open Space, and Trails Plan, Table 2, April 2009.

It is anticipated that a portion of in lieu fees would be invested in the 15.63 acres of parks, resulting in enhanced park amenities consistent with the character and purpose of the EUC, which would allow the parks to achieve a higher level of improvements not typically associated with public parks. CVMC 17.10.070 allows the City to deem that a combination of dedication of parkland and the payment of in lieu fees would better serve the public and the park and recreation needs of future residents of the project if in the judgment of the City, suitable land does not exist. Furthermore CVMC states that the amount and location of the land or in lieu fees, or combination thereof, shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision.

The combination of the dedication of parkland, payment of in lieu fees and provision of improvements would serve to meet the recreational needs of the more urban resident profile expected in the EUC. Trails that are integral or contiguous to a park would be included as park acreage for determination of parkland credit.

All parks would be designed according to a theme that complements the specific neighborhood in which each is located. This could include architectural styles, colors, materials, paving details, signage, and lighting. Banners and graphics are also planned to support the visual connection between park and neighborhood. Under the proposed SPA Plan, specific themes include “Interaction” in the northeast neighborhood park; “Light” in the southeast neighborhood

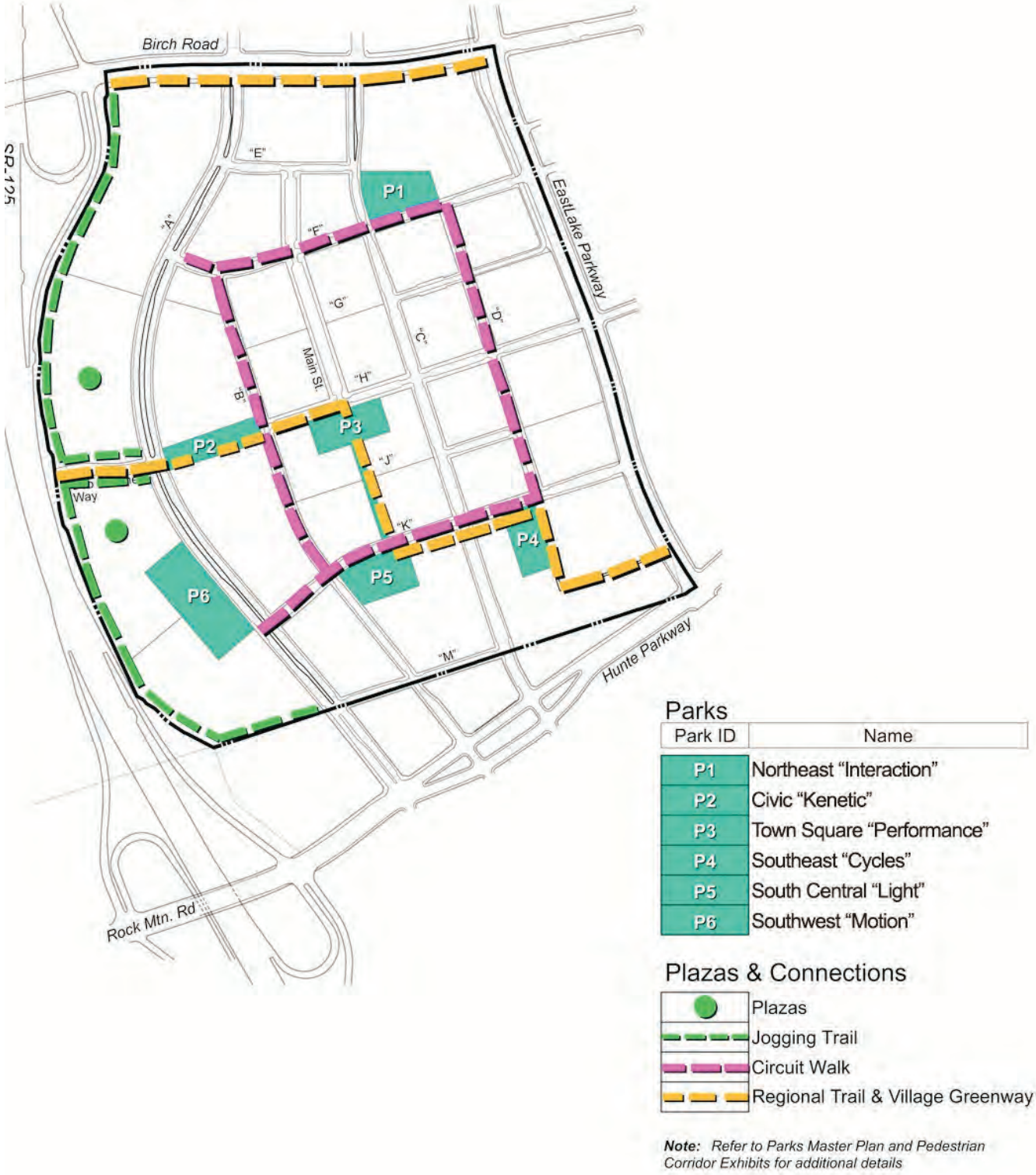


Figure 3-12
Parks Plan

Source: Cinti Land Planning, 2009.

park, “Cycles” in the south-central neighborhood park; and “Motion” in the southwest neighborhood park. The energy theme for the Civic Park would be “Kinetic,” and the theme for the Town Square Park would be “Performance.” Design concepts for each of these parks would incorporate features that are associated with the respective theme.

(7) Affordable Housing

Pursuant to state law, Chula Vista’s General Plan contains a Housing Element that addresses the housing needs of the community. Consistent with those needs, the Housing Element identifies objectives, policies and related action programs pertaining to the provision of affordable housing. The EUC is subject to the requirements of the City’s “Affordable Housing Program”.

The EUC would provide a minimum of 10 percent of the total residential units as low- and moderate-income housing. Under the proposed SPA Plan’s Comprehensive Affordable Housing Program, the proposed project would provide 298 affordable units (10 percent of 2,983 units) plus 78 affordable units will be transferred to the EUC under an approved Affordable Housing Transfer Agreement, for a total of 376 affordable units. Of these, 189 units would be provided for low-income households and 187 would be provided for moderate-income households. This distribution would meet the requirement for one-half of the affordable housing units to be provided for low-income housing and one-half to be provided as moderate-income housing.

The entire EUC would be suitable for the provision of affordable housing due to proximity to transit, community facilities and services, and employment opportunities. Affordable housing would be designed to be compatible with the market rate units in the use of appearance, materials, and finish quality, although the developer would have the option to reduce interior amenities, levels, and floor area of the affordable units. The affordable housing obligation may be satisfied as restricted for-sale or rental units. Also, the City may authorize the obligation to be satisfied through other mechanisms consistent with the General Plan, Housing Element and the Otay Ranch GDP. To the extent the developer satisfies the low, and/or moderate housing obligations on one or more of the candidate sites, the selections of sites shall be entirely at the developer’s discretion. In the event that the provision of low and/or moderate income housing units in the EUC results in the provision of more units than required, the City may consent to allow the developer to transfer excess credits elsewhere within the boundaries of the GDP or to meet affordable housing obligations within the City of Chula Vista.

(8) Sustainability Element

The EUC Sustainability Element contains information pertaining to the concept of “Smart Growth”, a protocol for the delivery of development in a compact, efficient, and environmentally sensitive manner. Smart Growth development is characterized as being compact (higher

density development than traditional suburban development), transit friendly (within proximity to public transit) and walkable.

The Sustainability Element includes a discussion of how the EUC project represents an environmentally sensitive development in the context of how the project minimizes impacts to air quality (Air Quality Improvement Plan), provides for energy conservation and reduces energy consumption (Energy Conservation Plan), and conserves water (Water Conservation Plan).

(9) PFFP

The EUC SPA Plan Public Facilities Financing Plan (PFFP) addresses the public facility needs of the project. As required by Chula Vista Municipal Code (CVMC 19.09.050), the preparation of the PFFP is required in conjunction with the processing of a SPA Plan to ensure that the development of the project is consistent with the overall goals and policies of the City's General Plan, Growth Management Program, and the Otay Ranch GDP. The PFFP analyzes project public facility needs in the context of the City's Growth Management Program defined "quality of life thresholds". In order to provide that public facilities and services, government and other utility services, and improvements are adequate to meet present and future needs, the PFFP document analyzes threshold compliance. When specific thresholds are projected to be reached or exceeded based upon an analysis of project implementation, the PFFP provides recommended mitigation necessary for continued compliance with the City's Growth Management Program and Quality of Life Standards.

B. Tentative Map

A Tentative Map is proposed in combination with the SPA Plan. The TM would establish subdivision of the site, street standards, and infrastructure requirements. Subdivision of the site would establish the various districts and the individual blocks and lots within the districts. The Tentative Map is shown on Figure 3-13, *Tentative Map,* on page 3-39.

3.6 DISCRETIONARY ACTIONS

A discretionary action is an action taken by an agency that calls for the exercise of judgment in deciding whether to approve or how to carry out a project. The following discretionary actions are associated with the proposed EUC project and would be considered by the Chula Vista Planning Commission and City Council:

- Adoption of the SPA plan and associated documents including, but not limited to:
    - SPA Plan,

Parcel Area Table	
Parcel #	Gross Area (AC)
1	11.00
2	13.67
3	5.66
4	9.28
5	2.13
6	4.27
7	7.06
8	3.02
9	2.91
10	2.85
11	3.06
12	3.97
13	3.08
14	3.00
15	3.15
16	8.58
17	2.63
18	2.48
19	2.96
20	4.19

Parcel Area Table	
Parcel #	Gross Area (AC)
21	3.34
22	2.48
23	2.80
24	2.84
25	4.51
27	12.76
28	9.54
29	9.57
P1	1.97
P2	1.62
P3	2.28
P4	1.51
P5	1.90
P6	3.60
FS1	1.07
TOTAL PARCEL AREA= 167.59 AC	
TOTAL STREET AREA= 39.02 AC	

N

0 150 300 Feet

Source: Project Design Consultants, 2009.

Figure 3-13
Tentative Map

- Form Based Code (Planned Community District Regulations & Village Design Plan),
- Public Facilities Financing Plan/Fiscal Impact Analysis,
- Air Quality Improvement Plan,
- Water Conservation Plan,
- Non-renewable Energy Conservation Plan,
- Affordable Housing Plan, and
- Urban Parks, Recreation, Open Space & Trails Plan.

- Approval of Tentative Subdivision Map to establish the layout of land uses, developable and open space lots, and infrastructure requirements for the EUC; and
- Certification of a Final EIR and adoption of a Mitigation Monitoring and Reporting Program pursuant to the California Environmental Quality Act (CEQA).

Potential future discretionary actions may include approval and adoption of a Parks Agreement and a Development Agreement. If it is determined that either of the Agreements deviates from the impacts analyzed in this EIR, additional environmental review will be conducted prior to approval of the Agreement, in accordance with CEQA. In addition, this EIR may be used by other responsible agencies to implement the proposed project, including the Regional Water Quality Control Board.

4.0 ENVIRONMENTAL IMPACT ANALYSIS
4.1 LAND USE, PLANNING AND ZONING

Section 3.1, Land Use, of the Final Otay Ranch GDP Program EIR (EIR 90-01) analyzed the existing conditions, potential impacts, and mitigation measures related to the existing and proposed land uses for the entire Otay Ranch. The Otay Ranch GDP Program EIR identified significant unavoidable impacts to land use due to the change in the character of the site from undeveloped to developed land. The analysis and discussion of land use contained in the Otay Ranch GDP Program EIR are incorporated by reference.

Land use effects fall into two main areas: (1) conformance to, or conflict with, adopted plans, policies, and regulations; and (2) effects on established communities. This section will address impacts of the proposed EUC SPA Plan in these two categories. Other issues associated with land use decisions include aesthetics, noise, and resource conservation. These issues are addressed in their respective sections of this EIR.

4.1.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) Regional Comprehensive Plan

The San Diego Association of Governments (SANDAG) is a council of governments that provides a forum and decision-making body for regional planning issues including population growth, transportation, and land use in San Diego County. SANDAG's Regional Comprehensive Plan (RCP) serves as a framework for decision-making with respect to anticipated regional growth, and the effect of regional growth on housing, economics, transportation, environmental planning, and overall quality of life needs. The goals of the RCP are to establish a planning framework and implementation actions that increase the region's sustainability and encourage "smart growth" while preserving natural resources and limiting urban sprawl. SANDAG'S Smart Growth Concept Map identifies the EUC as an Urban Center to provide subregional businesses, civic, and commercial uses in mid- to high-rise buildings. Urban Centers provide medium to high levels of employment and draw from throughout the region. Transit lines and local bus services serve the many employees from the immediate area. Basic "smart growth" principles from the RCP that are applicable to the EUC and intended to strengthen land use and transportation integration are summarized as follows:

- Mix compatible land uses;

- Take advantage of compact building design;
- Create a range of housing opportunities and choices;
- Create walkable neighborhoods;
- Foster distinctive, attractive communities with a strong sense of place;
- Preserve open space, natural beauty, and critical environmental areas;
- Strengthen and direct development toward existing communities;
- Provide a variety of transportation choices;
- Make development decisions predictable, fair, and cost-effective; and,
- Encourage community and stakeholder collaboration in development decisions.

An evaluation of the consistency of the proposed project with the RCP's "Smart Growth" principles is provided later in this section, in Subsection 4.1.3, Impact Analysis.

(2) City of Chula Vista General Plan

The City of Chula Vista General Plan, known as Vision 2020, was adopted by the City on December 13, 2005. The adopted General Plan Land Use Plan for the EUC is shown in Figure 4.1-1, *Adopted General Plan Land Use Map,* on page 4.1-3. At that time, the Chula Vista City Council deferred final action, per Resolution No. 2005-424, on provisions relating to a portion of Villages Four and Seven as well as the entirety of Villages Eight, Nine, and Ten in Otay Ranch for an interim period. The deferral was only with respect to land uses; it did not affect the circulation plan, roadway classifications or locations. This section analyzes the proposed project against the General Plan's adopted land use plan.

The General Plan provides a long term strategy to address planning issues for the growth and development of the community and is comprised of the following six elements which are described below: Land Use and Transportation, Economic Development, Public Facilities and Services, Growth Management, Environmental, and Housing.

(a) Land Use and Transportation Element

The Land Use and Transportation (LUT) Element establishes the City's land use categories, roadway classifications, and generalized land use patterns for the City's development, while focusing on themes that (1) support strong community character and image; (2) support strong and safe neighborhoods; and (3) improve mobility. The LUT Element establishes plans and policies to

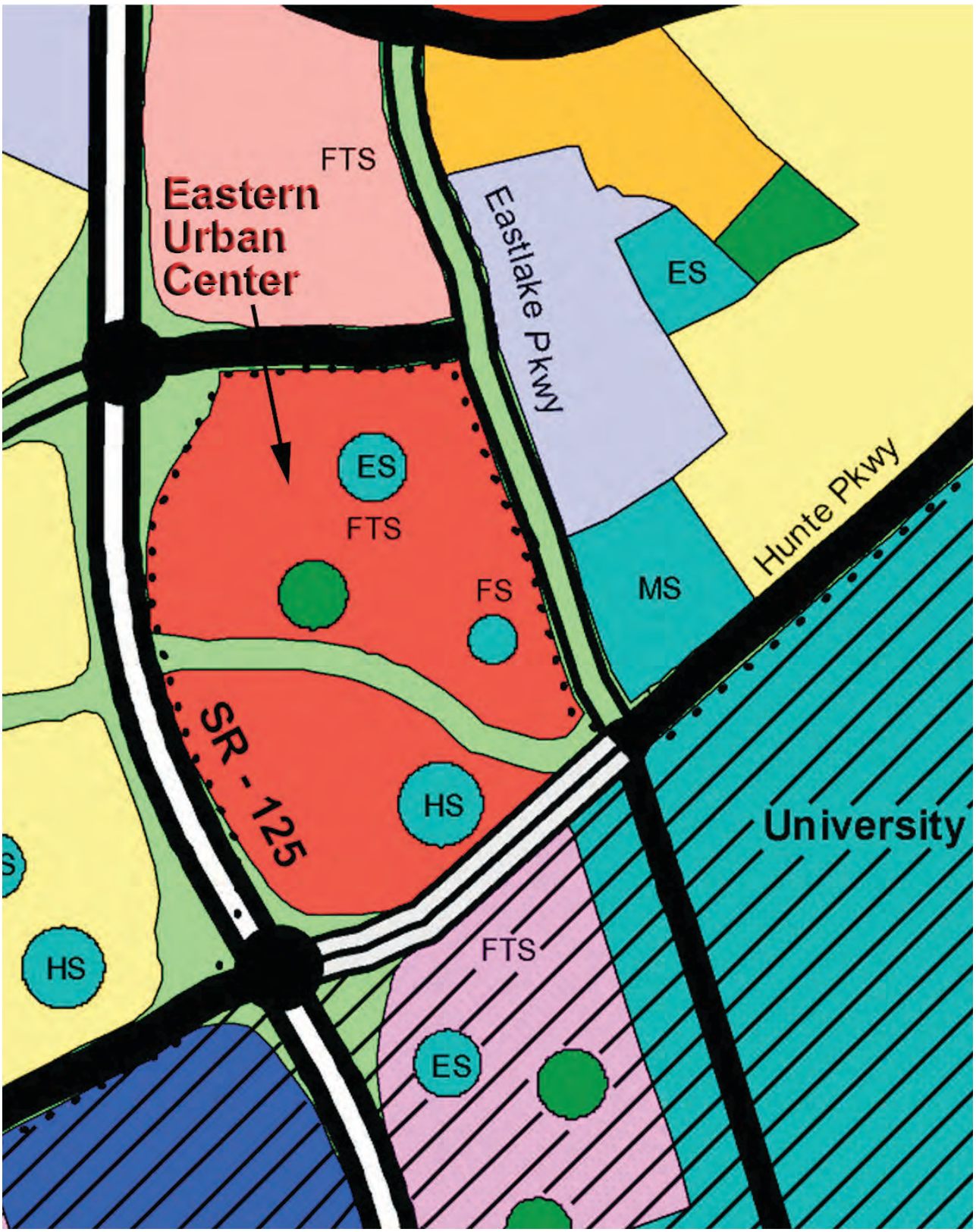


Figure 4.1-1
Adopted General Plan Land Use Map

Source: Cinti Land Planning, 2009.

identify the general distribution of housing, businesses, industry, open space (including parks), education facilities, and public buildings. Standards for population density and building intensity in each land use classification are also provided. Relevant Objectives and Policies of the GP are summarized below but are incorporated by reference in their entirety. Other Objectives and Policies related to specific environmental issues are included in applicable analyses throughout Chapter 4.0 of this EIR:

LUT 1 - Balance residential and non-residential development (Policy 1.1).

LUT 2 - Limit locations of highest development intensities and tallest building forms to key urban centers (Policies 2.1, 2.2, 2.4, 2.5).

LUT 5 - Designate opportunities for mixed use areas higher density housing near shopping, jobs and transit (Policy 5.13).

LUT 6 - Ensure adjacent land uses are compatible with one another (Policies 6.1, 6.2, 6.3, 6.6, 6.7).

LUT 7 - Provide appropriate transitions between land uses (Policies 7.1, 7.2, 7.3, 7.4).

LUT 8 - Strengthen Chula Vista's image by maintaining, enhancing, and creating physical features that distinguish Chula Vista's neighborhoods, communities, and public spaces, and enhance its image as a pedestrian-oriented and livable community (Policies 8.2, 8.3, 8.4, 8.5).

LUT 11 - Ensure that buildings and site improvements are well designed and compatible with surrounding properties and districts (Policies 11.1,11.5).

LUT 16 - Integrate land use and transportation planning and related facilities (Policies 16.3,16.4).

LUT 17 - Plan and coordinate development to be compatible and supportive of planned transit (Policies 17.1, 17.3, 17.4).

LUT 61 - Create balanced communities that can provide a high quality of life for residents (Policies 61.1, 61.2, 61.3).

LUT 62 - Consider and plan for careful use of natural and man-made resources and services; maximize opportunities for conservation while minimizing waste (Policies 62.1).

LUT 64 - Establish an urban center, referred to as the Eastern Urban Center (EUC), adjacent to State Route 125 and the planned University Village and University

Campus, to function as the high-density, mixed-use downtown and regional heart of the Otay Ranch Subarea and East Planning Area (Policies 64.1, 64.2, 64.3, 64.4, 64.5).

LUT 84 - Develop a corridor of integrated, high-intensity urban uses, office and business parks, retail centers, residential uses, and a major higher educational institution along the State Route 125 corridor to serve the East Planning Area and the broader south county region (Policies 84.1, 84.2, 84.3).

LUT 85 - Establish a identifiable corridor that creates a unique sense of place through: integration of diverse uses and land use Focus Areas into a cohesive development pattern; and linkages between the District's Focus Areas, adjoining communities, open spaces and the sub-region (Policies 85.1, 85.2, 85.3, 85.4, 85.5).

LUT 94 - Provide a centralized urban area to support the East Chula Vista/Otay Ranch and south San Diego County population, providing regional goods and services that cannot be accommodated in the residential Village Cores of Otay Ranch (Policies 94.1, 94.2, 94.3, 94.4, 94.5, 94.6, 94.8).

LUT 95 - Establish a retail commercial, services, and office node providing an intense, pedestrian-oriented urban activity center linked by land use, design, and circulation, and including a Bus Rapid Transit system (BRT) to the region, other villages of the Otay Ranch, and the University Village, University Campus, Regional Technology Park, and Freeway Commercial Focus Areas (Policies 95.1, 95.2, 95.3, 95.4, 95.5, 95.6, 95.7, 95.8).

The LUT Element separately addresses the City's geographic areas, including the project site which is located in the EUC focus area. According to the LUT Element, the EUC is intended as a high-intensity, mixed-use urban center that would serve eastern Chula Vista and the broader south county area, while also functioning as the urban core of Otay Ranch. The EUC is to include a range of integrated mixed-use development, including retail and office commercial, cultural, entertainment, and public uses, with residential uses designated for Medium-High to Urban Core densities. Standards unique to the EUC, for both public and private uses, will be implemented to allow the EUC to create its own urban character.

(b) Economic Development Element

The Economic Development Element establishes policies to ensure the long-term vitality of the local economy and to help develop, guide, and encourage appropriate employment and business ownership in Chula Vista. The Economic Development Element identifies the EUC as an employment land use area. Relevant Objectives and Policies of the GPU are summarized below but are incorporated by reference in their entirety. Other Objectives and Policies related to specific environmental issues are included in applicable analyses throughout Chapter 4.0 of this EIR:

ED 2 - Maintain a variety of job and housing opportunities to improve Chula Vista's jobs/housing balance (Policies 2.2, 2.3, 2.5).

ED 3 - Retain and grow a mix of economically sustainable small and mid-sized industries and businesses (Policy 3.5).

ED 7- Develop a strong land use and transportation link between the downtown urban core, bay-front, southwestern, and eastern areas of the City to support economic development throughout (Policies 7.2, 7.5).

ED 8 - Develop and maintain a Citywide image that promotes the City's assets (Policy 8.3).

ED 9 - Develop community-serving and neighborhood uses to serve residents and visitors, alike (Policies 9.1, 9.2).

ED 10 - Provide infrastructure to support the local economy and attract new business and industry clusters (Policy 10.5).

(c) Public Facilities and Services Element

The Public Facilities and Services Element (PFS) establishes the City's plan to provide and maintain infrastructure and public services for future growth, without diminishing services to existing development. The overall goal of the Public Facilities and Services Element is to provide and maintain public facilities and services within Chula Vista through abundant public infrastructure and community services that support and enhance the well being of the City and its residents. Relevant Objectives and Policies of the GPU are summarized below but are incorporated by reference in their entirety. Other Objectives and Policies related to specific environmental issues are included in applicable analyses throughout Chapter 4.0 of this EIR:

PFS 18 - Allow the appropriate joint use of school and park facilities (Policy 18.3).

PFS 19 - Provide art and culture programs, childcare facilities and health and human services that enhance the quality of life in the City of Chula Vista (Policies 19.1, 19.3, 19.9, 19.10).

PFS 20 - Develop a cultural arts center in the City of Chula Vista (Policy 20.3).

PFS 21 - Provide civic services to Chula Vista residents and those doing business in the City in a friendly, efficient and effective manner (Policy 21.1, 21.3).

(d) Growth Management Element

The purpose of the Growth Management Element is to guide future development in the City based on the principles that (1) rapid population growth and development have the potential to cause a variety of problems and impact the well being of a City and its residents and (2) impacts can be mitigated by balancing competing demands for growth and development through the adoption of comprehensive objectives and policies. Relevant Objectives and Policies of the GPU are summarized below, but are incorporated by reference in their entirety. Other Objectives and Policies related to specific environmental issues are included in applicable analyses throughout Chapter 4.0 of this EIR:

GM 1 - Concurrent public facilities and services (Policy 1.9).

GM 2 - Provide adequate and sustainable fiscal base (Policy 2.2).

(e) Environmental Element

The Environmental Element establishes the policy framework for improving sustainability through the stewardship of the City's natural and cultural resources, promotion of environmental health, and protection of persons and property from environmental hazards and noise. Sustainable development is identified as a means of balancing current growth and economic progress with protection of future resources. Relevant Objectives and Policies of the GPU are summarized below but are incorporated by reference in their entirety. Other Objectives and Policies related to specific environmental issues are included in applicable analyses throughout Chapter 4.0 of this EIR:

EE 11 - Improve Chula Vista's open space and trails network, including the provision of additional internal connections between the various elements of the network (Policies 11.2, 11.5).

(f) Housing Element

The Housing Element details a five-year strategy for enhancement and preservation of the community's character, identifies strategies for expanding housing opportunities for the City's various economic segments, and provides policy guidance for local decision-making related to housing. The focus of the Housing Element is to (1) maintain and enhance the quality of housing and residential neighborhoods in the City; (2) support housing opportunities to meet the City's Diverse Needs; and (3) fund and implement services that provide vital community resources for lower income residents. Inclusionary policies of the Housing Element require 10 percent affordable ("inclusionary") housing, including five percent low-income and five percent moderate-income, for projects consisting of 50 or more dwelling units. Relevant Objectives and Policies of the GPU are summarized below but are incorporated by reference in their entirety. Other Objectives and

Policies related to specific environmental issues are included in applicable analyses throughout Chapter 4.0 of this EIR:

H2 - Promote efficient use of water and energy through adopted standards and incentive-based policies to conserve limited resources and reduce long-term operational costs of housing (Policies 2.1, 2.2).

(3) Otay Ranch General Development Plan

The Otay Ranch GDP was approved jointly by the City of Chula Vista and County of San Diego in 1993 for the future development of Otay Ranch. The Otay Ranch GDP was amended in December 2005. The GDP establishes land plans, design guidelines, objectives, policies, and implementation measures that apply to all portions of Otay Ranch while supporting a balance of housing, shops, workplaces, schools, parks, civic facilities, and open spaces on a total of 23,976.5 acres.[1] The majority of development is intended to be clustered in villages, with conveniently located "core" features and well-defined edges such as the Chula Vista greenbelt, open spaces, and wildlife corridors. The goals of the Otay Ranch GDP are to (1) create a well-integrated, balanced land use; (2) reduce reliance on the automobile and promotion of alternative modes of transportation; and, (3) diversify the economic base within Otay Ranch.

The Otay Ranch GDP defines the EUC as a Regional Center that is to contain the most intense development in Otay Ranch and would serve as the urban heart of the region. Uses and intensities are intended to create a lively 24-hour environment, with a creative combination of uses, building types and amenities. These uses include regional retail commercial, hotel, office uses, and medium to high-density residential uses. Retail and office development within the Eastern Urban Center would be of intensity compatible with a "downtown" urban center. The most intense development within the EUC is to be concentrated near transit facilities, with building heights and sizes gradually decreasing near the edge of the planning area.[2]

The designated zoning within the Otay Ranch GDP is Planned Community (P-C) community zoning, which requires the preparation of a SPA plan. A SPA plan provides more detailed design and development criteria for the SPA area and must be consistent with the Otay Ranch GDP which it implements. The Otay Ranch GDP designates both the EUC and the Otay Ranch Town Center (referred to in the Otay Ranch GDP as Freeway Commercial Center) developments as the "central commercial and office node for the entire ranch." Combined these areas comprise the 367-acre Planning Area Twelve. Because of differences in character and development timing factors, the Otay Ranch GDP allows the EUC and the Otay Ranch Town Center developments to prepare separate SPA plans and to enter separate approval processes. Pursuant to an approved SPA plan, the Otay Ranch Town Center portion of Area Twelve has been developed.

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[1] *Otay Ranch General Development Plan (GDP)/Subregional Plan, Exhibit 18a, Overall Project Summary Table (Amended December 2004, reprinted September 2005).*

[2] *Op. Cit., page II-46.*

In addition, Part II, Chapter 1, Land Use Plan, Section F.12.b of the GDP requires the development of a Framework Strategy prior to or concurrently with the SPA level planning for the EUC focus area. On May 1, 2007 the City Council accepted a report analyzing the EUC's compliance with the Framework Strategy., The City Council determined that the EUC is consistent with the objectives and policies of the General Plan Framework Strategy and applicable policies of the General Plan, including densities, flexibility and the fostering of a cohesive pattern of development, integration of schools, parklands, cultural facilities, community purpose facilities, roadway and pedestrian way design, and other services and amenities for the EUC.

The designated land uses for the EUC under the Otay Ranch GDP are summarized in Table 3-2, *GDP Land Use for the EUC*, Chapter 3.0, Project Description, of this EIR.

(4) Zoning Code

Title 19 of the City of Chula Vista Municipal Code (CVMC) is the City's zoning title, which is intended to implement the City of Chula Vista General Plan. The Eastern Planning Area, which include the Otay Ranch area, is zoned P-C, as defined in Chapter 19.48 of the CVMC. The purposes of the P-C zone are to:

- Provide for the orderly preplanning and long term development of large tracts of land. These tracts may contain a variety of land uses, but are under unified ownership or development control, so that the entire tract will provide an environment of stable and desirable character;

- Give the developer reasonable assurance that sectional development plans in accordance with the approved general development plan will be acceptable to the City. Sectional development plans may include subdivision plans and/or planned unit development plans as provided in this title; and

- Enable the City to adopt measures for the development of the surrounding area compatible with the planned community zone.

According to Chapter 19.48.020 of the zoning title, P-C zoning may be established on lands that are suitable for, and of sufficient size to be planned and developed in a manner consistent with the purpose of the zone and shall not include any area of less than 50 acres of contiguous land. Section 19.48.025 establishes a requirement for community purpose facility sites to be provided within the P-C zone at the rate of 1.39 acres per 1,000 population.

(5) City of Chula Vista Multiple Species Conservation Program Subarea Plan

The Multiple Species Conservation Program (MSCP) (August 1998) is a subregional plan under the California Natural Community Conservation Planning (NCCP) Act of 1991 covering an area encompassing twelve jurisdictions and 582,243 acres. The MSCP addresses the potential impacts of urban growth, loss of natural habitat and species endangerment, and creates a plan to mitigate for the potential loss of Covered Species and their habitat due to the direct, indirect and cumulative impacts of future development of both public and private lands within the MSCP area. The MSCP Subregional Plan is implemented through local Subarea Plans prepared by participating jurisdictions. The City's MSCP Subarea Plan was approved in February 2003 and provides for conservation of upland habitats and species through Preserve design, regulation of impacts and uses, and management of the Preserve.

For development projects located within Otay Ranch, the City's MSCP Subarea Plan relies on the preserve design and policies contained in the Otay Ranch Resource Management Plan (RMP) as the framework for conservation and management of biological resources within Otay Ranch Preserve. The proposed EUC SPA Plan and associated Off-site SSA are considered "Covered Projects" under the City's MSCP Subarea Plan. This means that the areas proposed to be preserved (100 percent Conservation Areas) are either already in public ownership or will be dedicated to the Preserve as part of the development approval process for Covered Projects. As it pertains to proposed project, lands shall be conveyed to the Preserve in accordance with the RMP.

The SCSL Improvement Area is located within the City's MSCP Preserve. The City's MSCP Subarea Plan includes Planned Facilities that allows major road and infrastructure to be constructed, operated, and maintained within the Preserve. The proposed SCSL Improvement Area Improvement is considered an off-site modification to the City's existing Salt Creek Interceptor facility, a Planned Facility under the City's Subarea Plan. Minor modifications to the Salt Creek Interceptor are necessary to provide emergency backup in case of blockage within the existing sewer lateral, thereby significantly reducing the possibility of sewer overflow and spillage into the Preserve. Consistent with the City's MSCP Subarea Plan, modifications to this existing Planned Facility are subject to compliance with the siting criteria identified in Section 6.3.3.4 and Table 6-1 of the City's MSCP Subarea Plan.

(6) Otay Ranch Resource Management Plan

The Otay Ranch Resource Management Plan (RMP) was adopted in 1993 with the approval of the Otay Ranch General Development Plan in order to establish a permanent preserve within Otay Ranch. The purpose of the Otay Ranch Preserve is to protect and enhance biological, paleontological, cultural, and scenic resources. Plan objectives include biological diversity and promotion of the survival and recovery of native species and habitats. The RMP identifies an open space system of 11,375 acres dedicated within the Otay Ranch. The Otay Ranch Preserve would also connect large areas of open space through a series of wildlife corridors. The preserve would cover portions of Salt Creek Canyon to Otay Valley. The preserve boundaries from the RMP have

been incorporated into the adopted Otay Ranch GDP. The preserve/development boundary of the GDP is consistent with the objectives, policies, and criteria established in the RMP.

The RMP incorporates a preserve conveyance plan as a transfer mechanism for land with high-quality resources. The RMP identifies vernal pools, coastal sage scrub habitat, coastal California gnatcatcher populations, and potential wetlands restoration areas as important target lands for the preserve. The RMP includes conveyance procedures for dedicating parcels of land to the resource preserve and for determining the proportionate share for each village. The Otay Ranch GDP identified that the entire Otay Ranch area contained 9,575 developable acres. The estimated conveyance obligation of 11,375 acres to the Otay Ranch Preserve would be met on a village-by-village basis. The conveyance ratio for all development is 1.188 acres for each acre of project area. Conveyance is required prior to the approval of final maps.

(7) Growth Management Ordinance

The purpose and intent of the City of Chula Vista Growth Management Ordinance (GMO) (CVMC Sec. 19.09) is to provide quality housing opportunities for all economic sections of the community; to balance the community with adequate commercial, industrial, recreational and open space areas to support the residential areas of the City; to provide that public facilities, services and improvements meeting City standards exist or become available concurrent with the need created by new development; to control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's Threshold Standards and to meet the goals and objectives of the growth management program, and other programs associated with quality of life. The GMO prohibits new development unless adequate public facilities are provided in advance of or concurrently with the demands created by new development.

The GMO sets forth growth management oversight commission (GMOC) "quality of life" threshold standards for police, fire and emergency response times; anticipated demand for schools according to a 12- to 18-month development forecast and evaluation of school funding; establishment of a library service ratio of 500 square feet of equipped and staffed library facility per 1,000 population; a service ratio of three acres of neighborhood and community park land with appropriate facilities per 1,000 residents; water service availability; compliance with City engineering sewage flow and other standards (subdivision manual); compliance with City engineering storm water drainage standards (subdivision manual); maintenance of acceptable City-wide traffic flows; and air quality and pollution overview and evaluation to foster air quality improvement pursuant to relevant regional and local air quality improvement strategies.

The GMO also requires PFFPs, Air Quality Improvement Plans (AQIP), and Water Conservation Plans (WCP) for every SPA plan, or, if an SPA plan is not required, for every tentative map application. The PFFP must provide a complete description of the proposed development project and a complete description of all public facilities included within the boundaries of the plan as defined by the Development Services Director. The plan must contain an analysis of the individual

and cumulative impacts of the proposed development on the community as it relates to the growth management program, the specific facility master plans and the threshold standards.

(8) Park Land Dedication Ordinance

Chapter 17.10 of the CVMC establishes requirements for parklands and public facilities, including: regulations for the dedication of land and development of improvements for park and recreational purposes (Section 17.10.010); determination of park and recreational requirements (Section 17.10.020); area to be dedicated (Section 17.10.040), specifications for park improvements (Section 17.10.050); criteria for area to be dedicated (Section 17.10.060); and procedures for lieu fees for land dedication and/or park development improvements (Section 17.10.070), and other regulations regarding park development and collection and distribution of fees.

(9) Tentative Map

Title 18 of the CVMC[3] requires the adoption of a TM for division and development of land into five or more parcels. A TM is made for the purpose of showing the design of a project, including the locations and layouts of streets and parcels. Under CVMC Section 18.04.050, provisions shall be made in a TM to assure adequate access, light, air, and privacy on all parcels of property, regardless of the land use. CVMC Section 18.05.060 provides for necessary land for community facilities, including schools, parks, open space, playgrounds, and other required public facilities. The TM shall be reviewed by the Director of Public Works to assure compliance with regulations applicable to public and private utilities, streets, and respective rights-of-way and easements. The TM shall also be reviewed by the Development Services Director to assure compliance with regard to the number, size, and configuration of lots to be created and the alignment and width of streets and easements. TMs may be adopted at the time of project approval and shall expire in 36 months in accordance with the Subdivision Map Act, although extensions may be requested.

(10) Parks and Recreation Master Plan

The City of Chula Vista Parks and Recreation Master Plan (PRMP) (adopted November 12, 2002) is the blueprint for the City's park system. The PRMP identifies existing park and recreation facilities; provides guidance for future park sites, as well as locations for specific types of additional recreational facilities. The PRMP envisions a comprehensive and interrelated package of Community and Neighborhood parks and presents each park within the context of the whole park system to ensure that it provides a balance of recreational opportunities. The PRMP defines parks in the Otay Ranch in a hierarchy of facilities ranging from common usable open spaces (Homeowner Association (HOA) operated) in residential neighborhoods, to public neighborhood parks, community parks, and a large portion of the planned Otay Valley Regional Park.

[3] *Title 18 of the CVMC establishes policies and procedures, definitions, design requirements, dedications, improvements, deposits and fees and other elements and requirements of the subdivision process.*

According to the PRMP (page 1-16), regional park trails and interconnecting sub-regional trails, planned as part of the City's Greenbelt Master Plan, are also found in Otay Ranch, within Salt Creek Canyon, Wolf Canyon, and the Otay River Valley. These trails are expected to traverse a planned open space preserve that extends throughout the entire Otay Ranch property. The Otay Valley Regional Park is a planned 8,700-acre multi-jurisdictional regional open space that will contain preserve acres as well as active and passive park opportunities, including equestrian, hiking, and biking trails. This park will extend throughout the Otay River Valley, from San Diego Bay to Upper and Lower Otay Lakes.

(11) Greenbelt Master Plan

The City of Chula Vista Greenbelt Master Plan provides guidance and continuity for the planning of open space and construction and maintenance of trails. The Plan's primary purpose is to provide goals and policies, trail design standards, and implementation tools. The EUC is included in the Otay Ranch Village Greenway as identified in the Otay Ranch GDP. The Village Greenway presents opportunities for a multi-use trail that will provide mobility for residents between several villages and provide connectivity between recreation areas in the EUC and future park(s) along the greenway. The Village Greenway is proposed to pass through portions of Village Seven, the EUC, and Village Eleven, connecting Wolf Canyon in Village Seven to the Salt Creek Greenbelt in Village Eleven. As described in the Greenbelt Master Plan, the Village Greenway begins with urban areas on the east, and then continues through the Wolf Canyon natural drainage corridor beginning at La Media Road. From there it continues west and south to the Otay Valley Regional Park at Rock Mountain. In the vicinity of the EUC, the Village Greenway would pass under SR-125 via Bob Pletcher Parkway. Passing through the EUC, the Village Greenway is intended as a major trail connection that enhances mobility and provides a recreational opportunity in the EUC for residents, employees, and visitors. The Village Greenway is intended to allow both active and passive users with the opportunity to stop and enjoy the experience through an enhanced open space paseo. The compliance of the proposed project with the applicable policies and standards of the Greenbelt Master Plan is discussed in Section 4.11.5, Parks, Recreation, Open Space and Trails, of this EIR.

B. Existing Land Use Conditions

(1) On-site Conditions

The project site consists of an approximately 207-acre parcel that represents approximately 90 percent of the designated 237-acre EUC area, a component of the GDP. The Otay Ranch GDP geographically organizes the Otay Ranch into 20 villages or planning areas, including the EUC and Otay Ranch Town Center, which are located in Planning Area Twelve. Rising approximately 660 feet above MSL, the EUC property comprises the highest portion of the Otay Ranch. Although portions of the project site have been disturbed and/or covered with fill in conjunction with grading permits for Village Seven, SR-125, and the Otay Ranch Town Center, the site historically served as crop farmland within the Otay Valley Ranch.

(2) Surrounding Land Use

The project site is surrounded by the Otay Ranch Town Center to the north, Village Eleven to the east, approximately 21.6 acres of additional vacant EUC land (not within the current SPA Plan) and a portion of future Village Nine to the south, and SR-125 and Village Seven to the west. The EUC and surrounding Otay Ranch Villages are illustrated in the aerial photograph/map presented in Chapter 3.0, Project Description, Figure 3-1, *Location /SPA Boundary*.

The Otay Ranch Town Center to the north is developed with an 865,000 square-foot regional shopping mall, which is proposed to include a BRT station with regional connection to the H Street Trolley, to downtown San Diego, the California/Mexican border, as well as a local connection to the EUC via EastLake Parkway.

Village Eleven to the east is a partially developed urban village that will ultimately contain 1,005 single-family residences, 1,385 multi-family residences, a middle school, open space corridor, village core with a transit stop, town square, neighborhood park, and golf course. Village Eleven's higher density housing and the village core are located in the western side of Village Eleven, along its interface with the EUC. Also, in November 2007, the location of a combined middle school/high-school in Village Eleven was approved by the Sweetwater Union High School (SUHS) District. Construction of the approved school, to be located adjacent to the EUC east of EastLake Parkway, has not been initiated. The District has indicated that a start date for construction of the school has not been set and will be established based on need. A pedestrian overpass from the EUC across Eastlake Parkway to this school site is included in the proposed EUC SPA Plan.

Village Nine to the south is an undeveloped 364-acre area that has a primary use of University and a secondary use of residential as identified in the adopted Otay Ranch GDP.

Village Seven is located to the west of SR-125, west of the EUC and is currently under development. Village Seven incorporates a trail connection to Wolf Canyon to the west as part of the City's regional Greenway Trail and is the location of Olympian High School, a newly constructed, state-of-the-art public high school, as well as the recently completed Wolf Canyon Elementary School. Maximum development within Village Seven will include 1,028 single- family homes and 448 multi-family residences.

4.1.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on land use if it would:

Threshold 1: *Physically divide an established community (incompatibility with adjacent and surrounding uses);*

Threshold 2: *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project, adopted for the purpose of avoiding or mitigating an environmental effect; and*

Threshold 3: *Conflict with any applicable habitat conservation plan or natural community habitat conservation plan.*

4.1.3 IMPACT ANALYSIS

Threshold 1: *Physically divide an established community (incompatibility with adjacent and surrounding uses).*

A. EUC SPA Plan Area

(1) Construction of the EUC

Under Grading Option 1, mass grading of the project site would involve the removal and placement of excavated soil on approximately 59 acres of undeveloped property adjacent and to the south of the project site. Under Grading Option 2, project grading would primarily occur onsite with the exception of the export of material to approximately 28.5 acres adjacent and south of the site that comprises the majority (except 0.7 acres) of the remainder of the EUC. Neither grading option would directly impact any existing land uses nor roadways in the area since the export sites are undeveloped.

Construction of the project would primarily require site grading, road building, installation of utilities, and building construction. Development would begin at the edges of the EUC, adjacent to existing arterials, Birch and EastLake Parkway. Initial phases of development would include lower density uses, consistent with multi-family uses in adjacent villages, as anticipated by the Otay Ranch GDP. Residential densities and building mass and scale would increase from the edges into the center and western portions (employment district) of the proposed project.

Construction activities at the project site would not encroach upon surrounding villages or local streets outside of the EUC. Construction activities would be separated from existing off-site uses to the north, east, and west by major arterials, including Birch Road, EastLake Parkway, and SR-125, respectively. Hauling and delivery of materials to and from the EUC would be directed to adjacent major arterials.

Therefore, the impact of the proposed project's construction activities with respect to land use compatibility would be less-than-significant.

(2) Surrounding Land Uses

The intention of the Otay Ranch GDP and the General Plan LUT Element is to create a regional urban center in the EUC that would exceed the scale and intensity of surrounding uses (villages). Under the Otay Ranch GDP, residential densities on the interfacing edges of adjacent urban villages are planned at a generally greater intensity of development than land uses more removed from the EUC. The development of higher intensity uses along the interfacing edges as envisioned in the Otay Ranch GDP is intended to provide a transition from lower density single-family uses to the higher intensity uses of the EUC and the following surrounding areas.

(a) Otay Ranch Town Center

The EUC's districts that would interface with the Otay Ranch Town Center to the north would be the Gateway Mixed-Use Commercial Center and the Northeastern Neighborhood Districts. These two districts would consist of high intensity commercial (including hotel) and high-density residential uses which would provide a compatible interface with the high intensity retail and entertainment uses in the Otay Ranch Town Center. Land use compatibility between the EUC and the Otay Ranch Town Center would also be supported by the similar regional draw of both the Town Center and the EUC, each providing a range and variety of commercial services and shopping opportunities provided in the two adjoining areas. The entrances into the Town Center and EUC from Birch Road would be aligned to facilitate mutual access and activity between the two sites. The high-density nature of the EUC would also support the Town Center by increasing its local customer base. Transit between the EUC and the Town Center would be compatible and in keeping with GDP concepts. The transit entry point in the northeast corner of the EUC would be directly accessed from the Town Center's stations and multi-modal park and ride along EastLake Parkway. With the coordination of transit and the mutual high-intensity and visitor-serving land uses in the Town Center and the EUC, these adjoining areas would be complimentary and would also be consistent with the land use patterns established in the Otay Ranch GDP. Therefore, the proposed project would have a less-than-significant impact with respect to compatibility with the adjacent Otay Ranch Town Center.

(b) Village Seven

Village Seven to the west of the EUC is a designated urban village that is partially developed and proposed to be predominantly residential in character. The Otay Ranch GDP establishes transition densities in Village Seven that change from higher intensity/density at Village Seven's interface with the EUC/SR-125 to lower density in its western sector. Village Seven's designated land uses along SR-125 in the vicinity of the EUC include multi-family residences and a school (the existing Olympian High School). Along its edge with SR-125 and Village Seven, land uses in the EUC include the proposed business district with groups of multi-story office buildings that may reach

15 stories in height. The SR-125 freeway and landscaping along both sides of the freeway would provide a wide separation and buffer between Village Seven and the higher intensity EUC. The only direct physical connection into Village Seven from the EUC's business district would be via Bob Pletcher Parkway and the Village Greenway Trail that pass under SR-125. Village Seven will incorporate a transit stop along Rock Mountain Road that would be served by the outbound transit line from the EUC. The buffering between the differing intensities of development in Village Seven and the EUC by SR-125, the limited interconnectivity via the Bob Pletcher Parkway and coordination of transit between Village Seven and the EUC preclude any significant land use compatibility impacts between the EUC and Village Seven. Therefore, the proposed project would have a less-than-significant impact with respect to compatibility with Village Seven.

(c) Village Eleven

Village Eleven to the east of the EUC is a designated urban village that is predominantly residential in character and separated from the EUC by EastLake Parkway, a major arterial. The Otay Ranch GDP establishes higher residential densities in the west portion of Village Eleven along its interface with EastLake Parkway and the EUC. In addition, a combined middle school/high-school has been approved by the SUHS District for a site within Village Eleven along EastLake Parkway. Interfacing uses in the EUC include the Northeastern Neighborhood, Eastern Gateway Neighborhood, Southeastern Neighborhood, and Eastern Gateway Districts. With the exception of the Eastern Gateway District, these districts would be predominantly residential in character. The Eastern Gateway District would be predominantly mixed-use. Although distinguished by iconic buildings characterizing it as a gateway district, it would feature less intense development and building heights than the higher intensity uses to the west. Much of the development area along the eastern edge of the EUC is well above the height of EastLake Parkway and the EUC would incorporate landscaping and appropriate building setbacks along EastLake Parkway to create an appropriate interface with the lower density Village Eleven to the east, although an urban edge for the EUC is contemplated to differentiate it from the surrounding lower intensity villages. With the EUC's predominantly residential character along its east edge, less intense land uses, and distance/separation created by EastLake Parkway, the east edge of the EUC would appropriately interface with Village Eleven's residential uses and the proposed school along EastLake Parkway. Connectivity created by the Village Greenway Trail pedestrian bridge across EastLake Parkway near Hunte Parkway, and interfacing transit in Village Eleven along EastLake Parkway would also enhance compatibility and provide an appropriate connection between the EUC and Village Eleven. Therefore, the proposed project would have a less-than-significant impact with respect to compatibility with the adjacent Village Eleven.

(d) Land Use to the South

A vacant area designated "EUC" by the Otay Ranch GDP, comprising approximately 23 acres under separate ownerships, adjoins the south edge of the proposed EUC SPA Plan. As this area is designated "EUC" and is connected to the EUC SPA Plan via proposed Streets A, B, C and M, it is anticipated that development of this area would occur in accordance with the mixed-use

character of the EUC. The interconnectivity provided by the EUC SPA Plan's street grid and 4-lane major street (Street A) enhances access and promotes compatibility between this area and the EUC SPA Plan. The development of the proposed project will not preclude the adjacent ownerships in the EUC from developing in a manner consistent with the adopted General Plan or Otay Ranch GDP. As such, no significant impacts with respect to land use compatibility are anticipated.

(3) Land Uses within the EUC

The EUC SPA Plan is designed to facilitate a high level of compatibility between adjoining land uses within the EUC SPA Plan. Throughout the EUC SPA's Form Based Code (FBC), the label "land use" has been replaced by "building type" to reflect the modified focus of these regulations. Under the FBC, activities within buildings are less important than the form and relationships between building types, which include: (a) Mixed-Use, (b) Business/Retail Dominant; (c) Mixed-use/Civic Dominant; and (d) Residential Dominant. The "building type" categories support land use compatibility through the designation of dominant use districts with designated building types, which tends to cluster higher intensity uses and designates areas of less activity and density generally around the perimeter of the site adjacent to the surrounding lower density villages.

Land use compatibility is also supported by a high level of public open space and street fronting commercial uses to enhance pedestrian activity and interaction among the districts. However, the range of building types and potential uses, including high-rise office buildings; civic buildings; parking structures; horizontal and vertical mixed retail, restaurant, office, and residential uses, could have the potential to create conflicts between land uses within the EUC SPA Plan. For example, residential uses located above or adjacent to restaurant uses have a greater potential for late evening noise, demand for the same parking spaces during the evening hours, and other incompatibilities. Internal compatibility issues within the EUC SPA Plan could result from the incompatible design of adjacent buildings; excessive shading of sensitive residential uses, patios, and parks; excessive noise; air quality emissions; access conflicts; the use of hazardous materials in close proximity to residential uses (e.g., potential interfacing of residences with dry cleaners or high tech uses), and/or other conflicts. Internal land use incompatibility could also occur during the proposed project's construction phases, prior to the build-out of the proposed project, in which vacant land areas adjoin established high density housing or commercial uses However, mitigation measures to address these potential temporary construction effects are provided in Section 4.4, Air Quality and Section 4.5, Noise of this EIR.

To address potential internal land use consistency issues, the FBC prohibits certain uses (e.g., large format retail, towing storage yards, industrial warehousing, heavy manufacturing and assembly, outdoor storage, and uses that create offensive odors). The FBC also requires a determination of consistency and design review by the Zoning Administrator (ZA) for any application that includes a non-residential building less than 30,000 square feet or residential uses not exceeding 200 dwelling units; although, the ZA shall have, at his sole discretion, the right to refer any application to the Design Review Board (DRB). Any development application in excess

of those numbers shall automatically be reviewed by the DRB. The FBC also incorporates performance standards in building design and activities, such as:

- Compliance of commercial uses and interior noise levels with CVMC noise standards;
- Location and screening of exterior equipment (air conditioners, satellite dishes, solar panels, ventilating equipment, etc.) from surrounding streets;
- Maximum concealment of large ground mounted mechanical equipment and trash receptacles from public view at street level or enclosed within a building;
- Shielding of all roof appurtenances from view from on-site parking areas, internal circulation routes, and adjacent public streets; reciprocal ingress/egress between adjoining properties;
- Shielding of light sources in a manner to be directed away from residential windows;
- Screening of utility connections from public view, except where visibility is required by the service provider;
- Control of uses that create offensive odors;
- Sting buildings to maximize solar access, as practical;
- Requirement for a wind and sun/shadow analysis be conducted for buildings eight stories and above; and
- Requirements for late night businesses such as restaurants and bars that are open between 10:00 P.M. to 6:00 A.M. to control their customers to prevent excessive outdoor loitering, unusual trash, drug activities, outdoor consumption of alcohol, and loud noises.

Potential land use incompatibility could occur within the EUC through the juxtaposition of high density and lower density land uses without appropriate transition. The EUC's *Site Utilization Plan* (See Chapter 3.0, Figure 3-4) provides for a range of densities/intensities throughout the EUC's 10 districts. The EUC SPA Plan provides for intense land uses, including mid-rise structures and potential locations for high-rise development. The GDP calls for a fire station in the EUC. The mixed-use Civic/Office Core District is an appropriate location for this facility as the predominant uses in this district are government and cultural uses. The *Conceptual Fire Station Site Plan* has been designed to facilitate ingress and egress for emergency vehicles (See Chapter 3.0, Figure 3-10). As such, the proposed fire station would be consistent with adopted plans and would be a compatible land use within the Civic/Office Core District. For additional analysis of the fire station, see Sections 4.11.1 Fire and Emergency Medical Services, 4.5, Noise, and 4.12, Hazards/Risk of Upset.

The issue of internal compatibility is addressed in the EUC SPA Plan's FBC, which establishes design guidelines and development regulations on height, intensity, and guidelines for development transfers standards to ensure an acceptable collective design character of the EUC. A Design Review process, including site plan and Architectural Review, to ensure consistency with the design standards and guidelines set forth in the FBC, ensures that high quality and logical development occur at build-out in the EUC. With the implementation of the design guidelines and Design Review set forth in the FBC, potential internal land use compatibility impacts would be less-than-significant.

B. Off-site Soils Stockpiling Area

Grading Option 1 involves the export of 1.1 million cubic yards of soil to the SSA. Stockpiled soils would be graded and compacted for erosion and drainage control. With the single-phase option, the stockpiling and grading would be completed in approximately 12-18 months. Under the two-phase grading option, the first phase would be completed in 9 months and second phase completed in 12 months. The nearest land uses to the SSA are residential uses and Olympian High School located in Village Seven to the west of SR-125. Subsequent to grading, the SSA site would remain unoccupied. As the SSA would remain vacant, no permanent buildings or other uses that would conflict with the EUC SPA Plan or surrounding villages would occur. Therefore, land use compatibility impacts from the SSA would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The Applicant proposes to install a 173-foot, 15-inch diameter sewer line to the Salt Creek trunk sewer to serve the fully developed tributary area. The 15-inch pipeline would be constructed adjacent to the existing 12-inch sewer installed to serve the Otay Ranch Village Eleven subdivision. Upon completion of the 15-inch sewer and connection to the Salt Creek trunk sewer, the existing 12-inch sewer would serve to provide emergency backup in case of blockage within the 15-inch sewer. The SCSL Improvement would also include the installation of two additional manholes and tie-ins to the existing manholes along the existing 12-inch line and at the SCSL Improvement Area. Due to the temporary nature of construction and the non-encroachment of construction activities or sewer lines into adjacent lands, this interim option would have no impact with respect to the character of or compatibility with adjacent or surrounding land uses. No significant impacts with respect to internal land use compatibility are anticipated.

D. Off-site Poggi Canyon Sewer Improvement Area

Improvements on the Poggi Canyon Trunk Sewer would involve the replacement of the Poggi Canyon Trunk Sewer Reach P265/P270. Construction to increase capacity of this pipeline would require the installation of approximately 110 linear feet of 21-inch diameter pipe located within the paved roadway at the intersection of Olympic Parkway and Brandywine Avenue. To remove the existing pipeline, this alternative would require an approximately 8-foot-wide, 14-foot-deep trench. As with the SCSL Improvement, staging and stockpiling would be located within the paved

roadway and proper erosion protection would be implemented to prevent surface runoff. Other characteristics of construction would also be similar. Construction activities would not encroach into any other public or private lands and would be short-term (five to seven days). As a temporary activity, the construction of the pipeline would not create a significant contrast to existing and designated land uses in the area, and the sewer line would be buried for the duration of its operation. Due to the temporary nature of construction and the non-encroachment of construction activities or sewer lines into adjacent lands, this short-term construction activity would have no impact with respect to compatibility with adjacent or surrounding land uses.

Threshold 2: *Conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project, adopted for the purpose of avoiding or mitigating an environmental effect.*

A. EUC SPA Plan

The proposed project's grading activities and four construction phases would be carried out in accordance with the Chula Vista Building Code and other established regulations, including local noise regulations and regional water and air quality regulations. Respective water and air quality regulations include equipment maintenance, dust control, and control of surface water runoff. As the proposed project would be required to adhere to existing construction regulations and codes, no significant construction impacts with respect to regulatory plans and policies are anticipated.

Consistency of the EUC SPA Plan with the SANDAG Regional Comprehensive Plan, City of Chula Vista General Plan, Otay Ranch General Development Plan, Zoning Code, Park Land Dedication Ordinance, Greenbelt Master Plan, and the Tentative Tract requirements of the CVMC is evaluated below.

(1) Regional Comprehensive Plan

SANDAG's Regional Comprehensive Plan (RCP) establishes a planning framework to increase the region's sustainability and encourage "smart growth" while preserving natural resources and limiting urban sprawl. The proposed project is compared to the RCP's basic "smart growth" principles, which are designed to strengthen land use and transportation integration, in Table 4.1-1, *Comparison of the EUC SPA Plan with the Applicable Smart Growth Principles of SANDAG's Regional Comprehensive Plan,* on page 4.1-22. As further detailed in Table 4.1-1, the proposed project would support the smart growth principles of the RCP with features such as compact land uses, vertical mixed-use (compact building design), a range of housing choices, walkability, a strong sense of place, preservation of open space through clustered development, strengthening the existing Otay Ranch community, and by providing a variety of transportation choices. Therefore, the EUC SPA Plan would not conflict with the applicable growth policies of the RCP.

Table 4.1-1

Comparison of the EUC SPA Plan with the Applicable Smart Growth Principles of SANDAG's Regional Comprehensive Plan

Principle	Comparison
Mix compatible land uses.	**Consistent.** The proposed project would provide a variety of land uses, including mixed-use. The features of the FBC and the mitigation measures provided in this EIR to reduce transfer of noise, or proximity of hazardous uses to residential uses would assure compatibility between uses. Further, the design review controls within the FBC will avoid potential conflicts.
Take advantage of compact building design.	**Consistent.** The development of mixed multi-family/commercial uses, particularly vertical mixed-use would support compact building design.
Create a range of housing opportunities and choices.	**Consistent.** The proposed project would provide multi-family, mixed-use housing, including 10 percent affordable units, in a variety of sizes and types and, thus, would contribute to the region's range of housing opportunities and choices.
Create walkable neighborhoods.	**Consistent.** A basic priority of the EUC SPA Plan is to create a walkable environment. In addition to a wide variety of residential, retail, entertainment, restaurant, office, civic uses, and parks within walking distance, the EUC SPA Plan would provide a network of broad pedestrian corridors enhanced with shade trees and other landscaping, public art, landscaped paseos, decorative paving, way-finding markers, distinctive pedestrian lighting, coordinated street furniture, storefronts in proximity to the sidewalks, and other features that promote walkable neighborhoods.
Foster distinctive, attractive communities with a strong sense of place.	**Consistent.** The EUC SPA Plan would create a distinctive community with a strong sense of place, supported by the focal theme of the civic center and the main street district, with associated public plaza, paesos, town square, public art and other amenities. In addition, public parks will be designed according to specific themes to create a "sense of place" and continuity with respective districts within the EUC.
Preserve open space, natural beauty, and critical environmental areas.	**Consistent.** The project site, previously in agricultural use, is not a critical environmental area. Concentrated development within the EUC would reduce urban sprawl and development of the EUC SPA Plan would require the conveyance to the City of Chula Vista and San Diego County approximately 211acres of sensitive habitat within the Otay Ranch Resource Management Plan (RMP) area
Strengthen and direct development toward existing communities.	**Consistent.** As envisioned in the Otay Ranch GDP, the EUC SPA Plan would serve as the urban center for the Otay Ranch community and, as such, would strengthen this existing community.

Table 4.1-1 (Continued)

Comparison of the Proposed Project with the Applicable Smart Growth Principles of SANDAG's Regional Comprehensive Plan

Principle	Comparison
Provide a variety of transportation choices.	**Consistent.** The proposed project would support a variety of transportation choices, including motor vehicles, public transit, bicycling, and walking. The proposed project would provide BRT guideways and dedicated lanes within the EUC for the South Bay BRT and CVT, and a transit stop along Street G. The proposed project would also incorporate a regional trail and bike lanes, which would facilitate cycling within the EUC and between the EUC and surrounding areas. Regional bike lanes would be developed in the major streets forming the north, east, and south boundaries of the EUC. Cycling would also be supported by publicly available racks throughout the EUC. The proposed project would also support pedestrian mobility through a network of pedestrian sidewalks, pathways and paseos.

(2) City of Chula Vista General Plan

Table 4.1-2, *Project Consistency with Applicable General Plan Land Use Policies,* on page 4.1-24 compares the EUC SPA Plan to the policies of the General Plan. As detailed in Table 4.1-2, the EUC SPA Plan would be consistent with applicable objectives and policies of the General Plan.

(3) Otay Ranch General Development Plan

A comparison of the proposed project with applicable land use and urban design policies of the Otay Ranch GDP is presented in Table 4.1-3, *Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan*, on page 4.1-30. As detailed in Table 4.1-3, the proposed project would be consistent with the urban design, land use, and urban character policies of the Otay Ranch GDP.

(4) Zoning Code (Zoning Designation)

The proposed project is compared to existing P-C zoning regulations (CVMC Section 19.48.010 A) in Table 4.1-4, *Comparison of the EUC SPA Plan to the Requirements of the P-C Zone*, on page 4.1-38. As shown in Table 4.1-4, the proposed project would comply with the purpose of the P-C zone, orderly preplanning and long term development of large tracts of land for P-C zoned properties through the implementation of an approved FBC instead of the typical PC District Regulations adopted for other areas within the Otay Ranch GDP. The FBC would establish land use according to building type districts, including Mixed-Use, Business/Retail Dominant, Mixed-use/Civic Dominant, and Residential Dominant Districts. The FBC also establishes urban form

Table 4.1-2

Project Consistency with Applicable General Plan Land Use Policies

Applicable Policies	Evaluation of Consistency
LUT: 1.1	The EUC SPA Plan is **consistent** with Policy 1.1. The SPA includes a land use diagram for the EUC that provides for a variety of uses both residential and commercial to meet the current and future needs of residents.
LUT: 2.1, 2.2, 2.4, 2.5	The EUC SPA Plan is **consistent** with Policy 2.1 as it provides a planned regional transit stop and transit route, including a conceptual local transit route and bus stops. The EUC SPA plan is **consistent** with Policy 2.4 regarding high-rise development because it includes provisions that require design review for all projects in the EUC; requirements for placemaking elements and enhanced streetscape improvements; and provisions for appropriate transitions to surrounding areas for high-rise buildings. The EUC SPA Plan is **consistent** with Policy 2.5.because it requires that studies be conducted to assess the effects on light and solar access, and shadowing and wind patterns on adjacent areas and buildings for high-rise buildings. As the EUC could build out over 20 years, the exact location and orientation of each tall building will be determined based on Design Review. All future buildings exceeding eight stories and above in height shall submit a sun-shadow analysis and a wind pattern analysis during the Design Review Committee (DRC) process. In addition, the EUC SPA Plan is **consistent** with the General Plan because the SPA Plan provides land uses that are intense and the plan includes land use designations that include mid-rise structures and potential locations for high-rise development. The FBC implements that land use plan by providing development regulations on height, intensity, and guidelines for development transfers.
LUT: 5.13	The EUC SPA Plan is **consistent** with Policy 5.13 because convenience services for the mixed-use residential areas can be provided within each district and therefore within a walkable distance from all residences. The EUC SPA Plan also ensures that transit usage is maximized within the EUC in that all areas will be within a ¼ mile of the regional transit stop or a local bus stop.
LUT: 6.1, 6.2,6.3, 6.6, 6.7	The EUC SPA Plan is **consistent** with all of these relevant policies. The FBC provides design guidance and regulations for development within the EUC. The project review process would ensure that excellence in design will take place. The FBC and project review process would include evaluation of building design and elevations facing public views (from Town Center to the north, Village Seven to the west, and Village Eleven to the east) to ensure impacts are minimized. Performance standards are provided within the FBC that regulate outdoor storage to ensure screening of outdoor storage areas from any public right-of-way.
LUT: 7.1, 7.2, 7.3, 7.4	The EUC SPA Plan is **consistent** with these relevant policies. See analysis above for LUT 6.2 and 6.3. In addition, the EUC contains distinct land use districts with appropriate buffers via setbacks, building articulation and landscaping to ensure avoidance of potential adverse impacts. The EUC provides landscaping and/or open space buffers where appropriate between private and public spaces.

Table 4.1-2 (Continued)

Project Consistency with Applicable General Plan Land Use Policies

Applicable Policies	Evaluation of Consistency
LUT: 8.2, 8.3, 8.4, 8.5	The EUC SPA Plan is **consistent** with these policies because it contains provisions for cultural arts, entertainment, specialty retail and commercial recreation uses. The FBC provides design guidance and regulations for each of the Districts to ensure that buildings are appropriate to their context, as well as relationship to the other districts within the EUC. The EUC Parks Master Plan contains regulations that address the design, location and size of publicly accessible urban open spaces. It includes placemaking elements with parks, promenades, pedestrian connections, and other amenities. The EUC SPA Plan is **consistent** with Policy 8.5 because provisions have been included in the SPA for use of clear glass, and other architectural features to ensure a pleasant pedestrian experience throughout the EUC. All elevations exposed to the pedestrian view are required to be enhanced to ensure no "blank walls" face pedestrian corridors.
LUT: 11.1, 11.5	The EUC SPA Plan is **consistent** with these policies because the FBC contains regulations and requirements for the project review process, including administrative procedures for all design review applications. The EUC SPA Plan is **consistent** with Policy 11.1 because the SPA contains an exhibit that identifies important sightlines and view corridors that will be enhanced and protected by the "grid" development pattern within the EUC.
LUT: 16.3, 16.4	The EUC SPA Plan is **consistent** with Policy 16.4 because it provides transit, vehicular, non-motorized and pedestrian connections by way of the village pathway to Village Seven at Birch Road and SR-125, and it implements the recommendations made in the Land Use and Transportation Element of the General Plan. The EUC SPA Plan is **consistent** with Policy 16.3 by providing direct and convenient access to public transit within a ¼ mile of all uses within the EUC.
LUT: 17.1, 17.3, 17.4	The EUC SPA Plan is **consistent** with these relevant policies. The EUC land uses are arranged in such a way as to be supportive of public transit and at intensities consistent with the General Plan. A BRT route and transit stop is located within the EUC. SANDAG has approved the location and design of the BRT transit route and transit stop. A finer grained system of local transit routes is also anticipated that will provide convenient transit service to the entire EUC project area
LUT: 61.1, 61.2, 61.3	The EUC SPA Plan is **consistent** with Policies 61.1 and 61.2 because the EUC will adhere to the requirements of the Otay Ranch GDP, and the SPA contains a FBC that will be strictly enforced. The EUC SPA contains 10 Mixed-use Districts that are unique, will provide a vibrant sense of community and contribute to a vigorous economy, and a healthy environment. The EUC SPA Plan is **consistent** with Policy 61.3 because the proposed "Gateway" community identification sign is consistent with the requirement to include "City of Chula Vista" on all community identification signs.

Table 4.1-2 (Continued)

Project Consistency with Applicable General Plan Land Use Policies

Applicable Policies	Evaluation of Consistency
LUT: 62.1	The EUC SPA Plan is **consistent** with Policy 62.1 because the Sustainability Element addresses water, air quality and energy resource management. The City has a Solid Waste Management Plan that also addresses recycling, with which the EUC will be required to comply.
LUT: 64.1, 64.2, 64.3, 64.4, 64.5	The EUC SPA Plan is **consistent** with Policies 64.2, 64.3 and 64.5. The EUC contains the highest housing density in the Otay Ranch, with a strong pedestrian- oriented environment. The affordable housing program was prepared in accordance with the City's affordable housing criteria, and will provide for moderate and low-income housing. The EUC will provide parks, and sites for an elementary school, a fire station, and a library that will be constructed in accordance with the PFFP. See also the analysis of Policy LUT 17.3 The EUC SPA Plan is **consistent** with Policies 64.1 and 64.4 by providing for financial, professional, entertainment and cultural arts uses that will attract residents and visitors from a wider region. The EUC BRT, local transit route, bicycle network and pedestrian pathways are linked to the surrounding Village Seven and Eleven to the east and west, and the Otay Town Center to the north and future University/Village Nine to the south.
LUT: 84.1, 84.2, 84.3	The EUC SPA Plan is **consistent** with these relevant policies. The EUC land plan supports and provides a "region-serving urban center with the highest residential densities and an office/commercial focus". Each of the 10 districts within the EUC has themes that support the high residential densities and mixed-use office/commercial focus for the EUC. The EUC's northern boundary recognizes the adjoining relationship of the EUC with the Otay Ranch Town Center, the "sub-regional retail/lifestyle center" that has been constructed to the north. The EUC land use plan promotes the intermixing of uses that support and complement those existing in adjoining Districts and sub-areas, account for changing market conditions and economic development objectives, and foster the development of a cohesive pattern of urban development and built form. The EUC allows for transfer of land uses between districts to allow for flexibility, yet achieves the full build-out intensity envisioned in the General Plan and the GDP.
LUT: 85.1, 85.2, 85.3, 85.4, 85.5	The EUC SPA Plan is **consistent** with Policies 85.1, 85.2, 85.4, and 85.5. The EUC's overall land plan provides for the integration of public schools, parklands, cultural and community facilities, libraries, and compatible uses that support the other primary land uses. The EUC's SPA and FBC provide design guidance and criteria for building placement, public spaces, landscaping that create distinct character amongst the 10 Districts, with connecting paseos, promenades, parks and plazas that foster pedestrian activity and enhance community livability. The FBC does not locate buildings but instead provides building design features, orientation to public spaces, and landscaping techniques that create a distinct character for each of the 10 districts, emphasizing pedestrian activity and community livability. The EUC SPA and FBC land plan addresses a coordinated system of physical elements that interconnect with the adjoining focus areas. The McMillin EUC land plan would not diminish or prevent establishment of uses consistent with the adopted General Plan or General Development plan which are intended for the other areas and ownerships of the EUC. The EUC SPA Plan is **consistent** with Policy 85.3 because the SPA and FBC incorporates a coordinated Regional Trail sign program to create consistency with the balance of the Chula Vista Greenbelt signing.

Table 4.1-2 (Continued)

Project Consistency with Applicable General Plan Land Use Policies

Applicable Policies	Evaluation of Consistency
LUT: 94.1, 94.2, 94.3, 94.4, 94.5, 94.6, 94.8	The EUC SPA Plan is **consistent** with Policies 94.1, 94.2, 94.3, 94.5, and 94.6. The EUC civic uses are supported within the Mixed-use Civic District. The integration of recreation activities is provided through its plans of parks and interconnecting pedestrian paths. Joint use of public and private facilities is encouraged through the siting and design criteria as described in the FBC. The EUC contains the highest land use intensities within the Otay Ranch, as reflected and specified through the SPA Site Utilization Plan. The FBC specifies that buildings fronting on pedestrian spaces are designed to support and enhance dining, entertainment and art and cultural activities. EUC provides paseos and plazas within each District, as described in the Urban Parks, Recreation, Open Space and Trails Plan of the SPA. A conceptual phasing plan is provided for EUC, as depicted in Exhibit VI-1 of the SPA. In addition, the EUC SPA Plan is **consistent** with the General Plan because the SPA Plan provides land uses that are intense and includes land use designations for mid-rise structures and potential locations for high-rise development. The FBC implements that land use plan by providing development regulations on height, intensity, and guidelines for land use transfers.
LUT: 95.1, 95.2, 95.3, 95.4, 95.5, 95.6, 95.7, 95.8	The EUC SPA Plan is **consistent** with Policies 95.1, 95.3, 95.4, 95.5 and 95.6. The EUC land plan provides an employment base by providing office, retail, visitor serving commercial, cultural and entertainment uses. The FBC allows for residential uses to be developed as single uses or integrated with retail and office in mixed-use buildings. The EUC organizes development through the use of a combination of building height and building setback standards as described in each district's table of standards. The Regional Transit stop and BRT route is centrally located in the EUC, at a location agreeable to the City, SANDAG, and Applicant. The transit station and BRT system through the EUC are conveniently located for residents, workers and visitors to the EUC. The EUC SPA includes a Parks Master Plan that identifies the various urban park locations, functions and designs. The Town Center Arterial has been established and serves as the boundary between the EUC and the University Village. The EUC SPA Plan is **consistent** with Policies 95.2, 95.7 and 95.8. The SPA allows for uses that directly support or complement the university via mixed-use residential, office and business, civic, commercial, and parks that would be synergistic. The mix of uses is consistent with the Framework Strategy accepted by the City Council for areas near the University site. The FBC contains regulations for surface parking lots, including screening to ensure the pedestrian character of the EUC is considered and not adversely impacted. Further, the parking program encourages the shared use of parking structures. All conceptual block-planning exercises shall evaluate structured parking where future intensification of a site could be expected to occur in the future.
ED: 2.2, 2.3, 2.5	The EUC SPA Plan is **consistent** with these relevant policies. Employment densities and residential are located within walking distance of transit routes and stops (ED 2.2). In addition, the EUC will include a wide range of housing types and a variety of employment opportunities within close proximity to residential land uses (ED 2.3). The FBC also contains provisions that allows for mixed-use development to occur on the same lot (i.e. retail, commercial, office and residential) (ED 2.5).

Table 4.1-2 (Continued)

Project Consistency with Applicable General Plan Land Use Policies

Applicable Policies	Evaluation of Consistency
ED: 3.5	The EUC SPA Plan is **consistent** with Policy 3.5 because the project allows for retail and business support services including small and mid-sized businesses.
ED: 7.2, 7.5	The EUC SPA Plan is **consistent** with Policy 7.2 because activity centers in the City are linked by a Regional Transit route. The Regional Transit route traverses the EUC and connects the Otay Ranch Center to the north with the University area to the south. The EUC SPA Plan is **consistent** with Policy 7.5 by containing provision for civic and cultural uses to be located within the Mixed-use Civic/Office District. The plan proposes a library, a fire station, a school, and parks, all of which serve residents beyond the EUC boundaries.
ED: 8.3	The EUC SPA Plan is **consistent** with Policy 8.3. The EUC Signage Concept provides sufficient information regarding the location, function and characteristics of primary City gateways (SR-125 and Birch Road) and key corridors, similar to the Otay Ranch Town Center to the north. See also analysis of LUT 9.1.
ED: 9.1, 9.2	The EUC SPA Plan is **consistent** with Policy 9.2. The Mixed-use Civic/Office District and Business District are adjacent districts that comprise the business, cultural and civic hub for the EUC. They are within walking distance to the Main Street District and Gateway Commercial District to the north and to the residential neighborhoods. The location of these districts and their proximity to each other will expand the business mix and increase economic viability as destination points for shopping, work, dining, and entertainment. The EUC SPA Plan is **consistent** with Policy 9.1 because essential services are located convenient to residents and to the transit stop. See also analysis of LUT 5.13.
ED: 10.5	The EUC SPA Plan is **consistent** with Policy 10.5. A Fiscal Impact Analysis (FIA) has been prepared for the EUC in conjunction with the PFFP. The FIA concludes that higher assessed values and property tax revenues will be generated by the proposed project. The FIA finds that fiscal impacts are positive from year one. At Build-Out, property taxes are the greatest source of revenue generated by the EUC. Property taxes and property transfer taxes make up approximately 30 percent of revenues followed by VLF revenues (approximately 20 percent of revenues), and sales tax receipts (approximately 20 percent of revenues). Transient occupancy taxes make up 18 percent of revenues.
PFS: 18.3	The EUC SPA Plan is **consistent** with Policy 18.3. The proposed elementary school is located adjacent to a park within District 9. The EUC Parks Master Plan contains provision that would allow for joint usage of the park and school through improvements and programming.
PFS: 19.1, 19.3, 19.9, 19.10	The EUC SPA Plan is **consistent** with Policies 19.1, 19.9 and 19.10. The SPA addresses the CPF designation within the EUC, which can accommodate uses such as childcare facilities and other health and human services. The CPF designation is distributed amongst the 10 districts, as described within the table on Exhibit V-3 of the FBC. The Mixed-use Civic/Office Core District provides opportunities for a variety of art and cultural programs. The design framework plan for the district shows the conceptual siting of library and open civic plaza that provide accessibility to art and cultural venues for the EUC. The EUC SPA Plan is **consistent** with Policy 19.3. The SPA provides sufficient provisions to encourage incentives for child care facilities within all districts with an emphasis on the

Table 4.1-2 (Continued)

Project Consistency with Applicable General Plan Land Use Policies

Applicable Policies	Evaluation of Consistency
	Business and Mixed-use Civic/Office Districts. The required CPF dedication is also intended to encourage childcare facility implementation.
PFS: 20.3	The EUC SPA Plan is **consistent** with Policy 20.3. The SPA contains provisions to promote public art and includes conceptual illustrations of public art. The FBC provides potential locations for the placement of public art, and the parks amenity program specifically references public art as a component of the parks program.
PFS: 21.1, 21.3	The EUC SPA Plan is **consistent** with Policies 21.1 and 21.3. The Mixed-use Civic/Office District is conveniently located within the EUC and will provide civic services to the Eastern Territories. The Mixed-use Civic/Office District is located adjacent to the Business District that will facilitate ease of access, economic contribution and overall synergy to the local business and community. The developer will also pay impact fees to fund civic services and facilities.
EE 11.2, 11.5	The EUC SPA Plan is **consistent** with Policies 11.2 and 11.5. The EUC provides for the connection of the Chula Vista Greenbelt from Village Seven to the west to Village Eleven to the east as shown in the EUC Parks Master Plan. According to the Green Belt Master Plan, the Regional Trail should provide for hiking and bicycling. The EUC provides interconnecting paseos and trails that link internally, as well as to Village Seven and Village Eleven. Open space will be improved and dedicated to the City by the developer
GM: 1.9	The EUC SPA Plan is **consistent** with Policy 1.9. The PFFP prepared for the EUC addresses required infrastructure and public facilities, and provides costs and funding mechanisms to ensure that these facilities are provided commensurate with need.
GM: 2.2	The EUC SPA Plan is **consistent** with Policy 2.2. See analysis for Objective ED 10.
H: 2.1, 2.2	The EUC SPA Plan is **consistent** with these policies. The EUC SPA Plan contains a Sustainability Element which includes a WCP that addresses water efficiency, and an Energy Conservation Plan that addresses energy efficiency.

districts with provisions addressing architecture and performance standards for districts and gateway areas. The FBC also provides design standards for landscape zones, open space and recreational areas, lighting, parking areas, and signage. Other topics of the FBC include the establishment of general conditions, administrative procedures, enforcement procedures, and monitoring for anticipated multi-family, civic, business offices, mixed-use, retail, community purpose facility, and park uses. The proposed project is also consistent with General Regulations applicable to the P-C zone in that the project site exceeds 50 acres in size and is held under a single ownership.

Table 4.1-3

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
Part II, Chapter 1, Section C, Overall Land Use Plan	
EUC Land Use Designation. (a) This designation indicates a regional center comprised of local and regional shopping opportunities and office and employment uses configured up to 15 stories. Visitor Commercial such as transit lodging, hotels, motels, commercial recreation and other retail are allowed. (b) High density residential, including high-rise residential is also an essential part of the EUC.	**Consistent.** The proposed project supports a range of local and regional shopping opportunities and office and employment uses up to 15 stories, and residential uses at the density ranges identified in the GP and GDP. The FBC (Section 03.02.000) identifies the various land use districts (Business/Retail Dominant District and Mixed-use/Civic Dominant District) that support the regional shopping opportunities and office and employment uses. Total building height ranges are identified within FBC Section 03.09.003.
Part II, Chapter 1, Land Use Plan, Section E.2, Implementation Mechanisms	
Total land acreage for each individual village may not vary by greater than 15 percent of the designated acres as indicated on the Overall Project Summary Table, except for reasons of environment/wildlife corridor reservations.	**Consistent.** Land area and uses have been allocated based on the ownership percentage of the EUC SPA compared with the overall GDP-designated EUC area. The total EUC SPA Plan acreage of 230 acres compares to 238 acres stated in the Otay Ranch GDP (see Table 3-2). That variance is 3.5 percent and is well within the 15 percent allowance. The SPA Plan Introduction section describes compliance with the GDP Land Use Allocation Table.
The total number of units within a village shall not exceed the total number of units as indicated on the Overall Project Summary Table.	**Consistent.** The proposed project would result in the development of a maximum of 2,983 units, as allowed by the GDP for the Project Applicant's EUC SPA Plan area.
4. Design Plans shall be prepared for Industrial, Freeway Commercial areas and the EUC. These design plans shall delineate the intended character and design guidelines for these land use components.	**Consistent.** Design standards in the FBC (FBC Chapter 02), delineate design concepts for each of the EUC SPA Plan's districts, including streetscapes and street character, prescribed dominant uses in the districts, urban form, building types, architectural design principals, landscape standards, design elements for parks, plazas, open space, and public art, and other design features.
Part II, Chapter 1, Land Use Plan, Section F.12.b, Planning Area Twelve, EUC Description	
The Eastern Urban Center contains: • 3,313 multi-family high density residential units, • Build-out population of approximately 8,548, • Regional and specialty	**Consistent.** As described in the FBC SPA Introduction, the proposed project would result in the development of a maximum of 2,983 units (90 percent of GDP defined total EUC dwelling units) within the 90 percent ownership of the project proponent, as allowed by the GDP. The proposed project would include over three million square feet of non-residential use that could include regional and specialty shopping.

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
Shopping, • Multi-Use Cultural Arts Facility (including civic arts/theaters and museums, • Regional Purpose Facilities, • Local parks, • Business parks, • Visitor Commercial, • Transit station, • An Elementary School and a High School as required by the applicable districts, • Urban Open Space Corridor, • Library and Civic Facilities, • Fire Station, and • Affordable Housing. The mix of uses is representative of the expectations and intended character of the Eastern Urban Center. The final land use mix and distribution of uses shall be determined at the SPA planning level. Variation from the uses may be approved subject to the following findings: • The intended character and purpose of the Eastern Urban Center is maintained, • The distribution of uses is compatible with the adopted uses in adjacent villages, and • The viability of the EUC is maintained or enhanced.	• **Consistent.** Build-out population (as detailed on Table B, Page I-21 of SPA Plan) for the proposed project would be consistent with projections for the proposed project based on total dwelling units anticipated and a standard application of an average persons per household for multi-family dwelling unit product type. • **Consistent.** The proposed project would include regional and specialty shopping such as restaurant, hotels, entertainment, and retail uses in the Gateway Mixed-use Commercial District and retail shops, within the Main Street District as described in FBC district character descriptions in sections 02.01.000 and 02.04.000, respectively. • **Consistent.** The proposed project anticipates a multi-use cultural arts or similar facility within the Mixed-Use Civic/Office Core District as identified in the FBC districts character description (02.03.001). • **Consistent.** The proposed project would include regional purpose facilities, such as financial institutions, medical offices, and other uses within the Business District, the Mixed-Use Civic/Office Core District, and Main Street District as described in FBC district character descriptions in sections 02.02.000, 02.03.000, and 02.04.000, respectively. • **Consistent.** As described in the Urban Parks, Recreation, Open Space, and Trails chapter of the SPA Plan, the proposed project would include five local parks, a public plaza, paseos, and town square park and in lieu fees. • **Consistent.** The proposed project would include a business park area as described in FBC section 02.02.000 (Business District). • **Consistent.** The proposed project would include visitor commercial uses, such as hotels, restaurants and entertainment as articulated in FBC section 02.03.000 (Mixed-Use Civic / Office Core District and Section 02.04.000 Main Street District. • **Consistent.** The proposed project would reserve land for a transit stop for the BRT within the Eastern Neighborhood District as described in FBC section 02.05.000. • **Consistent.** The proposed project would provide an elementary school site, as required by the applicable district. The anticipated high school site has been re-located by the SUHS District to Village Eleven, east of the EUC. • **Consistent.** The proposed project would provide, as articulated in the Urban Parks, Recreation, Open Space, and Trails chapter of the SPA Plan, an east-west, urban-based pedestrian corridor linking the City's Greenway Trail System connecting Village

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
	Seven on the west, and with Village Eleven to the east via a pedestrian bridge over EastLake Parkway. • **Consistent.** The proposed project would include a library and civic facilities as identified in FBC Section 02.03.000 Mixed-Use Civic/Office Core District. • **Consistent.** The proposed project would include a fire station as identified in FBC section 02.03.000 Mixed-Use Civic/Office Core District. • **Consistent.** The proposed project would include 10 percent affordable housing as identified in the Affordable Housing Program section of the SPA Plan. • **Consistent.** The adoption of the FBC (in lieu of standard zoning) assures that the intended character and purpose of the EUC will be maintained as development progresses. The FBC prioritizes physical form to achieve the intended urban development character while providing for the maximum intensity of residential and other designated land uses and accommodating market forces which determine the viability of the EUC.
Part II, Chapter 1, Land Use Plan, Section F.12.c, EUC Character Policies	
The character of the EUC should be guided by the following elements: • Location at a high point on the Otay Valley Parcel; • Synergism with adjacent villages, especially Village Nine and the University; • 360 degree views to Point Loma and the mountains; • Location along transit right-of-way; and • Centrally located transit station.	**Consistent.** The EUC SPA Plan under the Project Applicant's ownership is located at the topographically high point of the Otay Valley Parcel. **Consistent.** The EUC (as described in the Introduction Chapter, 'Community Structure' narrative on Page 1-10 of the SPA Plan) would have physical and functional connections to adjacent villages, including Village Nine and the University via connecting roads, BRT, pathways, high-density residential areas, civic uses, office space, and a library that would support the university and the university community. The EUC is located in the topographical high point of the Otay Ranch. The proposed east-west and north-south system of streets will preserve views from the EUC site in all directions. The South Bay BRT) would enter the EUC via a guide way along EastLake Parkway. The EUC would be located along, and incorporate, transit rights of way. The EUC would reserve land for a transit stop. The location of the transit stop was determined in consultation with SANDAG and would be within ¼ mile of the majority of the EUC. Local bus route stops would be provided throughout the EUC, which would serve to connect all districts.
Locate civic and regional purpose facilities in accordance with the siting criteria in the Facility Implementation	**Consistent.** The proposed project (as described in the Introduction Chapter of the SPA Plan and the FBC Section 02.03.00 Mixed-Use Civic/Office Core District) would incorporate civic and regional purpose

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
Plan. The amount and size will be determined at the SPA level.	facilities, including library and fire station, in a central location within the EUC, in accordance with the siting criterion in the Facility Implementation Plan. The Otay Ranch Facility Implementation Plan for Arts and Cultural Facilities states that "Cultural facilities located in the Otay Ranch should be easily accessible to the public and be designed for the presentation of both educational and cultural programs". The Facility Implementation Plan recommends locating a central library and a cultural arts center within the EUC. The location and proposed design features of the proposed library and adjacent civic plaza would support accessibility to the public and educational and cultural programs.
The FAR shall permit multi-story buildings, high-rise buildings and parking structures. The exact ratio will be established at the SPA level.	**Consistent.** The land use intensities and development regulations proposed under the FBC will require the development of multi-story buildings. The FBC includes controls other than FAR for height and building massing to achieve the equivalent of FAR. The FBC's District Regulations and Design Guidelines (Chapter 02) contain district specific height and setback standards.
Locate less intense land uses around the edges of the EUC and utilize landscaped buffers of varying widths to create a transition to surrounding villages.	**Consistent.** The proposed project includes the placement of residential districts along the northeast, east and south edges (Site Utilization Plan Exhibit, Page I-22 of SPA Plan). These residential districts serve as a transition from the proposed project's centrally located mixed-use district to the surrounding villages (Village Eleven). Along the project's western edge, SR-125 would provide a buffer between the high-density residential uses and high-rise business district from less intensive uses in Village Seven to the west. Landscape buffers of varying widths would be provided along SR-125, Birch Road, Hunte Parkway and EastLake Parkway while at the same time promoting the urban character of the EUC.
Integrate commercial and residential uses to support a 24-hour environment.	**Consistent.** The proposed project would incorporate mixed-uses and a variety of commercial and multi-family uses that would support a 24-hour environment. The FBC identifies the project area as being a place where dining, entertainment, and recreational activities are not limited to daylight hours (Section 01.01.000 – Purpose & Scope). The FBC contains a section on "Organizing Principles and Urban Design Vision" (FBC Section 02.04.002) for the Main Street District that articulates the area's character as being vibrant, high energy, eclectic, mixed-use, and around the clock activity.
Provide for neighborhood, regional, and specialty shopping.	**Consistent.** The proposed project anticipates a variety of neighborhood and regional retail businesses. The proposed project would include regional and specialty shopping such as restaurant, hotels, entertainment, and retail uses in the Gateway Mixed-use Commercial District and, retail shops, within the Main Street District as described in FBC district character descriptions in Sections 02.01.000 and 02.04.000 respectively.

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
Provide for an array of services such as financial, medical, and research-oriented facilities in office areas.	**Consistent.** The proposed project would include regional purpose facilities, such as financial institutions, medical offices, and other uses within the Business District and the Mixed-Use Civic/Office Core District as described in FBC district character descriptions in Sections 02.02.000, 02.03.000, and 02.04.000 respectively.
Locate theaters and museums in prominent locations, to broaden the appeal of the EUC as a viable regional hub of cultural activity.	**Consistent.** The proposed project would provide a regional library adjacent to the civic plaza within the Mixed-use Civic/Office Core District. The FBC (Section 02.03.000) describes the character of the Mixed-Use Civic/Office Core District as containing cultural elements and activities. The synergy created by these civic elements broadens the appeal of the EUC as a regional hub of cultural activity. Performance space within the civic plaza amphitheater would support theater activities. The space could also serve as an open-air museum through the integration of civic plaza design features.
Prepare a framework strategy for the "University Study Area" as depicted on the General Plan Land Use Map prior to or concurrently with the SPA level planning for the EUC. The framework strategy should examine what are the appropriate size, character and function of parks, cultural facilities, community purpose facilities, roadway and pedestrian way design, and other services and amenities for the EUC. Results of the framework strategy shall be considered for the EUC SPA Plan.	**Consistent.** The EUC SPA Plan was determined to be consistent with the General Plan Eastern District Framework Strategy objectives and policies, expressed through the proposed project's compatibility with General Plan Policies 84.1 through 95.8 (City Council Action, May 1, 2007). The analysis examines the EUC's size, character and function of parks, cultural facilities, community purpose facilities, roadway and pedestrian way design, and other services and amenities for the EUC, as shown in the SPA's FBC. The SPA Plan notes the City Council action on the Framework Strategy).
The framework strategy should identify important facilities, land use, and services that should be provided in the EUC that support or complement the University and other areas within the University Study Area. Such uses may include specialty retail, bookstores, research and business institutes, hotels, entertainment and visitor uses, and cultural and arts facilities.	**Consistent.** See above.
The circulation system should minimize conflict with the pedestrian system.	**Consistent.** Pedestrian features of the EUC as described in Chapter III (Mobility) of the SPA Plan, and the FBC (Section 03.08.000). Features described include neck downs, pedestrian crossings, and variation in paving between pedestrian and vehicular zones.

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
Part II, Chapter 1, Land Use Plan, Section F.12.b, EUC Parks and Open Space Policies	
Parks and Open Space Policy: Application of the 3 acres per 1,000 residents standard would result in the development of approximately 29.3 acres of local parks in the EUC. The EUC would provide sufficient area for local parks/town squares and plazas, or other park facilities to meet its needs on-site, as required by the EUC Parks Master Plan prepared as part of the SPA Plan. The SPA-level Parks Master Plan shall consider the needs and standards identified in the framework strategy prepared for the "University Study Area," which may include variations from conventional parkland requirements.	**Consistent.** As described in the SPA Plan (Urban Parks, Recreation, Open Space, and Trails Plan Chapter) the current Park Land Dedication Ordinance (CVMC Section 17.10.040) requires three acres of parkland per 1,000 persons, based on a multi-family occupancy factor of 2.61 persons (CVMC Section 17.10.110) per household. Based on the CVMC defined coefficient factor, the project's 2,983 units would generate a demand for 23.36 acres of parkland. In addition to the 15.63 acres of parkland described above, remaining park obligation would be provided for through the payment of in lieu fees. A portion of the in lieu fees would be reinvested on-site and a portion would be utilized off-site to go toward the delivery of recreational facilities at an off-site location. The portion of in lieu fees to be utilized on-site, would be re-invested into the 15.63 acres of parks, resulting in enhanced park amenities consistent with the character and purpose of the EUC, which would allow the parks to achieve a higher level of improvements not typically associated with public parks. CVMC 17.10.070 allows the City to deem that a combination of dedication of parkland and the payment of in lieu fees would better serve the public and the park and recreation needs of future residents of the project if in the judgment of the City, suitable land does not exist. Furthermore CVMC states that the amount and location of the land or in lieu fees, or combination thereof, shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision. The combination of the dedication of parkland, payment of in lieu fees and providing improvements would serve to meet the recreational needs of the EUC residents. Trails that are integral or continuous to a park would be included as park acres for determination of parkland credit.
The following policies shall guide the design of parks and open spaces in the EUC and shall be further refined by the SPA-level Parks Master Plan: • Incorporate a pedestrian open space / trail corridor across the EUC which connects to Wolf Canyon and Salt Creek. The corridor will create a strong east-west open space system and reflect differing characteristics as it moves through the Otay Ranch. This corridor has been defined by the overall Ranch Design Plan, but will more specifically defined in the EUC SPA Design Plan. Within the	**Consistent.** The proposed project, as described in the EUC SPA Plan (Urban Parks, Recreation, Open Space, and Trails Plan Chapter), would provide an east-west pedestrian trail through the EUC that would create a link in the City's Greenway Trail system. From Wolf Creek in Village Two, the corridor would pass through Village Seven to the EUC. From the EUC, the corridor would pass along the south and east edge of Village Eleven (following Hunte Parkway) to Salt Creek. Within the EUC, the corridor would connect activity centers and tie plazas, parks, and other urban functions, and provide urban relief and recreation, as well as trail connectivity to the east and west. Since the EUC would be a highly urbanized, regional destination area, activities along the trail would also be urbanized with vendors, civic functions, a possible farmer's market, art fairs, street theater, and similar activities. The trail would be developed as an identifiable trail system with broad paved walkways and landscaping with widths ranging from 15 feet to a double path of 20 feet each. .

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
EUC, this corridor shall serve as an identifiable pedestrian corridor and element that ties plazas, parks, and other urban features together to fulfill multiple functions, including urban relief, recreation, and trail connectivity, while maintaining its primary role as a key segment of the City's Greenbelt and trail system. • Provide a network of pedestrian spaces, plazas, malls, promenades, and squares to create a pedestrian oriented environment. The amount of credit toward satisfying park area requirements for these amenities shall be determined in the EUC Parks Master Plan. • Individual building and building clusters should integrate pedestrian plazas with the overall pedestrian system. Pedestrian plazas should incorporate fountains or artistic features as visual focus.	The proposed project would provide a network of pedestrian spaces, including a public plaza in the Civic Core, a town square and promenade in the Main Street District, and paseos leading between streets. The urban design policy requiring individual buildings and building clusters to integrate pedestrian plazas with the overall pedestrian system would be implemented as a design feature of the proposed project in compliance with the FBC (see Section 4.2, Landform Alteration/Aesthetics, of this EIR). The urban design policy to incorporate fountains or artistic features as visual focus of parks and pedestrian plazas would be implemented as a design feature of the proposed project in compliance with the FBC (see Section 4.2, Landform Alteration/Aesthetics, of this EIR).
Other EUC Policies	
Transit line rights-of-way and BRT stops/stations shall be approximately located at the SPA level and will be conditions for dedication at the Tentative Map level within the EUC.	**Consistent.** The proposed project (as described in Chapter III – Mobility of the SPA Plan) would incorporate BRT, including a transit station on Street "G," just east of Street "C."
Transportation, Circulation, Access. (1) A traffic analysis shall be conducted within the study area of the proposed Specific Plan to identify additional transportation mitigation measures for the construction of new roads, bridges and roadway improvements, and shall implement transportation demand/system management programs and/or facilities or other measures necessary to mitigate traffic impacts on circulation	**Consistent.** Internal street service levels must meet thresholds established by the PFFP. As discussed in Section 4.3 of this EIR, Mitigation Measures 4.3-14 through 4.3-16 would ensure consistency with PFFP thresholds for internal streets. A traffic study was prepared for the project and is analyzed in detail in the project Environmental Impact Report. Mitigation measures are identified to mitigate impacts to the City's circulation system consistent with existing standards and thresholds. The project features a mixed use setting and strong transit focus which will reduce vehicle trips on the City's circulation system. In addition the plan includes provisions for large employers to participate in TDM measures, including carpools, ridesharing and other measures included in SANDAG's Ridelink program. While the GDP does not identify any

Table 4.1-3 (Continued)

Comparison of the EUC SPA Plan with the Applicable Policies of the Otay Ranch General Development Plan

Policy	Project Comparison
element roads. The standard to be achieved requires the proposed project to avoid reduction in the existing LOS "C" with the exception that LOS "D" may occur on signalized arterial segments for a period not to exceed a total of two hours per day. If the existing LOS is below "C" (with the exception of the allowable "D"), mitigation measures must be imposed as conditions of approval for the Specific Plan. Internal village streets/roads are not expected to meet these standards (GDP, page IV-21).	thresholds for internal village streets, the proposed grid system has been designed to allow maximum buildout of land uses consistent with the General Plan and General Development Plan and the PFFP identifies triggers to ensure the internal street system is constructed prior to, or concurrent with need.
Part II, Chapter 5, Capital Facilities, Section E.6.d, Law Enforcement Facilities	
One "central" police station located in the Eastern Urban Center is necessary to serve the Otay Ranch Project Area at build-out, in conformance with the goals, objectives and policies.	**Consistent**. Even though the GDP suggests that a police station be included in the EUC, the City's adopted Public Facilities Developer Impact Fee Plan identifies recognizes a single police station that is intended to serve the entire City. Consistent with a single station concept, the police department provides law enforcement services throughout all areas of the City through in the field staffing strategies and the use of police patrol beat system. Should a station or storefront be needed in the future, the use would be appropriate in the Business District or Mixed Use Civic Core district in the EUC.

Source:

As discussed in Table 4.1-4, CVMC Section 19.48.025 B requires 10.7 acres of Community Purpose Facilities (CPF). The proposed project has the transfer rights from the development of Otay Ranch Village Six for 9.34 acres. If 10.7 acres are required under the EUC's future estimated population, an additional 1.36 acres of Community Purpose Facilities would be required to meet the total 10.7-acre obligation. This difference is shown below in Table 4.1-5*, Community Purpose Facilities*, on page 4.1-40. The CPF provision requirements would be monitored at each stage of the Design Review process as provided in the EUC FBC administrative monitoring requirements. The FBC provides a compliance-monitoring program for CPF up to 1.36 acres. In addition, CVMC Section 19.48.025 B allows the reduction in the total CPF requirements, according to City Council discretion and the determination that adequate public services facilities, such as shared parking, would be provided. As no physical impacts have been identified as a result of any potential shortfall in CPF land, the impact of the proposed project with respect to this zoning policy would be less-than-significant and the proposed project would not conflict with the applicable policies of the CVMC Section 19.48.025.

Table 4.1-4

Comparison of the EUC SPA Plan to the Requirements of the P-C Zone (CVMC Section 19.48)

Code Requirement	Proposed Project
Purpose	
Section 19.48.010 A. Provide for the orderly preplanning and long-term development of large tracts of land which may contain a variety of land uses, but are under a unified ownership or development control, so that the entire tract will provide an environment of stable and desirable character. Section 19.48.010 B. Give the developer reasonable assurance that sectional development plans prepared by him in accordance with an approved general development plan will be acceptable to the City. Sectional development plans may include subdivision plans and/or unit development plans.	**Consistent:** Preplanning and proposed long-term development of the proposed project would be implemented in accordance with an approved FBC. The FBC would assure that long-term development results in an environment of stable and desirable character. The Form-Based Code would establish building type districts, urban form districts, design standards, general conditions, administrative procedures, enforcement procedures, and monitoring for anticipated multi-family, civic, business offices, mixed-use, retail, community purpose facility, and park uses. Provisions of the FBC include architectural design, performance standards, parking standards, landscaping, and prohibited uses. The proposed project would be developed in accordance with an approved Sectional Planning Area (SPA) for the EUC in accordance with the approved Otay Ranch General Development Plan (revised September 2005).
General Regulations	
Section 19.48.020 A. P-C zones may be established on parcels of land which are suitable for, and of sufficient size to be planned and developed in a manner consistent with the purpose of this title. No P-C zone shall include less than 50 acres of contiguous land.	**Consistent:** The project site, which contains approximately 207 acres of contiguous land, exceeds the minimum area for the P-C development.
Section 19.48.020 B. All land in each P-C zone, or approved section thereof, shall be held in one ownership or other unified control unless otherwise authorized by the planning commission.	**Consistent:** The project site, which is held under the single ownership of McMillin Companies, meets the ownership requirement.
Community Purpose Facilities	
Section 19.48.025 A. All land in the P-C zone, or any section thereof, shall provide adequate land designated as "community purpose facilities" (CPF).	**Consistent.** The EUC projected population would generate the demand for 10.7 acres of Community Purpose Facilities (CPF). This obligation has been partially fulfilled with CPF credit from previous projects. An additional 1.36 acres of CPF acreage or equivalent square footage is required to meet the remainder of the project's CPF obligation. Compliance with the CPF provision requirements will be monitored at each stage of the Design Review process as provided in the FBC administrative monitoring requirements for the EUC. A comparison of required community purpose facilities is presented in Table 4.1-5 below.

Table 4.1-4 (Continued)

Comparison of the Proposed Project to Existing P-C Zoning Regulations (CVMC Section 19.48)

Code Requirement	Proposed Project
Section 19.48.025 B. A total of 1.39 acres of net usable land (including setbacks) per 1,000 population shall be designated for such facilities in any planned community, and shall be so designated in the SPA and planned community district regulations of each planned community. The total acreage requirement may be reduced only if the City Council determines, in conjunction, with its adoption of an SPA plan, that a lesser amount of land is needed, based on the availability of shared parking with other facilities, or other community purpose facilities that are guaranteed to be made available to the community. Any shared parking arrangements shall be guaranteed regardless of any future changes in occupancy of facilities.	**Consistent.** Please refer to the response to Section 19.48.025 A, above.
Section 19.48.040 B.6.d. Recreational facility land uses shall not utilize more than 35 percent of the overall CPF acreage required for CPF master plan area. Sites identified for recreational facilities in CPF land districts shall be a minimum one-half acre, and shall meet the minimum development criteria outlined in CVMC 19.48.025(H). Recreational facilities proposed for CPF credit will not receive park or open space credit.	**Consistent.** Any recreational acreage proposed by the applicant for CPF credit would be required to meet this standard.

(5) Park Land Dedication Ordinance

The Park Land Dedication Ordinance (PLDO), CVMC Section 17.10.040, requires the dedication of three acres of parkland per 1,000 population, based on a coefficient factor of 2.61 persons per multi-family household. Under this existing coefficient, the proposed project's 2,983 multi-family units would generate a population of 7,786, and at the ratio of three acres per 1,000 population, a need for 23.36 acres of parkland. The SPA Plan would provide 15.63 acres of parkland, consisting of the Civic Park, a Town Square Park with its 40-foot wide connection to Street K, four urban scale neighborhood parks, office plazas, and a dedicated jogging/walking promenade.

The difference between 15.63 and 23.36 acres (7.73 acres) would be provided through the payment of in lieu fees. A portion of the in lieu fees would be reinvested into the previously mentioned 15.63 acres of parkland; this amount would represent 5.88 acres of developed parkland (or 25 percent of overall park obligation). Another portion of the in lieu fees would go toward the

Table 4.1-5

Community Purpose Facilities

	Population per 2,983 Units	Code Coefficient: 1.39 acres/1,000 population	Total Acres	Public Facilities Transfer Credit from Village 6	Difference (acres)
GDP: 2.58 persons/ household	7,696	1.39 x 7,696/1,000	10.697 acres	9.34	1.36 acres needed

Source:

delivery of recreational facilities at an off-site location, in an amount representing 1.85 acres of developed parkland. CVMC 17.10.070 allows the City to deem that a combination of dedication of parkland and the payment of in lieu fees would better serve the public and the park and recreation needs of future residents of the project if, in the judgment of the City, suitable land does not exist. Furthermore, CVMC states that the amount and location of the land or in lieu fees, or combination thereof, shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision.

The portion of in lieu fees which would be re-invested into the 15.63 acres of parks would result in enhanced park amenities, which would allow the parks to achieve a higher level of improvements not typically associated with public parks to achieve the urban vision contemplated for the EUC in the Otay Ranch GDP (see Section 4.11.5, Parks, Recreation, Open Space, and Trails, of this EIR). Consistent with CVMC Chapter 17.10 (*Parklands and Public Facilities*) parkland obligation for the project would be met through a combination of the delivery of developed parkland and payment of in lieu fees. Therefore, the proposed project would be consistent with the applicable policies of the PLDO.

(6) Parks and Recreation Master Plan

The provision of linkages identified in the City's Greenbelt Master Plan, and the dedication of parkland would be consistent with policies of the Parks and Recreation Master Plan (PRMP). Policy 1.2 of the PRMP requires that new subdivision developers comply with the Parklands and Public Facilities Ordinances, requiring the level of service standard of a minimum ratio of three acres of public parkland per 1,000 population so that new development will meet the demands created by these proposed projects**.** The proposed project would be consistent with Policy 1.2 in that it would meet the PLDO's three acres per 1,000 population under the Ordinance's existing coefficient factor of 2.61 persons per household.

As the proposed project would meet the requirement of the PLDO, impacts with respect to the PLDO would be less-than-significant.

(7) Growth Management Ordinance

The Growth Management Ordinance (GMO) requires the provision of a PFFP, AQIP, and WCP for every SPA plan to ensure that existing public services or financing for new public facilities would keep pace with new development, that adequate water supply would be available to serve new development, and that a project would meet local and state air quality standards. The proposed EUC SPA Plan includes a PFFP and a Sustainability Element which includes an AQIP and a WCP. The Sustainability Element is part of the SPA and will be considered for approval along with the remainder of the SPA. As the proposed project could not move forward without an approved SPA, the project would be consistent with this requirement of the GMO.

In addition, the GMO requires that a project meet GMOC "quality of life" threshold standards related to traffic, police and fire services, parks, schools, libraries, sewers, storm drainage, air quality, and water. As described in Chapter 4.0 of this EIR, the proposed project would be consistent with GMOC threshold standards with respect to each of these facilities (see Sections 4.3, Transportation; 4.4, Air Quality; 4.9 Hydrology and Drainage; 4.11.1, Fire Service; 4.11.2, Police Service; 4.11.3, Schools; 4.11.4, Libraries; 4.11.5, Parks, Recreation, Open Space, and Trails; 4.11.6, Water; and 4.11.7, Wastewater, of this EIR). As the proposed project would be consistent with the requirement of the GMO, impacts with respect to this ordinance would be less-than-significant.

(8) Tentative Map

A Tentative Map is proposed in combination and concurrently with the EUC SPA Plan. The Tentative Map for the EUC provides detailed boundaries, lot lines, street cross sections and layout, location of utilities and storm drains, and preliminary grading that will serve as the base for the EUC's final maps and grading and improvement plans. Subdivision of the project site would establish the various districts and the individual blocks and lots within the districts. The Tentative Map is based on the conceptual street network and City block lay out depicted in the SPA Plan's Community Structure Plan. Final maps would establish final lot lines for public and private facilities, in addition to the location of land for community facilities including schools, parks, open space, playgrounds, and other required public facilities. The map has been reviewed by the Director of Public Works to assure compliance with regulations applicable to public and private utilities, streets, and respective rights-of-way and easements, and by the Development Services Director to assure compliance with the number, size, and configuration of lots to be created and the alignment and width of streets and easements. As the proposed project would comply with the tentative map requirements of Title 18 of the Municipal Code, the proposed project would not conflict with the City's Tentative Map regulations.

(9) Greenbelt Master Plan

Under the EUC SPA Plan, a section of the Village Greenway would be developed through the EUC. The Greenway trail, which would provide a segment in the City's Greenbelt Master Plan,

would provide a linkage to the Greenway trail in Village Seven via Bob Pletcher Parkway under SR-125 and to the Greenway trail in Village Eleven via a pedestrian bridge over EastLake Parkway. The EUC will be highly urbanized and, as such, the Village Greenway trail would take on the EUC's urban character. In the EUC, the Greenway trail would follow a curved path through the Civic Park, leading to the Main Street District. Turning south from Street H, the Greenbelt trail would pass through the 40 foot-wide paseo framing the Main Street district. Along its route through the EUC, the Greenbelt trail would connect four parks (Civic Center, Town Square, South Central, and Southeast). At the southwest sector of the project site, the trail would cross the EastLake Parkway via a pedestrian bridge. The trail would be distinguished by way-finding elements, banners, or signage, and distinctive pavement treatments, so that it would be clearly identified as a path within the regional Greenbelt system. As the Greenway would provide connection to recreational uses within the EUC, as well as connection to off-site segments of the Village Greenway, it would be consistent with the Greenbelt Master Plan definition of the trail as a "multi-use trail that would provide connectivity between recreation areas in the EUC and future park(s) along the Greenway" and a use that would "connect significant park and open space uses in the EUC and provide both active and passive users opportunities to stop and enjoy the experience through an open space paseo."[4] Although the Greenway would not be used as a bicycle path, it would be multi-use in that it would serve a variety of functions in a variety of forms, including use as a public promenade through the civic mall and town square/ café district, paseo, recreational jogging and walking path, and link between several of the EUC's parks and neighborhoods. An analysis of compatibility with goals and policies of the Greenbelt Master Plan is included in Section 4.11-5, Parks, Recreation, Open Space, and Trails, of this EIR.

B. Off-site Soils Stockpiling Area

The stockpiling and compaction of soils within the SSA would be carried out in accordance with the City's construction and engineering standards and in accordance with the recommendations in the *Geotechnical Recommendation for Proposed Import Soils Second Revision, Otay Ranch Parcel "C",* dated July 10, 2007, and the *Preliminary Geotechnical Investigation Parcel "C" Portion of Otay Ranch* (see mitigation measure 4.10-2). No land uses are proposed. The stockpiling and compaction of material in the SSA would not conflict with the City's applicable land use policies or regulations.

C. Off-site Salt Creek Sewer Lateral Improvement Area

No land uses are proposed with the construction if the SCSL Improvement. This short-term construction activity would be carried out in accordance with the Chula Vista Building Code and engineering standards, including local noise regulations and regional water and air quality regulations. Respective water and air quality regulations include equipment maintenance, dust control, and control of surface water runoff. In addition, the proposed SCSL Improvement would be consistent with the applicable public service policies and growth management policies of the

[4] *City of Chula Vista Greenbelt Master Plan, page 56 (September 16, 2003).*

General Plan. Specifically, General Plan policy PFS 1 ensures adequate and reliable water, sewer, and drainage service and facilities and this facility would serve the EUC until the ultimate development of the Rock Mountain sewer trunk line. The construction of the off-site SCSL would also support General Plan policy PFS-2 as it would increase efficiencies in the conveyance of wastewater. The SCSL Improvement would support General Plan policy GM 1 for the concurrent development of public facilities in that this facility would be developed concurrently or in advance of need. As the proposed SCSL Improvement would be required to comply with existing construction regulations and codes and it would implement applicable General Plan policies, it would not conflict with the City's applicable land use policies or regulations.

D. Off-site Poggi Canyon Sewer Improvement Area

No land uses are proposed with the off-site PCSI Area. This short-term construction project would be carried out in accordance with the Chula Vista Building Code and engineering standards, including local noise regulations and regional water and air quality regulations. Respective water and air quality regulations include equipment maintenance, dust control, and control of surface water runoff. In addition, the PCSI would be consistent with the applicable public service policies and growth management policies of the General Plan including General Plan policy PFS 1 to ensure adequate and reliable water, sewer, and drainage service and facilities. The PCSI would support General Plan policy PFS 2 to increase efficiencies in wastewater management and would support General Plan policy GM 1 for the concurrent development of public facilities in that this improvement would be developed prior to or concurrent with need. As the PCSI would be required to comply with existing construction regulations and codes, it would not conflict with the City's applicable land use policies or regulations.

Threshold 3: *Conflict with any applicable habitat conservation plan or natural community habitat conservation plan.*

A. EUC SPA Plan Area

(1) City of Chula Vista Multiple Species Conservation Program Subarea Plan

For development projects located within Otay Ranch, the City's MSCP Subarea Plan relies on the preserve design and policies contained in the Otay Ranch RMP as the framework for conservation and management of biological resources within Otay Ranch Preserve. The proposed EUC SPA Plan is considered a "Covered Project" under the City's MSCP Subarea Plan. This means that the areas proposed to be preserved (100 percent Conservation Areas) will be dedicated to the City as "Preserve," as part of the development approval process for Covered Projects. As it pertains to proposed project, lands shall be conveyed to the Preserve in accordance with the RMP.

The proposed project would be consistent with the performance standards referenced in the MSCP. As discussed below, the proposed project would be consistent with the policies of the

RMP in that it would convey 1.188 acres of preserve for each acre of development. In addition, the proposed project would provide mitigation, including sensitive resource studies (see Section 4.7, Biological Resources, of this EIR) and control of water runoff (see Section 4.9, Hydrology and Drainage, of this EIR) consistent with the provisions of the MSCP. As mitigation measures cited in Sections 4.7, Biological Resources, and 4.9, Hydrology and Drainage would be incorporated as components of the proposed project approval, the proposed project would be consistent with the requirements of the MSCP. A detailed analysis of the proposed project impacts and compliance with the MSCP is contained in Section 4.7 of the EIR.

(2) Otay Ranch Resource Management Plan

The Otay Ranch RMP established performance standards for achieving an 11,375-acre Otay Ranch open space Preserve. Compliance relies on progressive acquisition, or funding for acquisition, of the designated Otay Ranch Preserve areas with each development approval. The proposed project would have an indirect, long-term, potentially significant impact related to biological resources management unless the Otay Ranch regional open space is preserved proportionally and concurrently with development. Future final maps will be required to convey open space in accordance with the RMP at a rate of 1.188 acres for each acre of development area. As discussed in more detail in Section 4.7, Biological Resources, the Applicant will dedicate approximately 211 acres of land within the Otay Ranch Preserve prior to approval of final maps. Therefore, the proposed project would be consistent with the requirements of the RMP and would not conflict with the policies of this habitat conservation plan.

B. Off-site Soils Stockpiling Area

The proposed stockpiling would occur outside of the Preserve in a development area of a Covered Project. Construction mitigation measures described in Sections 4.6, Cultural Resources, and 4.7, Biological Resources, would reduce impacts to any undiscovered cultural resources, existing wetland habitat, or nesting areas to less-than-significant levels. Construction activities would be consistent with the performance standards referenced in the MSCP, which include consistency with the policies of the RMP and mitigation, including sensitive resource studies (see Section 4.7, Biological Resources, of this EIR) and control of water runoff through a Standard Urban Stormwater Mitigation Plan (SUSMP) (see Section 4.9, Hydrology and Drainage, of this EIR). The RMP requires conveyance of preserve land as a condition of a final map for development, so no dedication of open space pursuant to the RMP is required for the off-site grading and stockpiling activities. As the SSA would be consistent with the cited performance standards regarding preservation standards and wildlife, it would be consistent with the goals and policies of the Otay Ranch RMP and MSCP. A detailed analysis of the proposed project impacts and compliance with the MSCP is contained in Section 4.7 of the EIR.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The proposed SCSL Improvement is considered a modification to the City's existing Salt Creek Interceptor facility, a Planned Facility under the City's Subarea Plan. Minor modifications to the Salt Creek Interceptor are necessary to provide emergency backup in case of blockage within the existing sewer lateral, thereby significantly reducing the possibility of sewer overflow and spillage into the Preserve. Consistent with the City's MSCP Subarea Plan, modifications to the Salt Creek Interceptor are subject to compliance with the siting criteria identified for that Planned Facility as described in Section 6.3.3.4 and Table 6-1 of the City's MSCP Subarea Plan. A detailed analysis of the proposed project impacts and compliance with the MSCP is contained in Section 4.7 of the EIR.

Construction activities would be consistent with performance standards referenced in the MSCP, which include the policies of the RMP for sensitive resource studies (see Section 4.7, Biological Resources, of this EIR) and control of water runoff through a SUSMP (see Section 4.9, Hydrology and Drainage, of this EIR). As the SCSL Improvement would be consistent with the cited performance standards regarding preservation standards and wildlife, it would be consistent with the goals and policies of the Otay Ranch RMP and MSCP.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI would occur entirely within the existing Olympic Parkway/Brandywine Avenue intersection and, therefore, would not cause the loss of natural habitat or species endangerment. However, this project would be subject to mitigation measures described in Sections 4.6, Cultural Resources, to reduce impacts to any undiscovered cultural resources to less-than-significant levels. Construction activities would be consistent with the performance standards referenced in the MSCP, which include consistency with the policies of the RMP and control of water runoff (see Section 4.9, Hydrology and Drainage, of this EIR). As the PCSI would occur entirely within an existing paved area and would meet water quality runoff standards through a SUSMP, it would not conflict with the goals and policies of the Otay Ranch RMP and MSCP.

4.1.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Construction and operational impacts of the proposed project on the character of the surrounding community and internally within the EUC, as well as conformance with existing land use plans and policies, would be less-than-significant. With respect to other elements of land use compatibility, including noise and aesthetics, please see those respective sections of the EIR.

4.1.5 MITIGATION MEASURES

No significant impacts with regard to land use compatibility or conflicts with applicable plans and policies, as set forth in Thresholds of Significance 1, 2, and 3, have been identified, and no mitigation measures are necessary.

4.1.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant and unavoidable impacts with regard to land use compatibility or conflicts with applicable plans and policies, as set forth in Thresholds of Significance 1, 2, and 3, have been identified or are expected to occur.

4.2 LANDFORM ALTERATION/AESTHETICS

Landform alteration and aesthetics issues were analyzed in Section 3.2, Landform Alteration/Aesthetics, of the Otay Ranch GDP Program EIR (90-01) for the entire Otay Ranch GDP development. The Otay Ranch GDP Program EIR identified significant impacts to landform alteration and aesthetics caused by the change in land use from undeveloped to urban, and due to the alteration of significant or sensitive landforms. The Landform and Aesthetics section from the Otay Ranch GDP Program EIR is applicable to the proposed EUC SPA Plan because the proposed project would implement the Otay Ranch GDP by converting undeveloped land to urban uses and altering the landform to achieve the overall plan. The adopted mitigation measures incorporated landform alteration standards into the Otay Ranch GDP and required implementation of measures to be implemented at the SPA Plan level to reduce grading and visual resource impacts. However, even with mitigation, the Otay Ranch GDP Program EIR concluded that the conversion of undeveloped land to urban uses is a significant and unavoidable impact of implementing the GDP.

In addition, the proposed EUC SPA Plan would also introduce new sources of lighting into the proposed project area. The Otay Ranch GDP Program EIR concluded that the effect of increased light and glare as a result of night lighting is considered adverse, but not significant, due to the proximity of other developed or developing urban land that is or will be illuminated at night. As stated in the Otay Ranch GDP Program EIR, effects on future views within the EUC project site and from future adjacent developments shall be evaluated at the SPA level. The analysis and discussion of aesthetics and landform alterations contained in the Otay Ranch GDP Program EIR are incorporated by reference. The following discussion specifically addresses landform alteration and aesthetic impacts associated with the implementation of the proposed EUC SPA Plan.

4.2.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) City of Chula Vista

(a) General Plan

The City of Chula Vista General Plan contains objectives and policies to preserve and enhance aesthetic resources. Specifically, the Land Use and Transportation Element includes policies that strive to continue to protect the open space network and design policies for features such as views, entryways, gateways, streetscapes, buildings, parks and plazas. Relevant General Plan objectives and policies related to aesthetics include the following:

Objective LUT 6 – Ensure adjacent land uses are compatible with one another.

Policies

LUT 6.1 – Ensure, through adherence to design guidelines and zoning standards, that the design review process guarantees excellence in design and that new construction and alterations to existing buildings are compatible with the best character elements of the area.

LUT 6.2 – Require that proposed development plans and projects consider and minimize project impacts upon surrounding neighbors.

LUT 6.3 –Require that the design of new residential, commercial or public developments is sensitive to the character of existing neighborhoods through consideration of access, compatible building design and massing, and building height transitions, while maintaining the goals and values set forth in the General Plan. Within TFAs, design provisions should include requirements for a minimum building step back of 15 feet for every 35 feet in height for edges abutting residential uses.

LUT 6.6 – Establish design guidelines and development standards for commercial and mixed-use development that respect and complement the character of surrounding neighborhoods and uses.

LUT 6.7 – Require that outdoor storage areas or salvage yards be screened from any public right-of-way.

Objective LUT 7 – Appropriate transitions should be provided between land uses.

Policies

LUT 7.1 – Protect adjacent stable residential neighborhoods by establishing guidelines that reduce the potential impacts of higher intensity mixed use, commercial, and urban residential developments (i.e., transitional areas).

LUT 7.2 - Require new or expanded uses to provide mitigation or buffers between existing uses where significant adverse impacts could occur.

LUT 7.3 – Require that commercial and industrial development adjacent to residential or educational uses be adequately screened and buffered to minimize noise, light, glare, and any other adverse impacts upon these uses.

LUT 7.4 – Require landscape and/or open space buffers to maintain a naturalized or softer edge for proposed private development directly adjacent to natural and public open space areas.

Objective LUT 8 – Strengthen and sustain Chula Vista's image as a unique place by maintaining, enhancing and creating physical features that distinguish Chula Vista's

neighborhoods, communities, and public spaces, and enhance its image as a pedestrian-oriented and livable community.

Policies

LUT 8.2 – Emphasize certain land uses and activities, such as cultural arts, entertainment, specialty retail, or commercial recreation, to enhance or create the identity of specialized districts or Focus Areas in the City.

LUT 8.3 – Ensure that buildings are appropriate to their context and designed to be compatible with surrounding uses and enhance the desired character of their District.

LUT 8.4 – Encourage and require where feasible, the incorporation of publicly accessible urban open spaces, including parks, courtyards, water features, gardens, passageways, paseos, and plazas, into public improvements and private projects.

LUT 8.5 - Prepare urban design guidelines that help to create pedestrian-oriented development by providing:

- Pedestrian circulation among parcels; uses; transit stops; an public or publicly accessible spaces;
- Human scale elements;
- Varied and articulated building facades;
- Visual (first floor clear glass windows) and physical access for pedestrians;
- Ground floor residential and commercial entries that face and engage the street, and;
- Pedestrian-oriented streetscape amenities.

Objective LUT 9 – Create enhanced gateway features for City entry points and other important areas, such as special districts.

Policy

LUT 9.1 – Create consistent entry features for City entryways and gateways so people recognize that they are entering Chula Vista.

Objective LUT 10 – Create attractive street environments that complement private and public properties, create attractive public rights-of-way, and provide visual interest for residents and visitors.

Policies

LUT 10.2 – Landscape designs and standards shall include a coordinated street furniture palette, including waste containers and benches, to be implemented throughout the community at appropriate locations.

LUT 10.6 – Study the locational requirements of utility, traffic control, and other cabinets and hardware located in the public rights-of-way to determine alternative locations for these items in less obtrusive areas of the street environment.

LUT 10.7 – Work with utility providers to coordinate the design of utility facilities (e.g., substations, pump stations, switching buildings, etc.) to ensure that the facilities fit within the context of their surroundings and do not cause negative visual impacts.

Objective LUT 11 – Ensure that buildings and related site improvements for public and private development are well-designed and compatible with surrounding properties and districts.

Policies

LUT 11.1 – Promote development that creates and enhances the positive spatial attributes of major public streets, open spaces, cityscape, mountain and bay sight lines, and important gateways into the City.

LUT 11.5 – Require a design review process for all public and private discretionary projects (which includes architectural, site plan, landscape and signage design) to review and evaluate projects prior to issuance of building permits to determine their compliance with the objectives and specific requirements of the City's Design Manual, General Plan, and appropriate zone or Area Development Plans.

Objective LUT 13 – Preserve scenic resources in Chula Vista, maintain the City's open space network and promote beautification of the City.

Policies

LUT 13.1 – Identify and protect important public viewpoints and viewsheds throughout the Planning Area, including features within and outside the planning area, such as mountain, native habitat areas, San Diego Bay, and historic resources.

LUT 13.4 – Any discretionary projects proposed adjacent to scenic routes, with the exception of individual single-family dwellings, shall be subject to design review to ensure that the design of the development proposal will enhance the scenic quality of the route. Review should include site design, architectural design, height, landscaping, signage and utilities. Development adjacent to designated scenic routes should be designed to:

- Create substantial open areas adjacent to scenic routes through clustering development;
- Create a pleasing streetscape through landscaping and varied building setbacks; and
- Coordinate signage, graphics and/or signage requirements, and standards.

Objective LUT 94 - Provide a centralized urban area to support the East Chula Vista/Otay Ranch and south San Diego County population, providing regional goods and services that cannot be accommodated in the residential Village Cores of Otay Ranch.

Policies

LUT 94.4 – Develop the EUC as an intense urban form with mid- and high-rise buildings typically located in the central core and near transit.

LUT 94.5 – Apply the Design Review process for discretionary projects to ensure that building facades are designed and oriented to accentuate and enhance the pedestrian experience and urban street scene. Buildings fronting on pedestrian spaces shall be designed to support and enhance dining, entertainment, and art and cultural activities.

LUT 94.6 – As part of the approval of a SPA, provide pedestrian-oriented plazas, through-block paseos, and landscaped squares to add interest and provide contrast to buildings, which shall generally be built to the sidewalk's edge.

The Chula Vista General Plan identifies primary gateway locations throughout the City. Of these, two gateways are located in the SR-125/EUC area, including the Birch Road Gateway and the Rock Mountain Gateway. The Birch Road Gateway provides access into the EUC focus area and will extend from SR-125 to EastLake Parkway. The Rock Mountain Road Gateway, which will extend from SR-125 to EastLake Parkway, would provide access to the EUC and the University Campus Focus Area. Of these two designated gateways, the Birch Road Gateway adjoins the proposed EUC SPA Plan, while the Rock Mountain Road Gateway is located to the south of the EUC SPA Plan area. Gateway areas are intended to be well-designed, attractive, and to exhibit a special character to enhance the City's image and pride.

The Chula Vista General Plan also identifies designated Scenic Roadways, where views of unique natural features and roadway characteristics, including enhanced landscaping, adjoining natural slopes, or special design features make traveling a pleasant visual experience. Hunte Parkway, in the vicinity of the project site, is designated as a City of Chula Vista Scenic Roadway. An approximately 89-foot section along the south boundary of the project site, adjoins Hunte Parkway. As listed above, General Plan Policy LUT 13.4 provides guidance for projects located adjacent to scenic routes such as the proposed project. The EUC's gateways, major view corridors, and

designated Scenic Roadways are illustrated in Figure 4.2-1, *EUC Gateways, Major View Corridors, and Scenic Roadways,* on page 4.2-7.

(b) Otay Ranch General Development Plan

Several policies of the GDP address the aesthetic character of the EUC, including the potential for views. According to the GDP, the EUC is located at a high point on the Otay Ranch parcel and has 360-degree views to Point Loma and the mountains. GDP policies also mirror aesthetic policies of the General Plan and require that activities should flow out from buildings onto public spaces to create vitality and excitement along the street front. In addition, GDP policies encourage the incorporation of public art into individual buildings or building clusters.

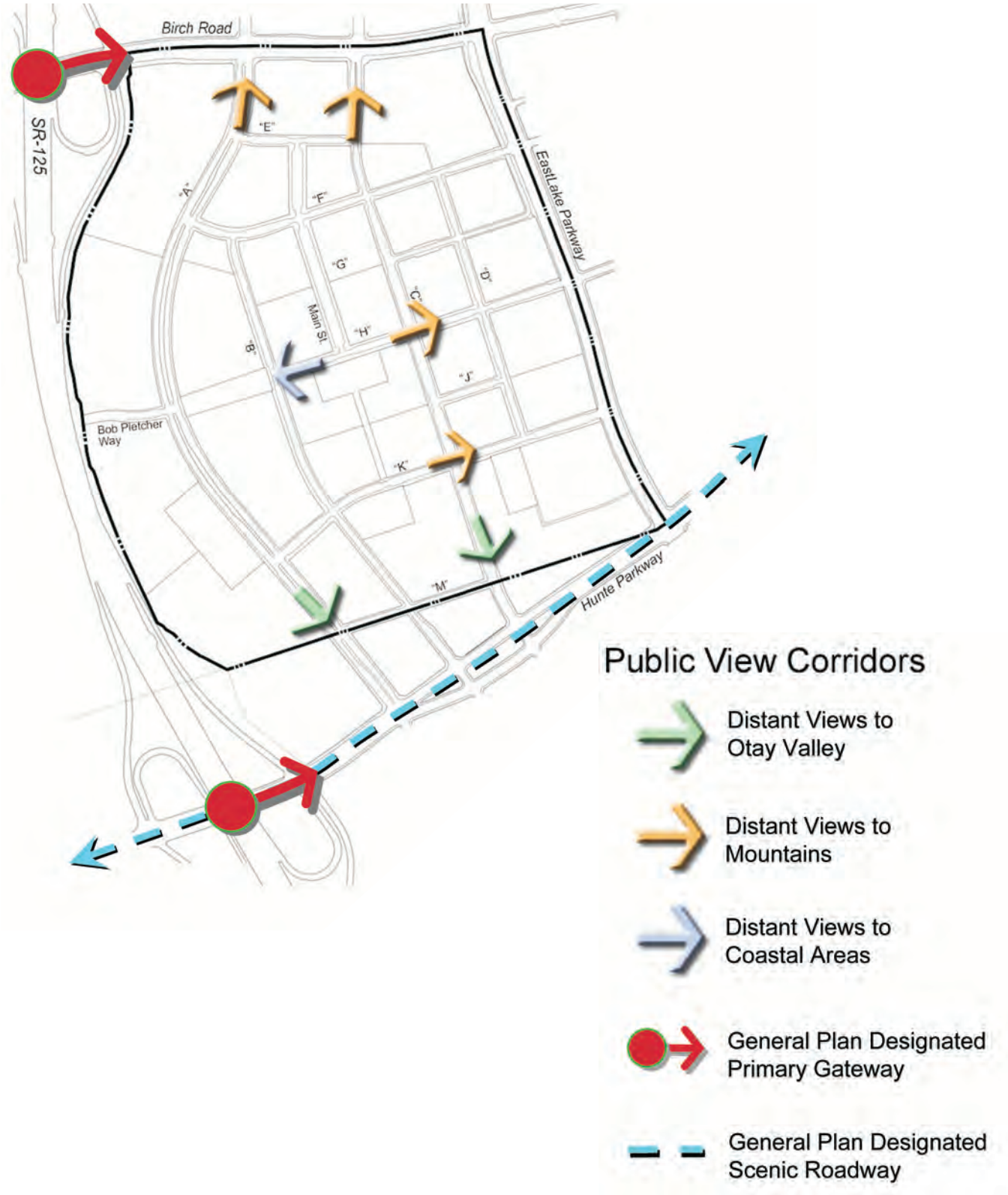
(c) Resource Management Plan

The GDP and RMP establish a ranch-wide standard that requires preservation of at least 83 percent of the steep slopes (slopes with gradients of 25 percent or greater) throughout Otay Ranch. As an implementing action of the GDP and RMP, a steep slope allocation table was provided as part of the Phase 2 RMP. This steep slope tabulation assumed 17 percent of Otay Ranch's steep slopes (1,301 acres) would be impacted by proposed development of Otay Ranch. With regard to the proposed EUC SPA Plan, the GDP and RMP allocated zero acres of natural steep slope impacts for the EUC and 66.1 acres of natural steep slope impacts for Village Nine.

The Phase 2 RMP requires that the ranch-wide preservation standard must be reviewed and monitored as additional Otay Ranch villages are processed to ensure that the ranch-wide goal of steep slope preservation is maintained. Based on tabulations for completed or approved and developing SPA Plans (Villages One, Two, portions of Four, Five, Six, Seven, Eleven and the Freeway Commercial), it has been estimated that there is a surplus of 18.9 acres of steep slopes that can be disturbed while maintaining the 83 percent slope preservation standard of the Otay Ranch GDP and Phase 2 RMP. The Phase 2 RMP further allows some flexibility on steep slope encroachment outside of the acreages allocated for each village if a justification is provided that explains why the excess encroachment would not jeopardize the ability to achieve the overall 83 percent slope preservation standard.

(2) State of California

The State of California has established a Scenic Highway program, which was enacted in 1963 to protect and enhance California's natural beauty and to protect the social and economic values provided by the state's scenic resources. Per Caltrans Scenic Highway Mapping System, there are no officially designated state scenic routes within the project area.



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0 300 600 Feet

Source: Cinti Land Planning, 2009.

Figure 4.2-1
EUC Gateways, Major View Corridors, and Scenic Roadways

B. Visual Resources Components

The characterization of existing visual resources and available scenic vistas on the project site and the surrounding areas form the basis of this aesthetics and views analysis. Aesthetics refers to visual qualities within a given field of view and may include such considerations as size, shape, color, texture, and general composition as well as the relationships between these elements. Aesthetic features often consist of unique or prominent natural or man-made attributes or several small features that, when viewed together, create a whole that is visually interesting or appealing.

Views refer to visual access to aesthetic features. Viewsheds, or the extent of a given view, are typically defined by landscape elements and building locations. Existing views may be partially obstructed or entirely blocked by modification of the environment. Conversely, modifications to the natural or man-made landscape of an area may create or enhance view opportunities.

Light impacts are typically associated with the use of artificial light during the evening and nighttime hours. Artificial light may be generated from point sources as well as from indirect sources of reflected light. Uses such as residences, hospitals, and hotels are considered light sensitive since they are typically occupied by persons who have expectations for privacy during evening hours and who are subject to disturbance by bright light sources. Wildlife habitat areas may also be considered light sensitive if the introduction of light sources would compromise the quality and function of a habitat area.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Daytime glare generation is common in urban areas and is typically associated with mid- to high-rise buildings with exterior façades largely or entirely comprised of highly reflective glass or mirror-like material from which the sun can reflect at a low angle in the periods following sunrise and prior to sunset. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights. Glare generation is typically related to either moving vehicles or sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare-sensitive uses generally include residences and transportation corridors.

C. Existing Conditions

(1) On-site

The EUC project site is generally comprised of fairly flat mesa tops and gently rolling hills. Elevations range from approximately 520 feet above mean sea level (MSL) in the southeast corner of the EUC site to a height of approximately 640 feet above MSL in the center of the property. No development presently occurs on the project site. The project area has historically been used for ranching, grazing and dry farming. Currently, no agricultural production or cattle grazing occurs on the project site. Some areas of the site are completely devoid of vegetation while other areas

support vegetation characteristic of disturbed communities, such as low-lying weedy vegetation and moderate growths of brush. The site conveys a sense of rural agricultural and open space, marked only by cattle trails, a system of dirt roads, fence lines and dirt stockpiles created as a result of the construction of SR-125 and other nearby development. The stockpiles are generally located within the west-central portion of the site. Existing views to and from the site are included in the discussion of key views, below.

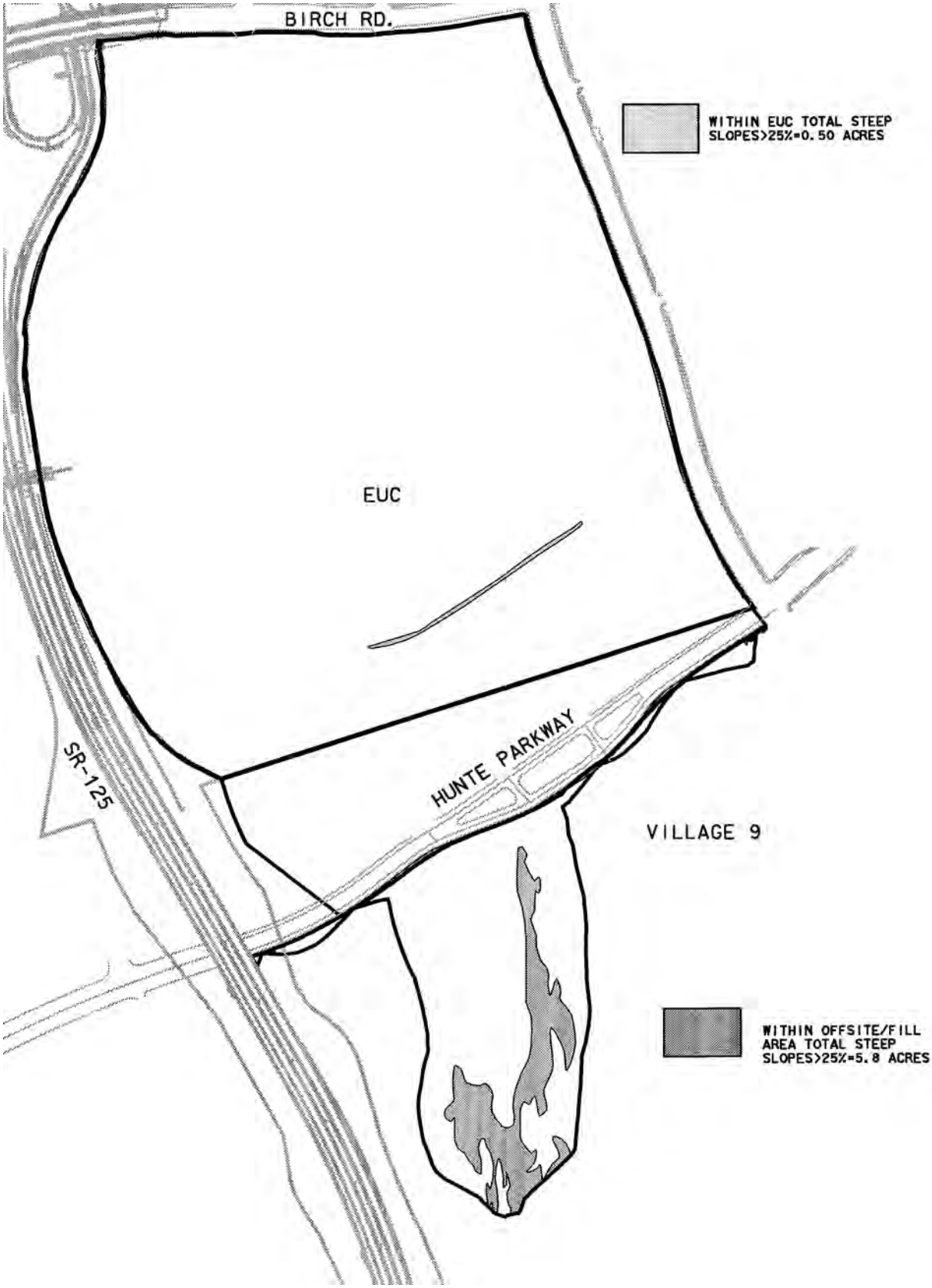
Several natural drainages occur on the site that trend east-west and flow into Wolf Canyon. The upper portion of Wolf Canyon within the EUC (herein referred to as the Wolf Canyon Fill Site) was used to dispose of excess fill generated during mass grading operations for the Planning Area Twelve Freeway Commercial Center (currently known as the Otay Ranch Town Center). The Wolf Canyon Fill site is currently covered with various stockpiles of construction material and debris. Two canyons in the southern portion of the site drain south toward the Otay River Valley. A portion of the southwestern drainage was previously filled during adjacent grading operations associated with EastLake Parkway.

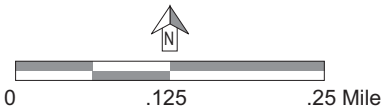
The GDP and Program EIR consider steep slope areas visual resources. The Otay Ranch GDP and Phase 2 RMP establish a ranch-wide standard that requires preservation of at least 83 percent of the steep slopes (slopes with gradients of 25 percent or greater) throughout Otay Ranch. Figure 4.2-2, *Steep Slopes Map*, on page 4.2-10 illustrates the steep slopes on the project site and in the SSA. The EUC SPA Plan area contains 0.5 acres of steep slopes in the south central portion of the site. The proposed off-site SSA south of Hunte Parkway includes 5.8 acres of slopes greater than 25 percent.

(2) Surrounding Land Uses

The predominately open space and agricultural character of the project site contrasts with the active development to the north, east and west of the site. In accordance with the Otay Ranch GDP, development has occurred or is occurring to the north (Otay Ranch Town Center), east (Otay Ranch Village 11) and west (Otay Ranch Village Seven) of the EUC, while development is planned, but has not yet occurred, in the remaining portion of the EUC and in areas to the south of the EUC (see Chapter 2, Setting, Figures 2-1 and 2-2, of this EIR). As such, the project site and lands to the south, southwest and southeast are currently vacant.

Planned development areas adjacent to the site include the University Site to the southeast across Hunte Parkway, Village Nine to the south across Hunte Parkway, and Otay Ranch Village Eight to the southwest across Hunte Parkway and SR-125 are proposed development sites. It is anticipated that that these projects will be developed in the near future. Also, SR-125 comprises the eastern border of the project site. Additional information regarding surrounding land uses is provided in Section 2.0, Environmental Setting, and Section 4.1, Land Use, Planning and Zoning, of this Draft EIR.





Source: Rick Engineering Company, 2009.

Figure 4.2-2
Steep Slopes Map

D. Key Views

Available views to a site are affected by distance, viewing angle and the number and type of visual obstacles, both natural and man-made. Views can be from stationary sources, such as homes or businesses, or from mobile sources, predominately from vehicles. The visibility of an object or area mainly depends on the distance from the viewer. The further the object or area is from the viewer, the less distinct the object/area becomes, and there is greater possibility of intervening objects blocking some or all of the view of that particular view of that site.

Figure 4.2-3, *View Locations Map,* on page 4.2-12 illustrates the locations of views from and to the project site. Views 1 to 4 are from the project site and illustrate the existing on-site conditions. Views 5 to 9 are from surrounding areas and illustrate key views to the project site. The following presents a discussion of the views of the nine vantage points illustrated in Figure 4.2-3.

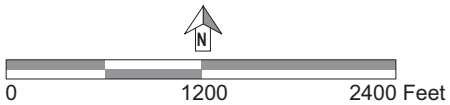
(1) On-site Views

(a) Key View No. 1: Northerly View from the Central Portion of the Project Site

Key View No. 1 shown in Figure 4.2-4, *On-site Photographs - Views 1 and 2,* on page 4.2-13 presents a northerly view from the central portion of the site. Foreground views are characterized by a landscape predominately consisting of gently sloping grassland, weedy vegetation and moderate growths of brush. Background views include rolling hills with areas of disturbed and sporadic non-native grassland in addition to disturbed, exposed soils as part of roadways and stockpile areas. This view illustrates the southerly sloping topography beginning at the northern portion of the site to the central portion of the site. No trees, rock outcrops or other unique visual features are present in either the foreground or background from this viewpoint. While not visible in this view (figure), beyond the rolling hills to the north of the EUC project site is the Otay Ranch Town Center.

(b) Key View No. 2: Easterly View from the Central Portion of the Project Site

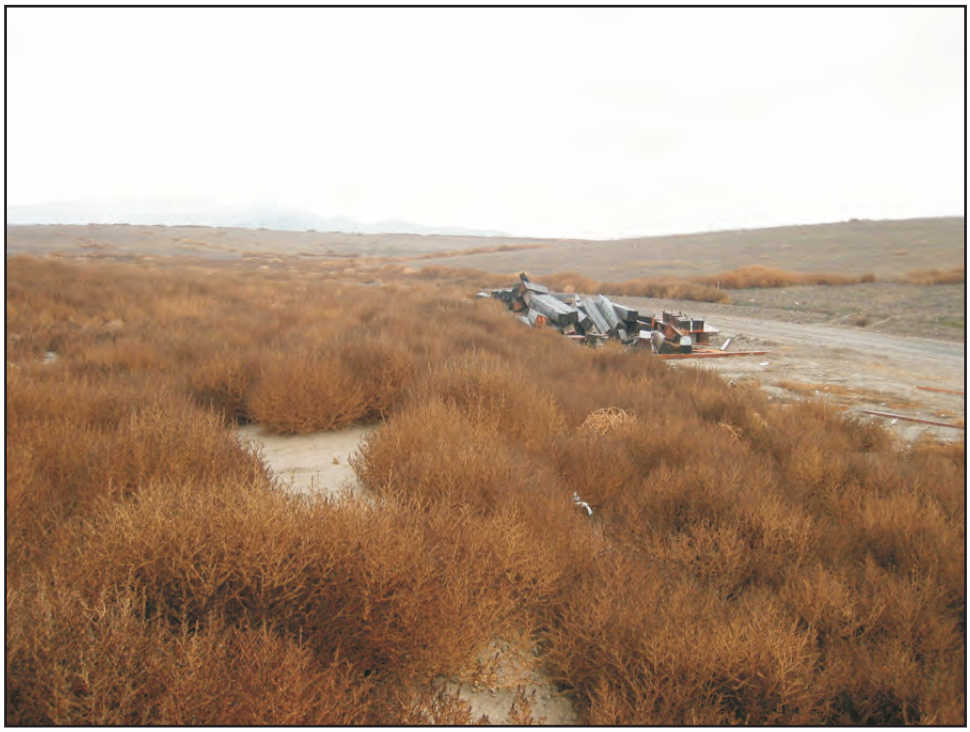
Key View No. 2, previously shown in Figure 4.2-4, presents an easterly view from the central portion of the project site. Foreground views are characterized by a landscape predominately consisting of gently weedy vegetation and moderate growths of brush, exposed soils as part of roadways and stockpile areas. Background views of the project site include rolling hills with areas of disturbed and sporadic non-native grassland. Beyond the project site in the distant background are views of the local mountains. While this view does not contain valuable views of on-site features such as trees or rock outcrops, the distant background views of the local mountains are visually interesting features from this viewpoint. However, views of the local mountains are highly limited due to intervening topography.



Source: Yahoo Local Maps, 2009.

Figure 4.2-3
View Locations Map

View 1: Northern view from central portion of project site.



View 2: Easterly view from central portion of project site.

Figure 4.2-4
On-Site Photographs
View 1 and 2

(c) Key View No. 3: Southerly View from the Northern Portion of the Project Site

Key View No. 3 shown in Figure 4.2-5, *On-site Photographs - Views 3 and 4,* on page 4.2-15 presents a southerly view from the northern portion of the site. Foreground views are characterized by relatively flat, disturbed open space areas that have been occupied by construction staging and/or miscellaneous storage uses.

Background views of the site include rolling hills covered by non-native grassland. No trees, rock outcrops or other unique visual features are present in either the foreground or background from this viewpoint.

(d) Key View No. 4: Westerly View from the Central Portion of the Project Site

Key View No. 4, previously shown in Figure 4.2-5, presents a westerly view from the central portion of the site. This viewpoint provides a view of the construction activities associated with the SR-125 toll highway. Dirt roadways and construction stockpile areas characterize this view. Besides the limited view of the development within Village Seven below the SR-125 overpass, no significant long-range views of surrounding uses are available from this vantage. No trees, rock outcrops or other visually interesting features are present in either the foreground or background from this viewpoint.

In addition to the on-site views represented in Key Views No. 1 through 4, the project site is situated along the higher elevations of the SR-125 corridor and supports views of prominent, distant features. Background views include views of the mountains to the north and east and panoramic views of the Otay River Valley to the south. The highest elevations in the EUC may also have views of Pt. Loma to the north. These distant views are considered a scenic resource.

(2) Views to the Project Site

(a) Key View No. 5: Southeasterly View of the Project Site from Birch Road

Key View No. 5 shown in Figure 4.2-6, *Views to Site - Views 5 and 6,* on page 4.2-16 presents a southeasterly view of the project site from Birch Road. This view is representative from Otay Ranch Town Center and vehicular travelers along Birch Road. Available foreground views consist of disturbed open space areas. Due to the rise in topography of the site along portions of the northernmost boundary of the project site, background views beyond the site are highly limited along Birch Road for vehicular travelers. Minimal background views consist of include rolling hills covered by non-native grassland. No trees, rock outcrops or other unique visual features are present in either the foreground or background from this viewpoint.

View 3: Southerly view from northern portion of project site.

View 4: Westerly view from central portion of project site.

Figure 4.2-5
On-Site Photographs
View 3 and 4

View 5: Southeasterly view of project site from Birch Road.

View 6: Southwesterly view of project site from the intersection of Birch Road and Eastlake Parkway.

Figure 4.2.6
Views to Site
Views 5 and 6

(b) Key View No. 6: Southwesterly View of the Project Site from East of the Intersection of Birch Road and EastLake Parkway

Key View No. 6, previously shown in Figure 4.2-6, presents a southwesterly view of the project site from the Intersection of Birch Road and EastLake Parkway. This view is representative of views from existing residences within Village Eleven along the street frontage of Birch Road, as well as for vehicular travelers along Birch Road. Views of the project site include undeveloped, disturbed areas of hillside comprising the eastern boundary of the site. However, as can be seen from this photograph, development as part of Village Eleven is currently underway on the southeast corner of Birch Road and EastLake Parkway. Once completed, this development would substantially, if not completely, block available views to the project site. No trees, rock outcrops or other unique visual features are present in either the foreground or background from this viewpoint.

(c) Key View No. 7: Westerly View of the Eastern Edge of the Project Site from Village Eleven East of the Intersection of EastLake Parkway and Crossroads Street.

Key View No. 7 shown in Figure 4.2-7, *Views to Site – Views 7 and 8*, on page 4.2-18 presents a westerly view of the eastern edge of project site from Village Eleven from the intersection of EastLake Parkway and Crossroads Street. This view is representative of views from future residences and the future school site along EastLake Parkway within Village Eleven, as well as pedestrian and vehicular travelers along EastLake Parkway. Views of the project site are limited to foreground views of undeveloped, disturbed areas of hillside comprising the eastern boundary of the site. No trees, rock outcrops or other unique visual features are present in either the foreground or background views from this viewpoint.

(d) Key View No. 8: Westerly View of the Project Site from Hunte Parkway

Key View No. 8, previously shown in Figure 4.2-7 presents a westerly view of the eastern edge of the project site from Hunte Parkway near its intersection with EastLake Parkway. This view is representative of views of pedestrian and vehicular travelers along Hunte Parkway. Views of the project site are limited to foreground views of undeveloped, disturbed areas of hillside comprising the eastern boundary of the site. The east edge of the project site was previously graded to allow for development of EastLake Parkway. No trees, rock outcrops or other unique visual features are present in either the foreground or background from this viewpoint.

(e) Key View No. 9: Easterly View Toward the Project Site from Village Seven

Key View No. 9 shown in Figure 4.2-8, *Views to Site View 9*, on page 4.2-19 presents an easterly view towards the project site from Village Seven. As shown in View No. 9, views of the EUC would be limited to those facilities or structures on the easternmost edge of Village Seven. Available views of the project site would be highly limited due to the lower topography of Village Seven and the higher elevation of SR-125. The intervening SR-125 and topographical variations also substantially obstruct views of the local mountains beyond the EUC site in the distant background.

View 7: Westerly view of eastern edge of Project Site from Village 11 at intersection of Eastlake Parkway and Crossroads Street.

View 8: Westerly view of project site from Hunte Parkway.

Figure 4.2-7
Views to Site
Views 7 and 8

View 9: Easterly view towards project site from Village 7.

Figure 4.2-8
Views to Site
View 9

No trees, rock outcrops or other unique visual features are present in either the foreground or background from this viewpoint.

In addition, vehicular travelers along SR-125 have easterly views across the site, which generally consist of the site's fairly flat mesa tops and gently rolling hills, beyond which is the developing Village Eleven. In the distant background are views of the local mountains. While views from SR-125 do not contain valuable views of on-site features such as trees or rock outcrops, the distant background views of the local mountains are visually interesting features from this viewpoint. However, views of the local mountains from the freeway are limited due to intervening topography and development.

E. Lighting/Astronomical Dark Sky

Two major observatories are located within 50 miles of the project area: Mount Laguna Observatory, located approximately 20 miles from the EUC SPA Plan area and Palomar Mountain Observatory, located approximately 37 miles from the EUC SPA Plan area. Both of these observatories use large telescopes and conduct astronomical and other related research. Light pollution within a 50-mile radius of these observatories is controlled through implementation of the County of San Diego's Light Pollution Code (Title 5, Division 9). The Light Pollution Code covers the installation and use of outdoor light fixtures within the unincorporated areas of the county. Areas within a 15-mile radius of both observatories are more strictly regulated than the rest of the unincorporated areas. The EUC SPA Plan is outside the jurisdiction of the County. The City does not have a dark sky ordinance.

Currently, the project site is undeveloped and not lit at night. However, the Otay Ranch Town Center to the north and Village Seven to the east are currently developed with urban uses and are lit at night. In addition, Village Eleven to the east is currently under construction and the University site to the southeast and Village Nine to the south have been approved for development as part of the Otay Ranch Master Plan. Given that the surrounding areas either are developed, are developing or have been approved for development, the proposed project is considered to be part of an urban-lighted area, particularly when viewed from a distance of 50 miles.

4.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts regarding aesthetics would be significant if the proposed project would:

Threshold 1: *Have a substantial adverse effect on a scenic vista;*

Threshold 2: *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic highway;*

Threshold 3: *Substantially degrade the existing visual character or quality of the site and its surroundings;*

Threshold 4: *Be inconsistent with General Plan, GDP or other objectives and policies regarding visual character thereby resulting in a significant physical impact.*

Threshold 5: *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

In addition, the Otay Ranch GDP Program EIR found that implementation of the Otay Ranch GDP would result in significant ummitigable impacts to landform/visual resources. As this EIR tiers from the Otay Ranch GDP Program EIR, significant impacts may result if the proposed SPA Plan would:

Threshold 6: *Alter areas of sensitive landforms and grade steep slopes that may be visible from future development and roadways that negatively detract from the prevailing aesthetic character of the site or surrounding area.*

4.2.3 IMPACT ANALYSIS

As discussed in Section 3.0, two alternative grading options are being considered for the proposed project. The analysis of aesthetics/landform impacts applies to both grading options, unless otherwise noted.

Threshold 1: *Have a substantial adverse effect on a scenic vista; and*

Threshold 2: *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.*

A. EUC SPA Plan Area

No designated scenic vistas are located within the project site. In addition, while there are several partially elevated views across the project site, those views are characterized as undulating rolling hills covered by non-native grasslands and disturbed areas with no distinct on-site visual features. The EUC site, however, is situated along the higher elevations of the SR-125 corridor and supports views of prominent, distant features. Background views may include the mountains to the north and east, Pt. Loma to the northwest and panoramic views of the Otay River Valley to the south.

The analysis of the proposed project's potential impacts on views considers the changes in key views to and from the project site. Figure 4.2-3 (previously shown) illustrates the locations of views to and from the project site. Anticipated changes to key views are discussed below.

(1) On-site Views

(a) Key View Nos. 1, 2, 3 and 4

Key View Nos. 1 to 4 (previously shown in Figures 4.2-4 and 4.2-5) are located within the EUC interior. With the build-out of the EUC SPA Plan, interior views would be urban in character. Under the design provisions of the EUC SPA Plan's FBC and permitted building types, public views along the streets and open space areas interior to the SPA Plan would encompass an urban public realm including landscaped open spaces such as the civic plaza, parks, paseos, and trails; enhanced sidewalk and streetscape features, including coordinated pedestrian lighting, street furniture, public art, canopy trees, and pavement treatment; landmark buildings with high quality architecture and prominent building entrance areas; and mixed-use frontages with sidewalk cafes and storefront or permeable edges.

Distant views of the mountains, Pt. Loma and Otay River Valley from the EUC site are considered scenic and are currently available on the site. Public access to these views however is limited given the undeveloped condition of the site. With implementation of the proposed project, these views would remain available in an urban context with greater public access to the views. Views would be supported by the EUC SPA Plan's "grid" development pattern, including the linear, east-west Civic park, and views would also be facilitated from the upper floor of buildings in various locations within the EUC. In addition, the FBC and mandatory design review process would require evaluation of building design and elevations facing public views (from Town Center to the north, Village Seven to the west, and Village Eleven to the east) to ensure that impacts on scenic vistas are minimized. Figure 4.2-1 (previously shown) illustrates important sightlines and view corridors that would be protected by the EUC's "grid" development pattern. As viewed within the EUC interior, the EUC SPA Plan would provide a high-quality urban environment. In addition, the proposed street grid system and views from the upper floors of buildings would preserve distant views from the EUC, which would become more available to the public. Thus, view impacts as a result of development of the EUC SPA Plan would be less than significant.

(2) Views to the Project Site

(a) Key View Nos. 5, 6, 7 and 8

Key View Nos. 5 to 8 (previously shown in Figures 4.2-6 to 4.2-7) present views of the project site from surrounding land uses and vehicular travelers along adjacent arterial roadways. Generally, existing foreground views within these key view locations are characterized by a landscape predominately consisting of gently sloping grassland, weedy vegetation and moderate growths of brush. Existing east-facing views across the project site include views of distant local mountains, depending on intervening topography and development. As the EUC SPA Plan area would be developed, the character of views from perimeter locations would change from a rural open space to a highly urbanized mix of buildings, landscaping, signage, and other uses. With respect to Key View locations the following changes would occur:

Key View No. 5 is from the north edge of the project site near Birch Road, west of the future Street C. At buildout of the EUC, the southeasterly view from this vantage point would encompass the future Northeast Neighborhood District (District 2). According to the FBC, the Northeast Neighborhood District is residential, with buildings having a minimum average height of three stories, or 40 feet, and ranging from one to seven stories along Street C and three to seven stories along Birch Road. As such, future views from this vantage point would consist primarily of multi-story, multi-family buildings and landscaping along the EUC's north edge consistent with the urban vision of the project. Views directly south of this vantage point would include the Gateway Mixed-Use Commercial District with buildings ranging from one to seven stories in height. Views south through the site would be accommodated by the Streets A and C corridors. Eastern views "down" Birch Road of the distant mountains would not be obstructed by the proposed project.

Key View No. 6 is from the northeast corner of the project site east of EastLake Parkway, south of Birch Road. The southwesterly direction of the view would encompass the future Northeast Neighborhood District (District 2). According to the FBC, the Northeast Neighborhood District is residential, with buildings having a minimum average height of three stories, or 40 feet, and ranging from three to seven stories along EastLake Parkway and Birch Road. Future views from this vantage point would encompass a highly urban development consisting primarily of multi-story, multi-family buildings along the EUC's east edge.

Key View No. 7 is from the east side of the EUC, east of EastLake Parkway in the approximate location of the future Street H. The west-facing direction of the view would encompass the Eastern Gateway District (District 7). According to the FBC, the Eastern Gateway District is mixed use with buildings having a minimum average height of three stories, or 40 feet, and ranging from three to twelve stories along EastLake Parkway and Street H. As this is a gateway area for the EUC, future views from this vantage point would consist of landmark buildings that frame the entry to Street H (Main Street) and other gateway features such as special landscaping. While the development area is above the height of EastLake Parkway in this area, the unobstructed Street "H" corridor may provide views of taller buildings in the Mixed-Use Civic/Office district at its westerly terminus.

Key View No. 8 is looking towards the southeast corner of the project site east of EastLake Parkway, on Hunte Parkway. At buildout of the EUC, the west-facing view would encompass the future Southeast Neighborhood District (District 10) in the foreground and Districts 9 and 8 in the distance. According to the FBC, the Southeastern Neighborhood District is residential, with buildings having a minimum average height of three stories, or 40 feet, and ranging from three to seven stories along EastLake Parkway. The EUC's future pedestrian bridge across EastLake Parkway would also be visible from this vantage point. Future views from this vantage point would encompass a highly urban development consisting primarily of multi-story, multi-family buildings and landscaping along the EUC's east edge. Future development of the remainder of the EUC south of the project site would likely limit future views of this portion of the project site.

The EUC SPA Plan would ensure that future views of the project site encompass high quality development, coordinated landscaping, distinctive gateway features, and iconic, landmark

buildings. Public uses in the surrounding area having existing views across the project site, including any distant ocean views from areas to the east of EastLake Parkway and mountain views from areas to the west of SR-125, would be located a sufficient distance from the EUC so that the proposed project would not substantially block existing scenic horizon views. Areas of Village Eleven in the vicinity of EastLake Parkway are not currently developed and do not have any existing panoramic views beyond the project site. Therefore, the EUC SPA Plan would have a less-than-significant impact with respect to views from surrounding locations.

(3) Scenic Highways

As stated in Section 4.2.1, *Existing Conditions*, on page 4.2-1, the City of Chula Vista General Plan identifies designated Scenic Roadways in the City. Hunte Parkway is designated a Scenic Roadway. With the exception of Hunte Parkway, which is not yet developed in the project vicinity, views of the project site are substantially limited, or even non-existent, from these roadways due to distance, intervening development and/or topography. This designated Scenic Roadways is illustrated in Figure 4.2-1. The intent of the scenic designation for Hunte Parkway is based on the availability of panoramic scenic views to the south consisting of the Otay River Valley and views to the east of the mountains. As Hunte Parkway is elevated in comparison to the valley, scenic views of the valley are prominently available and represent a valued scenic vista.

Currently, the alignment of Hunte Parkway terminates at its intersection with EastLake Parkway, located at the southeastern corner of the EUC site. As shown in Key View No. 8 on Figure 4.2-6, existing views of the project site from existing Hunte Parkway are limited to foreground views of undeveloped, disturbed areas of hillside comprising the southern and eastern boundaries of the site.

Hunte Parkway is proposed to continue west from its existing terminus at EastLake Parkway in a northeast-southwest direction to the SR-125 toll road facility. Only an 89-foot segment of Hunte Parkway in the southeast corner of the project site would be adjacent to the proposed EUC SPA Plan (see Section 3, *Project Description*, Figure 3-5). The off-site soils stockpiling area (SSA) would be graded as part of the proposed project (see Section 3, *Project Description*, Figure 3-10), but would not include any land uses that would block views to the south. Development would occur adjacent to the 89-foot portion Hunte Parkway, but the structures would be on top of an approximately 42-foot landscaped slope. As such, development within the EUC would not block views to the east and south through the Hunte Parkway corridor. Therefore, no impact on views from Hunte Parkway would occur.

Upon completion of the future Hunte Parkway roadway, views to the north of the southern portion of the site would be available to pedestrian and vehicular travelers, although future development of the remaining development areas in the EUC south of the project site would likely limit future views into the site from this vantage point. A direct, north-facing view across the project site from Hunte Parkway would occur along an 89-foot segment of Hunte Parkway in the southeast corner of the project site. As the 89-foot segment would be developed under the SPA Plan, it would be subject

to the requirements of the City's Scenic Roadway standards. Despite the lack of visual resources or scenic vistas to the north of the future Hunte Parkway, any development that would occur to the north would need to be consistent with General Plan Policy LUT 13.4. Policy LUT 13.4 requires that development in the potential "future SPA expansion" area be subject to design review to ensure that the design of uses within the portion of the project adjacent to Hunte Parkway would enhance the scenic quality of the route. In accordance with the requirements of Policy LUT 13.4, and to address a potentially significant impact on this scenic route, mitigation has been prescribed that requires the 89-foot portion at the southeast edge of the EUC SPA Plan's District 10 abutting Hunte Parkway to be designed in a manner that ensures future development will enhance the scenic quality of the route, including creating a pleasing streetscape through landscaping and coordinated signage and utilities. The proposed project's Form Based Code indicates a 0-15-foot setback along the adjoining Hunte Parkway (Exhibit II-36b) and indicates building heights averaging 40 feet in this area (FBC, Exhibit III-49); however, building heights greater than 40 feet would be allowable.

B. Off-Site Soils Stockpiling Area

No officially designated scenic vistas or resources are contained within the SSA although views are available to the Otay River Valley to the south from this location. Stockpiling activities would include filling of low areas and would not substantially raise the site. Furthermore, soils placed on the site would be graded in a manner that would not block views across the SSA. Therefore, the SSA would have no significant impact with respect to scenic vistas.

C. Off-Site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area is primarily undeveloped open space. Although no officially designated scenic vistas or resources are contained within the SCSL Improvement Area, riparian habitat occurs within the Salt Creek in the SCSL area. The SCSL Improvement would use a jack-and-boring technique to drill under the riparian habitat and, therefore, conserve this potential visual resource. Therefore, no scenic resources would be removed as a result of the pipeline installation. The SCSL Improvement would involve short-term construction of an underground pipeline and appurtenant structures and, as such, would not result in any permanent surface structures that would impact views across the SCSL Improvement site. Therefore, activities within the SCSL Improvement Area would have no significant impact with respect to scenic vistas.

D. Off-Site Poggi Canyon Sewer Improvement Area

The PCSI Area is located within the existing Olympic Parkway/Brandywine Avenue intersection. No designated scenic vistas or resources are contained within this site. The PCSI would involve the short-term construction of an underground pipeline and, as such, would not result in any permanent surface structures that would impact views in this area. Therefore, the PCSI would have no significant impact with respect to scenic vistas.

Threshold 3: *Substantially degrade the existing visual character or quality of the site and its surroundings; and*

A. EUC SPA Plan Area

The presence and use of heavy machinery (e.g., large trucks, cranes, bulldozers, etc.) during construction of the project is considered a short-term visual impact. As visual impacts during construction are temporary by their nature, short-term construction impacts are deemed less than significant. The focus of this analysis is on the long-term physical changes that are permanent in nature. The following discussion analyzes the change in the visual character of the site based on key views to and from the site, the nature and extent of the overall proposed development in relation to surrounding land uses, and consistency with applicable regulatory policies.

Analysis of the project's impacts on visual quality and character considers the changes in key views from and to the project site.

As discussed under Thresholds 1 and 2 above, Key View Nos. 1 to 4 present views within the project site. The development of the site would change the undeveloped, open and somewhat natural character of the on-site rolling hills to one of high-density urbanized uses. Although the EUC SPA Plan would result in urban character consistent with the GP and GDP, the change from the existing broad open space to a high-density urban environment would represent a significant change and impact on the existing visual character and quality of the site.

Also, as discussed under Thresholds 1 and 2 above, Key View Nos. 5 to 8 present views of the site from surrounding land uses and vehicular travelers along adjacent arterial roadways. The change in the visual character of the site would affect a limited existing population. Nonetheless, as development of the site would change the undeveloped, open and somewhat natural character of the on-site rolling hills to one of high-density urbanized uses consistent with the GP and GDP, this change in the visual character and quality of the site is considered significant.

The design and visual strategy is discussed in Section 3.0, Project Description, of this EIR. The EUC SPA Plan sets forth a flexible land use pattern of highly diverse architecture and a highly urban character based on the urban design policies of the Otay Ranch GDP. See analysis under Threshold 4 below.

Threshold 4: *Be inconsistent with General Plan, GDP or other objectives and policies regarding visual character thereby resulting in a significant physical impact.*

A consistency analysis of the proposed EUC SPA with applicable General Plan visual and landform policies is provided in Table 4.2-1, *Project Consistency with Adopted General Plan Landform and Visual Policies,* on page 4.2-27. As shown in the table, the project would be consistent with the applicable landform and visual policies in the General Plan.

Table 4.2-1

Project Consistency with Applicable General Plan Landform and Visual Policies

Applicable Policies	Evaluation of Consistency
LUT 6.1, 6.2, 6.3, 6.6 ,6.7	The proposed SPA is **consistent** with these relevant policies. The proposed building types within a multi-use pedestrian setting would be oriented to complement the Otay Ranch Town Center to the north, which is intended to serve as a more traditional automobile-oriented regional shopping center for the Otay Ranch Community. The EUC's location adjacent to the SR-125 freeway and surrounded by arterial roads, allows it to provide a unique mix of regionally oriented uses that would complement surrounding land uses in the existing and proposed Villages surrounding the site. Compliance with the design requirements and guidelines in the FBC and implementation of the Design Review process would ensure that high quality development occurs within the EUC. Section 4.1, Land Use, Planning and Zoning, 4.3, Transportation, 4.4, Air Quality, 4.5, Noise and 4.7, Biological Resources of this EIR address potential impacts to significant natural and environmental resources which may affect surrounding neighbors. Visual quality and aesthetic concerns (described in this section) may also impact surrounding neighbors. Proposed buildings and land uses would be designed to complement adjacent uses through the use of setbacks, landscaping, massing, building materials, etc, to help the development blend with the character and architecture of surrounding land uses. The proposed EUC SPA Plan would be comprised of various districts that have been designed to be compatible with existing neighboring uses. For example, the "Neighborhood District" located on the eastern and southern perimeters of the site would be consistent with the adjacent uses proposed in Village Eleven, Village Nine and the University Site. Building height transitions would occur throughout the site, with generally taller mid- and high-rise buildings located within the central and western portions of the site, as not to conflict with adjacent sensitive uses to the east and south. The proposed EUC SPA Plan establishes design guidelines and standards through an FBC to ensure the collective design character of buildings. Commercial building design guidelines that require architectural character appropriate to the setting, including vertical and horizontal offsets to reduce visual bulk, step back and horizontal banding where buildings exceed three stories, deep shadow lines to provide relief from sun and glare, treatment of all sides of a building with compatible colors and materials would complement and respect the character of surrounding neighborhoods and uses. The proposed EUC SPA Plan includes performance standards in the FBC that would ensure that storage areas be screened from any public right-of-way. No salvage yards are anticipated within the EUC.

Table 4.2-1 (Continued)

Project Consistency with Applicable General Plan Landform and Visual Policies

Applicable Policies	Evaluation of Consistency
LUT 7.1, 7.2, 7.3, 7.4	The proposed SPA is **consistent** with these relevant policies. See analysis above for LUT 6.2 and 6.3. The proposed EUC SPA Plan is **consistent** with this policy because existing and future residential uses to the east and south of the project site have been accounted for in the design of the EUC site. While the entire site would contain a mix of land uses, the "Neighborhood District" located on the eastern and southern perimeters of the site would provide an appropriate transition from the adjacent uses to the higher density commercial, business and civic uses within the central portion of the EUC site. In addition, the EUC contains distinct land use districts with appropriate buffers via setbacks, building articulation and landscaping to ensure avoidance of potential adverse impacts. The EUC provides landscaping and/or open space buffers between private and public spaces. Performance standards are provided within the FBC that regulate outdoor storage to ensure screening of outdoor storage areas from any public right-of-way. The project site and adjacent Villages/Planning Areas are planned for development as part of the Otay Ranch GDP. The GDP, as well as the EUC SPA Plan include street, sidewalk, trail, setback and landscape standards that would provide appropriate buffers between the project site and adjacent land uses. Such standards would be ensured through the Design Review process. All areas surrounding the EUC are either developed or planned for development as part of the Otay Ranch Master Plan. However, landscaped areas, as necessary, would be provided around the perimeter of the project site to enhance the aesthetic character of the site from off-site vantages.
LUT 8.2, 8.3,8.4, 8.5	The proposed SPA is **consistent** with these policies because it contains provisions for cultural arts, entertainment, specialty retail and commercial recreation uses within the Mixed Use Civic/Office Core District. The FBC provides design guidance and regulations for each of the Districts to ensure that buildings are appropriate to their context, as well as relationship to the other districts within the EUC. The EUC Parks Master Plan contains regulations that address the design, location and size of publicly accessible urban open spaces. It includes place-making elements with parks, promenades, pedestrian connections, and other amenities. The proposed SPA includes provisions that require clear glass, penetrable street frontages, and other architectural and enhanced pedestrian features that ensure a pleasant pedestrian experience throughout the EUC. All elevations exposed to the pedestrian view shall be enhanced to ensure no "blank walls" face pedestrian corridors. The SPA Plan would provide a combination of in lieu fees and sufficient area for local parks/town squares and plazas, or other park facilities to meet its needs on-site and some off-site, as required by the EUC Parks Master Plan prepared as part of the SPA Plan. The parks plan would implement a series of interconnecting trails and corridors to link together parks and open space facilities on-site and the surrounding recreational facilities. Most of the park and open space design policies would be implemented at the site design level of

Table 4.2-1 (Continued)

Project Consistency with Applicable General Plan Landform and Visual Policies

Applicable Policies	Evaluation of Consistency
	planning which would occur at the Design Review process subsequent to SPA Plan approval. Please refer to Section 4.11.5, Parks Recreation, Open Space, and Trails, in this EIR for further discussion of parks and recreational facilities.
LUT 9.1	The EUC SPA Plan is **consistent** with this policy in that it incorporates Gateway Districts including the Gateway Mixed Use Commercial District at Birch Road, and the Eastern Gateway District, located at EastLake Parkway. The Gateway Mixed Use District would serve as a transition portal to the EUC from the surrounding area through early phase landmark buildings and prominent corner treatment. "Iconic" architecture and "urban inspired" signage would announce the district from SR-125, and active uses on the corners would attract customers and create excitement. Also serving as a transition portal, the Eastern Gateway District would include a unique distinguishable entrance with landmark buildings that frame the entry to Main Street. These areas, including the SPA Plan entrance at Hunte Parkway are designated as "Special Planning Areas," in which landscaping would be designed to further distinguish the gateway character of these streets. In addition, a City Gateway sign will be placed in the median of Birch Road, just east of SR125 as called for in the GP.
LUT 10.1, 10.2, 10.6, 10.7	The proposed SPA is **consistent** with these policies in that the FBC contains landscaping standards and guidelines that also address street furniture for the EUC, and complement the EUC Parks Master Plan. The FBC provides public parks, plazas and other open space. Improvements under the EUC's Urban Parks, Recreation, Open Space, and Trails include six public parks situated throughout the EUC, jogging paths, Main Street Promenade and a circuit walk. The FBC also requires a distinctive dominant, contemporary style street furniture design theme for each District. Street furniture includes benches and other seating, bike racks, and trash receptacles. In addition, the SPA contains language that would guarantee "well-designed, comfortable bus stops", including illustratives for transit facilities such as bus shelters, benches and trash receptacles. The SPA contains guidelines for a Utility Plan that locates utility, traffic control and other cabinets and hardware to be located in the public right-of-way in an unobtrusive manner, including screening. The applicant will also work with utility providers to ensure that utility facilities fit within the context of their surroundings and do not cause negative visual impacts.
LUT 11.1, 11.5	The proposed SPA plan is **consistent** with these policies because it identifies important sightlines and view corridors that will be enhanced and protected by the "grid" development pattern within the EUC. In addition, as projects are proposed in the EUC, they would be required to go through a Design Review process, including site plan and architectural review, to ensure consistency with the design standards and guidelines set forth in the FBC. This would ensure that high quality and logical development occur at build-out in the EUC. For matters relevant to proper development and use of property within the EUC, where standards conflict with the CVMC, the SPA regulations would apply.

Table 4.2-1 (Continued)

Project Consistency with Applicable General Plan Landform and Visual Policies

Applicable Policies	Evaluation of Consistency
LUT 13.1, 13.4	The proposed SPA plan is **consistent** with these policies because the grid street system would provide unobstructed views in all cardinal directions throughout the EUC, including existing views of the mountains to the east and Otay River Valley to the south. Taller development in the EUC would also take advantage of distant views to Pt. Loma to the northwest and other panoramic views. **T**he 89-foot portion of District 10 abutting Hunte Parkway, a designated scenic roadway, would be designed to ensure that future development will enhance the scenic quality of the route, including creating a pleasing streetscape through landscaping and varied building setbacks, low-rise development, and coordinated signage and utilities.
LUT 94.4, 94.5, 94.6	The proposed EUC SPA plan is **consistent** with these policies because it is proposed to be developed with mid- and high-rise buildings to front public streets and designed with a distinctive urban character. The FBC would provide design guidelines to implement this policy. The BRT lines and transit stop would be centrally located and within ¼ mile of most areas within the EUC. A detailed implementation process would be incorporated into the FBC, including design review of subsequent development projects. Buildings and spaces would be designed to support and enhance dining and entertainment, especially along Main Street. As previously stated, space would be provided within the Civic Core for arts and cultural activities. Plazas and paseos would be provided through the plan, including within the employment park. The development of the public spaces and place making within the EUC is a critical element for achieving the goal of creating an urban environment with well-integrated parks and other public places. See also Table 4.1-2.

An analysis of compatibility with GDP Urban Design policies is presented in Table 4.2-2, Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan, on page 4.2-31. As discussed in the analysis in Table 4.2-2, the EUC SPA Plan is responsive to all of these character/urban design policies, particularly in the design concepts for the "public realm." The proposed project would be consistent with GDP policies that address the aesthetic character of the EUC, including the potential for views.

As previously discussed, the project's east-west and north-south grid street system would allow views from some of the SPA Plan's public streets and buildings. In addition, the EUC SPA Plan would comply with GDP policies to establish view corridors that focus on and connect key visual landmarks in that the FBC provides identification of important sightlines and view corridors and describes how view corridors will be enhanced. The project would be consistent with GDP policies that require that activities to flow out from buildings onto public spaces to create vitality and excitement along the street front. The FBC incorporates design guidelines that encourage public

Table 4.2-2

Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan

Applicable Policies	Evaluation of Consistency
Part II, Chapter 1, Land Use Plan, Section F.12.c EUC Urban Design Policies	
Urban Design Policy. Along main thoroughfares and primary pedestrian ways, off-street parking shall be provided primarily behind buildings or within parking structures. Exceptions that allow parking on an interim basis adjacent to such thoroughfares and pedestrian ways (to accommodate build-out of development) may be permitted when the interim status of the parking can be justified.	**Consistent.** The proposed project would allow for off-street parking behind buildings or within parking structures. The design of interim parking facilities is addressed within the FBC. Additional provisions for addressing the duration and design treatment of interim/temporary parking are also provided. The FBC describes off-street parking in Section 03.15.000.
Orient buildings to create a continuous façade to primary pedestrian spaces and primary pedestrian ways. Define the primary pedestrian areas and ways to provide a continuous pedestrian experience.	**Consistent.** The proposed FBC provides standards (Section 03.08.000 Standards for Pedestrian Corridors, Sidewalks and Trails and Section 03.11.000 Building Placement & Orientation Guidelines) to achieve and create a continuous façade of buildings, structures and/or landscaping along primary pedestrian ways and spaces.
Emphasize an urban street scene by locating buildings at the sidewalk edge, except where creating pedestrian-oriented spaces such as patios, plazas, malls and squares.	**Consistent.** The proposed EUC urban design policy requiring the location of buildings generally at the sidewalk edge, as a design feature of the proposed project, in compliance with the FBC, Section 03.08.000 Standards for Pedestrian Corridors, Sidewalks and Trails and Section 03.11.000 Building Placement & Orientation Guidelines).
Buildings fronting on primary pedestrian spaces should contain uses that support pedestrian activities such as dining, retail sites and entertainment, and cultural experiences.	**Consistent.** The proposed EUC urban design policy requires buildings on primary pedestrian spaces to support pedestrian activities, such as dining, retail, entertainment, and cultural experiences, would be implemented as a design feature of the proposed project in compliance with the FBC, Chapter 2, District Regulations and Design Guidelines and the district specific Design Framework Plans.
Individual buildings or building clusters should incorporate elements of art, which can be viewed and experienced from adjacent public space.	**Consistent.** The proposed EUC urban design policy requiring individual buildings or building clusters to incorporate elements of art that can be viewed and experienced from adjacent public space would be implemented as a design feature of the proposed project as articulated within the Design Framework Plan Exhibits for each district (FBC Chapter 2).
To create vitality and excitement, activities should flow out from buildings onto public spaces (e.g., sidewalk cafes, street vendors, sidewalk entertainment or other inviting pedestrian features).	**Consistent.** The proposed EUC urban design policy requiring activities that flow out from buildings onto public spaces (e.g., sidewalk cafes, street vendors, sidewalk entertainment or other inviting pedestrian features, such as a farmers market) would be implemented as a design feature of the proposed project in accordance with the FBC in compliance with the FBC, Chapter 2, District Regulations and Design Guidelines and the District Specific Design Framework Plans.

Table 4.2-2 (Continued)

Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan

Applicable Policies	Evaluation of Consistency
Buildings should incorporate design features, which complement a pedestrian scale, such as horizontal components, overhangs, façade detail, display areas, and pedestrian seating.	**Consistent.** The proposed EUC urban design policy requiring buildings to incorporate design features that complement a pedestrian scale, such as horizontal components, overhangs, façade detail, display areas, and pedestrian seating are depicted within the Building Typology exhibits within Chapter 3 (Section 03.03.000) of the FBC.
Buildings should exhibit an urban character through the use of appropriate materials, textures, and scale.	**Consistent.** The proposed EUC urban design policy requiring buildings to exhibit an urban character through the use of appropriate materials, textures, and scale are depicted within the Building Typology exhibits within Chapter 3 of the FBC (Section 03.03.000).
The scale of prominent buildings should be generally mid-rise, up to 15 stories.	**Consistent.** The proposed EUC urban design policy to support buildings of a generally mid-rise scale up to a maximum of 15 stories would be implemented as a design feature of the proposed project in compliance with the FBC, Chapter 2 District Regulations and Design Guidelines.
Buildings should display qualities that are characteristic of landmark architecture.	**Consistent.** Each district indicates where iconic architecture would be located. The FBC, Chapter 2, contains district specific Design Framework Plans that identify locations for iconic architecture.
Utilize streetscape amenities, such as enhanced street paving, bollards and street furnishings, to establish identity.	**Consistent.** Each district has provided for streetscape amenities throughout the proposed project. The FBC, Chapter 3 (Sections 03.08.000 Standards for Pedestrian Corridors, Sidewalks and Trails, 03.12.007 Street Furniture, and 03.12.008 Public Art.
Establish view corridors, which focus on and connect key visual landmarks.	**Consistent.** The Form Based Code provides identification of important sightlines and view corridors and describes how the proposed project design enhances existing view corridors.
Prominently feature major activity nodes such as transit stations, civic building and urban parks.	**Consistent.** Activity nodes are described within the FBC, Chapter 2, and are depicted within the District Specific Design Framework Plans. Activity nodes depicted include Civic plaza, a library, a transit stop, and parks.
Varying, but complementary, land uses should be integrated to provide a mixed-use environment. A strong pedestrian connection should be created between uses and between adjacent areas within the University Study Area.	**Consistent.** The proposed project would provide varying, and complementary land uses in a mixed-use environment. The FBC, Chapter 2 District Regulations and Design Guidelines, describes the various mixed-use land use districts and connections. Pedestrian connection would be provided throughout the project, including from the west via the Greenbelt Trail crossing under SR-125 and to the east via a pedestrian bridge over Eastlake Parkway. In addition, the proposed project's access roadways would be aligned with access drives into surrounding, adjacent villages.
Encourage a mixture of land uses particularly where structures front a pedestrian plaza or urban park.	**Consistent.** The proposed project would contain a variety of mixed-uses within the Main Street District, which is oriented toward the civic buildings and public plaza park as described in the FBC Chapter 2 (District Regulations and Design Guidelines).

Table 4.2-2 (Continued)

Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan

Applicable Policies	Evaluation of Consistency
A variety of uses, including residential, should be incorporated within a single structure where feasible.	**Consistent.** The proposed project would allow mixed-uses throughout the EUC. The FBC, Chapter 2 (District Regulations and Design Guidelines) describes the mixed-use character of the various districts. Residential and non-residential uses would be mixed both horizontally (on a single site) or vertically (within a single building).
The circulation system should minimize conflict with the pedestrian system.	**Consistent.** Pedestrian features of the EUC as described in Chapter III (Mobility) of the SPA Plan, and the FBC (Section 03.08.000). Features described include neck downs, pedestrian crossings, and variation in paving between pedestrian and vehicular zones.

art and enhanced street fronts and open frontages, including the use of glass walls and window, and inviting uses such as sidewalk cafes along mixed-use boulevards. In addition, GDP policies encourage the incorporation of public art into individual buildings or building clusters.

However, many of these character policies can only be implemented at the site design level of planning that would occur after SPA Plan approval. The detailed design guidance and standards, discussed in Section 3.0, Project Description, which include specific design criteria for each land use district, would achieve consistency with the GDP policies stated above.

The Otay Ranch GDP Program EIR concluded that potential impacts to the Otay Valley Parcel would change the visual character of the proposed project site from agricultural and rural to an urbanized area, and would dramatically alter the appearance on the site as a result of the proposed development. The Otay Ranch GDP Program EIR stated that visual character impacts were adverse in spite of the fact that the property was surrounded by developed land or land that is under development. As described above, with implementation of the requirements and guidelines in the SPA Plan, including the FBC, the project would consist of a dense, high quality urban development. As projects are proposed in the EUC, they would be required to go through a Design Review process to ensure consistency with the design standards and guidelines set forth in the FBC. However, given the fact that the EUC site would convert undeveloped, rural land to dense urbanized uses, impacts regarding the change in the existing visual character or quality of the site are considered significant.

B. Off-site Soils Stockpiling Area

The SSA would be used for stockpiling of fill soils from the EUC SPA Plan site. Stockpiling activities within the undeveloped SSA would require the presence and use of heavy machinery (e.g., large trucks, bulldozers, etc.) for an approximately 12- to 18-month period. Under a two-phase grading activity, the first phase would be completed in 9 months and the second phase

would be completed in 12 months. Visual impacts associated with heavy machinery would be temporary in nature would not substantially degrade the visual character of the site. However, the placement of soil within the SSA would permanently change the character of the SSA, in that soils would be compacted and drainage systems would be installed. Although construction activities would not require the placement of any permanent habitable structures, it would change the visual quality of the site from more natural open space to a graded condition. As the activities proposed within the SSA would not involve any development or other features to soften the graded aspect of the SSA site, the SSA would have a potentially significant impact on the existing visual character of the site.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area is currently open and undeveloped. Activities proposed within the SCSL Improvement Area consist of the laying of a 173-foot, 15-inch diameter sewer pipeline, with jack- and-boring of line under existing riparian habitat within Salt Creek. The drilling technique would conserve the aesthetic character of the existing riparian habitat. Construction would require the presence and use of heavy machinery (e.g., backhoes, drill and borer, etc.). Trenching, drilling, and placement of line would require approximately 5 – 7 days. Visual impacts associated with construction would be temporary in nature. As construction would be short-term and would not impact the visual character of existing riparian habitat, the existing visual character or quality of the site would not be substantially or permanently degraded. Improvements proposed within the SCSL Improvement Area do not include any long-term uses that would affect the open space aspect of the SCSL Improvement site. Therefore, construction impacts would be less than significant with respect to visual quality.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area is located within the existing Olympic Parkway/Brandywine Avenue intersection. This project would require the replacement of a section of 18-inch line with a section of 21-inch line within the same location. Trenching and placement of line would require approximately 5 – 7 days. As visual impacts associated with construction would be temporary and short-term in nature, the existing visual character or quality of the site and surrounding area would not be substantially or permanently degraded. Therefore, construction impacts would be less than significant with respect to visual quality.

Threshold 5: *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.*

A. EUC SPA Plan Area

The project site is currently undeveloped and does not generate any sources of light. The existing and/or developing land uses immediately adjacent to the project site include commercial uses

within the Otay Ranch Town Center and a mix of uses (including residential, public facilities, educational, commercial, etc) within Villages Eleven and Seven to the east and west, respectively. In addition, surrounding roadways include Birch Road and EastLake Parkway, which border the site to the north and east, respectively. Also, the SR-125 borders the site to the west.

The development and circulation roads in the project vicinity exhibit considerable ambient nighttime illumination levels. Artificial light sources from surrounding land use include interior and exterior lighting for security, parking, architectural highlighting, incidental landscape lighting, and illuminated signage. Automobile headlights, streetlights and stoplights for visibility and safety purposes along the surrounding roadways contribute to overall ambient lighting levels as well. While the land uses to the north, east, and west all include light sources that contribute to ambient nighttime illumination levels, the existing nighttime lighting would not adversely affect on-site EUC uses given their similar lighting levels as would occur on the EUC site. Of note, ball field lighting at Olympian High School to the west within Village Seven is currently shielded and is of sufficient distance from the EUC that it would not adversely affect sensitive uses on the EUC site.

The project would include low to moderate levels of interior and exterior lighting for security, parking, and architectural highlighting. Interior and exterior lighting within the proposed uses would be visible from adjacent properties during evening hours. Development of the project would require outdoor areas to be lighted at night (e.g., public use areas, commercial use parking lots and buildings, street lights, walkways, entry nodes, park activity areas (including sport courts, playgrounds and fields), lighting for courtyards, etc.). Accent lighting used for signage and illumination of all towers and iconic and gateway buildings, and other architectural highlighting would enhance visibility of the highlighted elements but would not be so bright as to cause direct spillover or glare.

The SPA Plan includes lighting performance standards for building districts to address the project's contribution to nighttime lighting. The EUC includes a Lighting Concept Plan that divides the site into Lighting Zones in order to differentiate various locations with varying lighting designs. Each lighting district (neighborhood) would have a dominant lighting theme/character. Lighting in public rights-of-way would be approved as part of the street and park improvement plans using lighting examples as a guide. Examples of appropriate lighting styles and fixtures are provided in the FBC. No City-standard streetlights would be required within the EUC except for lighting on arterial highways. The lighting performance standards include the following:

- Streetlights shall be placed on all public streets within the EUC.
- Lighting design shall minimize glare and light trespass, energy conservation, and to maintain dark skies. The light designers should consider utilizing automatic controls to eliminate excessive light during non-active hours of site preparation.
- Full cut-off fixtures, mounting heights, and shielding should be utilized to effectively control glare and light trespass.

- Any exterior lighting designs shall take into account all exterior lighting sources.
- Recommended light level guidelines and uniformity ratios established by the Illumination Engineering Society of North America (IESNA) than be considered when determining appropriate lighting design solutions.
- All lights mounted on poles of 8 feet or greater in height shall be directed down and all light sources shall be shielded so as not to be visible from any adjacent real property.
- Pole heights should not exceed 35 feet in height and no less than 25 feet in height on roadways to avoid glare problems.
- Architectural lighting is required on all tower, iconic, and gateway buildings and should be provided on all buildings to illuminate architectural features.
- Lighting design for parks shall take into consideration its impact on adjacent residential uses.
- All lighting plans would need to be submitted and approved as part of the Design Review Process.

In addition, compliance with City and State energy conservation measures currently in place would limit the amount of unnecessary interior illumination during evening and nighttime hours.

Based on adherence to the lighting performance standards in the SPA Plan, it is anticipated that lighting would not be bright enough to cast illumination onto adjacent light-sensitive properties (i.e., residences in Villages Seven and Eleven). Furthermore, given the degree of ambient lighting that currently exists surrounding the project area, the proposed lighting would not substantially alter ambient night light levels. Thus, lighting impacts are concluded to be less-than-significant.

The FBC addresses the potential for glare from reflective surfaces on buildings. The façade of new buildings in the EUC would not contain highly reflective, glare producing materials. Glass fenestration incorporated into the building façades would have low-reflectivity value, minimizing off-site glare. Glare experienced by nearby commercial or residential uses or the occupants of vehicles on nearby streets would be temporary, changing with the movement of the sun throughout the course of the day and the seasons of the year. Therefore, the proposed project would not create a substantial new source of glare that would adversely affect day or nighttime views in the area and as such, glare impacts would be less-than-significant.

The issue of shade and shadow pertains to the blockage of direct sunlight by on-site buildings that affects adjacent “shadow-sensitive” uses, such as residences, parks, outdoor gathering places, outdoor restaurants, and schools. Factors that influence the extent and range of shading include but may not be limited to season, time of day, weather, building height, bulk and scale, spacing between buildings, and tree cover. As described in the Section 3.0, the EUC would build out over approximately 20 years. The FBC focuses on land uses instead of building placement, and it

envisons a vibrant community that promotes pedestrian walkways, public spaces, such as parks and outdoor gathering areas in the Main Street and Mixed-Use Civic/Office Core Districts, street-level restaurants with outdoor seating, etc. Buildings can be up to 15 stories in height. As such, there is a potential for streets, structures and public places to be shadowed by an adjacent building or buildings depending on certain conditions. In addition, wind access can be affected by building height and mass. Because the potential impacts associated with shade, shadow and wind access impact cannot be determined until the specific location, size, and orientation of future buildings are established, this impact could be potentially significant.

B. Off-site Soils Stockpiling Area

The SSA would involve stockpiling of fill from the EUC SPA Plan area. No artificial lighting would be required to carry out these grading activities and no permanent structures that could result in glare or reflected sunlight would be developed. Therefore, the activities proposed within the SSA would have no significant impact with respect to light and glare.

C. Off-site Salt Creek Sewer Lateral Improvement Area

No artificial lighting would be required to carry out the proposed SCSL improvements, and no permanent above-ground structures that could result in glare or reflected sunlight would be developed. Therefore, the activities and improvements proposed within the SCSL Improvement Area would have no significant impact with respect to light and glare.

D. Off-site Poggi Canyon Sewer Improvement Area

No artificial lighting would be required to carry out the proposed improvements and no permanent above-ground structures that could result in glare or reflected sunlight would be developed. Therefore, the SCSL Improvement would have no significant impact with respect to light and glare.

Threshold 6: *Alter areas of sensitive landforms and grade steep slopes that may be visible from future development and roadways that negatively detract from the prevailing aesthetic character of the site or surrounding area.*

A. EUC SPA Plan Area

The project site is not characterized by sensitive landforms; however, the site contains 0.50 acre of steep slopes (natural slopes with gradients of 25 percent or greater). Of the 88.1-acre Parcel C, where the SSA would be located, there are 5.8 acres of steep slopes. The SPA level grading plans for the EUC are intended to provide a preliminary grading concept, identifying slope bank locations and necessary maintenance provisions. The overall grading concept is to create one large continuous graded pad for the proposed development, with no significant grade changes except at the perimeter of the developed area. Grading Option 1, the preferred option, balances grading

quantities through the export of material to the designated future Village Nine. Grading Option 2 (the "on-site" grading option) re-balances quantities within the EUC site plus the grading necessary for the off-site portions of Streets A, B, C, M and Hunte Parkway. Option 2 would require the raising of the EUC. While grades within the EUC would be raised under this option, the grades at the perimeter of the project site would remain essentially unchanged. The estimated earthwork quantity under Option 1 would be approximately 3.6 million cubic yards of cut and fill. Earthwork would be balanced between the EUC and the offsite location, with 2.5 million cubic yards of fill to remain in the EUC and 1.1 million cubic yards to be exported off-site to the adjoining properties to the south. Under Option 2, approximately 3.2 million cubic yards of cut and fill would be balanced on-site. The proposed grading activities under either option would permanently alter the natural landform of the land.

The EUC SPA Plan provides the following grading guidelines that would be implemented on the conceptual grading plans:

- Manufactured slope faces greater than 25 feet in height may be conventional 2:1 or include retaining structures with enhanced planting to avoid excessive "flat paned" surfaces.

- All graded slopes shall be planted to blend with or complement adjacent areas. Where appropriate, vegetation should consist of drought-tolerant native or naturalized species, requiring little or minimal irrigation; be deep rooted; and well suited to the on-site soils. Final plans should be based on coordinated input from a licensed landscape architect.

- Based on actual field conditions encountered, the erosion potential of slopes should be reduced with berms at the tops of all slopes, paved interceptors ditched and terrain drains and vegetations, as required. Spray-on applications and coating, or jute or hemp mesh, if needed, can be effective methods for stabilizing soils.

Internal slopes would typically be lower than the perimeter slopes. Where grade differentials are created, retaining structures such as walls or similar design solutions consistent with the urban character of the EUC may be utilized. Small interior slopes between lots may be graded at 1.5 to 1, or within retaining walls, with approval of the City Engineer.

The Otay Ranch GDP and RMP establish a ranch-wide standard that requires preservation of at least 83 percent of the steep slopes (natural slopes with gradients of 25 percent or greater) throughout the Otay Ranch. As previously shown in Figure 4.2-2, the EUC contains 0.50 acre of steep slopes. The SSA area in Village Nine contains 5.8 acres of steep slopes.

As noted previously, the GDP/RMP specifically allocated no (zero) acres of encroachment into natural steep slopes for the EUC and 66.1 acres of encroachment into natural steep slopes for Village Nine. As shown in Table 4.2-3, *EUC and Portion of Village Nine Steep Slope Impact Analysis,* on page 4.2-39, implementation of the proposed EUC SPA Plan would exceed the EUC's RMP steep slopes allocation by 0.5 acre, but would not exceed the 66.1 acres of RMP

Table 4.2-3

EUC and Portion of Village Nine
Steep Slope Impact Analysis

EUC RMP steep slope allocation	0 ac.
EUC impact on natural steep slopes	0.5 ac.
Net remaining RMP steep slope allocation (over allocation)	-0.5 ac.
Village Nine RMP steep slope allocation	66.1 ac.
Impact from offsite Village Nine fill site	5.8 ac.
Net remaining RMP steep slope allocation (under allocation)	60.3ac
EUC and Village Nine fill site impact on RMP ranch-wide steep slope surplus (Note: Village Nine does not impact the ranch-wide surplus because it does not exceed the village allocation; total includes Villages One, Two, Three, portion of Four, Five, Six, Seven, Eleven, Freeway Commercial and EUC)	*-0.5 ac.*

steep slopes allocated to Village Nine. Also, as shown in Table 4.2-3, the net impact on the ranch-wide steep slopes encroachment surplus would be 0.5 acre.

Although the proposed EUC SPA Plan is anticipated to exceed the steep slope allocation within the EUC, the ranch-wide steep slope preservation standard would still be met given the ranch-wide surplus of 18.9 acres of steep slopes allocation that has been generated from Villages One, Two, Three, and portion of Four, Five, Six, Seven, Eleven and Freeway Commercial. Implementation of the proposed EUC SPA Plan would further reduce the remaining ranch-wide surplus to 18.4 acres as shown in Table 4.2-4, *Ranch-Wide Steep Slope Surplus Analysis After EUC,* on page 4.2-40.

In conclusion, both grading options involve mass grading, so that overall site coverage within the EUC and impact on steep slopes would be the same. However, the spatial extent of grading would be greater under Grading Option 1, since stockpiled and graded soils would extend to an approximately 30-acre parcel to the south of the EUC SPA Plan site. While manufactured slopes will be visible from future development and roadways under both grading options, the required EUC SPA Plan grading guidelines and City's Grading Ordinance, which are applicable to both grading options, would protect the aesthetic character of the site and surrounding area. The referenced EUC SPA Plan grading guidelines would ensure that excessive "flat paned" surfaces do not occur, ensure that slopes are planted to blend with or complement adjacent areas, and ensure that erosion does not affect such landscaped sloped areas. Therefore, visual impacts regarding slope landform alteration would be less than significant.

B. Off-site Soils Stockpiling Area

The SSA would be used for stockpiling of fill soils from the EUC SPA Plan site. Grading Option 1 anticipates that approximately 1.1 million cubic yards would be stockpiled in this site. SSA area in Village Nine contains 5.8 acres of steep slopes. Grading plans for the EUC, which incorporate the

Table 4.2-4

Ranch-Wide Steep Slope Surplus Analysis After EUC

Net ranch-wide Surplus after Villages 2, 3 and portion of 4 (park site) (inclusive of Villages One, Two, Three, and portions of Four, Five, Six, Seven, Eleven and Freeway Commercial)	18.9 ac.
EUC usage of surplus after RMP allocation	-0.5 ac.
Net ranch-wide surplus of steep slopes after EUC (includes Villages One, Two, Three, and portions of Four, Five, Six, Seven, Eleven, Freeway Commercial and EUC)	*18.4 ac.*

SSA under Grading Option 1, are intended to provide a preliminary grading concept, identifying slope bank locations and necessary maintenance provisions. Grading within the SSA would be primarily internal and not bounded by arterial streets. As with internal graded areas within the EUC SPA Plan site, stockpiling would not result in any significant graded slopes. However, the proposed stockpiling would permanently alter the natural landform. As the SSA is incorporated into the EUC SPA Plan as Grading Option 1, the required EUC SPA Plan grading guidelines, as well as the City's Grading Ordinance, would be applicable to this site and would protect the aesthetic character of the site and surrounding area. The referenced EUC SPA Plan grading guidelines would ensure that excessive "flat paned" surfaces do not occur and that erosion does not affect any sloped areas. Therefore, visual impacts regarding slope landform alteration in the SSA would be less than significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement would not require mass grading or alteration of landforms. Therefore, visual impacts regarding slope landform alteration in the SCSL Improvement Area would be less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area is located within the existing Olympic Parkway/Brandywine Avenue intersection and would not require mass grading or alteration of landforms. Therefore, visual impacts regarding slope landform alteration in the PCSI Area would be less-than-significant.

4.2.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

A. Scenic Vistas and Scenic Resources (Thresholds 1 and 2)

As the project site is not located within a scenic vista and does not contain any scenic resources, no direct impacts would occur in this regard. However, an 89-foot section of the EUC is located adjacent to Hunte Parkway, a City-designated Scenic Roadway. A potentially significant impact

with respect to the City's Scenic Roadway standards could occur along this street section and, therefore, a mitigation measure is recommended to ensure that future development in this area is consistent with the City's design standards for scenic roadways.

B. Visual Quality and Character (Threshold 3)

(1) EUC SPA Plan Area

Development of the site would change the undeveloped, open character of the project site to one of high-density urbanized uses, which is considered to be a potentially significant impact.

(2) Off-site Soil Stockpiling Area

The SSA would receive stockpiled soils under Grading Option 1. This activity would result in a permanent change in the visual character of the SSA from a currently more natural open space to an open graded field. As the SSA does not anticipate any development or other features to soften the graded appearance of the SSA, the SSA would have a potentially significant impact with respect to a permanent change in the existing visual character of this off-site area. This impact is temporary, however, until the site is developed with the land uses planned for the area in the GDP.

C. Light and Glare, Solar Shadow, and Wind (Threshold 5)

Based on adherence to the lighting performance standards in the EUC SPA Plan, it is anticipated that lighting would not be bright enough to cast illumination onto adjacent light-sensitive properties (i.e., residences in Villages Seven and Eleven). Furthermore, given the degree of ambient lighting that currently exists surrounding the project area, the proposed lighting would not substantially alter ambient night light levels. Thus, lighting impacts would be less-than-significant. In addition, the project would not create a substantial new source of glare that would adversely affect day or nighttime views in the area and as such, glare impacts would be less-than-significant. There is a potential for streets, structures, and public places to be shadowed by adjacent building or buildings depending on climate, season, and building height and mass. Because the potential impacts associated with shade/shadow and wind access cannot be determined until the location, size, and orientation of future buildings are established, this impact would be potentially significant.

D. Landform Alteration (Threshold 6)

Under both grading options, the same spatial area within the EUC project site itself would be mass graded. Also, Grading Option 1 would extend the appearance of graded land to the SSA, so that the combined graded land surface would be greater than under Grading Option 2. Under Grading Option 2, grading would occur within the SPA Plan project site plus the grading necessary for the offsite Streets A, B, C, and M and Hunte Parkway. However, based on adherence to the grading performance standards in the EUC SPA Plan, it is anticipated that exposed slopes and other alterations, would not detract from the prevailing aesthetic character of the site or surrounding area within either the EUC SPA Plan area or the SSA. In addition, grading associated with the off-site

roads under Grading Option 2 would be temporary until the adjacent property developed with planned uses and ultimate grades. Thus, landform alteration impacts would be less-than-significant.

4.2.5 MITIGATION MEASURES

A. Scenic Vistas and Scenic Resources

4.2-1 Prior to approval of landscape improvement plans that involve the 89-foot portion of the EUC SPA Plan's District 10 abutting Hunte Parkway, the Applicant shall demonstrate to the satisfaction of the City Engineer that future development, slope grading and landscaping, signage and utilities will enhance the scenic quality of the route.

B. Light and Glare; Solar Shadow and Wind

4.2-2 In accordance with Section 04.04.001 of the FBC, prior to design review approval for any structure eight stories and above, the Applicant shall prepare to the satisfaction of the Development Services Director, a light, shadow and wind pattern analysis demonstrating that adjacent shadow-sensitive uses are not shadowed for more than 3 hours between 9:00 A.M. and 3:00 P.M. during the winter or for more than 4 hours between 9:00 A.M. and 5:00 P.M. during the summer or any approved City-standard in place at the time the light, shadow and wind pattern analysis is performed.

4.2.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measure 4.2-1 would ensure the compliance of the EUC SPA Plan with LUT 13.4 regarding an 89-foot frontage in the SPA Plan's District 10 along Hunte Parkway, in that future development will enhance the scenic quality of the route, including creating a pleasing streetscape through landscaping and varied building setbacks, low-rise development (not exceeding 40 feet), and coordinated signage and utilities. Therefore, with implementation of the prescribed mitigation measures, impacts regarding scenic highways would be reduced to a less-than-significant level.

Impacts regarding light/glare and landform alternation would be less-than-significant and no mitigation measures are necessary. Potential impacts regarding shadows and wind would be reduced to below significance with Mitigation Measure 4.2-2.

No mitigation measures are available to reduce the potentially significant impact of converting the EUC SPA Plan site from undeveloped rolling hills to urbanized uses or from permanently changing the existing visual character of the SSA from an open area to a graded site. Thus, impacts regarding the change to the site's visual character are concluded to be significant and unavoidable.

4.3 TRANSPORTATION

The Otay Ranch General Development Plan (GDP) Program EIR (90-01), adopted by the City of Chula Vista on October 28, 1993 concluded that implementation of the GDP would result in significant cumulative impacts on transportation, circulation and access. Mitigation measures were adopted in the Otay Ranch GDP Program EIR that require projects to construct appropriate improvements and contribute their proportionate share towards construction of regional facilities. Nonetheless, even with implementation of the prescribed mitigation, significant and unavoidable impacts were identified within the circulation network. The analysis and discussion of transportation contained in the Otay Ranch GDP Program EIR are incorporated by reference.

The General Plan Update (GPU) EIR (EIR 05-01) certified on December 12, 2005 analyzed the impacts of the General Plan Preferred Alternative that included the land uses, densities, trip generation and circulation plan that were proposed for the "Deferral Area" (a portion of Villages Four and Seven as well as the entirety of Villages Eight, Nine and Ten). These land uses, densities, and associated trip generation, are an increase over the adopted General Plan designations (1993 Otay Ranch Update of the 1989 General Plan, and 2005 General Plan and Otay Ranch General Development Plan Updates). Although final action on adopting the land uses within these areas was deferred, the circulation plan as analyzed in the GPU EIR was adopted as part of the GPU 2005. The traffic analysis in the General Plan Update EIR is incorporated by reference.

The traffic analysis contained in this section incorporates the land uses and densities in the Deferral Area as analyzed in the GPU and associated EIR. The land uses for the Deferral Area as analyzed in the GPU EIR are appropriately included in the traffic and traffic-related sections of this EIR since the Circulation Element included in the GPU and analyzed in this EIR integrated these more intensive uses. The EUC traffic analysis assumes the Circulation Element through study year 2030 and incorporates by reference the General Plan Update EIR certified in December 2005 for the Build out Scenario (Post 2030). As such, the traffic analysis in this section represents a "worst-case scenario" for purposes of long-range traffic planning.

Kimley-Horn and Associates, Inc. has prepared the *Traffic Impact Analysis – Chula Vista Eastern Urban Center* report (herein referred to as the "Traffic Study"), dated March, 2009, which provides an analysis of transportation impacts resulting from build-out of the proposed project. This section summarizes the results of the Traffic Study contained in Appendix B of this document. Appendices for the Traffic Study are available at the City of Chula Vista Planning and Building Department.

4.3.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) City of Chula Vista

The City of Chula Vista General Plan contains objectives and policies that support transit, encourage alternative transportation measures, develop transit-friendly roads, support parking management policies, and ensure pedestrian-oriented environments. Relevant General Plan objectives and policies related to transportation include the following:

Objective LUT 17 - Plan and coordinate development to be compatible and supportive of planned transit.

Policies

LUT 17.1 - Designate sufficient land at appropriate densities to support planned transit and require that development be transit-oriented, as appropriate to its proximity to transit facilities.

LUT 17.3 - Establish new Town Centers in the East Planning Area to be transit-oriented and include a transit station.

LUT 17.4 - Require developers to consult and coordinate with SANDAG and the City to ensure that development is compatible with and supports the planned implementation of public transit.

Objective LUT 18 - Reduce traffic demand through Transportation Demand Management (TDM) strategies, increased use of transit, bicycles, walking, and other trip reduction measures.

Policies

LUT 18.3 - Provide and enhance all feasible alternatives to the automobile, such as bicycling and walking, and encourage public transit ridership on existing and future transit routes.

LUT 18.5 - Implement TDM strategies, such as carpooling, vanpooling, and flexible work hours that encourage alternatives to driving alone during peak hours.

LUT 18.6- Encourage employer-based TDM strategies, such as employee transportation allowances; preferential parking for rideshare vehicles; workplace-based carpool programs; and shuttle services.

Objective LUT 19 - Coordinate with the regional transportation planning agency, SANDAG, and transit service providers such as the Metropolitan Transit System (MTS), to develop a state-of-the-art transit system that provides excellent service to residents; workers; students; and the disabled, both within the City, and with inter-regional destinations.

Policy

LUT 19.1 - Designate transportation corridors as potential express transit facilities, such as Bus Rapid Transit (BRT).

Objective LUT 20 - Make transit-friendly roads a top consideration in land use and development design.

Policy

LUT 20.1 - Incorporate transit-friendly and pedestrian-friendly elements into roadway design standards, such as signal priority for transit and adequate sidewalk widths for pedestrians

Objective LUT 23 - Promote the use of non-polluting and renewable alternatives for mobility through a system of bicycle and pedestrian paths and trails that are safe, attractive and convenient forms of transportation.

Policies

LUT 23.1 - Encourage the use of bicycles and walking as alternatives to driving

LUT 23.2 - Foster the development of a system of inter-connecting bicycle routes throughout the City and region.

LUT 23.3 - Preserve, restore, or provide the opportunity for a cyclist to ride a bicycle to virtually any chosen destination, in order to make the bicycle a viable transportation alternative.

LUT 23.4 - Link major residential areas with principal trip destinations, such as schools; parks; community centers; and shopping centers.

LUT 23.5 - Provide linkages between bicycle facilities that utilize circulation element alignments and open space corridors.

LUT 23.7 - Provide bicycle support facilities at all major bicycle usage locations.

LUT 23.10 - Promote the system of trails envisioned within the Chula Vista Greenbelt.

LUT 23.13 - New overpasses and interchanges should be designed to accommodate bicycles and pedestrians.

Objective LUT 30 - Use parking management to better utilize parking facilities and implement policies to reduce parking demand before considering public expenditures for additional parking facilities

Policy

LUT 30.1 - Consider limiting parking in appropriate areas to discourage single-occupant vehicle commuting and to reinforce non-auto travel modes, but not so limiting as to adversely affect the viability and vitality of the area.

Objective LUT 31 - Provide parking facilities that are appropriately integrated with land uses, maximize efficiency, accommodate alternative vehicles, and reduce parking impacts.

Policy

LUT 31.3 - Provide parking and recharging facilities for alternative vehicles such, as bicycles and electric and low-emission vehicles.

Objective LUT 32 - Evaluate the use and applicability of various strategies to provide parking.

Policy

LUT 32.2 - Consider the establishment of parking districts that may include a variety of public parking facilities, including surface lots and parking structures, to provide parking for a bounded geographical area.

Objective LUT 33 - Ensure that parking facilities are appropriately sited and well-designed in order to minimize adverse effects on the pedestrian-oriented environment, and to enhance aesthetic qualities.

Policies

LUT 33.1 - Strategically locate parking structures to serve commercial and employment centers, and to provide park and ride opportunities for use of express shuttle, trolley service, and other transit.

LUT 33.2- Encourage consolidation of surface parking lots into structured parking facilities where appropriately located and well-designed.

Objective LUT 63 - Provide efficient multi-modal access and connections to and between activity centers.

Policy

LUT 63.1 – Provide roads, transit service, bike routes, and pedestrian pathways that connect activity centers to their surrounding neighborhoods, adjacent villages, and each other, such that access is safe and convenient for residents and visitors.

The City of Chula Vista General Plan and the City of Chula Vista's *Guidelines for Traffic Impact Studies in the City of Chula Vista*, February 13, 2001 establish the acceptable level of service (LOS) standards for intersections, freeway segments, and roadway segments.

(a) Intersections

(i) Off-Site Intersections

The *2000 Highway Capacity Manual* (HCM) published by the Transportation Research Board establishes a system whereby highway facilities are rated for their ability to process traffic volumes. The terminology "level of service" is used to provide a "qualitative" evaluation based on certain "quantitative" calculations, which are related to empirical values.

The LOS for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. Specifically, LOS criteria are stated in terms of the average control delay per vehicle for the peak 15-minute period within the hour analyzed. The average control delay includes initial deceleration delay, queue move-up time, and final acceleration time in addition to the stop delay.

The LOS for unsignalized intersections is determined by the computed or measured control delay and is defined for each minor movement. The criteria for the various levels of service designations are given in Table 4.3-1, *LOS Criteria for Intersections*, on page 4.3-6. Within the

Table 4.3-1

LOS Criteria for Intersections

LOS	Control Delay (sec / veh) Signalized Intersection [a]	Control Delay (sec / veh) Unsignalized Intersection [b]	Description
A	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
B	<10.0 and ≤20.0	<10.0 and ≤15.0	Operations with good progression but with some restricted movement.
C	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>55.0 and ≤80.0	>35.0 and ≤50.0	Operation where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

[a] *2000 Highway Capacity Manual, Chapter16, Page 2, Exhibit 16-2.*
[b] *2000 Highway Capacity Manual, Chapter 17, Page 2, Exhibit 17-2.*

Source: Kimley-Horn and Associates, March 2009.

City of Chula Vista, the goal is to achieve LOS D or better at all signalized and unsignalized intersections off-site from the EUC.

(ii) On-Site Intersections

For on-site intersections, no LOS criteria applies. The Otay Ranch General GDP, Chapter 2, Section B, page 209 states:

> *"Each village will provide a complex integrated system of roads, low-speed electric vehicles and bike paths, and pedestrian ways. The system is defined below by individual road types that may be found in all villages except for the rural standard. However, the actual pattern of roads varies within each village in response to site features, circulation element roads, topography, land use organization, etc. The following is a description of how these roads are located functionally within the village setting. While circulation element roads must adhere to prescribed levels of service, these interior roads are permitted to operate at less than established LOS. This is done to further encourage use of alternative modes of transportation."*

(b) Roadway Segments

(i) Off-Site EUC Roadway Segments

In order to determine the LOS for a street segment on a daily basis, the average daily traffic (ADT) volume is compared to its maximum capacity for each type of roadway (arterial, collector, etc.) in the City. The roadway segment capacities of all roadways in the study area were evaluated under existing and proposed conditions using LOS thresholds published by the City of Chula Vista's adopted General Plan. Volume-to-Capacity (v/c) ratios were calculated for each segment and were used to determine a LOS for the roadway. It should be noted that the capacity of a roadway is equal to the maximum LOS E. Table 4.3-2, *Roadway Segment Capacity and LOS Capacity and LOS*, on page 4.3-8 summarizes the capacities and LOS for each roadway classification in the Chula Visa EUC SPA Plan study area. The acceptable LOS for roadway segments established by the City's General Plan is LOS C. It should be noted that the LOS C criteria only applies to roadway segments off-site.

(ii) On-Site EUC Roadway Segments

Similar to on-site roadway intersections, per Chapter 2, Section B, page 209 of the Otay Ranch GDP, no LOS criteria applies to on-site roadway segments.

(c) Freeway Segments

In order to determine impacts on study area freeway segments, Table 4.3-3, *LOS Criteria for Freeway Segment Analysis*, on page 4.3-9, has been developed by Caltrans District 11 and is used as a reference. In order to estimate peak-hour directional volumes based on daily numbers, peak-hour percentages (K factors), directional splits (D factors), and truck/heavy vehicle percentages, were assembled from the California Department of Transportation (Caltrans) for the nearest available count station located at milepost 5.54 along I-805, between the Telegraph Canyon Road and E. Orange Avenue exits in Chula Vista. The estimated peak-hour volume was then compared to the peak-hour capacity and the resulting v/c ratio was reviewed against Caltrans thresholds for the corresponding LOS. For the State Route 125 South Tollway (SR-125), the same K-factor, D-factor, and truck percentage along the I-805 segments were assumed for the analysis. The acceptable LOS for freeway segments is LOS D.

(2) State of California

The *Congestion Management Program* (CMP) was adopted on November 22, 1991 by the San Diego Association of Governments (SANDAG) and is intended to directly link land use, transportation, and air quality through LOS performance. Local agencies are required by statute to conform to the CMP. The CMP requires an Enhanced CEQA Review of all large projects that are expected to generate more than 2,400 average daily traffic (ADT) or more

Table 4.3-2

Roadway Segment Capacity and LOS [a,b]

Facility Class	Lanes	Acceptable LOS	LOS A	LOS B	LOS C	LOS D	LOS E
Circulation Element Roadways							
Prime Arterial	8	C	52,500	61,300	70,000	78,800	87,500
	6	C	37,500	43,800	50,000	56,300	62,500
Town Center Arterial	6	C	37,500	43,800	50,000	56,300	62,500
Major Street	6	C	30,000	35,000	40,000	45,000	50,000
	4	C	22,500	26,300	30,000	33,800	37,500
Class I Collector	4	C	16,500	19,300	22,000	24,800	27,500
	2	C	9,000	10,500	12,000	13,500	15,000
Class II Collector	2	C	5,600	6,600	7,500	8,400	9,400

[a] *Shaded cells correspond to the acceptable traffic volumes for each respective roadway.*
[b] *Local Streets are defined to serve abutting lots and not carry through traffic, and therefore do not have LOS criteria.*

Source: Kimley-Horn and Associates, March 2009.

than 200 peak-hour trips. Since the proposed project would generate over 2,400 ADT and over 200 peak-hour trips, an Enhanced CEQA Review is required for the proposed project.

In the City of Chula Vista, the Enhanced CEQA Review is prepared as part of *a* Growth Management Oversight Committee (GMOC) Analysis. In conformance with the requirements of the GMOC analysis, a peak-hour arterial analysis *is required* under near-term conditions (Years 0-4) using HCM Chapter 15 procedures. Peak-Hour arterial analysis estimates average travel speed on the given facility based on the operations of controlling intersections, and provides a more accurate representation of street segment LOS than ADT-based evaluation because it considers peak-hour volumes and incorporates the capacity benefits of intersection turn lanes. Classification of facilities and definition of segment lengths should be consistent with the City's current Growth Management Traffic Monitoring Program (TMP). The threshold standard for these arterial analyses requires maintaining LOS C or better as measured by average travel speeds except that LOS D can occur, but for no more than any two hours of the day. Thus, if LOS D condition is determined for any period of two hours, additional analysis may be required along these high volume segments based on direction provided by the City Engineer.

Table 4.3-3

LOS Criteria for Freeway Segment Analysis[a]

LOS	v/c Ratio	Congestion / Delay	Traffic Description
A	<0.41	None	Free flow
B	0.41 - 0.62	None	Free to stable, light to moderate volumes
C	0.63 - 0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81 - 0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, and very limited freedom to maneuver
E	0.93 -1.00	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor
F_0	1.01 – 1.25	Considerable 0 - 1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go
F_1	1.26 – 1.35	Severe 1 – 2 hour delay	Very heavy congestion, very long queues
F_2	1.36 – 1.45	Very severe 2 – 3 hour delay	Extremely heavy congestion, very long queues
F_3	>1.46	Extremely severe 3+ hours of delay	Gridlock

[a] *Based on the 1992 Caltrans guidelines.*

Source: Kimley-Horn and Associates, March 2009.

For planned arterial facilities that are not currently included in the current TMP, the definition of segment length and facility classification is based on direction provided by the City Engineer.

Within the study area, a GMOC analysis is required for Olympic Parkway between I-805 and Hunte Parkway under Existing Conditions and under the Horizon Year 2010 (with and without project) based on the City of Chula Vista's GMOC TMP methodology. This is the only arterial analyzed since the planning analysis (v/c ratio) indicates a LOS D for portions of Olympic Parkway. All other roadways are at LOS C or better in the near-term.

B. Existing Traffic and Circulation Conditions

(1) Road Network

This section summarizes the existing roadway circulation network, consisting of the roadway segments and intersections within the study area.

The existing conditions scenario describes the circulation network as of issuance of the Notice of Preparation of the Eastern Urban Center environmental document, April 12, 2007. Since this date a number of additional circulation element roadways have been completed. The SR-125 toll road between SR-54 and SR-905, and portions of Birch Road, EastLake Parkway, La Media and Hunte Parkway have been completed since this date. Therefore, these roadways are not incorporated into the existing conditions analysis and are not reflected in existing conditions traffic count data, however they are analyzed as part of the circulation system in the horizon year analysis.

(a) Roadway Segments

The following provides a description of the existing street system within the vicinity of the proposed project study area. Ultimate roadway classifications are taken from the City of Chula Vista's General Plan and functional classifications are based on field observation.

Olympic Parkway is classified and functions as a 6-lane prime arterial in the study area, except for the segment between the future SR-125 ramps and EastLake Parkway, which functions as an 8-lane prime arterial. This roadway generally runs in an east/west direction. Landscaped medians exist along all segments. Bike lanes and sidewalks are present on both sides of the roadway. Parking is not provided on either side of the roadway. The posted speed limit is 35 miles per hour (mph) between I-805 and Brandywine Avenue and 50 mph between Brandywine Avenue and Hunte Parkway.

Birch Road is classified as a 6-lane major arterial between La Media Road and SR-125 and as a 6-lane prime arterial between SR-125 and EastLake Parkway (Birch Road was built as a four lane street between Street C and EastLake Pkwy). However, at the time of the Traffic Study, this roadway was only partially built and was not open to through traffic. For the section of roadway that is currently built, a landscaped median exists along with bike lanes and sidewalks on both sides of the roadway.

Main Street is classified and functions as a 6-lane prime arterial between Maxwell Road and Heritage Road. Main Street currently terminates at Heritage Road on the west end of the study area. In the future, Main Street would be extended to Hunte Parkway by connecting to Rock Mountain Road. The posted speed limit is 50 mph.

Hunte Parkway is classified as a 6-lane prime arterial between EastLake Parkway and Olympic Parkway and as a 4-lane major street between Olympic Parkway and Otay Lakes Road. Landscaped medians exist along all segments. Bike lanes and sidewalks are present on both sides of the roadway. In the future, Hunte Parkway would be extended to Main Street by connecting to Rock Mountain Road at SR-125. The segment of Rock Mountain Road just east of La Media Road to Magdalena Avenue is classified as a 6-lane town center arterial and between Magdalena Avenue and SR125 as a 6-lane prime arterial. Between SR125 to a point

just west of EastLake Parkway, Hunte Parkway is classified as a 6-lane town center arterial. The planned speed limit is 45 mph.

La Media Road is classified and functions as a 6-lane prime arterial in the study area, but is only built until Birch Road to the south. A landscape median exists along this segment of roadway. Bike lanes and sidewalks are present on both sides of the roadway. The posted speed limit is 45 mph.

EastLake Parkway is classified and functions as a 4-lane major roadway between Otay Lakes Road and Olympic Parkway and as a 6-lane major roadway between Olympic Parkway and Hunte Parkway. To the south of Birch Parkway, this roadway is built, but is not opened to through traffic. Landscaped medians exist along all segments. Bike lanes and sidewalks are present on both sides of the roadway. The posted speed limit is 40 mph.

Heritage Road is classified and functions as 6-lane prime arterial between Otay Lakes Road and Olympic Parkway. To the south of Olympic Parkway, this roadway is not built and is closed to all vehicular traffic. The posted speed limit is 40 mph.

Figure 4.3-1, *Study Area Roadway Segments*, on page 4.3-12 illustrates the existing roadway system in the project study area. The existing number of lanes and functional classification for the roadway segments in the study area were previously provided in Table 4.3-2.

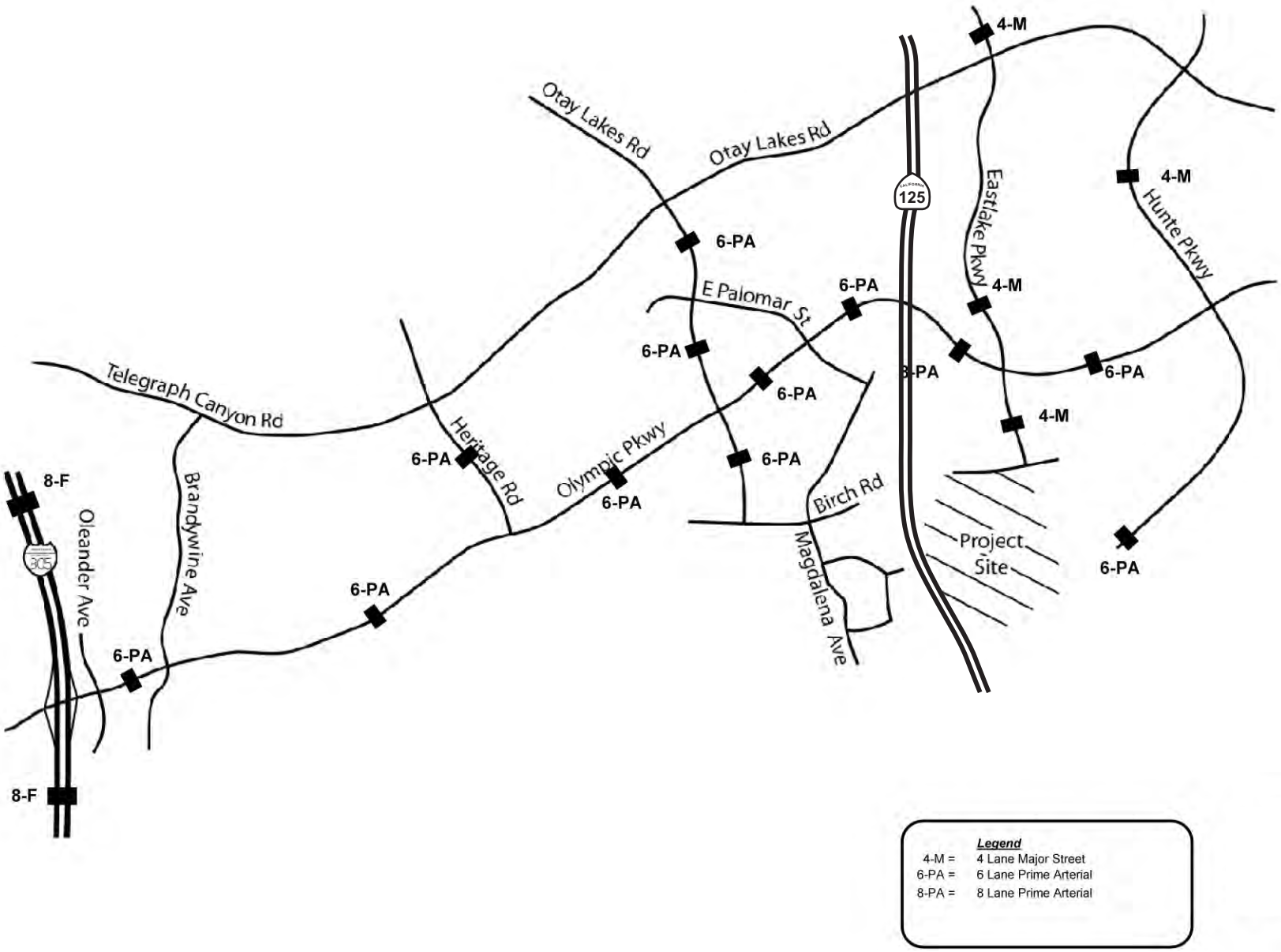
(b) Freeway Segments

SR-125 is a north-south four-lane tollway between State Route 54 and State Route 905. I-805 is a north-south freeway, which originates in South County and terminates at its connection with the Interstate 5 (I-5) Freeway near Del Mar, California. Local interchanges in the proposed project vicinity are at Olympic Parkway, Telegraph Canyon Road, and East “H” Street. I-805 is generally an eight-lane freeway between I-805 and State Route 54 with auxiliary lanes present between some interchanges.

(c) Intersections

The study area was defined based on discussions with City staff and refined based on the results of the select zone assignments of the proposed project traffic. The study intersections selected for analysis are shown in Table 4.3-4, *Study Intersections,* on page 4.3-13.

As shown in Table 4.3-4, all of the existing intersections evaluated are signalized. Intersections 11, 12, and 17 to 24 do not currently exist, but would be constructed in future phases of the proposed project. It should also be noted that in November 2007, the South Bay Expressway (SR-125) opened between Otay Mesa Road and State Route 54. The on- and off-ramps with Olympic Parkway and Birch Road were also opened to the general public.



N

Not to scale

Source: Kimley-Horn and Associates, Inc., February 2009.

Figure 4.3-1
Study Area Roadway Segments

Table 4.3-4

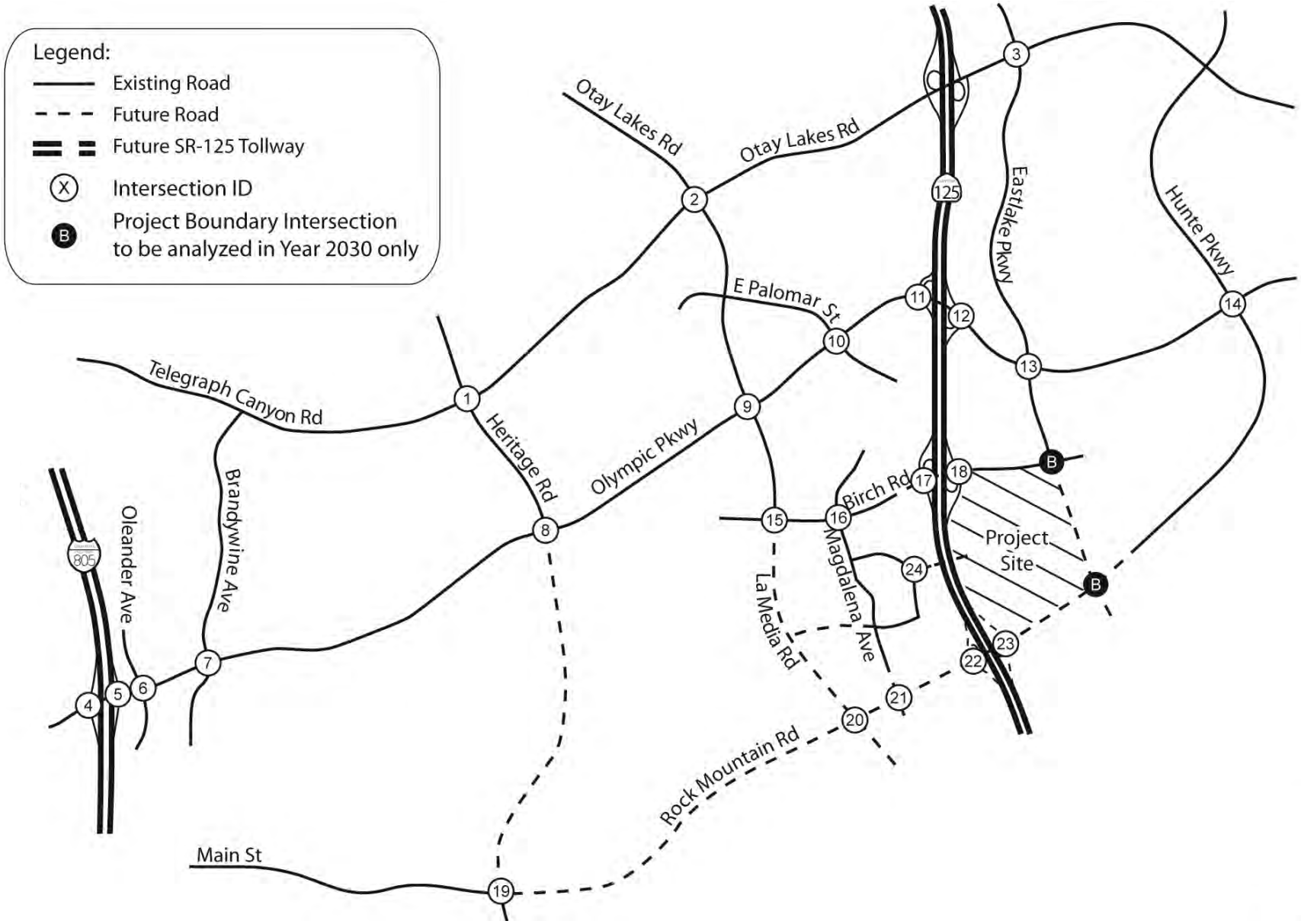
Study Intersections

Intersection	Traffic Control [a]
1 Telegraph Canyon Rd & Heritage Rd	Signal
2 Telegraph Canyon Rd & La Media Rd	Signal
3 Otay Lakes Rd & EastLake Pkwy	Signal
4 Olympic Pkwy & SB I-805 Ramps	Signal
5 Olympic Pkwy & NB I-805 Ramps	Signal
6 Olympic Pkwy & Oleander Ave	Signal
7 Olympic Pkwy & Brandywine Ave	Signal
8 Olympic Pkwy & Heritage Rd	Signal
9 Olympic Pkwy & La Media Rd	Signal
10 E. Palomar St & Olympic Pkwy	Signal
11 Olympic Pkwy & SR-125 SB Ramps	Signal [c]
12 Olympic Pkwy & SR-125 NB Ramps	Signal [c]
13 Olympic Pkwy & EastLake Pkwy	Signal
14 Olympic Pkwy & Hunte Pkwy	Signal
15 Birch Rd & La Media Rd	Signal
16 Birch Rd & Magdalena Ave	Signal
17 Birch Rd & SR-125 SB Ramps	Signal [c]
18 Birch Rd & SR-125 NB Ramps	Signal [c]
19 Main St & Heritage Rd	OWSC [b]
20 Rock Mountain Rd & La Media Rd	Signal [b]
21 Rock Mountain Rd & Magdalena Ave	Signal [b]
22 Rock Mountain Rd & SR-125 SB Ramps	Signal [b]
23 Rock Mountain Rd & SR-125 NB Ramps	Signal [b]
24 Bob Pletcher Way & Wolf Canyon Loop	Signal [c]

[a] *Signal = Traffic signal, OWSC = One–Way Stop-Control*
[b] *These intersections do not exist under Existing Conditions, but would be constructed in various phases of the proposed project.*
[c] *Constructed since study date*
Source: Kimley-Horn and Associates, March 2009.

Figure 4.3-2, *Study Intersections,* on page 4.3-14 displays the location of the study intersections evaluated in the Kimley-Horn Traffic Study.

The intersections of Birch Road/EastLake Parkway and Hunte Parkway/EastLake Parkway and all driveways surrounding the proposed project site are evaluated in more detail within the Year 2030 Build-Out scenarios in Subsection 4.3.3, Impact Analysis, below. The purpose of analyzing these intersections under the Year 2030 Build-Out scenario only is due to the uncertainties related to the location and type of development in each subsequent horizon year.



Not to scale

Source: Kimley-Horn and Associates, Inc., February 2009.

Figure 4.3-2
Study Intersections

The traffic analysis for this study did not include the La Media Road Bridge. The La Media Road Bridge is not scheduled to be completed prior to the study's build-out horizon year of 2030 for this analysis. Analysis of the La Media Road Bridge is included in the General Plan Update EIR traffic analysis, which is incorporated by reference.

(2) Existing Traffic Volumes and Level of Service

The peak-hour intersection turning movements at all study area intersections and the ADT volumes were counted in December 2006 and January 2007 by Field Data Services. At the time of the counts, SR-125 was still under construction and not opened to traffic. However, in November 2007, this facility was opened to the general public, providing a connection between Otay Mesa Road and SR-54.

(a) Roadway Segments

Figure 4.3-3, *Existing ADT Volumes*, on page 4.3-16, illustrates the existing average daily traffic along the roadway segments in the study area. Table 4.3-5, *Existing Conditions - Roadway Segment Level of Service Summary,* on page 4.3-17 summarizes the roadway segments analysis under Existing Conditions. As shown in Table 4.3-5, all roadway segments function at an acceptable LOS in the study area, except for the following segment:

- Olympic Parkway from Northbound Interstate 805 Ramps to Brandywine Avenue (LOS D).

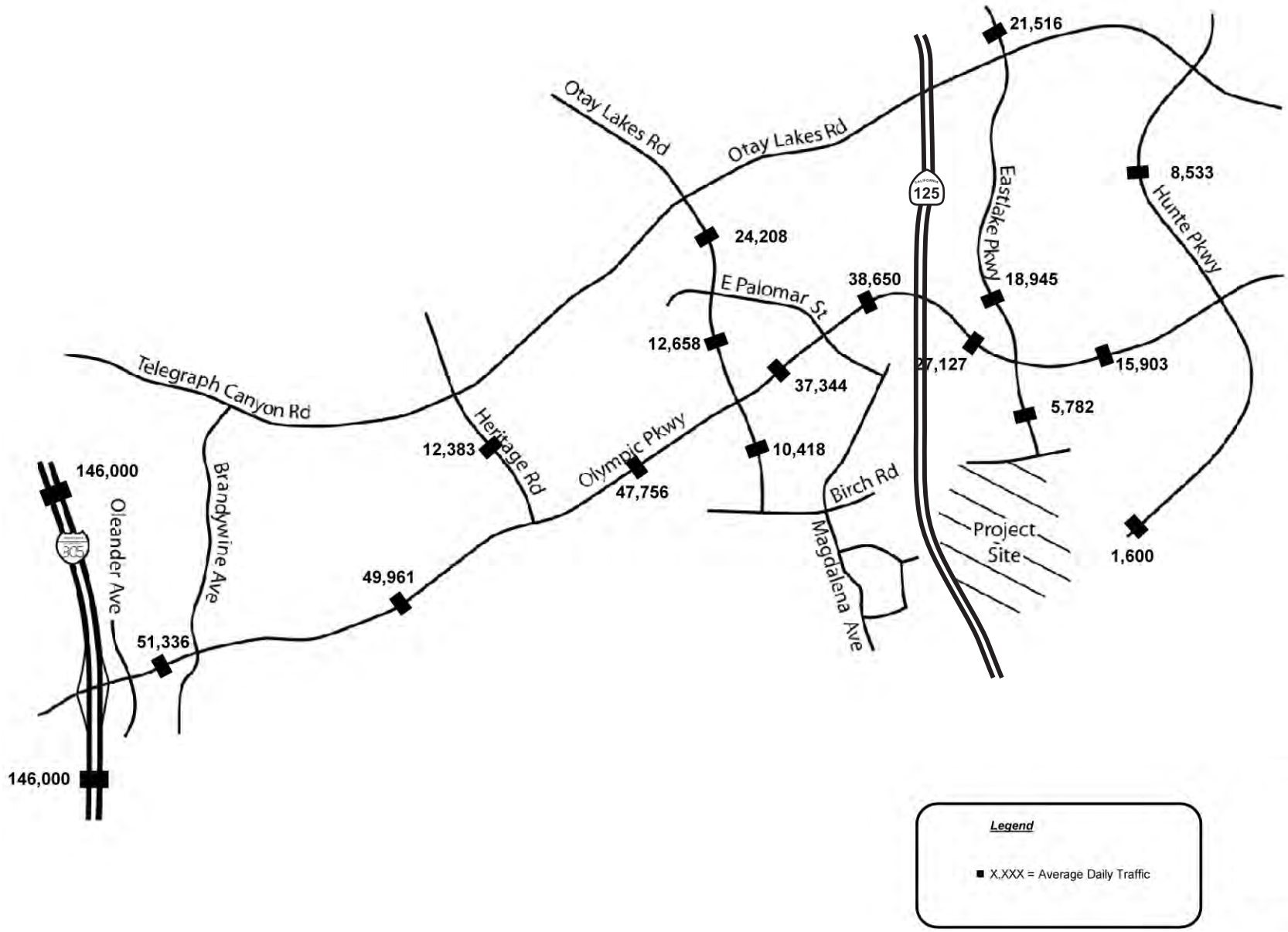
Table 4.3-6, *Existing Conditions - GMOC LOS Summary*, on page 4.3-19 displays the GMOC analysis under Existing Conditions for the segment of Olympic Parkway between I-805 and Hunte Parkway. As shown in the table, both directions of Olympic Parkway in both peak periods operate at LOS C with speeds ranging between 28 mph and 34 mph.

(b) Intersections

Table 4.3-7, *Existing Conditions – Peak Hour Intersection Level of Service Summary,* on page 4.3-20 displays the LOS analysis results for the study intersections under Existing Conditions.[1] As shown in the table, all intersections would operate at LOS D or better during both peak periods, except for the following intersection:

<u>Intersection #1:</u> Telegraph Canyon Road/Heritage Road (LOS E – A.M. peak-hour).

[1] *Appendix C of the Traffic Study contains the intersection LOS calculation worksheets.*



Not to scale

Source: Kimley-Horn and Associates, Inc., February 2009.

Figure 4.3-3
Existing ADT Volumes

Table 4.3-5

Existing Conditions
Roadway Segment Level of Service Summary

Roadway Segment	Roadway Classification [a]	Acceptable Volume [b]	LOS E Capacity	ADT [c]	LOS
Olympic Pkwy					
NB I-805 Ramps to Brandywine Ave	6 Lane Prime Arterial	50,000	62,500	51,336	**D**
Brandywine Ave to Heritage Rd	6 Lane Prime Arterial	50,000	62,500	49,961	C
Heritage Rd to La Media Rd	6 Lane Prime Arterial	50,000	62,500	47,756	C
La Media Ed to E Palomar St	6 Lane Prime Arterial	50,000	62,500	37,344,	A
E Palomar St to SR-125 Ramps	6 Lane Prime Arterial	50,000	62,500	38,650	B
SR-125 Ramps to EastLake Pkwy	8 Lane Prime Arterial	70,000	87,500	27,127	A
EastLake Pkwy to Hunte Pkwy	6 Lane Prime Arterial	50,000	62,500	15,903	A
Main St					
Maxwell Rd to Heritage Pkwy	6 Lane Prime Arterial	50,000	62,500	11,255	A
Hunte Pkwy					
EastLake Pkwy to Olympic Pkwy	6 Lane Prime Arterial	50,000	62,500	1,600	A
Olympic Pkwy to Otay Lakes Rd	4 Lane Prime Arterial	30,000	37,500	8,533	A
La Media Rd					
Telegraph Canyon Rd to E Palomar St	6 Lane Prime Arterial	50,000	62,500	24,208	A
E Palomar St to Olympic Pkwy	6 Lane Prime Arterial	50,000	62,500	12,658	A
Olympic Pkwy to Birch Rd	6 Lane Prime Arterial	50,000	62,500	10,418	A
EastLake Pkwy					
Fenton St to Otay Lakes Rd	4 Lane Major Street	30,000	37,500	21,516	A
Otay Lakes Rd to Olympic Pkwy	4 Lane Major Street	30,000	37,500	18,945	A
Olympic Pkwy to Birch Rd	4 Lane Major Street	30,000	37,500	5,782	A

Table 4.3-5 (Continued)

Existing Conditions
Roadway Segment Level of Service Summary

Roadway Segment	Roadway Classification [a]	Acceptable Volume [b]	LOS E Capacity	ADT [c]	LOS
Heritage Rd					
Otay Lakes Rd to Olympic Pkwy	6 Lane Prime Arterial	50,000	62,500	12,383	A

*Notes: **Bold** values indicate roadway segments operating at LOS D, E or F.*

[a] *Existing roads street classification is based on the City of Chula Vista General Plan.*
[b] *In the City of Chula Vista, the acceptable volume outside the urban core represents a level of services C.*
[c] *Average Daily Traffic (ADT) volumes for the roadway segments were provided by Field Date Services and measured on December 6, 2006.*

Source: Kimley-Horn and Associates, March 2009.

Table 4.3-6

Existing Conditions
GMOC LOS Summary

Roadway Segment	Direction	A.M. Peak		P.M. Peak	
		Speed[a]	LOS[b]	Speed[a]	LOS[b]
Olympic Parkway					
I-805 to Hunte Pkwy.	EB	33.5	C	32.1	C
	WB	28.1	C	31.0	C

[a] *Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).*
[b] *The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.*

Source: Kimley-Horn and Associates, March 2009.

(c) Freeway Segments

Table 4.3-8, *Existing Conditions - Freeway Segment Level of Service Summary*, on page 4.3-21 displays the freeway segments analysis under Existing Conditions. As shown in the table, all freeway segments of I-805 function at LOS D or better in the study area.

(3) Alternative Transportation

Under Existing Conditions, the EUC site is not served by any forms of alternative transportation. However, the EUC is envisioned to become one of the main ridership attractors of the planned South Bay Bus Rapid Transit (BRT) service that would connect downtown San Diego with the Otay Mesa border crossing. Please refer to the discussion under “Threshold 3” in Subsection 4.3.3, Impact Analysis, below, which provides a transit analysis for the proposed project.

4.3.2 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines, Appendix G, impacts regarding traffic and circulation would be significant if the proposed project would:

Threshold 1: *Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

Table 4.3-7

Existing Conditions
Peak-Hour Intersection Level of Service Summary

Intersection		Peak Hour	Existing Delay [a]	Existing LOS [b]
1	Telegraph Canyon Rd & Heritage Rd	A.M.	58.2	**E**
		P.M.	26.2	C
2	Telegraph Canyon Rd & La Media Rd	A.M.	33.7	C
		P.M.	30.2	C
3	Otay Lakes Rd & EastLake Pkwy	A.M.	20.8	C
		P.M.	26.6	C
4	Olympic Pkwy & SB I-805 Ramps	A.M.	18.7	B
		P.M.	29.8	C
5	Olympic Pkwy & NB I-805 Ramps	A.M.	32.0	C
		P.M.	27.5	C
6	Olympic Pkwy & Oleander Ave	A.M.	41.1	D
		P.M.	22.8	C
7	Olympic Pkwy & Brandywine Ave	A.M.	43.1	D
		P.M.	41.6	D
8	Olympic Pkwy & Heritage Rd	A.M.	20.2	C
		P.M.	12.1	B
9	Olympic Pkwy & La Media Rd	A.M.	53.4	D
		P.M.	15.8	B
10	E Palomar St & Olympic Pkwy	A.M.	26.0	C
		P.M.	20.3	C
13	Olympic Pkwy & EastLake Pkwy	A.M.	16.3	B
		P.M.	16.4	B
14	Olympic Pkwy & Hunte Pkwy	A.M.	15.0	B
		P.M.	13.7	B
15	Birch Rd & La Media Rd	A.M.	4.8	A
		P.M.	4.4	A
16	Birch Rd & Magdalena Ave	A.M.	13.6	B
		P.M.	29.4	C

*Note: **Bold** values indicate intersections operating at LOS E or F to the worst movement. All values reflect conditions prior to the opening of the SR125 toll road.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.*

[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0.*

Source: Kimley-Horn and Associates, March 2009.

Table 4.3-8

Existing Conditions[d]
Freeway Segment Level of Service Summary

Freeway Segment	Direction	Number of Lanes	Capacity [a]	ADT [b]	K (Peak Hour %)	D (Directional Split)	Truck Factor	Peak-Hour Volume [c]	V/C Ratio	LOS
				A.M. PEAK						
Interstate 805										
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	146,000	0.066	0.566	0.886	6,139	0.77	C
	SB	4 M	8,000							
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	146,000	0.066	0.566	0.886	6,139	0.67	C
	SB	4 M + 1 A	9,200							
				P.M. PEAK						
Interstate 805										
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	146,000	0.078	0.533	0.887	6,858	0.86	D
	SB	4 M	8,000							
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	146,000	0.078	0.533	0.887	6,858	0.75	C
	SB	4 M + 1 A	9,200							

*Notes: **Bold** values indicate freeway segments operation at LOS E or F. M = Main Lane; A = Auxiliary Lane. All values reflect conditions prior to the opening of the SR125 toll road.*

[a] *The capacity is calculated as 2,000 ADT per main lane and 1,200 ADT per auxiliary lane.*
[b] *Traffic volumes provided by Caltrans*
[c] *Peak-hour volume calculated by (ADT*K*D) / Truck Factor*
[d] *Evaluated at the time of NOP issuance.*

Source: Kimley-Horn and Associates, March 2009.

The significance criteria to evaluate impacts to intersections are based on the City of Chula Vista's *Guidelines for Traffic Impact Studies in the City of Chula Vista*, February 13, 2001 and on the City of Chula Vista's adopted General Plan. At intersections, the measurement of effectiveness (MOE) is based on allowable increases in delay. At roadway segments and freeway segments, the MOE is based on allowable increases in the ADT. Both project specific and cumulative project impacts can be significant impacts. These criteria are outlined below and summarized in Table 4.3-9, *LOS Criteria for Significant Impacts*, on page 4.3-23.

A. Intersections

(1) Project Specific Impact

A project specific impact would occur if the operations at intersections are at LOS E or F and the proposed project trips comprise five percent or more of the entering volume. Entering volumes are the total approach volumes entering an intersection.

(2) Cumulative Impact

A cumulative impact would occur if the operations at intersections are at LOS E or F with the proposed project trips comprising less than five percent of the entering volume.

B. Roadway Segments

(1) Project Specific Impact

A roadway segment that would operate at LOS D or worse within the proposed project is considered a significant impact. In addition, if the proposed project's daily trips would consist of more than five percent of the roadway's capacity and the proposed project would add more than 800 daily trips to the roadway, then the proposed project would cause a direct impact on the roadway segment.

For all roadways, if the intersections along a LOS D or LOS E segment all operate at LOS D or better, the segment impact is not considered significant since the intersection analysis is more indicative of actual roadway system operations than street segment analysis. If segment Level of Service is LOS F, impact is significant regardless of intersection LOS.

Also as stated above, for on-site roadways, the original Otay Ranch GDP states that "while circulation element roads must adhere to prescribed levels of service, these interior roads are permitted to operate at less than established LOS. This is done to further encourage use of alternative modes of transportation."

(2) Cumulative Impact

Table 4.3-9

LOS Criteria for Significant Impacts

Facility	Measurement of Effectiveness (MOE)	Direct Impact Significance Threshold
Intersection	Seconds of delay	LOS E or F and >5% of entering volume
		LOS D, E, or F, >5% of segment volume, and >800 ADT
Roadway Segment	ADT	If intersections along a LOS D or LOS E segment all operate at LOS D or better, the segment impact is not considered significant
Freeway Segment	v/c Ratio (peak-hour / peak direction)	LOS E or F and >5% of the total forecasted ADT volume

Note: If an impact is identified and does not meet the direct impact significance threshold described in this table, the impact is considered a cumulative impact for the proposed project.

Source: Guideline for Traffic Impact Studies in the City of Chula Vista, February 13, 2001 and City of Chula Vista Adopted General Plan.

A cumulative impact would occur if a roadway segment would operate at LOS D or worse and the proposed project contributed less than five percent of the overall capacity or would add less than 800 daily trips.

C. Freeway Segments

(1) Project Specific Impact

A project specific impact would occur if the operations along the freeway segments are at LOS E or F and the proposed project trips comprise five percent or more of the total forecasted ADT on that freeway segment.

(2) Cumulative Impact

A cumulative impact would occur if the operations along a freeway segment are at a LOS E or F and the proposed project trips comprise less than five percent of the total forecasted ADT on that freeway segment.

Threshold 2: *Exceed, either individually or cumulatively, a LOS standard established by the County CMP agency for designated roads or highways.*

As part of the GMOC analysis, the threshold standard for these arterial analyses requires maintenance of LOS C or better as measured by average travel speeds except that LOS D can occur for no more than any two hours of the day. Thus, if LOS D condition is determined for any period of two hours, additional analysis may be required along these high volume segments based on direction provided by the City Engineer.

Threshold 3: *Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

The EUC would include BRT service, local transit and bicycles as a means of alternative transportation. A significant impact would occur if the proposed project conflicts with any local or regional programs or plans supporting alternative modes of transportation.

4.3.3 IMPACT ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area, and PCSI Area are related to short-term construction activities. As these off-site activities would not generate traffic on public streets, these project components are not evaluated with regard to long-term impacts. The construction of the PCSI would result in short-term delays at the intersection of Olympic Parkway and Brandywine Avenue while the sewer line segment is being replaced. As this impact would be temporary and the City would implement a traffic control program, this impact would not be significant. In addition, since the grading options do not affect traffic on public streets, Grading Options 1 and 2 are not evaluated with respect to traffic.

Roadway facilities assumed to be constructed during each study horizon year were estimated for planning purposes only by members of City staff. The facilities were phased in order to more accurately reflect how project traffic and background traffic would be assigned and distributed. They are all included in the City's existing Eastern Transportation Development Impact Fee (TDIF) program. The Eastern TDIF program is responsible for the equitable funding of transportation facilities east of I-805. New development places demands on the existing transportation infrastructure, which can be mitigated by upgrading existing and/or constructing new transportation facilities. The Eastern TDIF provides for future transportation facilities needs due to development through the Year 2030. The developer shall be required to pay appropriate TDIF fees at the building permit phase, as all developers presently do. Local roads and intersections will ultimately be constructed when the City, in its own discretion, determines the necessity for them. Together with the City's Capital Improvement Program and developer exactions, the TDIF program allows the City to ensure the planning, design and construction of new roadway segments and signalized intersections to maintain acceptable LOS standards at buildout of the General Plan. The City shall continue to monitor local TDIF streets by utilizing the City's existing Growth Management Program. The purpose of the City's Growth Management Program, in regards to traffic conditions, is to ensure timely provision of adequate local circulation system capacity in response to planned growth in order to maintain acceptable

Levels of Service (LOS). By using both programs, the City is capable of building future infrastructure as needed.

Threshold 1: *Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).*

Traffic impacts were evaluated for the following Horizon Years as described below: 2010, 2015, 2020 and 2030.

Horizon Year (2010)

- Horizon Year 2010 Conditions: Represents the traffic conditions of the Year 2010 street network without the proposed project, which assumes the completion of several key roadways in the study area (La Media Road, Magdalena Avenue, and EastLake Parkway). In addition, this scenario assumes the completion of SR-125 with interchanges at Otay Lakes Road, Olympic Parkway, and Birch Road in the immediate vicinity and at San Miguel Road and East Street H further to the north, all of which have already been completed.

- Horizon Year 2010 With Project Conditions: Represents the Year 2010 traffic conditions with the addition of the proposed project. Any roadway improvements included as a feature of the proposed project are included in this scenario.

Horizon Year (2015)

- Horizon Year 2015 Conditions: Represents the traffic conditions of the Year 2015 street network without the proposed project, which assumes the completion of Rock Mountain Road between Heritage Road and Magdalena Avenue in the study area.

- Horizon Year 2015 With Project Conditions: Represents the Year 2015 traffic conditions with the addition of the proposed project. Any roadway improvements included as a feature of the proposed project are included in this scenario.

Horizon Year (2020)

- Horizon Year 2020 Conditions: Represents the traffic conditions of the Year 2020 street network without the proposed project, which assumes the extension of Rock Mountain Road over SR-125 in the study area.

- Horizon Year 2020 With Project Conditions: Represents the Year 2020 traffic conditions with the addition of the proposed project. Any roadway improvements included as a feature of the proposed project are included in this scenario.

Build-Out (2030)

- Build-Out Baseline Conditions: Represents the traffic conditions of the street network assumed to be in place under Build-Out conditions without the proposed project. This scenario assumes the completion of the Rock Mountain Road interchange with SR-125 in the study area and the street network is assumed to be consistent with the City's General Plan.

- Build-Out With Project Conditions: Represents the traffic conditions of the street network with the addition of the proposed project. Any roadway improvements included as a feature of the proposed project is included in this scenario.

In order to evaluate traffic conditions in the Horizon Years, it is necessary to first identify the proposed project's traffic contribution to the surrounding roadway network.

A. Project Traffic

The following section describes traffic attributable to the proposed project including the estimated project trip generation, distribution, and assignment for the Horizon Year and Build-Out scenarios.

(1) Trip Generation

Trip generation rates published in the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, SANDAG, April 2002, were applied to the proposed project. Table 4-1 in the Kimley-Horn Traffic Study (March 2009) shows the total trip generation for the proposed project, separated by the 10 different areas/districts of the proposed project. As shown in the table, the overall EUC is estimated to generate a total of 144,849 ADT including 10,709 (7,412 in, 3,297 out) A.M. peak-hour trips and 15,612 (6,541 in, 9,071 out) P.M. peak-hour trips. Of this total, the proposed project generates 124,148 ADT including 9,507 (6,625 in, 2,882 out) A.M. peak-hour trips and 13,431 (5,552 in, 7,879 out) P.M. peak-hour trips. The development of other ownerships within the EUC, which are not part of this proposed project, is estimated to generate 20,684 ADT, including 1,200 (786 in, 414 out) A.M. peak-hour trips and 2,179 (988 in, 1,191 out) P.M. peak-hour trips. The total trip generation shown in the traffic report does not include any trip credit reductions.

Trip credit reductions such as internal capture and transit reductions can be applied to the total trip generation to reduce the amount of traffic generated by the proposed project if each land use within the proposed project site was evaluated individually. An internal trip capture credit

would apply to land uses that have an attraction to each other. Some of these land uses include residential, office, retail, and recreational. Internal capture rates for residential, office, and retail land uses were based on rates outlined in the *ITE Trip Generation Handbook*, 2nd Edition, June 2004. Internal capture rates for recreational uses were estimated based on experiences from other projects similar in nature. The hotel use was included as a retail component. Internal capture rates ranged from zero percent (recreational/retail uses during the morning and afternoon peak-hour) to 60 percent (office/recreational uses during the morning and afternoon peak-hour). The high end would represent the people going to the gym before heading into the office in the morning peak and going to the gym right after work before going home during the afternoon peak.

The proposed project and other ownerships are all located within the area confined by SR-125, Birch Road, EastLake Parkway and Hunte Parkway, have compatible land uses, and will jointly utilize the proposed internal roadway network. Therefore, it is assumed that a number of trips will travel between the different ownerships within the EUC, and will not utilize the surrounding arterial roadway network. As a result, these trips are considered internal trips, as they are internal to the EUC and do not use the Chula Vista roadway network. Internal trip capture calculations incorporate the proposed project land uses and the assumed land uses of the other EUC ownerships. Since the EUC ownerships' uses are included in the internal trip capture numbers, and are assumed to develop simultaneously with the proposed project, the trip generation numbers for the projects are intertwined. Therefore, project analyses in each scenario year incorporate development within the proposed project and the other ownerships. Proposed project trips are isolated when determining significance and share of impacts and for purposes of the PFFP.

The total internal trip capture credit for the overall EUC resulted in a reduction of 45,952 ADT, including 1,374 A.M. peak-hour trips and 3,786 P.M. peak-hour trips. Accounting for the proposed project's share of overall EUC traffic, the proposed project has a share of the internal trip capture credit of approximately 39,357 ADT, including 1,179 a.m. peak-hour trips and 3,244 p.m. peak-hour trips.

Appendix D of the Kimley-Horn Traffic Study contains the detailed calculations for the internal trip capture credit for each future year scenario. In addition, due to the proposed regional and local bus transit services that would be provided within the EUC, a transit trip credit of 10 percent was applied to the residential and office land uses. SANDAG and the City have agreed to a 10 percent mode share assumption for transit credit, which is consistent with the Regional Transportation Plan (RTP). As a result, the total transit trip capture credit for the EUC resulted in a reduction of 5,147 ADT, including 690 (515 in, 175 out) A.M. peak-hour trips and 664 (186 in, 478 out) P.M. peak-hour trips. Accounting for the proposed project's share of EUC project traffic, the proposed project has a total transit trip capture credit of approximately 4,422 ADT.

Table 4-2 from the Kimley-Horn Traffic Study shows the net new trip generation for the EUC and the proposed project (proposed minus internal and transit reductions). As shown in the

table, the net trip generation of the proposed project would total 80,352 ADT, including 7,410 (5,323 in, 2,087 out) a.m. peak-hour trips and 9,568 (3,825 in, 5,743 out) p.m. peak-hour trips.

An estimate of project phasing was provided by the Applicant who estimates building out all residential units within the EUC by the Year 2020. Approximately two million square feet of non-residential uses are planned to be constructed by Year 2020. The remainder of the proposed project would be built by Year 2030. Since further detail is not available, a straight-line growth of residential traffic from 2008 to 2020, a straight-line growth of traffic associated with two million square feet of non-residential uses from 2008 to 2020, and a straight-line growth of traffic associated with 1.5 million square feet of non-residential uses from 2020 to 2030 was assumed. Based on this projected rate of growth, 11 percent of the proposed project is assumed to be built by 2010, 38 percent of the proposed project is assumed to be built by 2015, 65 percent of the proposed project is assumed to be built by 2020, and full build-out of the proposed project by 2030.

Table 4-3 in the Kimley-Horn Traffic Study provides a summary of the net trip generation of each phase. As shown in the table, Phase 1 results in a total of 15,320 ADT (11 percent), Phases 2 and 3 each result in a total of 38,299 ADT (26 percent per phase), and Phase 4 results in a total of 52,931 ADT (37 percent). After subtracting the internal and transit trip credit reductions, the resultant trip volumes equal 10,188 ADT through Phase 1, 36,645 ADT through Phase 2, 61,104 ADT through Phase 3, and 93,750 ADT through build-out.

(2) Trip Distribution

The project trip distribution was based on SANDAG's Series 10 Traffic Forecast Volumes. Adjustments were required to fit the model with the forecast roadway network in its respective year. Please refer to Figures 4-1 to 4-11 in the Kimley-Horn Traffic Study for illustrations of the trip distribution scenarios for all Horizon Year scenarios.[1]

(3) Trip Assignment

Based on the proposed project trip distribution for each respective scenario, the proposed project trips were assigned to the roadway network and to the study intersections. Please refer to Figures 4-12 to 4-21 in the Kimley-Horn Traffic Study for illustrations of the proposed project trip assignments for all Horizon Year scenarios.

[1] *Some of the local streets in the study area are not shown on the figures to keep the figures clean and simple. Only the streets that were evaluated for the roadway segment analysis are shown. There may be locations where streets connect with each other, but are not shown on the figures (i.e., East Palomar Street and Magdalena Avenue). Also, roadway segments with a nominal amount of project traffic (less than one percent) are not shown on any of the figures.*

B. Horizon Year 2010 Conditions

This section provides a description of the Horizon Year condition in the year 2010, both with and without the addition of the proposed project traffic.

(1) Road Network

Under the Horizon Year 2010 scenario, certain improvements have been assumed to be constructed or bonded by others on the best available information available to the City. The following improvements at the study intersections have been assumed to be completed for the Horizon Year 2010:

- Intersection #8 - Olympic Parkway/Heritage Road: Completion of south leg along Heritage Road
- Intersection #11 - Olympic Parkway/SB SR-125 Ramps: Completion of SR-125 interchange, full build-out of intersection
- Intersection #12 - Olympic Parkway/NB SR-125 Ramps: Completion of SR-125 interchange, full build-out of intersection
- Intersection #15 - Birch Road/La Media Road: Completion of west leg along Birch Road and south leg along La Media Road
- Intersection #16 - Birch Road/Magdalena Avenue: Completion of east leg along Birch Road
- Intersection #17 - Birch Road/SB SR-125 Ramps: Completion of SR-125 interchange, full build-out of intersection
- Intersection #18 - Birch Road/NB SR-125 Ramps: Completion of SR-125 interchange, full build-out of intersection
- Intersection #24 - Bob Pletcher Way/Wolf Canyon Loop: Completion of an all-way stop controlled T-intersection.

Figure 5-1 in the Kimley-Horn Traffic Study illustrates the geometrics of the intersections in the study area for the Horizon Year 2010 scenario.

The following list summarizes the roadway segments that have been assumed to be completed for the Horizon Year 2010 scenario with the designated classification shown in parenthesis:

- SR-125 interchanges with Otay Lakes Road, Olympic Parkway, and Birch Road.

- La Media Road south of Birch Road (6-lane prime arterial) to Santa Luna.
- EastLake Parkway between Birch Road and Hunte Parkway (6-lane major arterial).

All intersection and roadway segment improvements listed above are assumed to be built by others and not by the proposed project. Figure 5-2 in Kimley-Horn Traffic Study illustrates the geometrics of the roadway segments in the study area for the Horizon Year 2010 scenario.

(2) Traffic Volumes

Figure 5-3 in the Traffic Study illustrates the peak-hour traffic volumes at the study intersections under the Horizon Year 2010 baseline scenario.

Figure 4.3-4, *Horizon Year 2010 Baseline ADT Volumes*, on page 4.3-31 illustrates the ADT volumes along the roadway segments under the Horizon Year 2010 baseline scenario.

Figure 5-5 in the Traffic Study illustrates the peak-hour traffic volumes at the study intersections with the addition of the proposed project traffic.

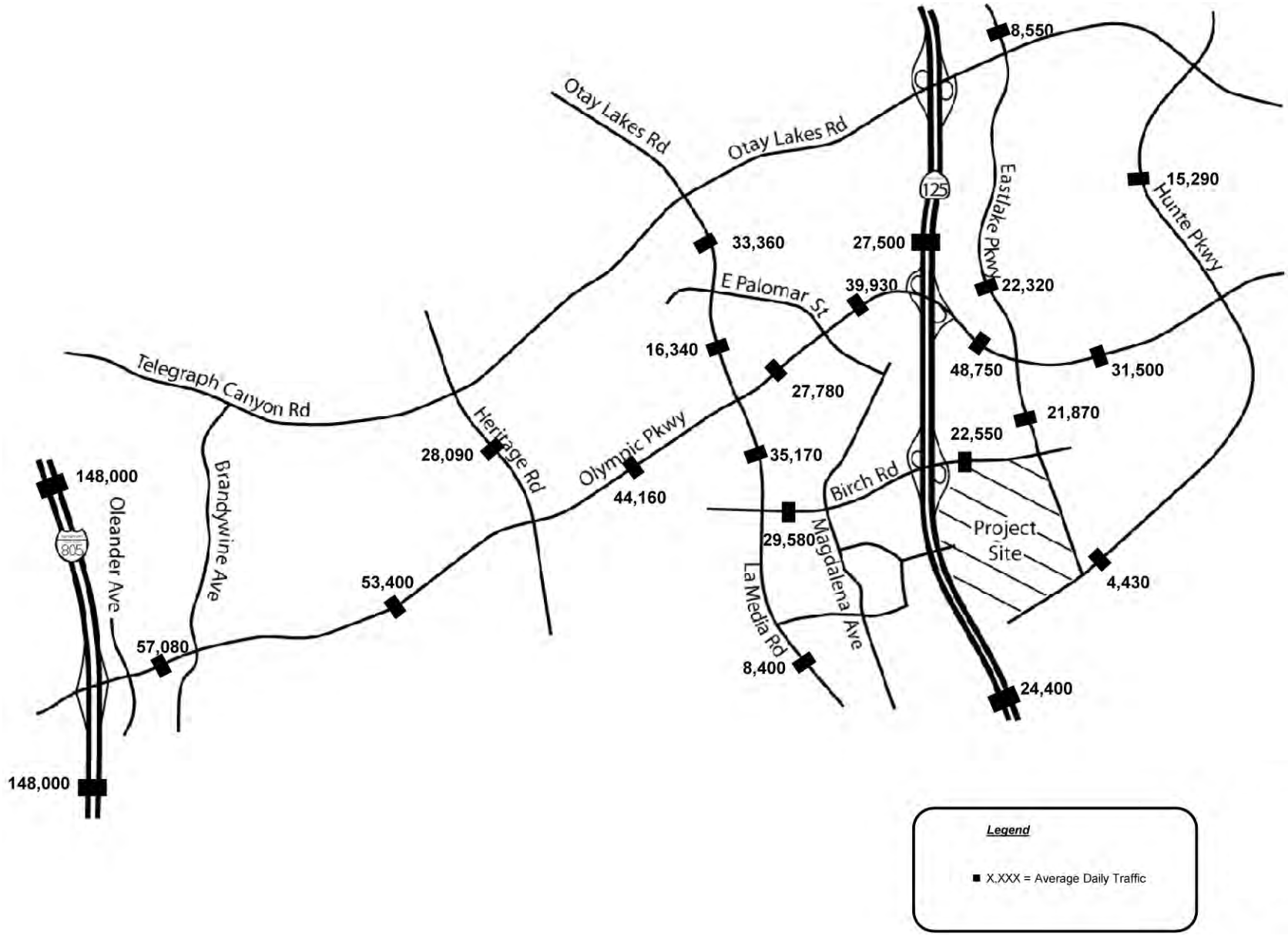
Figure 4.3-5, *Horizon Year 2010 with Project ADT Volumes*, on page 4.3-32 illustrates the ADT volumes along the roadway segments with the addition of project traffic. The total project traffic added during this scenario was 8,783 ADT, which is approximately 11 percent of the overall project traffic.

(3) Intersection Analysis

Table 4.3-10, *Horizon Year 2010 Conditions - Peak-Hour Intersection LOS Summary*, on page 4.3-33 displays the LOS analysis results for the study intersections under the Horizon Year 2010 baseline and 2010 With Project conditions. As shown in the table, the following study intersections would operate at an unacceptable LOS (both cumulative impacts):

- Intersection #7: Olympic Parkway and Brandywine Avenue (LOS E – P.M. peak-hour);
- Intersection #8: Olympic Parkway and Heritage Avenue (LOS E – A.M. peak-hour).

Since the proposed project traffic would consist of less than five percent of the entering traffic at the Olympic Parkway/Brandywine Avenue intersection during the P.M. peak-hour, this intersection would be considered a cumulative project impact under Horizon Year 2010 conditions. Since the proposed project traffic would consist of less than five percent of the entering traffic at the Olympic Parkway/Heritage Road intersection during the A.M. peak-hour, this intersection would also be considered a cumulative project impact under Horizon Year 2010 conditions.

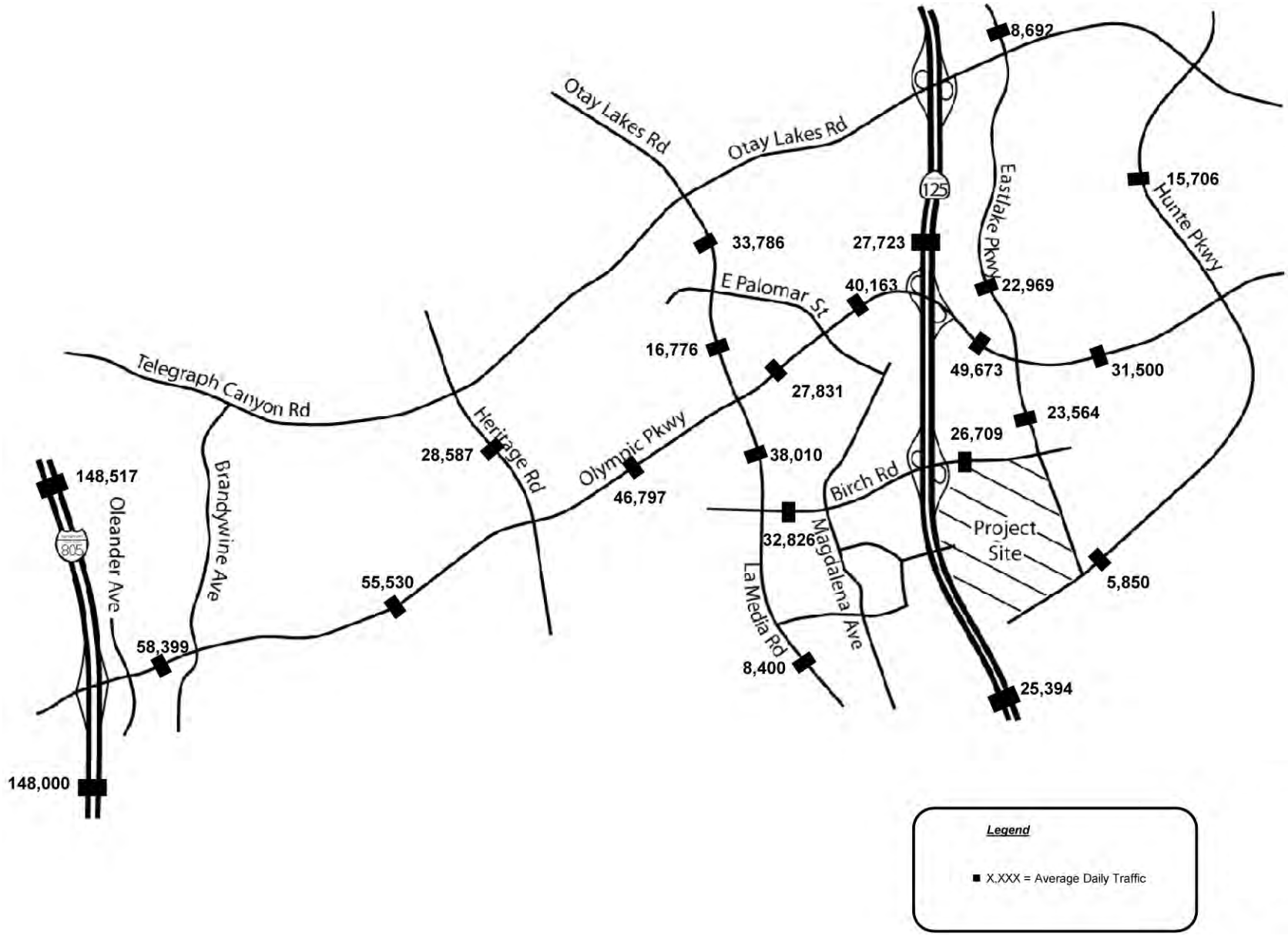


N

Not to scale

Figure 4.3-4
Horizon Year 2010 Baseline ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.



N

Not to scale

Figure 4.3-5
Horizon Year 2010 With Project ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.

Table 4.3-10

Horizon Year 2010 Conditions
Peak-Hour Intersection LOS Summary

	Intersection	Peak Hour	2010 Baseline Delay [a]	2010 Baseline LOS [b]	2010 Baseline With Project Delay [a]	2010 Baseline With Project LOS [b]	Change [c]	Significant?
1	Telegraph Canyon Rd & Heritage Rd	A.M.	29.7	C	30.6	C	1.1%	--
		P.M.	21.1	C	21.8	C	1.6%	--
2	Telegraph Canyon Rd & La Media Rd	A.M.	39.4	D	39.6	D	0.7%	--
		P.M.	28.3	C	28.7	C	0.9%	--
3	Otay Lakes Rd & EastLake Pkwy	A.M.	26.8	C	25.9	C	1.2%	--
		P.M.	28.8	C	28.9	C	1.3%	--
4	Olympic Pkwy & SB I-805 Ramps	A.M.	21.5	C	22.5	C	1.6%	--
		P.M.	33.6	C	35.2	D	1.4%	--
5	Olympic Pkwy & NB I-805 Ramps	A.M.	35.7	D	36.9	D	1.8%	--
		P.M.	30.0	C	31.5	C	2.2%	--
6	Olympic Pkwy & Oleander Ave	A.M.	33.9	C	35.0	C	2.9%	--
		P.M.	28.6	C	30.9	C	3.4%	--
7	Olympic Pkwy & Brandywine Ave	A.M.	49.9	D	47.7	D	3.5%	--
		P.M.	58.7	**E**	64.7	**E**	4.3%	CUMULATIVE
8	Olympic Pkwy & Heritage Rd	A.M.	56.6	**E**	60.9	**E**	3.4%	CUMULATIVE
		P.M.	38.2	D	51.1	D	4.7%	--
9	Olympic Pkwy & La Media Rd	A.M.	44.4	D	46.3	D	5.4%	--
		P.M.	23.0	C	28.7	C	7.1%	--
10	E Palomar St & Olympic Pkwy	A.M.	17.5	B	17.6	B	0.6%	--
		P.M.	21.8	C	21.9	C	0.6%	--
11	Olympic Pkwy & SR-125 SB Ramps	A.M.	7.9	A	8.0	A	1.3%	--
		P.M.	10.1	B	10.1	B	1.0%	--
12	Olympic Pkwy & SR-125 NB Ramps	A.M.	4.0	A	4.1	A	1.5%	--
		P.M.	4.1	A	4.1	A	1.4%	--
13	Olympic Pkwy & EastLake Pkwy	A.M.	25.9	C	27.4	C	3.3%	--
		P.M.	44.3	D	46.8	D	3.2%	--
14	Olympic Pkwy & Hunte Pkwy	A.M.	34.0	C	32.4	C	2.8%	--
		P.M.	23.1	C	23.1	C	3.1%	--
15	Birch Rd & La Media Rd	A.M.	14.1	B	15.6	B	16.8%	--
		P.M.	12.6	B	17.0	B	20.4%	--
16	Birch Rd & Magdalena Ave	A.M.	17.4	B	15.6	B	28.9%	--
		P.M.	22.9	C	18.0	B	34.1%	--
17	Birch Rd & SR-125 SB Ramps	A.M.	7.4	A	5.5	A	60.9%	--
		P.M.	3.4	A	6.0	A	63.2%	--
18	Birch Rd & SR-125 NB Ramps	A.M.	7.5	A	4.7	A	63.3%	--
		P.M.	9.8	A	4.6	A	73.1%	--
19	Main St & Heritage Rd	A.M.				N/A[d]		
		P.M.						

Table 4.3-10 (Continued)

Horizon Year 2010 Conditions
Peak-Hour Intersection LOS Summary

Intersection	Peak Hour	2010 Baseline Delay [a]	2010 Baseline LOS [b]	2010 Baseline With Project Delay [a]	2010 Baseline With Project LOS [b]	Change [c]	Significant?
20 Rock Mountain & La Media Rd	A.M.				N/A [d]		
	P.M.						
21 Rock Mountain Rd & Magdalena Ave	A.M.				N/A [d]		
	P.M.						
22 Rock Mountain Rd & SR-125 SB Ramps	A.M.				N/A [d]		
	P.M.						
23 Rock Mountain Rd & SR-125 NB Ramps	A.M.				N/A [d]		
	P.M.						
24 Bob Pletcher Way & Wolf Canyon Loop	A.M.	7.2	A	7.6	A	42.9%	--
	P.M.	7.2	A	7.6	A	48.7%	--

Note: ***Bold*** *values indicate intersections operating at LOS E or F.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.*

[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0*

[c] *Percentage of peak-hour intersection volumes due to proposed project.*

[d] *Intersections 19 to 23 do not exist or do not have conflicting movements in 2010 with or without project conditions.*

Source: Kimley-Horn and Associates, March 2009.

(4) Roadway Segment Analysis

Table 4.3-11, *Horizon Year 2010 Conditions - Roadway Segment LOS Summary*, on page 4.3-35 displays the roadway segments analysis under the Horizon Year 2010 baseline and 2010 With Project conditions. As shown in the table, the following roadway segments would function at an unacceptable LOS:

- Olympic Parkway from Northbound Interstate 805 Ramps to Brandywine Avenue (LOS E);
- Olympic Parkway from Brandywine Avenue to Heritage Avenue (LOS D).

With all of the intersections along each of these segments operating at an acceptable level of service with the proposed mitigations (as shown later in this chapter in Section E. Year 2030 Build-Out Conditions), there would be no significant roadway segment impacts under this scenario. Since the proposed project would add less than five percent of the overall roadway

Table 4.3-11

Horizon Year 2010 Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	2010 Baseline		2010 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Change in ADT	% of Trips	
Olympic Pkwy									
NB I-805 Ramps to Brandywine Ave	6 Lane Prime Arterial	50,000	57,080	**E**	58,399	**E**	1,319	2.3%	NONE[a]
Brandywine Ave to Heritage Rd	6 Lane Prime Arterial	50,000	53,400	**D**	55,530	**D**	2,130	3.8%	NONE[a]
Heritage Rd to La Media Rd	6 Lane Prime Arterial	50,000	44,160	C	46,797	C	2,637	5.6%	--
La Media Rd to E Palomar St	6 Lane Prime Arterial	50,000	27,780	A	27,831	A	51	0.2%	--
E Palomar St to SR-125 Ramps	6 Lane Prime Arterial	50,000	39,930	B	40,163	B	233	0.6%	--
SR-125 Ramps to EastLake Pkwy	8 Lane Prime Arterial	70,000	48,750	A	49,673	A	923	1.9%	--
EastLake Pkwy to Hunte Pkwy	6 Lane Prime Arterial	50,000	31,500	A	31,500	A	0	0.0%	--
Birch Rd									
La Media Rd to SR-125 Ramps	6 Lane Major Street	40,000	29,580	A	32,826	B	3,246	9.9%	--
SR-125 Ramps to EastLake Pkwy	6 Lane Prime Arterial	50,000	22,550	A	26,709	A	4,159	15.6%	--
Hunte Pkwy									
EastLake Pkwy to Olympic Pkwy	6 Lane Prime Arterial	50,000	4,430	A	5,850	A	1,420	23.4%	--
Olympic Pkwy to Otay Lakes Rd	4 Lane Major Street	30,000	15,290	A	15,706	A	416	2.6%	--
La Media Rd									
Telegraph Canyon Rd to E Palomar St	6 Lane Prime Arterial	50,000	33,360	A	33,786	A	426	1.3%	--
E Palomar St to Olympic Pkwy	6 Lane Prime Arterial	50,000	16,340	A	16,776	A	436	2.6%	--
Olympic Pkwy to Birch Rd	6 Lane Prime Arterial	50,000	35,170	A	38,010	B	2,840	7.5%	--
Birch Rd to Rock Mountain Rd	6 Lane Prime Arterial	50,000	8,400	A	8,400	A	0	0.0%	--

Table 4.3-11 (Continued)

Horizon Year 2010 Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	2010 Baseline		2010 Baseline With Project		Proposed Project		
			ADT	LOS	ADT	LOS	Change in ADT	% of Trips	Impact
EastLake Pkwy									
Fenton St to Otay Lakes Rd	4 Lane Major Street	30,000	8,550	A	8,692	A	142	1.6%	--
Otay Lakes Rd to Olympic Pkwy	4 Lane Major Street	30,000	22,320	A	22,969	B	649	2.8%	--
Olympic Pkwy to Hunte Pkwy	6 Lane Major Street	40,000	21,870	A	23,564	A	1,694	7.2%	--
Heritage Rd									
Otay Lakes Rd to Olympic Pkwy	6 Lane Prime Arterial	50,000	28,090	A	28,587	A	497	1.7%	--

*Note: **Bold** values indicate roadway segments operating at LOS D, E or F.*

[a] *With all of the intersections along each of these segments operating at an acceptable level of service with the proposed mitigations, there would be no significant roadway segment impacts under this scenario. Since the proposed project would add less than five percent of the overall roadway capacity and add less than 800 daily trips to these roadways segments, cumulative project impacts to these roadway segments would not occur under Horizon Year 2010 conditions.*

Source: Kimley-Horn and Associates, March 2009.

capacity and add less than 800 daily trips to these roadways segments, cumulative project impacts to these roadway segments would not occur under Horizon Year 2010 conditions.

(5) Freeway Segment Analysis

Table 4.3-12, *Horizon Year 2010 Conditions - Freeway Segment Level of Service Summary,* on page 4.3-38 displays the freeway segment analysis under the Horizon Year 2010 baseline and 2010 With Project conditions. As shown in the table, no freeway segments would function at an unacceptable LOS. As such, no significant impacts are associated with the proposed project along the freeway segments under this scenario.

C. Horizon Year 2015 Conditions

This section provides a description of the Horizon Year condition in the year 2015, both with and without the addition of the proposed project traffic.

(1) Road Network

Under the Horizon Year 2015 scenario, certain improvements are assumed to be constructed or bonded by others on the best available information available to the City. The following improvements are expected to be completed in the vicinity of the proposed project site:

- Intersection #19 – Heritage Road/Main Street: Completion of north and east legs of intersection;
- Intersection #20 - Rock Mountain Road/La Media Road: New intersection due to the extension of Rock Mountain Road; and,
- Intersection #21 - Rock Mountain Road/Magdalena Avenue: New intersection due to the extension of Rock Mountain Road.

Figure 6-1 in the Kimley-Horn Traffic Study illustrates the geometrics of the intersections in the study area for the Horizon Year 2015 scenario.

The following list summarizes the roadway segments that have been assumed to be completed for the Horizon Year 2015 scenario with the designated classification shown in parenthesis:

- Heritage Road between Olympic Parkway and Main Street (4-lane major arterial);
- Rock Mountain Road between Heritage Road and Magdalena Avenue (6-lane prime arterial).

Table 4.3-12

Horizon Year 2010 Conditions
Freeway Segment LOS Summary

				2010 Baseline							2010 Baseline with Project					
Freeway Segment	**Direction**	**Number of Lanes**	**Capacity [a]**	**ADT [b]**	**K (Peak Hour %)**	**D (Directional Split)**	**Truck Factor**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**ADT [b]**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**V/C Ratio**	**Impact**
							A.M. Peak									
Interstate 805																
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	148,000	0.066	0.566	0.886	6,223	0.778	C	148,670	6,251	0.781	C	0.004	--
	SB	4 M	8,000													
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	148,000	0.066	0.566	0.886	6,223	0.676	C	148,264	6,234	0.678	C	0.001	--
	SB	4 M + 1 A	9,200													
State Route 125																
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	27,500	0.066	0.566	0.886	1,156	0.289	A	28,494	1,198	0.300	A	0.010	--
	SB	2 M	4,000													
Olympic Pkwy to Birch Rd	NB	2 M	4,000	19,400	0.066	0.566	0.886	816	0.204	A	20,110	846	0.211	A	0.007	--
	SB	2 M	4,000													
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	24,400	0.066	0.566	0.886	1,026	0.256	A	24,917	1,048	0.262	A	0.005	--
	SB	2 M	4,000													
Interstate 805																
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	148,000	0.078	0.533	0.887	6,952	0.869	D	148,670	6,983	0.873	D	0.004	--
	SB	4 M	8,000													
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	148,000	0.078	0.533	0.887	6,952	0.756	C	148,264	6,964	0.757	C	0.001	--
	SB	4 M + 1 A	9,200													

Table 4.3-12 (Continued)

Horizon Year 2010 Conditions
Freeway Segment LOS Summary

				2010 Baseline							2010 Baseline with Project					
Freeway Segment	**Direction**	**Number of Lanes**	**Capacity [a]**	**ADT [b]**	**K (Peak Hour %)**	**D (Directional Split)**	**Truck Factor**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**ADT [b]**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**V/C Ratio**	**Impact**
							A.M. Peak									
State Route 125																
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	27,500	0.078	0.533	0.887	1,292	0.323	A	28,494	1,338	0.335	A	0.012	--
	SB	2 M	4,000													
Olympic Pkwy to Birch Rd	NB	2 M	4,000	19,400	0.078	0.533	0.887	911	0.228	A	20,110	945	0.236	A	0.008	--
	SB	2 M	4,000													
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	24,400	0.078	0.533	0.887	1,146	0.287	A	24,917	1,170	0.293	A	0.006	--
	SB	2 M	4,000													

*Note: **Bold** values indicates freeway segments operating at LOS E or F.*

[a] *The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane.*
[b] *Traffic volumes obtained from SANDAG using Chula Vista General Plan Update land uses.*
[c] *Peak-hour volume calculated by: (ADT*K*D)/Truck factor.*

Source: Kimley-Horn and Associates, March 2009.

All intersection and roadway segment improvements listed above are assumed to be built by others and not by the proposed project. It should be noted that the segments of La Media Road and Rock Mountain Road at their point of intersection are classified as 6-lane town center arterials. Figure 6-2 in the Kimley-Horn Traffic Study illustrates the geometrics of the roadway segments in the study area for the Horizon Year 2015 scenario.

(2) Traffic Volumes

Figure 6-3 in the Kimley-Horn Traffic Study illustrates the peak-hour traffic volumes at the study intersections under the Horizon Year 2015 baseline scenario. Figure 4.3-6, *Horizon Year 2015 Baseline ADT Volumes,* on page 4.3-41 illustrates the ADT volumes along the roadway segments under the Horizon Year 2015 baseline scenario. Figure 6-5 in the Traffic Study illustrates the peak-hour traffic volumes at the study intersections with the addition of project traffic. Figure 4.3-7, *Horizon Year 2015 with Project ADT Volumes,* on page 4.3-42 illustrates the ADT volumes under Horizon Year 2015 conditions with project traffic volumes. The total project traffic added during this scenario was 30,729 ADT, which is approximately 38 percent of overall traffic.

(3) Intersection Analysis

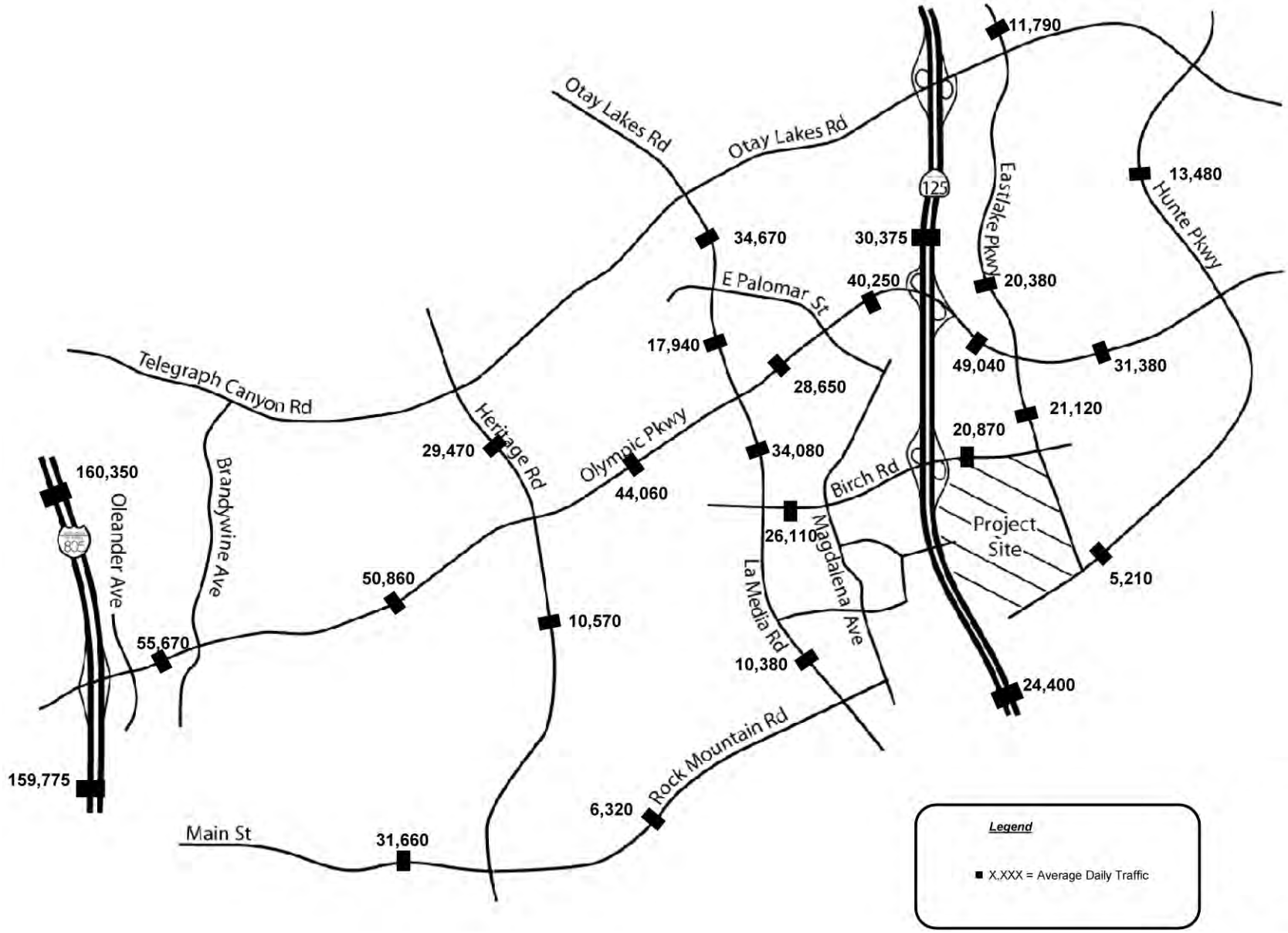
Table 4.3-13, *Horizon Year 2015 Conditions – Peak Hour Intersection LOS Summary*, on page 4.3-43 displays the LOS analysis results for the study intersections under the Horizon Year 2015 baseline and 2015 With Project conditions. As shown in the table, the following study intersections would operate at an unacceptable LOS (both cumulative impacts).

- Intersection #7: Olympic Parkway and Brandywine Avenue (LOS E – P.M. peak-hour);
- Intersection #8: Olympic Parkway and Heritage Avenue (LOS E – A.M. peak-hour).

Since the proposed project traffic would consist of less than five percent of the entering traffic at the Olympic Parkway/Brandywine Avenue intersection during the P.M. peak-hour, this intersection would be considered a cumulative project impact under Horizon Year 2015 conditions. Since the proposed project traffic would consist of less than five percent of the entering traffic at the Olympic Parkway/Heritage Road intersection during the A.M. peak-hour, this intersection would also be considered a cumulative project impact under Horizon Year 2015 conditions.

(4) Roadway Segment Analysis

Table 4.3-14, Horizon Year 2015 Conditions – Roadway Segment LOS Summary, on page 4.3-45 displays the roadway segments analysis under the Horizon Year 2015 baseline and 2015 With Project conditions. As shown in the table, the following roadway segments would function at an unacceptable LOS (direct project impacts are shown in ***bold* and italics**):

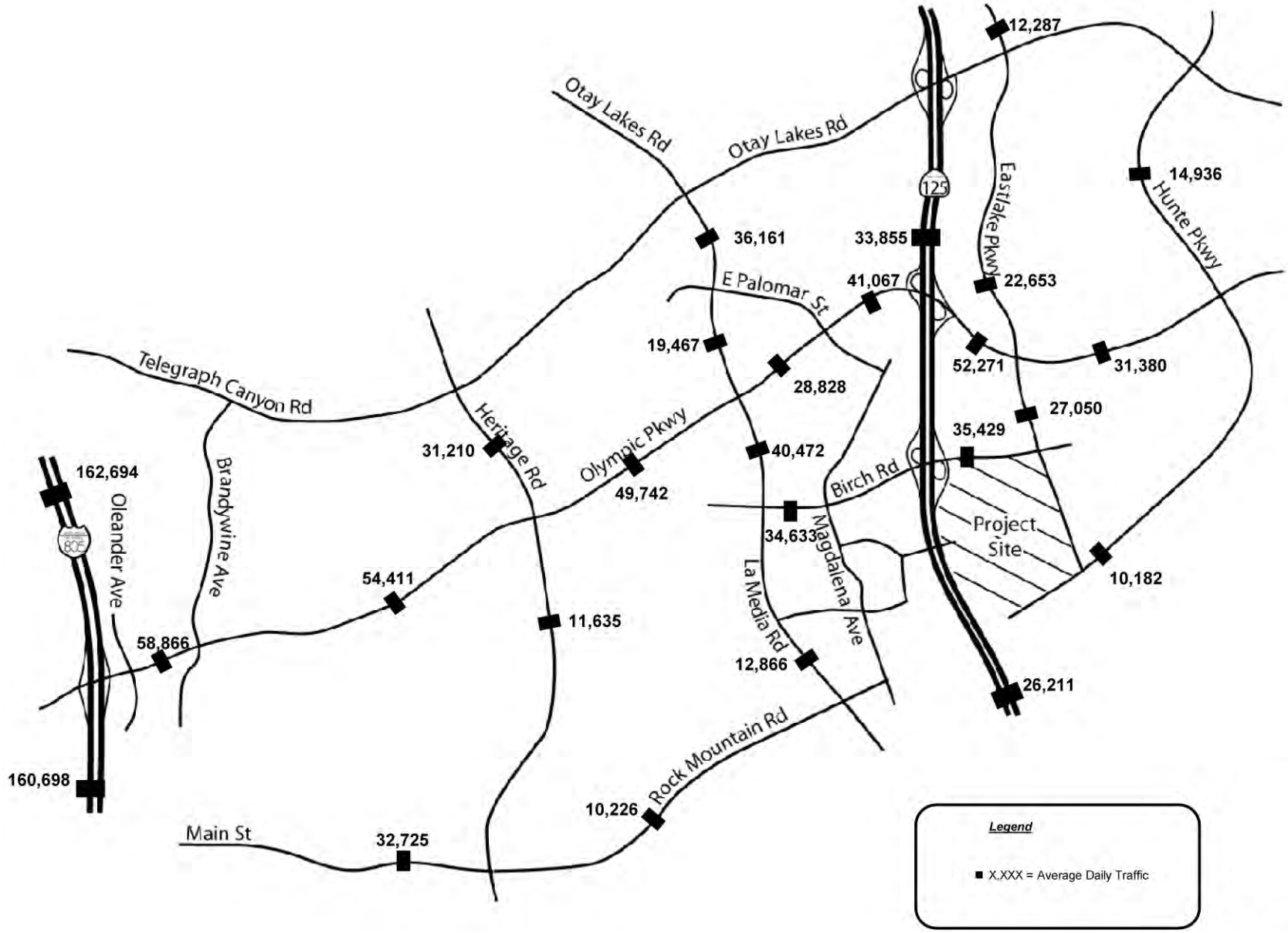


N

Not to scale

Figure 4.3-6
Horizon Year 2015 Baseline ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.



Not to scale

Figure 4.3-7
Horizon Year 2015 With Project ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.

Table 4.3-13

Horizon Year 2015 Conditions
Peak-Hour Intersection LOS Summary

	Intersection	Peak Hour	2015 Baseline Delay [a]	2015 Baseline LOS [b]	2015 Baseline With Project Delay [a]	2015 Baseline With Project LOS [b]	Change [c]	Significant ?
1	Telegraph Canyon Rd & Heritage Rd	A.M.	35.6	D	39.1	D	3.4%	--
		P.M.	24.8	C	26.6	C	4.9%	--
2	Telegraph Canyon Rd & La Media Rd	A.M.	39.8	D	40.2	D	2.4%	--
		P.M.	29.1	C	30.3	C	3.1%	--
3	Otay Lakes Rd & EastLake Pkwy	A.M.	25.8	C	27.7	C	4.0%	--
		P.M.	31.4	C	32.4	C	4.2%	--
4	Olympic Pkwy & SB I-805 Ramps	A.M.	22.4	C	28.1	C	5.4%	--
		P.M.	35.3	D	45.2	D	4.6%	--
5	Olympic Pkwy & NB I-805 Ramps	A.M.	34.5	C	41.6	D	6.1%	--
		P.M.	28.2	C	34.5	C	7.4%	--
6	Olympic Pkwy & Oleander Ave	A.M.	30.4	C	33.6	C	7.0%	--
		P.M.	23.6	C	28.7	C	7.9%	--
7	Olympic Pkwy & Brandywine Ave	A.M.	42.6	D	48.9	D	5.4%	--
		P.M.	49.8	D	52.0	D	6.5%	--
8	Olympic Pkwy & Heritage Rd	A.M.	52.4	D	58.6	**E**	7.6%	DIRECT
		P.M.	35.4	D	44.7	D	10.4%	--
9	Olympic Pkwy & La Media Rd	A.M.	39.5	D	50.0	D	11.8%	--
		P.M.	22.1	C	30.9	C	15.0%	--
10	E Palomar St & Olympic Pkwy	A.M.	19.8	B	20.0	B	2.0%	--
		P.M.	23.4	C	24.2	C	2.1%	--
11	Olympic Pkwy & SR-125 SB Ramps	A.M.	8.0	A	8.1	A	4.5%	--
		P.M.	10.1	B	10.3	B	3.4%	--
12	Olympic Pkwy & SR-125 NB Ramps	A.M.	4.0	A	3.9	A	5.1%	--
		P.M.	4.0	A	4.0	A	4.9%	--
13	Olympic Pkwy & EastLake Pkwy	A.M.	25.2	C	28.6	C	10.9%	--
		P.M.	33.2	C	45.2	D	10.8%	--
14	Olympic Pkwy & Hunte Pkwy	A.M.	27.4	C	27.9	C	8.4%	--
		P.M.	19.6	B	21.2	C	9.4%	--
15	Birch Rd & La Media Rd	A.M.	18.2	B	23.5	C	26.7%	--
		P.M.	18.7	B	28.9	C	31.8%	--
16	Birch Rd & Magdalena Ave	A.M.	18.5	B	19.0	B	38.3%	--
		P.M.	22.2	C	25.6	C	44.7%	--
17	Birch Rd & SR-125 SB Ramps	A.M.	4.8	A	5.4	A	44.2%	--
		P.M.	5.5	A	6.7	A	47.2%	--
18	Birch Rd & SR-125 NB Ramps	A.M.	5.1	A	6.2	A	47.3%	--
		P.M.	5.1	A	6.6	A	51.7%	--
19	Main St & Heritage Rd	A.M.	27.5	C	26.8	C	8.8%	--
		P.M.	31.7	C	37.7	D	10.6%	--

Table 4.3-13 (Continued)

Horizon Year 2015 Conditions
Peak-Hour Intersection LOS Summary

	Intersection	Peak Hour	2015 Baseline Delay [a]	2015 Baseline LOS [b]	2015 Baseline With Project Delay [a]	2015 Baseline With Project LOS [b]	Change [c]	Significant ?
20	Rock Mountain & La Media Rd	A.M.	13.7	B	13.8	B	26.4%	--
		P.M.	14.8	B	13.4	B	31.6%	--
21	Rock Mountain Rd & Magdalena Ave	A.M.	11.9	B	11.9	B	30.2%	--
		P.M.	15.3	B	12.3	B	35.6%	--
22	Rock Mountain Rd & SR-125 SB Ramps	A.M.				N/A [d]		
		P.M.						
23	Rock Mountain Rd & SR-125 NB Ramps	A.M.				N/A [d]		
		P.M.						
24	Bob Pletcher Way & Wolf Canyon Loop	A.M.	7.3	A	8.8	A	71.6%	--
		P.M.	7.2	A	10.0	A	76.3%	--

Notes: ***Bold*** *values indicate intersections operating at LOS E or F.* Bold and shaded *values indicate project direct impact.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.*

[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0.*

[c] *Percentage of peak-hour intersection volumes due to proposed project*

[d] *Intersections 22 and 23 do not exist in 2015 with or without project conditions.*

Source: Kimley-Horn and Associates, March 2009.

- Olympic Parkway from Northbound Interstate 805 Ramps to Brandywine Avenue (LOS E – No significant impact since intersections operate at an acceptable LOS).

- Olympic Parkway from Brandywine Avenue to Heritage Road **(*LOS D*).**

The segment of Olympic Parkway from Northbound I-805 to Brandywine Avenue would not be considered a cumulative impact since the intersections on both ends of the segment would operate at an acceptable LOS. For the segment of Olympic Parkway between Brandywine Avenue and Heritage Road, the proposed project would cause a direct impact since the segment functions at LOS D and exceeds the significance thresholds.

Table 4.3-14

Horizon Year 2015 Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	2015 Baseline		2015 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Change in ADT	% Project Trips	
Olympic Pkwy									
NB I-805 Ramps to Brandywine Ave	6 Lane Prime Arterial	50,000	55,670	**D**	58,866	**E**	3,196	5.4%	NONE[a]
Brandywine Ave to Heritage Rd	6 Lane Prime Arterial	50,000	50,860	**D**	54,411	**D**	3,551	5.6%	DIRECT
Heritage Rd to La Media Rd	6 Lane Prime Arterial	50,000	44,060	C	49,742	C	5,682	11.4%	--
La Media Rd to E Palomar St	6 Lane Prime Arterial	50,000	28,650	A	28,828	A	178	0.6%	--
E Palomar St to SR-125 Ramps	6 Lane Prime Arterial	50,000	40,250	B	41,067	B	817	2.0%	--
SR-125 Ramps to EastLake Pkwy	8 Lane Prime Arterial	70,000	49,040	A	52,271	A	3,231	6.2%	--
EastLake Pkwy to Hunte Pkwy	6 Lane Prime Arterial	50,000	31,380	A	31,380	A	0	0.0%	--
Birch Rd									
La Media Rd to SR-125 Ramps	6 Lane Major Street	40,000	26,110	A	34,633	B	8,523	24.6%	--
SR-125 Ramps to EastLake Pkwy	6 Lane Prime Arterial	50,000	20,870	A	35,429	A	14,559	41.4%	--
Main St									
Maxwell Rd to Heritage Pkwy	6 Lane Prime Arterial	50,000	31,660	A	32,725	A	1,065	3.3%	--
Rock Mountain Road									
Heritage Pkwy to La Media Rd	6 Lane Prime Arterial	50,000	6,320	A	10,226	A	3,906	38.2%	--
Hunte Parkway									
EastLake Pkwy to Olympic Pkwy	6 Lane Prime Arterial	50,000	5,210	A	10,182	A	4,972	48.8%	--
Olympic Pkwy to Otay Lakes Rd	4 Lane Major Street	30,000	13,480	A	14,936	A	1,456	9.7%	--
La Media Rd									
Telegraph Canyon Rd to E Palomar St	6 Lane Prime Arterial	50,000	34,670	A	36,161	A	1,491	4.1%	--
E Palomar St to Olympic Pkwy	6 Lane Prime Arterial	50,000	17,940	A	19,467	A	1,527	7.8%	--
Olympic Pkwy to Birch Rd	6 Lane Prime Arterial	50,000	34,080	A	40,472	B	6,392	15.8%	--
Birch Rd to Rock Mountain Rd	6 Lane Prime Arterial	50,000	10,380	A	12,866	A	2,486	19.3%	--

Table 4.3-14 (Continued)

Horizon Year 2015 Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	2015 Baseline		2015 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Change in ADT	% Project Trips	
EastLake Pkwy									
Fenton St to Otay Lakes Rd	4 Lane Major Street	30,000	11,790	A	12,287	A	497	4.0%	--
Otay Lakes Rd to Olympic Pkwy	4 Lane Major Street	30,000	20,380	A	22,653	B	2,273	10.0%	--
Olympic Pkwy to Hunte Pkwy	6 Lane Major Street	40,000	21,120	A	27,050	A	5,930	21.9%	--
Heritage Rd									
Otay Lakes Rd to Olympic Pkwy	6 Lane Prime Arterial	50,000	29,470	A	31,210	A	1,740	5.6%	--
Olympic Pkwy to Rock Mountain Rd	4 Lane Major Street	30,000	10,570	A	11,635	A	1,065	9.2%	--

Notes: ***Bold*** *values indicate roadway segments operating at LOS E or F.* ***Bold and shaded*** *values indicate project direct impact.*

[a] *All signalized intersections along roadway segment are operating at LOS D or better during both peak-hours; therefore, there is no impact.*

Source Kimley-Horn and Associates, March 2009.

(5) Freeway Segment Analysis

Table 4.3-15, *Horizon Year 2015 Conditions, Freeway Segment LOS Summary,* on page 4.3-48 displays the freeway segment analysis under the Horizon Year 2015 baseline and 2015 With Project conditions. As shown in the table, the following freeway segment would function at an unacceptable LOS (cumulative impact):

- Southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (LOS E – P.M. peak-hour).

Since the proposed project traffic would consist of less than five percent of the capacity for the above freeway segment, the segment would have a cumulative project impact under Horizon Year 2015 conditions.

D. Horizon Year 2020 Conditions

This section provides a description of the Horizon Year condition in the year 2020 with the completion of the Rock Mountain overpass, both with and without the addition of the proposed project traffic.

(1) Road Network

Under the Horizon Year 2020 scenario certain improvements are assumed to be constructed or bonded by others on the best available information available to staff. The following improvement has been assumed to be completed for the Horizon Year 2020 scenario:

- Intersection #21: Rock Mountain Road/Magdalena Avenue: Addition of east leg caused by the extension of Rock Mountain Road to the east.

Figure 7-1 in the Kimley-Horn Traffic Study illustrates the geometrics of the intersections in the study area for the Horizon Year 2020 scenario.

The following summarizes the roadway segments assumed to be completed for the Horizon Year 2020 scenario with the designated classification shown in parenthesis:

- Rock Mountain Road between Magdalena Avenue and SR-125 (6-lane prime arterial);
- Hunte Parkway between SR-125 and EastLake Parkway (Town Center Arterial).

All intersection and roadway segment improvements listed above are assumed to be built by others and not by the proposed project. Figure 7-2 in Traffic Study illustrates the geometrics of the roadway segments in the study area for the Horizon Year 2020 scenario.

Table 4.3-15

Horizon Year 2015 Conditions
Freeway Segment LOS Summary

Freeway Segment	Direction	Number of Lanes	Capacity [a]	2015 Baseline ADT [b]	2015 Baseline Peak Hour Volume [c]	2015 Baseline V/C Ratio	2015 Baseline LOS	2015 Baseline with Project ADT [b]	2015 Baseline with Project Peak Hour Volume [c]	2015 Baseline with Project V/C Ratio	2015 Baseline with Project LOS	V/C Ratio	Impact
					A.M. Peak								
Interstate 805													
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	160,350	6,742	0.843	D	162,836	6,847	0.856	D	0.013	--
	SB	4 M	8,000										
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	159,775	6,718	0.730	C	160,840	6,763	0.735	C	0.005	--
	SB	4 M + 1 A	9,200										
State Route 125													
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	30,375	1,277	0.319	A	33,926	1,427	0.357	A	0.037	--
	SB	2 M	4,000										
Olympic Pkwy to Birch Rd	NB	2 M	4,000	23,000	967	0.242	A	25,486	1,072	0.268	A	0.026	--
	SB	2 M	4,000										
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	28,425	1,195	0.299	A	30,201	1,270	0.317	A	0.019	--
	SB	2 M	4,000										
Interstate 805													
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	160,350	7,532	0.942	**E**	162,836	7,649	0.956	**E**	0.015	CUMULATIVE
	SB	4 M	8,000										
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	159,775	7,505	0.816	D	160,840	7,555	0.821	D	0.005	--
	SB	4 M + 1 A	9,200										

Table 4.3-15 (Continued)

Horizon Year 2015 Conditions
Freeway Segment LOS Summary

				2015 Baseline				2015 Baseline with Project					
Freeway Segment	**Direction**	**Number of Lanes**	**Capacity [a]**	**ADT [b]**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**ADT [b]**	**Peak Hour Volume[c]**	**V/C Ratio**	**LOS**	**V/C Ratio**	**Impact**
					A.M. Peak								
State Route 125													
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	30,375	1,427	0.357	A	33,926	1,594	0.398	A	0.042	--
	SB	2 M	4,000										
Olympic Pkwy to Birch Rd	NB	2 M	4,000	23,000	1,080	0.270	A	25,486	1,197	0.299	A	0.029	--
	SB	2 M	4,000										
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	28,425	1,335	0.334	A	30,201	1,419	0.355	A	0.021	--
	SB	2 M	4,000										

*Note: **Bold** values indicates freeway segments operating at LOS E or F.*

[a] *The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane.*
[b] *Traffic volumes obtained from SANDAG using Chula Vista General Plan Update land uses.*
[c] *Peak-hour volume calculated by: (ADT*K*D))/Truck factor.*

Source: Kimley-Horn and Associates March 2009.

(2) Traffic Volumes

Figure 7-3 in the Kimley-Horn Traffic Study illustrates the peak-hour traffic volumes at the study intersections under the Horizon Year 2020 baseline scenario. Figure 4.3-8, *Horizon Year 2020 Baseline ADT Volumes*, on page 4.3-51 illustrates the ADT volumes along the roadway segments under the Horizon Year 2020 baseline scenario. Figure 7-5 in the Kimley-Horn Traffic Study illustrates the peak-hour traffic volumes at the study intersections with the addition of the proposed project traffic. Figure 4.3-9, *Horizon Year 2020 with Project, ADT Volumes*, on page 4.3-52 illustrates the ADT volumes along the roadway segments with the addition of the proposed project traffic. The total project traffic added during this scenario was 52,676 ADT, which is approximately 65 percent of overall traffic.

(3) Intersection Analysis

Table 4.3-16, *Horizon Year 2020 Conditions – Peak-Hour Intersection LOS Summary*, on page 4.3-53 displays the LOS analysis results for the study intersections under the Horizon Year 2020 baseline and 2020 With Project conditions. As shown in the table, the following study intersection would operate at an unacceptable LOS (direct project impacts shown in ***bold and italics***):

- *Intersection #19*: Main Street / Rock Mountain Road and Heritage Road **(*LOS E – P.M. peak-hour*).**

Since the proposed project traffic would consist of more than five percent of the entering traffic for the above intersection, it would be directly impacted by the proposed project under Horizon Year 2020 conditions. It should be noted that the two intersections previously impacted along Olympic Parkway would now operate at an acceptable LOS. Traffic volumes at these locations have decreased over time, which could be attributed to changes in travel patterns with drivers shifting from a congested I-805 to SR-125.

(4) Roadway Segment Analysis

Table 4.3-17, *Horizon Year 2020 Conditions, Roadway Segment LOS Summary*, on page 4.3-55 displays the roadway segments analysis under the Horizon Year 2020 baseline and 2020 With Project conditions. As shown in the table, the following roadway segments would function at an unacceptable LOS.

- Olympic Parkway from Northbound Interstate 805 Ramps to Brandywine Avenue (***LOS E***);
- Olympic Parkway from Brandywine Avenue to Heritage Avenue (***LOS D***); and
- Olympic Parkway from Heritage Road to La Media Road (**LOS D**).

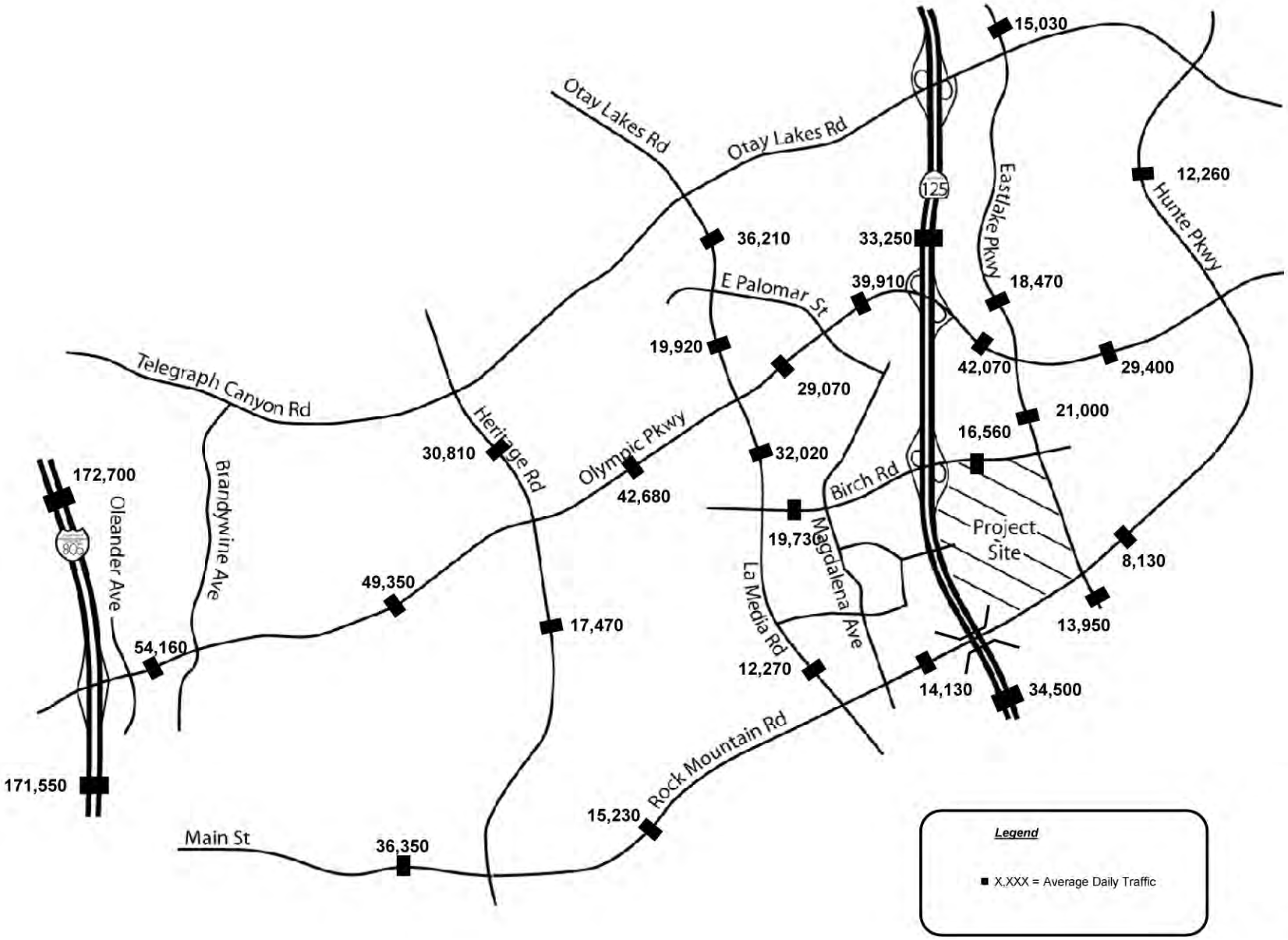
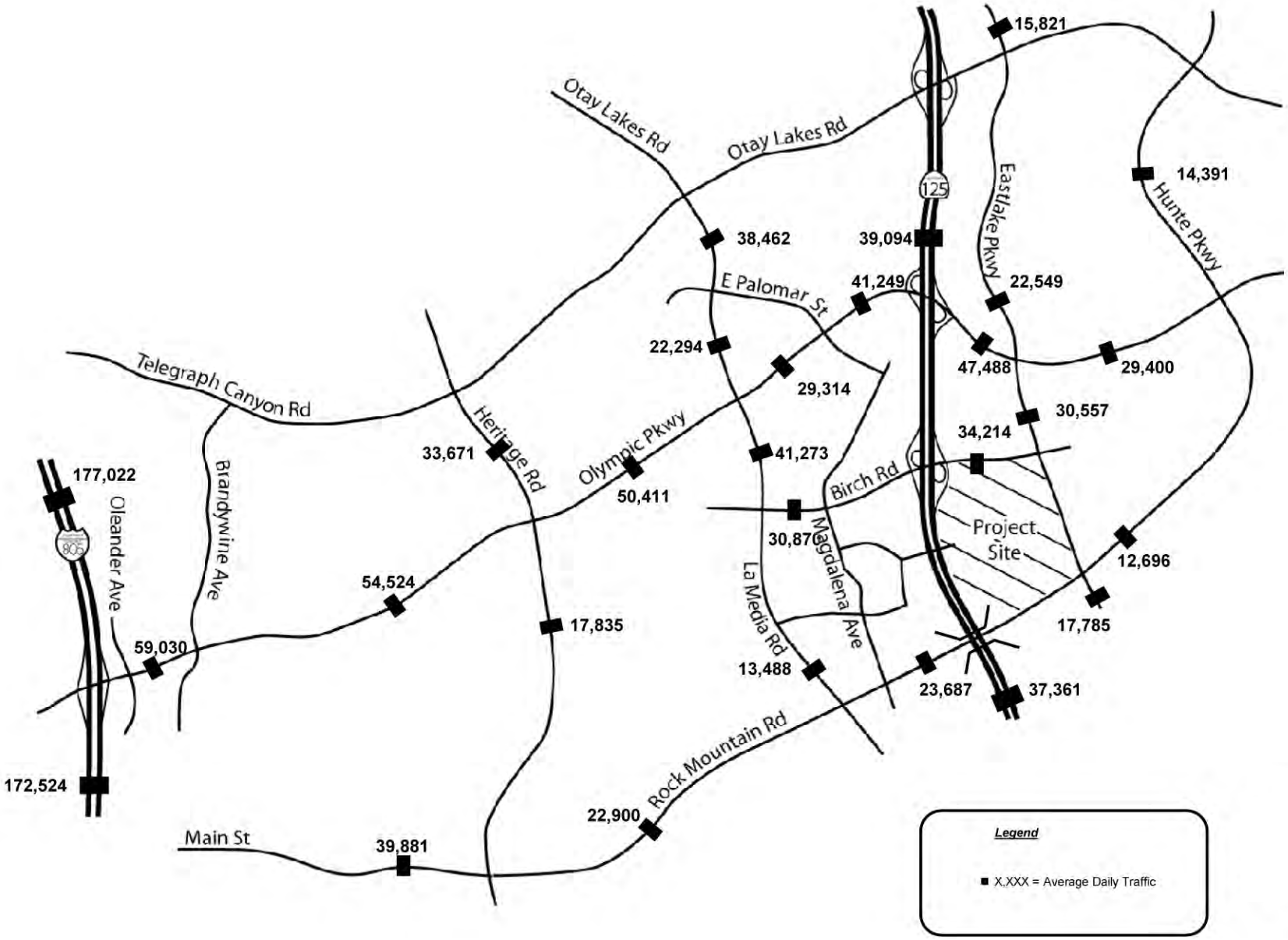


Figure 4.3-8
Horizon Year 2020 Baseline ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.



Not to scale

Figure 4.3-9
Horizon Year 2020 With Project ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.

Table 4.3-16

Horizon Year 2020 Conditions
Peak-Hour Intersection LOS Summary

Intersection	Peak Hour	2020 Baseline Delay [a]	2020 Baseline Los [b]	2020 Baseline with Project Delay [a]	2020 Baseline with Project LOS [b]	% [c]	Significant?
1. Telegraph Canyon Rd & Heritage Rd.	A.M.	46.3	D	49.5	D	3.7%	--
	P.M.	25.8	C	32.2	C	5.2%	--
2. Telegraph Canyon Rd & La Media Rd	A.M.	43.3	D	44.4	D	3.4%	--
	P.M.	32.0	C	34.7	C	4.4%	--
3. Otay Lakes Rd & EastLake Pkwy	A.M.	26.6	C	36.2	D	5.6%	--
	P.M.	37.0	D	38.6	D	5.8%	--
4. Olympic Pkwy & SB I-805 Ramps	A.M.	23.8	C	41.6	D	7.3%	--
	P.M.	35.1	D	48.9	D	5.9%	--
5. Olympic Pkwy & NB I-805 Ramps	A.M.	33.6	C	44.1	D	7.9%	--
	P.M.	26.6	C	36.6	D	9.6%	--
6. Olympic Pkwy & Oleander Ave	A.M.	28.1	C	31.8	C	9.2%	--
	P.M.	21.3	C	28.1	C	10.4%	--
7. Olympic Pkwy & Brandywine Ave	A.M.	46.6	D	54.4	D	7.2%	--
	P.M.	47.6	D	53.4	D	8.6%	--
8. Olympic Pkwy & Heritage Rd	A.M.	49.0	D	54.8	D	9.2%	--
	P.M.	37.3	D	42.1	D	12.5%	--
9. Olympic Pkwy & La Media Rd	A.M.	36.9	D	50.3	D	14.2%	--
	P.M.	23.8	C	33.2	C	17.8%	--
10. E. Palomar St & Olympic Pkwy	A.M.	20.0	B	18.9	B	2.9%	--
	P.M.	26.4	C	29.3	C	2.9%	--
11. Olympic Pkwy & SR-125 SB Ramps	A.M.	10.0	A	9.3	A	6.5%	--
	P.M.	10.1	B	10.4	B	5.0%	--
12. Olympic Pkwy & SR-125 NB Ramps	A.M.	3.9	A	3.9	A	7.5%	--
	P.M.	3.9	A	3.8	A	7.2%	--
13. Olympic Pkwy & EastLake Pkwy	A.M.	25.0	C	33.2	C	15.6%	--
	P.M.	30.0	C	43.3	D	15.5%	--
14. Olympic Pkwy & Hunte Pkwy	A.M.	23.1	C	24.4	C	11.1%	--
	P.M.	18.9	B	25.3	C	12.3%	--
15. Birch Rd & La Media Rd	A.M.	21.1	C	29.9	C	26.5%	--
	P.M.	26.5	C	44.9	D	29.4%	--
16. Birch Rd & Magdalena Ave	A.M.	20.2	C	20.9	C	36.9%	--
	P.M.	22.5	C	29.4	C	39.3%	--
17. Birch Rd & SB-125 SB Ramps	A.M.	4.5	A	6.7	A	42.9%	--
	P.M.	8.6	A	12.3	B	41.3%	--
18. Birch Rd & SB-125 NB Ramps	A.M.	5.4	A	17.8	B	46.3%	--
	P.M.	6.0	A	24.4	C	44.9%	--
19. Main St & Heritage Rd	A.M.	34.1	C	40.4	D	13.2%	--
	P.M.	48.4	D	61.3	**E**	15.6%	DIRECT
20. Rock Mountain Rd & La Media Rd	A.M.	17.0	B	20.1	C	22.6%	--
	P.M.	20.9	C	32.3	C	25.2%	--

Table 4.3-16 (Continued)

Horizon Year 2020 Conditions
Peak-Hour Intersection LOS Summary

Intersection	Peak Hour	2020 Baseline Delay [a]	2020 Baseline Los [b]	2020 Baseline with Project Delay [a]	2020 Baseline with Project LOS [b]	% [c]	Significant?
21. Rock Mountain Rd. & Magdalena Ave	A.M.	19.2	B	24.1	C	26.6%	--
	P.M.	15.8	B	21.0	C	31.5%	--
22. Rock Mountain Rd & SR-125 SB Ramps	A.M.				N/A [d]		
	P.M.						
23. Rock Mountain Rd & SR-125 NB Ramp	A.M.				N/A [d]		
	P.M.						
24. Bob Pletcher Way & Wolf Canyon Loop	A.M.	7.3	A	9.9	A	67.2%	--
	P.M.	7.2	A	12.4	B	70.5%	--

Notes: ***Bold*** *values indicate intersections operating at LOS e or F.* ***Bold and shaded*** *values indicate project direct impact.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.*

[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0*

[c] *Percentage of peak-hour intersection volumes due to proposed project.*

[d] *Intersections 22 and 23 do not have conflicting movements in 2020 with Rock Mountain overpass with or without project conditions*

Source: Kimley-Horn and Associates, March 2009.

Although the forecasted LOS for these roadway segments is considered unacceptable, no significant impacts would occur since the intersections along each of the three segments operate at an acceptable LOS.

(5) Freeway Segment Analysis

Table 4.3-18, *Horizon Year 2020 Conditions – Freeway Segment LOS Summary*, on page 4.3-57 displays the freeway segment analysis under the Horizon Year 2020 baseline and 2020 With Project conditions.

As shown in the table, the following freeway segments would function at an unacceptable LOS:

- Northbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (**LOS E – A.M. peak-hour**);

Table 4.3-17

Horizon Year 2020 Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	Year 2020 Baseline		2020 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Δ in ADT	% Project Trips	
Olympic Pkwy									
NB I-805 Ramps to Brandywine Ave	6 Lane Prime Arterial	50,000	54,160	**D**	59,030	**E**	4,216	7.1%	NONE[a]
Brandywine Ave to Heritage Rd	6 Lane Prime Arterial	50,000	49,350	C	54,524	**D**	4,480	8.2%	NONE[a]
Heritage Rd to La Media Rd	6 Lane Prime Arterial	50,000	42,680	B	50,411	**D**	6,693	13.3%	NONE[a]
La Media Rd to E Palomar St	6 Lane Prime Arterial	50,000	29,070	A	29,314	A	211	0.7%	--
E Palomar St to SR-125 Ramps	6 Lane Prime Arterial	50,000	39,910	B	41,249	B	1,159	2.8%	--
SR-125 Ramps to EastLake Pkwy	8 Lane Prime Arterial	70,000	42,070	A	47,488	A	4,691	9.9%	--
EastLake Pkwy to Hunte Pkwy	6 Lane Prime Arterial	50,000	29,400	A	29,400	A	0	0.0%	--
Birch Rd									
La Media Rd to SR-125 Ramps	6 Lane Major Arterial	40,000	19,730	A	30,870	B	9,645	31.2%	--
SR-125 Ramps to EastLake Pkwy	6 Lane Prime Arterial	50,000	16,560	A	34,214	A	15,284	44.7%	--
Main St									
Maxwell Rd to Heritage Pkwy	6 Lane Prime Arterial	50,000	36,350	A	39,881	B	3,057	7.7%	--
Rock Mountain Rd									
Heritage Pkwy to La Media Rd	6 Lane Prime Arterial	50,000	15,230	A	22,900	A	6,640	29.0%	--
La Media Rd to SR-125 Ramps	6 Lane Town Center Arterial	50,000	14,130	A	23,687	A	8,274	34.9%	--
Hunte Pkwy									
SR-125 Ramps to EastLake Pkwy	6 Lane Town Center Arterial	50,000	14,130	A	23,687	A	8,274	34.9%	--
EastLake Pkwy to Olympic Pkwy	6 Lane Prime Arterial	50,000	8,130	A	12,696	A	3,953	31.1%	--
Olympic Pkwy to Otay Lakes Rd	4 Lane Major Street	30,000	12,260	A	14,391	A	1,845	12.8%	--

Table 4.3-17 (Continued)

Horizon Year 2020 Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	Year 2020 Baseline		2020 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Δ in ADT	% Project Trips	
La Media Rd									
Telegraph Canyon Rd to E Palomar St	6 Lane Prime Arterial	50,000	36,210	A	38,462	B	1,950	5.1%	--
E Palomar St to Olympic Pkwy	6 Lane Prime Arterial	50,000	19,920	A	22,294	A	2,055	9.2%	--
Olympic Pkwy to Birch Rd	6 Lane Prime Arterial	50,000	32,020	A	41,273	B	8,011	19.4%	--
Birch Rd to Rock Mountain Rd	6 Lane Prime Arterial	50,000	12,270	A	13,488	A	1,055	7.8%	--
South of Rock Mountain Rd	6 Lane Town Center Arterial	50,000	13,230	A	13,230	A	0	0.0%	--
EastLake Pkwy									
Fenton St to Otay Lakes Rd	4 Lane Major Street	30,000	15,030	A	15,821	A	685	4.3%	--
Otay Lakes Rd to Olympic Pkwy	4 Lane Major Street	30,000	18,470	A	22,549	B	3,531	15.7%	--
Olympic Pkwy to Hunte Pkwy	6 Lane Major Street	40,000	21,000	A	30,557	B	8,274	27.1%	--
South of Hunte Pkwy	4 Lane Major Street	30,000	13,950	A	17,785	A	3,320	18.7%	--
Heritage Rd									
Otay Lakes Rd to Olympic Pkwy	6 Lane Prime Arterial	50,000	30,810	A	33,671	A	2,477	7.4%	--
Olympic Pkwy to Rock Mountain Rd	6 Lane Prime Arterial	50,000	17,470	A	17,835	A	316	1.8%	--

Notes: ***Bold*** *values indicate roadway segments operating at LOS E or F.* ***Bold and shaded*** *values indicate project direct impact.*

[a] *All signalized intersections along roadway segment are operating at LOS D or better during both peak-hours; therefore, there is no impact*

Source: Kimley-Horn and Associates, March 2009.

Table 4.3-18

Horizon Year 2020 Conditions
Freeway Segment LOS Summary

				2020 Baseline				2020 Baseline with Project					
Roadway Segments	**Direction**	**Number of Lanes**	**Capacity [a]**	**ADT [b]**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**ADT [b]**	**Peak Hour Volume[c]**	**V/C Ratio**	**LOS**	**V/C Ratio**	**Impact**
					A.M. Peak								
Interstate 805													
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	172,700	7,262	0.908	D	177,022	7,443	0.930	**E**	0.023	CUMULATIVE
	SB	4 M	8,000										
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	171,550	7,213	0.784	C	172,524	7,254	0.789	C	0.004	--
	SB	4 M + 1 A	9,200										
State Route 125													
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	33,250	1,398	0.350	A	39,094	1,644	0.411	B	0.061	--
	SB	2 M	4,000										
Olympic Pkwy to Birch Rd	NB	2 M	4,000	26,600	1,118	0.280	A	30,740	1,293	0.323	A	0.044	--
	SB	2 M	4,000										
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	32,450	1,364	0.341	A	35,311	1,485	0.371	A	0.030	--
	SB	2 M	4,000										
Interstate 805													
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	172,700	8,112	1.014	**F0**	177,022	8,315	1.039	**F0**	0.025	CUMULATIVE
	SB	4 M	8,000										
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	171,550	8,058	0.876	D	172,524	8,104	0.881	D	0.005	--
	SB	4 M + 1 A	9,200										

Table 4.3-18 (Continued)

Horizon Year 2020 Conditions (Rock Mountain Overpass)
Freeway Segment LOS Summary

				2020 Baseline				2020 Baseline with Project					
Roadway Segments	**Direction**	**Number of Lanes**	**Capacity [a]**	**ADT [b]**	**Peak Hour Volume [c]**	**V/C Ratio**	**LOS**	**ADT [b]**	**Peak Hour Volume[c]**	**V/C Ratio**	**LOS**	**V/C Ratio**	**Impact**
					A.M. Peak								
State Route 125													
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	33,250	1,562	0.390	A	39,094	1,836	0.459	B	0.069	--
	SB	2 M	4,000										
Olympic Pkwy to Birch Rd	NB	2 M	4,000	26,600	1,249	0.312	A	30,740	1,444	0.361	A	0.049	--
	SB	2 M	4,000										
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	32,450	1,524	0.381	A	35,311	1,659	0.415	B	0.034	--
	SB	2 M	4,000										

Note: ***Bold*** *values indicates freeway segments operating at LOS E or F.*

[a] *The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane.*
[b] *Traffic volumes obtained from SANDAG using Chula Vista General Plan Update land uses.*
[c] *Peak-hour volume calculated by: (ADT*K*D))/Truck factor.*

Source: Kimley-Horn and Associates, March 2009.

- Southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (**LOS F – P.M. peak-hour**).

Since project traffic would consist of less than five percent of the capacity for both of the above segments, the segments would have a cumulative project impact under Horizon Year 2020 conditions.

E. Year 2030 Build-Out Conditions

This section provides a description of the Build-Out condition in the Year 2030, both with and without the addition of the proposed project traffic.

(1) Road Network

Under the Year 2030 Build-Out Conditions scenario certain improvements are assumed to be constructed or bonded by others on the best available information available to the City. The following improvements have been assumed to be completed for the Year 2030 Build-Out Conditions scenario:

- Intersection #22: Rock Mountain Road/SB SR-125 Ramps: Construct new ramp intersection with SR-125;

- Intersection #23: Rock Mountain Road/NB SR-125 Ramps: Construct new ramp intersection with SR-125.

All intersection improvements listed above are assumed to be built by others and not by the proposed project. In addition, the environmental impacts associated with the construction and operation of the Rock Mountain Road interchange were evaluated and considered in the Final Environmental Impact Statement (EIS) for the State Route 125 project.[1] Therefore, further evaluation of the secondary effects of constructing the interchange in this EIR is not necessary.

Figure 8-1 in the Traffic Study illustrates the geometrics of the intersections in the study area for the Year 2030 Build-Out Conditions scenario.

The following summarizes the roadway segments assumed to be completed for the Horizon Year 2030 scenario:

[1] *U.S. Department of Transportation Federal Highway Administration, Record of Decision, Route Location, Adoption, and Construction of State Route 125 Between State Route 905 on Otay Mesa and State Route 54 in Bonita/Spring Valley San Diego County, California, KP 0.0 - 18.02 (P.M. 0.0 to 11.2). June 9, 2000.*

- EastLake Parkway connected to Otay Valley Road;
- La Media Road connected to Otay Valley Road.

These improvements are assumed to be built by others and not by the proposed project. In addition, the La Media Road Bridge is assumed to not be constructed until after the 2030 Study Horizon Year. The rest of the roadway network and the geometry at all study intersections would be the same as the Horizon Year 2020 conditions.

Figure 8-2 in the Traffic Study shows the geometrics of the roadway segments in the study area for the Year 2030 Build-Out scenario.

This section provides a description of the Build-Out condition in the year 2030, including the completion of the Rock Mountain Road interchange, both with and without the addition of the proposed project traffic.

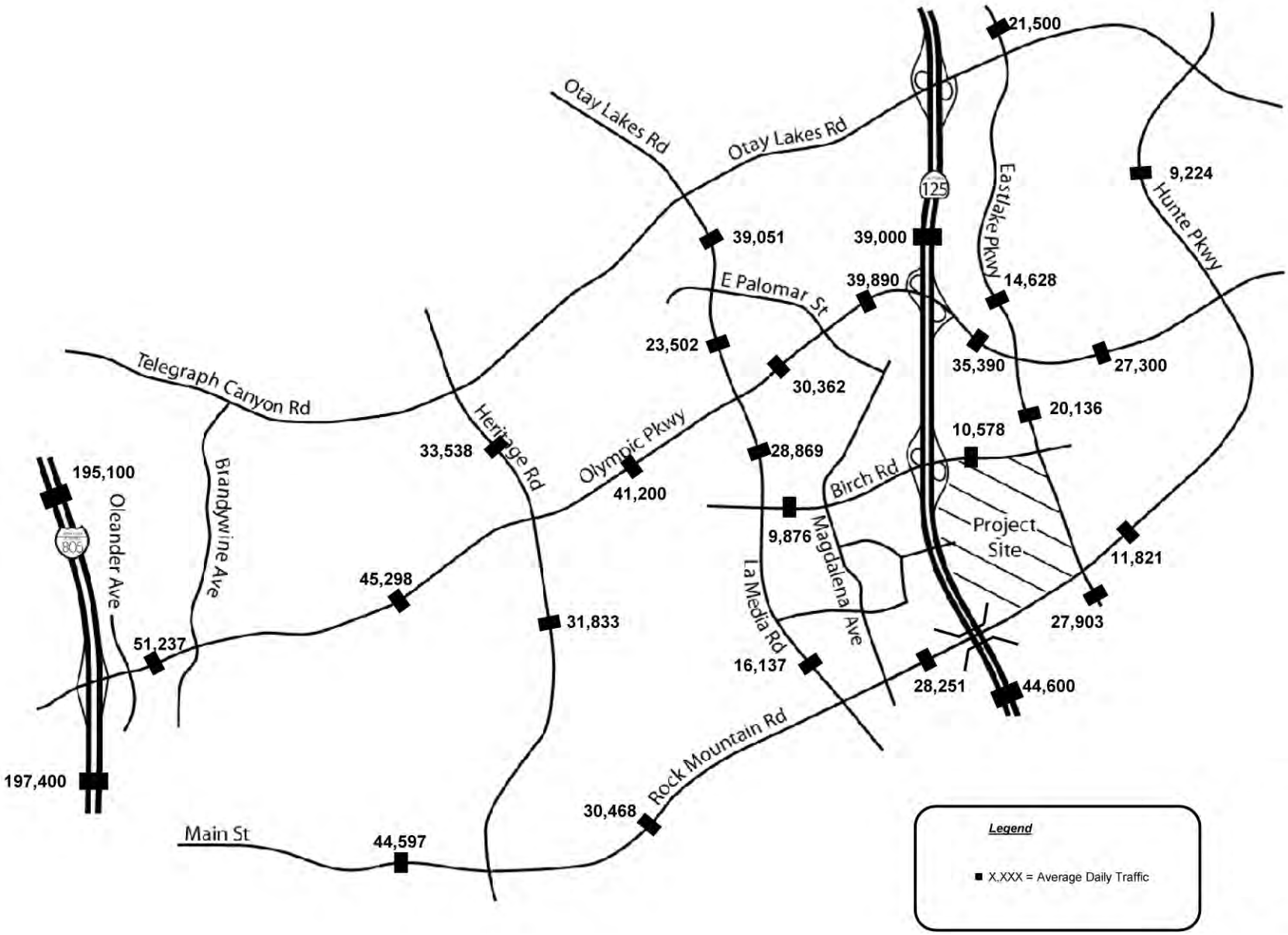
(2) Traffic Volumes

Figure 8-3 in the Traffic Study illustrates the peak-hour traffic volumes at the study intersections under the Year 2030 Build-Out baseline scenario. Figure 4.3-10, *Year 2030 Build-Out Baseline ADT Volumes,* on page 4.3-61 illustrates the ADT volumes along the roadway segments under the Year 2030 Build-Out baseline scenario. Figure 8-5 in the Kimley-Horn Traffic Study illustrates the peak-hour traffic volumes at the study intersections with the addition of the proposed project traffic. Figure 4.3-11, *Year 2030 Build-Out with Project ADT Volumes*, on page 4.3-62 illustrates the ADT volumes along the roadway segments with the addition of the proposed project traffic.

(3) Intersection Analysis

Table 4.3-19 on page 4.3-63 displays the LOS analysis results for the study intersections under the Year 2030 Build-Out baseline and 2030 With Project conditions. As shown in the table, all study intersections would operate at LOS D or better except for the following intersections (direct project impacts shown in ***bold and italics***):

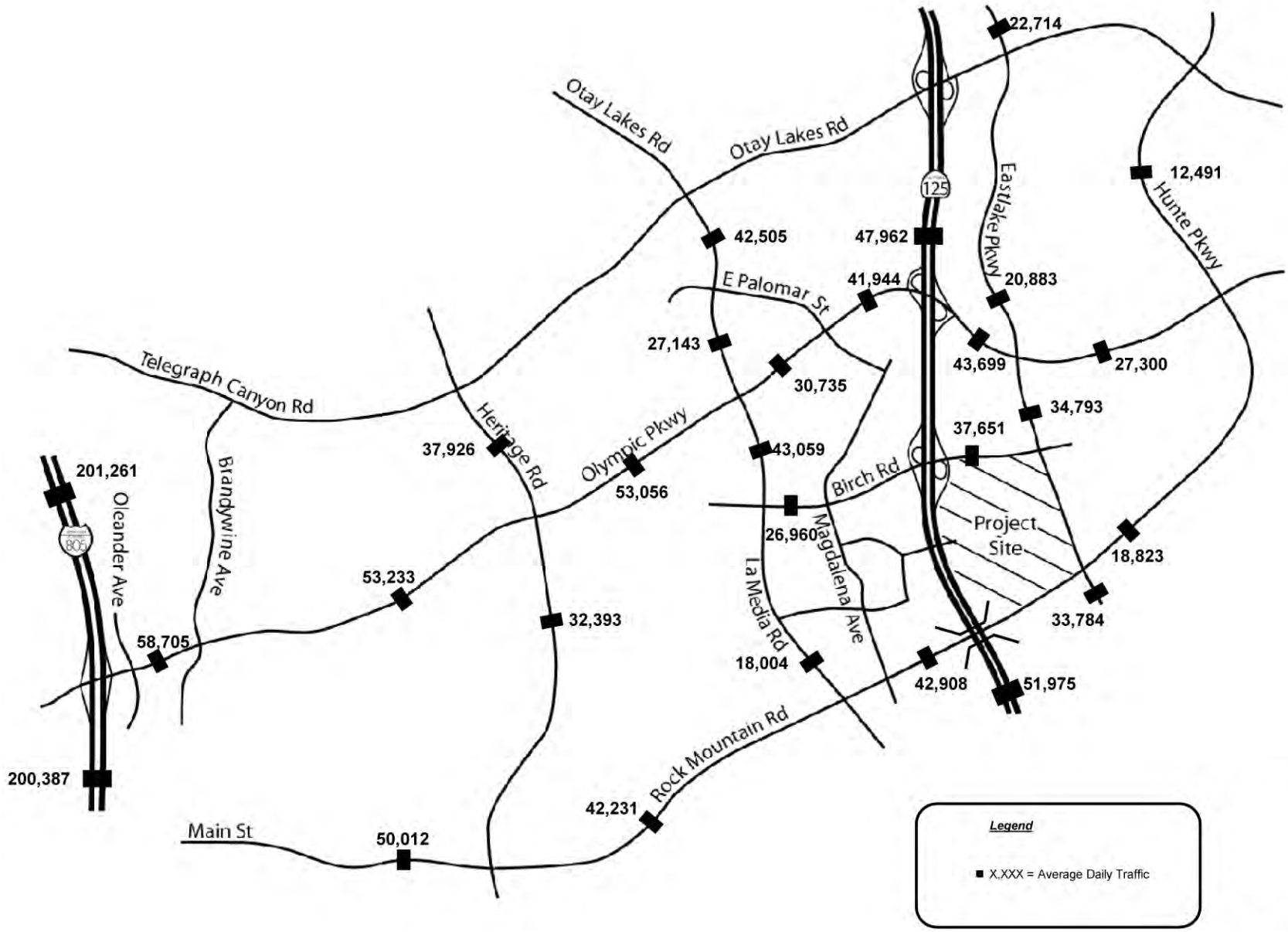
- Intersection #1: Telegraph Canyon Road and Heritage Road ***(LOS E – A.M. peak-hour);***
- Intersection #7: Olympic Parkway and Brandywine Avenue (***LOS E – A.M. and P.M. peak-hours***);
- Intersection #15: Birch Road and La Media Road (***LOS F – P.M. peak-hour***);
- Intersection #16: Birch Road and Magdalena Avenue (***LOS E – P.M. peak-hour***);



Not to scale

Figure 4.3-10
Year 2030 Build-Out Baseline ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.



Not to scale

Figure 4.3-11
Year 2030 Build-Out With Project ADT Volumes

Source: Kimley-Horn and Associates, Inc., February 2009.

Table 4.3-19

Year 2030 Build-Out Conditions
Peak-Hour Intersection LOS Summary

Intersection	Peak Hour	2030 Baseline Delay [a]	2030 Baseline LOS [b]	2030 Baseline with Project Delay [a]	2030 Baseline with Project LOS [b]	% [c]	Significant?
1. Telegraph Canyon Rd & Heritage Rd.	A.M.	68.3	**E**	74.8	**E**	4.8%	CUMULATIVE
	P.M.	30.8	C	41.7	D	6.7%	--
2. Telegraph Canyon Rd & La Media Rd	A.M.	34.6	C	36.7	D	4.8%	--
	P.M.	33.3	C	39.3	D	6.3%	--
3. Otay Lakes Rd & EastLake Pkwy	A.M.	25.3	C	46.9	D	7.7%	--
	P.M.	36.4	D	45.0	D	8.0%	--
4. Olympic Pkwy & SB I-805 Ramps	A.M.	24.5	C	48.8	D	10.2%	--
	P.M.	37.9	D	54.9	D	7.9%	--
5. Olympic Pkwy & NB I-805 Ramps	A.M.	31.2	C	46.8	D	10.5%	--
	P.M.	23.7	C	49.6	D	12.9%	--
6. Olympic Pkwy & Oleander Ave	A.M.	25.8	C	32.6	C	12.7%	--
	P.M.	20.7	C	21.3	C	14.4%	--
7. Olympic Pkwy & Brandywine Ave	A.M.	51.1	D	61.0	**E**	10.1%	DIRECT
	P.M.	49.1	D	61.0	**E**	12.1%	DIRECT
8. Olympic Pkwy & Heritage Rd	A.M.	45.0	D	48.4	D	12.2%	--
	P.M.	32.5	C	42.9	D	16.7%	--
9. Olympic Pkwy & La Media Rd	A.M.	32.1	C	40.8	D	19.5%	--
	P.M.	21.7	C	36.8	D	24.2%	--
10. E. Palomar St & Olympic Pkwy	A.M.	22.3	C	23.3	C	3.9%	--
	P.M.	25.7	C	28.6	C	4.1%	--
11. Olympic Pkwy & SR-125 SB Ramps	A.M.	6.4	A	9.4	A	5.1%	--
	P.M.	7.6	A	11.1	B	4.6%	--
12. Olympic Pkwy & SR-125 NB Ramps	A.M.	3.8	A	3.8	A	5.0%	--
	P.M.	4.3	A	4.4	A	4.9%	--
13. Olympic Pkwy & EastLake Pkwy	A.M.	20.9	C	32.0	C	20.0%	--
	P.M.	23.7	C	32.6	C	20.5%	--
14. Olympic Pkwy & Hunte Pkwy	A.M.	18.2	B	20.5	C	12.5%	--
	P.M.	19.5	B	23.4	C	14.0%	--
15. Birch Rd & La Media Rd	A.M.	20.3	C	49.6	D	30.7%	--
	P.M.	29.9	C	85.3	**F**	35.8%	DIRECT
16. Birch Rd & Magdalena Ave	A.M.	19.4	B	33.9	C	40.1%	--
	P.M.	32.3	C	56.6	**E**	45.6%	DIRECT
17. Birch Rd & SB-125 SB Ramps	A.M.	4.7	A	8.5	A	52.7%	--
	P.M.	5.8	A	11.4	B	50.9%	--
18. Birch Rd & SB-125 NB Ramps	A.M.	3.8	A	3.2	A	54.1%	--
	P.M.	4.7	A	4.6	A	50.1%	--
19. Main St & Heritage Rd	A.M.	83.9	**F**	85.0	**F**	9.7%	DIRECT
	P.M.	87.2	**F**	96.1	**F**	11.7%	DIRECT
20. Rock Mountain Rd & La Media Rd	A.M.	48.1	D	36.9	D	16.7%	--
	P.M.	42.4	D	30.2	C	20.3%	--

Table 4.3-19 (Continued)

Year 2030 Build-Out Conditions
Peak Hour Intersection LOS Summary

Intersection	Peak Hour	2030 Baseline Delay [a]	2030 Baseline LOS [b]	2030 Baseline with Project Delay [a]	2030 Baseline with Project LOS [b]	% [c]	Significant?
21. Rock Mountain Rd. & Magdalena Ave	A.M.	43.3	D	110.0	**F**	20.7%	DIRECT
	P.M.	27.4	C	45.0	D	25.0%	--
22. Rock Mountain Rd & SR-125 SB Ramps	A.M.	8.0	A	10.3	B	25.9%	--
	P.M.	27.3	C	44.7	D	31.6%	--
23. Rock Mountain Rd & SR-125 NB Ramp	A.M.	7.9	A	28.1	C	30.6%	--
	P.M.	8.4	A	36.6	D	36.2%	--
24. Bob Fletcher Way & Wolf Canyon Loop	A.M.	7.3	A	11.9	B	70.6%	--
	P.M.	7.2	A	27.5	D	73.7%	--

ECL = Exceeds Calculable Limit

Notes: ***Bold*** *values indicate intersections operating at LOS e or F.* ***Bold and shaded*** *values indicate project direct impact.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.*
[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0*
[c] *Percentage of peak-hour intersection volumes due to proposed project.*

Source: Kimley-Horn and Associates, March 2009.

- Intersection #19: Main Street / Rock Mountain Road and Heritage Road (***LOS F – A.M. and P.M. peak-hours***);

- Intersection #21: Rock Mountain Road and Magdalena Avenue (***LOS F – A.M. peak-hour***).

With the exception of the Telegraph Canyon and Heritage Road intersection, the proposed project traffic would consist of more than five percent of the entering traffic for the above intersections. Therefore, the project would have a direct project impact five intersections under Year 2030 Build-Out conditions.

(4) Roadway Segment Analysis

Table 4.3-20, *Year 2030 Build-Out Conditions – Roadway Segment LOS Summary*, on page 4.3-65 displays the roadway segments analysis under the Year 2030 Build-Out baseline and 2030 With Project conditions. As shown in the table, the following roadway segments would function at an unacceptable LOS. Direct project impacts shown in ***bold and italics***.

Table 4.3-20

Year 2030 Build-Out Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	Year 2030 Baseline		2030 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Δ in ADT	% Project Trips	
Olympic Pkwy									
NB I-805 Ramps to Brandywine Ave	6 Lane Prime Arterial	50,000	52,490	**D**	58,745	**E**	5,385	9.2%	DIRECT
Brandywine Ave to Heritage Rd	6 Lane Prime Arterial	50,000	43,490	B	50,305	**D**	5,867	11.7%	DIRECT
Heritage Rd to La Media Rd	6 Lane Prime Arterial	50,000	41,780	B	52,703	**D**	9,404	17.8%	NONE [a]
La Media Rd to E Palomar St	6 Lane Prime Arterial	50,000	30,500	A	30,873	A	321	1.0%	--
E Palomar St to SR-125 Ramps	6 Lane Prime Arterial	50,000	39,600	B	41,467	B	1,607	3.9%	--
SR-125 Ramps to EastLake Pkwy	8 Lane Prime Arterial	70,000	40,080	A	45,588	A	4,742	10.4%	--
EastLake Pkwy to Hunte Pkwy	6 Lane Prime Arterial	50,000	25,200	A	25,387	A	161	0.6%	--
Birch Rd									
La Media Rd to SR-125 Ramps	6 Lane Major Arterial	40,000	10,270	A	26,420	A	13,904	52.6%	--
SR-125 Ramps to EastLake Pkwy	6 Lane Prime Arterial	50,000	8,570	A	30,228	A	18,645	61.7%	--
Main St									
Maxwell Rd to Heritage Pkwy	6 Lane Prime Arterial	50,000	49,890	C	55,678	**D**	4,983	8.9%	DIRECT
Rock Mountain Rd									
Heritage Pkwy to La Media Rd	6 Lane Prime Arterial	50,000	29,380	A	37,969	B	7,394	19.5%	--
La Media Rd to SR-125 Ramps	6 Lane Town Center Arterial	50,000	28,970	A	42,506	B	11,653	27.4%	--
Hunte Pkwy									
SR-125 Ramps to EastLake Pkwy	6 Lane Town Center Arterial	50,000	37,460	A	61,732	**E**	20,896	33.8%	DIRECT
EastLake Pkwy to Olympic Pkwy	6 Lane Prime Arterial	50,000	19,490	A	26,118	A	5,706	21.8%	--
Olympic Pkwy to Otay Lakes Rd	4 Lane Major Street	30,000	18,090	A	21,264	A	2,733	12.9%	--

Table 4.3-20 (Continued)

Year 2030 Build-Out Conditions
Roadway Segment LOS Summary

Roadway Segment	Roadway Classification	Acceptable Volume	Year 2030 Baseline		2030 Baseline With Project		Proposed Project		Impact
			ADT	LOS	ADT	LOS	Δ in ADT	% Project Trips	
La Media Rd									
Telegraph Canyon Rd to E Palomar St	6 Lane Prime Arterial	50,000	38,790	B	42,151	B	2,893	6.9%	--
E Palomar St to Olympic Pkwy	6 Lane Prime Arterial	50,000	23,690	A	27,424	A	3,215	11.7%	--
Olympic Pkwy to Birch Rd	6 Lane Prime Arterial	50,000	29,270	A	42,713	B	11,573	27.1%	--
Birch Rd to Rock Mountain Rd	6 Lane Prime Arterial	50,000	17,100	A	18,407	A	1,125	6.1%	--
South of Rock Mountain Rd	6 Lane Prime Arterial	50,000	24,490	A	27,291	A	2,411	8.8%	--
EastLake Pkwy									
Fenton St to Otay Lakes Rd	4 Lane Major Street	30,000	21,500	A	22,714	B	1,045	4.6%	--
Otay Lakes Rd to Olympic Pkwy	4 Lane Major Street	30,000	20,690	A	26,851	C	5,304	19.8%	--
Olympic Pkwy to Hunte Pkwy	6 Lane Major Street	40,000	16,470	A	28,606	A	10,448	36.5%	--
South of Hunte Pkwy	4 Lane Major Street	30,000	26,290	B	32,825	**D**	5,626	17.1%	DIRECT
Heritage Rd									
Otay Lakes Rd to Olympic Pkwy	6 Lane Prime Arterial	50,000	33,490	A	37,971	B	3,858	10.2%	--
Olympic Pkwy to Rock Mountain Rd	6 Lane Prime Arterial	50,000	31,800	A	32,267	A	402	1.2%	--

Notes: ***Bold*** *values indicate roadway segments operating at LOS E or F.* ***Bold and shaded*** *values indicate project direct impact.*

[a] *All signalized intersections along roadway segment are opening at LOS D or better during both peak-hours; therefore is no impact.*

Source: Kimley-Horn and Associates, March 2009.

- Olympic Parkway from Northbound Interstate 805 Ramps to Brandywine Avenue (***LOS E***);
- Olympic Parkway from Brandywine Avenue to Heritage Road (***LOS D***);
- Olympic Parkway from Heritage Road to La Media Road (LOS D – no significant impact since intersections operate at an acceptable LOS);
- Main Street from Maxwell Road to Heritage Road (***LOS D***)Hunte Parkway from State Route 125 Ramps to EastLake Parkway (***LOS E***);
- EastLake Parkway south of Hunte Parkway (***LOS D***).

All segments listed above would have a direct impact with the addition of project traffic except for the segment of Olympic Parkway between Heritage Road and La Media Road. This segment would not result in an impact since the operations of the intersections on both ends of the segment would operate at an acceptable LOS.

The General Plan Circulation Element indicates that Hunte Parkway between SR-125 and EastLake Parkway is classified as a six- lane Town Center Arterial. If the SR-125/Otay Valley Road interchange is constructed, Hunte Parkway between SR-125 and Street A would remain as a six-lane Town Center Arterial. However, the Hunte Parkway segment between SR-125 and Street A would operate over capacity if the SR-125/Otay Valley Road interchange is not constructed. This is considered a potentially significant impact. No other study area roadway segments would be significantly impacted by the proposed project as intersections along the roadway segments after the proposed intersection mitigation measures would all operate at an acceptable LOS.

(5) Freeway Segment Analysis

Table 4.3-21, *Year 2030 Build-Out Conditions - Freeway Segment LOS Summary*, on page 4.3-68 displays the freeway segment analysis under the Year 2030 Build-Out baseline and 2030 With Project conditions. As shown in the table, all freeway segments would function at LOS D or better except for the following segments:

- Northbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (LOS F – A.M. peak-hour);
- Southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (LOS F – P.M. peak-hour);
- Southbound Interstate 805 from Olympic Parkway to Main Street (LOS F – P.M. peak-hour).

Table 4.3-21

Year 2030 Build-Out Conditions
Freeway Segment LOS Summary

Roadway Segments	Direction	Number of Lanes	Capacity [a]	2030 Baseline ADT [b]	2030 Baseline Peak Hour Volume [c]	2030 Baseline V/C Ratio	2030 Baseline LOS	2030 Baseline with Project ADT [b]	2030 Baseline with Project Peak Hour Volume [c]	2030 Baseline with Project V/C Ratio	2030 Baseline with Project LOS	V/C Ratio	Impact
					A.M. Peak								
Interstate 805													
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	197,400	8,300	1.038	**F0**	203,935	8,575	1.072	**F0**	0.034	CUMULATIVE
	SB	4 M	8,000										
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	195,100	8,204	0.892	D	197,901	8,321	0.904	D	0.013	--
	SB	4 M + 1 A	9,200										
State Route 125													
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	39,000	1,640	0.410	A	47,962	2,017	0.504	B	0.094	--
	SB	2 M	4,000										
Olympic Pkwy to Birch Rd	NB	2 M	4,000	33,800	1,421	0.355	A	43,135	1,814	0.453	B	0.098	--
	SB	2 M	4,000										
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	40,500	1,703	0.426	B	45,168	1,899	0.475	B	0.049	--
	SB	2 M	4,000										
Rock Mountain Rd to Otay Valley	NB	2 M	4,000	44,600	1,875	0.469	B	51,975	2,185	0.546	B	0.078	--
	SB	2 M	4,000										
Interstate 805													
Telegraph Canyon Rd to Olympic Pkwy	NB	4 M	8,000	197,400				203,935					
	SB	4 M	8,000		9,272	1.16	**F0**		9,579	1.197	**F0**	0.038	CUMULATIVE
Olympic Pkwy to Main St	NB	4 M + 1 A	9,200	195,100				197,901					
	SB	4 M + 1 A	9,200		9,164	1.00	**E**		9,296	1.010	**F0**	0.014	CUMULATIVE

Table 4.3-21 (Continued)

Year 2030 Build-Out Conditions
Freeway Segment LOS Summary

Roadway Segments	Direction	Number of Lanes	Capacity [a]	2030 Baseline ADT [b]	2030 Baseline Peak Hour Volume [c]	2030 Baseline V/C Ratio	2030 Baseline LOS	2030 Baseline with Project ADT [b]	2030 Baseline with Project Peak Hour Volume [c]	2030 Baseline with Project V/C Ratio	2030 Baseline with Project LOS	V/C Ratio	Impact
					A.M. Peak								
State Route 125													
Otay Lakes Rd to Olympic Pkwy	NB	2 M	4,000	39,000				47,962					
	SB	2 M	4,000		1,832	0.46	B		2,253	0.563	B	0.105	--
Olympic Pkwy to Birch Rd	NB	2 M	4,000	33,800				43,135					
	SB	2 M	4,000		1,588	0.40	A		2,026	0.507	B	0.110	--
Birch Rd to Rock Mountain Rd	NB	2 M	4,000	40,500				45,168					
	SB	2 M	4,000		1,902	0.48	B		2,122	0.530	B	0.055	--
Rock Mountain Rd to Otay Valley	NB	2 M	4,000	44,600				51,975					
	SB	2 M	4,000		2,095	0.52	B		2,441	0.610	B	0.087	--

Notes: ***Bold*** *values indicates freeway segments operating at LOS E or F.*

[a] *The capacity is calculated as 2,000 ADT per lane and 1,200 ADT per auxiliary lane.*
[b] *Traffic volumes obtained from SANDAG using Chula Vista General Plan Update land uses.*
[c] *Peak-hour volume calculated by: (ADT*K*D))/Truck factor.*

Source: Kimley-Horn and Associates, March 2009.

Since project traffic would consist of less than five percent of the capacity for all of the above segments, the segments would have a cumulative project impact under Year 2030 Build-Out conditions.

F. Project Boundary Intersection Analysis

All 12 intersections surrounding the proposed project site along Birch Road, EastLake Parkway, and Hunte Parkway were evaluated in the Year 2030 with project scenario to determine the operations of these intersections. Per the City's General Plan Circulation Element, Hunte Parkway is proposed as a one-way couplet between Street A and EastLake Parkway. The intersections of Street B/Hunte Parkway and Street C/Hunte Parkway were split to accommodate the one-way couplet. In addition, Streets B and C between Street M and Hunte Parkway would be one-way southbound and northbound, respectively.

Intersection geometrics are generally consistent with the intersection geometry provided on the *Tentative Map (TM).* Changes to the geometry were made where specific turning movement volumes were too low to warrant the number of turn lanes shown on the TM. Adjustments were made to increase the volumes at the boundary intersections so that a screenline analysis of trips coming in and out of the EUC matches the trip for the proposed project. In addition, adjustments were made to background traffic volumes such that volumes on Birch Road and Hunte Parkway matched the volumes contained in the modeling results and analyzed in the Build-Out scenario. Figure 8-8 in the Kimley Horn Traffic Study shows the lane configuration of these intersections. Figures 8-9 and 8-10 in the Kimley-Horn Traffic Study show the proposed project boundary baseline and with project peak-hour traffic volumes used for the analysis, respectively.

Table 4.3-22, *Project Boundary Intersections Year 2030 Conditions - Peak-Hour Intersection LOS Summary,* on page 4.3-71 displays the LOS analysis results for the proposed project boundary intersections under the Year 2030 Build-Out baseline and 2030 With Project conditions with the Hunte Parkway intersections configured as a one-way couplet. For this analysis, the cycle lengths and signal timings were optimized along Hunte Parkway, with signal coordination implemented amongst all signals on Hunte Parkway between Street A and EastLake Parkway. As shown in the table, the following intersections would operate at an unacceptable LOS (direct project impacts shown in ***bold and italics***):

- Hunte Parkway and EastLake Parkway (***LOS E – P.M. peak-hour***);
- Hunte Parkway and Street A (***LOS F – A.M. and P.M. peak-hour***).

The two intersections listed above would be considered to have direct impacts with the addition of the proposed project traffic. No impacts would result at the intersections of the Hunte Parkway couplet with Streets B and C.

Table 4.3-22

Project Boundary Intersections Year 2030 Conditions
Peak-Hour Intersection LOS Summary

	Intersection	Peak Hour	2030 Baseline Delay [a]	2030 Baseline LOS [b]	2030 Baseline With Project Delay [a]	2030 Baseline With Project LOS [b]	Change [c]	Significant?
1	Birch Rd. &	A.M.	6.3	A	36.7	D	60.8%	--
	Street A	P.M.	7.5	A	50.5	D	54.3%	--
2	Birch Rd. &	A.M.	20.8	C	28.7	C	57.6%	--
	Street C	P.M.	20.3	C	33.5	C	54.9%	--
3	Birch Rd. &	A.M.	29.6	C	31.5	C	42.2%	--
	EastLake Pkwy	P.M.	29.2	C	43.6	D	45.5%	--
4	Street F &	A.M.	10.6	B	49.5	D	37.7%	--
	EastLake Pkwy	P.M.	11.9	B	26.9	C	41.2%	--
5	Street H &	A.M.	11.8	B	23.5	C	34.1%	--
	EastLake Pkwy	P.M.	15.2	B	27.1	C	36.2%	--
6	K Street &	A.M.	12.4	B	35.3	D	23.7%	--
	EastLake Pkwy	P.M.	13.3	B	25.5	C	2.8%	--
7	Hunte Pkwy &	A.M.	34.8	C	51.3	D	16.5%	--
	EastLake Pkwy	P.M.	43.4	D	56.2	**E**	19.2%	DIRECT
9	Hunte Pkwy (WB) &	A.M.	10.8	B	13.1	B	20.1%	--
	Street C	P.M.	18.8	A	13.0	B	17.2%	--
10	Hunte Pkwy (WB) &	A.M.	10.4	A	23.6	C	22.4%	--
	Street B	P.M.	7.3	B	31.8	C	37.2%	--
11	Hunte Pkwy &	A.M.	14.3	B	93.1	**F**	35.0%	DIRECT
	Street A	P.M.	16.2	B	116.2	**F**	40.8%	DIRECT
12	Hunte Prky (EB) &	A.M.	13.3	B	29.7	**C**	23.6%	--
	Street A	P.M.	14.3	B	14.7	**B**	28.8%	--
13	Hunte Prky (EB) &	A.M.	11.5	B	7.4	**A**	31.2%	--
	Street C	P.M.	12.1	B	10.7	**B**	34.1%	--

Notes: ***Bold*** *values indicate intersection operation at LOS E or F.* ***Bold and shaded*** *values indicate project direct impact.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicles.*
[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0*
[c] *Percentage of total volumes consisting of project traffic*

Source: Kimley-Horn and Associates, March 2009.

G. Public Financing Facilities Plan Assessment

This section addresses the conversion of the various land uses for the EUC to equivalent dwelling units (EDUs) and on the EDU thresholds for the various improvements related to the PFFP.

(1) EDUs

The standard trip generation rates for the land uses associated with the overall EUC, including the area associated with the other land ownerships, were converted to trip rates with project credits. The trip rate with project credits takes into account the mixed-use and transit credits. The trip credit ratio of 65 percent was calculated by dividing the number of net trips (93,750 ADT) by the number of gross trips (144,849 ADT) for the overall EUC. The trip credit ratio was then applied to the trip rate for each respective land use. To convert the trip rate with project credits to an EDUs per unit rate, it is assumed that one EDU equals 10 net trips. The total EDUs for the proposed project was calculated by dividing the daily trips including the mixed-use and transit credits by 10, resulting in a total of 9,375 EDUs for the total EUC. Of this total, 8,035 EDUs are related to the proposed project and 1,340 EDUs to the other land ownerships. Table 9-1 in the Kimley-Horn Traffic Study summarizes the EDUs used for the PFFP analysis.

(2) Thresholds for Off-Site Streets

Table 4.3-23, *PFFP Thresholds,* on page 4.3-73 has been prepared to summarize the thresholds associated with the various improvements to the facilities/intersections in the study area. A two-step process was utilized to determine impacts applicable only to the proposed project. Each threshold was calculated by taking the total EDUs for the EUC (9,398 EDU) and multiplying it by its respective percentage (38 percent for 2015 and 66 percent for 2020) for the various interim years. Subsequent to this step, proposed project trips were isolated in order to determine project specific impacts. If a location becomes deficient in a prior scenario (Year 2010, 2015, or 2020), the mitigation required in the Year 2030 is assumed to be needed and implemented in the year that it is needed.

As an example, the intersection of Olympic Parkway and Brandywine Avenue is significantly impacted in the Year 2010 and Year 2030. The mitigation of re-striping the northbound approach and coordinating the signals along Olympic Parkway between the SB I-805 Ramps and Brandywine Avenue would fully mitigate impacts in Year 2030. This same mitigation also mitigates the proposed project's impacts in the Year 2010. Since this intersection first shows an impact in the Year 2010, the recommended mitigation would be required to be in place prior to the Year 2010. Without any specific information regarding the timing, location, and intensity of the proposed project, it has been assumed that this mitigation would be needed at the start of the proposed project (1st EDU).

Table 4.3-23

PFFP Thresholds

Facility/Intersection	Improvement	PFFP Threshold
Improvements to be constructed or bonded by the proposed project		
Olympic Pkwy & Brandywine Ave	Restripe NB approach to include one thru lane and one shared thru-right lane and coordinate SB I-805 Ramps through Brandywine on Olympic Pkwy.	1st EDU
Olympic Pkwy & Heritage Rd	Add SB right-turn overlap phase.	1st EDU
Main St & Heritage Rd	Add dual NB and dual EB right-turn lanes.	3,070 EDUs
Birch Rd & La Media Rd	Concert a WB thru lane into a shared thru/right turn lane.	5,270 EDUs
Birch Rd & Magdalena Ave	Add exclusive EB right-turn lane.	5,270 EDUs
Rock Mountain Rd & Magdalena Ave	Add a dual SB left-turn lane and a dual NB right-turn lane.	5,270 EDUs
Hunte Pkwy between SR-125 and Street A	Add 2 auxiliary lanes to the 6-lane town center arterial.	5,270 EDUs

For the four additional locations that are significantly impacted by Year 2030, the significance threshold shown in Table 4.3-23 is 5,270 EDUs, which is calculated by multiplying the total 8,035 project related EDUs by 66 percent (amount of project to be constructed by Year 2020). Please refer to Subsection 4.3.5, Mitigation Measures, below, for a discussion of the mitigation measures prescribed for the proposed project.

Threshold 2: *Exceed, either individually or cumulatively, a LOS standard established by the County CMP agency for designated roads or highways.*

Table 4.3-24, *Horizon Year 2010 Conditions – GMOC LOS Summary*, on page 4.3-74 illustrates the GMOC analysis under the Horizon Year 2010 baseline and 2010 With Project condition for the segment of Olympic Parkway between I-805 and Hunte Parkway. As shown in the table, both directions of Olympic Parkway in both peak periods would operate at LOS C or D (with and without the proposed project) with speeds ranging between 26 mph and 32 mph. Thus, less-than-significant impacts would occur along the Olympic Parkway (I-805 to Hunte Parkway) roadway segment.

Threshold 3: *Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).*

A consistency analysis of the proposed EUC SPA with applicable General Plan transportation and transit policies is provided in Table 4.3-25, *Project Consistency with Applicable General Plan Transportation Policies*, on page 4.3-75. As shown in the table, the project would support various modes of alternative transportation. An analysis of compatibility with GDP transportation policies is presented in Table 4.3-26, *Comparison of the Project with Applicable*

Table 4.3-24

Horizon Year 2010 Conditions
GMOC LOS Summary

Roadway Segment	Direction	A.M. Peak Speed[a]	A.M. Peak LOS[b]	P.M. Peak Speed[a]	P.M. Peak LOS[b]
		A.M. Peak-Hour			
Olympic Parkway					
I-805 to Hunte Pkwy.	EB	32.1	C	32.0	C
	WB	26.6	D	26.1	C
		P.M. Peak-Hour			
Olympic Parkway					
I-805 to Hunte Pkwy.	EB	27.4	C	26.6	D
	WB	28.8	C	28.0	C

[a] *Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).*

[b] *The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.*

Source: Kimley-Horn and Associates, March 2009.

Transportation Policies of the Otay Ranch GDP, on page 4.3-77. As discussed in the analysis in Table 4.3-26, the EUC SPA Plan is also consistent with the GDP.

Furthermore, the EUC will become one of the main ridership attractors of the planned South Bay Bus Rapid Transit service that would connect downtown San Diego with the Otay Mesa border crossing. The proposed Metropolitan Transit Service route would connect attractors such as downtown, the East Palomar Transit Village, the Otay Ranch Town Center, the Eastern Urban Center, the planned university south of Hunte Parkway, and the Mexican border. BRT service would operate along the BRT route in each direction every 10 minutes during the peak and every 15 minutes during the off-peak, and would travel in dedicated travel-way or in bus-only lanes through the majority of the route. The EUC plan will also include local bus service that will operate on both the BRT lanes and in mixed flow throughout the rest of the project's internal streets.

The planned route of the BRT through the EUC is shown in Figure 4.3-12, *BRT Route with Traffic Control as Proposed by Owner*, on page 4.3-78. The outbound (southbound) bus would approach from the north via a dedicated transit lane through the Otay Ranch site, parallel to EastLake Parkway. After crossing Street F, the BRT would travel on a dedicated bus only road on Street G. Along Street G between Street D and EastLake Parkway, the BRT would travel in dedicated lanes, but separate lanes are proposed for local access to adjacent residential property. The BRT would turn south on Street C and remain on Street C through the EUC. It would leave the EUC on Street C, traveling across Hunte Parkway. The inbound (northbound)

Table 4.3-25

Project Consistency with Applicable General Plan Transportation Policies

Policy	Project Consistency
LUT 17.1, 17.3,17.4	The proposed SPA is **consistent** with these relevant policies. The EUC density reflects the density approved in the General Plan and is designed to be transit-oriented. A Bus Rapid Transit (BRT) transit route and transit station is located within the EUC. Sufficient land has been allocated to accommodate the proposed densities and planned transit through the site. The Applicant has been coordinating with SANDAG regarding the location and design of the BRT transit route and transit station.
LUT: 18.3, 18.5, 18.6	The EUC SPA Plan is **consistent** with Policy 18.3 because the EUC provides bicycle and pedestrian circulation. Transit usage is encouraged via the Regional Transit Route and planned transit stop, Local Transit Route(s) and bus stops. The EUC SPA Plan is **consistent** with Policies 18.5 and 18.6. The SPA requires that a TDM implementation strategy be prepared and provided by employers with 100 or more employees located within the Business District, and as part of the design review process for all projects within the EUC that have 100 employees or more. The TDM strategy may include subsidizing transit passes, providing showers and bicycle facilities, vanpools, flex work schedule, and other methods. The employer may also participate in programs sponsored by SANDAG such as the Ridelink program,
LUT 19.1	The EUC SPA Plan is **consistent** with this policy as a BRT route and Transit Stop, approved by SANDAG, are proposed within the EUC. See the analysis of Policies LUT 17.3 and LUT 17.4
LUT 20.1	The EUC SPA Plan is **consistent** with this policy because a BRT route is proposed along Street C that includes signal prioritization. In addition, sidewalk widths are of a sufficient width to accommodate pedestrians and transit stops.
LUT 23.1, 23.2, 23.3, 23.4, 23.5, 23.7, 23.10, 23.13	The EUC SPA Plan is **consistent** with these relevant policies. The EUC provides a connective bicycle system. The EUC SPA Plan has a bike plan that is consistent with the City's Bike Master Plan. The grid street pattern allows for convenient neighborhood access for movement of important goods and services throughout the EUC, and to surrounding Otay Ranch neighborhoods. Bicycle routes within the EUC are connected to Circulation Element roads at EastLake Parkway, Hunte Parkway, and Birch. Bicycle support facilities are encouraged at the transit stop and at major activity nodes throughout the EUC to support bicycle use. The EUC provides a regional trail connection to Village Seven and Village Eleven consistent with the Greenbelt Master Plan. The underpass at Birch has been designed to accommodate bicycles and pedestrians and a pedestrian bridge will be provided to link the EUC with Village 11 to the east. See also the analysis of LUT 18.3.
LUT 30.1	The EUC SPA Plan is **consistent** with this policy. The Parking Management Plan proposes parking districts that support the concept of shared parking, which would result in fewer parking spaces than traditional (suburban) parking requirements. The BRT, pedestrian and bicycle routes provide convenience and further reinforce non-auto travel modes.
LUT 31.3	The EUC SPA Plan is **consistent** with Policy 31.3. The EUC's Sustainability Element recognizes the EUC may contain electric vehicles. The Parking Management Plan emphasizes the efficient provision of parking through shared parking and reduced parking ratios and identifies appropriate locations for parking facilities to ensure they are integrated with land uses. The plan also builds on the existing Village Pathway system in the EUC, providing a circulation system appropriate for use by electric vehicles.

Table 4.3-25 (Continued)

Project Consistency with Applicable General Plan Transportation Policies

Policy	Project Consistency
LUT 32.2	The EUC SPA Plan is **consistent** with Policy 32.2. Parking districts are proposed within the EUC per the Parking Management Plan that address surface and structured parking facilities, with a provision that requires parking plans within the districts.
LUT: 33.1, 33.2	The EUC SPA Plan is **consistent** with these relevant policies. The SPA provides guidelines for structured and surface parking, including screening and façade treatments to promote and enhance a pedestrian-friendly environment. The SPA and FBC contain provisions that accommodate ground floor commercial uses, landscaping, and architectural standards along the frontage of parking structures as detailed in the Form Based Code Section 03.11.000
LUT 63.1	The EUC SPA Plan is **consistent** with Policy 63.1 because the SPA provides connectivity to adjacent Otay Ranch villages and the Town Center to the north for both vehicular and non-vehicular access.

bus would travel through the EUC in the reverse direction as the outbound bus route. Along Street C, the BRT would travel on the inside lanes with left-turning vehicles sharing the BRT lane at each respective intersection. This route may be used by MTS for a new express commuter bus route, which would serve Otay Mesa, Chula Vista, and Sorrento Valley. The proposed BRT station within the EUC would utilize the same station location on Street G, just east of Street C.

Also shown in Figure 4.3-12 is the traffic control proposed by the proposed project owner at each intersection within the EUC. Based on the proposed control, the inbound BRT route would be required to stop at two all-way stops and one two-way stop, and would cross one signalized intersection before turning onto right-of-way adjacent to EastLake Parkway. Also based on the proposed control, the outbound BRT route would be required to stop at two all-way stops, two two-way stops, and would cross one signalized intersection after entering the EUC. Therefore, even with a technique such as traffic signal pre-emption, the inbound BRT would be required to stop at three locations and the outbound BRT would be required to stop at four locations, in addition to the proposed BRT stops within the EUC.

To facilitate more efficient BRT service within the project and justify the assumption of transit credit apportioned to the proposed project, the traffic study includes several recommendations for additional signals, and additional measures (early green indicators for transit, green extensions at signals, count-down indicators at the transit stop and traffic signal progression measures) that can be incorporated into SANDAG's final design of the BRT line through the EUC. The applicant would provide conduit as needed to facilitate the installation of these recommended measures and would cooperate with SANDAG to ensure these measures can be incorporated into the final design.

Table 4.3-26

Comparison of the Project with Applicable Transportation Policies of the Otay Ranch GDP

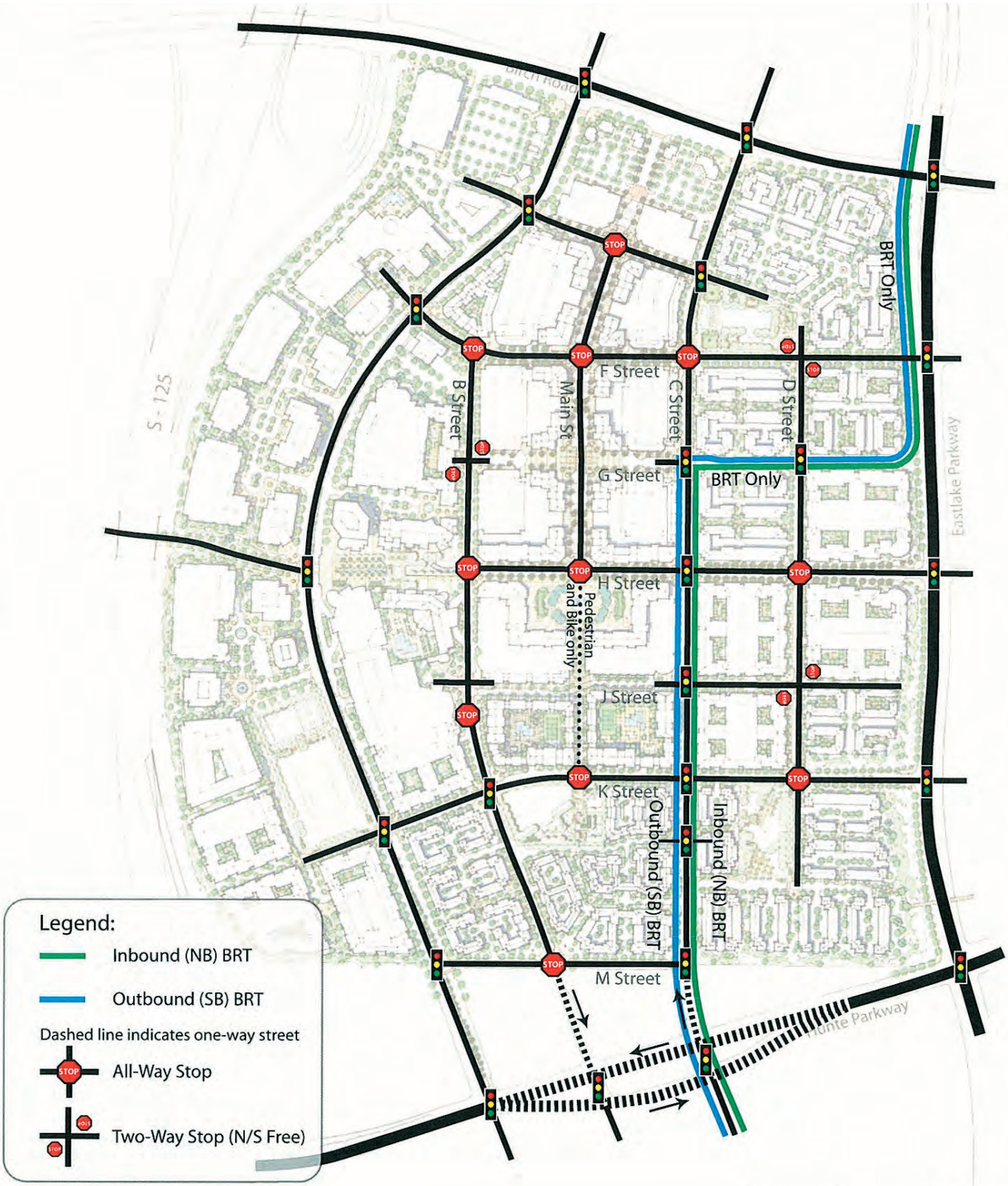
GDP Policies	Consistency Analysis
Transit line rights-of-way and BRT stops/stations shall be approximately located at the SPA level and will be conditions for dedication at the Tentative Map level within the EUC.	**Consistent.** The proposed project (as described in Chapter III – Mobility of the SPA Plan) would incorporate BRT, including a BRT stop on Street G,
Transportation, Circulation, Access. (1) A traffic analysis shall be conducted within the study area of the proposed Specific Plan to identify additional transportation mitigation measures for the construction of new roads, bridges and roadway improvements, and shall implement transportation demand/system management programs and/or facilities or other measures necessary to mitigate traffic impacts on circulation element roads. The standard to be achieved requires the proposed project to avoid reduction in the existing LOS "C" with the exception that LOS "D" may occur on signalized arterial segments for a period not to exceed a total of two hours per day. If the existing LOS is below "C" (with the exception of the allowable "D"), mitigation measures must be imposed as conditions of approval for the Specific Plan. Internal village streets/roads are not expected to meet these standards (GDP, page IV-21).	**Consistent.** A traffic study was prepared for the project and is analyzed in detail in the project Environmental Impact Report. Mitigation measures are identified to mitigate impacts to the City's circulation system consistent with existing standards and thresholds. The project features a mixed-use setting and strong transit focus which will reduce vehicle trips on the City's circulation system. In addition, the plan includes provisions for large employers to participate in TDM measures, including carpools, ridesharing and other measures included in SANDAG's Ridelink program. While the GDP does not identify any thresholds for internal village streets, the proposed grid system has been designed to allow maximum buildout of land uses consistent with the General Plan and General Development Plan and the PFFP identifies triggers to ensure the internal street system is constructed prior to, or concurrent with need.

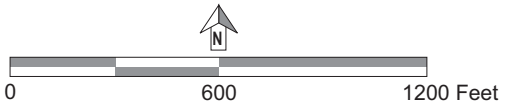
In addition to the BRT, the SPA Plan implements the City's adopted Bikeway Master Plan. Designated bike lanes will be provided on all the perimeter arterial streets including Birch Road, EastLake Parkway and Hunte Parkway. Within the project, bike routes in the form of widened outside lanes will be provided the full length of Streets A and K. These routes will link the City's arterial bike lane system with key destinations within the project. The remainder of the EUC streets will accommodate bicycle traffic in mixed flow due to the low proposed designated speed limit (25 mph) on these streets.

4.3.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

A. Intersections

As discussed in Subsection 4.3.3, Impact Analysis, above, intersection impacts are evaluated for the following Horizon Years: 2010, 2015, 2020 and 2030. The study intersections operating at LOS E or F under each scenario and a summary of project direct and cumulative





Source: Kimley-Horn and Associates, Inc., February 2009.

Figure 4.3-12
BRT Route With Traffic Control as Proposed by Owner

impacts are listed below (direct impacts are shown in ***bold and italicized*** and cumulative impacts are in normal font):

Existing Conditions

- Intersection #1: Telegraph Canyon Road and Heritage Road (LOS E - A.M. peak-hour).

Horizon Year 2010 Baseline

- Intersection #7: Olympic Parkway and Brandywine Avenue (LOS E - P.M. peak-hour);
- Intersection #8: Olympic Parkway and Heritage Road (LOS E – A.M. peak-hour).

Horizon Year 2010 With Project (2 Cumulative)

- Intersection #7: Olympic Parkway and Brandywine Avenue (LOS E - P.M. peak-hour);
- Intersection #8: Olympic Parkway and Heritage Road (LOS E – A.M. peak-hour).

With the completion of the first phase of the proposed project (878 proposed project EDUs) or by the Year 2010, the intersections of Olympic Parkway/Brandywine Avenue and Olympic Parkway/Heritage Road would be cumulatively impacted by the proposed project. Mitigation at these two locations would be required prior to the completion of the first phase.

Horizon Year 2015 Baseline (All acceptable LOS)

Horizon Year 2015 With Project (***1 Direct***)

- Intersection #8: Olympic Parkway and Heritage Road (***LOS E – A.M. peak-hour***).

With the completion of the second phase of the proposed project (3,070 proposed project EDUs) or by the Year 2015, only the intersection of Olympic Parkway/Heritage Road would be impacted by the proposed project. The same mitigation required in the Year 2010 with the proposed project would be required at this intersection.

Horizon Year 2020 Baseline (All acceptable LOS)

Horizon Year 2020 With Project (***1 Direct)***

- Intersection #19: Main Street and Heritage Road (***LOS E – P.M. peak-hour***).

With the completion of the third phase of the proposed project 5,270 proposed project EDUs) or by the Year 2020, the Main Street/Heritage Road intersection would be impacted by the proposed project. Mitigation at this intersection would be required prior to the completion of the second phase. No impacts are forecast to occur at the study intersections along Olympic Parkway in the year 2020 due to a shift in travel patterns. Vehicles traveling on Olympic Parkway to an increasingly congested I-805 gradually increase utilization of the South Bay Expressway, which would have available capacity.

Year 2030 Build-Out Baseline

- Intersection #1: Telegraph Canyon Road and Heritage Road (LOS E – A.M. peak-hour);
- Intersection #19: Main Street and Heritage Road (LOS F – A.M. peak-hour, LOS E – P.M. peak-hour);
- Intersection #20: Rock Mountain Road and La Media Road (LOS F – P.M. peak-hour).

Year 2030 Build-Out With Project (***5 Direct***, 1 Cumulative)

- Intersection #1: Telegraph Canyon Road and Heritage Road (LOS E – A.M. peak-hour);
- Intersection #7: Olympic Parkway and Brandywine Avenue (***LOS E – A.M. and P.M. peak-hours***);
- Intersection #15: Birch Road and La Media Road (***LOS F – P.M. peak-hour***);
- Intersection #16: Birch Road and Magdalena Avenue (***LOS E – P.M. peak-hour***);
- Intersection #19: Main Street / Rock Mountain Road and Heritage Road (***LOS F – A.M. and P.M. peak-hours***);
- Intersection #21: Rock Mountain Road and Magdalena Avenue (***LOS F – A.M. peak-hour***).

Table 4.3-27, *Year 2030 Built-Out Conditions Peak Hour Mitigated LOS Summary (Direct Impacts),* on page 4.3-81 describes the transportation improvements that would be required to mitigate the significant direct project impacts at the study area intersections during Year 2030

Table 4.3-27

Year 2030 Built-Out Conditions
Peak Hour Mitigated LOS Summary (Direct Impacts)

	Intersection	Peak Hour	Before Build-Out Improvement Delay [a]	Before Build-Out Improvement LOS [b]	After Build-Out Improvement Delay [a]	After Build-Out Improvement LOS [b]	Description
1	Telegraph Canyon Rd & Heritage Rd.	A.M.	74.8	**E**	54.7	D	Add exclusive WB right-turn lane and widen north leg to provide 3 thru lanes
		P.M.	41.7	D	28.9	C	
4	Olympic Pkwy. & SB I-805 Ramps	A.M.	48.8	D	38.2	D	Coordinate SB I-805 Ramps through Brandywine on Olympic Pkwy
		P.M.	54.9	D	53.4	D	
5	Olympic Pkwy. & NB I-805 Ramps	A.M.	46.8	D	31.7	C	Coordinate SB I-805 Ramps through Brandywine on Olympic Pkwy
		P.M.	49.6	D	32.4	C	
6	Olympic Pkwy. & Oleander Ave	A.M.	32.6	C	14.7	B	Coordinate SB I-805 Ramps through Brandywine on Olympic Pkwy
		P.M.	21.3	C	15.2	B	
7	Olympic Pkwy. & Brandywine Ave.	A.M.	61.0	**E**	53.5	D	Restripe NB approach to include one thru lane and one shared thru-right lane and coordinate SB I-805 Ramps through Brandywine on Olympic Pkwy
		P.M.	61.0	**E**	50.2	D	
15	Birch Rd. & La Media Rd.	A.M.	49.6	D	53.8	D	Convert a WB thru lane into a shared thru/right-turn lane
		P.M.	85.3	**F**	39.2	D	
16	Birch Rd. & Magdalena Ave.	A.M.	33.9	C	25.6	C	Add exclusive EB right-turn lane
		P.M.	56.6	**E**	44.9	D	
19	Main St. & Heritage Rd.	A.M.	85.0	**F**	53.2	D	Add dual NB and dual EB right-turn lanes
		P.M.	96.1	**F**	47.2	D	
21	Rock Mountain Rd. & Magdalena Ave.	A.M.	110.0	**F**	41.9	D	Add a dual SB left-turn lane and a duel NB right-turn lane
		P.M.	45.0	D	40.2	D	

Notes: ***Bold*** *values indicate intersection operation at LOS E or F.* ***Bold and shaded*** *values indicate project significant direct impact.*
Impacted intersections in table represent those intersections directly impacted by the proposed project. Intersections that would be cumulatively impacted by the proposed project are not shown in the table.
Intersection Nos. 4, 5 and 6, would not be impacted as a result of development of the proposed project. However, as a result of the mitigation necessary for Intersection No. 7, it would be necessary to coordinate SB I-805 Ramps through Brandywine on Olympic Parkway, which would reduce the delay on these segments and improve the LOS on Intersections Nos. 5 and 6.

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicles. At a two-way stop controlled intersection, delay refers to the worst movement.*
[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0.*

Source: Kimley-Horn and Associates, March 2009.

Build-Out conditions. The improvements described in the table would restore the LOS at each respective intersection to the minimum performance standard (LOS D or better). It should be noted that although the intersections of the SB I-805 Ramps, NB I-805 Ramps, and Oleander Avenue along Olympic Parkway would be operating at an acceptable LOS, these intersections were included as part of the mitigation summary table since they are part of the signal coordination between I-805 SB Ramps and Brandywine Avenue along Olympic Parkway. The ultimate Year 2030 Built-Out Conditions lane geometrics with the proposed mitigations are depicted in Figure 4.3-13, *Ultimate Year 2030 Built-Out Conditions with Mitigations Intersection Geometrics,* on page 4.3-83.

Table 4.3-28, *Summary of Intersection Mitigation by Phase,* on page 4.3-84 summarizes the mitigation required for each phase of the proposed project. It should be noted that mitigation proposed in a given year scenario was not assumed for future year scenarios.

B. Roadway Segments

As discussed in above, in Subsection 4.3.3, Impact Analysis, above, roadway segment impacts were evaluated for the following Horizon Years: 2010, 2015, 2020 and 2030. The study roadway segments operating at LOS D or F under each scenario and a summary of the proposed project direct and cumulative impacts are listed below. Direct impacts are shown in ***bold and italicized***. Cumulative impacts are shown in normal font.

Existing Conditions

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue (LOS D).

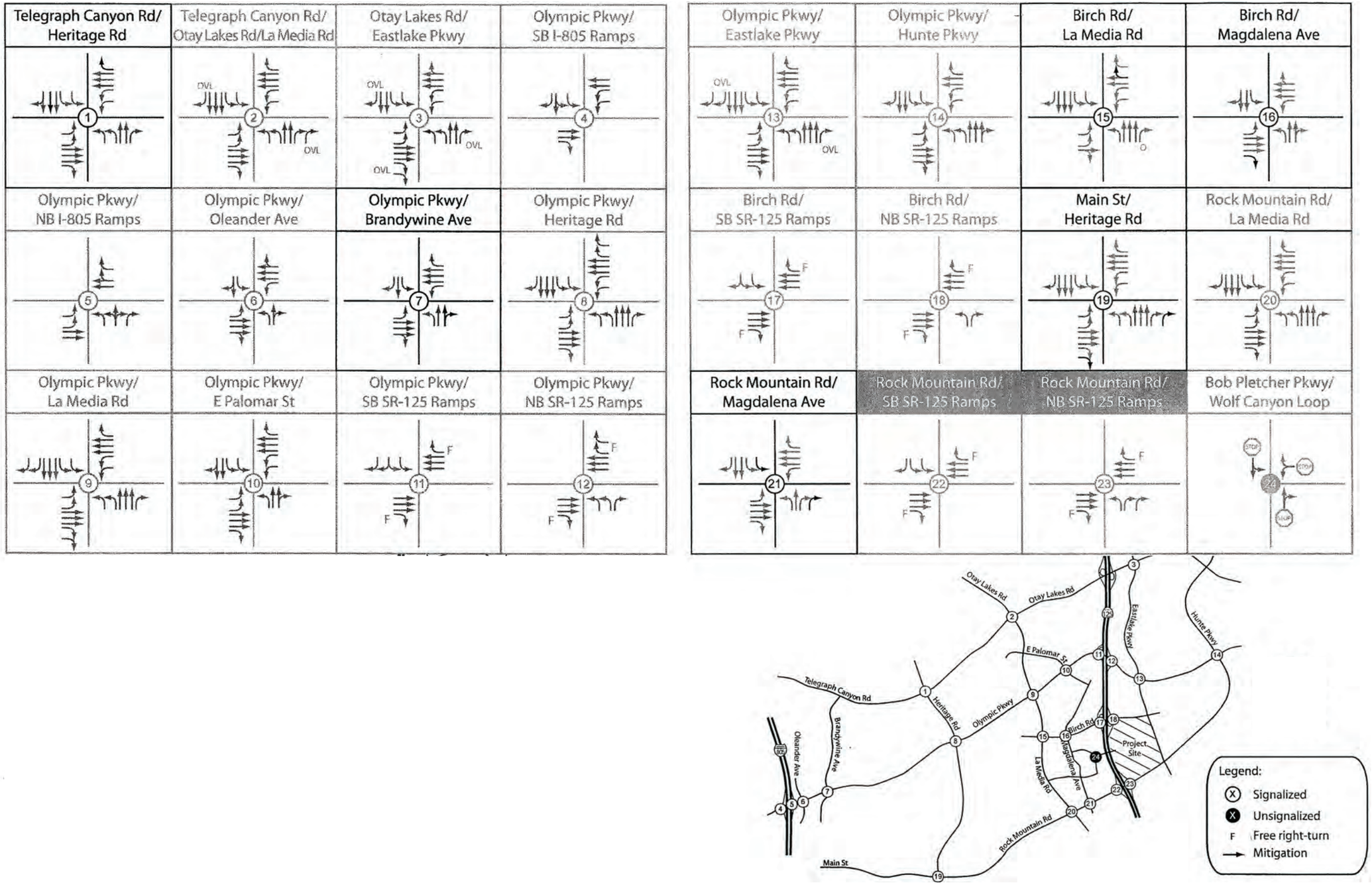
Horizon Year 2010 Baseline

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS E);
- Olympic Parkway – Brandywine Avenue to Heritage Road: (LOS D).

Horizon Year 2010 With Project

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS E);
- Olympic Parkway – Brandywine Avenue to Heritage Road: (LOS D).

With all of the intersections along each of these segments operating at an acceptable level of service with the proposed mitigations (refer to Table 4.3-28), there would be no significant roadway segment impacts under this scenario.



Not to scale

Source: Kimley-Horn and Associates, Inc., February 2009.

Figure 4.3-13
Ultimate Year 2030 Built-Out Conditions With Mitigations Intersection Geometrics

Table 4.3-28

Summary of Intersection Mitigation by Phase

	INTERSECTION	PEAK HOUR	2010 BASELINE WITH PROJECT		2015 BASELINE WITH PROJECT		2020 BASELINE WITH PROJECT		2030 BASELINE WITH PROJECT	
			Impact	Mitigation	Impact	Mitigation	Impact	Mitigation	Impact	Mitigation
1	Telegraph Canyon Rd & Heritage Rd	A.M.	--		--		--		CUMULATIVE	Add exclusive WB right-turn lane and widen north leg to provide 3 thru lanes
		P.M.	--		--		--		--	
2	Telegraph Canyon Rd & La Media Rd	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
3	Otay Lakes Rd & EastLake Pkwy	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
4	Olympic Pkwy & SB I-805 Ramps	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
5	Olympic Pkwy & NB I-805 Ramps	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
6	Olympic Pkwy & Oleander Ave	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
7	Olympic Pkwy & Brandywine Ave	A.M.	--	Restripe NB approach to include one thru lane and one shared thru-right lane and coordinate SB I-805 Ramps through Brandywine on Olympic Pkwy	--		--		DIRECT	Same as 2010 With Project
		P.M.	CUMULATIVE		--		--		DIRECT	

Table 4.3-28 (Continued)

Summary of Intersection Mitigation by Phase

	INTERSECTION	PEAK HOUR	2010 BASELINE WITH PROJECT		2015 BASELINE WITH PROJECT		2020 BASELINE WITH PROJECT		2030 BASELINE WITH PROJECT	
			Impact	Mitigation	Impact	Mitigation	Impact	Mitigation	Impact	Mitigation
8	Olympic Pkwy & Heritage Rd	A.M.	CUMULATIVE	Add SB right-turn overlap phase	DIRECT	Same as 2010 With Project	--		--	
		P.M.	--		--		--		--	
9	Olympic Pkwy & La Media Rd	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
10	E Palomar St & Olympic Pkwy	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
11	Olympic Pkwy & SR-125 SB Ramps	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
12	Olympic Pkwy & SR-125 NB Ramps	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
13	Olympic Pkwy & EastLake Pkwy	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
14	Olympic Pkwy & Hunte Pkwy	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
15	Birch Rd & La Media Rd	A.M.	--		--		--		--	Convert WB thru lane into a shared thru/right-turn lane
		P.M.	--		--		--		DIRECT	
16	Birch Rd & Magdalena Ave	A.M.	--		--		--		--	Add exclusive EB right-turn lane
		P.M.	--		--		--		DIRECT	
17	Birch Rd & SR-125 SB Ramps	A.M.	--		--		--		--	
		P.M.	--		--		--		--	
18	Birch Rd & SR-125 NB Ramps	A.M.	--		--		--		--	
		P.M.	--		--		--		--	

Table 4.3-28 (Continued)

Summary of Intersection Mitigation by Phase

	INTERSECTION	PEAK HOUR	2010 BASELINE WITH PROJECT		2015 BASELINE WITH PROJECT		2020 BASELINE WITH PROJECT		2030 BASELINE WITH PROJECT	
			Impact	Mitigation	Impact	Mitigation	Impact	Mitigation	Impact	Mitigation
19	Main St & Heritage Rd	A.M.	N/A [a]		--		--	Add dual NB and dual EB right-turn lanes	DIRECT	Same as 2020 with Project
		P.M.			--		DIRECT		DIRECT	
20	Rock Mountain Rd & La Media Rd	A.M.	N/A [a]		--		--		--	
		P.M.			--		--		--	
21	Rock Mountain Rd & Magdalena Ave	A.M.			--		--		DIRECT	Add a dual SB left-turn lane and a dual NB right-turn lane
		P.M.	N/A [a]		--		--		--	
22	Rock Mountain Rd & SR-125 SB Ramps	A.M.							--	
		P.M.	N/A [a]		N/A [a]		N/A [a]		--	
23	Rock Mountain Rd & SR-125 NB Ramps	A.M.							--	
		P.M.	N/A [a]		N/A [a]		N/A [a]		--	
24	Bob Pletcher Way & Wolf Canyon Loop	A.M.	--		--		--		--	
		P.M.	--		--		--		--	

Horizon Year 2015 Baseline

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS D);
- Olympic Parkway – Brandywine Avenue to Heritage Road: (LOS D).

Horizon Year 2015 With Project (**1 Direct**)

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS E);

  Olympic Parkway – Brandywine Avenue to Heritage Road: (***LOS D***).

With all of the intersections along each of these segments operating at an acceptable level of service with the proposed mitigations (refer to Table 4.3-28), there would be no significant roadway segment impacts under this scenario.

Horizon Year 2020 Baseline

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS D).

Horizon Year 2020 With Project

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS E);
- Olympic Parkway – Brandywine Avenue to Heritage Road: (LOS D);
- Olympic Parkway – Heritage Road to La Media Road: (LOS D).

With all of the intersections along each of these segments operating at an acceptable level of service with the proposed mitigations (refer to Table 4.3-28), there would be no significant roadway segment impacts under this scenario.

Year 2030 Build-Out Baseline

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: (LOS D).

Year 2030 Build-Out With Project (**5 Direct**)

- Olympic Parkway – Northbound I-805 Ramps to Brandywine Avenue: ***(LOS E);***
- Olympic Parkway – Brandywine Avenue to Heritage Road: ***(LOS D);***

- Olympic Parkway – Heritage Road to La Media Road: (LOS D - no significant impact since intersections operate at an acceptable (LOS);
- Main Street - Maxwell Road and Heritage Road: ***(LOS D);***
- Hunte Parkway – SR-125 Ramps to EastLake Parkway: ***(LOS E);***
- EastLake Parkway - South of Hunte Parkway: ***(LOS D).***

With all of the intersections along each of these segments operating at an acceptable LOS with the proposed mitigations (refer to Table 4.3-28), there would be no significant roadway segment impacts under this scenario.

Table 4.3-29, *Year 2030 Build-Out Conditions Roadway Segment Mitigated LOS Summary,* on page 4.3-89 provides a LOS summary of the impacted roadway segments during the Year 2030 Build-Out Conditions scenario. As shown in the table, the respective segments of Olympic Parkway, Main Street/Rock Mountain Road/Hunte Parkway, and EastLake Parkway would be mitigated by the intersection improvements (refer to Table 4.3-29) along these roadway segments. With all of the intersections along each of these segments operating at an acceptable LOS with the proposed intersection mitigations, there would be no significant roadway segment impact. The General Plan Circulation Element indicates that Hunte Parkway between SR-125 and EastLake Parkway is classified as a six- lane Town Center Arterial. If the SR-125/Otay Valley Road interchange is constructed, Hunte Parkway between SR-125 and Street A would remain as a six-lane Town Center Arterial. However, the Hunte Parkway segment between SR-125 and Street A would operate over capacity if the SR-125/Otay Valley Road interchange is not constructed. This is considered a potentially significant impact. No other study area roadway segments would be significantly impacted by the proposed project as intersections along the roadway segments after the proposed intersection mitigation measures would all operate at an acceptable LOS.

C. Freeway Segments

As discussed in Subsection 4.3.3, Impact Analysis, above, freeway segment impacts were evaluated for the following Horizon Years: 2010, 1015, 2020 and 2030. Please refer to Table 11-4 in the Traffic Study for a summary of the Freeway Segment LOS Analysis. The study freeway segments operating at LOS E or F under each scenario and a summary of the proposed project impacts are listed below. All freeway impacts would be cumulative impacts.

Table 4.3-29

Year 2030 Build-Out Conditions
Roadway Segment Mitigated LOS Summary

Roadway Segment	With Project ADT	Before Improvement			After Improvement		
		Roadway Classification	Acceptable Volume	LOS	Roadway Classification	Acceptable Volume	LOS
Olympic Pkwy							
NB I-805 Ramps to Brandywine Ave	58,745	6 Lane Prime Arterial	50,000	**E**	6 Lane Prime Arterial	50,000	**E**[a]
Brandywine Ave to Heritage Rd	50,305	6 Lane Prime Arterial	50,000	**D**	6 Lane Prime Arterial	50,000	**D**[a]
Main St							
Maxwell Rd to Heritage Rd	55,678	6 Lane Prime Arterial	50,000	**D**	6 Lane Prime Arterial	50,000	**D**[a]
Hunte Pkwy							
SR-125 Ramps to EastLake Pkwy	61,732	6 Lane Town Center Arterial	50,000	**E**	6 Lane Town Center Arterial w/ enhancements (b)	70,000	C
EastLake Pkwy							
South of Hunte Pkwy	32,825	4 Lane Major Street	30,000	**D**	4 Lane Major Street	30,000	**D**[a]

*Notes: **Bold** values indicates freeway segments operating at LOS E or F. **Bold and shaded** values indicate a project significant impact.*

[a] *With the intersection mitigations proposed, all signalized intersections along the roadway segment operate at an acceptable level of service. Therefore, there is no impact.*

[b] *Hunte Parkway would be enhanced with one additional auxiliary lane in each direction between the SR125 ramps and Street "A".*

Source: *Kimley-Horn and Associates, March 2009.*

Existing Conditions (All acceptable LOS)

Horizon Year 2010 Baseline and 2010 Baseline With Project (All acceptable LOS)

Horizon Year 2015 Baseline

- SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS E – P.M. peak-hour).

Horizon Year 2015 With Project (1 Cumulative)

- SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS E – P.M. peak-hour).

Horizon Year 2020 Baseline

- SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS F – P.M. peak-hour);

Horizon Year 2020 With Project (2 Cumulative)

- NB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS E – A.M. peak-hour);
- SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS F – P.M. peak-hour).

Year 2030 Build-Out Baseline

- NB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS F – A.M. and P.M. peak-hours);
- Interstate 805 – Olympic Parkway to Main Street: (LOS E – P.M. peak-hour).

Year 2030 Build-Out With Project (3 Cumulative)

- NB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS F – A.M. peak-hour);
- SB Interstate 805 – Telegraph Canyon Road to Olympic Parkway: (LOS F – P.M. peak-hour);
- SB Interstate 805 – Olympic Parkway to Main Street: (LOS E – P.M. peak-hour).

As shown in the information cited above, all segments along the SR-125 toll facility would operate at LOS B or better during all future year scenarios. All freeway segments along I-805 would operate at LOS D or better during the A.M. peak-hour until the Year 2020 and during the P.M. peak-hour until the Year 2015. However, no specific improvements have been identified to mitigate the proposed project's cumulative impacts along the freeway segments listed above in the 2015, 2020, and 2030 scenarios.

D. Project Boundary Intersections

As discussed above, under the 2030 Build-Out With Project scenario, the proposed project would result in the following two direct intersection impacts:

- Hunte Parkway and EastLake Parkway (***LOS E – P.M. peak-hour***);
- Hunte Parkway and Street A ***(LOS F – A.M. and P.M. peak-hour).***

Table 4.3-30, *Project Boundary Intersections Year 2030 Conditions Mitigated Peak-Hour Intersection LOS Summary,* on page 4.3-92 contains the analysis of the suggested intersection improvements at the Hunte Parkway/EastLake Parkway and Hunte Parkway/ Street A intersections with a one-way couplet that would be required to mitigate the proposed project's direct impacts. The suggested improvements would consist of a right-turn overlap phase for the eastbound, westbound, and northbound movements. The suggested improvement at the Hunte Parkway/ Street A intersection would consist of auxiliary eastbound through lane, an additional northbound left-turn lane, and a southbound right-turn overlap phase, which would improve the operations to an acceptable LOS. These improvements would allow both intersections to operate at an acceptable LOS D during both peak periods. Figure 8-11 in the Traffic Study shows the lane configuration at the Street A and EastLake Parkway intersections along Hunte Parkway with the proposed improvements.

E. Consistency with PFFP

The project's consistency with the PFFP is dependent on several variables that are out of the control of the proposed project. First, since SR-125 is not within the City's jurisdiction, it is difficult to control the timing of the Otay Valley Road interchange construction. Second, there are several intersection and roadway segment improvements that have been assumed to be constructed or bonded by others in each respective scenario. Given the timing of such improvements are by nature not under control of the proposed project, the proposed project's consistency with the PFFP thresholds is considered to be a potentially significant impact.

Table 4.3-30

Project Boundary Intersections Year 2030 Conditions Mitigated Peak-Hour Intersection LOS Summary

	Intersection	Peak Hour	With Proposed Geometry		After Suggested Improvement		Description of Improvement
			Delay [a]	LOS [b]	Delay [a]	LOS [b]	
7	Hunte Pkwy & EastLake Pkwy	A.M.	51.3	D	51.0	D	Add EBR, WBR, and NBR overlap phases
		P.M.	56.2	**E**	52.6	D	
11	Hunte Pkwy & Street A	A.M.	93.1	**F**	54.3	D	Add a fourth EB through lane, add a dual NB left turn lane, and add SBR overlap phase
		P.M.	116.2	**F**	50.8	D	

Note: ***Bold*** *values indicate project direct impact.*

[a] *Delay refers to the average control delay for the entire intersection, measured in seconds per vehicles.*

[b] *LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 6.0.*

Source: Kimley-Horn and Associates, March 2009.

F. GMOC Analysis

The findings of the GMOC analysis are presented in Table 4.3-31, *Summary of GMOC LOS Analysis*, on page 4.3-93. As shown in the table, the segment of Olympic Parkway between I-805 and Hunte Parkway would operate at LOS D or better with speeds ranging between 26 mph and 32 mph. Thus, less-than-significant impacts would occur along the Olympic Parkway between I-805 and Hunte Parkway).

G. Alternative Transportation

The proposed EUC plan is consistent with regional plans, policies and programs supporting alternative transportation and transportation mode choices. The project provides for an alignment of the future BRT line, which has been approved by SANDAG. Additionally, the project will include local bus services and provides bicycle and electric cart facilities consistent with the City's master plan and Otay Ranch GDP.

The Traffic Study includes several recommendations to improve the effectiveness and operation of the BRT route through the EUC. With the recommendations, the BRT would not be required to stop within the EUC, except at stations for the purpose of picking up or dropping off passengers. The implementation of the recommendations in the Traffic Study would increase the effectiveness of the BRT service in attracting riders, thus accomplishing the 10 percent transit modal split assumed for the EUC. The recommendations should be incorporated by SANDAG in their final design of the BRT line through the EUC to ensure the

Table 4.3-31

Summary of GMOC LOS Analysis

Roadway Segment	Direction	Existing Speed[a]	Existing LOS[b]	2010 Baseline Speed[a]	2010 Baseline LOS[b]	2010 Plus Project Speed[a]	2010 Plus Project LOS[b]
			A.M. Peak				
Olympic Parkway							
I-805 to Hunte Pkwy.	EB	33.5	C	32.1	C	32.0	C
	WB	28.1	C	26.6	D	26.1	D
			P.M. Peak				
Olympic Parkway							
I-805 to Hunte Pkwy.	EB	32.1	C	27.4	C	26.6	D
	WB	31.0	C	28.8	C	28.0	C

[a] *Speed is calculated as the roadway segment distance divided by the travel time in miles per hour (mph).*
[b] *The arterial LOS is based on average through-vehicle travel speed for the segment or for the entire street under consideration and is influenced both by the number of signals per mile and by the intersection control delay.*

Source: Kimley-Horn and Associates, March 2009.

most efficient BRT service. Suggestions for improving transit operation has been included in this document to ensure that the project applicant provides conduit at all intersections to facilitate these future improvements and that the applicant cooperate with SANDAG in implementing all the recommendations included in the traffic study.

In addition, SANDAG has confirmed they are undertaking their environmental and preliminary review of the BRT through the site, which is expected to be completed by 2010.[1] The SANDAG environmental review would ensure that signal priority is implemented for the BRT service, as appropriate and necessary.

4.3.5 MITIGATION MEASURES

A. Intersections

Horizon Year 2010 With Project

4.3-1 Intersection #7: Prior to implementation of the first phase of the proposed project (with 1st EDU) at the intersection of Olympic Parkway/Brandywine Avenue, the Applicant shall secure or construct the re-striping of the northbound

[1] *Letter correspondence from Dave Schumacher, Principal Planner, with SANDAG, dated June 27, 2008.*

approach to include one thru lane and one shared thru-right lane and coordinate SB I-805 Ramps through Brandywine on Olympic Parkway.

4.3-2 Intersection #8: Prior to implementation of the first phase of the proposed project (with 1st EDU) at the intersection of Olympic Parkway/Heritage Road, the Applicant shall secure or construct the addition of a southbound right-turn overlap phase.

Horizon Year 2015 With Project

The intersection of Olympic Parkway/Heritage Road (Intersection #8) would be directly impacted by the proposed project. Implementation of Mitigation Measure 4.3-2 would ensure an acceptable LOS at this intersection.

Horizon Year 2020 With Project

4.3-3 Intersection #19: Prior to implementation of the third phase of the proposed project (3,070 proposed project EDUs) at the intersection of Main Street/Heritage Road, the Applicant shall secure or construct the addition of dual northbound and dual eastbound right-turn lanes.

Horizon Year 2030 With Project

4.3-4 Intersection #1: Prior to implementation of the final phase of the proposed project (5,270 proposed project EDUs) at the intersection of Telegraph Canyon Road/Heritage Road, the Applicant shall secure or construct the addition of a exclusive westbound right-turn lane and widening of the north leg to provide three thru lanes.

4.3-5 Intersection #15: Prior to implementation of the final phase of the proposed project (5,270 proposed project EDUs) at the intersection of Birch Road/La Media Road, the Applicant shall secure or construct the conversion of a westbound thru lane into a shared westbound thru/right-turn lane.

4.3-6 Intersection #16: Prior to implementation of the final phase of the proposed project (5,270 proposed project EDUs) at the intersection of Birch Road/Magdalena Avenue, the Applicant shall secure or construct the addition of an exclusive eastbound right-turn lane.

4.3-7 Intersection #19: Prior to implementation of the final phase of the proposed project (5,270 proposed project EDUs) at the intersection of Main Street/Heritage Road, the Applicant shall secure or construct the addition of dual northbound and dual eastbound right-turn lanes and the addition of a southbound right-turn overlap phase.

4.3-8 Intersection #21: Prior to implementation of the final phase of the proposed project (5,270 proposed project EDUs) at the intersection of Rock Mountain Road/Magdalena Avenue, the Applicant shall secure or construct the addition of a dual southbound left-turn lane and a dual northbound right-turn lane.

B. Roadway Segments

No mitigation measures are necessary for the Horizon Year 2010, 2015, and 2020 scenarios.

Horizon Year 2030 With Project

4.3-9 Hunte Parkway (SR-125 to Street A): Prior to 5,270 EDUs and if SR-125 and the Otay Valley Road interchange is not constructed, the Applicant shall secure or construct two auxiliary lanes on this roadway segment as determined necessary by the City Engineer.

C. Freeway Segments

No mitigation measures are available to reduce the proposed project's significant cumulative impacts.

D. Project Boundary Intersections

4.3-10 Prior to completion of the entire project (8,035 proposed project EDUs) at the Hunte Parkway/EastLake Parkway intersection, the Applicant shall secure or construct a right-turn overlap phase for the eastbound, westbound, and northbound movements.

4.3-11 Upon connection of Street A to Hunte Parkway, the Applicant shall secure or construct the Hunte Parkway/Street A intersection with a fourth eastbound through lane, a dual northbound left-turn lane, and a southbound right-turn overlap phase.

E. Other Traffic Mitigations

4.3-12 The Applicant, in cooperation with the City of Chula Vista, shall monitor the necessary timing to construct the SR-125 and Rock Mountain Road interchange to ensure that this improvement is constructed prior to surpassing the EUC PFFP threshold of 5,270 proposed project EDUs.

4.3-13 The Project Applicant shall construct or enter into an agreement with the City of Chula Vista to construct and secure, in accordance with Section 18.16.220 of

the Municipal Code, the required street improvements, including traffic signals, prior to approval of the final map that contains the cumulative EDU trigger.

4.3-14 On-site streets and boundary intersections shall be constructed in accordance with the PFFP. Boundary intersections shall be constructed to their full-proposed build out geometry when the connecting on-site links are constructed. All street improvement plans shall show project boundary intersections to the satisfaction of the City Engineer.

F. GMOC Analysis

No mitigation measures are necessary.

G. Alternative Transportation

4.3-15 The Applicant shall install traffic signal conduits in streets with exclusive BRT transitways throughout the entire site so that future transit signal priority treatments can be used and signals can be interconnected.

4.3.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measures 4.3-1 to 4.3-8, potentially significant impacts to the study area intersections and roadway segments, with the exception of Hunte Parkway between SR-125 to Street A, would be reduced to a less-than-significant level. However, with implementation of Mitigation Measure 4.3-9, the potentially significant impact to the roadway segment of Hunte Parkway between SR-125 to Street A would be reduced to a less-than-significant level as there would be available capacity to accommodate 2030 traffic volumes.

No specific improvements have been identified to mitigate the proposed project's cumulative impacts along the freeway segments listed below. Thus, impacts to these freeway segments would remain significant and unavoidable.

- Northbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (2020 and 2030 – Cumulative);
- Southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (2015, 2020, and 2030 – Cumulative);
- Southbound Interstate 805 from Olympic Parkway to Main Street (2030 – Cumulative).

With implementation of Mitigation Measures 4.3-10 and 4.3-11, potentially significant impacts to the proposed project boundary intersections would be reduced to a less-than-significant

level. With implementation of Mitigation Measure 4.3-12, 4.3-13, and 4.3-14, the timing of improvements would be consistent with the PFFP. Mitigation Measure 4.3-15 would eliminate potential conflicts pertaining to BRT service through the EUC.

4.4 AIR QUALITY

Section 3.11, Air Quality of the Otay Ranch GDP Program EIR (90-01) evaluated air quality for the entire Otay Ranch and concluded that development of the Otay Ranch GDP would result in significant and unavoidable impacts to air quality, even after implementation of mitigation measures due to the County of San Diego exceeding ambient air quality standards. Mitigation measures included techniques for reducing construction and project emissions. The analysis and discussion of air quality contained in the Otay Ranch GDP Program EIR are incorporated by reference.

This section is based on an *Air Quality Assessment Technical Report*, dated May 2009 that was prepared for the EUC SPA Plan by PCR Services Corporation and included in Appendix C of this EIR. This section describes existing air quality at a local and regional level and analyzes the potential air quality impacts of the proposed project. Potential air quality impacts were evaluated in accordance with methodologies, guidance, and requirements of the City of Chula Vista, San Diego Air Pollution Control District (SDAPCD), and the California Air Resources Board (CARB) for California Environmental Quality Act (CEQA) documentation.

4.4.1 EXISTING CONDITIONS

A. Regulatory Framework

A number of statutes, regulations, plans and policies have been adopted which address air quality concerns. The EUC SPA Plan area is subject to air quality regulations developed and implemented at the federal, state, and local levels. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of the federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile source requirements and other requirements) are implemented directly by USEPA. Other portions of the CAA (e.g., stationary source requirements) are implemented through delegation of authority to state and local agencies.

(1) Air Quality Standards

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The CAA was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS) and specifies future

dates for achieving compliance. Seven pollutants of primary concern were designated: (1) Ozone (O_3); (2) Nitrogen Dioxide (NO_2); (3) Sulfur Dioxide (SO_2); (4) Particulate Matter (PM_{10}); (5) Fine Particulate Matter ($PM_{2.5}$); (6) Carbon Monoxide (CO); and (7) Lead (Pb). California has also set standards on four other pollutants: sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility reducing particles. Table 4.4-1, *Ambient Air Quality Standards*, on page 4.4-3 shows the state and federal standards currently in effect for each pollutant. The CAA also mandates that the State submit and implement the State Implementation Plan (SIP) for local areas not meeting these standards. These Plans must include pollution control measures that demonstrate how the standards will be met. The City of Chula Vista is within the San Diego Air Basin (SDAB), and as such is in an area designated a nonattainment area for certain pollutants that are regulated under the CAA.

(2) Air Quality and Land Use Planning Guidelines

The California Air Resources Board adopted the *Air Quality and Land Use Handbook* (April 2005) to provide guidance to planning agencies and air districts for considering potential impacts to sensitive land uses proposed in proximity to toxic air contaminant (TAC) emission source(s). The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, the acutely ill, and chronically ill persons, from exposure to TAC emissions. CARB's siting guidelines recommended the following: (1) avoid siting sensitive receptors within 500 feet of freeways and high-traffic roads (i.e., roads within urbanized areas carrying more than 100,000 vehicles per day); (2) avoid siting sensitive receptors within 1,000 feet of a distribution center; and (3) avoid siting sensitive receptors within 300 feet of a dry cleaning facility that uses the chemical perchloroethylene. The recommendations provided are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. Diesel Particulate Matter (DPM) is a TAC and reducing DPM is one of CARB's highest public health priorities and the focus of a comprehensive statewide control program. CARB's long-term goal is to reduce DPM emissions 85 percent by 2020.

(3) San Diego Air Pollution Control District (SDAPCD)

The San Diego Air Pollution Control District (SDAPCD) is the local agency that is responsible for achieving and maintaining the California Ambient Air Quality Standards (CAAQS) and the NAAQS in the San Diego Air Basin. The SDAPCD was responsible for preparing the San Diego portion of the SIP, which presents the air basin's strategies for achieving the federal ambient standards. The SDAPCD has submitted an 8-hour Ozone SIP for consideration by the CARB, which was then approved and submitted to the EPA in June 2007.

The SDAPCD prepared the 1991/1992 Regional Air Quality Strategy (RAQS) that was adopted, with amendments, on June 30, 1992 (County of San Diego 1992). The RAQS include the transportation control measures (TCM) for the air quality plan prepared by the San Diego Association of Governments (SANDAG).

Table 4.4-1

Ambient Air Quality Standards [a]

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Ozone ($O^{3)}$	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—[j]	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3) [h]		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—[j]		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35[j] µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (470 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead (Pb)	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average			0.15 µg/m^3		

Table 4.4-1 (Continued)

Ambient Air Quality Standards [a]

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [i]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

[a] *California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter (PM_{10}, and $PM_{2.5}$) 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.*

[b] *National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration 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/m^3 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. Contact U.S. EPA for further clarification and current federal policies.*

[c] *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.*

[d] *Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.*

[e] *National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.*

[f] *National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

[g] *Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.*

[h] *New federal 8-hour ozone and fine particulate matter standards were promulgated by USEPA on July 18, 1997. Contact USEPA for further clarification and current federal policies.*

[i] *The 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.*

[j] *This table includes updated PM_{10}, $PM_{2.5}$, and O_3 standards that were adopted in September of 2006.*

Source: California Air Resources Board, November 11, 2008.

The required triennial updates of the RAQS and corresponding TCM were adopted in 1995, 1998, and 2001. The RAQS and TCM plan set forth the steps needed to accomplish attainment of state and federal ambient air quality standards. The San Diego APCD has also established a set of rules and regulations initially adopted on January 1, 1969, and periodically reviewed and updated. The rules and regulations define requirements regarding stationary sources of air pollutants and fugitive dust.

Local agencies can control neither the source nor the transportation of pollutants from outside the SDAB. The San Diego APCD's policy, therefore, has been to control local sources effectively enough to reduce contamination to clean air standards. Through the use of air pollution control measures outlined in the RAQS, the San Diego APCD has effectively reduced ozone labels in the SDAB.

Currently adopted controls under District, State, and federal jurisdiction will provide continued reductions in ozone precursors for the 2009 attainment deadline. San Diego's attainment strategy relies on these existing controls and their continued implementation. The District's attainment demonstration indicates that the local, State, and federal controls already in place will reduce emissions sufficiently by 2008 to allow San Diego to attain the ozone standard by the 2009 deadline.

CARB staff are also developing new measures to help the State's non-attainment areas meet USEPA's 8-hour ozone and fine particulate matter ($PM_{2.5}$) standards. Given San Diego's early attainment date, the proposed State Strategy will not provide new reductions in 2008, and San Diego's plan does not include any reductions from proposed State measures in its attainment demonstration.

(4) City of Chula Vista

Local jurisdictions have the authority and responsibility to reduce air pollution through implementation of their policies and decision-making authority. The City of Chula Vista has established objectives and developed implementing policies in its General Plan related to air quality, which are listed below.

Objective LUT 62 – Require development to consider and plan for careful use of natural and man-made resources and services, and maximize opportunities for conservation while minimizing waste.

Policies

LUT 62.1 – Require developments within the East Planning Area to provide resource management plans for water; air quality; recycling; solid waste management; and energy.

Objective EE 6 - Improve local air quality by minimizing the production and emission of air pollutants and toxic air contaminants and limit the exposure of people to such pollutants.

Policies

EE 6.1 - Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.

EE 6.2 - Promote and facilitate transit system improvements in order to increase transit use and reduce dependency on the automobile.

EE 6.7 - Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's Air Quality Improvement Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.

EE 6.10 - The siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment as part of the CEQA review of the project. Attendant health risks identified in the Health Risk Assessment (HRA) shall be feasibly mitigated to the maximum extent practicable in accordance with CEQA, in order to help ensure that applicable federal and state standards are not exceeded.

The City has included a Growth Management Element (GME) in its General Plan. One of the stated objectives of the GME is to actively plan to meet federal and state air quality standards. This objective is incorporated into the GME's action program. In addition, the City's Growth Management Ordinance requires that an Air Quality Improvement Plan (AQIP) be prepared for all major development projects (50 dwelling units or greater) as part of the SPA Plan process. The AQIP for the proposed project must comply with the City's AQIP Guidelines.

(5) CO2 Reduction Plan

On November 14, 2000, the City Council adopted the Carbon Dioxide (CO2) Reduction Plan, which included implementing measures regarding transportation and energy efficient land use planning and building construction measures for new development. In this Plan, it was recognized that the City's efforts to reduce carbon dioxide emissions from new development are directly related to energy conservation and air quality efforts. As a result, the City initiated a pilot study effort to develop a program to be implemented in new SPA Plans through updating the guidelines for preparation of required Air Quality Improvement Plans (AQIPs).

B. Existing Air Quality

(1) Existing Conditions

(a) Regional Context

The boundaries of the San Diego Air Basin are contiguous with the political boundaries of San Diego County. The County of San Diego encompasses approximately 4,260 square miles and is bounded on the north by Orange and Riverside Counties, on the east by Imperial County, on the west by the Pacific Ocean, and on the south by the Mexican State of Baja California. The County is divided by the Laguna Mountain Range which runs approximately parallel to the coast about 45 miles inland and separates the coastal area from the desert portion of the County. The Laguna Mountains have peaks reaching over 6,000 feet, with the highest point in the County being Hot Springs Mountain rising to 6,533 feet. The coastal region is made up of coastal terraces that rise from the ocean into wide mesas which then, moving farther east, transition into the Laguna Foothills. Farther east, the topography gradually rises to the rugged mountains. On the east side, the mountains drop off rapidly to the Anza-Borrego Desert, which is characterized by several broken mountain ranges with desert valleys in between. To the north of the County are the Santa Ana Mountains which run along the coast of Orange County, turning east to join with the Laguna Mountains near the San Diego-Orange County border.

The climate of the San Diego Air Basin, as with all of Southern California, is largely dominated by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year round. The climatic classification for San Diego is a Mediterranean climate, with warm, dry summers and mild, wet winters. Average annual precipitation ranges from approximately 10 inches on the coast to over 30 inches in the mountains to the east (the desert regions of San Diego County generally receive between 4 and 6 inches per year).

The favorable climate of San Diego also works to create air pollution problems. Sinking, or subsiding air from the Pacific high pressure creates a temperature inversion, known as a subsidence inversion, which acts as a lid to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic emissions combined with strong sunshine leads to photochemical reactions, which results in the creation of ozone at this surface layer. Daytime onshore flow (i.e., sea breeze) and nighttime offshore flow (i.e., land breeze) are quite common in Southern California. The sea breeze helps to moderate daytime temperatures in the western portion of San Diego County, which greatly adds to the climatic draw of the region. This also leads to emissions being blown out to sea at night and returning to land the following day. Under certain conditions, this atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County, which often results

in high ozone concentrations being measured at San Diego County air pollution monitoring stations. Transport of air pollutants from Los Angeles to San Diego has also been shown to occur aloft within the stable layer of the elevated subsidence inversion. In this layer, removed from fresh emissions of oxides of nitrogen, which would scavenge and reduce ozone concentrations, high levels of ozone are transported into San Diego County.

The CARB prepares a series of maps that show regional trends in estimated outdoor inhalable cancer risk from air toxic emissions in an ongoing effort to provide insight as to the relative risk. The estimates represent the number of potential cancers per million people based on a lifetime of breathing air toxics (i.e., 24 hours per day outdoors for 70 years). The Year 2001 San Diego County map, which is the most recently available map to represent existing conditions, is provided in Figure 4.4-1, *Background Cancer Risk in San Diego County,* on page 4.4-9. As shown in Figure 4.4-1, the cancer risk within San Diego County ranges from 100 to 1,500 cancers per million, while the vast majority of the area is between 100 and 750 cancers per million.[1] Generally, the risk from air toxics is lower near the coastline and increases inland, with higher risks concentrated near large diesel sources (e.g., freeways, airports, and ports).

(b) Existing Pollutant Levels at Nearby Monitoring Stations

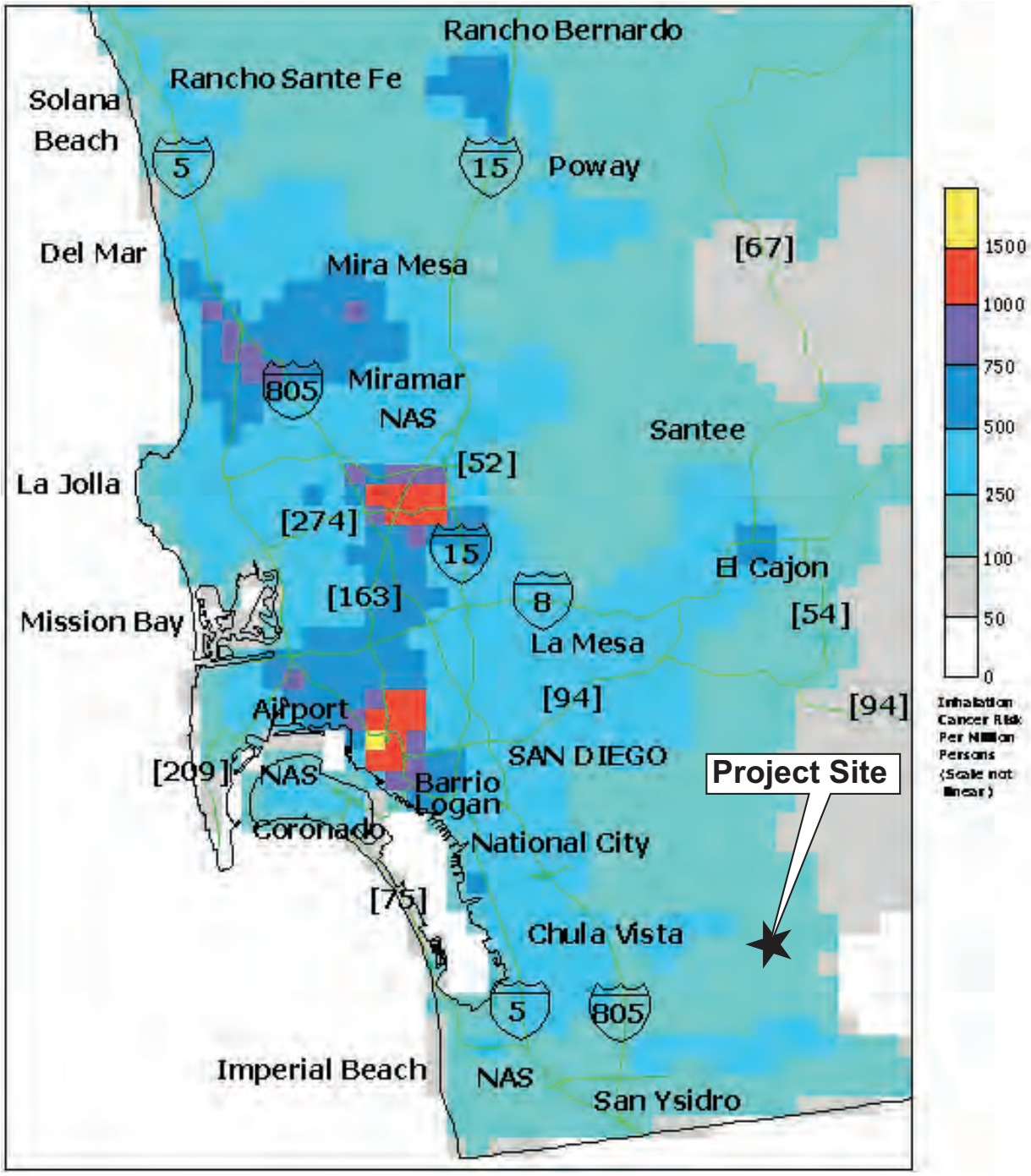
Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB or federal standards set by the EPA. The SDAPCD currently maintains 10 air quality monitoring stations located throughout the greater San Diego metropolitan region. Air pollutant concentrations and meteorological information are continuously recorded at these 10 stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The project site is located in the Chula Vista Monitoring Area. The monitoring station for this area is the Chula Vista Monitoring Station, which is located at 80 East J Street, Chula Vista, CA 91910, approximately 2 miles west of the project site. Criteria pollutants monitored at this station include PM_{10}, $PM_{2.5}$, O_3, CO, SO_2, and NO_2. The most recent data available from this monitoring station encompasses the years 2001 to 2005. The data, shown in Table 4.4-2, *Pollutant Standards and Ambient Air Quality Data*, on page 4.4-10 show the following pollutant trends:

Ozone, O_3. During the 2001 to 2005 reporting period, the maximum one-hour ozone concentration was recorded in 2002 at 0.12 ppm. An exceedance of the California one-hour ozone standard of 0.09 ppm was recorded 2 times in 2001 as compared to 1 time during 2002 and 2004. The National standard of 0.12 ppm was not exceeded once between the 2001-2005 years measured. The maximum eight-hour ozone concentration recorded during the reporting period was 0.09 ppm, reported in 2004. During the 2001 to 2005 reporting period, the National 8-hour average standard of 0.08 ppm was exceeded once in 2004.

[1] *http://www.arb.ca.gov/toxics/cti/hlthrisk/cncrinhl/riskmapviewfull.htm.*

Total Risk (diesel + nondiesel)
San Diego Region: 2001 Cancer Risk Per Million
All Sources



Source: California Air Resources Board, 2009

Figure 4.4-1
Background Cancer Risk in San Diego County

Table 4.4-2

Pollutant Standards and Ambient Air Quality Data [a]

Pollutant/Standard	2002	2003	2004	2005	2006
Ozone					
O_3 (1-hour)					
Maximum Concentration (ppm)	0.12	0.08	0.10	0.09	0.08
Days > CAAQS (0.09 ppm)	1	0	1	0	0
Days > NAAQS (0.12 ppm)	0	0	0	0	0
O_3 (8-hour)					
Maximum Concentration (ppm)	0.07	0.06	0.09	0.08	0.07
4th High 8-hour Concentration (ppm)	N/A[a]	N/A	N/A	N/A	N/A
Days > CAAQS (0.07 ppm)	N/A	N/A	N/A	N/A	N/A
Days > NAAQS (0.08 ppm)	0	0	1	0	0
Particulate Matter					
PM_{10} (24-hour)					
Maximum Concentration ($\mu g/m^3$)	50	75	44	53	52
Days > CAAQS (50 $\mu g/m^3$) [b]	6.1	12.3	0	13.1	13.1
Days > NAAQS (150 $\mu g/m^3$) [b]	0	0	0	0	0
PM_{10} (Annual Average)					
Annual Arithmetic Mean (50 $\mu g/m^3$)	27	27	26	27	26
Annual Geometric Mean (20 $\mu g/m^3$)	37.6	N/A[c]	N/A[c]	N/A[c]	N/A[c]
Particulate Matter					
$PM_{2.5}$ (24-hour)					
Maximum Concentration ($\mu g/m^3$)	41	239	33	34	30
Days > NAAQS (65 $\mu g/m^3$) [d]	0	3.3	0	0	0
$PM_{2.5}$ (Annual Average)					
Annual Arithmetic Mean (12 $\mu g/m^3$ for CAAQS and 15 $\mu g/m^3$ for NAAQS)	14	14	12	12	11
Carbon Monoxide					
CO (1-hour)					
Maximum Concentration (ppm)	4.3	6.9	3.9	2.8	2.9
Days > CAAQS (20 ppm)	0	0	0	0	0
Days > NAAQS (35 ppm)	0	0	0	0	0
CO (8-hour)					
Maximum Concentration (ppm)	2.6	5.4	2.5	2.1	2.2
Days > CAAQS (9 ppm)	0	0	0	0	0
Days > NAAQS (9 ppm)	0	0	0	0	0

Table 4.4-2 (Continued)

Pollutant Standards and Ambient Air Quality Data [a]

Pollutant/Standard	2002	2003	2004	2005	2006
Nitrogen Dioxide					
NO_2 (1-hour -State Standard)					
Maximum Concentration (ppm)	0.093	0.102	0.072	0.071	0.074
Days > CAAQS (0.25 ppm)	0	0	0	0	0
NO_2 (Annual Average—National Standard))	0.018	0.018	0.016	0.016	0.017
Annual Arithmetic Mean (0.053 ppm)					
Sulfur Dioxide					
SO_2 (1-hour)					
Maximum Concentration (ppm)	0.044	0.030	0.042	0.016	0.0019
Days > CAAQS (0.25 ppm)	0	0	0	0	0
SO_2 (24-hour)					
Maximum Concentration (ppm)	0.012	0.009	0.016	0.005	0.006
Days > CAAQS (0.04 ppm)	0	0	0	0	0
Days > NAAQS (0.14 ppm)	0	0	0	0	0
SO_2 (Annual Average)					
Annual Arithmetic Mean (0.030 ppm)	0.004	0.004	0.003	0.003	0.003
Lead					
Maximum 30-day average ($\mu g/m^3$)	N/A	N/A	N/A	N/A	N/A
Maximum calendar quarter ($\mu g/m^3$)	N/A	N/A	N/A	N/A	N/A
Sulfate					
Maximum 24-hour Concentration ($\mu g/m^3$)	N/A	N/A	N/A	N/A	N/A

[a] *ppm = parts per million; $\mu g/m^3$= micrograms per cubic meter; N/A = not applicable; -- = Data not available*
Data presented for all pollutants is from the Chula Vista Monitoring Station.

[b] *Measurements were collected every six days. Measured days count the days that a measurement was greater than the level of the standard.*

[c] *Insufficient data available to determine the value.*

[d] *In September 2006, the 24-hr $PM_{2.5}$ standard was changed from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. The data representing days above standard applies to the old standard.*

Source: CARB and SDAPCD, Ambient Monitoring Data 2001–2006.

Particulate Matter, PM_{10}. The highest recorded 24-hour concentration during the reporting period occurred in 2003 and was 75 micrograms per cubic meter ($\mu g/m^3$) of air particulates. During the reporting period, the California 24-hour PM_{10} standard of 50 $\mu g/m^3$ was exceeded between 0 and 13.1 times annually, with the highest number of exceedances occurring in 2005. The National standard was not exceeded between the years 2001 to 2005. The highest annual arithmetic mean concentration recorded was 28 $\mu g/m^3$ in 2001 and there were no annual geometric means recorded. It should be noted that California has modified its standard to be based on the arithmetic mean rather than the geometric mean and discontinued the prior standard in 2003. The maximum recorded concentrations exceeded the California standard of 20 $\mu g/m^3$, but not the National standard of 50 $\mu g/m^3$.

Particulate Matter, $PM_{2.5}$. The highest recorded 24-hour concentration of $PM_{2.5}$ during the reporting period was 83.7 $\mu g/m^3$, reported in 2003. The National standard in place during 2001 through 2005, of 65 $\mu g/m^3$, was exceeded between one and five times annually. In 2006, the USEPA lowered the standard to 35 $\mu g/m^3$. The highest annual arithmetic mean concentration recorded was 22.9 $\mu g/m^3$ in 2001. Annual average ambient levels exceeded the California standard of 12 $\mu g/m^3$ and the National standard of 15 $\mu g/m^3$ during all five years.

Carbon Monoxide, CO. The highest 1-hour CO concentration was 239 ppm, reported in 2003 and the highest 8-hour CO concentration was 5.4 ppm, reported during the same year. Neither the California nor the National CO standards were exceeded during the 2001 to 2005 reporting period. The reason for the 239 ppm 1-hour CO concentration was because of the San Diego fires that occurred during that year.

Nitrogen Dioxide, NO_2. The highest one-hour concentration of NO_2 was recorded in 2003 and was 0.102 ppm. The highest annual arithmetic mean during the 2001 to 2005 reporting period was 0.018 ppm, recorded in 2003. Neither the California nor the National NO_2 standards were exceeded during the 2001 to 2005 reporting period.

Lead, Pb. There was no data collected for this pollutant between the years of 2001-2005.

Sulfates. There was no data collected for this pollutant between the years of 2001-2005.

Sulfur Dioxide, SO_2. The highest one-hour concentration of SO_2 was 0.049 ppm, recorded in 2001. The highest 24-hour concentration recorded was 0.015 ppm in 2004. No exceedances of the California or the National SO_2 standards were recorded during this reporting period.

Visibility Reducing Particles. The SDAB is currently designated as “unclassified” with respect to the State standard for visibility reducing particles. Continuous monitoring is not currently performed within the SDAB for this standard.

Hydrogen Sulfide. The SDAB is currently designated as "unclassified" with respect to the State standard for hydrogen sulfide. The CARB does not perform or require ambient monitoring of this pollutant.

Vinyl Chloride. The SDAB is currently designated as "unclassified" with respect to the State standard for vinyl chloride. In 1990, the CARB identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the CARB does not perform or require ambient monitoring for this pollutant.

(2) Attainment Status

Table 4.4-3, *San Diego County Air Basin Attainment Status,* on page 4.4-14 lists the criteria pollutants and their relative attainment status. The SDAB fails to meet national standards for 8-hour O_3 and therefore is considered a federal ozone "non-attainment" area. The CAA sets certain deadlines for meeting the NAAQS within the SDAB. Feedback from the USEPA indicates that the likely attainment date for 8-hour O_3 will be 2009. San Diego meets the federal PM_{10} and $PM_{2.5}$ standards but was designated "unclassifiable" for PM_{10} before monitoring data was available to support an attainment designation. In 2005, EPA designated San Diego as an attainment area for $PM_{2.5}$. The State CARB has designated San Diego as a nonattainment for PM_{10} (inhalable particles 10 microns or less in diameter) and $PM_{2.5}$.

According to the 2001 ARB Cancer Inhalation Risk map, shown above in Figure 4.4-1, the project site is located within a cancer risk zone of 100 to 500 in one million. ARB data show that there is an inherent health risk associated with living in rural and urbanized areas of San Diego and the health risk within the project vicinity is indicative of other areas of San Diego.

(3) Sensitive Receptors and Locations

Some population groups including children, the elderly, and the acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to air pollution than others. Sensitive land uses closest to the project vicinity are shown in Figure 4.4-2, *Project Site and Sensitive Receptors*, on page 4.4-15, and include the following:

- Residential uses west and northwest of the project site;
- Residential uses east and northeast of the project site;
- A proposed middle school/high school east of the project site; and,
- Planned elementary schools within the southern portion of the project site and east-northeast of the site.

Table 4.4-3

San Diego County Air Basin Attainment Status[b]

Pollutant	National Standards	California Standards
Ozone (1-hour standard)	Attainment[a]	Non-attainment
Ozone (8-hour standard)	Non-attainment (Basic)	N/A[d]
Carbon Monoxide	Attainment[b]	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
PM_{10}	Unclassifiable[c]	Non-attainment
$PM_{2.5}$	Attainment	Non-attainment
Lead	Attainment	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified

N/A = not applicable

[a] *The NAAQS for 1-hour ozone was revoked on June 15, 2005 for all areas except Early Action Compact areas.*

[b] *An air basin is designated as being in attainment for a pollutant if the standard for that pollutant was not violated at any site in that air basin during a three year period.*

[c] *A pollutant is designated unclassified/unclassifiable if the monitoring data are incomplete and do not support a designation of attainment or non-attainment.*

[d] *No state standard currently available.*

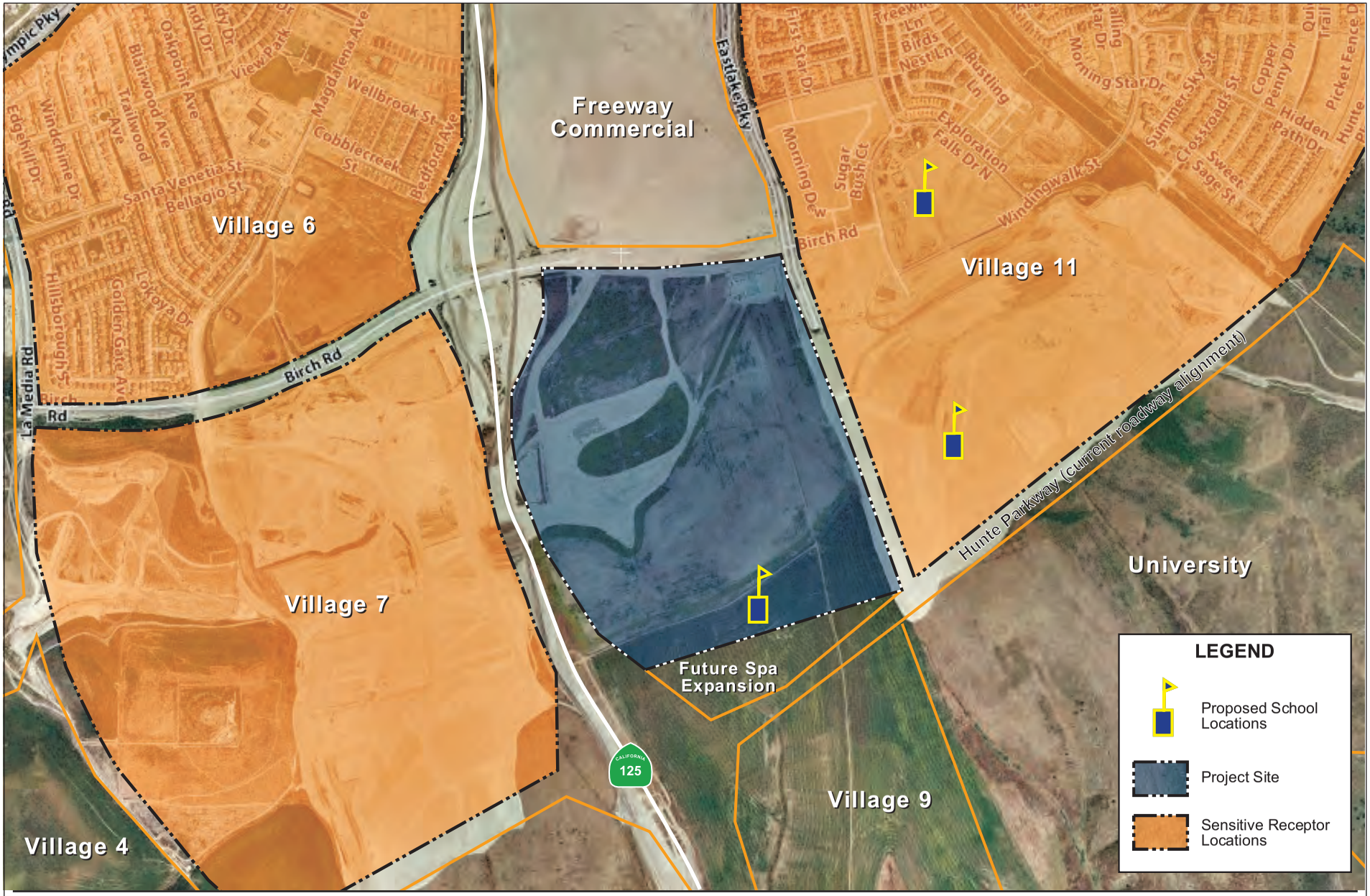
Source: USEPA Region 9, San Diego Air Pollution Control District and California Air Resources Board, 2007.

4.4.2 THRESHOLDS OF SIGNIFICANCE

The City has not established specific numeric thresholds for determining whether a project would cause a significant impact related to emissions of criteria air pollutants, relying instead on guidelines developed by the South Coast Air Quality Management District (SCAQMD). The City requires mitigation of potentially significant air quality impacts through conditioning discretionary permits and it also monitors and enforces implementation of such mitigation measures. The City has prepared specific guidance related to the assessment of potential impacts from the siting of sensitive receptors near to freeways.

Based on the thresholds identified in Appendix G of the CEQA Guidelines, the proposed project would result in a significant impact to air quality if it would:

Threshold 1: *Conflict with or obstruct implementation of the applicable air quality plan or General Plan policies;*



0 1200 2400 Feet

Source: Yahoo Local Maps, 2009.

Figure 4.4-2
Project Site and Sensitive Receptors

Threshold 2: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation;*

Threshold 3: *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).*

The City uses the following SCAQMD (1993) thresholds to assess the significance of air quality impacts.

The proposed project would result in a significant impact on air quality if it would:

Threshold 4: *Expose sensitive receptors to substantial pollutant concentrations; or*

Threshold 5: *Create objectionable odors affecting a substantial number of people.*

4.4.3 IMPACT ANALYSIS

Threshold 1: *Conflict with or obstruct Implementation of the applicable air quality plan or General Plan policies.*

As noted above, the SIP is the document that sets forth the state's strategies for achieving air quality standards. The San Diego APCD is the agency that is responsible for preparing and implementing the portion of the SIP applicable to the SDAB. The RAQS and TCM plan developed by the San Diego APCD and SANDAG set forth the steps needed to accomplish attainment of state and federal ambient air quality standards.

In order to meet federal air quality standards in California, the CARB required each air district to develop its own strategy, to be included in the SIP, for achieving the NAAQS. The San Diego APCD prepared the RAQS. A part of the RAQS is the TCM plan prepared by SANDAG. The RAQS and TCM plan set forth the steps needed to accomplish attainment of state and federal ambient air quality standards.

The basis for these plans is the distribution of population in the region as projected by SANDAG. Growth forecasting is based in part on the land uses established by the General Plan. The current RAQS is based on the General Plan that was in effect when the RAQS were adopted in 1992 and updated through 2001. It is not consistent with the General Plan Update (GPU) that was adopted in December 2005. Although SANDAG is currently updating the RAQS, the proposed land uses for the EUC SPA would conflict with the currently approved RAQS.

The proposed project is compared to applicable General Plan policies in Table 4.4-4, *Project Consistency with Applicable General Plan Air Quality Policies*, on page 4.4-18. As discussed in the table, the proposed project is consistent with relevant air quality policies of the General Plan.

Threshold 2: *Violate any air quality standard or contribute substantially to an existing or projected air quality violation.*

The SDAB is currently classified as attainment for all criteria pollutants except ozone, PM_{10}, and $PM_{2.5}$. As of April 15, 2004, the SDAB was classified as non-attainment for ozone as a result of the application of the federal eight-hour ozone standard. Ozone is not emitted directly, but is a result of atmospheric activity on precursors. Nitrogen oxides and hydrocarbons (reactive organic gases; ROG) are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone.

In order to assess the potential for the proposed project to contribute to an increase in a criteria pollutant, several air quality computer models were used, URBEMIS2007, CALINE4 and EMFAC2007 which are discussed in detail below. These programs calculate and analyze emissions from construction activities and long-term operations.

A. Regional Construction Impact Analysis

Daily regional emissions during construction were forecasted by assuming a conservative (worst case) estimate of construction (i.e., assuming all construction occurs at the earliest feasible date) and applying mobile-source and fugitive dust emissions factors derived from URBEMIS 2007.[2] The construction analysis included modeling of large enough numbers of equipment, and large enough quantities of earth and debris movement, to account for emissions from each phase of construction, including mass site grading, laying of foundations, and building construction itself, for all of the residential, commercial and off-site (sewer improvements [SCSL Improvement and PCSI]) construction activity planned for the project. Modeling outputs and details are presented in Appendix C of this EIR.

Construction of the proposed project was assumed to occur in two major sequential phases over a ten-year period. Demolition and site preparation (grading and excavation) of the entire site would occur under the first phase. With regard to site preparation, two grading options have been proposed as part of the project. Option 1 assumes that soil would be exported to the remainder of the EUC and south of Hunte Parkway (the off-site SSA). Option 2 assumes the majority of onsite soil will be balanced within the SPA Plan area with the balance exported to the remainder of the EUC as needed for construction of off-site roadways including Hunte

[2] *URBEMIS 2002 is an emissions estimation/evaluation model developed by the ARB that is based, in part, on SCAQMD CEQA Air Quality Handbook guidelines and methodologies.*

Table 4.4-4

Project Consistency with Applicable General Plan Air Quality Policies

Applicable Policy	Evaluation of Consistency
LUT 62-1	The proposed SPA Plan is **consistent** with this policy because the Sustainability Element addresses air quality and energy resource management.
EE 6.1; EE 6.2; EE 6.7 EE 6.10	The EUC SPA is **consistent** with Policies EE 6.1 and 6.2 because it provides for a variety of land uses and transit within a reasonable walking distance from residences. The SPA would result in compact development that encourages multiple forms of transportation including walking, bicycling, bus ridership as well as transit. The proposed transit plan would be transit available within at least ¼ mile of all areas of the EUC. The SPA is **consistent** with Policy 6.7 because the SPA includes a Sustainability Section that calls for enhanced energy conservation programs for all development within the EUC. In addition, the SPA includes an Air Quality Improvement Program (AQIP). The SPA is **consistent** with Policy 6.10 because an HRA has been prepared for areas within 500 of SR-125. The HRA estimated an additional risk to sensitive receptors sited within 500 feet of SR-125 of 8 in one million. As addressed under Threshold 4, there is no regulatory agreement and standards have yet to be defined for a quantified risk threshold that can be used in order to determine significance under CEQA. In compliance with General Plan policy EE 6.10 mitigation has been added to require future analysis of developments within 500 feet of SR-125 that could be sensitive to increased airborne cancer risks from mobile emissions from the highway and demonstrate consistency with any City, State or federal standards in place at the time.

Parkway. In order to allow for flexibility in site grading and to consider the worst-case scenario, Option 1, with its larger grading footprint, was analyzed in the construction emissions model.

Based on the phasing plan, it is expected that all residential units would be constructed along with up to 2 million square feet of non-residential development during the first ten years.

As presented in Table 4.4-5, *Construction and Operational Emissions Significance Thresholds*, on page 4.4-19 and Table 4.4-6, *Proposed Project Regional Construction Emissions, Unmitigated*, on page 4.4-20, construction-related maximum regional construction emissions would exceed the daily significance thresholds for PM_{10}, $PM_{2.5}$, CO, NOx and VOC. However, maximum regional emissions would not exceed the daily significance thresholds for SO_X. Therefore, regional construction emissions resulting from the project would result in a significant short-term impact for PM_{10}, $PM_{2.5}$, CO, NOx and VOC.

These emission forecasts reflect a specific set of conservative assumptions in which the entire project would be built out over a ten year time period, which is shorter than the actual expected period of twenty years. The worst case (most intensive) construction schedule would follow this ten-year buildout schedule. The use of this construction duration allows the analysis to

Table 4.4-5

Construction and Operational Emissions Significance Thresholds (Pounds per Day)

Pollutant	Total Emissions (lbs/day)	
	Construction	Operations
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Nitrogen (NOx)	100	55
Oxides of Sulfur (SOx)	150	150
Carbon Monoxide (CO)	550	550
Lead and Lead Compounds	3	3
Volatile Organic Compounds (VOCs)	75	55

Source: SCAQMD CEQA Guidelines, http://www.aqmd.gov/ceqa/handbook/signthres.doc.

account for periods of peak activity (above average intensity). This assumption is conservative as it represents the minimum timeframe anticipated for construction and provides for the maximum intensity of construction activities (e.g., demolition, site preparation, building construction) within the project's overall development period. This is of particular importance as construction emissions are directly related to the duration and intensity of construction activities (i.e., emissions increase as the amount of construction increases). In addition, with a less-compressed construction schedule, emission rates associated with construction (e.g., emissions from equipment, and from construction worker trips and delivery vehicle trips) can decrease more over time in response to the introduction of vehicles or equipment that have lower levels of pollutant emissions. Because of this conservative assumption, the emissions levels on Table 4.4-5 and Table 4.4-6 represent the highest daily emissions projected to occur, and actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because, for example, of (1) a more modern and cleaner burning construction equipment fleet mix, and/or (2) a less intensive build-out schedule (i.e., fewer daily emissions occurring over a longer time interval).

It should be noted that the emissions estimates presented in Table 4.4-6 do not take into account recently promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encourages the replacement of older, dirtier engines with newer emission controlled models. Implementation is staggered based on fleet size, with the largest operators to begin compliance in 2010. By 2020, the CARB estimates that diesel particulate matter would be reduced by 74 percent and smog-forming oxides of nitrogen by 32 percent, relative to emission would be without the regulation. Thus, actual emissions from the proposed project would likely be less than those presented above.

Table 4.4-6

Proposed Project
Regional Construction Emissions - Unmitigated[a]
(Pounds per Day)

	VOC	NOx	CO	SOx	PM_{10}[b]	$PM_{2.5}$[b]
Maximum Daily Construction Emissions						
Site Preparation	117	1056	521	<1	1608	369
Building Erection/Finishing	56	344	834	1	21	17
Architectural Coatings (Painting)	83	<1	1	<1	<1	<1
Asphalt Paving	7	39	24	<1	3	3
Maximum Construction Emissions [b]	**142**	**1056**	**834**	**1**	**1608**	**369**
Significance Threshold	75	100	550	150	150	55
Over/(Under)	42	956	284	(149)	1458	314
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

[a] *Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the URBEMIS model printout sheets and/or calculation worksheets that are presented in Appendix C.*

[b] *Building erection, architectural coating and asphalt paving phases overlap and may occur concurrently at different areas of the project site. Maximum construction emissions represent the maximum worst-case overlapping construction emissions during the project duration.*

B. Regional Operational Impact Analysis

Regional air pollutant emissions associated with proposed project operations would be generated by the consumption of electricity and natural gas, and by the operation of on-road vehicles. Area source emissions would also be generated by the consumption of natural gas for space and water heating devices, wood-burning fireplaces, operation of gasoline-powered landscape maintenance equipment, and use of consumer products (e.g., hair spray, deodorants, lighter fluid, air fresheners, automotive products, and household cleaners).

Pollutant emissions associated with energy demand (i.e., electricity generation and natural gas consumption) are classified by the SDAPCD as regional stationary source emissions. It is anticipated that residential and commercial land uses would be occupied once construction is finished in a given area. Therefore, operational emissions were analyzed for four milestone build-out years (2010, 2015, 2020 and 2030) to provide a more accurate characterization of potential impacts as the proposed project is completed and land uses are occupied.

Mobile-source emissions were calculated using the URBEMIS 2007 emissions inventory model, which multiplies an estimate of the increase in daily VMT by applicable EMFAC2007 emissions factors. The URBEMIS 2007 model output and worksheets for calculating regional operational daily emissions are provided in Appendix C of this report. As shown in Tables 4.4-7, *2010 Unmitigated Proposed Project Regional Operational Emissions*; Table 4.4-8, *2015 Unmitigated Proposed Project Regional Operational Emissions*; Table 4.4-9, *2020*

Table 4.4-7

2010 Unmitigated Proposed Project - Regional Operational Emissions[a] (Pounds per Day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Operational Emissions (lbs/day)						
Project Emissions						
Mobile Emissions	314	524	3,779	3	543	106
Area Emissions	46	20	29	<1	<1	<1
Total Operational Emissions[b]	359	544	3,807	3	543	106
Significance Threshold	55	55	550	150	150	55
Over/(Under)	304	489	3257	(147)	393	51
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Operational Emissions (tons/year)						
Project Emissions						
Mobile Emissions	56	83	670	1	100	19
Area Emissions	8	4	4	<1	<1	<1
Total Operational Emissions[b]	**64**	**87**	**674**	**1**	**100**	**19**
Significance Threshold	13.7	40	100	40	15	10
Over/(Under)	50.3	47	574	(39)	85	9
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

[a] *Mobile and area emissions are calculated using the URBEMIS2007 emissions model. Area sources include natural gas consumption, landscape fuel consumption, residential consumer products and miscellaneous sources (e.g., among other things, commercial solvent usage, architectural coatings).*

[b] *Totals may not add up exactly due to rounding.*

Unmitigated Proposed Project Regional Operational Emissions; and Table 4.4-10, *2030 Unmitigated Proposed Project Regional Operational Emissions*, on pages 4.4-21, 4.4-22, 4.4-23, and 4.4-24, respectively, regional emissions resulting from operation of the proposed project for each of the four build-out years would exceed the daily thresholds for NOx, CO, VOC, PM_{10} and $PM_{2.5}$ but are not expected to exceed the thresholds for SOx. As a result, regional operational emissions impacts would be significant and mitigation measures are required.

Threshold 3: *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.*

The SDAB is currently classified as nonattainment for ozone, PM_{10} and $PM_{2.5}$. As shown in Table 4.4-8 and Table 4.4-9 as discussed above, project emissions are expected to exceed the thresholds for PM_{10}, $PM_{2.5}$, CO and the ozone precursors NOx and VOC. Since the SDAB is in non-attainment for PM_{1O} and ozone, these emission levels would be significant. As the SDAB is in attainment for CO, the projected maximum quarterly emission levels for that pollutant

Table 4.4-8

2015 Unmitigated Proposed Project - Regional Operational Emissions[a] (Pounds per Day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Operational Emissions (lbs/day)						
Project Emissions						
Mobile Emissions	268	424	3,172	4	696	134
Area Emissions	77	26	32	<1	<1	<1
Total Operational Emissions[b]	**345**	**451**	**3,204**	**4**	**696**	**134**
Significance Threshold	55	55	550	150	150	55
Over/(Under)	290	396	2654	(146)	546	79
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Operational Emissions (tons/year)						
Project Emissions						
Mobile Emissions	48	67	561	1	127	24
Area Emissions	14	5	5	<1	<1	<1
Total Operational Emissions[b]	**62**	**72**	**566**	**1**	**127**	**24**
Significance Threshold	13.7	40	100	40	15	10
Over/(Under)	48.3	32	466	(39)	112	14
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

[a] *Mobile and area emissions are calculated using the URBEMIS2007 emissions model. Area sources include natural gas consumption, landscape fuel consumption, residential consumer products and miscellaneous sources (e.g., among other things, commercial solvent usage, architectural coatings).*

[b] *Totals may not add up exactly due to rounding.*

would not cause the region to exceed any applicable federal or state ambient air quality standards.

Threshold 4: *Expose sensitive receptors to substantial pollutant concentrations.*

A. Localized Construction Impact Analysis

Construction dust is comprised primarily of chemically inert particles that are too large to enter the human respiratory tract when inhaled. Nevertheless, approximately 35 percent of the total fugitive dust emissions is 10 microns or smaller. As discussed above, PM_{10} and $PM_{2.5}$ emissions are projected to be in excess of the standard recommended by the SCAQMD. Given the shifting nature of the construction activity, these fugitive dust impacts would only affect a given location for a relatively short period of time. However, because of the size of the project, this is considered a significant impact.

Table 4.4-9

2020 Unmitigated Proposed Project - Regional Operational Emissions[a] (Pounds per Day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Operational Emissions (lbs/day)						
Project Emissions						
Mobile Emissions	275	382	3,066	5	936	179
Area Emissions	116	38	43	<1	<1	<1
Total Operational Emissions[b]	**391**	**420**	**3,110**	**5**	**936**	**180**
Significance Threshold	55	55	550	150	150	55
Over/(Under)	336	365	2560	(145)	786	125
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Operational Emissions (tons/year)						
Project Emissions						
Mobile Emissions	50	61	542	1	171	33
Area Emissions	21	7	6	<1	<1	<1
Total Operational Emissions[b]	**71**	**68**	**548**	**1**	**171**	**33**
Significance Threshold	13.7	40	100	40	15	10
Over/(Under)	57.3	28	448	(39)	156	23
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

[a] *Mobile and area emissions are calculated using the URBEMIS2007 emissions model. Area sources include natural gas consumption, landscape fuel consumption, residential consumer products and miscellaneous sources (e.g., among other things, commercial solvent usage, architectural coatings).*

[b] *Totals may not add up exactly due to rounding.*

B. Localized Operational Impact Analysis

The City of Chula Vista does not have specific guidance regarding analysis of potential CO hotspots. Since CO hotspot guidance is not available, the San Diego County methodology is used to analyze potentially impacted intersections. For those areas which have severe degradation in traffic flow (i.e., levels of service "E" or below and over 3,000 peak-hour trips), the possibility of microscale carbon monoxide "hot spots" exists. San Diego County CEQA Guidance recommends an evaluation of potential localized CO impacts at signalized intersections located within 500 feet of residential receptors that are operating at or below LOS E (i.e., peak-hour trips exceeding 3,000 trips). As detailed in the March 2009 *Traffic Impact Analysis for the Chula Vista Eastern Urban Center (EUC)* by Kimley-Horn and Associates, project traffic volumes would meet these criteria at multiple off-site intersection locations during peak periods.

For this analysis, three representative intersections were evaluated for each of the four interim build-out years. Each interim build-out year takes into account certain phases of the project that are anticipated to be completed and the associated traffic volumes. The three

Table 4.4-10

2030 Unmitigated Proposed Project - Regional Operational Emissions[a] (Pounds per Day)

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Operational Emissions (lbs/day)						
Project Emissions						
Mobile Emissions	277	311	2,852	7	1,260	241
Area Emissions	211	55	54	<1	<1	<1
Total Operational Emissions[b]	**488**	**365**	**2,905**	**7**	**1,260**	**241**
Significance Threshold	55	55	550	150	150	55
Over/(Under)	433	310	2355	(143)	1110	186
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**
Operational Emissions (tons/year)						
Project Emissions						
Mobile Emissions	50	49	504	1	230	44
Area Emissions	38	10	8	<1	<1	<1
Total Operational Emissions[b]	**88**	**59**	**512**	**1**	**230**	**44**
Significance Threshold	13.7	40	100	40	15	10
Over/(Under)	74.3	19	412	(39)	215	34
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

[a] *Mobile and area emissions are calculated using the URBEMIS2007 emissions model. Area sources include natural gas consumption, landscape fuel consumption, residential consumer products and miscellaneous sources (e.g., among other things, commercial solvent usage, architectural coatings).*

[b] *Totals may not add up exactly due to rounding.*

intersections were selected based on the largest incremental increase in vehicle to capacity ratio, the highest traffic volumes. Two additional intersections were analyzed for CO hotspots although they did not meet the LOS and traffic volume requirements because of their close proximity to sensitive land uses. As shown in both Table 4.4-11, *Local Area Carbon Monoxide Dispersion Analysis for 2010 and 2015 Build-Out Years*, and Table 4.4-12, *Local Area Carbon Monoxide Dispersion Analysis for 2010 and 2015 Build-Out Years*, on pages 4.4-25 and 4.4-26, the intersections were chosen based on this criteria to be representative of the worst-case intersections during each operational phase of project build-out. It should also be noted that the cumulative traffic volumes used in the project traffic study were a worst-case analysis (see Section 4.3).

CO concentration levels were forecasted at the above-mentioned intersections using the CALINE4 dispersion model developed by the California Department of Transportation, using peak-hour traffic volumes and conservative meteorological assumptions. Conservative meteorological conditions include low wind speed, stable atmospheric conditions, and the wind angle producing the highest CO concentrations for each case. CO concentrations were modeled under the Future No Project and With Project conditions. Future No Project conditions include base background traffic volumes that are not related to the proposed project.

Table 4.4-11

Local Area Carbon Monoxide Dispersion Analysis for 2010 and 2015 Build-Out Years *

Intersection **	Peak Period [a]	Maximum 1-Hour 2010 Base Concentration [b] (ppm)	Maximum 1-Hour 2010 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact? (>20 ppm)[d]	Maximum 8-Hour 2020 Base Concentration[e] (ppm)	Maximum 8-Hour 2010 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact? (>9.0 ppm)
Birch Road and Northbound SR-125 Ramps	A.M.	7.1	7.2	NO	5.47	5.61	NO
	P.M.	7.0	7.2	NO	5.40	5.61	NO
Olympic Parkway and Brandywine Avenue	A.M.	9.2	9.2	NO	6.59	6.66	NO
	P.M.	9.1	9.2	NO	6.59	6.59	NO
Olympic Parkway and Heritage Road	A.M.	9.3	9.3	NO	6.73	6.73	NO
	P.M.	8.7	8.8	NO	6.45	6.52	NO

Intersection **	Peak Period [a]	Maximum 1-Hour 2010 Base Concentration [b] (ppm)	Maximum 1-Hour 2010 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact? (>20 ppm)[d]	Maximum 8-Hour 2020 Base Concentration[e] (ppm)	Maximum 8-Hour 2010 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact? (>9.0 ppm)[d]
Birch Road and Southbound SR-125 Ramps	A.M.	7.3	7.6	NO	5.61	5.75	NO
	P.M.	7.4	7.7	NO	5.68	5.89	NO
Olympic Parkway and Eastlake Parkway	A.M.	8.0	8.1	NO	5.96	6.03	NO
	P.M.	8.0	8.1	NO	6.10	6.17	NO
Olympic Parkway and Heritage Road	A.M.	8.6	8.6	NO	6.31	6.31	NO
	P.M.	8.1	8.3	NO	6.10	6.24	NO

ppm = parts per million.

Notes:

* *To ensure a conservative approach the maximum observed concentration for both 1-hour and 8-hour CO in the last 5 years for the Chula Vista area was used as the background concentration for all modeled years. Emission factor and dispersion modeling output sheets are provided in Appendix C.*

** *Intersections are presented in the above order representative of the conditions specified for each horizon year: (1) Intersection in close proximity to the project location; (2) Intersection exhibiting the largest incremental increase in delay time; (3) Intersection exhibiting the highest traffic volume.*

[a] *Peak hour traffic volumes are based on the Traffic Impact Study prepared for the project by Kimley-Horn and Associates, Inc, 2007.*

[b] *1-hour ambient background concentration (6.9 ppm) + Base traffic CO 1-hour contribution.*

[c] *1-hour ambient background concentration (6.9 ppm) + w/ project traffic CO 1-hour contribution.*

[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*

[e] *8-hour ambient background concentration (5.4 ppm) + Base traffic CO 8-hour contribution.*

[f] *8-hour ambient background concentration (5.4 ppm) + w/ project traffic CO 8-hour contribution.*

Table 4.4-12

Local Area Carbon Monoxide Dispersion Analysis for 2020 and 2030 Build-Out Years *

Intersection **	Peak Period [a]	Maximum 1-Hour 2020 Base Concentration [b] (ppm)	Maximum 1-Hour 2020 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact? (>20 ppm)[d]	Maximum 8-Hour 2020 Base Concentration[e] (ppm)	Maximum 8-Hour 2020 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact? (>9.0 ppm)
Birch Road and Northbound SR-125 Ramps	A.M.	7.1	7.4	NO	5.54	5.68	NO
	P.M.	7.2	7.4	NO	5.54	5.68	NO
Birch Road and La Media Road	A.M.	7.5	7.9	NO	5.68	5.89	NO
	P.M.	7.4	7.7	NO	5.68	5.89	NO
Olympic Parkway and Heritage Road	A.M.	8.0	8.0	NO	5.96	6.03	NO
	P.M.	7.7	7.9	NO	5.89	5.96	NO

Intersection	Peak Period [a]	Maximum 1-Hour 2020 Base Concentration [b] (ppm)	Maximum 1-Hour 2020 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact? (>20 ppm)[d]	Maximum 8-Hour 2020 Base Concentration[e] (ppm)	Maximum 8-Hour 2020 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact? (>9.0 ppm)[d]
Birch Road and Northbound SR-125 Ramps	A.M.	7.5	7.9	NO	5.68	5.89	NO
	P.M.	7.7	8.2	NO	5.75	6.10	NO
Birch Road and La Media Road	A.M.	7.7	8.2	NO	5.82	6.03	NO
	P.M.	7.6	8.1	NO	5.82	6.03	NO
Olympic Parkway and Heritage Road	A.M.	7.9	8.0	NO	5.96	6.03	NO
	P.M.	7.7	7.9	NO	5.89	5.96	NO

ppm = parts per million.

Notes:

* *To ensure a conservative approach the maximum observed concentration for both 1-hour and 8-hour CO in the last 5 years for the Chula Vista area was used as the background concentration for all modeled years. Emission factor and dispersion modeling output sheets are provided in Appendix C.*

** *Intersections are presented in the above order representative of the conditions specified for each horizon year: (1) Intersection in close proximity to the project location; (2) Intersection exhibiting the largest incremental increase in delay time; (3) Intersection exhibiting the highest traffic volume.*

[a] *Peak hour traffic volumes are based on the Traffic Impact Study prepared for the project by Kimley-Horn and Associates, Inc, 2009.*

[b] *1-hour ambient background concentration (6.9 ppm) + Base traffic CO 1-hour contribution.*

[c] *1-hour ambient background concentration (6.9 ppm) + w/ project traffic CO 1-hour contribution.*

[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*

[e] *8-hour ambient background concentration (5.4 ppm) + Base traffic CO 8-hour contribution.*

[f] *8-hour ambient background concentration (5.4 ppm) + w/ project traffic CO 8-hour contribution.*

Increasing interim build out years would result in increased background CO concentrations due to the additional traffic caused by ambient growth. As shown in Tables 4.4-11 and 4.4-12, project-generated traffic volumes are forecasted to have a negligible effect on projected 1-hour and 8-hour CO concentrations at the respective intersection locations. Since significant impacts would not occur at the intersections operating at the highest volume-to-capacity (V/C) ratio, no significant impacts would occur at any other analyzed roadway intersection or internal roadway intersection as a result of project-generated traffic volumes. Intersections located within the project site (internal intersections) would contain lower traffic volumes than those intersections analyzed above. Thus, the proposed project would not cause any new or exacerbate any existing CO hotspots, and, as a result, impacts related to localized mobile-source CO emissions would be less-than-significant.

C. Toxic Air Contaminants

(1) Construction Sources

The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. Conservatively, the majority of the site grading and excavation would be accomplished within a one year time period. Diesel particulate emissions during the building construction phase would account for a small percentage of the total emissions, and would be intermittent throughout the construction phase. Since construction emissions are temporary by nature, impacts would be considered less-than-significant in terms of long-term "Individual Cancer Risk." As such, project-related toxic emission impacts during construction would be less-than-significant.

(2) On-site Sources

The following discussion evaluates potential impacts to neighboring properties that may result from TAC emissions associated with long-term operation of the proposed project. The primary sources of potential air toxins associated with proposed project operations include diesel PM_{10} from delivery trucks (e.g., truck traffic on local streets and on-site truck idling) and emergency backup generators. The CARB recommends that health risk assessments be conducted for substantial sources of diesel PM_{10} (e.g., truck stops and warehouse distribution facilities) and has provided guidance for analyzing mobile source diesel emissions. In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs and air pollutants. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds which are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel fueled commercial vehicles to idle for more than 5 minutes at any given time. Potential localized air toxic impacts from on-site sources of diesel particulate emissions would be minimal since only a limited number of heavy-duty trucks

would access the project site, and the trucks that would visit the project site would not idle on the project site for extended periods of time.

Buses are proposed to be used throughout the project site. The majority of buses in Chula Vista are fueled with cleaner burning compressed natural gas (CNG). It is anticipated that diesel buses, if any, would comply with the ATCM and would not be a source of substantial diesel PM_{10} emissions. Based on the limited activity of the toxic air contaminant sources, the proposed project would not warrant the need for a health risk assessment associated with on-site activities, and, in this regard, potential air toxic impacts would be less-than-significant.

Based on CARB siting recommendations, a detailed health risk assessment should be conducted for proposed sensitive receptors within 1,000 feet of a warehouse distribution center (which have extensive heavy-duty truck activity), within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), 50 feet of a typical gas dispensing facilities or within 300 feet of a dry cleaning facility that uses perchloroethylene, among other siting recommendations.[3] The proposed project does not anticipate development of warehouse distribution centers on-site, but would most likely include commercial uses such as retail gasoline stations and dry cleaners. New sources of such TAC emissions are required to obtain authority to construct and operate from the SDAPCD, at which time location-specific details are analyzed. Sources must comply with established criteria, as established in SDAPCD Rule 1200, requiring demonstration that risk are below thresholds and sources are constructed and operated with appropriate controls. Because the sources of TAC anticipated to be operational in the EUC would comply with SDAPCD regulations, the potential risk would be less than applicable thresholds and are considered less-than-significant. To assure compliance with established criteria, a mitigation measure has been included in Section 4.4.5.

CARB siting guidelines recommend an evaluation of health risks to determine impacts attributable to projects that introduce new substantial sources of stationary TAC emissions, such as those from heavy industrial facilities (i.e. chemical plants, refineries, etc.). The proposed development is predominantly residential and commercial in nature, and proposed zoning would prohibit heavy industrial land uses from developing on-site. Therefore, the proposed project is not expected to introduce new substantial stationary sources of TAC emissions and no significant impact on human health would occur.

(3) Off-site Sources

In regard to off-site sources, the proposed project may result in the introduction of new sensitive receptors to existing or proposed future sources of non-project related (off-site) TACs. As discussed above in April 2005, the California Air Resources Board published the *"Air*

[3] *Air Quality and Land Use Handbook: A Community Health Perspective. California Air Resources Board, April 2005.*

Quality and Land Use Handbook: A Community Health Perspective". The Handbook provides informal guidance on air quality and land use issues focused on community health and makes recommendations directed at protecting sensitive land uses while balancing a myriad of other land uses. The CARB role is advisory, and the recommendations in the Handbook do not establish regulatory standards or thresholds of significance.

In December 2005 the City Council adopted the General Plan Update that includes Policy EE6.10. Policy EE6.10 was included in the GPU in response to the CARB Handbook guidance. Policy E6.10 of the General Plan states:

> *The siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment as part of the CEQA review of the project. Attendant health risks identified in the Health Risk Assessment (HRA) shall be feasibly mitigated to the maximum extent practicable, in accordance with CEQA, in order to help ensure that applicable federal and state standards are not exceeded.*

Although CARB raised the potential for health risks associated with freeway proximity for certain sensitive uses, they did not adopt regulations for development in close proximity to a highway or identify a threshold for determining the level of significance in accordance with CEQA. There is no agreement on a standard to measure compliance against in order to quantify the risk of locating sensitive receptors within 500 feet of a highway.

City General Plan Policy EE 6.10 specifies that development that includes new sensitive receptors within 500 feet of a highway centerline shall require preparation of a health risk assessment as part of the CEQA review for the project. SR-125 is located adjacent to the project site, therefore there is the potential for sensitive receptors to be located within 500 feet of the centerline of the highway. According to the Traffic Impact Analysis prepared by Kimley-Horn and Associates, traffic volumes along the segment of the SR-125 bordering the project site are expected to be as high as 44,600 daily trips at ultimate project build-out. Associated risk would be attributable to diesel and gasoline emissions associated with vehicle exhaust. As the proposed project has the potential to introduce sensitive receptors within 500 feet of a highway, on-site sensitive receptors may potentially be exposed to high levels of TACs. Additional analysis was therefore performed using AERMOD dispersion modeling and risk factors provided by the Office of Environmental Health Hazard Assessment (OEHHA).

Cancer risk is often expressed as an upper-bound estimate of the number of new cases of cancer projected to occur in a population of one million people due to exposure to a specific cancer-causing substance (or substances) for 24 hours a day, 365 days a year at the same concentration over a range of 9 to 70 years. It is important to understand that this cancer risk represents the probability that a person develops some form of cancer and does not represent mortality rates. It is also important to understand that the risk described in these calculations reflects a pattern of exposure that would be close to impossible to experience, and that for

most individuals, exposure to a particular contaminant (or mix of contaminants) would be considerably less due to shorter duration of residence in the area, less time spent at the residence (sensitive receptor location) daily and throughout the year, or the split between time spent indoors versus outdoors.

Consistent with City of Chula Vista methodology, dispersion modeling was performed for the SR-125 based on build-out and a nine-year exposure duration to determine average resultant concentrations at receptor locations.[4] Traffic counts for the SR-125 were obtained from the Traffic Impact Analysis prepared by Kimley-Horn and Associates. The fleet mix (cars and truck split) used in the health risk assessment was developed using EMFAC2007 and actual vehicle registration data for the region. Currently, a toll exists on SR-125 which may be removed in the future (estimated at 2035), which may increase ADT on SR-125. The future toll removal scenario was not modeled because such forecasting would be speculative due to uncertainty regarding changing emissions technologies and ultimate ADT volumes. Traffic counts and fleet mix calculations are provided in Appendix C.

Modeling output files demonstrating risk within 500 feet of the highway centerline can be found in Appendix C. Results of the modeling combined with upper-bound TAC potency factors promulgated by OEHHA give a cancer incidence risk estimate for residential receptors exposed over nine years 250 feet from the highway centerline (i.e., the closest proposed project-related sensitive land use to the highway) of approximately eight in one million. This cancer risk estimate decreases for receptors located farther from the highway, dropping to 3 in one million for receptors located 500 feet from the highway centerline. Modeling output files for risk within 500 feet of the highway centerline can be found in Appendix C. The cancer risk estimate of 8 in one million for receptors at 250 feet from the highway is likely an overestimate, because it is based on upper-bound potency estimates and very conservative exposure assumptions. In addition, with implementation of a future emissions control programs, emissions from vehicle fleets are expected to decline over time.

As discussed in Section 4.4.1 and shown in Figure 4.4-1 on page 4.4-9, the Chula Vista area has some of the lowest background airborne cancer risks in the populated areas of San Diego County. The figure indicates that the current average background lifetime (70-year) airborne cancer incidence risk in the project area is between 100 and 250 in a million, or approximately between 10 and 50 in one million when adjusted for a nine-year exposure duration. As part of the project evaluation, a health risk assessment was performed for residential receptors sited by the project near the SR-125 highway. The health risk assessment estimated an additional cancer incidence risk to those receptors of approximately 8 in one million. Although there is widespread agreement that there is a health risk associated with highway proximity, the CARB has not adopted regulations for development in close proximity to a highway, but they are continuing to study the issue. At this time, there is no agreement on a quantified risk threshold,

[4] *City of Chula Vista Methodology.*

and there are no adopted State or federal standards that can be used in CEQA analyses. Consequently, a determination as to the level of significance of a health risk would be speculative. CEQA seeks to avoid speculative impact assessments and specifically states that, "if, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impacts." [State CEQA Guidelines, Section 15145] In the absence of an established threshold, a conclusion regarding significance would be speculative and cannot be reached at this time.

(4) School Uses

As discussed above, TACs are of particular concern with regard to sensitive receptors. For example, state law requires school districts to consider the impact of siting a new school close to existing facilities that emit toxic air contaminants. This same principle is applied in siting other sensitive receptors (e.g., residential uses) close to facilities that emit TAC (e.g., freeways, gasoline stations, etc.). It is also important when siting a new source of toxic air contaminants near existing sensitive receptors. As such, potential air toxic impacts were evaluated from on-site sources to off-site populations. In addition, the proposed project is introducing sensitive land uses (e.g., residential) into an area where potential off-site sources of air toxics may potentially impact proposed sensitive uses.

The proposed project includes one area within the EUC for development of an elementary school. The State Department of Education's school siting guidelines discourage the siting of schools within 500 feet of a freeway or other busy traffic corridor which carries more than 100,000 average daily vehicle trips, and the State of California Education Code Section 17213 requires all new schools within that distance of a highway to have a detailed health risk assessment (HRA) before the selection of a site and final design are approved. The HRA must demonstrate that health risks are not anticipated to pose an actual or potential endangerment to persons who attend or work at the proposed school facility. At this stage in the planning process, there are two potential school sites identified in the plan, however a specific site has not been selected by the school district and the details needed to perform a refined HRA are not known; however, both potential sites currently under consideration are located more than 500 feet from the SR-125 toll road. Therefore, a HRA to address a potential future elementary school, if required, would be performed under a future, separate environmental review by the school district in the event a school within the EUC is ultimately needed. Currently, the general location of the proposed school site is consistent with CARB's and Department of Education siting recommendations regarding compatible adjacent and nearby land-uses.

Threshold 5: *Create objectionable odors affecting a substantial number of people.*

A. Odors

(1) Construction Odors

Potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SDAPCD Rule 67.0 limits the amount of volatile organic compounds from architectural coatings and solvents. Due to mandatory compliance with SDAPCD Rule 67.0, no construction activities or materials are proposed which would create objectionable odors. Therefore, no impact would occur and no mitigation measures would be required.

(2) On-site and Off-site Odors

According to CEQA guidelines, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified as being associated with odors. As the commercial and retail activities would not be a source of substantial odors, potential odor impacts would be less-than-significant from on-site sources.

The Otay Landfill is located approximately 3,000 feet west of the project site and is separated from the project site by Planning Villages Two, Three, Seven and the SR-125 highway. The landfill is currently undergoing expansion as well as upgrades to control odor which includes installing flares to dispose of excess landfill gases. This facility has the potential to produce odors that can be detected outside of the landfill boundary. At a distance of 3,000 feet from the project site, it is unlikely that odors will be detected from the landfill.

As indicated in the Air Quality Report for Villages Two and Three, Planning Area 18B, and a Portion of Village Four, the landfill is located sufficient distance from sensitive receptors within those Villages that potential odor impacts on residents would not be significant.[5] The EUC SPA Plan is located 0.8 miles from Villages Two and Three and therefore the additional distance would further reduce any on-site impacts from landfill odors.

[5] *Air Quality Report for the Otay Ranch Villages Two and Three, Planning Areas 18B, and a Portion of Village Four Sectional Planning Area (SPA) Plan, Recon, December 19, 2005.*

4.4.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The current RAQS is based on the General Plan that was in effect when the RAQS were adopted in 1992 and updated through 2001. It is not consistent with the current GPU that was adopted in December 2005. Although SANDAG is currently updating the RAQS, the proposed land uses for the EUC SPA would conflict with the currently approved RAQS. This is a significant impact.

Construction-related maximum regional construction emissions would exceed the daily significance thresholds for PM_{10}, $PM_{2.5}$, CO, NOx, and VOC. However, maximum regional emissions would not exceed the daily significance thresholds for SOx. Therefore, regional construction emissions resulting from the proposed project would result in a significant short-term impact for regional PM_{10}, $PM_{2.5}$, CO, NOx and VOC. Localized PM_{10} and $PM_{2.5}$ from construction activities would result in a significant impact.

The proposed project would also result in a cumulatively significant long-term contribution to regional PM_{10}, $PM_{2.5}$ and ozone levels as a result of projected emissions of NOx and ROG, which are ozone precursors. Regional emissions resulting from operation of the proposed project at each of the four build-out years would exceed the daily thresholds for NOx, CO, VOC, PM_{10} and $PM_{2.5}$ but are not expected to exceed the thresholds for SOx. As a result, regional operational emissions impacts would be significant. Localized CO hotspots analysis demonstrates a less-than-significant impact for all study intersections.

Nearby emission sources were not found to have significant impacts on on-site receptors. Both odors and health risk potential were considered. First, the proximity of the proposed project to the Otay Landfill would not impose significant air quality-related effects. Because the proposed project would not place homes in the vicinity of any odor-generating sources such as the landfill, and given the currently low number of odor complaints resulting from existing landfill operations, odor impacts would not be significant. Second, an HRA addressed health risks to on-site receptors from SR-125 mobile source emissions. There is no State or federal standard, or locally-adopted numeric threshold, with regard to placement of sensitive receptors near a highway, so potential impacts with regard to mobile-source TAC concentrations would not exceed an established significance threshold. While the HRA identified a risk of 8 in one million, a determination of significance of the health risk would be speculative. General Plan Policy EE 6.10 requires health risks identified in the HRA to be mitigated to the maximum extent practicable. Mitigation has been included in Section 4.4.5 in conformance with Policy EE 6.10.

4.4.5 MITIGATION MEASURES

A. Construction

4.4-1 Prior to approval of any grading permits, the following requirements shall be placed on all grading plans, and shall be implemented during grading of each phase of the project to minimize construction emissions:

- All unpaved construction areas shall be sprinkled with water or other acceptable dust control agents during site grading or demolition activities at least twice daily;
- Additional watering shall be applied during windy days or until dust emissions are not visible;
- Trucks hauling dirt and debris shall be properly covered or maintain at least 12 inches of freeboard to reduce windblown dust and spills;
- A 20 mile-per-hour speed limit on unpaved surfaces shall be enforced;
- Dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter cause by vehicle movement;
- On-site stockpiles of excavated material shall be covered or watered;
- Approach routes to the site shall be cleaned daily of construction-related dirt;
- Pave permanent roads as quickly as possible to minimize dust;
- Apply chemical stabilizer or pave the last 100 feet of internal travel path within the construction site prior to public road entry;
- Install wheel washers adjacent to a paved apron prior to vehicle entry on public roads;
- Remove any visible track-out into traveled public streets within 30 minutes of occurrence;
- Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
- Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
- Minimize simultaneous operation of multiple construction equipment units;

- All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. All equipment shall have catalytic reduction for gasoline-powered equipment and injection timing retard for diesel-powered equipment;

- General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues should turn their engines off when not in use to reduce vehicle emissions;

- Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used to the extent feasible.

B. Operations

4.4-2 Prior to approval of the building permit for any uses which are regulated for TAC emissions by the SDAPCD, the Applicant must demonstrate to the satisfaction of the Director of Planning and Building that the use complies with established criteria (such as those established by SDAPCD Rule 1200).

4.4-3 Prior to design review approval for any development that includes sensitive uses within 500 feet of the centerline of SR-125, such as residential, schools, day care facilities and parks, the Applicant shall demonstrate to the satisfaction of the Director of Development Services consistency with any City, State or Federal standard, regarding airborne cancer risks from mobile emissions from the highway, in place at the time. The Applicant may use data from the health risk assessment conducted for this EIR to determine compliance with a new standard. If inconsistent with the standards, site specific design measures shall be implemented, to the satisfaction of the Director of Development Services, to reduce the potential impact to meet the adopted standards.

4.4.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

A. Construction

Implementation of the mitigation measures described above would reduce construction emissions for all pollutants. However, as shown in Table 4.4-6 on page 4.4-20 , the project would exceed the regional significance thresholds for VOC, NO_x, CO, PM_{10} and $PM_{2.5}$ during the most intense construction period. As such, project construction would continue to result in a significant, although temporary, regional impact even with incorporation of all feasible mitigation measures.

No notable impacts related to TAC emissions during construction are anticipated to occur for the proposed project. As such, potential impacts with regards to TAC emissions would be less than significant. Potential impacts with regard to odors would be less than significant.

B. Operations

As shown above, during the operational phase, the proposed project would result in regional CO, NOx, PM_{10}, $PM_{2.5}$ and VOC emissions that exceed the applicable thresholds. Mitigation measures would not reduce emissions below these thresholds, and resulting impacts would be significant and unavoidable.

Because of the inconsistency between the GPU and currently approved RAQS, the proposed EUC SPA would also conflict with the RAQS. This impact would remain significant and unmitigated.

4.5 NOISE

Section 3.12, Noise of the Otay Ranch GDP Program EIR (90-01) evaluated existing conditions, potential impacts, and mitigation measures related to noise for the entire Otay Ranch. Significant noise impacts were identified in the Otay Ranch GDP Program EIR from implementation of the Otay Ranch GDP, and mitigation measures were identified to reduce potential noise impacts to below a level of significance, where feasible. However, significant unavoidable noise impacts may occur at some locations that are in close proximity to off-site industrial activities. The analysis and discussion of noise contained in the Otay Ranch GDP Program EIR are incorporated by reference.

The following section is based on *the Noise Impact Study Report for Otay Ranch Eastern Urban Center (EUC) Sectional Planning Area (SPA)* prepared by PCR Services Corporation in April 2009. This report is included as Appendix D of this EIR.

4.5.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) California Building Code

Title 24 of the California Code of Regulations, also referred to as the *California Building Code*, requires that interior noise levels in multi-family residences caused by exterior sources, not exceed 45 CNEL. This is also considered a desirable noise exposure standard for single-family residences.

The City of Chula Vista requires that interior noise levels adhere to *California Building Code* requirements. Title 24 of the *California Building Code* (2001 California Building Code, Division IIA Sound Transmission Control) specifies exterior to interior sound transmission control requirements for new multi-family residential development, as follows:

Section 1208A.8.2 – Allowable Interior Noise Levels

> *Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either the day-night average sound level (L_{dn}) or the community noise equivalent level (CNEL), consistent with the noise element of the local general plan.*

Worst-case noise levels, either existing or future, shall be used as the basis for determining compliance with this section. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application.

Section 1208A.8.4 – Other Noise Sources

Residential structures to be located where the Ldn or CNEL exceed 60 dB shall require an acoustical analysis showing that the proposed design will limit exterior noise to the prescribed allowable interior noise. The noise element of the local general plan shall be used to the greatest extent possible to identify sites with noise levels potentially greater than 60 dB.

(2) City of Chula Vista General Plan

The General Plan's Environmental Element addresses land use and noise compatibility. The purpose of the General Plan's objectives and policies related to noise is to protect citizens from the harmful and annoying effects of exposure to excessive noise, and to protect the represented economic base by preventing the encroachment of noise sensitive land uses into areas affected by existing uses that generate high noise levels. Relevant objectives and policies of the General Plan are listed below:

Objective E 21 - Protect people from excessive noise through careful land use planning and the incorporation of appropriate mitigation measures.

Policies

E 21.1 - Apply the exterior land use-noise compatibility guidelines listed in Table 9-2 (Table 4.5-1, *City of Chula Vista Exterior Land Use/Noise Compatibility Guidelines*, on page 4.5-3) of this Environmental Element to new development, where applicable, and in light of project-specific considerations.

E 21.2 - Where applicable, the assessment and mitigation of interior noise levels shall adhere to the applicable requirements of the California Building Code with local amendments and other applicable established City standards.

E 21.3 - Promote the use of available technologies in building construction to improve noise attenuation capacities.

E 21.4 - Continue to implement and enforce the City's noise control ordinance.

Table 4.5-1

City of Chula Vista Exterior Land Use/Noise Compatibility Guidelines

Land Use Category	***Annual CNEL in Decibels***					
	50	***55***	***60***	***65***	***70***	***75***
Residential						
Schools, Libraries, Daycare Facilities, Convalescent Homes, Outdoor Use Areas, and Other Similar Uses Considered Noise Sensitive						
Neighborhood Parks, Playgrounds						
Community Parks, Athletic Fields						
Offices and Professional						
Places of Worship (excluding outdoor use areas)						
Golf Courses						
Retail and Wholesale Commercial, Restaurants, Movie Theaters						
Industrial						

Source: City of Chula Vista General Plan, Table 9-2 Exterior Land Use / Noise Compatibility Guidelines, 2005.

Objective E 22 - Protect the community from the effects of transportation noise.

Policies

E 22.1 Work to stabilize traffic volumes in residential neighborhoods by limiting throughways and by facilitating the use of alternative routes around, rather than through, Neighborhoods

E 22.2 Explore the feasibility of using new technologies to minimize traffic noise, such as use of rubberized asphalt in road surface materials.

E 22.3 Employ traffic calming measures, where appropriate, such as narrow roadways and on-street parking, in commercial and mixed use districts.

E 22.4 Encourage walking; biking; carpooling; use of public transit; and other alternative modes of transportation to minimize vehicular use and associated traffic noise.

E 22.5 Require projects to construct appropriate mitigation measures in order to attenuate existing and projected traffic noise levels, in accordance with applicable standards, including the exterior land use /noise compatibility guidelines listed in Table 9-2 of this Environmental Element.

The City of Chula Vista General Plan establishes the compatibility of various land uses with exterior noise levels. The City Guidelines, referred to as exterior land use/noise compatibility guidelines, are provided in Table 4.5-1. All land uses are considered incompatible with noise levels in excess of 75 decibels community noise equivalent level (CNEL). A limit of 75 CNEL has been established for commercial and industrial uses; a limit of 70 CNEL has been established for office, business, and professional uses and for churches and auditoriums. More sensitive land uses such as residences, schools, parks, and libraries are considered significantly impacted by noise in excess of 65 CNEL. These standards are typically applied to exterior use areas adjacent to transportation noise sources such as roadways and railways.

The CNEL is a 24-hour A-weighted decibel average sound level [dB(A) L_{eq}] from midnight to midnight obtained after the addition of 5 dB to sound levels occurring between 7:00 P.M. and 10:00 P.M. and 10 dB to the sound levels occurring between 10:00 P.M. and 7:00 A.M. A-weighting is a frequency correction that often correlates well with the subjective response of humans to noise. Adding 5 dB and 10 dB to the evening and nighttime hours accounts for the added sensitivity of humans to noise during these time periods.

(3) City of Chula Vista Municipal Code

Chapter 19.68 of the City of Chula Vista Municipal Code (CVMC) identifies exterior/interior noise standards and specific noise restrictions, exemptions, and variances for exterior point and stationary noise sources. Several of these requirements are applicable to the proposed project and are discussed below.

Section 19.68.030 – Exterior Noise Limits

The City Noise Ordinance states that exterior noise levels caused by project-related noise sources shall not exceed the levels identified in Table 4.5-2, *City of Chula Vista Exterior Noise Limits*, on page 4.5-5, or the ambient noise level,[1] whichever is greater, when the ambient noise level is determined without the noise source operating. The noise limit is expressed as an hourly noise level [dB(A) $L_{eq}(1)$]. The hourly sound level $L_{eq}(1)$] is the average A-weighted sound level [dB(A)] over a one-hour period.

[1] *Ambient noise level is the existing background noise level at the time of measurement or prediction.*

Table 4.5-2

City of Chula Vista Exterior Noise Limits [a, b]

Designated Noise Zone Land Use (Receptor Property)	Noise Level, dBA: 10 P.M. to 7 A.M. (Weekdays) & 10 P.M. to 8 A.M. (Weekends)	Noise Level, dBA: 7 A.M. to 10 P.M. (Weekdays) & 8 A.M. to 10 P.M. (Weekends)
All residential (except multiple dwelling)	45	55
Multiple dwelling residential	50	60
Commercial	60	65
Light industry – I-R and I-L zone	70	70
Heavy industry – I zone	80	80

[a] *Environmental Noise – L_{eq} in any hour.*
[b] *Nuisance Noise – Not to be exceeded any time.*

Source: City of Chula Vista Municipal Code, Section 19.68.030 Table III.

Section 19.68.060 – Special Provision (Exemptions)

Paragraph C of Section 19.68.060 states that construction/demolition and motor vehicles operating on public rights-of-way are exempt from the exterior noise standards.

Section 19.68.090 – Appendices

This section classifies noise sources as "environmental noise" and "nuisance noise". Construction and demolition activities of a temporary nature are classified a nuisance noise.

Section 17.24.050 – Loud, Unnecessary, Unusual or Continued Noises – Designated and Described

Paragraph J of Section 17.24.050 specifies the hour limits for construction activities. This section states in part that:

> *"The following acts, among others, are declared to be disturbing and unnecessary noises in violation of this chapter, but said enumeration shall not be deemed to be exclusive, namely:*
>
> *The use of any tools, power machinery or equipment or the conduct of construction and building work in residential zones so as to cause noises disturbing to the comfort and repose of any person residing or working in the vicinity, between the hours of 10:00 P.M. and 7:00 A.M., Monday through Friday, and between the hours*

of 10:00 P.M. and 8:00 A.M., Saturday and Sunday, except when the same is necessary for emergency repairs required for the health and safety of any member of the community."

B. Existing Noise Environment

The proposed development area of the EUC site is largely undeveloped. The existing noise environment surrounding the proposed project site is comprised primarily of auto traffic on distant streets. Short-term (15-minute) noise measurements were conducted at four locations in the vicinity of the project site to quantify the existing noise environment. Short-term noise measurements were made on April 24, 2008 between the hours of 7:25 A.M. and 9:00 A.M.

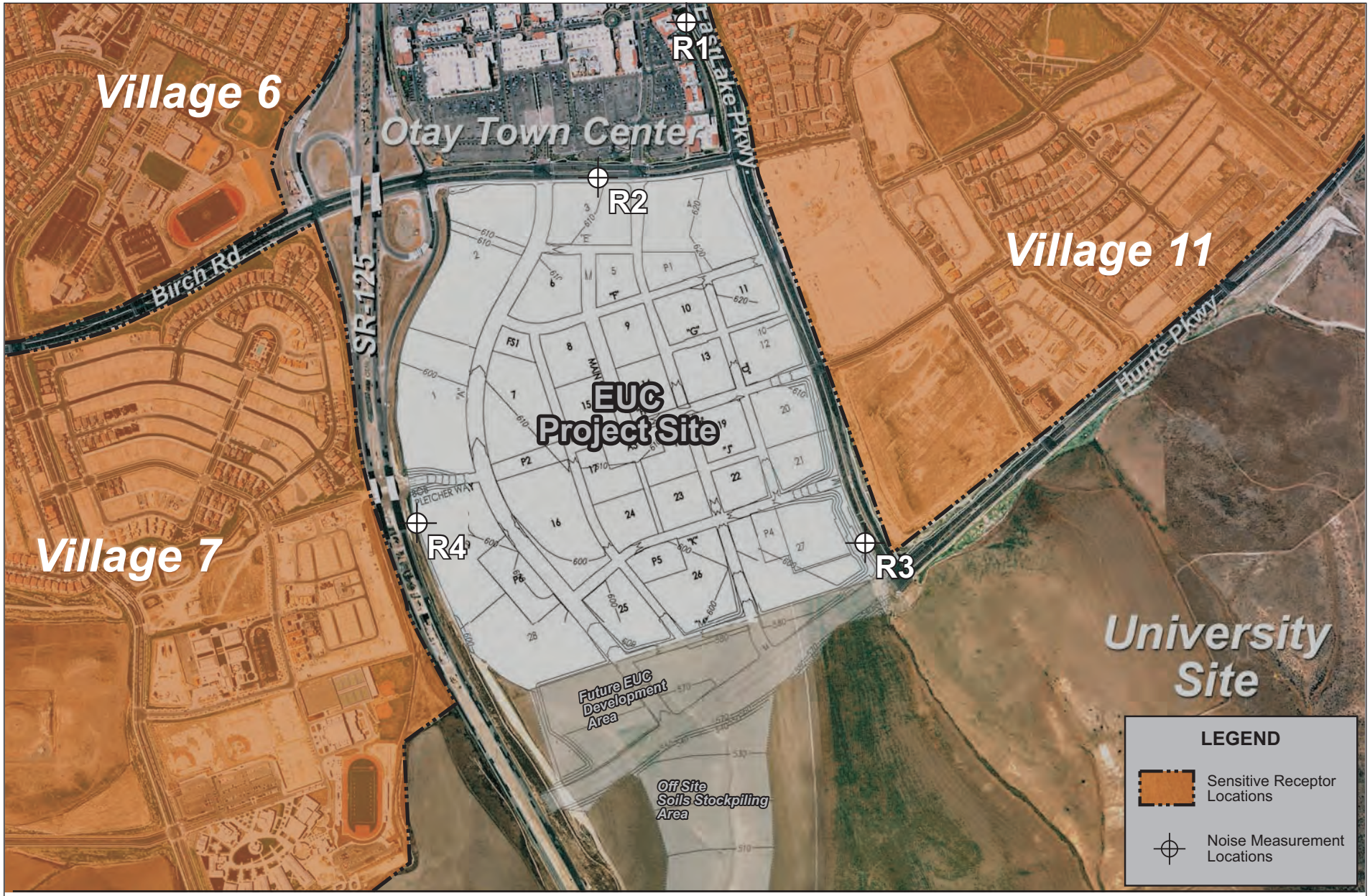
Existing ambient noise levels were recorded at four locations; identified as R1, R2, R3 and R4, as depicted on Figure 4.5-1, *Project Site, Surrounding Sensitive Receptors, and Noise Measurement Locations*, on page 4.5-7. Monitoring Location R1, representing the nearest existing residential uses northeast of the project site, was located on the east side of Eastlake Parkway north of Birch Road. Location R2 was situated at the northern boundary of the site on the south side of Birch Road. The noise logging device at Location R3 was placed at the corner of Eastlake Parkway and Hunte Parkway near the southeast boundary of the site. The existing noise environment at the southeast boundary of the site near the SR-125 traffic corridor is represented by Monitoring Location R4.

Noise measurements were conducted using calibrated Larson-Davis 700 Precision Integrated Sound Level Meter (SLM). The Larson-Davis 700 SLM is a Type 1 standard instrument as defined in the American National Standard Institute (ANSI) S1.4. The microphone was placed at a height of 5 feet above the local grade.

Table 4.5-3, *Existing Noise Environment*, on page 4.5-8 presents the existing noise environment in the project vicinity. Based on field observation and measured sound data, the existing noise environment in the vicinity of the project site is controlled mainly by auto traffic, nearby construction activities, and occasional aircraft flyovers. The measured ambient noise levels include traffic noise from the newly opened roadways including SR-125, Eastlake Parkway and Birch Road. As shown on Table 4.5-3, the measured noise levels ranged from 49 dBA (L_{eq}) at location R3 to 66 dBA (L_{eq}) at Location R4.

4.5.2 THRESHOLDS OF SIGNIFICANCE

The City of Chula Vista employs the noise guideline levels set forth in the Environmental Element of the City of Chula Vista General Plan, which identifies sound levels compatible with various land uses.



N

0 1200 2400 Feet

Source: PCR Services Corporation, 2009.

Figure 4.5-1
Project Site, Surrounding Sensitive Receptors, and Noise Measurement Locations

Table 4.5-3

Existing Noise Environment

Receptor	Measurement Start Time	Measured Ambient Noise Levels, dBA (L_{eq})
R1 – Eastlake Parkway, north of Birch Road, representing existing residential uses	7:25 A.M.	61
R2 – Birch Road, project north boundary	7:50 A.M.	65
R3 – Corner of Eastlake Parkway and Hunte Parkway, project southeast boundary	8:45 A.M.	49
R4 – SR-125 and future Bob Pletcher Way, project west boundary	8:15 A.M.	66

[a] *Estimated based on the short-term noise measurements. All measurements were collected on April 24, 2008.*

Source: DUDEK, 2008.

Based on the City of Chula Vista noise standards, and in accordance with significance criteria established by Appendix G of the State CEQA Guidelines, a significant impact could occur if the proposed project would:

Threshold 1: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Threshold 2: *Expose persons to or generation of noise levels in excess of standards established in the Chula Vista General Plan or noise ordinance, or applicable standards of other agencies;*

Threshold 3: *Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;*

The City of Chula Vista General Plan and Municipal Code standards indicate that operational noise impacts associated with stationary sources would be significant if:

- Project-related stationary noise sources generate noise levels that would exceed City's exterior noise levels shown in Table 4.5-2 on page 4.5-5;

The significance threshold for off-site mobile source noise is based on human perceptibility to changes in noise levels (increases) and the City's land use noise compatibility guidelines (Table 4.5-1 on page 4.5-3). As previously discussed, with respect to the community noise assessment, changes in noise levels of less than 3 dBA are generally not discernable to most people, while changes greater than 5 dBA are readily noticeable and would be considered a

significant increase. Therefore, as relates to the project traffic a significant noise impact would occur when:

- Project-related traffic causes the ambient noise level along a roadway segment adjacent to a noise sensitive land use to increase by 3 dBA CNEL or more and the resultant noise exceeds the City's acceptable noise levels as indicated in Table 4.5-1 on page 4.5-3.

Threshold 4: *Expose persons to or generation of excessive groundborne vibration or groundborne noise levels.*

4.5.3 IMPACT ANALYSIS

Threshold 1: *Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.*

Threshold 4: *Expose persons to or generation of excessive groundborne vibration or groundborne noise levels.*

A. EUC SPA Plan

Project development activities would primarily include site preparation (grading and excavation) and construction of internal roadways, other infrastructure, and driveways, followed by the building of proposed structures.

As further described in Chapter 3.0, Project Description, overall project construction would be phased over time with grading expected to begin in late 2009. All residential units within the EUC SPA Plan are assumed to be built by Year 2020, along with approximately two million square feet of non-residential uses. The remainder of the project is estimated to be built out by Year 2030.

In order to construct the proposed improvements, the existing site would be graded with a total of approximately 3.2 to 3.6 million cubic yards of earthwork (cut and fill) depending on the grading option selected.[2] Site preparation activities typically involve the use of heavy equipment, such as scrapers, dozers, tractors, loaders etc. Trucks would also be used to deliver equipment and building materials, and to haul away landscape and construction debris. Smaller equipment, such as jackhammers, pneumatic tools, saws, and impact hammers would also be used throughout the project site during the construction phases. This equipment would

[2] *Eastern Urban Center Sectional Planning Area (SPA), Draft December 1, 2007.*

generate both steady-state and episodic noise that could be heard both on and off the project site.

Individual pieces of construction equipment that would be used for project construction produce maximum noise levels of 76 dBA to 90 dBA at a reference distance of 50 feet from the noise source, as shown in Table 4.5-4, *Maximum Noise Levels Generated by Typical Construction Equipment*, on page 4.5-11. These maximum noise levels would occur when equipment is operating under full power conditions or during "impact" activities such as percussive pile driving. However, equipment used on construction sites often operate under less than full power condition, or part power. Actual measurements performed while equipment is performing work indicate that shift-long equivalent L_{eq} sound levels are typically 2 dBA to 15 dBA less than the maximum noise levels identified in Table 4.5-4.[3]

To more accurately characterize construction-period noise levels, the average (L_{eq}) noise level associated with each construction stage is provided in Table 4.5-5, *Construction Average L_{eq} Noise Levels by Distance and Construction Sta*ge, on page 4.5-12. These average noise levels are based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage, and is typically attributable to multiple pieces of equipment operating simultaneously. As shown in Table 4.5-5, the average construction-period noise level is expected to range from 77 dBA to 86 dBA at a reference distance of 50 feet. For project-long (i.e., total duration of construction activity) L_{eq} noise levels, these conservative worst-case noise values would be reduced to account for the percentage of time that equipment actually operate on the construction site.[4]

In general, the first and noisiest construction phase is site preparation (i.e., grading and excavation), which would involve movement of construction equipment to and from the project site, earth moving, and compaction of soils. High noise levels created during site preparation would be associated with the operation of heavy-duty trucks, scrapers, dozers, graders, backhoes, and front-end loaders. When construction equipment is operating, noise levels would be approximately 86 dBA at a distance of 50 feet from the equipment.

During the second stage of construction, foundation forms are constructed and concrete foundations are poured. Primary noise sources include heavy concrete trucks and mixers, cranes, and pneumatic drills. At 50 feet from the source, noise levels would be approximately 77 dBA.

The third and fourth stages consist of interior and exterior building construction, and site cleanup, respectively. Primary noise sources associated with the third phase include hammering, use of diesel generators, compressors, and light truck traffic. Noise levels for this

[3] *Beranek and Ver, Noise and Vibration Control Engineering, Principles and Applications, p. 652, 1992.*

[4] *Ibid.*

Table 4.5-4

Maximum Noise Levels Generated by Typical Construction Equipment

Type of Equipment	Maximum Sound Levels at Indicated Distance (dBA)[a]			
	25 feet	50 feet	100 feet	200 feet
Air Compressor	84	78	72	66
Backhoe	84	78	72	66
Concrete Mixer	85	79	73	67
Crane, Mobile	87	81	75	69
Dozer	88	82	76	70
Grader	91	85	79	73
Jack Hammer	95	89	83	77
Loader	85	79	73	67
Paver	83	77	71	65
Pneumatic Tool	91	85	79	73
Pump	87	81	75	69
Roller	86	80	74	68
Saw (concrete)	96	90	84	78
Scraper	90	84	78	72
Truck	82	76	70	64
Minimum Sound Level	82	76	70	64
Maximum Sound Level	96	90	84	78

[a] *Sound levels at 25 feet, 100 feet and 200 feet are calculated based on reference noise levels at 50 feet. Calculation assumes a drop-off rate of 6-dB 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: FHWA Roadway Construction Noise Model User's Guide, Table 1, 2006/

phase are typically in the 83 dBA range at a distance of 50 feet. The fourth and final stage typically involves the use of trucks, landscape rollers and compactors, with noise levels in the 86 dBA range.

(1) Grading Noise Impacts

As described in Section 3.0, the site would be graded with a total of approximately 3.6 million cubic yards of cut and fill under Grading Option 1 or 3.2 million cubic yards of cut and fill under

Grading Option 2. Under Grading Option 1, 1.1 million cubic yards would be exported directly to the south of the project site. Under Grading Option 2, the majority of the earthwork would be balanced on site with grading in the remainder of the EUC limited to that necessary to construct off-site roadways. The site mass grading is tentatively scheduled to start in late 2009. Site grading may occur in a single or two-phase operation. With the single-phase option, the site grading would be completed in approximately 12-18 months. If the project

Table 4.5-5

Construction Average L_{eq} Noise Levels by Distance and Construction Stage

	Sound Level in dBA (L_{eq}) at Indicated Distance				
Construction Stage	**25 Feet**	**50 Feet**	**100 Feet**	**200 Feet**	**250 Feet (nearest off-site Residential Uses)**
Site Preparation / Grading	92	86	80	74	72
Foundations	83	77	71	65	63
Structural	89	83	77	71	69
Finishing	92	86	80	74	72

Assumes a propagation drop-off rate of 6-dB per doubling of distance (Sound Level at distance X = Sound level at 50 feet - 20LOG (x/50)), which is appropriate for use in characterizing point-source (such as construction equipment) sound attenuation.

Source: EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances, PB 206717, 1971.

chooses to proceed with the two-phase grading option, the first phase would be completed in 9 months and second phase completed in 12 months. The timing of the second phase would depend on market conditions, but could start within one to two months of completion of the first phase grading. Currently, the nearest existing residential uses are located approximately 250 feet northeast of the project site, north of Birch Road and east of Eastlake Parkway. There are residential uses (recently completed) approximately 300 feet west of the project site, just west of SR-125 and north of Bob Pletcher Parkway (both under construction). Also, there is a high school, the Olympian High School, west of SR-125 and north of Rock Mountain Road, which is approximately 800 feet from the project site. In addition, there would be future residential uses and a combination middle/high school east of the project site along Eastlake Parkway in Otay Ranch Village Eleven, which could possibly be completed and occupied prior to grading of the EUC site.

During grading activities, heavy-duty equipment would intermittently pass near the project boundaries; however, the majority of grading would take place more central to the project site. As indicated in Table 4.5-5, noise generated during site grading is 86 dBA (hourly L_{eq}) at 50 feet distance. The nearest residential uses northeast of the project site are located approximately 250 feet from the project site boundary lines. Based on minimum sound attenuation rate of 6 dBA per doubling of distance, the construction-related noise level, highest level, at the nearest residential uses would be 72 dBA (hourly L_{eq}). The estimated noise level represents the worst-case scenario, when the heavy construction equipment is operating at the perimeter of the project site, nearest to the sensitive receptors. The residential uses west of the project site, west of the SR-125, are approximately 300 feet from the project boundary lines. These residential uses are shielded from the construction site by the presence of existing intervening sound wall along the west side of the SR-125. Based on the standard distance sound attenuation of 6 dBA per distance doubling and the minimum sound wall insertion loss of approximately 10 dBA, construction-related noise at these residential uses

would be 60 dBA, which would be consistent with the ambient noise levels. At the Olympian High School, the construction activities would generate noise up to 62 dBA (hourly L_{eq}). In the event that sensitive receptors such as residential development or the proposed middle/high-school in Village Eleven (east of Eastlake Parkway) are completed prior to EUC site grading, exterior noise levels of up to 76 dBA could be experienced at these locations. However, the construction noise would reduce to below 75 dBA at a 200-foot distance from the construction equipment.

As noted previously, construction activities are exempt from exterior noise standards in Section 19.68.060 of the City's Municipal Code. However, construction noise has the potential to be a nuisance in existing residential areas in the vicinity of the project site. Pursuant to the Chula Vista Municipal Code Section 17.24.050, construction activities are prohibited between the hours of10:00 P.M. and 7:00 A.M Monday through Friday, and between the hours of 10:00 P.M. and 8:00 A.M. on Saturday and Sunday. Compliance with this regulation would ensure that grading noise does not cause a significant nuisance noise impact. To assure compliance with established criteria, a mitigation measure has been included in Section 4.5.5.

As described previously, site grading could occur in two phases. Because grading could occur after occupancy of the first phase, future on-site residences or other on-site noise sensitive uses could be exposed to noise from grading operations. Table 4.5-5 provides predicted noise levels for site grading as a function of distance. The grading activity noise levels could reach as high as 92 dBA within 25 feet of the heavy construction equipment and would drop to below 75 dBA at a distance of approximately 200 feet. Therefore, construction noise has the potential to be a nuisance to existing on-site residential uses. However, the noise impacts would be temporary, and conformance with the time limitations for grading would reduce the impact to below significance.

The construction activities that generate excessive vibrations are blasting and impact pile driving. The project would be constructed using typical construction techniques; no blasting is contemplated. Heavy construction equipment (e.g. bulldozer and excavator) would generate a limited amount of ground-borne vibration during construction activities at short distances away from the source. The use of equipment would most likely be limited to a few hours spread over several days during demolition/grading activities. Therefore, the project would not expose persons to excessive ground-borne vibration, and as such, impacts would be less than significant.

(2) Building Construction Noise Impacts

This phase includes infrastructure, building construction, finish grading, and site cleanup. Primary noise sources associated with this phase include backhoes, loaders, hammering, diesel generators, compressors, forklifts, cranes, concrete delivery trucks (for sidewalks, driveways, and patios), and light truck traffic. Noise levels would typically range from 77 to 86 dBA (hourly L_{eq}) at a distance of 50 feet and drop off to 63 to 72 dBA at a distance of approximately 250 feet, as indicated in Table 4.5-5. As described above, existing residential

uses are located approximately 250 feet from the project site. Construction activities from building construction would generate noise up to 72 dBA (hourly L_{eq}) at the nearest residential uses (located northeast of the project site), when construction occurs near the project northeast boundary. The residential uses west of the project site would be exposed to construction noise levels of up to 60 dBA (hourly L_{eq}).

The proposed project would be constructed in several phases. Therefore, noise levels generated during building construction would have the potential to affect occupants of new on-site uses constructed in the project's early development phases or prior to buildout. Any on-site location with an uninterrupted line-of-sight to a construction noise source could periodically be exposed to temporary noise levels of up to 86 dBA at 50 feet from the construction site. Similar to the noise analysis for grading, noise sensitive receptors that are located within 200 feet of a construction site would be potentially exposed to significant noise impacts. However, noise impacts would be temporary and would cease when construction is finished.

As with grading, construction activities are exempt from exterior noise standards as specified in the Municipal Code and building construction activities would be required to comply with the City's Noise Ordinance as described above. Compliance with this regulation would ensure that construction noise does not cause a significant nuisance noise impact.

(3) Temporary Noise Sources Associated with the Fire Station

Noise associated with the operation of the proposed fire station would be comparable to other fire stations in the city. Fire sirens would be the most noticeable source of noise associated with the proposed fire station; however, such sirens are exempt from noise regulations (Municipal Code Section 19.68.060.A).

The emergency generator may produce an approximate noise level or 85 dB at 80 feet without noise attenuation. The generator would be operated during power outages and for monthly testing. Monthly testing is normally conducted on Saturdays. Noise standards for adjacent office, retail and multiple dwelling residential areas are set forth in Table III of Chapter 19.68 of the Municipal Code. Given that the Municipal Code does not have a specific threshold for mixed use, the more restrictive standard between commercial and multiple dwelling residential would apply. The standards, which are applicable to the operation of the fire station (i.e., potential generator noise), are as follows:

- Multiple dwelling residential: 7 A.M. to 10 P.M. (weekdays)/8 A.M. to 10 P.M. (weekends) – 60 dB(A); 10 P.M. to 7 A.M. (weekdays)/10 P.M. to 8 A.M. (weekends) – 50 dB(A)

- Commercial: 7 A.M. to 10 P.M. (weekdays)/8 A.M. to 10 P.M. (weekends) – 65 dB(A); 10 P.M. to 7 A.M. (weekdays)/10 P.M. to 8 A.M. (weekends) – 60 dB(A)

The EUC office, retail and mixed use areas uses planned adjacent to the proposed fire station could be significantly impacted by the emergency generator noise. Noise attenuation measures are therefore required to mitigate potential impacts to surrounding uses.

B. Off-site Soils Stockpiling Area

With grading Option 1, approximately 1.1 million cubic yards of soil would be exported to the adjoining property to the south of the EUC SPA Plan Area (the SSA). Stockpiled soils would be graded and compacted for erosion and drainage control. As previously indicated, with the single-phase option, the stockpiling and grading would be completed in approximately 12-18 months. Under the two-phase grading option, the first phase would be completed in 9 months and second phase completed in 12 months. The nearest sensitive noise receptors to the SSA are residential uses and Olympian High School located in Village Seven to the west of SR-125 and the future Middle / High school in Village 11 to the north. Other sensitive receptor sites in Village Seven are located more than 800 feet from the SSA and are separated by a sound wall along the west side of SR-125

High noise levels created during stockpiling and grading would be associated with the operation of heavy-duty trucks, scrapers, dozers, graders, and other grading equipment. When construction equipment is operating, noise levels would be approximately 86 dBA at a distance of 50 feet from the equipment. Based on the standard distance sound attenuation of 6 dBA per distance doubling and the minimum reduction of approximately 10 dBA provided by the sound wall, construction-related noise at residential uses and Olympian High School in Village Seven would be a maximum of 62 dBA (hourly L_{eq}). As with the proposed SPA Plan, compliance with the City's Noise Ordinance would reduce potential nuisance noise impacts to below significance. No development within the SSA is proposed as part of the proposed project; therefore, noise impacts associated with construction of structures would not occur.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement includes the addition of a 173-foot, 15-inch diameter sewer line to the Salt Creek trunk sewer. The proposed sewer pipeline would be installed using a combination of conventional open trench excavation and boring and jacking. The SCSL Improvement would also include modification of the upstream manhole. The nearest sensitive receptors include existing and future residential uses and a future school site in Village Eleven. The upstream manhole may occur in the proximity of Village Eleven; however, the SCSL Improvement Area is located more than 2,000 feet to the south of Village Eleven. High noise levels at the SCSL Improvement Area may be generated by trucks, site clearance, unloading of pipe, backhoes, pneumatic equipment, grader, and similar machinery. Noise levels associated with typical equipment range from 78 dBA at 50 feet and 72 dBA at 100 feet (trucks, pavers, backhoes) and 85 dBA at 50 feet and 79 dBA at 100 feet (pneumatic tool). Although some periods of excavation and boring at the SCSL Improvement Area may generate high noise levels locally, as with the proposed SPA Plan, compliance with the City's Noise Ordinance would reduce potential nuisance noise impacts to below significance. Indirect noise impacts from temporary

construction are addressed in Section 4.7. Modification of the single upstream manhole would be short-term and would require limited excavation. The SCSL Improvement Area would remain unoccupied and, as no permanent buildings would be developed, noise impacts associated with on-going construction would not occur.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI involves the replacement of a section of 18-inch line with a section of 21-inch line within the Olympic Parkway and Brandywine Avenue intersection. The PCSI would require an approximately 8-foot-wide, 14-foot-deep excavation trench. Construction equipment may include the use of a jackhammer to break up existing pavement, a backhoe for trenching, trucks, pavers, and similar machinery. Residential neighborhoods, located at all four corners of the Olympic Parkway/Brandywine intersection, would be exposed to noise levels ranging from 78 dBA at 50 feet and 72 dBA at 100 feet (trucks, pavers, backhoes) and 89 dBA at 50 feet and 83 dBA at 100 feet (jackhammer). As with the proposed SPA Plan, compliance with the City's Noise Ordinance would reduce potential nuisance noise impacts to below significance.

Threshold 2: *Expose persons to or generation of noise levels in excess of standards established in the Chula Vista General Plan or noise ordinance, or applicable standards of other agencies; and*

Threshold 3: *Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.*

A. EUC SPA Plan

As the project builds out, on- and off-site noise levels would increase with contributions from project-generated traffic, and from typical residential and commercial related activities on the project site itself. As noise sensitive uses are built, noise from SR-125 and other surrounding roadways would also influence the noise environment. These potential noise impacts are discussed separately below.

(1) Off-site Traffic Noise

Future roadway noise levels were calculated at various sensitive receptor sites along arterial and highway segments within the project study area that would be utilized by project traffic. Roadway noise impacts were evaluated using the Caltrans TeNS (traffic noise prediction model) methodology based on the roadway traffic volume data provided in the Traffic Impact Study prepared for the proposed project. The roadway noise calculation procedures provided in the Caltrans TeNS are consistent with Federal Highway Administration RD-77-108 roadway noise prediction methodologies. This methodology allows for the definition of roadway configurations, barrier information (if any), and receiver locations. Consistent with the amount of project related technical information currently available, and to present a conservative

analysis, the noise model assumes a "hard" site condition (i.e., 3 dBA attenuation per doubling of distance) and no barriers (walls, intervening buildings, etc) between the roadway and receivers. Roadway-noise attributable to project development "Future with Project" was calculated and compared to baseline noise levels that would occur under the "Future No Project" condition.

According to the traffic study, project build out expected to generate a net 93,750 daily trips (ADT) by the project build-out Year of 2030.[5] This trip generation figure includes buildout of the entire EUC (including other ownerships) in order to assess a worst-case analysis. Traffic attributed to the proposed project would increase traffic along the major off-site thoroughfares within the project vicinity over existing and future without project total daily traffic volumes. This increase in roadway traffic volumes was analyzed to determine if any traffic-related noise impacts would result from project development. Table 4.5-6, *Off-Site Roadway Noise Levels at Project Build-Out (Year 2030)*, on page 4.5-18 provides the calculated traffic noise levels (CNEL) at roadways in the vicinity of the project site, for the following scenarios: existing conditions, future conditions without development of the project; future conditions with project build-out, including increased noise attributed to both project-generated traffic, and cumulative increases in traffic above existing noise levels. The CNEL levels are calculated at a 50 foot distance from the edge of the roadway and do not account for presence any sound barriers or intervening structures.

The largest project traffic-related noise impact is anticipated to occur along two segments of Birch Road, between La Media Road and SR-125 and between SR-125 and Eastlake Parkway. As indicated in Table 4.5-6, project-related traffic would contribute to an increase of 4.1 and 5.4 dBA CNEL along these roadway segments at project build-out, which would exceed the 3.0 dBA CNEL significance threshold. The north side of Birch Road between SR-125 and Eastlake Parkway across from the site is developed with the Otay Ranch Town Center and accordingly there are no existing noise sensitive uses along this roadway segment. However, there are residential uses and a private high school located along Birch Road between La Media Road and SR-125, which would have a noise increase of 4.1 dBA CNEL due to project traffic. The traffic noise impacts for residential uses on the south side of Birch Road (within Otay Ranch Village Seven), would be mitigated based on mitigation measures (sound wall) specified in the *Village Seven Sectional Planning Area Plan and Tentative Maps, Final Environmental Impact Report, October 12, 2005.* For the residential uses and high school on the north side of Birch Road (within Otay Ranch Village Six), traffic noise impacts would also be mitigated through mitigation measures identified in the Village Six environmental document. All other roadway segments would experience noise level increases that would be less than the 3.0 dBA CNEL significance threshold for increases in noise levels. Based on the above, increases in mobile source noise would have a less than significant impact on off-site noise sensitive land uses.

[5] *Traffic Impact Analysis, Chula Vista Eastern Urban Center (EUC), March 2009.*

Table 4.5-6

Off-Site Roadway Noise Levels at Project Build-Out (Year 2030)

Roadway Segment	Calculated Traffic Noise Levels at 50 feet from Roadway Right-of-Way, CNEL (dBA)				
	Existing Conditions (A)	Future No Project (B)	Future with Project (C)	Project Increment [a] (C – B)	Cumulative Increment [b] (C – A)
Olympic Parkway					
NB I-805 Ramps to Brandywine Ave.	70.6	70.6	71.1	0.5	0.5
Brandywine Ave. to Heritage Rd.	74.2	73.6	74.2	0.6	0.0
Heritage Rd. to La Media Rd.	74.0	73.4	74.4	1.0	0.4
La Media Rd. to E. Palomar St.	72.9	72.0	72.1	0.1	-0.8
E. Palomar St. to SR-125 Ramps	73.0	73.2	73.4	0.2	0.4
SR-125 Ramps to Eastlake Pkwy	71.3	73.0	73.5	0.5	2.2
Eastlake Pkwy to Hunte Pkwy	69.2	71.2	71.2	0.0	2.0
Birch Road					
La Media Rd. to SR-125 Ramps	-[c]	66.2	70.3	4.1	-
SR-125 Ramps to Eastlake Pkwy	-[c]	65.4	70.8	5.4	-
Main Street / Rock Mountain Road /Hunte Parkway					
Maxwell Rd. to Heritage Pkwy	67.7	74.2	74.6	0.4	6.9
Heritage Pkwy to La Media Rd.	-[c]	71.9	73.0	1.1	-
La Media Rd. to SR-125 Ramps	-[c]	71.8	73.5	1.7	-
SR-125 Ramps to Eastlake Pkwy	-[c]	72.9	75.1	2.2	-
Eastlake Pkwy to Olympic Pkwy	-[c]	70.1	71.3	1.2	-
Olympic Pkwy to Otay Lakes Rd.	-[c]	70.1	70.8	0.7	-
La Media Road					
Telegraph Canyon Rd. to E. Palomar St.	69.9	71.9	72.3	0.4	2.4
E. Palomar St. to Olympic Pkwy	67.1	69.8	70.4	0.6	3.3
Olympic Pkwy to Birch Rd.	66.2	70.7	72.3	1.6	6.1
Birch Rd. to Rock Mountain Rd.	-[c]	68.4	68.7	0.3	-
South of Rock Mountain Rd.	-[c]	69.9	70.4	0.5	-
EastLake Parkway					
Fenton St. to Otay Lakes Rd.	68.4	68.4	68.7	0.3	0.3
Otay Lakes Rd. to Olympic Pkwy	67.9	68.3	69.4	1.1	1.5
Olympic Pkwy to Hunte Pkwy	62.4	67.0	69.4	2.4	7.0
South of Hunte Pkway	-[c]	69.3	70.3	1.0	-
Heritage Road					
Otay Lakes Rd. to Olympic Pkwy	65.7	70.1	70.6	0.5	4.9
Olympic Pkwy to Rock Mountain Rd.	-[c]	69.8	69.9	0.1	-

Table 4.5-6 (Continued)

Off-Site Roadway Noise Levels at Project Build-Out (Year 2030)

Roadway Segment	Calculated Traffic Noise Levels at 50 feet from Roadway Right-of-Way, CNEL (dBA)				
	Existing Conditions (A)	Future No Project (B)	Future with Project (C)	Project Increment [a] (C – B)	Cumulative Increment [b] (C – A)
State Route 125					
Otay Lakes to Olympic Pkwy	-[c]	76.4	77.3	0.9	-
Olympic Pkwy to Birch Rd.	-[c]	75.8	76.9	1.1	-
Birch Rd. to Rock Mountain Rd.	-[c]	76.6	77.1	0.5	-
Rock Mountain Rd.	-[c]	77.0	77.7	0.7	-

[a] *Increase relative to traffic noise levels associated with ambient growth without the project compared with ambient growth plus project development.*

[b] *Cumulative increase relative to existing traffic noise levels, resulting from ambient growth and related projects, plus project development.*

[c] *Roadway segments either under construction or planned, no existing data.*

The cumulative traffic noise impacts at project build-out (year 2030) would occur from the proposed EUC project, future growth and from other projects to be developed within the Otay Ranch. Therefore, the cumulative noise impact is assessed based on the noise increase from traffic volume under “existing” and “future with project” conditions. As indicated in Table 4.5-6, the cumulative traffic would result in an incremental increase of more than 3.0 dBA CNEL at the following roadway segments:

- Main Street – between Maxwell Road and Heritage Parkway;
- La Media Road – between E. Palomar Street to Olympic Parkway and between Olympic Parkway and Birch Road;
- EastLake Parkway – between Olympic Parkway and Hunte Parkway;
- Heritage Road – between Telegraph Canyon Road to Olympic Parkway.

The cumulative traffic would increase noise levels under existing traffic conditions at the identified roadway segments from 3.3 to 7.0 dBA, which would exceed the 3.0 dBA significance threshold. However, the contribution from project-related traffic would only be from 0.4 to 2.4 dBA and would be below the 3.0 dBA significance threshold and less than audible. Therefore, the project contribution to cumulative impacts is considered less than significant. In addition, new development within the Otay Ranch along these roadways would require noise

mitigation measures for noise sensitive uses to meet the City's noise standard. Nonetheless, the cumulative noise increase would exceed the project's 3.0 dBA significance threshold and would be considered significant. The cumulative traffic noise increase at all other roadways would be less than the 3.0 dBA significance threshold, which would be considered less than significant.

(2) On-Site Traffic Noise

Existing and future traffic on roads surrounding and within the project site would affect on-site noise sensitive uses. Table 4.5-7, *On-Site Roadway Noise Levels at Project Build-Out (Year 2030,* on page 4.5-21, provides the projected traffic noise levels for roadway segments adjacent to and within the proposed development as function of distance; 25 feet, 50 feet and 100 feet from the edge of a given roadway. As project building layouts and site development plans are not available at this stage of planning for the EUC project, the noise model assumes straight line attenuations/reductions in noise levels of 3 dBA per doubling distance (including the distance from the edge of the roadway to the road centerline) with no intervening structures. Although the phasing of development by land use and location is not defined, some attenuation of noise levels would occur as intervening structures are built within the EUC. As indicated on Table 4.5-7, the project site, would be exposed to noise levels that range from 70.5 CNEL at 25 feet distance to 78.5 CNEL adjacent to the surrounding boundary roadways (i.e., Birch Road, SR-125 and Eastlake Parkway), which would exceed the City's exterior noise standard of 65 CNEL for residential development and other noise sensitive uses.

The projected traffic noise levels along the internal roadways range from 61.1 CNEL along Street F to 65.9 CNEL along Street A (at 25 feet distance from the street centerline). Also shown on Table 4.5-7 are the estimated distances at which traffic related noise levels would drop to 65 CNEL and 70 CNEL. The 65 CNEL noise level is identified by the City of Chula Vista's exterior land use/noise compatibility guideline chart (Table 4.5-1 on page 4.5-3) as the maximum level compatible for noise sensitive uses such as residential development, schools, libraries, daycare facilities, parks and playgrounds.

Table 4.5-8, *Site Noise Compatibility and Assessment of Noise Level Reduction Required,* on page 4.5-22 provides an assessment of the site noise compatibility and noise level reduction required for various land uses. Noise sensitive uses, including residential, schools, libraries, daycare facilities, neighborhood parks and playgrounds, should not be developed in areas where the noise level exceeds 65 CNEL, unless additional noise mitigation measures are implemented. Less noise sensitive uses, such as community parks/athletic fields and office buildings would be compatible up to 70 CNEL. For these uses noise mitigation measures would be required where exterior noise levels are estimated above 70 CNEL. Based on the land uses described for each district in the SPA, without mitigation there would be potential for noise incompatibility and significant noise impacts to occur for residential, school and park uses.

Table 4.5-7

On-Site Roadway Noise Levels at Project Build-Out (Year 2030)

Roadway Segment	Referenced Project Area	Calculated Traffic Noise Levels at Reference Distance from the Edge of Roadway, CNEL (dBA)			Calculated Distance from the Edge of roadway to CNEL Noise Contour, feet [a]	
		25 feet	50 feet	100 feet	70 CNEL	65 CNEL
SR-125						
Between Birch Rd and Hunte Pkwy	1, 4, 8	78.5	77.1	75.1	400	1,300
Birch Road						
West of Street A	1	73.8	72.4	70.4	100	400
Between Street A and Street C	1	71.9	70.4	68.5	50	250
Between Street C and Eastlake Pkwy	2	70.5	69.1	67.2	30	180
Eastlake Parkway						
Between Birch Rd and Street F	2	72.4	71.0	69.1	70	310
Between Street F and Street H	3 & 7	72.0	70.6	68.7	60	280
Between Street F and Street K	7 & 10	71.3	69.9	68.0	50	230
Between Street K and Hunte Pkwy	10	72.2	70.8	68.8	65	290
Hunte Parkway						
West of Street A	8	76.9	75.5	73.5	250	900
Between Street A and Street C	9	75.0	73.6	71.7	150	550
Between Street C and Eastlake Pkwy	10	73.5	72.1	70.1	100	400

[a] *The calculated CNEL noise contour distances do not include noise attenuation from structures (barriers and buildings) that would provide additional noise shielding, which would reduce the noise levels.*

(3) On-Site Stationary Noise

Future residents of EUC would generate and be exposed to on-site noise sources typical of urban neighborhood related activities including; doors slamming, air conditioning units, lawn care equipment, radio/stereos systems, domestic animals, etc. These noise sources would contribute to ambient noise levels in a manner typical of urban areas and are therefore not expected to exceed the noise standards for the types of land uses proposed on the EUC site. In addition, these noise sources are consistent with adjacent uses in the project vicinity. Therefore, residential-related point source noise impacts would have a less than significant impact.

Noise from schools and parks would be generated by a variety of sources including voices, public address systems, parking lot use, and most notably sports activities. If located adjacent to residential uses, noise levels from schools and parks may exceed the exterior noise standards presented in the City's Municipal Code for adjacent residential uses. It should be

Table 4.5-8

Site Noise Compatibility and Assessment of Noise Level Reduction Required

	Exterior Noise Levels, CNEL (dBA)			
Land Use	**65 and Below**	**66 to 70**	**71 to75**	**Above 75**
Residential	Y	Y1	Y1	N
School / Library	Y	Y1	Y1	N
Neighborhood Parks/ Playgrounds	Y	N	N	N
Community Parks/Athletic Fields	Y	Y	Y2	Y2
Office / Civic Center	Y	Y	Y1	Y1
Commercial/Retail	Y	Y	Y	Y

Keys:

Y (Yes) *Land Use and related structures compatible without special sound insulation requirements, assuming buildings of normal conventional construction.*

Y1 (Yes) *Land Use and related structures compatible with sound insulation requirements. See Mitigation Measures 4.5–4.*

Y2 (Yes) *Land Use and related structures compatible with sound insulation requirements. See Mitigation Measures 4.5–5.*

N (No) *Land Use and related structures are not compatible and should not be constructed.*

noted that public schools and parks are commonly located near residential areas, in many cases without compatibility problems. In fact, proximity between these uses is desirable for convenience, proximity to users and for safety reasons. Public schools and parks are often designed to incorporate features that make them compatible with adjoining land uses such that noise levels do not exceed the standards set forth in the City Municipal Code. These design features can include, but are not necessarily limited to constructing classrooms buildings such that they serve as a buffer between play fields/courts and residences, locating student pick-up and drop-off areas as far away from residences as feasible and erecting noise attenuation barriers. Although site planning for a potential elementary school and final designs for EUC parks would be developed subsequent to project approval, the SPA Plan does set the size, location, character and programming for EUC parks, as well as the general location for an elementary school. Based on review of the park concept plans provided in the EUC SPA Urban Parks, Recreation, Open Space, and Trails Plan, and the general location established for a potential elementary school, the location of play fields, courts and other park and school facilities in relation to areas of potential residential use could generate noise levels in excess of the standards set forth in the City's Municipal Code for residential uses. Therefore, noise impacts on future residential uses from proposed school and park activities are considered significant and mitigation measures are required.

On-site noise generated by Commercial/Civic uses would normally include mechanical HVAC (Heating, Ventilating and Air Conditioning) equipment, loading dock, and trash collection. Typically, the on-site noise sources would be designed with noise control features, including

screens and barriers, which would shield these noise sources from sensitive receptors in a manner that would meet the City's exterior noise standards. Without such screening, significant noise impacts may result from on-site mechanical equipment.

B. Off-site Soils Stockpiling Area

Noise sources that may result in the exposure of persons to noise levels in excess of standards established by the Chula Vista General Plan's exterior land use noise compatibility guidelines or in a substantial temporary or permanent increase in ambient noise levels are associated with construction; mobile sources, such as vehicle trips; and with on-site stationary sources, such as mechanical equipment on buildings and high-occupancy uses such as events centers, playing fields, restaurants, and bars. Construction noise impacts would not be significant as discussed under Threshold 1. In addition, activities proposed by the project within the SSA do not involve development of land uses with associated mobile or stationary source noise. Therefore, no impacts would occur within the SSA with respect to an increase in permanent noise levels.

C. Off-site Salt Creek Sewer Lateral Improvement Area

Construction noise impacts would not be significant as discussed under Threshold 1. Activities proposed within the SCSL Improvement Area do not involve development of land uses with associated mobile or stationary source noise. Therefore, no impacts would occur within the SCSL Improvement Area with respect to an increase in permanent noise levels.

D. Off-site Poggi Canyon Sewer Improvement Area

Construction noise impacts associated with the PCSI would not be significant as discussed under Threshold 1. With respect to the General Plan's exterior land use noise compatibility guidelines, the PCSI would be potentially significant. However, as the PCSI does not involve human occupation or uses that would generate permanent mobile or stationary source noise, the PCSI would have no impact with respect to an increase in permanent noise levels.

Threshold 5: *Be inconsistent with General Plan, GDP or other objectives and policies regarding noise thereby resulting in a significant physical impact.*

Table 4.5-9, *Project Consistency with Applicable General Plan Noise Policies,* on page 4.5-24 evaluates the consistency of the proposed project with the applicable General Plan policies. As shown in Table 4.5-9, the project would be consistent with the General Plans Environmental Element policies that pertain to noise.

Table 4.5-9

Project Consistency with Applicable General Plan Noise Policies

Applicable Policies	Evaluation of Consistency
E 21.1, 21.2, 21.3, 21.4	The proposed EUC SPA Plan is consistent with these noise policies. A noise impact analysis was prepared for the proposed project, which utilized the land use-noise compatibility guidelines in the Environmental Element as a threshold for determining significance between different land uses. The City's Noise Ordinance would be enforced. Potential impacts were identified, and mitigation measures incorporate thresholds consistent with the California Building Code and City standards. The SPA Plan does not prohibit new technologies in building construction.
E 22.1, 22.2, 22.3, 22.4, 22.5	The proposed EUC SPA Plan is consistent with these noise policies. A noise impact analysis was prepared for the proposed project, which addressed noise generated by project traffic. The EUC SPA Plan area is bordered on the north and east by a six-lane major roadway, and would be near the future Hunte Parkway which is planned as a six- lane prime arterial. On the west is SR-125. These roadways would serve as major throughways around the site and would minimize the use of streets within the residential districts as throughways. In addition, on-site streets are intentionally narrow with on-site parking to encourage slower traffic and encourage other modes of transportation such as bus, transit, walking and bicycling. Other traffic calming measures include "bulb outs" at corner sidewalks, traffic signals and/or signs, posted speed limit signs and allowing bicycles to share the road right-of-way. A BRT route is provided through the SPA Plan to encourage the use of public transit within the SPA Plan area as well as to/from the EUC from/to other parts of the City. The mixed use nature of the project, which places residences, employment, services and entertainment in close proximity, would also result in a significant reduction of vehicle trips thereby reducing vehicular traffic volumes and noise impacts. The SPA Plan does not prohibit the use of new technologies to minimize traffic noise. Impacts were identified in the noise study, and appropriate mitigation measures have been provided in Section 4.5-5 that make the proposed project consistent with the land use/noise compatibility guidelines included in the Environmental Element and City's Noise Ordinance.

4.5.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Potential sources of noise related to the proposed project include temporary construction noise, traffic generated noise, noise from on-site land uses, including the elementary school, parks, and noise from commercial uses.

Future on- or off-site sensitive receptors within 250 feet of on- (within the project site) or off-site (SSA, SCSL Improvement, or PCSI) grading activities or construction could experience short-term nuisance noise levels during such activities. However, compliance with the City's Municipal Code would reduce this impact to below a level of significance.

Buildout of the proposed SPA Plan would increase traffic related noise on Birch Road to a level that would exceed the 3.0 dBA significance threshold. However, uses along the roadway are either not noise sensitive (i.e., Otay Ranch Town Center), or the forecasted noise levels would be mitigated through existing and/or proposed sound walls. Traffic related noise would also have an impact on sensitive receptors located within the EUC. Effects on sensitive receptors

within the EUC due to traffic noise would be significant, as noise levels would exceed the City's 65 CNEL exterior residential standard for land use compatibility.

Noise impacts due to on-site stationary sources such as roof-top HVAC equipment and the fire station and the fire station emergency generator would be significant.

Outdoor noise generated by schools and parks, including sports activities, is considered to have a potentially significant impact on adjacent sensitive uses.

4.5.5 MITIGATION MEASURES

A. Construction

The following measures would reduce construction-related noise impacts:

4.5–1 Prior to approval of any grading permit, the following measures shall be placed as notes on all grading plans, and shall be implemented during grading of each phase of the project to minimize construction noise impacts:

a) Grading and exterior construction activities within 250 feet of noise sensitive uses shall be prohibited Monday through Friday from 10:00 P.M. to 7:00 A.M., and from 10:00 P.M. to 8:00 A.M. on Saturdays and Sundays, in accordance with the City of Chula Vista Municipal Code Section 17.24.050 J.

b) Noise-generating equipment operated at the project site shall be equipped with effective noise control devises, i.e., mufflers, lagging, and/or motor enclosures. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

c) Construction truck routes and equipment shall, to the extent feasible, avoid residential areas and roadways adjacent to noise sensitive receptors.

B. Operation

The following mitigation measures would reduce the noise impacts for the project's on-site operation noise. To ensure the urban character of the EUC is not compromised the emphasis shall be placed on non-structural site planning and design options prior to any consideration being given to the use of noise walls or other structural measures:

4.5–2(a) Prior to approval of design review permits for residential uses on lots directly adjacent to a proposed park site or the future EUC elementary school site, a detailed acoustical analysis report shall be prepared by a qualified acoustical consultant to ensure that interior noise levels due to exterior sources will be at or below 45 CNEL. Building plans will be available during design review and will permit the accurate calculation of building acoustical evaluation including wall structures sound transmission loss for habitable rooms. For these lots, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 CNEL. Consequently the design for these units may need to include mechanical ventilation or air conditioning systems to provide a habitable interior environment with the windows closed based on the results of the detailed interior acoustical analysis.

4.5–2(b) As part of the review process for final EUC park designs, park site plans shall be reviewed by the City to recommend that hard-court areas (basketball, tennis, etc.) and active play fields are located as far as feasible from existing or proposed residential uses with outdoor patios or gathering areas. The goal and performance standard for this measure is to avoid outdoor noise levels that exceed 65 CNEL for residential uses that include outdoor patios or common gathering areas that are located adjacent to park sites. This measure shall be implemented to the satisfaction of the City prior to final approval of applicable park site plans.

4.5–2(c) The City shall consult with the Chula Vista Elementary School District prior to or during the environmental review process for the proposed elementary school to recommend that the school site is planned such that hard-court areas and active play fields are located as far as feasible from existing or proposed residential uses with outdoor patios or gathering areas. The goal and performance standard for this measure is to avoid outdoor noise levels that exceed 65 CNEL for residential uses with outdoor patios or common gathering areas that are located adjacent to a school site.

4.5–3 Prior to approval of design review permits for commercial and public buildings, the following shall be implemented:

a) Air conditioning, cooling and ventilating equipment and any other noise-generating equipment shall be screened, shielded and/or sound buffered from surrounding streets and land uses. An acoustical analysis shall be performed by a qualified acoustical consultant to verify the specific details of this mitigation measure including; geometrical dimensions and construction materials.

b) Loading docks and trash collection areas shall properly be screened or enclosed and shall not be oriented toward adjacent noise sensitive uses.

4.5-4 Concurrent with the first submittal of construction plans for the fire station, a noise study shall be prepared to ensure that appropriate noise attenuation

measures are implemented capable of reducing the exterior generator noise at the property lines consistent with Table III of Chapter 19.68 of the Municipal Code.

4.5–5 Prior to approval of design review permits for sensitive uses, such as residential use, libraries, daycare facilities, neighborhood parks and playgrounds, planned for areas forecasted to exceed an exterior noise level of 65 CNEL (based on Table 4.5-7 of the EIR), the following shall occur:

a) An acoustical analysis shall be performed for residential structures to ensure that interior noise levels due to exterior sources will be at or below 45 CNEL. Outdoor use areas such as terraces and balconies shall not be encouraged for residential structures that front major roadways, such as SR-125, Birch Road, Eastlake Parkway, and Hunte Parkway. For these residential use areas, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior design standard of 45 CNEL. Consequently, the design for these units may need to include mechanical ventilation or air conditioning systems to provide a habitable interior environment with the windows closed based on the results of the interior acoustical analysis.

b) To reduce exterior noise levels to 65 CNEL or lower at outdoor sensitive uses (i.e., residential courtyards, parks, and passive recreation areas), a combination of sound barrier walls, earthen berms, and landscaping shall be designed and implemented by a qualified acoustical consultant. Alternatively, outdoor uses shall be located behind buildings (not facing traffic corridors) in a manner that shields outdoor sensitive uses from roadway noise and reduces the exterior noise level to 65 CNEL or below.

4.5–6 Athletic fields if placed in development areas where noise from traffic exceeds or is forecasted to exceed 70 dBA CNEL (based on Table 4.5-7 of the EIR), shall incorporate the following:

a) Sound barrier walls or earthen berms of sufficient height and length shall be designed by a qualified acoustical consultant to reduce exterior noise levels to 70 CNEL or lower; or

b) Passive recreation areas, such as picnic tables, shall be located away from the roadway as far as possible.

4.5-7 The applicant may, at any time during implementation of the proposed project, submit a revised noise study prepared by a qualified acoustical consultant that takes into consideration site grading based on final grading plans and locations of intervening structures to establish new noise contours on the site. The noise study shall be approved by the City, and may be used to implement the noise mitigation measures of this section.

4.5.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With incorporation of the above mitigation measures, construction noise levels associated with the EUC SPA Plan Area and the PCSI would still result in high noise levels at noise sensitive receptor sites within 250 feet of a construction site. However, noise levels would be experienced for short-durations as only portions of the project site would be under construction at any one time. The majority of the time construction noise levels at sensitive locations would be much lower due to reduced construction activity and the phasing of construction (i.e., construction noise levels at a given location will be reduced as construction activities conclude or move to another more distant location of the site). Therefore, with implementation of mitigation measures, short-term construction noise would be less than significant and all construction activity would proceed in compliance with existing City requirements and proposed conditions of approval (Mitigation Measure 4.5–1).

With implementation of Mitigation Measures 4.5-2(a), 4.5-2(b), and 4.5-2(c) noise impacts from parks or a potential elementary school onto adjacent residential uses would be reduced to a less than significant level.

Mitigation Measure 4.5–3 would ensure that on-site stationary noise sources from commercial and public buildings are designed to meet the City's noise standard at nearby noise sensitive receptor sites, which would reduce impacts to a less than significant level.

Implementation of Mitigation Measure 4.5-4 would reduce the potential noise impact of the fire station generator on adjacent sensitive uses to below significance.

With implementation of Mitigation Measures 4.5–5 and 4.5-6, exterior noise environments for proposed noise sensitive uses, such as residential use, libraries, daycare facilities, neighborhood parks, playgrounds, and athletics fields, would be reduced to meet the City's exterior noise standards and would reduce potential noise impacts to less than significant level. In addition, Mitigation Measure 4.5–5 would also ensure that interior noise environments for residential structures meet State and City noise insulation requirements. Thus, noise impacts related to interior noise levels would be less than significant.

4.6 CULTURAL RESOURCES

The analysis presented in this section is based, in part, on Section 3.4, Cultural Resources, of the Otay Ranch GDP Program EIR (90-01), which analyzed the existing conditions, potential impacts, and mitigation measures related to cultural resources (i.e., historic and prehistoric/archaeological resources) for the entire Otay Ranch. The analysis was derived from records, literature searches, and several confidential reports of cultural studies conducted within the EUC SPA Plan Area. The Otay Ranch GDP Program EIR concluded that implementation of the Otay Ranch GDP would result in a significant, unavoidable impact on cultural resources, since the specific location of development activity was not known at the time the GDP Program EIR was prepared. The Program EIR recommended additional site surveys and the preparation of a mitigation plan for subsequent development activity. The analysis and discussion of cultural resources contained in the Otay Ranch GDP Program EIR are incorporated by reference.

Section 3.6, Paleontological Resources, of the Otay Ranch GDP Program EIR evaluates the known and unknown paleontological resources, potential impacts, and mitigation measures related to fossil remains or prehistoric plant and animal life. The Otay Ranch GDP Program EIR concluded that implementation of the Otay Ranch GDP would result in a significant environmental effect on potential disturbance to paleontological resources prior to mitigation. Recommended mitigation measures include paleontological monitoring during excavation of geologic formations with paleontological sensitivity to prevent disturbance to significant resources. Mitigation also required that certain portions of the Otay Valley Parcel of Otay Ranch be set aside for paleontological reserves. However, no paleontological reserves were designated in the EUC SPA Plan Area. The analysis and discussion of paleontological resources contained in the Otay Ranch GDP Program EIR is incorporated by reference.

The cultural resources evaluation in this section also updates information in Sections 5.4 and 5.6 of the General Plan Update EIR (05-01) pertaining to the EUC site and off-site locations. The analysis and discussion of cultural and paleontological resources contained in EIR 05-01 is incorporated by reference.

This section discusses cultural and paleontological resources within the EUC SPA Plan Area as well as the three off-site improvement areas. This discussion is based on an archival records search conducted at the South Coastal Information Center, San Diego State University (CHRIS-SCIC), and an archaeological field survey. More detailed information and analysis is provided in the *Phase I Cultural and Paleontological Assessment*, prepared by PCR Services Corporation dated September 2008, provided in Appendix E of this EIR.

4.6.1 EXISTING CONDITIONS

Cultural resources include prehistoric resources and historical-period resources. Prehistoric resources are physical properties resulting from human activities that predate written records and are generally identified as isolated finds or sites. Prehistoric resources can include village sites, temporary camps, lithic (stone tool) scatters, roasting pits/hearths, milling features, rock features, and burials. Historic resources consist of physical properties, structures, or built items resulting from human activities after the time of written records. In North America, the historical-period is generally considered to be equivalent to the time period since European contact, beginning in A.D. 1492. Historic resources can include archaeological remains and architectural structures. Historic archaeological site types include town sites, homesteads, agricultural or ranching features, mining-related features, refuse concentrations, and features or artifacts associated with early military use of the land. Historic architectural resources can include houses, cabins, barns, lighthouses, early military structures, and local structures, such as missions, post offices, and meeting halls.

Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. As defined in this section, paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains such as bones, teeth, shells, and leaves are found in the geologic deposits (rock formations) where they were originally buried. Paleontological resources include not only the actual fossil remains, but also the collecting localities, and the geologic formations containing those localities.

A. Regulatory Framework

(1) Federal Level

(a) National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the *National Register of Historic Places* (National Register) was established by the National Historic Preservation Act (NHPA) of 1966, as “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.”[1] The National Register recognizes properties that are significant at the national, state and local levels.

[1] *Code of Federal Regulations (CFR), 36 § 60.2.*

(2) State Level

(a) California Register of Historical Resources

The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

Created by Assembly Bill 2881 which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[2] The criteria for eligibility for the California Register are based upon National Register criteria.[3] Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.[4]

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. Is associated with the lives of persons important in our past;

c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and it must retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

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[2] *California Public Resources Code § 5024.1(a).*

[3] *California Public Resources Code § 5024.1(b).*

[4] *California Public Resources Code § 5024.1(d).*

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the Office of Historic Preservation (OHP) and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5.[5]
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

(b) California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (Public Resources Code [PRC] Sections 21000 *et seq*.). As defined in Section 21083.2 of the PRC a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.

[5] *Those properties identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and/or a local jurisdiction register.*

- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

In addition, CEQA Section 15064.5 broadens the approach to CEQA by using the term "historical resource" instead of "unique archaeological resource." The CEQA Guidelines recognize that certain historical resources may also have significance. The Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of the PRC and Section 15064.5 of the Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the Guidelines, then the site is to be treated in accordance with the provisions of PRC §21083, which is a unique archaeological resource. The Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (Guidelines Section 15064.5(c)(4)).

Paleontological resources are also afforded protection by environmental legislation under CEQA. Appendix G (part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources and states, "a project will normally result in a significant impact on the environment if it will …disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study." Section 5097.5 of the PRC specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources.

(3) Local Level

Chula Vista assesses and mitigates the potential impacts of private development and public facilities and infrastructure to significant cultural resources pursuant to the provisions of CEQA. Sections 15064.5 and 15126.4 of the State CEQA Guidelines define historical resources (i.e., cultural resources) and address, in general terms, mitigation requirements for significant and potentially significant impacts to such resources. Pursuant to the State CEQA Guidelines, historical resources are not limited to officially listed resources, but also include resources found to be eligible for listing at the local, state, and federal levels. Cultural resources that reflect the history of a community, from descendants of the earliest Native Americans to later explorers, settlers, and immigrants, are important to the community and, therefore, warrant

protection by the City. Furthermore, the accessibility of important cultural resources to the public for educational, religious, cultural, scientific and other purposes should be supported and encouraged by the City.

Section 2.32 of the Chula Vista Municipal Code (CVMC) vests the authority of historical preservation with the Resource Conservation Commission (RCC). The RCC maintains the City of Chula Vista's Register of Historical Sites (Register) and makes recommendation to City Council for listing, on the Register, any site that it has found to meet the criteria as a historical site. The commission shall also recommend if the historical site permit process, as provided in CVMC 2.32.090, should be imposed on the site. Currently there are approximately 74 designated historical sites listed on the Register, none of which are located within the Eastern Urban Center planning area.

The following objectives and policies with respect to cultural resources are outlined in the General Plan.[6]

Objective E-9 - Protect Chula Vista's important cultural resources and support and encourage their accessibility to the public.

Policies

E 9.1 - Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to cultural resources, in accordance with the California Environmental Quality Act.

E 9.2 - Support and encourage the accessibility of Chula Vista's important cultural resources to the public for educational; religious; cultural; scientific; and other purposes; including the establishment of museums and facilities accessible to the public, where such resources can be appropriately studied, exhibited, curated, etc.

E 9.3 - Discourage disruption, demolition, and other negative impacts to historic cultural resources.

Objective E-10 - Protect important paleontological resources and support and encourage public education and awareness of such resources.

[6] *Chula Vista Vision 2020. "Protecting Chula Vista's Cultural Resources," Chapter 9, Section 3.1.9, pp. E38-E40. (2004). Electronic document, http://www.chulavistaca.gov/City_Services/Development_Services/Planning_Building/General_Plan/documents/09_Env2.pdf, address confirmed August 25, 2008.*

Policies

E10.1 – Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to paleontological resources in accordance with the CEQA.

E10.2 – Support and encourage public education and awareness of local paleontological resources, including the establishment of museums and educational opportunities accessible to the public.

B. Existing Historical Setting

A detailed overview of the prehistory and history of the project vicinity is provided in Appendix E of the EIR. A summary of the prehistoric and historical background follows below:

(1) Prehistoric Setting

(a) Paleoindian Period (ca. 13,000 - 11,000 years before present [YBP])

Little is known of Paleoindian peoples in California, and the cultural history of this period follows that of North America in general. Recent discoveries in the Americas have challenged the theory that the first Americans migrated from Siberia, following a route from the Bering Strait into Canada and the Northwest Coast some time after the Wisconsin Ice Sheet receded (ca. 14,000 YBP), and before the Bering Land Bridge was submerged (ca. 12,000 YBP). A coastal migration route somewhat before that time is also possible. Lifeways during the Paleoindian Period were characterized by highly mobile hunting and gathering. Prey included megafauna such as mammoth and technology included a distinctive flaked stone toolkit that has been identified across much of North America and into Central America. They likely used some plant foods, but the Paleoindian toolkit recovered archaeologically does not include many tools that can be identified as designed specifically for plant processing.

To date, no Paleoindian period sites have been found associated with the project site. The earliest sites in San Diego County are associated with the Archaic-aged San Dieguito tradition and are typified by leaf-shaped, and shouldered points in addition to chipped stone crescents and scrapers found in various contexts including coastal, inland and mountain settings (Heizer 1978:iix).

(b) Archaic Period (ca. 11,000 - 3,500 YBP)

The earliest Archaic Period life ways in inland southern California have been given the name San Dieguito tradition, after the San Diego area where it was first identified and studied (Warren 1968). Characteristic artifacts include stemmed projectile points, crescents and leaf-

shaped knives, which suggest a continued subsistence focus on large game, although not megafauna, of the earlier Paleoindian period. Milling equipment appears in the archaeological record at approximately 7,500 years ago (Moratto 1984:158). The transition from San Dieguito lifeways to lifeways with milling stones, part of the set of artifacts and lifeways known as La Jolla complex (7,500 to 3,000 YBP) appears to have been an adaptation to drying of the climate after 8,000 YBP, which may have stimulated movements of desert peoples to the coastal regions, bringing millingstone technology with them.

(c) Late Prehistoric Period (ca. 3,500 YBP - A.D. 1769)

Environmental changes around 4,000 – 3,000 YBP may have underlain a cultural shift to more land-based gathering practices. This period was characterized by the decreased reliance on littoral resources and increasing importance of acorn processing, which supplemented the resources from hunting and gathering. In the southern interior of San Diego County the protohistoric peoples were characterized by cemeteries apart from living areas, use of grave markers, cremations placed in urns, use of specially made mortuary goods, abundant ceramics, and an abundance of millingstones (Moratto 1984).

(d) Ethnographic Context

The Native American groups associated with the project area from the time of European contact onward include the Ipai and Tipai, formerly referred to together as the Diegeuno. Documentation collected by A. L. Kroeber (1925: frontpiece, Plate 57) shows the project area in the southeast portion of Ipai (formerly Northern Diegueno) territory, which encompassed the western portion of San Diego County. Information presented in the California volume of the *Handbook of North American Indians* (Heizer 1978:iix) places the project area in the northwestern portion of Tipai territory (formerly Southern Diegueno), which encompassed southern San Diego County, the Southwest portion of Imperial County, and the northern quarter of Baja California (Heizer 1978:iix). The Ipai and Tipai both speak dialects grouped with the Yuman sub-family of the Hokan language family (Heizer 1978:iix, Kroeber 1925).

Both Ipai and Tipai were organized in autonomous bands and covered territories often marked by natural features and organized so as to cover a range of ecological zones (called vertical organization) extending from low valley locations to higher mountain slopes. Winter occupations tended to be located in protected valleys and emphasized stored food. In the spring, camps were established in the foothills to gather available resources and moved progressively higher in elevation as the summer and fall seasons progressed. Campsite locations were often chosen based on access to water, the types of flora and fauna in the vicinity, and protection from the elements (Heizer 1978:iix).

(2) Historic Context

European exploration of southwestern California began in 1542 when Juan Francisco Cabrillo sailed into San Diego bay. Subsequent explorers include Sebastian Vizcaino who sailed into the bay and named the region after San Diego de Alcala. Mission San Diego was established in 1769, the first of the 21 missions of Alta California. In the first decade, attempts to convert the local Ipai and Tipai inhabitants failed. Over time, European diseases and domesticated livestock destroyed native populations and resource bases (Carrico 1987). This resulted in the breakdown of the traditional life way and social structure of the natives reducing them to an impoverished state.

In 1821, Mexico won its independence from Spain and took control of the Mission system. Mission lands were secularized by 1834 and many Native Americans worked on local ranchos (Carrico 1987). The project undertaking falls within the boundaries of the Otay Rancho. The Rancho was originally 6,657 acres when granted to Dona Magdalena Estudillo in 1829 (Moyer 1969).

In 1848, the Treaty of Guadalupe Hidalgo was signed, granting the United States a large portion of Mexican territory including what is now the state of California and 1851 the United States government passed the Land Act which made it necessary for all landowners who were granted ranchos by the Mexican Government to present documentation proving the land was legally owned. Dona Magdalena received her U.S. patent to Otay Rancho in 1872 (Moyer 1969). During the 1880s the town of Otay developed a few miles from Dona Magdalena's ranch. In 1926, Henry G. Fenton bought the rancho and continued to raise cattle in addition to growing lima beans (Press Room: Eastlake History). In 1968, John Quinn and Albert Gersten purchased the ranch for residential and industrial development. The project site and vicinity have been used historically and in recent times for ranching and agriculture.

C. Existing Cultural Setting

Assessment of cultural resources included a cultural resources record search conducted through the California Historical Resources Information System South Coastal Information Center (CHRIS-SCIC) located at San Diego State University, a paleontological records search conducted through the San Diego Museum of Natural History, and a pedestrian survey of the project area parcels. Results of these investigations are described by project area parcel below.

(1) Cultural Resources Records Search

(a) EUC SPA Plan Area

The results of the cultural resource records search indicate that portions of the project site have been surveyed by 12 previous investigations. A copy of the CHRIS-SCIC results is available at the City of Chula Vista Planning and Building Department. The western portion of the project site has been surveyed on five separate occasions: in 1992 (Ogden 1992), 1993 (Carrico 1993), 1995 (Caltrans 1995), 1998 (Caltrans 1998), and 2004 (Hector 2004). The eastern boundary of the project site was surveyed in 1999 (Buysse 1999). The southern portion was surveyed in 1994 (Shaefer 1994). The western half of the project area was surveyed in 1990 (Caltrans 1990; Rosen 1990) as part of a larger corridor survey. The full extent of the project area was surveyed in 1987 (Berrys 1987) and 1993 (Carrico 1993) as part of larger studies. An additional 23 archaeological investigations have been conducted within a one-mile radius of the project site. These are provided in Appendix E of this EIR. The majority of these projects were conducted throughout the 1980s, 1990s, and in the first half of the present decade. Although most of these studies are not considered current under OHP guidelines, the number of investigations and their extensive coverage, approximately 100 percent of the one-mile radius around the project site, suggests that the distribution of currently known and recorded archaeological sites is a reliable basis from which to estimate and evaluate the archaeological sensitivity of the project site.

The 1993 Carrico survey identified two archaeological artifacts in the project site and two artifacts in the SSA. The artifacts in the project site include Isolate 428, a metavolcanic flake located along the western boundary of the project site, and Isolate 429, a metavolcanic-flaked stone tool, in the central portion of the project site. The Carrico survey collected all four of the isolates. These previous archaeological results suggest that Otay Mesa was not a focus for extended occupation in prehistory, but rather supported more transient activities, such as resource procurement or travel.

(b) Off-site Soils Stockpiling Area

A total of 12 previous archaeological and historical investigations have surveyed or studied portions of the SSA. The 1993 Carrico survey identified two archaeological artifacts in the SSA. These include Isolate 445, collected from the western portion of the parcel, and Isolate 443, collected from the eastern portion of the parcel. Both isolates are cores of a metavolcanic material. As with the artifacts found in the EUC SPA Plan Area, these results suggest that Otay Mesa was not a focus for extended occupation, but supported more transient activities.

(c) Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area has been previously surveyed by 10 investigations. The full extent of the SCSL Improvement Area has been surveyed on four separate occasions: in 1991(Baksh; Mooney et al.), 1994 (Kyle), and 2000 (Gallegos). The northern portion of the area has been surveyed on four separate occasions: in 1979 (Westec Services), 1996 (Smith), and twice in 1982 (Cultural Systems Research). The southern portion of the site has been surveyed on 3 separate occasions: in 1979 (Westec Services), 1982 (Cultural Systems Research), and 2003 (Pierson).

Two archaeological sites have been previously identified in the central and southern portions of the SCSL Improvement Area. The two sites include CA-SDI-7217, originally recorded in 1979 by Westec (1979) and last updated in 1996 by Brian F. Smith and Associates; and CA-SDI-14225, originally recorded in 1996 and updated in 2001 by Brian F. Smith and Associates. Additionally, a review of a historic roads and trails map indicates a stage line operated in the vicinity of the southern boundary of the SCSL Improvement Area.

CA-SDI-7217 is located in the southern portion of the SCSL Improvement Area survey area. The site has been recorded or updated by a total of five studies: Westec (1979), Cultural Systems Research (1982), Recon Environmental (1989), Baksh (1991), and Smith (1996). It was originally described by Westec as having four loci (A, B, C, D) of isolated lithic artifacts found in discrete locations. Loci B, C, and D were located on slight knolls located west of Salt Creek. Locus A was located on a valley floor south east of the other loci. Subsequent investigations by Cultural Systems Research were unable to relocate Loci A, C, and D. Locus B was re-identified and re-recorded as consisting of 14 lithics found on the surface. Fieldwork conducted by Recon Environmental identified a new locus (Locus E) consisting of seven lithics and one metate. It is not clear from the information available whether or not Loci A-D were re-identified during this study. Baksh recorded an additional locus (Locus F) east of the previously recorded loci located on a gradual slope. Surface artifacts included one mano fragment, one basin metate, two utilized flakes, and one retouched flake. Testing of the locus included 10 shovel probes and two test units excavated to a maximum depth of 70 centimeters. Subsurface artifacts included six core hammers, one hammerstone, three choppers, one scraper plane, nine utilized flakes, one retouched flake, one mano fragment, and over 200 pieces of debitage. Baksh noted that Locus F contained a greater density of artifacts than the other loci. Locus F may represent the main portion of the site. Smith expanded the boundaries of Loci B-D in 1996.

CA-SDI-14225 is located near the western margin of the SCSL Improvement survey area. The site was recorded by Brian F. Smith and Associates in 1996 (Raven-Jennings 1996) and updated by Brian F. Smith and Associates in 2001 (Benjamin 2001). CA-SDI-14225 was originally described as a lithic scatter located on the west slope of the Salt Creek drainage. Surface artifacts included 25 flakes, five scrapers, and one core. The 2001 investigation included additional survey and testing. The site boundary was extended approximately

300 feet to the north based on the distribution of additional surface artifacts. Eleven artifacts were collected from the surface, including three hammer-stones, one core, one retouched flake, and six pieces of debitage. Testing of the site consisted of a total of 10 shovel probes. No subsurface artifacts were recovered from the probes.

These records search results for the SCSL Improvement Area survey area shows a moderate density of sites located within the drainages and valley bottoms. These results are in line with the available ethnographic information such that prehistoric inhabitants of the areas preferred the drainages and valley localities for seasonal habitation.

(d) Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area has been previously surveyed by an investigation in 2000 (Kyle 2000). No cultural resources have been previously identified within the PCSI Area.

(2) Paleontological Resources Records Search

(a) EUC SPA Plan Area

The results of the paleontological records indicated that there are no paleontological localities within the project site, but that there are 23 localities within a half-mile radius of the boundaries. Ten of these localities are located within 1000 feet of the project site boundaries.

The sedimentary rocks underlying the project site are mapped as the Otay Formation (Kennedy and Tan 1977). This formation is of Oligocene age, approximately 28 million years old. Deméré and Walsh rated paleontological resource sensitivity for sedimentary rock units in the County of San Diego in 1993 1993. They assigned a high sensitivity to the Otay Formation. This is confirmed by the abundance of recorded sites indicated in the paleontological records search report. One locality lies just outside of the eastern boundary of the project area, apparently just across EastLake Parkway. The paleontological results are available at the City of Chula Vista Planning and Building Department.

(b) Off-site Soils Stockpiling Area

The results of the paleontological records search revealed that there are no paleontological localities within the SSA. Ten localities have been identified within a half-mile radius of the SSA. The sedimentary rocks underlying the SSA are the same as those of the project site.

(c) Off-site Salt Creek Sewer Lateral Improvement Area

The results of the paleontological records search revealed that there are no paleontological localities within the SCSL Improvement Area. One locality has been identified within a half-

mile radius of the SCSL Improvement Area. The sedimentary rocks underlying the SCSL Improvement Area are the same as those of the project site.

(d) Off-site Poggi Canyon Sewer Improvement Area

The records search for the PCSI Area indicated that there are no recorded paleontological sites at the intersection of Olympic Parkway and Brandywine Avenue, but six localities have been recorded within a one-half mile radius. Sediments in the PCSI Area include Quaternary-age slope wash and alluvium, the San Diego Formation, and the Otay Formation. The Quaternary sediments are generally assigned an unknown to low paleontological sensitivity, but both the San Diego Formation and the Otay Formation are assigned a high paleontological sensitivity rating (Deméré and Walsh 1993). Four of the surrounding paleontological localities are located north of the intersection along Brandywine Avenue and were found in the San Diego Formation. The other two localities are located to the east-northeast of the intersection and were found in the Otay Formation. Due to faulting in the vicinity of the PCSI Area, it is not clear which formation, San Diego or Otay, underlies the Quaternary alluvium. While it is not anticipated that excavation for the sewer improvement will extend into undisturbed materials since the area has been previously disturbed with the construction of the Poggi Canyon Sewer, there is the potential for excavation into either the San Diego Formation or the Otay Formation.

(3) Pedestrian Survey

(a) Cultural Resources

Roughly 75 percent of the project site, 90 percent of the SSA, and 90 percent of the SCSL Improvement Area were surveyed. The portions of these areas that were not surveyed included areas where vegetation cover obstructed ground surface visibility. Additionally, portions of the project site and the entire PCSI Area were not surveyed because they have been developed or disturbed. The findings of the survey, however, are consistent with the information presented in the cultural resource records search. PCR archaeologists identified only isolated artifacts in the project site and SSA. One previously recorded site was re-identified in the SCSL Improvement Area. No resources were recorded in the PCSI Area.

(i) EUC SPA Plan Area

Seven isolates (CV1-6, 9) were identified in the project site during the pedestrian survey. Isolates CV1 and CV2 are located in the southwestern region of the EUC SPA Plan Area. CV3 and CV4 are located in the northern region of the project site. CV5 and CV6 are located in the eastern region of the project site and CV9 is located in the southern region of the project site. The isolates include three possible mano fragments, one fine-grained metavolcanic core, one fine-grained metavolcanic scraper, one rhyolite core, and one basalt flake. Soil in the vicinity of the isolates is brown semi-compact silty loam.

(ii) Off-site Soils Stockpiling Area

Two additional isolates (CV7-8) were identified in the SSA. Isolate CV7 was noted in the southwest portion of the parcel located on a slope just east of a drainage. Isolate CV8 was noted in the northeast portion atop a hill. Both isolates are fine-grain metavolcanic flakes found in recently disked fields. Soil in the vicinity of the artifacts is brown semi-compact silty loam.

All of the four isolates previously identified in the project site and SSA were collected during the previous investigations. The locations of each of these isolates were revisited, but no additional materials were found. The previously identified isolates were distributed widely throughout the project site and SSA. The isolates recorded by PCR personnel were not found in the immediate vicinities of previously recorded isolates. The one exception is CV-8 that was found on the ridge very near where Isolate 443 was recorded

(iii) Off-site Salt Creek Sewer Lateral Improvement Area

One previously recorded locus (Locus B) of site CA-SDI-7217 was identified in the southern portion of the SCSL Improvement Area, approximately 65 feet from the construction right-of-way, during the pedestrian survey. The locus consisted of a concentration of 30 lithic artifacts located immediately southwest of a small drainage. Additional lithics were noted scattered throughout an area 40 meters (m) long by 15 m wide. Lithics found in the locus include flakes, at least one core, and debitage of basalt and rhyolite. Locus B is the only component of SDI-7217 to be relocated.

The lithics are located in an area that has been heavily disturbed by the development of a water conveyance system and may present the remnants of the northern boundary of Locus B. Additional disturbances include: a northwest/southeast oriented dirt road located along the southern boundary of the site; a northwest/southeast oriented irrigation pipeline located along the northern boundary; and a paved road located approximately 20 meters north of the locus.

The topography is relatively flat in the northeast portion of the Locus B and slopes slightly upward in the southwest portion. The locus is located along the northern margins of a valley bottom at a point where it contacts the lower slopes of a small knoll. Soil in the vicinity consists of a loose silty loam with gravels found throughout. Vegetation includes riparian species along the drainage and chaparral species located on the slopes.

CA-SDI-14225 was not relocated during field survey. The area where the site was located has been developed with roadways and other ground clearing activity. A substantial proportion of the artifacts identified on the site were collected in 2001 (Benjamin 2001). It is possible that remaining artifacts have been disturbed or removed by subsequent ground-disturbing activities.

(iv) Off-site Poggi Canyon Sewer Improvement Area

Due to the complete development of the PCSI Area as a roadway, no survey of the area was conducted.

(b) Paleontological Resources

(i) EUC SPA Plan Area

Two fossils, Paleo 1 and Paleo 2, were identified during the pedestrian survey of the project site. Both are mollusk fossils in isolated lumps of a moderately-cemented sandy matrix. These are erosional remnants, presumably from the San Diego Formation. Because they had been moved from their original geologic context, they were not collected. Cut slopes of the Otay Formation are found on the northern and eastern boundaries of the project site. They were largely overgrown with high weeds, and the steep slopes combined with the rain accompanying the pedestrian survey combined to make a detailed examination of the few unvegetated areas unfeasible. Some shallow cuts have been made on the project site to accommodate roads for construction vehicles. The limited areas of the Otay Formation exposed in these cuts were examined, but no paleontological resources were detected.

(ii) Off-site Soils Stockpiling Area

No paleontological resources were noted during the pedestrian survey of the SSA.

(iii) Off-site Salt Creek Sewer Lateral Improvement Area

The paleontological results of the SCSL Improvement Area pedestrian survey accord with the record search. No paleontological resources are recorded near the axis of the Salt Creek drainage. No paleontological specimens were detected during the pedestrian survey, and the slope wash sediments (ranging from silts to cobbles) did not look promising for paleontological resources.

(iv) Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area, which is the intersection at Olympic Parkway and Brandywine Avenue, is paved. As noted above, due to this development, pedestrian survey was not warranted. Properties adjoining the PCSI Area have sidewalks, dwellings, and landscaping. The only geologically informative feature is a high landscaped cut bank on the northeast corner of the intersection. It appears that this cut has exposed sands of the San Diego Formation. This interpretation accords with the report of the nearby San Diego Formation fossil localities reported by the SDNHM (record search results available at the City of Chula Vista Planning and Building Department).

4.6.2 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines, Appendix G, impacts to cultural and paleontological resources would be significant if the proposed project would:

Threshold 1: *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;*

Threshold 2: *Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5;*

Threshold 3: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or*

Threshold 4: *Disturb any human remains, including those interred outside of formal cemeteries.*

In addition to the above thresholds, impacts to cultural and paleontological resources would be significant if the proposed project would:

Threshold 5: *Be inconsistent with General Plan cultural and paleontological policies thereby resulting in a significant physical impact.*

4.6.3 IMPACT ANALYSIS

Threshold 1: *Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.*

As noted above, existing setting, the record search and the survey results indicate that no historic or potential historic resources occur in the EUC SPA Plan area, off-site SSA, SCSL Improvement Area, or PCSI Area. Therefore, there would be no impacts from the proposed project relative to this threshold.

Threshold 2: *Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.*

A. EUC SPA Plan Area

Record search and survey results for the EUC SPA Plan area indicate that the surface archaeological sensitivity in this area is low. Both previous and current finds have been limited to isolated artifacts, which taken together suggests that past use of this area consisted of transient uses rather than extended occupations. It is important to note, however, that due to the density of the vegetation cover in these areas, additional isolates may be present on the surface but could not be identified during the survey. In addition, as there has not been any

archaeological testing in this area or vicinity, the potential for intact cultural deposits is unknown.

B. Off-site Soils Stockpiling Area

Record search and survey results for the SSA indicate that the surface archaeological sensitivity in this area is low. Both previous and current finds have been limited to isolated artifacts, which taken together suggests that past use of this area consisted of transient uses rather than extended occupations. It is important to note, however, that due to the density of the vegetation cover in these areas, additional isolates may be present on the surface but could not be identified during the survey. In addition, as there has not been any archaeological testing in this area or vicinity, the potential for intact cultural deposits is unknown. Grading Option 1 could impact archaeological resources, if present at the time of site preparation and stockpiling. Grading Option 2 could also impact archaeological resources up to the limits of the EUC property due to grading activities associated with the construction of the off-site streets.

C. Off-site Salt Creek Sewer Lateral Improvement Area

Record search and survey results for the SCSL Improvement Area indicate that this area is archaeologically sensitive. Several archaeological sites have been identified in this area and vicinity. Testing at CA-SDI-7217 has also indicated the presence of intact subsurface deposits, particularly in landforms such as knolls and valley bottoms. Locus F of CA-SDI-7217 is located on a west-facing toe at the bottom of a ridge slope that opens into a valley bottom and was shown to contain subsurface artifacts to a depth of 70 centimeters (cm). Previously recorded site CA-SDI-14225 has been tested as well. The site is located on the west-facing slope of a ridge. No subsurface artifacts were identified by the testing.

D. Off-site Poggi Canyon Sewer Improvement Area

Results of the PCSI Area record search and site visit indicate that the archaeological sensitivity of the area is low.

Based on the foregoing analysis, implementation of the proposed EUC SPA Plan would not cause an adverse change in the significance of a known archaeological resource. However, given the results of the record search and pedestrian survey, new development or redevelopment could result in an adverse change in the significance of an unknown archaeological resource. Therefore, the proposed project could result in the discovery of archaeological resources and potentially significant impacts to archaeological resources.

Threshold 3: *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.*

No paleontological resources were identified on the surface of the EUC SPA Plan Area, SSA, or SCSL Improvement Area during the pedestrian survey. No paleontological resources would be evident at the PCSL Area due to the paved nature of the site. Record search results indicate, however, that the Otay Formation, which underlies the SPA Plan Area, the SSA, and SCSL Improvement Area, has been determined to have a high sensitivity for paleontological resources. The PCSI Area is underlain by Quaternary-aged sediments and, at somewhat greater depths, by either the Otay Formation or the San Diego Formation. The San Diego Formation has also been assessed as having high sensitivity for paleontological resources. Therefore, excavations associated with the EUC SPA Plan Area, both grading options, SCSL Improvement Area and PCSI Area would have a strong likelihood of encountering paleontological resources should the required excavations impact previously undisturbed materials.

Threshold 4: *Disturb any human remains, including those interred outside of formal cemeteries.*

Results of the cultural resources record search and survey did not identify any human remains or records of human remains in the project parcels. Archaeological sensitivity of the project site, SSA, and PCSI Area appear to be low, which suggests that the potential for unexpected discovery of human remains is also low. However, prior to the import of material onto the SSA and the remainder of the EUC (Grading Option 2), clearing and site preparation activities will be required. Therefore, there is the potential to uncover human remains during site preparation activities with both grading options. The PCSI Area has been previously disturbed with the construction of the Poggi Canyon Sewer, and construction of the proposed improvement is not likely to encounter human remains during excavation. Therefore, excavations associated with the EUC SPA Plan Area, both grading options and the SCSL Improvement Area would have the potential to encounter human remains.

Threshold 5: *Be inconsistent with General Plan cultural and Paleontological policies thereby resulting in a significant physical impact.*

A. EUC SPA Plan Area

Consistency of the proposed EUC SPA Plan with the cultural resources objectives and policies of the Chula Vista General Plan is provided in Table 4.6-1, *Project Consistency with Applicable General Plan Cultural and Paleontological Resources Policies,* on page 4.6-19. As shown in Table 4.6-1, although the project site has a low probability of uncovering important archaeological resources, it would be consistent with General Plan Objective E-9 through the implementation of mitigation measures to protect any previously undiscovered archaeological resources through on-site inspection during clearing, grading, and excavation; assessment of any recovered materials; and, if warranted, curation.

The EUC SPA Plan Area has a high potential for paleontological resources and, as such, grading, deep trenching, and other excavation activities would be monitored; any recovered

Table 4.6-1

Project Consistency with Applicable General Plan Cultural and Paleontological Resources Policies

Applicable Policies	Evaluation of Consistency
E 9.1, E 9.2, E 9.3	The EUC SPA Plan is **consistent** with these policies. Although the project site and off-site areas have some potential for encountering undiscovered archaeological resources, the Project Applicant would be required to monitor the sites during grading for potential cultural resources, assess significance of resources if found, and curate significant resources, if warranted for public awareness and education purposes.
E 10.1, E 10.2	The EUC SPA Plan is **consistent** with these policies. The EUC SPA Plan area and off-site areas have high sensitivity for paleontological resources. Therefore, grading, trenching , and other construction activities that have the potential to disturb undisturbed soils would be monitored by a qualified paleontologist. Any recovered resources would be assessed and, if warranted, curated, for public awareness and education purposes.

paleontological resources would be assessed and, if warranted, would be curated. As the project would be consistent with the General Plan's cultural resources policies, it would be less than significant with respect to this threshold.

B. Off-site Soils Stockpiling Area

The SSA and region have a high sensitivity for archaeological and paleontological resources that can be impacted by construction activities. Although the proposed stockpiling would not involve excavation, any activities that would disturb the soils, including clearing or grading, would be monitored for the presence of cultural resources. Therefore, the SSA project would be consistent with applicable General Plan cultural resources policies and would be less than significant with respect to this threshold.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area has a high archaeological and paleontological sensitivity. The limited trenching for the proposed pipe jacking and other surface disturbance including clearing, would be monitored for the presence of cultural resources. Therefore, the SCSL Improvement Area would be consistent with applicable General Plan cultural resources policies and would be less than significant with respect to this threshold.

D. Off-site Poggi Canyon Sewer Improvement Area

As a paved street, the PCSI Area is currently disturbed and has a low sensitivity for surface archaeological resources. The site has a high sensitivity for paleontological resources that

may be recovered during deep trenching. As the area is rich in both archaeological and paleontological resources, trenching and excavation activities would be monitored for the presence of cultural resources. Therefore, the PCSI Area project would be consistent with applicable General Plan cultural resources policies and would be less than significant with respect to this threshold.

4.6.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The proposed project would not result in a significant impact on known archaeological resources, but could result in significant impacts to archaeological resources that may be uncovered during clearing and grading.

Geological formations underlying the EUC SPA Plan Area and off-site improvement areas have a high sensitivity for paleontological resources. Therefore, on-site grading and off-site site preparation with either grading option as well as off-site excavation associated with the SCSL Improvement Area have the potential to result in significant impacts to paleontological resources. No impact to paleontological resources is anticipated in the PCSI Area due to the fact that the site has been previously disturbed by construction of the Poggi Canyon sewer.

On-site grading and off-site site preparation with either grading option as well as off-site construction associated with the SCSL Improvement Area have the potential to result in significant impacts to human remains. No impact to human remains is anticipated in the PCSI Area due to the fact that the site has been previously disturbed by construction of the Poggi Canyon Sewer.

4.6.5 MITIGATION MEASURES

A. Cultural Resources

4.6-1 Prior to issuance of land development permits, including clearing or grubbing and grading permits, the applicant shall provide confirmation and incorporate into grading plans, to the satisfaction of the Environmental Review Coordinator, that an archeological monitor will be present during all cutting of previously undisturbed soil.

4.6-2 During the initial grading of previously undisturbed soils within the EUC SPA Plan area, limits of grading or site preparation for either Grading Options 1 or 2, and SCSL Improvement Area, prehistoric and historic resources may be encountered. In the event that the monitor identifies a potentially significant site, the archaeological monitor shall secure the discovery site from further impacts by delineating the site with staking and flagging, and by diverting grading equipment away from the archaeological site. Following notification to the City, the archaeological monitor shall conduct investigations as necessary to

determine if the discovery is significant under the criteria listed in CEQA and the environmental guidelines of the City. If the discovery is determined to be not significant, grading operations may resume and the archaeological monitor shall summarize the findings in a letter report to the City following the completion of mass grading activities. The letter report shall describe the results of the on-site archeological monitoring, each archaeological site observed, the scope of testing conducted, results of laboratory analysis (if applicable), and conclusions. Any artifacts recovered during the evaluation shall be curated at a curation facility approved by the City.

For those prehistoric/historic resources that are determined to be significant, alternate means of achieving mitigation shall be pursued. In general, these forms of mitigation include: 1) site avoidance by preservation of the site in a natural state in open space or in open space easements, 2) site avoidance by preservation through capping the site and placing landscaping on top of the fill, 3) data recovery through implementation of an excavation and analysis program, or 4) a combination of one or more of the above measures. Procedures for implementing the alternative forms of mitigation described herein are further detailed in the Mitigation Monitoring and Reporting Program adopted as part of the Otay Ranch General Development Program EIR, EIR 90-01.

For those sites that are found to be significant resources and for which avoidance and preservation is not feasible or appropriate, the Applicant shall prepare a Data Recovery Plan. The plan will, at a minimum, include the following: 1) a statement of why data recovery is appropriate as a mitigating measure, 2) a research plan that explicitly provides the research questions that can reasonably be expected to be addressed by excavation and analysis of the site, 3) a statement of the types and kinds of data that can reasonably be expected to exist at the site and how these data will be used to answer important research questions, 4) a step-by-step discussion of field and laboratory methods to be employed, and 5) provisions for curation and storage of the artifacts, notes, and photographs will be stated. In cases involving historic resources; however, archival research and historical documentation shall be used to augment field-testing programs.

Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Environmental Review Coordinator. All significant artifacts collected during the implementation of the Data Recovery Plan shall be curated at a facility approved by the City.

4.6-4 Following the completion of mass grading operations, the Applicant shall prepare a plan that addresses the temporary onsite presentation and interpretation of the results of the archaeological studies for the proposed project. This could be accomplished through exhibition within a future community center, civic building and/or multi-purpose building. This exhibition will only be for temporary curation of those materials being actively used for interpretation and display, and that permanent curation of artifacts

and data will be at a regional repository when one is established. All significant artifacts collected during the implementation of the Data Recovery Plan shall be permanently curated at a facility approved by the City.

4.6-5 If human remains are discovered during grading or site preparation activities within the EUC SPA Plan area, limits of grading for either Grading Options 1 or 2 and the SCSL Improvement Area, the archaeological monitor shall secure the discovery site from any further disturbance. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person(s) thought to be the Most Likely Descendent (MLD) of the deceased Native American. The MLD will assist the City in determining what course of action shall be taken to deal with the remains. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Environmental Review Coordinator. The Archaeological Monitor shall summarize the findings in a letter report to the City following the completion of mass grading activities.

B. Paleontological Resources

4.6-6 Prior to the issuance of grading permits for the EUC SPA Plan Area, limits of grading for either Grading Options 1 or 2, and the SCSL Improvement Area, the Applicant shall confirm to the City that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques). A pre-grade meeting shall be held among the paleontologist and the grading and excavation contractors.

4.6-7 A paleontological monitor shall be onsite at all times during the original cutting of previously undisturbed sediments of highly sensitive geologic formations (i.e., San Diego, Otay, and Sweetwater formations) to inspect cuts for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials.) The paleontological monitor shall work under the direction of a qualified paleontologist. The monitor shall be onsite on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive geologic formations (i.e., unnamed river terrace deposits and the Mission Valley Formation) to inspect cuts for contained fossils.

a) The monitor shall be onsite on at least a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (i.e.,Lindavista Formation and Santiago Peak Volcanics [metasedimentary portion only] to inspect cuts for contained fossils. He or

she shall periodically (every several weeks) inspect original cuts in deposits with an unknown resource sensitivity (i.e.,Quaternary alluvium).

b) In the event that fossils are discovered in unknown, low, or moderately sensitive formations, the Applicant shall increase the per-day field monitoring time. Conversely, if fossils are not discovered, the monitoring, at the discretion of the Planning Department, shall be reduced. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics, metavolcanic portion).

4.6-8 When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances and at the discretion of the paleontological monitor to set up a screen-washing operation on the site.

4.6-9 Prepared fossils along with copies of all pertinent field notes, photos, and maps shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed. This report shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.

4.6.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the mitigation measures listed above, potential impacts to cultural and paleontological resources and human remains would be reduced to below a level of significance.

4.7 BIOLOGICAL RESOURCES

This section provides a summary of existing biological conditions, identification of potential impacts to biological resources associated with construction and operation of the proposed project, and mitigation measures proposed to reduce potentially significant impacts to a less-than-significant level. The analysis of biological resources is based on information provided by HELIX Environmental Planning, Inc. (HELIX) and URS Corporation (URS). HELIX conducted a biological resources assessment for the Applicant's approximately 207-acre project site EUC,SPA, the 1.44-acre off-site SCSL Improvement Area, and the off-site PCSI Area. URS conducted a biological resources assessment for the 88.1-acre Otay Land Company Parcel C, which will be used as the off-site SSA. This analysis of impacts to biological resources is based on the HELIX and URS studies which include the following documents:

- HELIX Environmental Planning, Inc. August 17, 2006*. 2005/2006 Annual Report U.S. Fish and Wildlife Service Protocol Level Wet Season Survey for San Diego and Riverside Fairy Shrimp* (*Branchinecta sandiegonensis* and *Streptocephalus woottoni*).

- HELIX Environmental Planning, Inc. May 18, 2007. *Coastal California Gnatcatcher Survey Results for the Salt Creek Sewer Lateral Project*. Letter report to the U.S. Fish and Wildlife Service.

- HELIX Environmental Planning Inc. June 13, 2007. *2007 Report U.S. Fish and Wildlife Service Protocol Level Presence/Absence Surveys for the Quino Checkerspot Butterfly* (*Euphydryas editha quino*).

- HELIX Environmental Planning, Inc. October 8, 2007. *Poggi Canyon Sewer Replacement Project*. Prepared for Marni Borg.

- HELIX Environmental Planning Inc. May 16, 2008. *2008 Report U.S. Fish and Wildlife Service Protocol Level Presence/Absence Surveys for the Quino Checkerspot Butterfly* (*Euphydryas editha quino*).

- HELIX Environmental Planning, Inc. August 14, 2008. *Biological Technical Report for the Eastern Urban Center.* Prepared for McMillin Companies.

- HELIX Environmental Planning, Inc. January 5, 2009. *Biological Technical Report for the Salt Creek Sewer Lateral.* Prepared for McMillin Companies.

- URS Corporation. August 4, 2008. *Biological Impact Assessment for OLC Parcel C / EUC Soils Stockpiling Project*. Prepared for Otay Land Company.

These documents were prepared consistent with the reporting requirements of the California Department of Fish and Game (CDFG), the U.S. Fish and Wildlife Service (USFWS), U.S.

Army Corps of Engineers (ACOE), Regional Water Quality Control Board (RWQCB), and the City of Chula Vista (City). These documents are included in Appendices F-1 through F-8 of this EIR.

4.7.1. EXISTING CONDITIONS

A. Regulatory Framework

(1) Otay Ranch Resource Management Plan

The Otay Ranch RMP was adopted in 1993 with the approval of the Otay Ranch General Development Plan in order to establish a permanent preserve within Otay Ranch. The purpose of the Otay Ranch Preserve is to protect and enhance biological, paleontological, cultural, and scenic resources. Plan objectives include biological diversity and promotion of the survival and recovery of native species and habitats. The RMP identifies an open space system of 11,375 acres dedicated within the Otay Ranch. The Otay Ranch Preserve would also connect large areas of open space through a series of wildlife corridors. The preserve would cover portions of Salt Creek Canyon to Otay Valley. The preserve boundaries from the RMP have been incorporated into the adopted Otay Ranch GDP. The preserve/development boundary of the GDP is consistent with the objectives, policies, and criteria established in the RMP.

The RMP incorporates a preserve conveyance plan as a transfer mechanism for land with high-quality resources. The RMP identifies vernal pools, coastal sage scrub habitat, coastal California gnatcatcher populations, and potential wetlands restoration areas as important target lands for the preserve. The RMP includes conveyance procedures for dedicating parcels of land to the resource preserve and for determining the proportionate share for each village. The Otay Ranch GDP identified that the entire Otay Ranch area contained 9,575 developable acres. The estimated conveyance obligation of 11,375 acres to the Otay Ranch Preserve would be met on a village-by-village basis. The conveyance ratio for all development is 1.188 acres for each acre of project area. Conveyance is required prior to the approval of final maps.

(2) Multiple Species Conservation Program

The MSCP (August 1998) is a subregional plan under the California Natural Community Conservation Planning (NCCP) Act of 1991 covering an area encompassing twelve jurisdictions and 582,243 acres. The MSCP addresses the potential impacts of urban growth, loss of natural habitat and species endangerment, and creates a plan to mitigate for the potential loss of Covered Species and their habitat due to the direct, indirect and cumulative impacts of future development of both public and private lands within the MSCP area. The MSCP Subregional Plan is implemented through local Subarea Plans prepared by participating jurisdictions. The City's MSCP Subarea Plan was approved in February 2003 and provides for

conservation of upland habitats and species through Preserve design, regulation of impacts and uses, and management of the Preserve.

For development projects located within Otay Ranch, the City's MSCP Subarea Plan relies on the preserve design and policies contained in the Otay Ranch RMP as the framework for conservation and management of biological resources within Otay Ranch Preserve. The proposed EUC SPA Plan and associated off-site SSA are considered "Covered Projects" under the City's MSCP Subarea Plan. This means that the areas proposed to be preserved (100 percent Conservation Areas) are either already in public ownership or will be dedicated to the Preserve as part of the development approval process for Covered Projects. As it pertains to proposed project, lands shall be conveyed to the Preserve in accordance with the RMP.

The proposed SCSL is considered a modification to the City's existing Salt Creek Interceptor facility, a Planned Facility under the City's Subarea Plan. Minor modifications to the Salt Creek Interceptor are necessary to provide emergency backup in case of blockage within the existing sewer lateral, thereby significantly reducing the possibility of sewer overflow and spillage into the Preserve. Consistent with the City's MSCP Subarea Plan, modifications to the Salt Creek Interceptor are subject to compliance with the siting criteria identified for that Planned Facility as described in Section 6.3.3.4 and Table 6-1 of the City's MSCP Subarea Plan.

(3) Federal Clean Water Act, Section 404

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged material, placement of fill material, or excavation within "waters of the U.S." and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The permit review process entails an assessment of potential adverse impacts to ACOE jurisdictional "waters of the U.S." and wetlands. In response to the permit application, the ACOE will also require conditions amounting to mitigation measures. Where a Federally listed species may be affected, they will also require Section 7 consultation with the USFWS under the Federal Endangered Species Act (FESA).

(4) Federal Clean Water Act, Section 401

The mission of the RWQCB is to develop and enforce water quality objectives and implement plans, which will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology. Section 401 of the CWA requires that:

> *"Any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction of operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate…that any such discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title.*

Therefore, before the ACOE will issue a Section 404 permit, Applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 certification includes a conceptual Water Quality Management Plan that will address the key water quality features of the proposed project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), the RWQCB may assert jurisdiction over dredge or fill activities within non-Federal, State waters through issuance of Waste Discharge Requirements (WDRs). Processing of a WDR is similar to that of a Section 401 certification and addressing impacts to non-Federal waters may be streamlined within the 401 process at RWQCB discretion.

(5) Fish and Game Code, Section 1602

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, State or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, to notify the CDFG of the proposed project. In the course of this notification process, the CDFG will review the proposed project as it affects streambed habitats within the study area. The CDFG may then place conditions on the Section 1602 authorization (i.e., the Streambed Alteration Agreement) to avoid, minimize, and mitigate the potentially significant adverse impacts within CDFG jurisdictional limits.

(6) City of Chula Vista MSCP Subarea Plan – Wetland Protection Program

Wetlands are generally defined as those areas that are inundated or saturated by surface or ground water at a frequency or duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. For purposes of the Chula Vista MSCP Subarea Plan, Wetlands are those lands which contain naturally occurring wetland communities (refer to Table 5-6 of the Chula Vista MSCP Subarea Plan). Wetlands also include areas lacking wetland communities due to non-permitted filling of previously existing Wetlands.

Development projects that contain Wetlands are required to demonstrate that impacts to Wetlands have been avoided to the greatest extent practicable and, where impacts are nonetheless proposed, such impacts have been minimized. For unavoidable impacts to Wetlands, the City will apply the Wetlands mitigation ratios identified in the City's MSCP Subarea Plan. The Wetlands mitigation ratios provide a standard for each habitat type, but may be adjusted depending on the functions and values of both the impacted Wetlands as well as the Wetlands mitigation proposed by the project. The City may also consider the Wetland habitat type(s) being impacted and utilized for mitigation in establishing whether the MSCP Subarea Plan standards have been met.

B. Biological Surveys

(1) Literature Review

Prior to performing fieldwork on the project site, a review of relevant existing information (including previous reports and soils surveys) and searches of the California Natural Diversity Database (CNDDB) and California Native Plant Society (CNPS) online database were performed for the nine quadrangles including and surrounding the Otay Mesa quadrangle. Previous documentation included information collected for Lomas Verdes, Otay Ranch, Village Seven and Freeway Commercial, the City's MSCP Subarea Plan, and the County of San Diego's MSCP Subregional Plan.

(2) General Surveys

HELIX biologists performed a general biological survey, including vegetation mapping and general plant and animal surveys, of the EUC SPA Plan on January 27, 2006 and of the off-site SCSL Improvement Area on December 18, 2006.

URS biologists conducted vegetation mapping and general wildlife surveys on June 12, 13, and 21, and July 20 and 27, 2006 to document the plant communities and wildlife species occurring within the 88.1-acre off-site SSA.

No surveys were conducted at the PCSI Area as all work will be contained within an existing paved roadway. No biological resources occur in this area.

On December 4, 2006, a PCR biologist visited the EUC SPA Plan, SSA, and SCSL Improvement Area to confirm the results and conclusions provided in the EUC SPA Plan and SCSL Improvement Area biological resources assessments prepared by HELIX.

(3) Focused Surveys

A series of focused surveys were conducted for the EUC SPA Plan and off-site SCSL Improvement Area by HELIX and within the SSA by URS. Details of the survey methods employed are provided in Appendices F-6, F-7 and F-8.

(a) Fairy Shrimp

Protocol wet-season surveys for the San Diego fairy shrimp (*Branchinecta sandiegonensis*) and Riverside fairy shrimp (*Streptocephalus woottoni*) were conducted by HELIX in April 2006 within two water-holding basins within the EUC SPA Plan. The basins did not exhibit vegetation indicative of vernal pools. Details regarding survey methodology are provided in Appendix F-1.

Focused surveys for fairy shrimp were not conducted within the SSA, off-site SCSL Improvement Area or PCSI Area due to the lack of suitable habitat.

(b) Quino Checkerspot Butterfly

Focused surveys for the Quino checkerspot butterfly (*Euphydryas editha quino*; QCB) were conducted on March 23, 30, April 5, 10, 24, and May 9, 2007 and on March 23, 25, April 3, 5, 9, and 11, 2008 by HELIX within the off-site SCSL Improvement Area. Surveys were conducted in accordance with established USFWS protocol and the City's MSCP Subarea Plan. Details regarding survey methodology are provided in Appendices F-3 and F-5.

Focused QCB surveys were not conducted for the EUC SPA Plan, SSA, or PCSI Area due to the lack of suitable habitat. These areas support land uses that are excluded by the USFWS as potential habitat including plowed agricultural land, disturbed areas, and developed areas. They do not support any natural or remnant inclusions of native vegetation.

(c) Burrowing Owl

Focused surveys for the burrowing owl (*Athene cunicularia*) were conducted on-site by HELIX on January 25 and July 12, 2006. Surveys focused on, but were not limited to, those areas of the EUC SPA Plan as well as 500 feet off-site that had potential to contain burrowing owl burrows or to be used by burrowing owls as foraging habitat. Details regarding survey methodology are provided in Appendix F.

Focused burrowing owl surveys were not conducted for the SCSL Improvement Area and PCSI Area due to lack of suitable habitat.

A focused burrowing owl burrow survey for the SSA was conducted by URS on March 23, 2007 under appropriate weather conditions.

(d) Coastal California Gnatcatcher

Focused surveys for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN) were conducted within the SCSL Improvement Area on March 23 and 30, 2007 by HELIX in accordance with established USFWS protocol. Since the results of the second survey were positive, only two of the three field visits required by the protocol were conducted. The CAGN survey area included the SCSL Improvement Area plus all appropriate habitat within 200 yards of the study area totaling approximately 48 acres. Details regarding survey methodology are provided in the HELIX focused survey report dated May 18, 2007 (Appendix F-2).

Focused surveys for the CAGN were conducted by URS within the SSA on June 21, July 20 and 27, 2006 under suitable weather conditions.

Focused surveys for the CAGN were not conducted within the EUC SPA Plan or PCSI Area due to lack of suitable habitat.

(e) Rare Plants

One rare plant survey of the EUC SPA Plan was performed by HELIX on July 12, 2006 to identify late-blooming sensitive plant species, such as Otay tarplant (*Deinandra conjugens*), that have potential to occur on-site and to confirm the presence or absence of suitable habitat for other rare plant species. Rare plants also were searched for during other site visits and were recorded if found.

The SCSL Improvement Area was previously surveyed for rare plants including narrow endemic species as part of the preparation of the Otay Ranch RMP Phases 1 and 2.[1] HELIX conducted supplemental rare plant surveys on July 17, 2007 and April 28, 2008. Details regarding survey methodology are provided in Appendix F.

Focused rare plant surveys were conduced by URS on the SSA on June 12, and 13, 2006.

Rare plant surveys were not conducted within the off-site PCSI Area due to the lack of suitable habitat.

[1] *City of Chula Vista and County of San Diego. October 28, 1993. Otay Ranch Resource Management Plan. City of Chula Vista and County of San Diego. June 4, 1996. Otay Ranch Phase 2 Resource Management Plan.*

(4) Jurisdictional Delineation

A delineation of jurisdictional areas within both the EUC SPA Plan and off-site SCSL Improvement Area was performed by HELIX on January 27 and December 18, 2006. All areas with depressions or drainage channels were evaluated for the presence of ACOE and RWQCB wetlands and/or waters of the U.S./State, CDFG jurisdictional streambed and associated riparian habitat, and wetlands as defined by the City's WPP. Details on the survey methodology are provided in Appendices F-6 and F-7.

The SSA was surveyed for the presence of potential jurisdictional features by URS on June 12, and 13, 2006. Due to the lack of an Ordinary High Water Mark (OHWM) or wetland indicators, a formal jurisdictional delineation was not conducted.

A jurisdictional delineation was not conducted within the PCSI Area due to the lack of potential jurisdictional features.

C. Survey and Jurisdictional Delineation Results

(1) Vegetation

The location and extent of each of the vegetation communities within the EUC SPA Plan, the SCSL Improvement Area, the SSA, and the off-site PCSI Area are shown in Figure 4.7-1, *Eastern Urban Center – Vegetation and Sensitive Resources;* Figure 4.7-2, *Off-site Salt Creek Sewer Lateral Improvement Area – Vegetation and Sensitive Resources ;* Figure 4.7-3, *Off-site Soils Stockpiling Area – Vegetation and Sensitive* Resources*;* and Figure 4.7-4, *Off-site Poggi Canyon Sewer Improvement Area – Vegetation and Sensitive Resources*. Acreages for the vegetation communities/land covers of the EUC SPA Plan, the SCSL Improvement Area, the SSA, and off-site PCSI Area are summarized in Table 4.7-1, *Vegetation Communities,* on page 4.7-13.

(a) Upland Communities

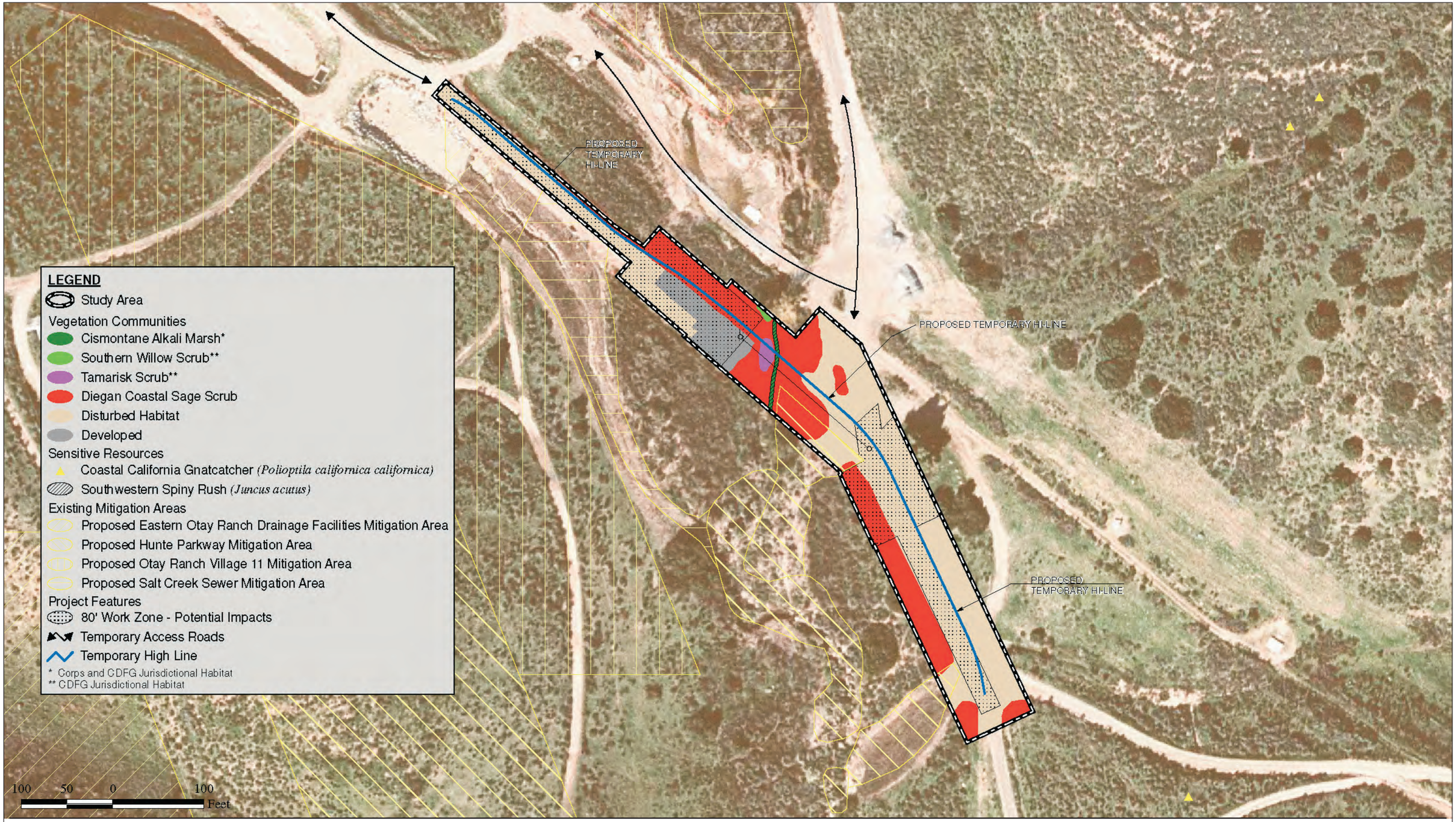
(i) Diegan Coastal Sage Scrub

Coastal sage scrub is one of the two major shrub types that occur in southern California, occupying xeric sites characterized by shallow soils (the other is chaparral). Four distinct coastal sage scrub geographical associations (northern, central, Venturan, and Diegan) are recognized along the California coast. This vegetation type consists of low, soft-woody sub-shrubs that are most active in winter and early spring.

Approximately 0.48 acre of Diegan coastal sage scrub occurs within the project area (all of which is within the off-site SCSL Improvement Area) and is a combination of relatively undisturbed as well as disturbed sage scrub habitats. Species characteristic of Diegan coastal sage scrub on-site include, but are not limited to, California sagebrush (*Artemisia californica*),

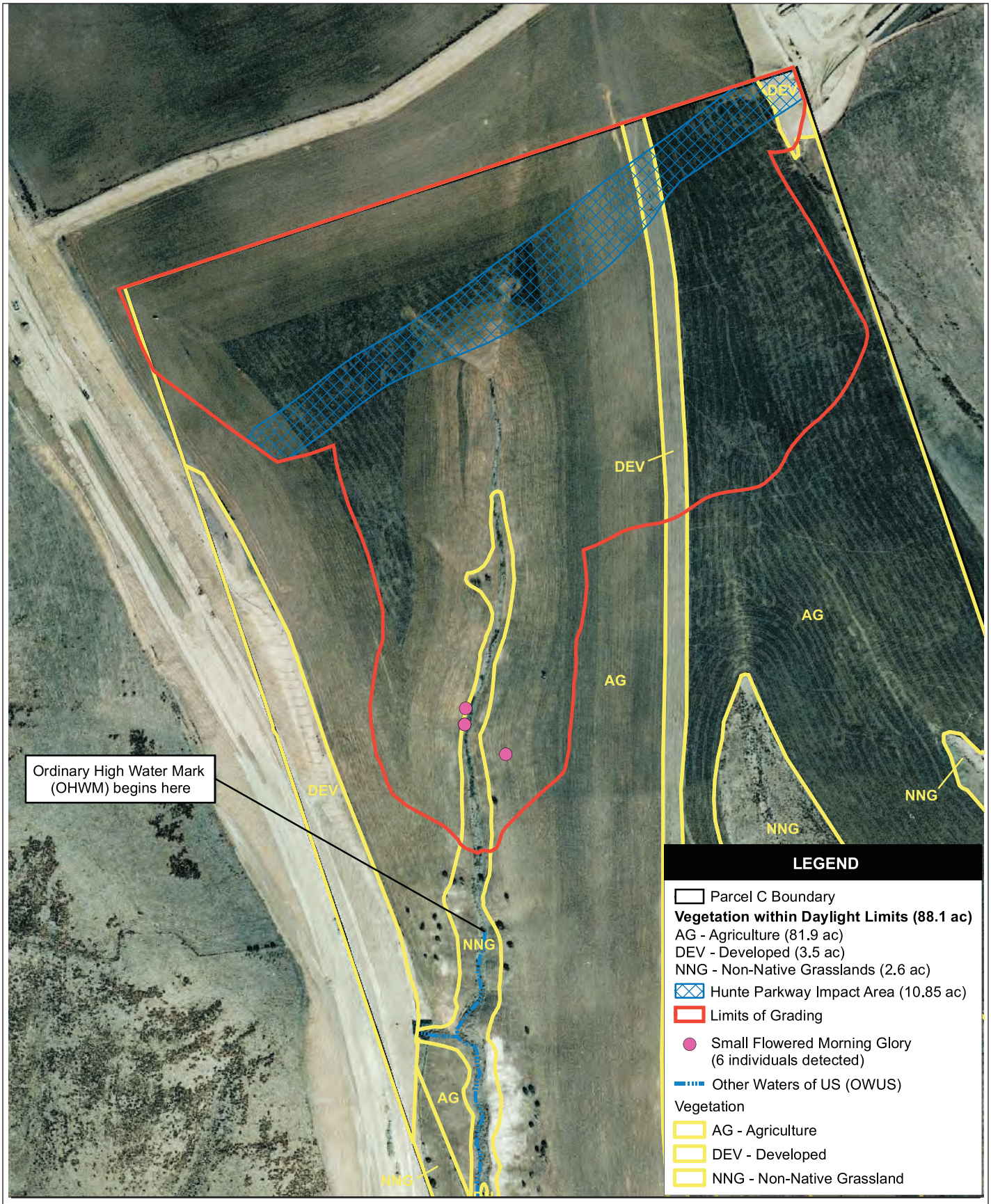
Source: HELIX, 2009.

Figure 4.7-1
Eastern Urban Center
Vegetation and Sensitive Resources



Source: HELIX, 2009.

Figure 4.7-2
Off-site Salt Creek Sewer Lateral Improvement Area Vegetation and Sensitive Resources

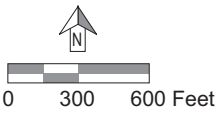


N

0 500 1000 Feet

Source: URS, 2009.

Figure 4.7-3
Off-site Soils Stockpiling Area Vegetation and Sensitive Resources



Source: Cinti Land Planning, 2009.

Figure 4.7-4
Off-site Poggi Canyon Sewer Improvement Area Vegetation and Sensitive Resources

Table 4.7-1

Vegetation Communities (in acres)

Vegetation Community	MSCP Tier	EUC SPA Plan Area	Off-site Salt Creek Sewer Lateral Improvement Area	Off-site Soils Stockpiling Area	Off-site Poggi Canyon Sewer Improvement Area	Total
Upland Communities						
Diegan Coastal Sage Scrub	II	-	0.48	-	-	0.48
Non-native Grassland	III	-	-	2.60	-	2.60
Active Agriculture	IV	159.20	-	82.00	-	241.20
Disturbed Habitat	IV	42.70	0.83	-	-	43.53
Developed	-	4.70	0.10	3.50	0.02	8.32
Wetland Communities						
Cismontane Alkali Marsh	-	-	0.01	-	-	0.01
Southern Willow Scrub	-	-	<0.01	-	-	<0.01
Disturbed Wetland/Tamarisk Scrub	-	-	0.01	-	-	0.01
Total		**206.60**	**1.44**	**88.10**	**0.02**	**296.16**

Source: HELIX 2008, 2009; URS 2008.

California buckwheat (*Eriogonum fasciculatum*), deerweed (*Lotus scoparius*), laurel-leaf sumac (*Malosma laurina*), white sage (*Salvia apiana*), and lemonade-berry (*Rhus integrifolia*). A large portion of the Diegan coastal sage scrub within the study area is part of a current revegetation project as well as habitat preservation areas for mitigation of other projects. Diegan coastal sage scrub is a Tier II Habitat per the City's MSCP Subarea Plan.

Diegan coastal sage scrub does not occur within the EUC SPA Plan, SSA, or the PCSI Area.

(ii) Active Agriculture

Active agriculture consists of plowed lands with some areas still supporting row crops such as wheat (*Triticum aestivum*). A total of 241.2 acres of active agriculture occur within the project area (159.2 acres within the EUC SPA Plan and 82.0 acres within the off-site SSA). Other plants observed were restricted to non-native, weedy species such as tocalote (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), scarlet pimpernel (*Anagallis arvensis*), bindweed (*Convolvulus arvensis*), goosefoot (*Chenopodium* sp.), fennel (*Foeniculum vulgare*), and short-podded mustard (*Hirschfeldia incana*). Non-native grasses observed include wild oat (*Avena barbata*) and red brome (*Bromus madritensis* ssp. *rubens*). Active agriculture does not occur within the SCSL Improvement Area or PCSI Area. Active agriculture is a Tier IV Habitat per the City's MSCP Subarea Plan.

(iii) Non-native Grassland

Where the native vegetation has been disturbed frequently or intensively by grazing, fire, agriculture, or other activities, the native community usually is incapable of recovering. These non-native grassland areas are characterized by weedy, introduced annuals, primarily grasses.

Non-native grassland occupies 2.6 acres, all of which occurs within the SSA, specifically along the ephemeral drainage swale. Species observed within non-native grassland include wild oat, soft chess (*Bromus mollis*), red brome, ripgut grass (*Bromus diandrus*), and foxtail fescue (*Vulpia megalura*). Characteristic forbs observed include red-stemmed filaree (*Erodium cicutarium*), mustards (*Brassica* spp.), and fascicled tarplant (*Deinandra fasciculata*). Non-native grassland is a Tier III Habitat per the City's MSCP Subarea Plan.

Non-native grassland does not occur within the EUC SPA Plan, the SCSL Improvement Area, or the PCSI Area.

(iv) Disturbed

Disturbed habitat is characterized as areas that are devoid of vegetation due to soil disturbance or areas that are dominated by exotic, annual forbs without a major grass component. Disturbed habitat consists of dirt roads and stockpiles of dirt interspersed, or non-tilled areas with non-native species such as Russian thistle and tree tobacco (*Nicotiana glauca*). Disturbed habitat is a Tier IV Habitat per the City's MSCP Subarea Plan.

A total of 43.5 acres of disturbed habitat occur within the project area (42.7 acres within the EUC SPA Plan and 0.8 acre within the SCSL Improvement Area). Disturbed habitat does not occur within the SSA or the PCSI Area.

(v) Developed

Developed land occurs where permanent structures or pavement have been placed, or where landscaping is clearly tended and maintained, preventing the growth of native vegetation. Approximately 8.32 acres of developed land occur within the project area. Of this, 4.7 acres occur within the EUC SPA Plan and consist of a gravel parking lot with construction trailers and equipment stockpiles. The remainder includes 0.1 acre within the SCSL Improvement Area, 3.5 acres in the form of a maintained dirt road within the SSA, and 0.02 acre within the PCSI Area.

(b) Wetland Communities

(i) Cismontane Alkali Marsh

Cismontane alkali marsh is characterized by wet or inundated areas dominated by emergents, but often with an understory of grasses or sedges. Standing water or saturated soil is present during all or most of the year. Characteristic species include yerba manza (*Anemopsis californica*), salt grass (*Distichlis spicata* var. *stricta*), cattails (*Typha* sp.) and rush (*Juncus* sp.). Approximately 0.01 acre of cismontane alkaline marsh occurs along Salt Creek within the SCSL Improvement Area. This area is considered a wetland under the jurisdiction of the ACOE, CDFG, and City WPP.

Cismontane alkali marsh does not occur within the EUC SPA Plan, the SSA, or the PCSI Area.

(ii) Southern Willow Scrub

Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat (*Baccharis salicifolia*), and with scattered emergent cottonwood (*Populus fremontii*) and western sycamores (*Platanus racemosa*). This habitat occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest. In the absence of periodic flooding, this early seral type would be succeeded by southern cottonwood or western sycamore riparian forest.

Less than 0.01 acre of southern willow scrub occurs within the SCSL Improvement Area adjacent to Salt Creek. This area is considered a wetland under the jurisdiction of the CDFG and the City's WPP. Southern willow scrub does not occur within the EUC SPA Plan, the SSA, or the PCSI Area.

(iii) Disturbed Wetland/Tamarisk Scrub

Tamarisk scrub is typically comprised of shrubs and/or small trees of exotic tamarisk species (*Tamarix* spp.), but may also contain willows, salt bushes (*Atriplex* spp.), and salt grass. This habitat occurs along intermittent streams in areas where high evaporation rates increase the salinity level of the soil. Tamarisk is a phreatophyte, a plant that can obtain water from an underground water table. Because of its deep root system and high transpiration rates, tamarisk can substantially lower the water table to below the root zone of native species, thereby competitively excluding them. As a prolific seeder, it may rapidly displace native species within a drainage.

A small stand of tamarisk (*Tamarix parviflora*), totaling approximately 0.01 acre, occurs within the SCSL Improvement Area. This area is considered a wetland under the jurisdiction of the

CDFG and is considered disturbed wetland under the City's WPP. Disturbed wetland/tamarisk scrub does not occur within the EUC SPA Plan, the SSA, or the PCSI Area.

(2) Wildlife

Although the majority of the study areas have undergone routine disturbance for some time, they provide habitat for a number of wildlife species. The following discusses the general wildlife species observed within each of the study areas during surveys conducted by HELIX in 2006 and URS in 2006 and 2007. Sensitive wildlife species observed or potentially occurring are discussed in Section 1.c.(5)(D). Comprehensive lists of wildlife species observed or that have the potential to occur are included in the HELIX and URS technical reports included as Appendices F-6, F-7, and F-8 of this Draft EIR.

(a) Invertebrates

Six invertebrate species were recorded within the project site: the seven-spotted ladybird beetle (*Coccinella septempunctata*), western pygmy blue (*Brephidium exila*), mourning cloak (*Nymphalis antiopa*), anise swallowtail (*Papilio zelicaon*), cabbage white (*Pontia rapae*), and common checkered-skipper (*Pyrgus communis*).

Butterfly species recorded within the SCSL Improvement Area during the focused QCB surveys include the western pygmy-blue, west coast lady (*Vanessa annabella*), painted lady (*Vanessa cardui*), Sara orangetip (*Anthocharis sara sara*), common California ringlet (*Coenonympha californica*), western tiger swallowtail (*Papilio rutulus*), common buckeye (*Junonia eoenia grisea*), Behr's metalmark (*Apodemia mormo virgulti*), funereal duskywing (*Erynnis funeralis*), queen (*Danaus gilippus*), and common white (*Pontia protodice*).

Butterfly species observed within the SSA include Sara orangetip, common white, painted lady, funereal duskywing, and white checkered skipper (*Pyrgus albescens*).

Since the PCSI Area is comprised of asphalt within the Olympic Parkway right-of-way it does not provide any resources for invertebrate species. Therefore, with the exception of species in the area flying through or across this area, no invertebrate species are expected to be resident within the PCSI Area.

(b) Amphibians

The EUC SPA Plan and SSA are not expected to support amphibian species due to the history of disturbance, lack of moisture, and lack of native habitats. One amphibian species, the Pacific treefrog (*Hyla regilla*), was observed within the SCSL Improvement Area. In addition, since the PCSI Area is comprised of asphalt within the Olympic Parkway right-of-way, no amphibians are expected.

(c) Reptiles

Reptilian diversity and abundance typically varies with habitat type and character. Some species prefer only one or two plant communities; however, most will forage in a variety of communities. A number of reptile species prefer open habitats that allow free movement and high visibility. Most species occurring in open habitats rely on the presence of small mammal burrows for cover and escape from predators and extreme weather. One reptile species was observed within the EUC SPA Plan, the gopher snake (*Pituophis catenifer*); two species were observed within the SSA, the western fence lizard (*Sceloporus occidentalis biseriatus*) and southern Pacific rattlesnake (*Crotalus oreganus helleri*); and two species were observed within the SCSL Improvement Area, the western fence lizard (*Sceloporus occidentalis)* and gopher snake (*Pituophis catenifer*). No reptile species were observed within the PCSI Area and none are expected because the PCSI Area is comprised of asphalt within the Olympic Parkway right-of-way.

(d) Birds

Despite their disturbed nature, the EUC SPA Plan and SSA provide foraging and cover opportunities for a variety of bird species adapted to these conditions and commonly found in developed areas. Representative species observed include killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), white-crowned sparrow (*Zonotrichia leucophyrys*), northern mockingbird (*Mimus polyglottos*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), and western meadowlark (*Sturnella neglecta*).

The PCSI Area is comprised of asphalt within the Olympic Parkway right-of-way and does not provide any resources for bird species. Therefore, with the exception of species in the area flying through or across this area, no bird species are expected to be resident within the PCSI Area.

The SCSL Improvement Area is surrounded by native coastal sage scrub and riparian habitats that have the potential to support a wide variety of bird species. Bird species observed within the SCSL Improvement Area that are typical of these habitat types include bushtit (*Psaltriparus minimus*), ruby-crowned kinglet (*Regulus calendula*), and Anna's hummingbird. A complete listing of all bird species observed or that have the potential to occur within the SCSL Improvement Area is provided in Appendix F.

The EUC SPA Plan, SCSL Improvement Area, and SSA provide foraging opportunities for raptor species in the form of open space with low-growing vegetation and riparian trees (riparian trees only occur within the off-site SCSL Improvement Area). Raptor species observed within the EUC SPA Plan include red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), and American kestrel (*Falco sparverius*). Two raptor species observed within the off-site SCSL Improvement Area, the red-tailed hawk and Cooper's hawk.

Raptor species observed within the off-site SSA include golden eagle (*Aquila chryseatos*), red-tailed hawk, and American kestrel. Since the off-site PCSI Area is comprised of asphalt within the Olympic Parkway right-of-way it does not provide any resources for raptor species. Therefore, with the exception of species in the area flying through or across this area, no raptor species are expected to be resident within the off-site PCSI Area.

(e) Mammals

Mammal species observed within the EUC SPA Plan and SSA include Botta's pocket gopher (*Thomomys bottae*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi nudipes*), and coyote (*Canis latrans*). Mammal species observed within the off-site SCSL Improvement Area include coyote, bobcat (*Lynx rufus*), San Diego black-tailed jackrabbit, and desert cottontail.

Since the PCSI Area is comprised of asphalt within the Olympic Parkway right-of-way it does not provide any resources for mammal species. Therefore, with the exception of species in the area traveling through or across this area between other habitat areas, no mammal species are expected to be resident within the PCSI Area.

(3) Wildlife Movement

The EUC SPA Plan, SSA, and PCSI Area do not contain any identified wildlife movement corridors and no movement corridors were assigned within these areas by the Otay Ranch RMP (Wildlife Corridor Study, Ogden 1992).

The SCSL Improvement Area is located within Salt Creek Canyon, a regional corridor for local bird species. Salt Creek Canyon provides cover habitat for north-south movement for species traveling from the Otay River area to the south of the study area to the Otay Reservoir or other open space areas of the MSCP and Otay Ranch.

(4) Jurisdictional Delineation Results

The EUC SPA Plan does not support any features that would be regulated by the ACOE, RWQCB, or CDFG. Three potential drainages were observed in the southern portion of the project site. The portions of the drainages that occur within the project site are at the upper reaches of non-jurisdictional drainages that continue off-site to the south. These features are gently sloping, shallow swales that do not exhibit an ordinary high water mark (OHWM) and do not support hydrophytic vegetation. A previous wetland delineation conducted by Recon in December 1998 as part of a larger project also did not observe any ACOE, RWQCB, or CDFG jurisdictional areas within the EUC SPA Plan. Additionally, no Wetlands, as defined by the City's MSCP WPP, occur within the project site. Two varieties of one soil type occur within the

project site: Diablo clay (two to nine percent slopes) and Diablo clay (nine to 15 percent slopes). Diablo clays typically support upland communities that are dominated by grasses.

The SCSL Improvement Area supports a portion of Salt Creek as shown in Figure 4.7-2. Total jurisdiction includes 0.03 acre of RWQCB/CDFG wetland waters of the State, of which 0.01 acre is identified as ACOE wetland waters of the U.S. The entire 0.03 acre meets the City's definition of protected Wetlands. Four soil types are mapped within the off-site SCSL Improvement Area, Diablo-Olivenhain complex (nine to 30 percent slopes), Huerhuero loam (15 to 30 percent slopes), Olivenhain cobbly loam (nine to 30 percent slopes), and Salinas clay loam (two to nine percent slopes).

The SSA supports a portion of one ephemeral drainage swale mapped within the non-native grassland as shown in Figure 4.7-3. However, the swale lacks any indicators of an OHWM and is not considered jurisdictional under ACOE or CDFG regulations.

No jurisdictional areas occur within the off-site PCSI Area since this area is within the paved right-of-way of Olympic Parkway.

(5) Sensitive Biological Resources

The following discussion describes the plant and wildlife species present, or potentially present, within each of the study areas that have been afforded special recognition by Federal, State, or local resource conservation agencies and organizations, principally due to the species' declining or limited population sizes, usually resulting from habitat loss. Also discussed are habitats that are unique, of relatively limited distribution, or of particular value to wildlife.

(a) Sensitive Vegetation Communities

Sensitive vegetation communities are those that have been depleted, are naturally uncommon, or support sensitive species. Some habitats considered sensitive in the City are vernal pools and other wetland communities, Diegan coastal sage scrub, maritime succulent scrub, and native and non-native grassland. The EUC SPA Plan, SSA, and PCSI Area do not contain any sensitive vegetation communities. The SCSL Improvement Area supports three vegetation communities considered sensitive: 0.01 acre of cismontane alkali marsh, less than 0.01 acre of southern willow scrub, and 0.48 acre of Diegan coastal sage scrub.

(b) Sensitive Plant Species

Sensitive plant species are those that are considered unusual or limited in that the species are (1) only found in the San Diego region, (2) a local representative of a species or association of species not otherwise found in the region, or (3) severely depleted within their ranges or within

the region.[2] No sensitive plant species were observed within the EUC SPA Plan or off-site PCSI Area.

Three sensitive plant species were observed within the SCSL Improvement Area, southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), San Diego marsh-elder (*Iva hayesiana*), and San Diego County viguiera (*Viguiera laciniata*). Approximately 45 individuals of southwestern spiny rush, a CNPS List 4.2 species, were observed scattered along the edges of the Salt Creek channel. Three individuals of marsh-elder, a CNPS List 2.2 species, were observed along the upper portions of the drainage and 31 individuals of San Diego County viguiera, a CNPS List 4.2 species, were observed within the study area. None of these three species are MSCP covered species. No City Narrow Endemic species were observed within the SCSL Improvement Area. The Phase 1 RMP identifies the San Diego barrel cactus (*Ferocactus viridenscens*) as occurring in the vicinity of the SCSL Improvement Area; however, this species was not observed during the biological surveys. One additional sensitive plant species was observed within the SSA, the small-flowered morning glory (*Convolvulus simulans*), a CNPS List 4.2 species. A total of six individuals were observed within three locations as shown in Figure 4.7-3. Small-flowered morning glory is not a MSCP Covered Species.

No other sensitive plant species were observed during rare plant surveys, nor were any City Narrow Endemic (NE) species observed. Table H-1, *Sensitive Plant Species,* can be found in Appendix H-9.

(c) Sensitive Wildlife Species

Sensitive wildlife species include those species that are listed as endangered or threatened under the FESA or CESA, candidates for listing by the USFWS or CDFG, and species of special concern to the CDFG. Also considered are those species that are (1) only found in the San Diego region, (2) a local representative of a species or association of species not

[2] *California Department of Fish and Game (CDFG). 2007. RareFind. California Natural Diversity Database Search for the Otay Mesa quad.*

California Department of Fish and Game (CDFG). July 2008. State and Federally Listed Endangered, Threatened, and Rare Plants of California. California Natural Diversity Database. http://www.dfg.ca.gov/bdb/pdfs/TEPlants.pdf.

California Department of Fish and Game (CDFG). July 2008. Special Vascular Plants, Bryophytes, and Lichens List. California Natural Diversity Database. Quarterly publication. 70 pp.

California Native Plant Society (CNPS). 2007. Nine quad search of the Online Inventory of Rare and Endangered Plants for the Otay Mesa quad.

City of Chula Vista. February 2003. City of Chula Vista MSHCP Subarea Plan. Sections 4.1, 4.2, and 4.3.

otherwise found in the region, or (3) a species that is considered severely depleted within its range or within the region.[3]

(i) EUC SPA Plan Area

Two sensitive wildlife species were observed within the EUC SPA Plan: the northern harrier [a California Special Concern (CSC) species and MSCP Covered Species] and San Diego black-tailed jackrabbit (CSC) as shown in Figure 4.7-1. One additional sensitive wildlife species, the white-tailed kite (*Elanus leucurus*) [State Fully Protected (SFP)], was observed just off-site but can be expected to forage within the study area. No fairy shrimp were observed within the EUC SPA Plan during focused surveys.

Additional sensitive wildlife species with the potential to occur within the EUC SPA Plan include the golden eagle (CSC and MSCP Covered Species), Cooper's hawk (MSCP Covered Species), ferruginous hawk (*Buteo regalis*) (MSCP Covered Species), Swainson's hawk (*Buteo swainsoni*) [Bird of Conservation Concern (BCC), Federal Threatened (FT), and MSCP Covered Species], prairie falcon (*Falco mexicanus*) (BCC), American peregrine falcon (*Falco peregrinus anatum*) [BCC, State Endangered (SE), SFP, and MSCP Covered Species], long-billed curlew (*Numenius americanus*) (BCC and MSCP Covered Species), loggerhead shrike (*Lanius ludovicianus*) (BCC, CSC), and tri-colored blackbird (*Agelaius tricolor*) (BCC, CSC, and MSCP Covered Species).

(ii) Off-site Soils Stockpiling Area

Three sensitive wildlife species were observed during a winter raptor survey of the SSA: the golden eagle, northern harrier, and burrowing owl (all of which are MSCP Covered Species). These three species were primarily observed foraging or perched in the river valley slopes substantially south (>2,000 feet) of the limits of disturbance. The burrowing owl was not observed during the spring focused burrow survey.

Additional sensitive wildlife species with the potential to occur within the SSA include the coast horned lizard (*Phrynosoma coronatum*) (CSC, MSCP Covered Species), Cooper's hawk, ferruginous hawk, Swainson's hawk, prairie falcon, American peregrine falcon, long-billed curlew, loggerhead shrike, and tri-colored blackbird.

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[3] *California Department of Fish and Game (CDFG). February 2008. Special Animals. California Natural Diversity Database. 60 pp.*

California Department of Fish and Game (CDFG) May 2008. State and Federally Listed Endangered and Threatened Animals of California. California Natural Diversity Database. 12 pp.

City of Chula Vista. February 2003. City of Chula Vista MSHCP Subarea Plan. Sections 4.1, 4.2, and 4.3.

U.S. Fish and Wildlife Service (USFWS). 2002. Birds of Conservation Concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. Online version available at http://migratorybirds.fws.gov/reports/bcc2002.pdf.

(iii) Off-site Salt Creek Sewer Lateral Improvement Area

One sensitive animal species, the coastal California gnatcatcher was observed/detected on-site or in the immediate project vicinity during surveys conducted in 2006, 2007 and 2008. The Phase 1 RMP identifies several sensitive species as occurring within the project vicinity, including cactus wren (*Campylorhynchus brunneicapillus couesi*) and coastal California gnatcatcher; however, only the gnatcatcher was observed during the updated project-specific surveys.

Surveys for the QCB for the project in 2007 and 2008 were negative. In addition, the results of the updated biological surveys did not identify any significant dwarf plantain patches within the project study area. Given the disturbed nature of the site, the low number of dwarf plantain and nectaring resources, and negative results from updated and previous site surveys, the potential for the QCB to occur on-site is considered low.

Additional sensitive wildlife species with the potential to occur within the SCSL Improvement Area include the coast horned lizard, Coronado skink (*Eumeces skiltonianus interparietalis*) (CSC), orange-throated whiptail (*Cnemidophorus hyperythrus*) (CSC, MSCP Covered Species), silvery legless lizard (*Anniella pulchra pulchra*) (CSC), coast patch-nosed snake (*Salvadora hexalepis virgultea*) (CSC), white-tailed kite, northern harrier, golden eagle, Cooper's hawk, ferruginous hawk, Swainson's hawk, prairie falcon, American peregrine falcon, long-billed curlew, loggerhead shrike, tri-colored blackbird, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*) (CSC), and San Diego desert woodrat (*Neotoma lepida intermedia*) (CSC).

(iv) Off-site Poggi Canyon Sewer Improvement Area

No sensitive wildlife species were observed within the PCSI Area and none are expected to occur due to the lack of suitable habitat.

Table H-2, *Sensitive Wildlife Species* can be found in Appendix H-9.

4.7.2. THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts to biological resources would be significant if the proposed project would:

Threshold 1: *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Wildlife Service;*

Threshold 2: *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service;*

Threshold 3: *Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;*

Threshold 4: *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;*

Threshold 5: *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,*

Threshold 6: *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.*

4.7.3. IMPACT ANALYSIS

Threshold 1: *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Wildlife Service?*

A. Sensitive Plant Species

(1) EUC SPA Plan Area

As no sensitive plant species were observed or are expected to occur within the EUC SPA Plan, no impacts to sensitive plant species would occur.

(2) Off-site Soils Stockpiling Area

Approximately six individuals of small-flowered morning glory would be impacted. Given the low sensitivity status of this species (CNPS List 4.2; not MSCP Narrow Endemic or Covered Species) and the small number of individuals affected, impacts are not expected to affect regional populations of this species and are considered less-than-significant.

(3) Off-site Salt Creek Sewer Lateral Improvement Area

Southwestern spiny rush and San Diego marsh elder would not be impacted during the modifications to the Salt Creek Interceptor as the project proposes a jack and bore construction process to tunnel horizontally under Salt Creek. Approximately 15 individuals of San Diego County viguiera would be impacted; however, due to the low sensitivity of this species (CNPS List 4.2; not MSCP Narrow Endemic or Covered Species) and the limited number of individuals, impacts are not expected to affect regional populations of this species and are considered less-than-significant.

(4) Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area is completely developed. No sensitive plant species occur on the site; therefore, no impacts to sensitive plant species will occur within the off-site PCSI Area.

B. Sensitive Wildlife Species

(1) EUC SPA Plan Area

Direct impacts would occur to the northern harrier, San Diego black-tailed jackrabbit, and the white-tailed kite through loss of 159.2 acres of agricultural land, which serves as foraging habitat for these species. Impacts to these species would be considered significant. Nesting impacts to raptor species are not anticipated to occur, as no raptor nests have been observed on the EUC SPA Plan and the EUC SPA Plan does not support any trees. Ground-nesting raptor species (specifically northern harrier) have low potential to nest on the EUC SPA Plan. If pre-construction surveys for northern harrier are positive, impacts would be considered significant.

Although no active burrowing owl burrows were found within the project footprint during project surveys, there is potential for both burrowing owl burrow sites and foraging habitat within the project footprint. If pre-construction survey results are positive, impacts would be considered significant.

If removal of vegetation occurs during the breeding season (January 15 through August 15) and nesting bird species are present, these impacts would be considered significant because the project would be in violation of the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Section 3503 as described further under Threshold 4.

Potential indirect project impacts resulting from development may include secondary effects of the project, such as habitat insularization, lighting, noise, exotic plant species, nuisance animal species, and human intrusion. These indirect impacts can occur from commercial, industrial, or residential land uses. The magnitude of an indirect impact can be the same as a direct

impact; however, the effect usually takes a longer time to become apparent. Because the City's MSCP Preserve is not located within or adjacent to the EUC SPA Plan, and because no habitat for sensitive plant or animal species will be retained on the project site following project implementation, the project will not result in any indirect impacts to sensitive plant or animal species. Furthermore, the areas surrounding the EUC site have been developed or disturbed and no areas of sensitive habitat would be located adjacent to the developed project site.

(2) Off-site Soils Stockpiling Area

If removal of vegetation occurs during the breeding season (January 15 through August 15) and nesting bird species are present, these impacts would be considered significant because such activity would be in violation of the MBTA and California Fish and Game Code.

(3) Off-site Salt Creek Sewer Lateral Improvement Area

Impacts could result to the coastal California gnatcatcher as a result of temporary loss of habitat and construction activities involving the clearing of occupied habitat within a 100 Percent Conservation Area from February 15 through August 15. Impacts associated with the temporary loss of CSS habitat and clearing of occupied habitat during the California gnatcatcher breeding season are considered significant.

Nesting impacts to raptor species are not anticipated to occur, as no raptor nests have been observed on-site; however several large trees occur near the project site that have the potential to support raptor nests. If removal of vegetation occurs during the breeding season (January 15 through August 15) and nesting bird species are present, these impacts would be considered significant.

The surveys results for QCB did not identify either QCB or significant QCB habitat patches. Impacts to QCB are considered less-than-significant.

(a) Indirect Impacts

Potential indirect project impacts resulting from modifications to the Salt Creek Interceptor may include secondary effects of the proposed project, such as habitat insularization, lighting, noise, exotic plant species, nuisance animal species, human intrusion, and raptor foraging/nesting. The magnitude of an indirect impact can be the same as a direct impact; however, the effect usually takes a longer time to become apparent. Modifications to the Salt Creek Interceptor would occur within the City's MSCP Preserve and has the potential to indirectly impact animal species occurring within the Preserve, and adjacent mitigation areas associated with the Eastern Otay Ranch Drainage Facilities project, Hunte Parkway project, and Otay Ranch Village Eleven project.

(i) Habitat Insularization

Habitat insularization is the fragmentation of large habitat areas into smaller islands effectively isolated from one another. No significant impacts are expected to occur as a result of habitat insularization in the SCSL Improvement Area or adjacent mitigation parcels given the projects relatively small size and disturbed nature of the existing areas surrounding the site.

(ii) Drainage/Water Quality

Potentially significant impacts to water quality could occur during construction as a result of erosion and sedimentation. The use of structural and non-structural BMPs and Best Available Technology (BAT) would reduce the impacts associated with construction. Prior to the commencement of grading, a Notice of Intent shall be filed with the RWQCB for a National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit. Specific permit requirements include implementation of an approved Storm Water Pollution Prevention Plan, which requires BMPs for erosion and sediment control related to construction activities.

(iii) Lighting

Night lighting exposes adjacent wildlife species to an unnatural light regime, may alter their behavior patterns, and consequently result in a loss of species diversity. Given the limited scope of the project, and that construction lighting, if needed, will be limited to an hour or two in the evenings, no significant indirect impacts are expected within the SCSL Improvement Area or adjacent mitigation sites.

(iv) Noise

Indirect noise impacts to breeding coastal California gnatcatchers and raptors could occur if clearing, grubbing, grading, and pumping associated with the proposed high-line, or other construction activities create noise in excess of an hourly average of 60 decibels (dB) hourly average in occupied coastal sage scrub habitat adjacent to the SCSL Improvement Area during raptor or gnatcatcher breeding season: January 15 through August 15, and February 15 through August 15, respectively.

(v) Exotic Plant Species

Potentially significant impacts could occur if non-native plants colonize areas disturbed by construction. Many of these non-native plants are highly invasive and can displace native plant species, reduce species diversity (increasing flammability and fire frequency), change ground and surface water levels, and adversely affect the native wildlife that are dependent on native vegetation.

(vi) Nuisance Animal Species

The proposed project has the potential for nuisance animals to impact native wildlife. Given the nature of the proposed project, the only potential would be the attraction of American crow (*Corvus brachyrhynchos*) and common raven (*Corvus corax*) if significant amounts of trash were left in the area. Given the limited scope of the proposed project, and the fact that significant amounts of trash would not be generated by project construction, no significant indirect impacts are expected to occur within the SCSL Improvement Area or adjacent mitigation sites.

(vii) Human Intrusion

Increases in human activity in natural areas could result in degradation of sensitive vegetation communities by fragmenting habitat, forming edges (through creation of roads and trails), and removing existing plants. Sensitive animal species that utilize the preserve areas could possibly be impacted by human entry into the native habitat areas. Due to the presence of sensitive plants, animals, and sensitive habitats, these potential indirect impacts would be considered significant both within the SCSL Improvement Area and adjacent mitigation sites.

(4) Off-site Poggi Canyon Sewer Improvement Area

No impacts to sensitive wildlife species would occur within the off-site PCSI Area.

Threshold 2: *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service?*

(1) EUC Project Site

The EUC project site does not support any sensitive plant communities; therefore, no impacts to sensitive plant communities would occur within the EUC project site. Impacts to agricultural land, disturbed habitat, and developed land within the EUC project site are less than significant.

(2) Off-site Salt Creek Sewer Lateral Improvement Area

Modifications to the Salt Creek Interceptor would impact 0.16 acre of Diegan coastal sage scrub (MSCP Tier II Habitat). These impacts are considered to be significant. Impacts to disturbed habitat and developed lands within the improvement area are less than significant.

Modifications associated with the SCSL Improvement would not impact wetland communities as a result of project design and method of construction.

Placement of the temporary high line will not require any clearing, grubbing, or grading that would require the removal of existing vegetation, and is not anticipated to result in significant direct or indirect impacts to biological resources because it will be located within existing disturbed areas or areas to be impacted by the proposed project. A small segment of the temporary high-line however will traverse undisturbed, native vegetation. Sensitive biological resources could be impacted as a result of careless placement of the temporary facility. These impacts would be considered significant.

Indirect impacts could occur as the proposed jack and bore process has the potential to cause a "frac-out". A frac-out may potentially occur if drilling slurry (silica clays) ruptures the surface of the area above which the horizontal drilling is occurring, thus resulting in the potential for the drilling slurry to escape to the surface. Should a frac-out occur, impacts would be considered significant.

(3) Off-site Soils Stockpiling Area

The SSA project site does not support any sensitive plant communities; therefore, no impacts to sensitive plant communities would occur within the EUC project site.

(4) Off-site Poggi Canyon Sewer Improvement Area

The PCSI project site does not support any sensitive plant communities; therefore, no impacts to sensitive plant communities would occur within the EUC project site.

Threshold 3: *Would the project have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

A. EUC SPA Plan Area

No wetlands were identified within the EUC SPA Plan; therefore, no impacts to federally-protected wetlands would occur within the EUC SPA Plan.

B. Off-site Soils Stockpiling Area

No wetlands were identified within the SSA; therefore, no impacts to federally-protected wetlands would occur within the SSA. Indirect impacts may occur to the jurisdictional feature

downstream of the SSA due to changes in hydrology caused by the proposed project. These indirect impacts to the downstream jurisdictional feature are considered potentially significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

A total of 0.01 acre of ACOE wetland waters of the U.S. were identified within the SCSL Improvement Area. Wetland impacts will be avoided by the use of a non-invasive, jack and bore, construction technique to tunnel horizontally underneath the subject drainage. Therefore, no direct impacts to federally-protected wetlands would occur within the SCSL Improvement Area. Modifications associated with the SCSL, however, have the potential to result in indirect impacts to jurisdiction wetland waters in the event of a frac-out as discussed in Threshold 2.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area is completely developed and no wetlands occur. Therefore, no impacts to federally-protected wetlands would occur within the PCSI Area.

Threshold 4: *Would the 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?*

The EUC SPA Plan area, off-site SSA, and off-site PCSI Area are not within a regional wildlife corridor and would not impact regional wildlife movement.

The SCSL Improvement Area is located within a regional corridor for local bird species. However, because the proposed modifications are located below ground and construction impacts are temporary, modifications associated with the SCSL would not preclude continued use of this area as a regional movement corridor. Impacts to identified movement corridors are considered less-than-significant.

All migratory bird species that are native to the U.S. or its territories are protected under the federal MBTA. The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the USFWS places restrictions on disturbances allowed near active raptor nests. In addition, raptors and active raptor nests are protected by the California Fish and Game Code Section 3503, which states that it is “unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird” unless authorized by the CDFG.

The EUC SPA Plan, SCSL Improvement Area, and SSA have the potential to support nesting songbirds protected by the MBTA and California Fish and Game Code. Nesting activity

typically occurs between January 15 through August 31. The removal of vegetation during the breeding season is considered a potentially significant impact.

Thresholds 5 and 6: *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.*

A. Otay Ranch Resource Management Plan

The RMP has establishes performance standards for achieving an 11,375-acre Otay Ranch open space Preserve. Compliance relies on progressive acquisition, or funding for acquisition, of the designated Otay Ranch Preserve areas with each development approval. The proposed project would have an indirect, long-term, potentially significant impact related to biological resources management unless the Otay Ranch regional open space is preserved proportionally and concurrently with development. Future final maps will be required to convey open space in accordance with the RMP at a rate of 1.188 acres for each acre of development area. Table 4.7-2, *EUC Conveyance Obligation*, on page 4.7-31 provides an estimate of the conveyance acreage required on the current Tentative Maps.

B. City of Chula Vista MSCP Subarea Plan

The EUC SPA Plan and all off-site areas are within the City of Chula Vista MSCP Subarea Plan and are subject to the terms and conditions of the MSCP as it applies to the "take" of plant and wildlife species identified and covered within the MSCP. The EUC SPA Plan, SSA, and PCSI Area are not within or adjacent to the MSCP Preserve area and the MSCP designates these areas as "development area within a Covered Project" (i.e., Otay Ranch).

(1) Facilities Siting Criteria

Modifications associated with the SCSL Improvement are considered a modification to an existing Planned Facility (Salt Creek Interceptor) under the City's MSCP Subarea Plan and is an allowed use within the Preserve subject to the siting criteria identified in Section 6.3.3.4 of the City's Subarea Plan. The following is an analysis of the facilities siting criteria (Section 6.3.3.4 and Table 6-1 of the Subarea Plan) relative to the modifications associated with the SCSL Improvement:

(a) Such facilities will be located in the least environmentally sensitive location feasible, and use existing roads, trails and other disturbed areas, including use of the active recreation areas in the Otay River Valley, as much as possible (except where such areas are occupied by the QCB). Facilities should be routed through developed or developing areas where possible. If

Table 4.7-2

EUC Conveyance Obligation

Development	Acreage
Total Developable EUC Land Area	206.6
Common Uses Not Calculated as Part of Conveyance Obligation:	
Parks	12.88
Other Amenities	2.75
Regional Trail	0.95
BRT	2.22
School	6.00
Fire Station	1.07
Library	3.00
Subtotal Acreage of Common Uses	28.87
Total Developable Acreage (minus acreage for Common Uses)	177.73
Per Acre Conveyance	1.188
Estimated Total Conveyance Acreage	211.14*

* *Final conveyance acreage will be determined at the time of final map.*

no other routing is feasible, alignments should follow previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.

The SCSL Improvement Area site is predominantly located within disturbed or developed areas consisting of existing paved and dirt access roads, dirt staging areas, and underground sewer and water lines. Several habitat restoration areas occur adjacent to the SCSL Improvement Area site but will be avoided as a result of project design and method of construction. The segment of pipe traversing Salt Creek will be installed using a non-invasive jack and bore technique to tunnel the pipe horizontally underneath the drainage.

No sensitive plant species are significantly impacted by the modifications associated with the SCSL Improvement and temporary impacts to CSS will be re-vegetated in accordance with Mitigation Measure 4.7-5. The coastal California gnatcatcher occurs on both sides of the SCSL Improvement Area ; therefore, realigning the SCSL Improvement in either direction would not reduce impacts to this species.

A temporary by-pass pumping system to pump existing sewer flows from an upstream manhole to a downstream manhole using a temporary highline is expected during construction. The highline will consist of one or two 4-inch diameter flexible pipe and will be laid on the ground surface and will not involve any excavation or surface disturbance. In addition, by-pass pumping system redundancy will be provided in case of failure of the primary system in order to prevent sewage spillage into the preserve and other environmentally sensitive areas. Therefore, the modifications associated with the SCSL facility and temporary highline have been designed and sited in the least environmentally sensitive locations feasible and demonstrates conformance with this criterion.

(b) Such facilities shall avoid, to the maximum extent practicable, impacts to Covered Species and Wetlands, and will be subject to the provisions, limits, and mitigation requirements for Narrow Endemic Species and Wetlands pursuant to Section 5.2.3 and 5.2.4 of the Subarea Plan.

No covered Narrow Endemic Species are affected by the proposed modifications. Therefore, impacts are considered less-than-significant and this criterion is satisfied.

A majority of the SCSL Improvement Area occurs within disturbed areas and will not impact Covered Species. Impacts to Diegan coastal sage scrub, including areas occupied by the coastal California gnatcatcher, cannot be avoided by the proposed modifications. Wetland impacts have been avoided as the segment of pipe traversing Salt Creek will be installed using a non-invasive jack and bore technique to tunnel the pipe horizontally underneath the drainage. Modifications associated with the SCSL Improvement have been designed to parallel the existing sewer lateral. Re-aligning the SCSL would require a larger construction area which is not practical because the proposed modifications must connect to the existing facility at fixed points (i.e., manholes) located up- and downstream of the proposed project. Therefore, the facility including the construction of which, has been sited and designed to avoid, to the maximum extent practicable, impacts to Covered Species and Wetlands. Therefore this criterion has been satisfied.

(c) Where roads cross the Preserve, they should provide for wildlife movement in areas that are graphically depicted on and listed in the MSCP Subregional Plan Generalized Core Biological Resource Areas and Linkages map (Figure 1-4) as a core biological area or a regional linkage between core biological areas. All roads crossing the Preserve should be designed to result in the least impact feasible to Covered Species and Wetlands. Where possible at wildlife crossings, road bridges for vehicular traffic rather than tunnels for wildlife use will be employed. Culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. To the extent feasible, crossings will be designed as follows: the substrate will be left in a natural condition or revegetated if soils engineering requirements force subsurface excavation and vegetated with native vegetation if possible; a line-of-sight to the other end will be provided; and if necessary, low-level illumination will be installed in the tunnel.

The proposed modifications associated with the SCSL Improvement do not include or require the construction of new roads. Therefore this criterion is not applicable.

(d) To minimize habitat disruption, habitat fragmentation, impediments to wildlife movement and impact to breeding areas, road and/or right-of-way width shall be narrowed from existing City design and engineering standards, to the maximum extent practicable. In addition, roads shall be located in lower quality habitat or disturbed areas to the maximum extent practicable.

The proposed modifications associated with the SCSL Improvement do not include or require the construction of new roads. Therefore this criterion is not applicable.

(e) Impacts to Covered Species and habitats within the Preserve resulting from construction of Future Facilities will be evaluated by the City during project review and permitting. The City may authorize Take for impacts to Covered Species and habitats resulting from construction of Future Facilities located outside the Preserve, pursuant to the Subarea Plan and consistent with the Facility Siting Criteria in this Section.

The SCSL Improvement is a modification to an existing Planned Facility (Salt Creek Interceptor) under MSCP Section 6.3.3.1; therefore, the criterion pertaining to Future Facilities does not apply.

(f) The City may authorize "Take" for impacts to Covered Species resulting from construction of Future Facilities located within the Preserve, subject to a limitation of 2 acres of impact for individual projects and a cumulative total of 50 acres for all Future Facilities. Wildlife Agency concurrence will be required for authorization of Take for any impacts to Covered Species and habitat within the Preserve that exceed 2 acres that may result from construction of any individual Future Facility. Wildlife Agency concurrence will be required for authorization of Take for impacts to Covered Species and habitat within the Preserve that exceed 50 acres that may result from all Future Facilities combined.

The SCSL Improvement is a modification to an existing Planned Facility (Salt Creek Interceptor) under MSCP Section 6.3.3.1; therefore, the criterion pertaining to Future Facilities does not apply.

(g) Planned and Future Facilities must avoid impacts to covered Narrow Endemic Species and the QCB to the maximum extent practicable. When such impacts cannot be avoided, Planned and Future facilities located within the Preserve are subject to the provisions of Section 5.2.3.6 of the Subarea Plan. Impacts to QCB that will result from construction of Planned and Future Facilities within the Preserve are subject to the provisions of Section 5.2.8 of the Subarea Plan.

No Narrow Endemic Species were observed during the updated surveys conducted for the SCSL Improvement. Likewise, updated QCB surveys were also conducted for the SCSL Improvement Area and the results were negative. Therefore, the project as designed, will avoid impacts to covered Narrow Endemic Species and the QCB and this criterion is satisfied.

(2) Additional Measures

In accordance with Section 5.2.8.1 of the Subarea Plan, infrastructure projects constructed within the Preserve will be subject to the following sequence of measures to avoid and minimize impacts to QCB and QCB habitat:

(a) A habitat assessment will be conducted in potential facility locations as part of the project siting and design process.

As noted above, multiple habitat assessments have been conducted within the SCSL Improvement Area. Therefore, this criterion has been satisfied.

(b) QCB surveys will be conducted in appropriate habitat by a qualified biologist in accordance with the most recent survey protocol adopted by the USFWS.

Surveys for the QCB using current USFWS protocol were conducted by HELIX in 2007 and 2008 and by Dudek in 1999 with negative results. Therefore this criterion has been satisfied.

(c) If QCB are observed within the proposed project area, the project will be designed to avoid impacts to QCB habitat to the maximum extent practicable.

No QCB were observed within or adjacent to the SCSL Improvement Area, and no avoidance is required. Therefore this criterion has been satisfied.

(d) The following avoidance criteria will be applied specifically to Preserve Habitat-Category A areas located east of SR 125.

No QCB or significant patches of dwarf plantain were observed within SCSL Improvement Area. Therefore, this criterion has been satisfied.

(e) For construction in areas adjacent to occupied habitat, dust control measures (i.e., watering) will be applied during grading activities.

Because there is no occupied habitat adjacent to the SCSL Improvement Area, this measure does not apply. Therefore, this criterion has been satisfied.

(f) As part of the overall Preserve management strategy, a weed control program will be established for all water/sewer line access roads built through potential QCB habitat. This will include road construction using a concrete-treated base material with aggregate rock to prevent vegetation growth on the road surface, while allowing sufficient percolation to minimize flows. The zone of influence to be subject to the weed control program will be determined by the City's Habitat Manager based on-site-specific conditions.

The project will utilize existing access roads and no modifications are required. Therefore, this criterion is satisfied.

(3) Implementation Criteria/Assurances

Table 6-1 of the MSCP Subarea Plan identifies Implementation Criteria/Assurances for the Salt Creek Interceptor. These include:

(a) Siting of these sewer facilities is subject to the Otay Ranch RMP Phase 1 Policy 6.6 and the RMP Infrastructure Plan, Section 6.0; and Otay Ranch RMP Phase 2 Conceptual Infrastructure Plan.

The modifications associated with the SCSL Improvement are consistent with the Otay Ranch RMP Phase 2 Conceptual Infrastructure Plan in that the project has been sited primarily in disturbed areas to the extent practical, temporary impacts to Diegan coastal sage scrub will be mitigated (Mitigation Measure 4.7-5), potential impacts to sensitive wildlife species will be mitigated (Mitigation Measure 4.7-4), erosion control is required through project BMPs (Mitigation Measure 4.7-9), wetland impacts have been avoided through site design, and access will utilize existing access roads. Therefore, this criterion is satisfied.

(b) Best Management Practices (BMPs) will be used to design and maintain these facilities.

As described in the Hydrology and Drainage Section of this EIR, prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits, the Applicant shall prepare a Storm Water Pollution Prevention Plan (SWPPP) to the satisfaction of the City Engineer. The BMPs contained in the SWPPP shall include, but are not limited to, silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydro-seeding. Implementation of mitigation measure 4.9-2 (Hydrology and Drainage) will ensure appropriate BMPs have been incorporated into the SCSL Improvement. Therefore, this criterion is satisfied.

(c) Sewer lines will be sited to avoid mitigation-sites created as mitigation for other projects.

Several mitigation-sites occur within the immediate vicinity of the SCSL Improvement Area. The project, as designed, avoids all adjacent mitigation areas. Therefore, this criterion is satisfied.

(d) Maintenance access roads related to these sewer facilities will be sited to avoid to the maximum extent practicable impacts to Covered Species and habitats, including Covered Narrow Endemic Species, pursuant to the Facilities Siting Criteria in Section 6.3.3.4 of the Subarea Plan.

Several existing utility maintenance roads provide access to the SCSL Improvement Area. No new access roads will be constructed in conjunction with the modifications associated with the SCSL Improvement. Therefore, this criterion is satisfied.

(e) Through Salt Creek where new maintenance access roads must be developed, road widths will be limited to 12 feet, within a 20-foot disturbance corridor. Through the Otay River Valley where existing unpaved roads will be utilized, road widths will be limited to 20 feet. Maintenance access roads will be constructed as follows:

- Access roads will be constructed of concrete-treated base (CTB) material with aggregate rock to minimize frequency of maintenance.
- Where access roads exceed a 5 percent grade, concrete or asphalt may be permitted to ensure maintenance vehicle traction.
- Where cross-drainage occurs, concrete aprons may be permitted to minimize erosion.

No new access roads will be constructed for the SCSL Improvement. Therefore, this criterion is satisfied.

(f) Temporary impacts related to these sewer facilities will be revegetated pursuant to Section 6.3.3.5 of the Subarea Plan.

All temporary impacts will be re-vegetated consistent with Mitigation Measure 4.7-5. Therefore, this criterion is satisfied.

(g) Public access to finger canyons associated with the primary canyons involving these facilities will be limited, pursuant to the Otay River Valley Framework Management Plan, Section 7.6.3 of the Subarea Plan.

Access to the SCSL Improvement Area project site is provided by way of an existing gate and access road located off Hunte Parkway. The access gate is locked and use is limited to authorize personal only. Therefore, this criterion is satisfied.

Based on the preceding discussion, the proposed modifications to the Salt Creek Interceptor that would be located within the Preserve are considered to be consistent with the relative requirements and criteria of the City's MSCP Subarea Plan and would not conflict with the adopted HCP/NCCP. Therefore impacts would be considered less-than-significant.

4.7.4. LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

A. Sensitive Wildlife Species

The project would have the following substantial adverse effect, both directly and through habitat modifications, on sensitive wildlife species.

- Ground nesting raptor species, including the northern harrier and burrowing owl, would be impacted within the EUC SPA Plan and SSA.
- The northern harrier, burrowing owl, white-tailed kite, and San Diego black-tailed jackrabbit would be impacted by the loss of 159.2 acres of agricultural lands utilized as foraging habitat.
- The coastal California gnatcatcher would be temporarily impacted within the SCSL Improvement Area.

The proposed project would have an indirect, long-term, potentially significant impact related to biological resources management unless the Otay Ranch regional open space is preserved proportionally and concurrently with development.

The project may have significant indirect effects on the MSCP Preserve associated with construction noise avian breeding seasons, water quality, introduction of non-native exotic plant species following construction, and human intrusion.

B. Sensitive Plant Communities

Modifications associated with the SCSL Improvement would temporary impact 0.16 acre of Diegan coastal sage scrub.

C. Jurisdictional Areas

Modifications associated with the SCSL Improvement have the potential to result in significant impacts associated with frac-out.

The project would indirectly impact the jurisdictional feature that occurs downstream of the SSA.

D. Nesting Birds

Impacts to the California gnatcatcher could result if construction activities occur within occupied habitat during the breeding season for this species (February 15 and August 15).

The project would impact nesting bird species protected by the MBTA and California Fish and Game Code occurring within the EUC SPA Plan, SCSL Improvement Area, and SSA.

4.7.5. MITIGATION MEASURES

A. Sensitive Wildlife Species

4.7-1 Prior to issuance of any land development permits, including clearing and grubbing or grading permits for the EUC SPA Plan and the SSA, the Applicant shall retain a City-approved biologist to conduct focused surveys for the northern harrier to determine the presence or absence of this species within 900 feet of the construction area, if construction will occur during the breeding season (January 15 through July 31) (excluding areas west of SR-125). The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the City for review and approval. If active nests are detected by the City-approved biologist, a biological monitor should be on-site during construction to minimize construction impacts and ensure that no nests are removed or disturbed until all young have fledged.

4.7-2 Prior to issuance of any land development permits (including clearing and grubbing or grading permits) for the EUC SPA Plan and the SSA, the Applicant shall retain a City-approved biologist to conduct focused pre-construction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the City-approved biologist shall prepare a passive relocation mitigation plan subject to the review and approval by the City to avoid impacts from construction-related activities.

4.7-3 Prior to recordation of each final map, the Applicant shall convey land within the Otay Ranch RMP Preserve at a ratio of 1.188 acres for each acre of development area, as defined in the RMP.

4.7-4 For any work proposed to be initiated between February 15 and August 15, prior to issuance of any land development permits, including clearing, grubbing, grading, and construction permits associated with improvements to the off-site SCSL, a pre-construction survey for the coastal California gnatcatcher must be performed in order to reaffirm the presence and extent of occupied habitat. The pre-construction survey area for the coastal California gnatcatcher shall encompass all habitat within the project work zone as well as a 300-foot buffer extending from the study area as delineated on Figure 5 of the HELIX biological technical report.

The pre-construction survey must be performed to the satisfaction of the Environmental Review Coordinator (ERC) by a qualified biologist familiar with the City's MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the ERC for review and approval prior to the issuance of any land development permits and prior to initiating any construction activities. If the coastal California gnatcatcher is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be

established around the detected species to ensure that no work shall occur within the occupied habitat from February 15 through August 15 and on-site noise reduction techniques shall be incorporated, as appropriate. The ERC shall have the discretion to modify the buffer width depending on-site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the ERC following the review and approval of the pre-construction report.

B. Sensitive Plant Communities

4.7-5 Prior to issuance of land development permits, including clearing, grubbing, grading and construction permits for the off-site SCSL, the Applicant shall provide a revegetation plan for 0.16 acre of Diegan coastal sage scrub to the satisfaction of the City's Environmental Review Coordinator (ERC). The revegetation plan must be prepared by a qualified City-approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Applicant shall also be required to implement the revegetation plan subject to the oversight and approval of the ERC.

4.7-6 Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the off-site SCSL, the Applicant shall install fencing in accordance with CVMC 17.35.030. Prominently colored, well-installed fencing and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for the off-site SCSL. Prior to release of grading and/or improvement bonds, a qualified biologist shall provide evidence that work was conducted as authorized under the approved land development permit and associated plans.

4.7-7 A biological monitor shall attend all pre-construction meetings and be present during the removal of any vegetation associated with the modifications to the off-site SCSL. Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the off-site SCSL, the Applicant shall provided written confirmation that a City-approved biological monitor has been retained and shall be on-site during clearing, grubbing, and/or grading activities to ensure that the approved limits of disturbance are not exceeded. The biological monitor shall also be on-site during the placement and removal of the proposed High Line to ensure that removal or damaging of native vegetation does not occur. The biological monitor shall be authorized to halt all associated project activities that may be in violation the City's MSCP Subarea Plan.

4.7-8 Prior to issuance of land development permits, and prior to construction activities occurring in areas containing sensitive biological resources within the off-site SCSL Improvement Area, all workers shall be educated by a City-approved biologist to recognize and avoid those areas which have been marked as sensitive biological resources.

C. Jurisdictional Areas

4.7-9 Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the project site (including the off-site SSA) or SCSL Improvement Area, the Applicant shall provide written confirmation that Mitigation Measure 4.9.2 (Hydrology and Drainage), requiring a National Pollutant Discharge Elimination System permit (NPDES) and Storm Water Pollution Prevention Plan (SWPPP), has been fulfilled to the satisfaction of the City Engineer.

4.7-10 Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits for the off-site SSA, the Applicant shall install temporary orange biological fencing shall be installed along the limits of grading in areas adjacent to sensitive biological resources to avoid impacts on such resources. All fencing, including temporary fencing, shall be shown on the project grading plans. Prior to and during construction, the City's Mitigation Monitor shall verify that biological fencing is properly installed and maintained.

4.7-11 To protect the jurisdictional feature downstream of the off-site SSA, a City-qualified biologist shall attend a pre-construction meeting prior to initiating grading on the off-site SSA. The biologist shall be on-site to monitor all vegetation clearing and periodically thereafter to ensure implementation of appropriate resource protection measures.

4.7-12 Prior to issuance of any grading permits associated with the off-site SCSL, the Applicant shall prepare a Frac-Out Contingency Plan (FCP) to the satisfaction of the City Engineer and the City's ERC. The FCP shall establish operational procedures and responsibilities for the prevention, containment, notification, and clean-up of the inadvertent release of drilling fluid (frac-out) that could potentially occur with the proposed directional drilling under Salt Creek. Issues addressed in the plan shall include but not be limited to:

- Spoil stockpile management;
- Hazardous materials storage and spill cleanup;
- Site-specific erosion and sediment control;
- Procedures for timely detection of frac-outs; and
- Any other BMPs to ensure protection of sensitive biological resources in the adjacent Preserve areas and minimize water quality impacts as described in the SWPPP.

If a frac-out event were to occur during the boring and jacking process, work should cease immediately, and measures should be taken to contain the frac-out slurry in as small an area as possible. The biological monitor shall contact the City and appropriate resource agencies within 24 hours of the frac-out and provide an initial assessment of impacts to native vegetation. Mitigation for the impacts will be coordinated in conjunction with the City and resource agencies.

D. Nesting Birds

4.7-13 To avoid any direct impacts to raptors and/or any migratory birds, removal of habitat that supports active nests on the proposed area of disturbance (within the EUC SPA Plan, SCSL Improvement Area, or SSA) should occur outside of the breeding season for these species (January 15 to August 31). If removal of habitat on the proposed area of disturbance (within the EUC SPA Plan, SCSL Improvement Area, or SSA) must occur during the breeding season, the Applicant shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction, the results of which must be submitted to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

4.7.6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures would reduce all potentially significant direct and indirect biological impacts to less-than-significant.

4.8 AGRICULTURAL RESOURCES

Section 3.7, Agricultural Resources, of the Otay Ranch GDP Program EIR (90-01) analyzed impacts relating to agricultural resources for the entire Otay Ranch and concluded that implementation of the Otay Ranch GDP would result in significant cumulative effects on agricultural resources. The Otay Ranch GDP Program EIR includes a mitigation measure that requires the preparation of an Agricultural Plan as a condition of approval for the EUC project area. However, even with implementation of this mitigation the permanent loss of agricultural land was determined to be a significant and unmitigable effect of the Otay Ranch GDP. The analysis and discussion of agricultural resources contained in the Otay Ranch GDP Program EIR are incorporated by reference. The following discussion focuses on project specific impacts to agricultural resources that would result with development of the proposed EUC SPA Plan.

The agricultural resources evaluation in this section also updates information in Section 5.7 of the General Plan Update EIR (05-01) pertaining to the EUC site and off-site locations. The analysis and discussion of Agricultural Resources contained in EIR 05-01 is incorporated by reference.

4.8.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) Soil Suitability for Agriculture

In response to a critical need for assessing the location, quality, and quantity of agricultural lands and conversion of these lands over time, the California Department of Conservation (DOC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982. The goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. A basic purpose of the FMMP is to produce Important Farmland Maps and statistical data for California's agricultural resources. Important Farmland Maps identify the location and quality of agricultural land across the State. The quality of agricultural lands, which is rated on soil quality and irrigation status, is classified into five categories as described below: Prime Farmland; Farmland of Statewide Importance; Unique Farmland; Farmland of Local Importance; and Grazing Land. The minimum mapping unit for all categories is 10 acres unless otherwise specified. In addition, the FMMP identifies non-agricultural lands as either "Urban and Built-Up Land" or "Other Land." Important Farmland Maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. The FMMP is a non-regulatory program.

According to the City's General Plan, the FMMP program does not necessarily reflect local General Plan actions, urban needs, changing economic conditions, proximity to market and other factors which may be taken into consideration when government considers agricultural land use policies.

(a) Prime Farmland

Prime Farmland is land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods. Prime Farmland must have been used for the production of irrigated crops at some time during the two update cycles to the mapping date.

(b) Farmland of Statewide Importance

Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture. Farmland of Statewide Importance must have been used for the production of irrigated crops at some time during the two cycles prior to the mapping date.

(c) Unique Farmland

Unique Farmland is land of lesser quality soils used for the production of specific high economic value crops (as listed in *California Agriculture* produced by the California Department of Food and Agriculture) at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Unique Farmland is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops on Unique Farmland include oranges, olives, avocados, rice, grapes, and cut flowers.

(d) Farmland of Local Importance

Farmland of Local Importance is important to the local agricultural economy, as determined by the County Board of Supervisors and a local advisory committee. The County defines Farmland of Local Importance as land with the same characteristics as Prime Farmland and Farmland of Statewide Importance.

(e) Grazing Land

Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. The minimum unit for Grazing Land is 40 acres.

(f) Urban and Built-Up Land

This classification consists of land 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. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

(g) Other Land

Other Land consists of land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land that is greater than 40 acres and surrounded on all sides by urban development is mapped as Other Land.

(2) Williamson Act Program

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. The goal of the Williamson Act Program is to encourage the preservation of California's agricultural land and to prevent its premature conversion to urban uses. Currently, there are no active Williamson Act contracts or properties, which are established agricultural preserves, within the General Plan area, including the EUC SPA Plan.[1]

(3) City of Chula Vista General Plan

According to the City's General Plan, through the early 1990s, the last of the large-scale agricultural operations in Chula Vista were located primarily on large landholdings within the eastern portion of the City. Agricultural production has been historically constrained due to the

[1] *City of Chula Vista General Plan, Environmental Element, December 13, 2005.*

limited availability of water for irrigation and the high cost of water where it has been available. Although the City, within its General Plan area, does not contain any lands specifically designated for agricultural uses, the potential remains for agricultural uses to occur within certain portions of the City on both an interim and long-term basis.

A limited number of parcels in the General Plan Area retain agricultural zoning, which is considered a holding zone, pending development proposals in conformance with the applicable land use plans. Agricultural production associated with these areas is not significant in terms of countywide agricultural value. Long-term agricultural use is not planned for the General Plan area, but is allowed where it is consistent with the Chula Vista Multi-Species Conservation Plan (MSCP) Subarea Plan and zoning, including within portions of the Chula Vista Greenbelt open space system.

The City of Chula Vista General Plan contains the following objective and policies regarding agricultural resources:

Objective E-4 - Maintain the opportunity for limited agricultural and related uses to occur as an interim land use within planned development areas and as a potential permanent land use within appropriate locations.

Policies

E 4.1 - Allow historical agricultural uses to continue within planned development areas as an interim land use in accordance with the MSCP Subarea Plan.

E 4.2 - Allow agricultural uses on privately-owned property within the Chula Vista Greenbelt and elsewhere, provided the use is consistent with the provisions of the Chula Vista MSCP Subarea Plan, as well as the zoning of the property.

E 4.3 - Encourage the development of community gardens and similar related uses within appropriate, compatible locations throughout the City.

(4) Otay Ranch Grazing Ordinance

The Otay Ranch Grazing Ordinance (Chapter 17.30 of the Chula Vista Municipal Code) has been prepared as one of several Chula Vista MSCP Subarea Plan implementing ordinances. The purpose of the ordinance is to implement the goals and recommendations of the *Range Management Plan for the Otay River Valley Management Area*. The Ordinance states that it is unlawful to conduct grazing activities in the City of Chula Vista on land designated by the Otay Ranch GDP as Otay Ranch Preserve, except as provided in the ordinance. Ordinance regulations apply to all land designated by the Otay Ranch GDP as Otay Ranch Preserve and as 100 percent Conservation Area in the Chula Vista MSCP Subarea Plan. The EUC SPA Plan area is not designated by the Otay Ranch GDP as Otay Ranch Preserve or as a 100 percent Conservation Area in the Chula Vista MSCP Subarea Plan. As such, the provisions of

the Otay Ranch Grading Ordinance regarding agricultural resources are not applicable to the proposed project.

(5) Otay Ranch GDP

The Otay Ranch GDP establishes goals, objectives and polices related to the protection of agricultural resources. While these are general in nature, they are intended to be applicable to the entire Otay Ranch GDP area, including the Otay Valley parcel and the EUC SPA Plan area. The Otay Ranch GDP Program EIR (90-01) concluded that the loss of agricultural lands is a significant and unavoidable impact, even with implementation of mitigation that requires an Agricultural Plan to be prepared by each project applicant prior to approval of any SPA Plan affecting on-site agricultural resources.

B. Existing Agricultural Setting

(1) EUC SPA Plan Area

Historically, the EUC SPA Plan area has been used for dry farming, as well as cattle and sheep grazing; however there has been no recent use of the property for either grazing or agricultural usage. Crop production was limited to hay and grains due to limited water availability. Between 1950 and 1960, agricultural products from the property were primarily grains and lima beans. Land utilized for agricultural activities in areas surrounding the EUC SPA Plan area has decreased over the years. Factors that have led to the decrease in agricultural use include the conversion of farmland to urban uses as a result of land value, particularly given that property taxes often exceed income from agricultural production. The high cost of importing water for irrigation has also resulted in many agricultural activities becoming cost prohibitive. These factors have contributed the fact that the EUC SPA Plan area is no longer in agricultural use. Nonetheless, a record search conducted for the most recent FMMP data revealed that the entire EUC SPA Plan area is designated as Farmland of Local Importance.[2]

(2) Off-Site Soils Stockpiling Area

The SSA is approximately 59 acres within the adjacent 88.1-acre parcel located south of the EUC SPA Plan area in Village Nine. As with the EUC SPA Plan area, the SSA is designated as Farmland of Local Importance. The undeveloped site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and no agricultural activities are occurring on the site.

[2] *California Department of Conservation website, Farmland Mapping and Monitoring Program – Important Farmland (FMMP) – Metadata (October 2004). Website accessed by PCR Services Corporation on August 10, 2007. http://www.consrv.ca.gov/DLRP/fmmp/index.htm.*

(3) Off-Site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area is a 1.44-acre site located to the east of the EUC, southeast of the Hunte Parkway/Eastlake Parkway intersection. This site is designated as grazing land in the Chula Vista General Plan and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

(4) Off-Site Poggi Canyon Sewer Improvement Area

The PCSI Area is a 100.7-foot sewer improvement area located in Olympic Parkway at Brandywine Avenue. The PCSI Area falls within a paved roadway and is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

4.8.2 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines, Appendix G, impacts to agricultural resources would be significant if the proposed project would:

Threshold 1: *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to nonagricultural use; and/or involves other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use; or*

Threshold 2: *Conflict with existing zoning for agricultural use or a Williamson Act contract.*

In addition to the above thresholds, impacts to agricultural resources would be significant if the proposed project would:

Threshold 3: *Be inconsistent with General Plan agricultural resource policies thereby resulting in a significant physical impact.*

4.8.3 IMPACT ANALYSIS

Threshold 1: *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use; and/or involves other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to non-agricultural use.*

A. EUC SPA Plan Area

The proposed EUC SPA Plan would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, as shown on the maps prepared pursuant to the FMMP by the DOC. However, implementation of the proposed EUC SPA Plan would convert the entire approximately 207-acre EUC SPA Plan area designated as Farmland of Local Importance to urban uses resulting in a countywide incremental loss of potential agricultural land. Although the EUC SPA Plan area is no longer used for crops because of the lack of reliable and affordable water, it would contribute to an incremental loss of Farmland of Local Importance, which contains potential cultivation and/or grazing land. Consistent with earlier findings in the Otay Ranch GDP Program EIR, this is considered a potentially significant impact.

Although no agricultural uses currently exist on-site, the potential for interim agricultural activity does exist. Should agricultural activities occur on-site, there is the potential for land use conflicts with adjacent ownership areas. The potential for incompatibility between land uses was identified as a short-term impact in the Otay Ranch GDP Program EIR because of noise, odor, rodents, and chemical applications associated with agricultural activities adjacent to urban areas in the vicinity of the EUC SPA Plan area.

The preparation of an Agricultural Plan was identified as mitigation in the Otay Ranch GDP Program EIR to reduce the impact to below a level of significance. Consistent with the findings in the Otay Ranch GDP Program EIR, impacts associated with potential land use conflicts due to agricultural activities are considered potentially significant. An Agricultural Plan has been prepared as part of the EUC SPA Plan in accordance with the mitigation identified in the Otay Ranch GDP Program EIR. The plan would allow for interim agricultural activity within the EUC SPA Plan and adjacent ownership area, and prevent potential land use impacts between developed land and ongoing agricultural activities by providing separation between urban uses and adjacent agricultural uses.

B. Off-Site Soils Stockpiling Area

The SSA is designated as Farmland of Local Importance and is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Grading Option 1, which involves the transport and deposition of clean soils to the site would not prevent the future use of this site for agricultural activities. However, the conversion of the approximately 88.1-acre site to grading and compacted future building sites would make any further agricultural uses unlikely. Therefore, the impact of Grading Option 1 would have a potentially significant impact with respect to this threshold. Grading Option 2 would not affect the off-site soil stockpiling area. Thus, there would be no impact to off-site resources under Grading Option 2.

C. Off-Site Salt Creek Sewer Lateral Improvement Area

As previously indicated, the SCSL Improvement Area is designated as grazing land in the Chula Vista General Plan, Figure 5.7-2, *Important Farmland Inventory and Existing Agricultural Zoning*, in the General Plan Update Final EIR. This site is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The proposed pipe jacking method of construction would minimize surface impacts. In addition, due to the temporary nature of the improvement, the proposed pipeline construction would not prevent the future use of this site for grazing purposes. Therefore, this sewer lateral improvement would have a less-than-significant impact with respect to Threshold 1.

D. Off-Site Poggi Canyon Sewer Improvement Area

Construction of the PCSI Area would occur entirely within the street right-of-way and would not impact any designated farmland areas. Therefore, this construction project would have a less-than-significant impact with respect to Threshold 1.

Threshold 2: *Conflict with existing zoning for agricultural use or a Williamson Act contract.*

A. EUC SPA Plan Area

The EUC SPA Plan area does not have any Williamson Act Contracts associated with it, and the designated zoning for the site is PC (Planned Community). As such, the proposed project would not affect Williamson Act contract lands on-site, or conflict with existing on-site zoning for an agricultural use.

B. Off-Site Soil Stockpiling Area

The off-site SSA is not designated as, or located adjacent to, “lands zoned for agriculture,” as shown in Figure 5.7-2, *Agricultural Zones,* of the General Plan Update EIR. In addition, the off-site location is not under a Williamson Act contract. Similar to the on-site area, construction activities at this off-site location would not conflict with existing agricultural zoning or Williamson Act contract lands. Therefore, the proposed off-site soil stockpiling would have a less-than-significant impact with respect to Threshold 2.

C. Off-Site Salt Creek Sewer Lateral Improvement Area

The off-site SCSL Improvement Area is not designated as, or located adjacent to, “lands zoned for agriculture,” as shown in Figure 5.7-2, *Agricultural Zones,* of the General Plan Update EIR. In addition, this off-site location is not under a Williamson Act contract. Similar to the on-site area, construction activities at this off-site location would not conflict with existing agricultural zoning

or Williamson Act contract lands. Therefore, the proposed off-site jack and bore operation would have a less-than-significant impact with respect to Threshold 2.

D. Off-Site Poggi Canyon Sewer Improvement Area

The PCSI Area is paved roadway. It is not designated as, or located adjacent to, "lands zoned for agriculture," as shown in Figure 5.7-2, *Agricultural Zones,* of the General Plan Update EIR. In addition, this off-site location is not under a Williamson Act contract. Similar to the on-site area, construction activities at this off-site location would not conflict with existing agricultural zoning or Williamson Act contract lands. Therefore, the proposed sewer improvement would have a less-than-significant impact with respect to Threshold 2.

Threshold 3: *Be inconsistent with General Plan agricultural resource policies thereby resulting in a significant physical impact.*

The comparison of the project with the relevant agriculture objective and policies of the General Plan is provided in Table 4.8-1, *Project Consistency with Applicable General Plan Agriculture Policies*, on page 4.8-10. As mentioned previously, the EUC SPA Plan includes an Agricultural Plan, which is consistent with General Plan Objective E-4 and Policies E 4.1 and E 4.2. The Agriculture Plan would maintain the opportunity for limited agricultural and related uses to occur as an interim land use within the EUC SPA Plan area.

4.8.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Development of the EUC SPA Plan would result in a significant impact to agricultural resources, due to the on-site loss of approximately 207 acres of Farmland of Local Importance. The implementation of Grading Option 1, which would transport and stockpile soils from the project site to the SSA, would further affect approximately 59 acres of adjacent Farmland of Local Importance (remainder of the EUC and a portion of Village Nine). Grading Option 2, which would transport and stockpile soils to the remainder of the EUC including the Hunte Parkway right-of-way (approximately 28.5 acres) would similarly result in the loss of Farmland of Local Importance in this area. In addition, without implementation of the proposed Agricultural Plan, noise, odors, insects, rodents, and chemicals associated with interim agricultural operations on the site could create indirect, short-term, potentially significant impacts between the agricultural uses and urban uses.

The construction of the SCSL Improvement and PCSI would have no impact with respect to agricultural activities.

Table 4.8-1

Project Consistency with Applicable General Plan Agriculture Policies

Applicable Policies	Evaluation of Consistency
E 4-1, E 4-2, E 4-3	The EUC SPA Plan is **consistent** with these relevant policies. Although no agricultural uses currently exist on-site, the potential for interim agricultural activity does exist. Should agricultural activities occur on-site, there is the potential for land use conflicts with adjacent ownership areas that would be addressed by an Agricultural Plan. An Agricultural Plan has been prepared as part of the EUC SPA Plan in accordance with the mitigation identified in the Otay Ranch GDP Program EIR. The plan would allow for interim agricultural activity within the EUC SPA Plan area, and would prevent potential land use impacts between developed land and ongoing agricultural activities by providing separation between urban uses and adjacent agricultural uses. The SCSL Improvement and PCSI would not result in an impact to agricultural land. Therefore, the off-site improvements would not conflict with this objective or these policies. Both grading options involve the loss of adjacent Farmland of Local Importance due to site preparation activities, and the compaction of the fill areas under both options would likely preclude future agricultural use in these areas.

No impacts regarding Williamson Act contract lands, or conflicts with existing zoning for an agricultural use would occur in the EUC SPA Plan area, the SSA, or the SCSL Improvement Area and PCSI Area.

4.8.5 MITIGATION MEASURES

4.8-1 The Agricultural Plan included in the EUC SPA Plan shall be implemented as development proceeds in the proposed EUC SPA Plan area. The following measures shall be implemented to the satisfaction of the City of Chula Vista's Development Services Director:

- Prior to approval of each building permit, the Applicant shall ensure that a 200-foot fenced buffer shall be maintained between development and ongoing agricultural operations on the property.
- In those areas where pesticides are to be applied, the farmland owner shall utilize vegetation to shield adjacent urban development (within 400 feet) from agriculture activities.
- If permitted interim agricultural uses require the use of pesticides, the farmland owner shall notify adjacent developed property owners of potential pesticide application a minimum of 10 days prior to application through advertisements in newspapers of general circulation. Limits shall be established as to the time of day and type of pesticide applications that may

be used. The use of pesticides shall comply with federal, state, and local regulations.

4.8.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the Mitigation Measure 4.8-1 would reduce potentially significant, short-term impacts caused by adjacency of agricultural uses and urban uses to a less than significant level. However, the incremental and cumulative loss of agricultural lands (Farmland of Local Importance), which was considered a significant impact in the Otay Ranch GDP Program EIR, remains significant, and no mitigation measures are available to reduce this impact to below a level of significance. This incremental loss remains significant and unavoidable.

4.9 HYDROLOGY AND WATER QUALITY

Section 3.9, Water Resources and Water Quality, of the Otay Ranch GDP Program EIR (EIR 90-01) analyzed the existing conditions, potential impacts and identified mitigation measures related to hydrology and drainage for the entire Otay Ranch GDP. The Otay Ranch GDP concluded that implementation of the GDP would result in significant and mitigable environmental impacts upon regional hydrology and drainage. The analysis and discussion of hydrology contained in the Otay Ranch GDP Program EIR are incorporated by reference. The following discussion provides a more detailed analysis of SPA-level impacts associated with the development of the EUC SPA Plan, based on the *Preliminary Water Quality Technical Report for McMillin Eastern Urban Center (EUC)* (herein referred to as the "Water Quality Report"), revised March 28, 2008, the *Addendum* to the Water Quality Report dated May 14, 2008 and the *Preliminary Drainage Study for McMillin Eastern Urban Center (EUC)* (herein referred to as the "Drainage Study"), revised January 30, 2008, all prepared by Rick Engineering Company. Each report is on file with the City of Chula Vista.

4.9.1 EXISTING CONDITIONS

A. Regulatory Framework

This proposed project is subject to the requirements of the National Pollutant Discharge Elimination System (NPDES). NPDES requirements are contained in Section 402(p) of the Federal Clean Water Act, which established a framework for regulating storm water discharges from municipal, industrial, and construction activities. These requirements are implemented through permits issued by the State Water Resources Control Board (SWRCB) or the local Regional Water Quality Control Board in which the project is located (California Regional Water Quality Control Board San Diego Region, herein "SDRWQCB"), and/or the governing municipality where the project is located (City of Chula Vista).

(1) California General Construction Activity Permit

The California General Construction Activity Permit (General Permit), adopted by the SWRCB regulates construction activity that includes clearing, grading, and excavation resulting in soil disturbance of at least one acre of total land area. This General Permit authorizes the discharge of stormwater to surface waters from construction activities. It prohibits the discharge of materials other than stormwater and authorized non stormwater discharges and all discharges that contain a hazardous substance in excess of reportable quantities

established at 40 Code of Federal Regulations (CFR) 117.3 or 40 CFR 302.4 unless a separate NPDES Permit has been issued to regulate those discharges.

The NPDES General Construction Permit requires that all developers of land where construction activities will occur over more than one acre do the following:

- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation;
- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will reduce pollution in storm water discharges to the Best Available Technology Economically Achievable/Best Conventional Pollutant Control Technology standards; and
- Perform inspections and maintenance of all BMPs.

In order to obtain coverage under the NPDES General Construction Permit, a project applicant must submit a Notice of Intent (NOI) to the SWRCB and prepare a SWPPP. BMPs within the SWPPP typically regard minimization of erosion during construction, stabilization of construction areas, sediment control, control of pollutants from construction materials, as well as post-construction management (e.g., the minimization of impermeable surfaces, treatment of runoff, etc). The SWPPP also must include a discussion of the program to inspect and maintain all BMPs.

(2) Development Storm Water Manual

Construction activities are further guided by the requirements of the *City of Chula Vista Development Storm Water Manual* (January 2008). The Storm Water Manual is updated every five years concurrent with the reissuance of the NPDES for San Diego County. The Storm Water Manual is intended to provide information to applicants for development, redevelopment, and public projects processed through the City of Chula Vista, regarding compliance with permanent and construction storm water requirements. The Storm Water Manual also aids the project through the selection, design, and incorporation of storm water BMPs. The underlying authority for the Storm Water Manuals derived from the NPDES, Order No. R9-2007-0001, the City of Chula Vista Storm Water Mitigation Plan (SUSMP), and CVMC, Chapter 14.20. The Storm Water Manual also provides Construction Storm Water Performance Standards (Development Storm Water Manual, Section 7), which includes site management requirements, site-specific performance standards, seasonal requirements, limitation of grading, and advanced treatment.

(3) City of Chula Vista Storm Water Management Standards and Storm Water Standards Manual

For the purposes of post-construction storm water quality management, the proposed EUC SPA Plan would follow the guidelines and requirements set forth in the following documents:

- *Development Storm Water Manual,* adopted by the City of Chula Vista, (herein "Storm Water Standards Manual"). The Development Storm Water Manual 2008 applies to all projects requiring any permit approvals on or after March 24, 2008, regardless of whether projects are under review or have already obtained previous approvals. The Storm Water Standards Manual also contains the City of Chula Vista's Standard Urban Storm Water Mitigation Plan (SUSMP) requirements.

- SDRWQCB Order No. R9-2007-0001, a renewal of NPDES Permit No. CAS0108758, Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority (Order No. R9-2007-0001, or "Municipal Storm Water Permit"), adopted by the SDRWQCB on January 24, 2007.

The Storm Water Standards Manual provides guidance for new development and redevelopment projects to achieve compliance with the City of Chula Vista's SUSMP. On January 24, 2007, the SDRWQCB adopted Order No. R9-2007-0001, renewing the Municipal Storm Water Permit. Order No. R9-2007-0001, which supersedes Order No. 2001-01, includes several changes to requirements for post-construction storm water management and will result in SUSMPs being modified and changes to standards for post-construction storm water management practices. Specific changes that would directly affect the design of the EUC include:

- <u>Low Impact Development (LID) BMP Requirements:</u> Project applicants with Priority Development Projects will be required to implement LID BMPs which will collectively minimize directly connected impervious areas and promote infiltration. The LID BMP requirements are described in Section D.1.d.(4) of Order No. R9-2007-0001.

- <u>Hydromodification:</u> Limitations on Increases of Runoff Discharge Rates and Durations: Under Section D.1.g of Order No. R9-2007-0001, the Co-permittees would be required to prepare a Hydromodification Management Plan (HMP) and incorporate its requirements into their SUSMPs. Hydromodification refers to changes in a watershed's runoff characteristics resulting from development, together with associated morphological changes to channels receiving the runoff, such as changes in sediment transport characteristics and the hydraulic geometry (width, depth, slope) of channels. These changes result in streambank erosion and sedimentation, leading to habitat degradation due to loss of overhead cover and loss of in-stream habitat structures.

Upon ultimate development, the EUC SPA Plan would fall into five pollutant categories, including: (1) Housing subdivisions of 10 or more dwelling units, (2) Commercial developments greater than one acre, (3) Restaurants, (4) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff, and (5) Streets, roads, highways, and freeways. At this time, retail gasoline outlets (RGOs), which are also a Priority Development Project Category included in Section D.1.d.(2) of Order No. R9-2007-0001, are not anticipated. Upon final design, the land uses within the EUC may differ.

Enough information is provided in Order No. R9-2007-0001 such that the Master Design of the EUC SPA Plan can incorporate design elements in anticipation of the new standards, which would be in effect by the time development plans for the specific districts within the EUC are prepared, while still meeting the requirements of the City of Chula Vista's existing Storm Water Standards Manual. All development within the proposed project would be subject to the City of Chula Vista's SUSMP at the time of grading permit issuance.

(4) City of Chula Vista General Plan

The Public Facilities and Services and Environmental Elements of the City of Chula Vista General Plan address reliable drainage facilities and the protection of water quality. The following objectives and policies are applicable to the proposed project:

Objective PFS 1 – Ensure adequate and reliable water, sewer and drainage service and facilities.

Policies

PFS 1.3 – Plan and design drainage facilities, and upgrade existing facilities, as necessary to meet current needs, accommodate growth and satisfy state and federal requirements.

PFS 1.4 – For new development, require on-site detention of stormwater flows such that, where practical, existing downstream structures will not be overloaded. Slow runoff and maximize on-site infiltration of runoff.

Objective PFS 2 – Increase efficiencies in water use, wastewater generation and its reuse, and handling of storm water runoff throughout the City through use of alternative technologies.

Policies

PFS 2.2 – As part of project construction and design, assure that drainage facilities in new development incorporate stormwater runoff and sediment control, including state-of-the–art technologies, where appropriate.

PFS 2.3 – In designing water, wastewater, and drainage facilities, limit the disruption of natural landforms and water bodies. Encourage the use of natural channels that simulate natural drainage ways while protecting property.

Objective E-2 – Protect and improve water quality within surface water bodies and groundwater resources within and downstream of Chula Vista.

Policies

E 2.4 – Ensure compliance with current federal and state water quality regulations, including the implementation of applicable NPDES requirements and the City's Pollution Prevention Policy.

E 2.5 – Encourage and facilitate construction and land development techniques that minimize water quality impacts from urban development.

(5) Zoning Code and GMOC Ordinance

In accordance with Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade storm water collection systems below acceptable standards. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09 H specifically requires that (1) Storm water flows and volumes shall not exceed City engineering standards as set forth in the subdivision manual and (2) the GMOC shall annually review the performance of the City's storm drain system to determine its ability to meet the goals and objectives of the subdivision manual. Section 19.09 also requires a Public Facilities Financing Plan (PFFP) and the demonstration that public services, such as police services, meet the GMOC quality of life threshold standards. The analysis of storm drain systems provided in this section, along with the PFFP to ensure funding for any needed expansion of services, confirm that storm drain systems will be provided commensurate with development and demand.

B. Existing Conditions

(1) Hydrological Setting

The project site is located in the southwestern portion of the San Diego Hydrological Basin. The San Diego basin is divided into 11 hydrographic units and 54 hydrographic subunits, which are based primarily on the surface water drainage basins. The EUC SPA Plan, SSA, SCSL Improvement Area, and PCSI Area are located within the Otay Valley Hydrologic Sub-Area of

the Otay Hydrologic Unit.[1] The pre-project condition on the EUC SPA Plan, SSA, and SCSL Improvement sites consist of rolling hills with arroyos that divide the EUC SPA Plan and SSA areas into three distinct drainage basins: the northern, central and southern drainage basins. These basins are described below. The PCSI Area is located within a street intersection and is currently paved.

(a) Northern Basin

The northern drainage basin flows northward then west through Otay Ranch Villages Six, Seven, and Planning Area Twelve and then ultimately into Poggi Canyon. The current pre-project topographic information for the northern basin does not reflect historical conditions due to grading performed in the surrounding area. However, based on the most recent report for the basin titled *Drainage Study for McMillin Ranch – Village 12*, dated May 24, 2004, prepared by Rick Engineering Company, 20.4 acres from the EUC SPA Plan are assumed to contribute runoff to the existing Poggi Canyon Regional Detention Facility.

(b) Central Basin

The central pre-project drainage basin encompasses a majority of the project site. The central drainage basin flows westward into the existing Wolf Canyon Water Quality and Detention Basin (associated with Otay Ranch Village Seven). The current pre-project topographic information for the central basin does not reflect historical conditions due to grading performed in the surrounding area. According to the *Drainage Study for McMillin Village 7 Vista Verde*, dated November 29, 2004, prepared by Rick Engineering Company, the pre-project area tributary to the Wolf Canyon drainage basin from the project site is 141.9 acres. However, the existing Wolf Canyon Water Quality and Extended Detention Basins were designed and approved to over detain and mitigate for 163.6 developed acres from the project site.

(c) Southern Basin

The southern pre-project major drainage basin consists of two separate drainage basins (Drainage Basin 300 and 400). The southern drainage basins discharge directly into two downstream canyons where the runoff is ultimately conveyed to the Otay River. Under existing conditions, runoff from Otay Ranch Village Eleven and Eastlake Parkway is discharged into the downstream canyon that is associated with Drainage Basin 300. The runoff from the adjacent developments is confluenced with the existing flows from Drainage Basin 300.

[1] *City of Chula Vista General Plan Update Final EIR, Figure 5.9-1 (Certified December 13, 2005),*

(2) Water Quality

(a) Surface Water Quality

Surface water in the Otay Hydrographic Subunit has beneficial uses for agriculture, recreational sports, wildlife, rare and endangered species, and industry. Currently, no surface water on the project site is used for any of these beneficial uses, as surface water within the project site originates from precipitation and is short-lived. Furthermore, no permanent lakes or ponds exist on the project site.

On October 25, 2006, the SWRCB approved the 2006 CWA Section 303(d) List of Water Quality Limited Segments (303(d) List). Subsequently on November 30, 2006, the United States Environmental Protection Agency (USEPA) approved the SWRCB's inclusion of all waters and pollutants identified for the San Diego region in its 2006 List of Water Quality Limited Segments. In Hydrologic Basin 910.20, within which the project site is located, Poggi Canyon Creek is listed as impaired on the 303(d) List. The pollutant/stressor causing impairment of Poggi Canyon Creek is DDT, a pesticide no longer in use.

(b) Groundwater Quality

The Otay Hydrographic Unit contains groundwater that is rated poor to very poor due to high levels of total dissolved solids. According to PEIR 90-01, the groundwater in the project area contains sodium-calcium chloride, and samples from Poggi Canyon to the north and Otay Valley to the south exceed federal secondary drinking water standards. This situation is caused, in part, from the high salt concentration in imported water used for irrigation. Water containing dissolved salts entrapped at the time the sedimentary rocks were deposited also contributes to the groundwater composition and quality.

(3) Groundwater Hydrogeology

Groundwater occurs in all sedimentary units and the various surficial deposits present on the site. Regional groundwater flow is generally from east to west, with the direction of local groundwater flow controlled by the orientation of the drainage basin and topography. The quantity and quality of groundwater varies according to the permeability of the geologic formation and local topography. Permeability rates are greatest in the Otay River Valley to the south, which primarily contains alluvial sands. Groundwater recharge occurs in the upland areas with springs, which is most common in mountainous regions.

No groundwater was encountered during the on site field testing conducted as part of the Geotechnical Investigation.[2] Groundwater is expected to occur deeper than 100 feet (and likely deeper than 200 feet), however, it is acknowledged that changes in rainfall, irrigation practices, or site drainage could produce seepage or locally perched groundwater conditions at any location within the soil or formational units underlying the site.[3] This typically occurs at contacts with less permeable materials, such as interfaces that exist between fill and formation or sandstone and claystone.

4.9.2 THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the CEQA Guidelines, impacts regarding hydrology and water quality would be significant if the proposed project would:

Threshold 1: *Result in an increase in pollutant discharges to receiving waters (including impaired water bodies pursuant to the Clean Water Act Section 303(d) list), result in significant alteration of receiving water quality during or following construction, violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality;*

Threshold 2: *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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).*

Threshold 3: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site or City of Chula Vista Engineering Standards for storm water flows and volumes;*

Threshold 4: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or place structures 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 which would impede or redirect flood flows; or*

[2] *Geotechnical Investigation prepared by Geotechnics Incorporated, dated March 1, 2007.*

Threshold 5: *Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

In addition to the above thresholds, impacts to water quality would be significant if the proposed project would:

Threshold 6: *Be inconsistent with General Plan, GDP or other objectives and policies regarding water quality thereby resulting in a significant physical impact.*

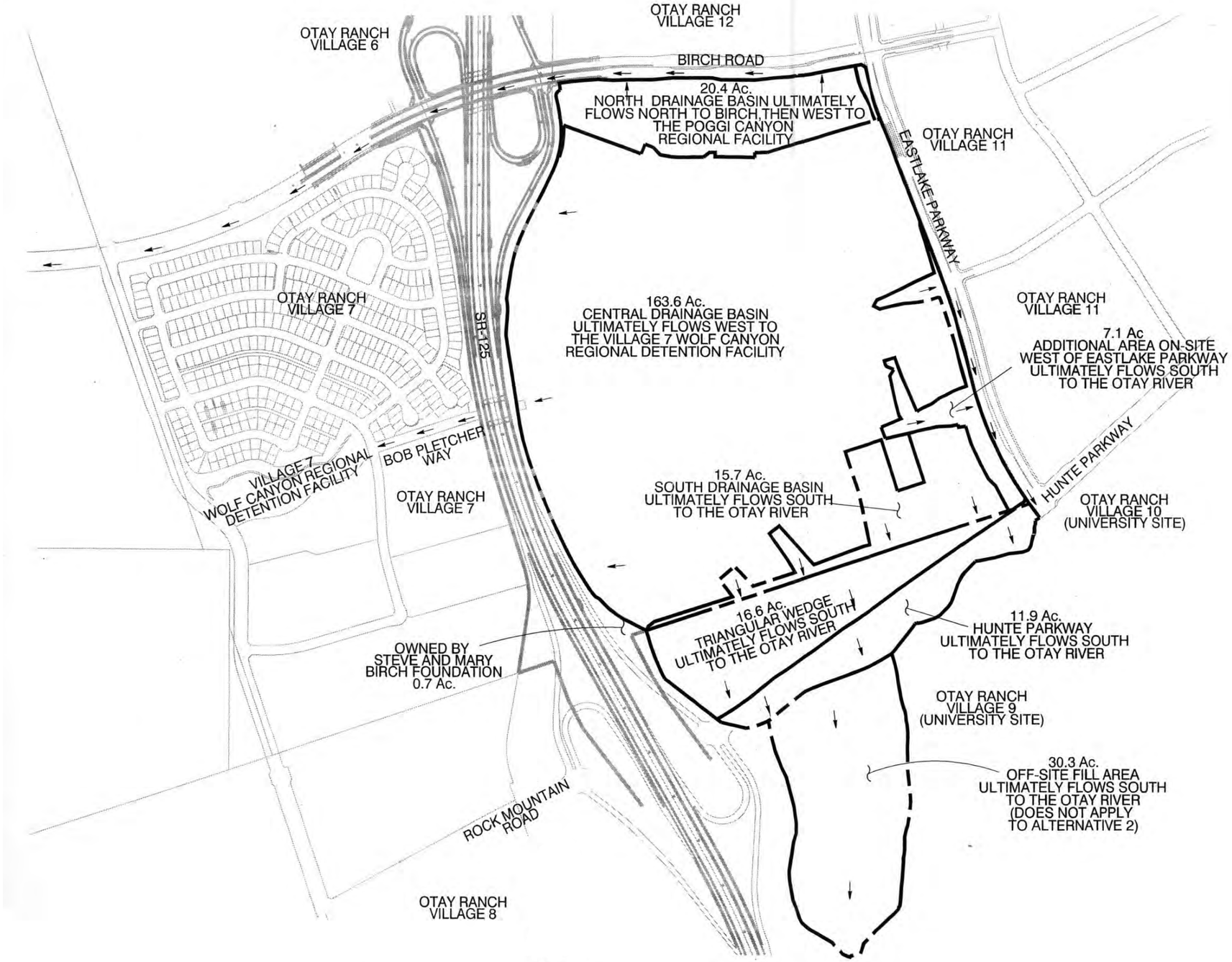
As discussed in Section 3.0, two alternative grading options, including a preferred option (Grading Option 1) and a second option (Grading Option 2), are being considered for the project. Variations within these options could also be considered. Grading Option 1 recognizes anticipated development to the south of the Applicant's property and balances grading quantities through the export of material to provide fill in the areas of the future Village Nine or the University Site. Grading Option 2 primarily balances grading onsite and includes only offsite grading necessary for construction of the portions of Street A, Street B, Street C, Street M and Hunte Parkway. Option 2 would require the raising of the EUC by approximately 5.5 feet in some areas above the elevations in Option 1. The two grading options for the EUC development both feature three major drainage basins on-site: the northern drainage basin, central drainage basin, and southern drainage basin. The analysis of hydrology and water quality impacts below applies to both grading options, unless otherwise noted.

Figure 4.9-1, *Proposed Drainage Basins*, on page 4.9-10 illustrates the proposed drainage basins.

4.9.3 IMPACT ANALYSIS

Threshold 1: *Result in an increase in pollutant discharges to receiving waters (including impaired water bodies pursuant to the Clean Water Act Section 303(d) list), result in significant alteration of receiving water quality during or following construction, violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.*

[3] *Organochlorine Pesticide Assessment and Soil Reuse Plan, prepared by Geocon Consultants Inc., June 5, 2007, revised October 4, 2007.*



N

Not to scale

Source: Rick Engineering Company, 2009.

Figure 4.9-1
Proposed Drainage Basins

A. EUC SPA Plan Area

(1) Construction

During construction, erosion can occur as a result of, and can be accelerated by, site preparation activities. Vegetation removal throughout the project site could reduce soil cohesion, as well as the buffer provided by vegetation from wind, water, and surface disturbance, which could render the exposed soils more susceptible to erosive forces. Additionally, excavation or grading for future development may also result in erosion during construction activities, as bare soils would be exposed and could be eroded by wind or water. Thus, impacts to water quality during construction are considered potentially significant.

Earth-disturbing activities associated with construction would be temporary and erosion effects would depend largely on the areas disturbed, the quantity of disturbance, and the length of time soils are subject to conditions that would be affected by erosion processes. All construction activities would comply with Chapter 29 of the California Building Code (CBC), which regulates excavation activities and the construction of foundations and retaining walls, and Chapter 70 of the CBC, which regulates grading activities, including drainage and erosion control.

Prior to project-related construction, a site-specific SWPPP would be prepared in accordance with the SWRCB Order No. 99-08-DWQ NPDES General Permit No. CAS00002 (General Construction Permit) and the modifications to the General Construction Permit Order No. 2001-046, adopted by the SWRCB. For coverage by the General Construction Permit, the project Applicant is required to submit to the SWRCB a Notice of Intent (NOI) and develop a SWPPP describing BMPs to be used during and after construction to prevent discharge of sediment and other pollutants in storm water runoff from the project site. The BMPs would provide erosion and sedimentation control through measures such as silt fences, fiber rolls, gravel bags, temporary desilting basins, velocity check dams, temporary ditches or swales, storm water inlet protection, soil stabilization measures such as erosion control mats, tackifier, hydroseeding, etc. Prior to the issuance of grading permits, the SWPPP would be required to be prepared to the satisfaction of the City Engineer and the Director of Public Works.

Under the City of Chula Vista Development Storm Water Manual, Section 7, the proposed project would be required to meet site-specific performance standards, site management requirements, seasonal requirements, limitation of grading, and potential advanced treatment for any identified sedimentation. The Storm Water Manual limits grading to an area that can be cleared or graded and left exposed at one time. This applies to the amount of acreage that the owner/contractor can adequately protect prior to a predicted rainstorm. Under the Storm Water Manual, at no time shall disturbed soil be more than 100 acres for an individual grading permit or combination of grading permits. Due to the size of the EUC SPA Plan area (approximately 207 acres), grading under either Option 1 or Option 2 has the potential to require the concurrent grading of more than 100 acres. Although this has the potential to exceed the

limitation of grading provided under the Storm Water Manual, the Manual does provide that the Director of Public Works may approve, on a case-by-case basis, expansions of the disturbed soil area limit. Soil stabilization and sediment control materials shall be maintained on-site that are sufficient to protect the disturbed soil areas.

Under the Limitation of Grading requirements, grading is expected to be phased at larger sites. Also, according to the Storm Water Manual, it may be necessary to deploy erosion and sediment control BMPs in areas that are not actively being worked before additional grading is done. Compliance with applicable regulatory requirements described above, which is prescribed as mitigation for the proposed project, would ensure that potentially significant water quality impacts during on site construction would be reduced to a less-than-significant level.

(2) Operation (Post-Construction)

Currently, the site consists of rolling hills with arroyos that divide the site into three distinct drainage basins: the northern, central and southern drainage basins. Project operation would increase the amount of surface water runoff due to the introduction of impermeable surfaces. The surface water runoff off may include urban pollutants that could adversely affect surface water quality. This is considered to be a potentially significant impact. The following provides a discussion of the applicable regulatory requirements and project design features to reduce impacts to surface water quality.

For the purposes of meeting the City of Chula Vista's Storm Water Standards Manual and SUSMP requirements, the guidelines, as defined within Section 3 of the Storm Water Standards Manual, have been followed in order to identify pollutants and conditions of concern, and to determine some of the BMP requirements (those that are expected to remain effective as described in the Storm Water Standards Manual rather than be updated based on Order No. R9-2007-0001). For the purpose of meeting the requirements of Order No. R9-2007-0001, LID Integrated Management Practices (IMPs) have been proposed to meet both treatment and flow control requirements. The LID IMPs are proposed as the primary method of treatment and flow control from the site. Several conventional treatment control BMPs are also proposed and would be sized based on numeric sizing criteria from the existing Storm Water Standards Manual (the numeric sizing criteria is not significantly changed by Order No. R9-2007-0001). The following presents a summary of the measures to be implemented by the proposed project to ensure consistency with the Storm Water Standards Manual and SUSMP requirements, as well as Order No. R9-2007-0001.

(a) Identification of Pollutants and Conditions of Concern

Section 3 of the City of Chula Vista's Storm Water Standards Manual outlines the procedure for the selection of storm water BMPs. The procedure begins with identification of pollutants and conditions of concern, a three-step process described in Section 3.V1.1 of the Storm Water Standards Manual.

The first step is to identify pollutants in the project area. Based on the Storm Water Standards Manual, the EUC SPA Plan as a whole can be expected to generate the following pollutants: sediment, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides because it includes the following priority project categories: "Attached Residential Development," "Commercial Development greater than one acre," "Restaurants," "Parking Lots", and "Streets, Highways & Freeways.[4] Anticipated pollutants would vary by individual parcels and would be addressed for each specific district as development plans for each specific district are prepared.

The second step is to identify pollutants of concern in receiving waters. Pollutants of concern are identified as those pollutants that a project is expected to generate that cause impairment of receiving water that is listed on the most recent Clean Water Act Section 303(d) List of Water Quality Limited Segments. For projects where no primary pollutants of concern exist, those pollutants anticipated to be generated by a project are considered secondary pollutants of concern.

The only receiving water for the project that is currently impaired is Poggi Canyon Creek, which is impaired by the pesticide DDT. The EUC SPA Plan as a whole can be expected to generate pesticides, specifically from attached residential portions of the development as well as any other land uses that incorporate landscaping. However, the specific pesticide DDT has been banned in the United States since the 1970s. Therefore, new land uses at the site would not create a potential source of DDT. The only potential source of DDT, since it is banned, would be existing soils at the project site that may contain DDT from past land uses. The presence of DDT was identified in the soil remediation plan titled *Organochlorine Pesticide Assessment and Soil Reuse Plan, Eastern Urban Center, Chula Vista, California*, revised on October 4, 2007, by Geocon Consultants, Inc. The potential presence of DDT in the soil could adversely affect water quality and is considered to be a potentially significant impact. It is the recommendation of this plan to bury all affected soils a minimum of 10 feet below soil that does not contain concentrations of DDT, and not within 5 feet above any engineered drainage structure or the groundwater table. The plan also recommends that all soil be managed in accordance with RWQCB guidelines. With adherence to these recommendations, DDT would not have any significant impacts on water quality.

The third step is to identify conditions of concern. Conditions of concern for the proposed project are related to any relevant hydrologic and environmental factors that are to be protected specific to the project area's watershed. A change to a priority project site's hydrologic regime would be considered a condition of concern if the change would impact downstream channels and habitat integrity. Complying with City of Chula Vista's Hydromodification Management Plan requirements will mitigate conditions of concern on this project.

[4] *Categories based on the City of Chula Vista Development Storm Water Manual, 2008.*

As analyzed in detail under Threshold 3, below, potential impacts to downstream channels and habitat have been evaluated for the northern, central and southern drainage basins. In summary, for the northerly drainage area, because of the existing Poggi Canyon Regional Detention Facility and because the runoff contributed from the EUC SPA Plan site would be contained in the existing storm drain system, no conditions of concern exist for the ultimate downstream outlet for the northern drainage area of the EUC. Nonetheless, the EUC SPA Plan design would incorporate LID IMPs to address flow control (in addition to treatment) for runoff before leaving the site without relying on the off-site facility. The LID IMPs are described below.

For the central drainage area, because of the existing Wolf Canyon Water Quality and Extended Detention Basins and because the runoff contributed from the EUC SPA Plan area would be directly discharged to the facility via a storm drain system, no conditions of concern exist for the ultimate downstream outlet for the central drainage area of the EUC. Regardless, LID IMPs would be implemented for the central drainage area.

For the southernmost drainage area, presently there is no downstream development along the southerly drainages or master planned drainage facilities between the southern boundary of the project site and the Otay River. Without implementation of on-site measures to manage runoff from the EUC, drainages serving the southern basin would be susceptible to increased erosion resulting from increased peak flow rates or increased runoff volumes or durations from the EUC SPA Plan. However, on-site measures would be used to manage discharge rates and durations for runoff discharging southerly from the EUC SPA Plan site to prevent downstream erosion and for flood control. On-site measures for two-, 10-, 50-, and 100-year detention for flood control would be implemented in addition to measures for meeting City of Chula Vista's Hydromodification Management Plan. The proposed plan identifies on-site detention in the form of detention facilities in Street M; however other options that can be considered include one or a combination of the following, to be determined during engineering design of the project: LID measures sized for decentralized flow control throughout the southerly draining portion of the project area; underground detention facilities located on-site within the project site and/or a larger offsite regional facility created in coordination with other development areas/ownerships upstream of receiving waters, provided such offsite facilities are constructed and operational prior to project occupancy. The specific measures would be determined based on the grading plan chosen for the proposed project and the status of final engineering plans and development timing for the off-site property to the south of the project site.

(b) Description of Storm Water Best Management Practices

Section 3.0 of the Water Quality Report discusses the BMPs that would be implemented for the EUC SPA Plan. The BMPs discussed in Section 3.0 are in response to Section 3.VI.2 of the Storm Water Standards Manual, which in turn satisfy the requirements of Order No. R9-2007-

0001 that can be reasonably anticipated at this time. The following presents a general overview of the BMPs to be implemented for the proposed project.

In general, there would be a strong focus on LID principles through implementation of IMPs for post-construction storm water management for the EUC SPA Plan. Hydromodification management can be incorporated, depending on the location of the IMPs, with respect to the drainage basin.

The EUC SPA Plan would be a high-density development. Therefore some basic LID principles such as reducing imperviousness, conserving natural resources and areas, maintaining and using natural drainage courses in the storm water conveyance system, minimizing clearing and grading, or maximizing infiltration, are not going to be feasible within the project site. However, when viewed from the perspective of the overall development of Otay Ranch, the EUC would be an important smart growth center that clusters a complementary mixture of land uses within a compact development pattern, supporting transit, facilitating pedestrian movement, and reducing auto-dependency, thereby combating urban sprawl and allowing other locations within Otay Ranch to be preserved. It must be recognized that whether some LID principles are feasible and/or have been applied for any project depends on the size of the box that the proposed project is viewed in.

Within the EUC SPA Plan site, some LID principles are feasible despite the high intensity of the land use, and these principles would be applied. For example, providing runoff storage measures dispersed uniformly throughout the site's landscape, implementing on-lot hydrologically functional landscape design and management practices, disconnecting impervious areas, and managing runoff close to the source instead of relying on end-of-pipe treatment are feasible practices for portions of the EUC SPA Plan site.

An IMP is a facility that provides small-scale treatment, retention, or detention and is integrated into site layout, landscaping, and drainage design. LID IMPs would collectively minimize directly connected impervious areas and promote infiltration. It is possible to incorporate LID features as well as water quality and hydromodification management within one LID IMP.

Within the northern and southern drainage basins, the LID IMPs within the streets would generally consist of in-ground planters (median), in-ground planters (tree wells), swales, and/or pervious asphalt dispersed throughout the project site. These LID IMPs are proposed as the primary method of treatment and flow control from the site for the north and south drainage basins. The central drainage basin would incorporate LID IMPs in the form of in-ground planters (medians and tree wells) to the maximum extent practical. The majority of the water quality, LID, and hydromodification management criteria for the central drainage basin would take place downstream within the Wolf Canyon Regional Detention Facility. Detention and slow filtration through biologically active soil in the planter boxes would provide treatment and manage discharge rates and durations. The majority of the project site would be designed to drain to IMPs, which is a typical approach for densely developed sites within other

municipalities as detailed in the Preliminary Water Quality Technical Report. Because local numeric sizing criteria for IMPs are not available at this time, the initial sizing criteria would be based on guidance from other municipalities, in addition to the December 31, 2007 *County of San Diego Low Impact Development Handbook Stormwater Management Strategies*. Upon City of Chula Vista's adoption of final numeric sizing criteria for IMPs, the EUC project shall incorporate IMP BMPs consistent with adopted criteria.

The Water Quality Report describes the proposed project as a whole and discusses specific design concepts to be incorporated for the major streets. Other options for the parcels may also be presented at the time of development as long as they meet the requirements of the City of Chula Vista Development Storm Water Manual and the approval of the City Engineer. The IMPs within each parcel may include, but are not limited to, one or more of the options given in Appendix I of the Water Quality Report and any of the standard designs provided in Appendix C of the Water Quality Report. As development plans for individual parcels are prepared, either a supplemental report from an engineer verifying the sizing of all devices selected for a parcel would need to be submitted, or a project-specific Water Quality Report would need to be prepared referencing the Water Quality Report prepared for the EUC for information relevant to regional design concepts (e.g., downstream conditions of concern). Certain parcels may also be able to utilize the excess capacity within the Wolf Canyon Basin in Village 7.

Upon development, each land use must be divided into Drainage Management Areas (DMA). This could include not only streets within the parcel, but also buildings, parking lots or structures, and other areas. Generally, each DMA would drain to an IMP. The specific design of these features, including their proximity to structures and how runoff would be collected and discharged from them, would be subject to approval by the Geotechnical Engineer for the proposed project. This must be evaluated on a lot by lot basis after rough grading is completed and prior to constructing any improvements or structures. All development within the project site would be subject to the City of Chula Vista's SUSMP at the time of grading permit issuance.

In addition to the LID design principles and subject to approval by the City Engineer, there could be some additional conventional measures applied. For example, other conventional measures available from the Storm Water Standards Manual would be used to treat trash and debris. The conventional measures that are proposed would not be stand-alone measures but would be part of a treatment train of BMPs in conjunction with the LID IMPs. Conventional measures could be in the form of inlets inserts and hydrodynamic separators.

Site design and source control BMPs would also be implemented. The term "site design BMP" refers to any project design feature that reduces the creation or severity of potential pollutant sources, reduces the alteration of the proposed project site's natural flow regime, or maintains or reduces pre-development erosion and protects stream habitat. Examples of site design BMPs may include the use of permeable surfaces for walkways, trails, patios, alleys, and other

low-traffic areas, the incorporation of landscaping where impermeable surfaces drain to, and the vegetation of slopes with native and drought tolerant vegetation to protect slopes.

The term “source control BMP” refers to land use or site planning practices, or structures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff. Examples of source control BMPs include providing stencils and/or labels discouraging illegal dumping to the storm drain system, designing outdoor materials storage and trash areas to reduce pollution introduction, using efficient irrigation systems, employing integrated pest management systems and street sweeping systems.

The site design and source control BMPs are described in Sections 3.2 and 3.3 of the Water Quality Report, respectively. LID IMPs are described in Section 3.4, and conventional BMPs are described in Section 3.5 of the Water Quality Report.

Operation and Maintenance Plans (O&M Plans) would be prepared to describe the designated responsible parties to manage the IMPs, BMPs, and the detention facilities for the southerly drainage area, and the training requirements, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities, copies of resource agency permits (if applicable), record keeping requirements, and any other necessary activities. There may be one or more O&M Plans for the EUC SPA Plan as needed, depending on the delegation of maintenance responsibilities (e.g., an overall site O&M Plan may be prepared for the hydrodynamic separators or drainage inserts within the public streets and the additional flood control detention facilities for the southerly drainage area, while individual parcels may require additional O&M Plans for site-specific BMPs located within the parcel). The Community Facilities Districts (CFDs) and/or Home Owners Associations (HOAs) would be responsible for funding and maintenance for all storm water BMPs. Typical maintenance activities are provided in Section 4.0 of the Water Quality Report for the LID IMPs and conventional BMPs.

In conclusion, with implementation of the proposed storm water BMPs, including the implementation of LID IMPs identified in the Water Quality Report that are prescribed as mitigation measures for the proposed project, potentially significant impacts to downstream drainage facilities identified as conditions of concern in this analysis would be reduced to a less-than-significant level. In addition, with implementation of the recommendations in the soil remediation plan regarding soils potentially contaminated with DDT, less-than-significant impacts would occur to receiving waters (including impaired water bodies pursuant to the Clean Water Act Section 303(d) List). Overall, with implementation of the proposed storm water BMPs, including the implementation of LID IMPs, in the Water Quality Report and recommendations in the soil remediation plan, which are prescribed as mitigation measures, the proposed project would not result in a significant alteration of receiving water quality during or following construction, or violate any water quality standards or waste discharge requirements. Therefore, less-than-significant impacts would occur in these regards.

B. Off-site Soils Stockpiling Area

The SSA, located on adjoining property to the south, would receive 1.1 million cubic yards of soil from the EUC SPA Plan Area. Stockpiling activities within the SSA would include grading and compaction of fill soils. These activities could expose soils to the erosive forces of wind, water, and other surface disturbance that could result in increased sedimentation and other pollutants in surface waters. Thus, impacts to water quality during construction are considered potentially significant.

Grading activities would comply with the drainage and erosion control regulations of Chapter 29 of the CBC. In addition, prior to any construction activities, including soil stockpiling and grading, a site-specific SWPPP would be prepared in accordance with the SWRCB Order No. 99-08-DWQ NPDES General Permit No. CAS00002 (General Construction Permit) and the modifications to the General Construction Permit Order No. 2001-046, adopted by the SWRCB. The SWPPP must be prepared to the satisfaction of the City Engineer and the Director of Public Works.

Under the General Construction Permit, the Applicant is required to submit to the SWRCB an NOI along with the SWPPP describing BMPs to be used during and after construction to prevent the discharge of sediment and other pollutants in storm water runoff. The BMPs would provide erosion and sedimentation control through measures such as silt fences, fiber rolls, gravel bags, velocity check dams, temporary ditches or swales, storm water inlet protection, and soil stabilization measures such as erosion control mats, hydroseeding, and any other measures identified by the Director of Public Works.

Under the City of Chula Vista Development Storm Water Manual, Section 7, the SSA would be required to meet site-specific performance standards, site management requirements, seasonal requirements, limitation of grading, and potential advanced treatment for any identified sedimentation. The Storm Water Manual limits grading to an area that can be cleared or graded and left exposed at one time to the amount of acreage that the owner/contractor can adequately protect prior to a predicted rainstorm. Soil stabilization and sediment control materials, sufficient to protect the disturbed soil area, are required to be maintained on-site during the entire period of exposure (prior to future development). Activities proposed within the SSA do not include development of impermeable surfaces and would not contribute to a permanent or long-term increase in pollutants from such surfaces. The enforcement of existing City and SWRCB requirements, described above, would ensure that impacts on water quality would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The 1.44-acre SCSL Improvement Area includes native and disturbed ground area. The SCSL Improvement includes a proposed 173-foot, 15-inch diameter sewer line addition to the Salt Creek trunk sewer. The proposed sewer pipeline would be installed using a combination of

conventional open trench excavation and boring and jacking. The SCSL Improvement would also include modification of the upstream manhole. Conventional open trench excavation along a portion of the pipeline would expose soils to the erosive forces of wind, water, and other surface disturbances that may result in increased sedimentation and other pollutants in surface waters. Thus, impacts to water quality during construction are considered potentially significant.

Grading activities would comply with the drainage and erosion control regulations of Chapter 29 of the CBC. In addition, prior to any construction activities, a site-specific SWPPP would be prepared to the satisfaction of the City Engineer and the Director of Public Works. The SWPPP would include BMPs to be used during and after construction to prevent discharge of sediment and other pollutants in storm water runoff. The SCSL Improvement would not include development of impermeable surfaces or contribute to a permanent or long-term increase in pollutants from such surfaces. Application of existing City and SWRCB regulations would ensure that water quality impacts during pipeline construction would be less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI involves the proposed replacement of a section of 18-inch line with a section of 21-inch line within the same location. The PCSI would require an approximately 8-foot-wide, 14-foot-deep excavation trench. The existing pipeline is located within Olympic Parkway, an arterial highway constructed according to current engineering standards. All excavation activities, such as staging and stockpiling would be located within the paved roadway. As any excavation activities have the potential to expose soils to erosive forces, proposed activities within the PCSI Area have the potential to increase sedimentation and other pollutants in surface waters. Thus, impacts to water quality during construction are considered potentially significant.

As described for the SCSL Improvement, excavation and grading activities would comply with the drainage and erosion control regulations of Chapter 29 of the CBC and a site-specific SWPPP would be required with BMPs to prevent discharge of sediment and other pollutants in storm water runoff. The PCSI, which would occur within an existing roadway, would not increase existing impermeable surfaces or contribute to a permanent or long-term increase in pollutants from such surfaces. Application of existing City and SWRCB regulations would ensure that water quality impacts during pipeline replacement would be less-than-significant.

Threshold 2: *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (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).*

A. EUC SPA Plan Area

No groundwater was encountered during the on-site field testing conducted as part of the Geotechnical investigation.[5] Groundwater is expected to occur deeper than 100 feet (and likely deeper than 200 feet), however, it is acknowledged that changes in rainfall, irrigation practices, or site drainage could produce seepage or locally perched groundwater conditions at any location within the soil or formational units underlying the project site.[6] The proposed development within the EUC SPA Plan would increase the amount of impermeable surfaces, which would result in increased runoff and reduced on-site percolation. The effects of the reduced percolation would be limited to the EUC SPA Plan property because the groundwater is locally perched and flows laterally rather than into a regional groundwater table. While grading at the project site could result in shifts in the direction of groundwater flow on a micro-scale, the overall flow of groundwater would not change as a result of the proposed project. The Otay River Valley is the principal aquifer that would ultimately receive the additional runoff to replenish groundwater in addition to the existing basin discharge. Therefore, impacts to groundwater quantity would be less-than-significant.

The project site has not been identified as a source of significant groundwater recharge, and the existing groundwater is already rated as poor quality throughout the drainage basin with limitations on current uses. Increased exposure to urban pollutants from surface water runoff could further degrade the quality of groundwater, despite any filtering that could occur during percolation. Thus, impacts to groundwater quality are considered potentially significant. As described above, runoff would be treated on-site through the use of BMPs and LID practices to reduce the amount of pollutants in runoff to the maximum extent feasible. Even though these treatment methods are proposed as part of the project, they are also prescribed as mitigation measures in Section 4.9.5 to assure implementation and facilitate monitoring through buildout of the project.

B. Off-site Soils Stockpiling Area

The SSA project would not require deep excavation that would intercept the existing groundwater table, which is expected to occur deeper than 100 feet from the existing ground surface, or any locally perched groundwater areas. Therefore, loss of groundwater due to stockpiling and grading is not anticipated. In addition, the SSA would not include development of impermeable surfaces that would cause a permanent decrease in groundwater supply or contribute to a permanent or long-term increase in pollutants from such surfaces. While grading at the SSA site could result in shifts in the direction of groundwater flow on a micro-scale, the overall flow of groundwater would not meaningfully change as a result of the

[5] *Geotechnical Investigation prepared by Geotechnics Incorporated, dated March 1, 2007.*

[6] *Organochlorine Pesticide Assessment and Soil Reuse Plan, prepared by Geocon Consultants Inc., June 5, 2007, revised October 4, 2007.*

proposed project. Therefore, impacts to groundwater volume and quality would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

Trenching and drilling for the installation of a 173-foot, 15-inch pipeline within the SCSL Improvement Area is not expected to intercept the existing groundwater table, which is generally deeper than 100 feet from the existing ground surface. However, as slant drilling under Salt Creek, an existing stream, may be required, the potential exists for the inadvertent release of drilling fluid (frac-out). A Frac-Out Contingency Plan (FCP) shall be prepared to the satisfaction of the City Engineer and the City's Environmental Review Coordinator (ERC) (see Section 4.7, Biological Resources, Mitigation Measure 4.7-12). The mandatory FCP would ensure that timely detection of frac-outs would occur and that site-specific sediment and erosion control measures would be implemented. Therefore, a substantial loss of groundwater due to construction is not anticipated. In addition, the SCSL Improvement would not include development of impermeable surfaces that would cause a permanent decrease in groundwater supply or contribute to a permanent or long-term increase in pollutants from such surfaces. Therefore, impacts to groundwater volume and quality would be less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The approximately 8-foot-wide, 14-foot-deep excavation trench under the PCSI would not intercept the existing groundwater table, which is expected to occur deeper than 100 feet from the existing ground surface. Although locally perched groundwater may be encountered, any removal of groundwater would be minimal due to the small scale of the PCSI. Therefore, a substantial loss of groundwater due to construction is not anticipated. In addition, activities within the PCSI Area would occur within an existing roadway and would not increase existing impermeable surfaces that would decrease groundwater supply or contribute to a permanent or long-term increase in pollutants from such surfaces. Therefore, impacts to groundwater volume and quality would be less-than-significant.

Threshold 3: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site, or City of Chula Vista Engineering Standards for storm water flows and volumes.*

A. EUC SPA Plan Area

(1) Drainage – Erosion Control

Currently, the EUC SPA Plan area is generally comprised of gently sloping terrain covered with non-native grasslands crossed by a series of dirt roads and old cattle trails. As such, the

project site consists almost entirely of permeable surfaces. The proposed project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. With the project site entirely developed, paved, or landscaped, stormwater runoff could result in substantial off-site erosion to downstream facilities. This is considered to be a potentially significant impact. As project implementation would result in the project site being converted to urban uses with minimal exposed soils areas that could be subject to erosion, on-site erosion hazards are considered to be less-than-significant. Thus, the following analysis focuses on off-site erosion impacts associated with project implementation.

Determinations of whether the proposed project has the potential to result in excessive storm water flows and/or volumes that could result in substantial erosion or siltation off-site are based on the proposed project's ability to detain flows to pre-project conditions and/or maintain flows within the design parameters of available off-site storm water facilities. The following analysis details the proposed hydrologic conditions of the northern, central and southern drainage basins that comprise the proposed project site.

(a) Northern Basin

Under both Grading Options 1 and 2, the northern post-project drainage basin (Drainage Basins 100 and 200) of the EUC SPA Plan site would be served by an on-site storm drain system that would convey runoff to an existing storm drain system in Birch Road. From Birch Road, runoff would continue northerly then westerly, through Otay Ranch Villages Six, Seven, and Planning Area Twelve. It would co-mingle with runoff from off-site from Otay Ranch Villages Six, Seven, and Planning Area Twelve. It would ultimately discharge to the existing Poggi Canyon Regional Detention Facility, which ultimately discharges to Poggi Canyon. The existing Poggi Canyon Regional Detention Facility was designed as part of a master drainage design for a reach of Poggi Canyon Creek.

The runoff from the northern portion of the EUC SPA Plan area would be contained in existing storm drain pipes for the entire length of travel between the project site and the existing Poggi Canyon Regional Detention Facility. The storm drain system and the existing Poggi Canyon Regional Detention Facility were designed assuming the area of the project site contributing to the basin would be 20.4 developed acres, and the detention facility was designed to detain the 10-, 50-, and 100-year storm events down to pre-project levels.

The proposed grading and drainage design of the northern drainage basin for the EUC SPA Plan would honor this original design and not exceed 20.4 acres. Given that the current pre-project topographic information for the northern basin does not reflect historical conditions due to grading performed in the surrounding area, significant analysis was performed to ensure that the North Drainage Basins associated with the project site do not adversely impact

downstream existing facilities. Please refer to the Drainage Study for a discussion of the methodology utilized to conduct this analysis.

In addition to the existing Poggi Canyon Regional Detention Facility, the EUC SPA Plan would implement LID IMPs on site to account for Hydromodification Management. Thus, the northern basin, which is discharging into the existing Poggi Canyon Regional Detention Facility, would utilize LID IMPs to detain for 20 percent of the 5-year through the 10-year storm event (both thresholds subject to change in the final regional Hydromodification Management Plan (HMP)) for the 20.4 acres associated with the EUC SPA Plan (the downstream Poggi Canyon Regional Dentition Facility is detaining the 10, 50-, and 100-year storm event to pre-project conditions). The LID IMPs would be in the form of in-ground planters (medians and tree wells), swales, and pervious asphalt to address flow control (in addition to treatment) associated with the streets before leaving the site without relying on the off-site facility. Upon final project design, detailed analyses would be performed to size these devices. These LID IMPs would satisfy the Interim Hydromodification Criteria and would address the downstream Condition of Concern with respect to erosion, as discussed under Threshold 1 above. Essentially, the existing Poggi Canyon Regional Detention Facility would represent a second line of defense for protection of downstream receiving waters from erosion due to runoff from the northern portions of the proposed project.

Table 4.9-1, *Summary of the 2-, 10-, 50- and 100-Year Storm Events for the North Drainage Basin*, on page 4.9-24 provides a summary of the 2-, 10-, 50-, and 100-year storm events for the north drainage basin under post-project conditions under each grading alternative. As shown in the table, under both grading options, the proposed grading and drainage designs for the northern drainage basin would not exceed 20.4 acres. As such, the existing storm drain system serving the northern basin would accommodate project storm water flows and as such, the proposed project would not substantially alter the existing drainage pattern of the project site or area in a manner that would result in substantial erosion or siltation off-site. Thus, impacts are concluded to be less-than-significant for the northern drainage basin.

(b) Central Basin

The central drainage basin (Drainage Basin 300 through 900) of the EUC SPA Plan site would be served by an on-site storm drain system that would convey runoff to an existing storm drain system that conveys runoff westerly under SR-125 to Otay Ranch Village Seven. The runoff from the central portion of the EUC SPA Plan would co-mingle with off-site runoff from SR-125 and Otay Ranch Village Seven. It would be discharged directly from the storm drain system under State Route 125 to the existing Wolf Canyon Water Quality and Extended Detention Basins, which ultimately discharge to Wolf Canyon. The existing Wolf Canyon Water Quality and Extended Detention Basins were designed as part of Otay Ranch Village Seven. This facility has been designed and constructed to detain the 2-, 10-, and 100-year storm events to pre-project levels and numerically sized for water quality. The facility is comprised of three basins. The first basin is the forebay and has been designed to capture trash and debris and

Table 4.9-1

Summary of the 2-, 10-, 50-, and 100-Year Storm Events for the North Drainage Basin (Post-Project Conditions)[a]

Node Number[b]	Area (acre)	Flow Rate (cubic feet per second)			
		2-year[c]	10-year[c]	50-year	100-year
Grading Alternative #1					
125	7	13.4	22.1	29.4	34.0
235	13.4	20.9	34.3	46.0	53.2
Grading Alternative #2					
125	7	13.1	21.5	28.7	33.1
235	13.4	17.7	29.8	40.4	46.9

[a] *Post-Project Runoff Coefficients: C=.87 for streets and C=.85 for pads.*
[b] *Downstream Point of Interest/Comparison for the northern drainage basin at the EUC Boundary.*
[c] *Upon final design, the LID IMP devices will be designed to detain for 20 percent of the 5-year through the 10-year storm event .*

Source: Preliminary Drainage Study for McMillin Eastern Urban Center (EUC), revised January 30, 2008, Rick Engineering Company.

treat the storm water while also doubling as a basin for extended detention purposes. Downstream of this forebay, there are two extended detention basins in series that attenuate the post-project flows to pre-project levels.

The storm drain system and the existing Wolf Canyon Water Quality and Extended Detention Basins were designed assuming the area of the EUC SPA Plan contributing to the basins would be 163.6 developed acres and the land use would be the medium-high residential and commercial development. The proposed grading and drainage design for the central drainage basin of the EUC SPA Plan would honor this original design and would not exceed 163.6 acres.

Similar to the northern basin, given that the current pre-project topographic information for the central basin does not reflect historical conditions due to grading performed in the surrounding area, significant analysis was performed to ensure that the Central Drainage Basins associated with the EUC SPA Plan site do not adversely impact downstream existing facilities. Please refer to the Drainage Study for a discussion of the methodology utilized to conduct this analysis.

In addition to the benefits associated with the existing Wolf Canyon Water Quality and Extended Detention Basins, the EUC SPA Plan would implement LID IMPs in the form of in-ground planters (tree wells) to promote infiltration to the maximum extent practical on site and provide Hydromodification Management. Upon final project design, detailed analyses would be performed to size these devices. While the Wolf Canyon basin detains the 2-, 10-, and 100-

year storm event, which may satisfy the downstream condition of concern, the LID IMPs would detain runoff within threshold limits identified in the Hydromodification Management Plan. The LID IMPs, in conjunction with the existing Wolf Canyon extended detention facility, would ensure that the discharge would not exceed pre-project discharge.

The Wolf Canyon Regional Detention Facility is sized such that it provides 22 percent or 36 acres of the hydromodification management requirement for the EUC SPA Plan central drainage basin. The streets in the EUC SPA Plan make up 30.7 acres of the 163.6 acres attributed to the central drainage basin. Therefore, the streets make up roughly 19 percent of the 22 percent allowed for hydromodification management within the Wolf Canyon Regional Detention Facility. The remaining three percent can be utilized to offset the requirements of individual parcels. The remaining 78 percent would be satisfied by individual landowners as they begin development plans for each parcel. As development plans for individual parcels are prepared, either a supplemental report from an engineer verifying the sizing of all devices selected for a parcel would need to be submitted, or a project-specific Water Quality Technical Report would need to be prepared referencing the EUC SPA Plan Water Quality Report utilized in this section for information relevant to regional design concepts (e.g., downstream conditions of concern).

Table 4.9-2, *Summary of the 2-, 10-, 50- and 100-Year Storm Events for the Central Drainage Basin,* on page 4.9-26 provides a summary of the 2-, 10-, 50-, and 100-year storm events for the central drainage basin under post-project conditions under each grading option. As shown in the table, under both grading options, the proposed grading and drainage design for the central drainage basin would not exceed 163.6 acres. As such, the existing storm drain system serving the central basin would accommodate project storm water flows and as such, the proposed project would not substantially alter the existing drainage pattern of the project site or area in a manner that would result in substantial erosion or siltation off-site. Thus, impacts are concluded to be less-than-significant for the central drainage basin.

(c) Southern Basin

The southern drainage basins of the EUC SPA Plan site drain to two distinct un-named drainages, which each continue southerly to the Otay River. While it is anticipated in the future, presently there is no downstream development along these drainages or master planned drainage facilities between the southern boundary of the EUC SPA Plan site and the Otay River. Without implementation of on-site measures to manage runoff from the EUC, drainages serving the southern basin would be susceptible to increased erosion resulting from increased peak flow rates or increased runoff volumes or durations from the EUC SPA Plan. This is considered to be a potentially significant impact. However, on-site measures would be implemented to manage discharge rates and durations for runoff discharging southerly from the EUC SPA Plan site for protection from downstream erosion and for flood control.

Table 4.9-2

Summary of the 2-, 10-, 50-, and 100-Year Storm Events for the Central Drainage Basin (Post-Project Conditions)

Node Number[a]	Area (acre)	Flow Rate (cubic feet per second)			
		2-year	10-year	50-year	100-year
Grading Option 1					
924	163.6	206.5	343.2	461.5	533.2
Grading Option 2					
772	162.7	205.1	341.8	463.5	536.2

[a] *Downstream point of interest/comparison for the Central drainage basin at the EUC boundary .*

Source: Preliminary Drainage Study for McMillin Eastern Urban Center (EUC), revised January 30, 2008, Rick Engineering Company.

Unlike the northern and central drainage basins, the hydrology of the southern drainage would be significantly different under each of the proposed grading options. As such, the following discussion presents the post-project hydrology analysis for each grading option.

(i) Grading Option 1

The southern drainage basins of the EUC SPA Plan site drain to two distinct un-named drainages which each continue southerly to the Otay River. The southern post-project drainage basin would consist of three on-site (Drainage Basins 1000, 2000 and 3000) and two off-site drainage basins (Drainage Basins 4000 and 5000). The on-site southern drainage basin would be routed to a proposed underground detention facility located at the southern end of the EUC SPA Plan along Street M, which would detain the 2-, 10-, 50-, and 100-year storm events and meet City of Chula Vista's Hydromodification Management requirements. The detained flows from the underground detention facility (Drainage Basin 1000, 2000 and 3000) would be commingled with a portion of the flows from the "triangular wedge" (16.6 acres of the non-proposed project portion of EUC (land owned by the OLC) and 30.3 acres of off-site fill area to the south of Hunte Parkway (also referred to as the "Off-site Soils Stockpiling Area" or "SSA" (Drainage Basin 4000). The runoff would then be routed to a proposed detention basin located within the downstream canyon. This basin would also be designed for a volume of 2.7 acre-feet while attenuating the 2-, 10-, 50-, and 100-year post-project flows. Drainage Basin 5000 would be just east of Drainage Basin 4000 and would collect flows from the remaining portion of the "triangular wedge" and commingle with remaining areas of the EUC SPA Plan draining east toward EastLake Parkway, as well as flows from the existing adjacent developments (Otay Ranch Village Eleven and Eastlake Parkway). The post-project flows from Drainage Basin 5000, remaining areas of the EUC SPA Plan draining east toward EastLake Parkway and the existing adjacent developments mentioned above, would be less than that of the pre-project flows. Therefore, a detention facility has not been proposed for this

drainage basin. All of the detention facilities would detain the post-project flows to at or below pre-project levels.

Table 4.9-3, *Summary of the 2-, 10-, 50- and 100-Year Storm Events for the South Drainage Basin,* on page 4.9-28 provides a summary of the 2-, 10-, 50-, and 100-year storm events for the southern drainage basin under post-project conditions under Grading Option 1. Table 4.9-3 includes detained flows from underground detention facility in Street M only, and not the above ground detention facility located South of Hunte Parkway in the westerly canyon. Table 4.9-4, *100-year Detention Results for Grading Option 1 for the Southern Discharge Locations*, on page 4.9-29 indicates the post-project detained discharges for both the proposed underground detention facility in Street M, and the above ground detention facility located South of Hunte Parkway in the westerly canyon. Table 4.9-4 demonstrates that the proposed detention facilities for Option 1 detain for downstream impacts while releasing post-project flows at pre-project levels.

The City of Chula Vista Storm Water Management Standards Requirements Manual requires mitigation for downstream erosion. Impacts regarding downstream erosion would be reduced by the proposed detention facilities by detaining the 2- and 10-year storm events down to pre-project levels, prior to discharging into the natural canyons. The EUC SPA Plan would also be implementing LID IMPs on site to account for Hydromodification Management. These devices would treat and detain the smaller storm events (i.e., up to 10-year). Consequently, the LID IMPs that are accounting for hydromodification management would detain 20 percent of the flow for the 5-year through the 10-year storm event in addition to the proposed detention facilities. As such, the proposed detention facilities and LID IMPs would ensure that discharge does not exceed pre-project discharge.

(ii) Grading Option 2

The southern drainage basin would consist of three separate drainage basins as well as an interim condition “triangular wedge.” Flows from the southern portion of the on-site EUC SPA Plan would be conveyed southerly within a proposed on-site storm drain system to an underground detention facility in Street M. In this alternative, the triangular wedge would be part of an interim condition that includes Streets A, B, and C from Street M to Hunte Parkway as well as Hunte Parkway and any adjacent slopes. The interim condition triangular wedge would not include pads brought up to grade. The pads would remain in existing condition with the exception of any slopes needed on the pad to daylight the aforementioned streets. As discussed below, an interim condition detention basin would be necessary at one of the outfalls to detain back to pre-project condition. The interim condition detention basin would need to be reassessed when the pads within the triangular wedge are developed in order to detain for the ultimate condition.

Table 4.9-3

Summary of the 2-, 10-, 50-, and 100-Year Storm Events for the Southern Drainage Basin – Grading Option 1 (Post-Project Conditions)

Condition	Node	Area (acre)	Flow Rate (cubic feet per second)			
			2-year	10-year	50-year	100-year
Pre-Project	404	106.7	37.3	62.8	85.9	100
Post-Project (Undetained Flows)[a,b]	4045	99.4	80.3	92.7	124.0	143.4

[a] *Includes detained flows from underground detention facility in Street M.*

[b] *See Table 4.9-4 for Post-Project detained discharges for both the underground detention facility in Street M, and the above ground detention facility located South of Hunte Parkway.*

Source: Preliminary Drainage Study for McMillin Eastern Urban Center (EUC), revised January 30, 2008, Rick Engineering Company.

Similar to Grading Option 1, the southern drainage basins of the EUC SPA Plan site would drain to two distinct un-named drainages which each continue southerly to the Otay River. The southern post-project drainage basin would consist of three on-site (Drainage Basin 1000, 2000 and 3000) and two off-site drainage basins (Drainage Basins 4000 and 5000). The on-site southern drainage basin would be routed to a proposed underground detention facility, which would detain the 2-, 10-, 50-, and 100-year storm events. The detained flows from the underground detention facility (Drainage Basin 1000, 2000 and 3000) would be commingled with a portion of the flows from the interim condition triangular wedge (Drainage Basin 4000).

The runoff would then be routed to a proposed interim condition above ground detention basin located within the downstream westerly canyon. Drainage Basin 4000 would also be designed for a volume of 1.6 acre-feet while attenuating the 2-, 10-, 50-, and 100-year post-project flows. The interim condition above ground detention basin would need to be reassessed when the pads within the triangular wedge are developed in order to detain for the ultimate condition. Drainage Basin 5000 is just east of Drainage Basin 4000 and collects flows from the remaining portion of the interim condition triangular wedge and commingles with remaining areas of EUC SPA Plan draining east toward EastLake Parkway. Drainage Basin 5000 also collects flows from the existing adjacent developments (Otay Ranch Village Eleven and Eastlake Parkway). The post-project flows from Drainage Basin 5000, remaining areas of the EUC SPA Plan draining east toward Eastlake Parkway and the existing adjacent developments mentioned above, would be less than that of the pre-project flows. Therefore, a detention facility has not been proposed for this drainage basin. All of the detention facilities would detain the post-project flows to at or below pre-project levels.

Table 4.9-4

100-Year Detention Results for Grading Option 1 for the Southern Discharge Locations[a]

Storm Event	Detention Facility	Post Discharge Location	Pre-Project Discharge (cfs)	Post-Project Detained Discharge (cfs)
100	Underground Facility	Drainage Basin 1020	28.6	28.6
	Detention Basin	Drainage Basin 4000	100	100

cfs = cubic feet per second

[a] *Pre-project Alternative 1 Drainage Basin 400 outlet point is coincident with post-project Drainage Basin 4000 outlet point.*

Source: Preliminary Drainage Study for McMillin Eastern Urban Center (EUC), revised January 30, 2008, Rick Engineering Company.

Table 4.9-5, *Summary of the 2-, 10-, 50-, and 100-Year Storm Events for the Southern Drainage Basin – Grading Option 2*, on page 4.9-30 provides a summary of the 2-, 10-, 50-, and 100-year storm events for the southern drainage basin under post-project conditions under Grading Option 2. Table 4.9-6, *100-Year Detention Results for Grading Option 2 for the Southern Discharge Locations*, on page 4.9-31 indicates the post-project detained discharges for both the proposed underground detention facility in Street M, and the above ground interim detention facility located South of Hunte Parkway in the westerly canyon. Table 4.9-6 demonstrates that the proposed detention facilities for Grading Option 2 detain downstream impacts while releasing post-project flows at pre-project levels.

Similar to Grading Option 1, the proposed project would implement LID IMPs to ensure consistency with the downstream erosion provisions set forth in the City of Chula Vista Storm Water Management Standards Requirements Manual. The LID IMPs that also account for hydromodification management would provide for the detention of 20 percent of the 5-year through 10-year storm events (both thresholds subject to change in the final regional HMP). The LID IMPs, in addition to the proposed detention facilities, would ensure that the discharge would not exceed pre-project discharge.

In conclusion, for the southerly drainage area, there is no downstream development along the southerly drainages or master planned drainage facilities between the southern boundary of the EUC SPA Plan site and the Otay River. Without implementation of on-site measures to manage runoff from the EUC, drainages serving the southern basin would be susceptible to increased erosion resulting from increased peak flow rates or increased runoff volumes or durations. However, with implementation of the proposed storm water BMPs, including the implementation of LID IMPs and the proposed detention facilities in the Southern Drainage Basin, these impacts would be reduced to a less-than-significant level. Even though the

Table 4.9-5

Summary of the 2-, 10-, 50-, and 100-Year Storm Events for the Southern Drainage Basin – Grading Option 2 (Post-Project Conditions)

Storm Event (Year)		Node 404/4070 (Pre/Post)		
		Pre-Project (404)	Post-Project Undetained (4070)	Post-Project Detained (4070)
2	Flow Rate	20.6 c.f.s.	34.3 c.f.s.	20.4 c.f.s.
	Area	47.8 Ac	45.3 Ac	45.3 Ac
10	Flow Rate	33.9 c.f.s.	56.0 c.f.s.	33.9 c.f.s.
	Area	47.8 Ac	45.3 Ac	45.3 Ac
50	Flow Rate	45.5 c.f.s.	75.7 c.f.s.	44.9 c.f.s.
	Area	47.8 Ac	45.3 Ac	45.3 Ac
100	Flow Rate	52.8 c.f.s.	89.0 c.f.s.	52.5 c.f.s.
	Area	47.8 Ac	45.3 Ac	45.3 Ac

c.f.s. = cubic feet per second
Ac = Acre

Source: Preliminary Drainage Study for McMillin Eastern Urban Center (EUC), revised January 30, 2008, Rick Engineering Company.

project includes features to reduce the amount and rate of runoff, they are also prescribed as mitigation measures in Section 4.9.5 to assure implementation and facilitate monitoring through buildout of the project.

B. Off-site Soils Stockpiling Area

The SWPPP for the SSA would reduce surface water runoff and potential erosion, and siltation during construction to a less-than-significant level. Surface drainage from the SSA site currently occurs via sheet flow into two un-named tributaries that continue southerly to the Otay River. As discussed above under Grading Option 1, with the development of the SSA, drainage from the EUC SPA Plan and SSA site would be combined. Drainage from the SAA site would be directed into two drainage basins (Drainage Basins 4000 and 5000). As discussed above, detained flows from the EUC SPA's underground detention facility (Drainage Basins 1000, 2000 and 3000) would be commingled with Drainage Basin 4000. The runoff would then be routed to a proposed detention basin located within a downstream Otay River tributary canyon. Drainage Basin 5000, just east of Drainage Basin 4000, would collect flows from the remaining portion of the SSA site and commingle with remaining areas of the EUC SPA Plan draining toward EastLake Parkway. Drainage Basin 5000 would also collect flows from the existing Otay Ranch Village Eleven and Eastlake Parkway. The post-project flows from Drainage Basin 5000, remaining areas of the EUC SPA Plan draining east toward EastLake Parkway, and the existing Otay Ranch Village Eleven and Eastlake Parkway would be less than pre-project flows.

Table 4.9-6

100-Year Detention Results for Grading Option 2 for the Southern Discharge Locations [a]

Storm Event	Detention Facility	Post Discharge Location	Pre-Project Discharge (cfs)	Post-Project Detained Discharge (cfs)
100	Underground Facility	Drainage Basin 1020	28.6	28.5
	Detention Basin	Drainage Basin 4000	52.8	52.5

cfs = cubic feet per second

[a] *Pre-project Alternative 2 Drainage Basin 400 outlet point is coincident with post-project Drainage Basin 4000 outlet point.*

Source: Preliminary Drainage Study for McMillin Eastern Urban Center (EUC), revised January 30, 2008, Rick Engineering Company.

The SSA would not include the development of impermeable surfaces that would cause a permanent increase in surface water runoff or result in erosion or siltation. In addition, the analysis of Drainage Basins 4000 and 5000 under Grading Option 1 takes into account any shift in direction of surface water flow as a result of the creation of pads within the SSA site, along with increased runoff from the EUC SPA Plan Area. As discussed above, implementation of the proposed storm water BMPs, the implementation of LID IMPs, and the proposed detention facilities in the Southern Drainage Basin, which are prescribed as mitigation measures for the EUC, would reduce the EUC SPA Plan's potentially significant impacts associated with engineering standards for storm water flows and volumes. Respectively, any changes in drainage patterns within the SSA would also be reduced to a less-than-significant level.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SWPPP for the SCSL Improvement would reduce potential surface water runoff and any potential erosion and siltation during construction to a less-than-significant level. In addition, the SCSL Improvement would not include the development of impermeable surfaces that would increase surface water runoff that would result in siltation or erosion or contribute to a permanent or long-term increase in pollutants from such surfaces. Therefore, the SCSL Improvement would have a less-than-significant impact with respect to engineering standards for any storm water flows and volumes that would result in substantial erosion or siltation on- or off-site.

D. Off-site Poggi Canyon Sewer Improvement Area

The SWPPP for the PCSI Area would reduce surface water runoff and any potential erosion and siltation during construction to a less-than-significant level. The PCSI which would occur

within an existing roadway, would not increase existing impermeable surfaces that would increase surface water runoff or contribute to a permanent or long-term increase in pollutants from such surfaces. Therefore, the PCSI would have a less-than-significant impact with respect to engineering standards for any storm water flows and volumes that would result in substantial erosion or siltation on- or off-site.

Threshold 4: *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site, or place structures 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 which would impede or redirect flood flows.*

A. EUC SPA Plan Area

As discussed under Threshold 3, currently the EUC SPA Plan area is generally comprised of gently sloping terrain covered with non-native grasslands crossed by a series of dirt roads and old cattle trails. Therefore, the project site consists almost entirely of permeable surfaces. The proposed project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. With the site entirely developed, paved, or landscaped, a substantial increase in the rate or amount of water surface runoff could occur, resulting in flooding on- or off-site. This is considered to be a potentially significant impact. Even though the project includes features to reduce the amount and rate of runoff (see analysis under Threshold 3), they are also prescribed as mitigation measures in Section 4.9.5 to assure implementation and facilitate monitoring through buildout of the project.

B. Off-site Soils Stockpiling Area

The SSA would not include development of impermeable surfaces that would cause a permanent increase in surface water runoff or result in off-site flooding. Any local increase in runoff due to a shift in runoff direction as a result of grading would be adequately accommodated in Drainage Basins 4000 and 5000, as discussed above. In addition, the SSA project would not involve development of habitable or other permanent structures that would be located within a 100-year flood hazard area or impede water flow within such hazard areas. Therefore, the impact of activities within the SSA with respect to increased surface runoff or flood hazard would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

Activities associated with the SCSL Improvement do not include development of impermeable surfaces that would cause a permanent increase in surface water runoff or result in off-site flooding. In addition, the SCSL Improvement does not involve development of habitable or other permanent structures that would be located within a 100-year flood hazard area or impede water flow within such hazard areas. Therefore, the impact of the SCSL Improvement with respect to increased surface runoff or flood hazard would be less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI involves construction within an existing roadway which would not increase existing impermeable surfaces that would permanently increase surface water runoff or result in off-site flooding. In addition, the PCSI would not involve habitable or other permanent structures that would be located within a 100-year flood hazard area or impede water flow within such hazard areas. Therefore, the impact of the PCSI with respect to increased surface runoff or flood hazard would be less-than-significant.

Threshold 5: *Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.*

A. EUC SPA Plan Area

As discussed under Threshold 1 above, impacts to water quality are considered to be potentially significant during project construction and operation. However, compliance with applicable regulatory requirements and with implementation of the proposed storm water BMPs, including the implementation of LID IMPs and recommendations in the Soil Remediation Plan, the proposed project would result in less-than-significant water quality impacts.

As discussed under Threshold 3, the proposed project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. While the existing drainage facilities serving the northern and central drainage basins would accommodate the proposed project stormwater runoff, the existing downstream facilities serving the southern basin would not. Thus, impacts to the storm water system serving the southern drainage basin are considered to be potentially significant.

B. Off-site Soils Stockpiling Area

The SWPPP for the SSA would reduce surface water runoff and potential pollutants during construction to a less-than-significant level. The SSA project does not include development of impermeable surfaces that would increase surface water runoff or contribute to a permanent or long-term increase in pollutants from such surfaces. Any local increase in runoff due to a shift in runoff direction as a result of grading would be adequately accommodated within Drainage Basins 4000 and 5000, as discussed above. Therefore, the impact of the SSA with respect to existing and planned stormwater drainage systems and potential pollutants would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SWPPP for the SCSL Improvement Area would reduce surface water runoff and any potential pollutants during construction to a less-than-significant level. The SCSL Improvement would not include the development of impermeable surfaces that would cause an increase in surface water runoff or contribute to a permanent or long-term increase in pollutants from such surfaces. Therefore, the impact of the SCSL Improvement with respect to existing and planned stormwater drainage systems and pollutants would be less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The SWPPP for the PCSI Area would reduce surface water runoff and potential pollutants during construction to a less-than-significant level. Activities associated with the PCSI Area would occur within an existing roadway and would not increase existing impermeable surfaces that would cause an increase in surface water runoff or a permanent or long-term increase in pollutants from such surfaces. Therefore, the impact of the PCSI with respect to existing and planned stormwater drainage systems and pollutants would be less-than-significant.

Threshold 6: *Be inconsistent with General Plan, GDP or other objectives and policies regarding water quality thereby resulting in a significant physical impact.*

Table 4.9-7, *Project Consistency with Applicable General Plan Drainage and Water Quality Policies*, on page 4.9-35 evaluates the consistency of the proposed project with the applicable General Plan objectives and policies. As shown in Table 4.9-7, the project would be consistent with the General Plans Environmental Element policies that pertain to protection of water quality.

Table 4.9-7

Project Consistency with Applicable General Plan Drainage and Water Quality Policies

Applicable Policies	Evaluation of Consistency
PFS 1.3, 1.4, 2.2, 2.3	The proposed project would be consistent with these policies regarding drainage. Please see the analysis of the proposed drainage facilities under Thresholds 3, 4 and 5. The Preliminary Drainage Study for the EUC provides recommendations for state of the art drainage infrastructure for detention of storm runoff and sediment control. The proposed water quality measures would comply with current local, state and federal requirements including implementation of NPDES requirements. The EUC uses reclaimed water to irrigate open space and landscaped areas. In addition, the site has been designed using state of the art water quality facilities such as inverted street sections to capture and treat road run-off in the medians through bio swales and hydromodification management. Large areas of the project are designed to drain into enhanced natural drainage ways such as Poggi Canyon and Wolf Canyon, which were designed to flow naturally while protecting property from damage during major storm events. There is a strong focus on Low Impact Development (LID)principles through implementation of Integrated Management Practices (IMPs). The entire site has been designed to limit disruption of natural landforms.
E 2.4, 2.5	The proposed project would be consistent with these applicable water quality policies. Prior to construction a site-specific SWPPP would be prepared in accordance with the SWRCB Order No. 99-08-DWQ NPDES General Permit No. CAS00002 (General Construction Permit) and the modifications to the General Construction Permit Order No. 2001-046, adopted by the SWRCB. The City of Chula Vista's Development Storm Water Manual, requires the project to meet site-specific performance standards, site management requirements, seasonal requirements, limitation of grading, and potential advanced treatment for any identified sedimentation. Section 3 of the Development Storm Water Manual has been followed in order to identify pollutants and conditions of concern, and to determine some of the BMP requirements. For the purposes of meeting the requirements of Order No. R9-2007-0001, LID Integrated Management Practices (IMPs) have been proposed to meet both treatment and flow control requirements. The LID IMPs are proposed as the primary method of treatment and flow control from the site. A detailed analysis of proposed water quality measures is provided under Threshold 1.

4.9.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

A. Water Quality Standards

Project construction would alter the quantity and composition of surface runoff through grading of site surfaces, construction of impervious streets, building development, introduction of urban pollutants, and irrigation for landscaped areas which are considered potentially significant impacts to water quality. Project operation would increase the amount of surface water runoff due to the introduction of impermeable surfaces and would increase urban pollutants in surface water runoff. This is also considered to be a potentially significant water quality impact. In

addition, the potential presence of DDT in on-site soils is considered to be a potentially significant impact to surface water quality.

B. Groundwater Supply and Quality

While grading at the proposed EUC SPA Plan could result in shifts in the direction of groundwater flow on a micro-scale, the overall flow of groundwater would not change as a result of the proposed project. The principal aquifer, Otay River would ultimately receive the additional runoff to replenish groundwater in addition to the existing basin discharge. Therefore, no significant impacts to groundwater supply/quantity would occur. While it is acknowledged that filtering would occur during percolation and the groundwater quality is currently poor, development of the EUC SPA Plan could result in increased exposure to urban pollutants that could affect groundwater quality. This is considered a potentially significant impact. In addition, the potential presence of DDT in on-site soils is considered to be a potentially significant impact to groundwater quality.

C. Drainage – Erosion Control

The proposed project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. Nonetheless, with the project site entirely developed, paved, or landscaped, stormwater runoff could result in substantial off-site erosion to downstream facilities or flooding. These are considered to be potentially significant impacts. As implementation of the proposed project would result in the project site being converted to urban uses with minimal exposed soils areas that could be subject to erosion, on-site erosion impacts are considered to be less-than-significant.

D. Runoff Water

As discussed under Threshold 1 above, impacts to water quality are considered to be potentially significant during project construction and operation. Also, as discussed under Threshold 3, the proposed project, which would involve the replacement of the permeable surfaces and exposed soils, would substantially change the amount of impervious surface area on the project site. Site-generated surface water runoff would be directed from the project site to off-site drainage facilities. While the existing drainage facilities serving the northern and central drainage basins would accommodate the proposed project stormwater runoff, the existing downstream facilities serving the southern basin would not. Thus, impacts to the storm water system serving the southern drainage basin are considered to be potentially significant. Even though the project proposes drainage facilities for the southern basin, a mitigation measure is included to address this potential impact to assure implementation and facilitate monitoring through buildout of the project.

4.9.5 MITIGATION MEASURES

In addition to Mitigation Measure 4.12-1 which requires management of soils containing DDT, the following mitigation measures are required:

4.9-1 Prior to issuance of each grading permit for the EUC SPA Plan, the SSA, the Salt Creek Sewer Lateral Improvement, and the Poggi Canyon Sewer Improvement Area or any land development permit, including clearing and grading, the Project Applicant(s) shall submit a Notice of Intent (NOI) and obtain coverage under the National Pollutant Discharge Elimination System (NPDES) permit for Construction Activity from the State Water Resources Control Board (SWRCB). The permit requires development of a Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Plan that shall be submitted to the City Engineer and the Director of Public Works. The SWPPP shall be incorporated into the grading and drainage plans and shall provide for implementation of construction and post-construction Best Management Practices (BMPs) on site to reduce the amount of sediments and pollutants in construction and post-construction surface runoff before it is discharged into off-site storm water facilities. The BMPs shall include measures to mitigate potentially significant indirect impacts to the jurisdictional feature approximately 300 feet downstream of the off-site Soils Stockpiling Area. The grading plans shall note the condition requiring a SWPPP and Monitoring Plans.

4.9-2 Prior to issuance of each grading permit, a detailed drainage system design study shall be prepared in accordance with the City of Chula Vista's standards and shall be reviewed and approved by the City Engineer.

4.9-3 Permanent treatment controls BMPs shall be included as part of the proposed project in accordance with Section 2c of the City of Chula Vista SUSMP, the City of Chula Vista Development Storm Water Manual, 2008, and the final Water Quality Technical Report for McMillin Eastern Urban Center (WQTR) to the satisfaction of the City Engineer.

4.9-4 As development plans for individual parcels are prepared, parcel owners shall choose from the on-site storm water management measures included in the menu in Appendix I of the final Water Quality Technical Report for McMillin Eastern Urban Center (WQTR) and submit a supplemental report to the WQTR to verify sizing to the satisfaction of the City Engineer. If an option other than what is shown on the menu is chosen by the parcel owner, a project-specific WQTR shall be prepared for each parcel, referencing the final WQTR for information relevant to regional design concepts (e.g., downstream conditions of concern) to the satisfaction of the City Engineer.

4.9-5 Upon development, each land use shall be divided into Drainage Management Areas (DMA). This will include not only streets within the parcel, but also buildings, parking lots or structures, and other areas. As each DMA would

generally drain to an IMP, the specific design of these features, including their proximity to structures and how runoff would be collected and discharged from them, shall be subject to approval by the Geotechnical Engineer for the proposed project. This shall be evaluated on a lot by lot basis after rough grading is completed and prior to constructing any improvements or structures. All development within the proposed project shall be subject to the City of Chula Vista's SUSMP at the time of grading permit issuance.

4.9-6 Should Grading Option 2 be implemented, the interim condition above ground detention basin in the southern drainage shall be reassessed and approved by the City Engineer when the pads within the triangular wedge are developed in order to detain for the ultimate condition.

4.9-7 In the preparation of all site plans, the Applicant(s) shall implement Low Impact Development Best Management Practices (LID BMPs), unless underground treatment and detention facilities such as sand filters, underground storage and infiltration facilities, etc., are proposed. The Applicant(s) shall monitor and mitigate any erosion in downstream locations that may occur as a result of on-site development.

4.9.8 The Applicant(s) shall comply with the City of Chula Vista Development Storm Water Manual Limitation of Grading requirements, which limit disturbed soil area to 100 acres, unless expansion of a disturbed area is specifically approved by the Director of Public Works. With any phasing resulting from this limitation, if required, the Applicant shall provide erosion and sediment control BMPs in areas that may not be completed, before grading of additional area begins.

4.9-9 As a result of the NPDES Municipal Permit, Order No. R9-2007-0001, and phasing of the EUC SPA Plan development, the Applicant(s) shall comply with the City's Interim Hydromodification Criteria or Hydrograph Modification Management Plan, as applicable, addressed regionally at the EUC SPA Plan level concurrent with Grading and Improvement Plans for major streets.

4.9.10 Prior to the issuance of any building permit resulting in an increase in permanent impermeable area, each Applicant wanting to develop within the EUC SPA Plan is required to develop and implement post-construction SUSMP and BMPs in accordance with the most recent regulations at the time of Grading or Building Permit issuance. In particular, Applicants are required to comply with the requirements of the NPDES Municipal Permit, Order No. R9-2007-0001, and the City of Chula Vista Development Storm Water Manual dated January 2008, or any re-issuances thereof. Specifically, Applicants shall incorporate in the proposed project design structural on-site design features to address Site Design and Treatment Control (BMPs) as well as LID and HMP requirements. Any of said requirements may be waived if the applicant demonstrates, to the satisfaction of the City Engineer, that regional facilities exist to address such requirements.

4.9.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the above mitigation measures and Mitigation Measure 4.12-1 would ensure that impacts to surface water hydrology and surface water/groundwater quality would be reduced to a less-than-significant level.

4.10 GEOLOGY AND SOILS

Section 3.5, Geology and Soils, of the Otay Ranch GDP Program EIR (EIR 90-01) analyzed geology and soils impacts for the entire Otay Ranch. The Otay Ranch GDP Program EIR concluded that potentially significant impacts regarding seismic-related hazards, erosion, unstable soils, and expansive soils would occur with implementation of the Otay Ranch GDP. However, the potential geologic and soils impacts were able to be mitigated to a less than significant level with incorporation of the mitigation measures recommended in site-specific geotechnical investigations into the design and construction of future development projects. The analysis and discussion of geology and soils contained in the Otay Ranch GDP Program EIR are incorporated by reference. The following discussion includes a site-specific evaluation of the proposed EUC SPA Plan area based on the *Geotechnical Investigation for the EUC* prepared by Geotechnics Inc., dated March 1, 2007, the *Updated 2007 Seismic Design Parameters* report prepared by Geotechnics Inc., dated December 9, 2008, the *Geotechnical Recommendations for Proposed Import Soils, Otay Ranch Parcel C* prepared by Pacific Soils Engineering, Inc. dated July 10, 2007, and the *Preliminary Geotechnical Investigation Parcel C Portion of Otay Ranch*, prepared by Pacific Soils Engineering, Inc. dated August 30, 2006. These reports are included in Appendix H of this EIR. In order to evaluate existing geological conditions, the Geotechnical Investigation included:

- A visual and geologic reconnaissance of the surface characteristics of the site;
- A subsurface exploration of the site including 19 test pits and eight bucket auger borings, as well as four borings from a previous investigation; and
- Laboratory testing for soil properties.

The evaluation of a grading option involving placement of fill from the EUC SPA Plan area within the off-site Soils Stockpiling Area is based on information contained in the *Geotechnical Recommendations for Proposed Import Soils, Second Revision, Otay Ranch Parcel "C", Chula Vista, California*, dated July 10, 2007, and the *Preliminary Geotechnical Investigation Parcel "C" Portion of Otay Ranch*, dated August 30, 2006. Both reports, included in Appendix H, were prepared by Pacific Soils Engineering.

4.10.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) State

(a) California Geologic Survey

The California Geologic Survey (CGS) provides guidance with regard to seismic hazards. The CGS's *Special Publications 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California* (1997) provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigation.

(b) Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. The Act helps define areas where fault rupture is most likely to occur. The Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether building setbacks should be established.

(c) Uniform Building Code/California Building Code

The Uniform Building Code (UBC), published by the International Conference of Building Officials in Whittier, California, forms the basis for about half the state building codes in the United States, including California's. The UBC has been adopted by the state legislature together with Additions, Amendments, and Repeals to address the specific building conditions and structural requirements in California. The California Code of Regulations (CCR), Title 24, Part 2, the California Building Code (CBC), provides minimum standards for building design. Local codes are permitted to be more restrictive than Title 24, but are required to be no less restrictive. Chapter 16 of the CBC deals with general Design Requirements, including (but not limited to) regulations governing seismically resistant construction (Chapter 16, Division IV) and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapters 18 and A33 deal with site demolition, excavations, foundations, retaining walls, and grading, including (but not limited to) requirements for seismically resistant design, foundation investigations, stable cut and fill slopes, and drainage erosion control.

(2) Local

(a) Chula Vista General Plan

Individual project development proposed on property under the City of Chula Vista's jurisdiction is required through the UBC and CBC requirements to comply with Objective EE 14 and its three associated policies (EE 14.1, EE 14.2, and EE 14.3) contained in the adopted General Plan. Implementation of this objective and policies are intended to reduce potential impacts associated with geological hazards and public safety. The objective and policies are as follows:

Objective EE 14 - Minimize the risk of injury, loss of life, and property damage associated with geologic hazards.

Policies

EE 14.1 - To the maximum extent practicable, protect against injury, loss of life, and major property damage through engineering analyses of potential seismic hazards, appropriate engineering design, and the stringent enforcement of all applicable regulations and standards.

EE 14.2 - Prohibit the subdivision, grading, or development of lands subject to potential geologic hazards in the absence of adequate evidence demonstrating that such development would not be adversely affected by such hazards and would not adversely affect surrounding properties.

EE 14.3 - Require site-specific geotechnical investigations for proposals within areas subject to potential geologic hazards and ensure that all measures deemed necessary by the City Engineer and/or Building official to avoid or adequately mitigate such hazards will be implemented.

B. Existing Geological Conditions

(1) Geologic Setting

The site is located within the Peninsular Ranges geomorphic province of California. This province, which stretches from the Los Angeles basin to the tip of Baja California, is characterized as a series of northwest trending mountain ranges separated by subparallel fault zones, and a coastal plain of subdued landforms. The mountain ranges are underlain primarily by Mezozoic metamorphic rocks that were intruded by plutonic rocks of the southern California batholith, while the coastal plain is underlain by subsequently deposited marine and nonmarine sedimentary formations.

The site is located within the coastal plain of the Peninsular Ranges geomorphic province. The coastal plain is characterized by subdued landforms underlain by sedimentary formations.

Elevations range from approximately 520 feet above mean seal level (MSL) in the southeast corner of the site to a high of approximately 640 feet above MSL in the center of the property.

The project site is underlain by the Oligocene-age sedimentary Otay Formation, with the alluvial deposits in the canyon bottoms, and undifferentiated colluvium and residual soils on the slopes and ridge tops, respectively. Considerable quantities of compacted fill were placed in the Wolf Canyon Fill Site along the western edge of the property as part of the Village Twelve development. The approximate distribution of the soil and formational units observed on the project site are depicted on the Geotechnical Maps, Plates 1 and 2 in the Geotechnical Investigation (refer to Appendix H). A description of the subsurface conditions and the specific units observed during the field investigation follows.

(a) Otay Formation

The Otay Formation is believed to underlie the entire site. This formation was encountered in all of the subsurface explorations. As observed on the site, the Otay Formation (Map symbol To) generally consists of fine grained sandy siltstone (unified Soil Classification ML), with frequent silty sandstone (SM) interbeds. The sandstones and siltstones are typically light gray to brown, low plasticity, massive, and weakly to moderately cemented with some beds of strongly cemented material. Continuous and discontinuous beds of claystone (CL and CH) are also abundant in this formation. These moderate to high plasticity claystones are typically dusky brown to red-brown, moderately indurated, and often sandy, and are typically less than four-feet thick.

Although bentonitic claystone is common within the Otay Formation, no bentonite was encountered in the field exploration of the site. However, based on previous work in the general vicinity, it is anticipated that a continuous bentonite bed may exist on-site at elevations ranging from approximately 548 to 553 feet above MSL. The elevation of this bentonite bed is generally well below finish grade. Consequently, this bed is not expected to be exposed, except potentially at portions of some subterranean garages. However, it is recognized that future grading may reveal other beds of bentonite not encountered in the Geotechnical Investigation.

(b) Undifferentiated Alluvium, Colluvium and Residuum

Alluvium is a soil that is deposited by water. Relatively thick alluvial deposits initially filled the drainage courses of the three canyon areas at the project site. However, the alluvium in the Wolf Canyon Fill Site was previously excavated and replaced as compacted fill. Much of the alluvium within the southeastern canyon has already been excavated prior to replacing fills in that area. The remaining alluvium within the project site is anticipated to be relatively shallow, and is not differentiated from the colluvium and residuum discussed below.

Colluvium is an accumulation of soil and weathered formational materials that form on slopes as a result of slow downhill creep due to gravity. Residuum is soil that is formed in-situ by chemical or

mechanical weathering of underlying materials. Colluvial and residual soils mantle the entire site. These materials are nearly identical to the alluvium in composition. For these reasons, the surficial soil units were not identified on the Geotechnical Maps, Plates 1 and 2 in the Geotechnical Investigation.

As observed in the on-site exploratory borings and tests, the undifferentiated alluvium, colluvium and residuum varies from dark brown sandy lean clay (CL) to fat clay (CH). These materials are very dry on the surface with a blocky, crumbly structure. Moisture typically increases with depth. These soils contain nodules and clasts of caliche, and are generally firm to stiff in consistency. The soil thickness typically ranges from approximately two to five feet, although isolated pockets of deeper alluvium may exist. The surficial soils are considered compressible and moderately to highly expansive.

(c) Compacted Fill

Previously placed compacted fill exists within the Wolf Canyon Fill Site. Prior to placing compacted fill in this area, the existing surficial soils were excavated to expose undisturbed formational material. The approximate limits of the Wolf Canyon Fill Site (and the approximate elevations of the remedial excavation bottoms) are shown on the Geotechnical Maps, Plates 1 and 2 in the Geotechnical Investigation. The compacted fill is relatively dense in consistency. According to the Geotechnical Investigation, recent field observations indicate that undocumented fill, construction material, and construction debris has been stockpiled on top of the compacted fill since grading was completed for the Village Twelve site.

(2) Groundwater

No groundwater was encountered during the on-site field-testing conducted as part of the Geotechnical Investigation. Groundwater is expected to occur deeper than 100 feet (and likely deeper than 200 feet), however, it is acknowledged that changes in rainfall, irrigation practices, or site drainage could produce seepage or locally perched groundwater conditions at any location within the soil or formational units underlying the site.[1] This typically occurs at contacts with less permeable materials, such as interfaces that exist between fill and formation or sandstone and claystone.

[1] *Organochlorine Pesticide Assessment and Soil Reuse Plan, prepared by Geocon Consultants Inc., June 5, 2007, revised October 4, 2007.*

(3) Geologic Hazards

A discussion of potential geologic hazards regarding faulting and seismicity, ground surface rupture, liquefaction, compressible and expansive soils, landslides, seismically induced tsunamis, seiches and flooding, and subsidence is presented below.

(a) Faulting and Seismicity

Like much of southern California, the project area is considered seismically active. According to the Geotechnical Investigation, there are 12 active faults located within 100 kilometers (km) or approximately 62 miles capable of generating significant ground shaking. Active faults are those that have exhibited evidence of ground displacement in the last 11,000 years. It is acknowledged that other "potentially active" faults may be in the regional vicinity of the project site. However, these faults are not being considered in this analysis as they have not been shown to offset geological formations younger than 11,000 years old and as such, are not considered significant geological hazards.

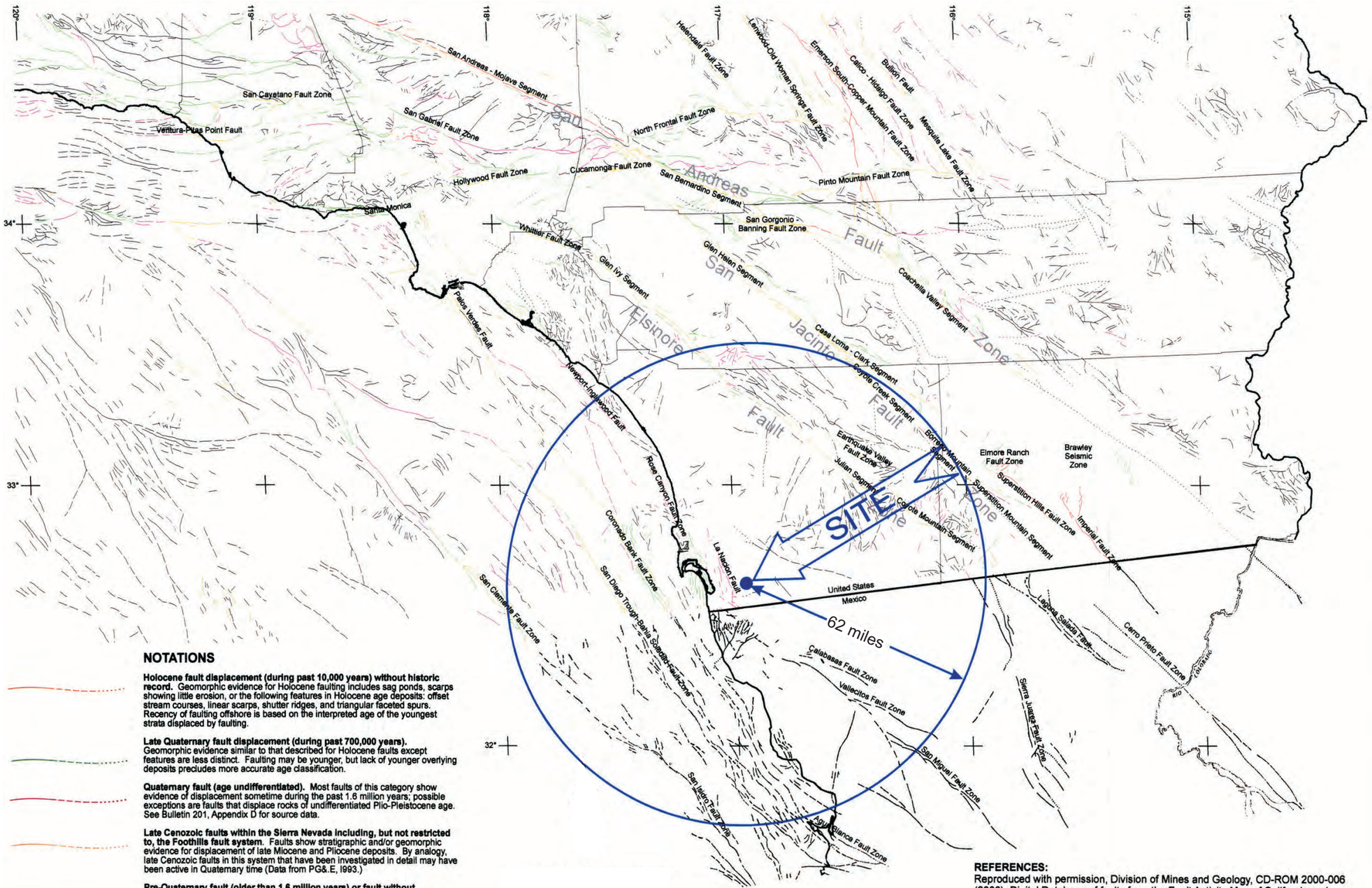
Figure 4.10-1, *Fault Location Map*, on page 4.10-7 illustrates the locations of active faults in the project and regional vicinity. Table 4.10-1, *Estimated Magnitude and Site Acceleration from Active Faults*, on page 4.10-8 presents the estimated median peak ground accelerations for the site from the 12 active faults based on distance between the site and the active faults, the published maximum credible seismic events for each fault, the estimated slip rate (millimeters per year) and published distance attenuation curves. These values were developed using the program EQFAULT. As shown in Table 4.10-1, the most significant faults to the project with the highest estimated peak ground acceleration are located to the west, which include the Rose Canyon, the Coronado Bank, and the San Diego Trough faults.

(b) Ground Surface Rupture

Ground rupture results from movement on an active fault reaching the surface. The project site is not located within any established Alquist-Priolo Fault Zone and no active faults are known to underlie the project area. Thus, ground surface rupture is not considered to be a significant geologic hazard at the site.

(c) Liquefaction

Liquefiable soil typically consists of cohesionless sands and silts that are loose to medium dense, and saturated. To liquefy, these soils must be subjected to a ground shaking of sufficient magnitude and duration. Observed on-site soils that were loose to medium dense in consistency were colluvium, alluvium, and residual soils. No groundwater was encountered during the exploratory borings on the project site, and the anticipated depth to groundwater is greater than



NOTATIONS

Holocene fault displacement (during past 10,000 years) without historic record. Geomorphic evidence for Holocene faulting includes sag ponds, scarps showing little erosion, or the following features in Holocene age deposits: offset stream courses, linear scarps, shutter ridges, and triangular faceted spurs. Recency of faulting offshore is based on the interpreted age of the youngest strata displaced by faulting.

Late Quaternary fault displacement (during past 700,000 years). Geomorphic evidence similar to that described for Holocene faults except features are less distinct. Faulting may be younger, but lack of younger overlying deposits precludes more accurate age classification.

Quaternary fault (age undifferentiated). Most faults of this category show evidence of displacement sometime during the past 1.6 million years; possible exceptions are faults that displace rocks of undifferentiated Plio-Pleistocene age. See Bulletin 201, Appendix D for source data.

Late Cenozoic faults within the Sierra Nevada including, but not restricted to, the Foothills fault system. Faults show stratigraphic and/or geomorphic evidence for displacement of late Miocene and Pliocene deposits. By analogy, late Cenozoic faults in this system that have been investigated in detail may have been active in Quaternary time (Data from PG&.E, I993.)

Pre-Quaternary fault (older than 1.6 million years) or fault without recognized Quaternary displacement. Some faults are shown in this category because the source of mapping used was of reconnaissance nature, or was not done with the object of dating fault displacements. Faults in this category are not necessarily inactive.

REFERENCES:
Reproduced with permission, Division of Mines and Geology, CD-ROM 2000-006 (2000), Digital Database of faults from the Fault Activity Map of California and Adjacent Areas. IBID (1994), Selected Faults in Northern Baja California, Offshore, and the Adjacent Southern California Area.

N

0 30 60 Miles

Source: Geotechnics incorporated, 2009.

Figure 4.10-1
Fault Location Map

Table 4.10-1

Estimated Magnitude and Site Acceleration from Active Faults

Fault	Distance from Site (KM)	Maximum Earthquake Magnitude [a]	Estimated Peak Ground Acceleration (g)[b]	Estimated Slip Rate (mm/yr)
Rose Canyon	18	7.2	0.27	1.5
Coronado Bank	32	7.6	0.19	3.0
San Diego Trough	48	7.7	0.14	2.0
Elsinore-Julian	65	7.1	0.07	5.0
Elsinore-Coyote Mountain	69	6.8	0.05	4.0
Earthquake Valley	70	6.5	0.04	2.0
Newport-Inglewood (Offshore)	74	7.1	0.06	1.5
San Clemente	80	8.1	0.10	4.0
Elsinore-Temecula	85	6.8	0.04	5.0
San Jacinto-Coyote Creek	96	6.8	0.03	4.0
San Jacinto-Borrego	97	6.6	0.03	4.0
Laguna Salada	97	7.0	0.04	3.5

[a] *The Maximum Earthquake Magnitude is the estimated median movement moment magnitude that appears capable of occurring given rupture of the entire estimated fault area.*
[b] *g = gravity*
[c] *mm/yr = millimeters per year*

Source: Geotechnical Investigation prepared by Geotechnics Incorporated, March 1, 2007.

100 feet below ground surface. Accordingly, the potential for liquefaction at the site is considered low.

(d) Compressible and Expansive Soils

Loose, compressible soils are found on-site. These materials, which include topsoil, colluvium, alluvium, and residuum, are subject to settlement under increased loads or due to an increase in moisture content from site irrigation or change in drainage patterns.

Expansive soils are soils that undergo volumetric change with change in water content. The soils will swell with increase in moisture content and will shrink with decrease in water content. Soils with high shrink-swell potential generally contain high percentages of certain clay minerals and can cause extensive damage to structures and improvements. The predominately clayey sand and sandy clay materials within the Otay Formation, as well as the colluvium, alluvium, and residuum, have a moderate to high expansion potential. However, due to the wide range of expansion potential typically exhibited by soils in this area, localized areas may possess a very low expansion potential while others may have a high expansion potential.

(e) Landslides and Lateral Spreads

Evidence of ancient landslides or slope instabilities was not observed in the Geotechnical Investigation. However, on-site grading activities in combination with future irrigation and changes in drainage could result in slope instabilities within the project area.

(f) Tsunamis, Seiches and Earthquake-Induced Flooding

The distance between the project site and the coast, and the elevation of the site above sea level, preclude damage due to seismically induced waves (tsunamis) or seiches. No other bodies of water of appreciable size are in close proximity to the site. Consequently, the potential for earthquake induced flooding is considered low.

(g) Subsidence

Subsidence occurs when a large-scale fluid withdrawal is performed causing surface settlement. This is common within large farming communities where groundwater is pumped from great depths over long periods of time. The same conditions can occur when oil is withdrawn. Neither of these conditions would occur under the proposed project.

4.10.2 THRESHOLDS OF SIGNIFICANCE

According to the CEQA Guidelines, Appendix G.IV,[2] impacts regarding geology and soils would be significant if the proposed project would:

Threshold 1: *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. (refer to Division of Mines and Geology Special Publication 42);*
- *Strong seismic ground shaking;*

[2] *Subsection IV(e) of the CEQA Thresholds Appendix G addresses the capability of soils to support septic and alternative disposal systems where sewers are not available. As the EUC SPA Plan would be served entirely by sewer lines (see Section 4.11.7, Wastewater), no septic or alternative sewage systems would be required and Subsection IV(e) would not be applicable to the proposed project. Thus, Subsection IV(e) is not listed as a CEQA threshold.*

- *Seismic-related ground failure, including liquefaction; and/or*
- *Landslides*

Threshold 2: *Result in substantial soil erosion or the loss of topsoil;*

Threshold 3: *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or*

Threshold 4: *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.*

In addition to the above thresholds, impacts to geological resources would be significant if the proposed project would:

Threshold 5: *Be inconsistent with General Plan geotechnical policies thereby resulting in a significant physical impact.*

Two grading options are being considered for the project. Variations within these options could also be considered. Grading Option 1 recognizes anticipated development to the south of the applicant's property and balances grading quantities through the export of material to provide fill in the southern areas. The estimated earthwork quantity under Grading Option 1 would be approximately 3.6 million cubic yards of cut and fill. Earthwork would be balanced between the SPA Plan area and off-site locations, with 2.5 million cubic yards of fill to remain on-site and 1.1 million cubic yards to be exported off-site to the adjoining properties to the south. Grading Option 2 recognizes that adjacent property owners may not consent to off-site grading and balances earthwork quantities within the EUC. Under this option, the estimated earthwork quantity under Grading Option 2 would comprise 3.2 million cubic yards of cut and fill. Grading Option 2 would require raising portions of the EUC SPA Plan area from those elevations present in Grading Option 1, although the edge condition would remain substantially the same under either scenario. The analysis of geology and soils impacts below applies to both grading plans, unless otherwise noted.

4.10.3 IMPACT ANALYSIS

Threshold 1: *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, and/or landslides.*

A. EUC SPA Plan Area

The EUC SPA Plan area is not located within an established Alquist-Priolo Fault Zone and no active faults are known to underlie the project area. Thus, ground surface rupture is not considered to be a significant geologic hazard at the site.

As shown in Table 4.10-1, the closest active fault to the EUC SPA Plan area is the Rose Canyon fault zone, approximately 18 miles west of the project site. A major earthquake along this fault or other regional active faults listed in Table 4.10-1 could subject future on-site development to moderate-to-severe ground shaking.

Design of future structures within the project site would be in accordance with the City of Chula Vista Grading Ordinance, current seismic design specifications of the Structural Engineering Association of California, current CBC standards, and other regulatory requirements. Compliance with these regulatory requirements would ensure that potential seismic ground-shaking impacts to people or structures are less than significant. Furthermore, the project would incorporate the applicable recommendations in the Geotechnical Investigation into the project design and construction documents regarding seismic design criteria.

As identified in the Geotechnical Investigation for the EUC SPA Plan site, potential liquefiable soils on the project site include colluvium, alluvium and residual soils. Since groundwater occurs at a significant depth, impacts associated with seismically-induced liquefaction are considered to be low. However, the Geotechnical Investigation recommends that potential liquefiable soils be excavated and replaced as compacted fill.

Although no evidence of ancient landslides or slope instabilities was observed in the Geotechnical Investigation, grading activities associated with either of the two grading options in combination with future irrigation and changes in drainage could result in slope instabilities within the project area. Specifically, irrigation of future development sites within the EUC SPA Plan area would introduce significant quantities of water to the underlying soil. Subsurface drains have already been constructed in the two major canyons of the site. However, the potential may exist for seepage to develop at the faces of future slopes. Thus, slope stability is considered to be a potentially significant impact.

Most of the major slopes around the perimeter of the project site have already been constructed during previous grading operations. Construction of the minor slopes would be in accordance with standard construction measures and applicable regulatory requirements. The Geotechnical Investigation includes recommendations that focus on the construction of slope stabilization fills and buttresses, as well as irrigation control, and deep rooted landscaping to address slope stability impacts.

In conclusion, compliance with all applicable regulatory requirements and implementation of the recommendations in the Geotechnical Investigation, which are prescribed as mitigation for the project, would reduce potentially significant impacts regarding liquefaction hazards and slope stability and/or landsliding to a less than significant level.

B. Off-site Soils Stockpiling Area

As with the EUC SPA Plan area, the off-site SSA is not located within an established Alquist-Priolo Fault Zone and no active faults are known to underlie the SSA. The deposit of fill soils during construction activities at the off-site location would not involve the development of habitable structures or bridges that would expose people to substantial adverse effects due to ground shaking or other seismic-related ground failure. Therefore, potential seismic hazard from this site would not be significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

As with the EUC SPA Plan area, the SCSL Improvement Area is not located within an established Alquist-Priolo Fault Zone and no active faults are known to underlie the site. The construction of the sewer lateral improvement would not involve the development of habitable structures or bridges that would expose people to substantial adverse effects due to ground shaking or other seismic-related ground failure. Therefore, potential seismic hazard from this off-site project would not be significant.

D. Off-site Poggi Canyon Sewer Improvement Area

As with the EUC SPA Plan area, the PCSI Area is not located within an established Alquist-Priolo Fault Zone, and no active faults are known to underlie the site. The proposed sewer line improvement would not involve the development of habitable structures or bridges that would expose people to substantial adverse effects due to ground shaking or other seismic-related ground failure. Therefore, potential seismic hazard from this off-site project would not be significant.

Threshold 2: *Result in substantial soil erosion or the loss of topsoil.*

A. EUC SPA Plan Area

Currently, the EUC SPA Plan area is generally comprised of gently sloping terrain covered with non-native grasslands crossed by a series of dirt roads and old cattle trails. Several natural drainages at the site trend east-west and flow into Wolf Canyon. The Wolf Canyon Fill site is currently covered with various stockpiles of construction material and debris. Two canyons in the southern portion of the site drain south toward the Otay River Valley. A portion of the southwestern drainage was previously filled during adjacent grading operations associated with EastLake Parkway.

During construction, erosion can occur as a result of, and can be accelerated by, site preparation activities. Vegetation removal throughout the site could reduce soil cohesion, as well as the buffer provided by vegetation from wind, water, and surface disturbance, which could render the exposed soils more susceptible to erosive forces. Additionally, excavation or grading for future development may also result in erosion during construction activities, as bare soils would be exposed and could be eroded by wind or water. Earth-disturbing activities associated with construction would be temporary and erosion effects would depend largely on the areas disturbed, the quantity of disturbance, and the length of time soils are subject to conditions that would be affected by erosion processes. All construction activities would comply with Chapter 29 of the CBC, which regulates excavation activities and the construction of foundations and retaining walls, and Chapter 70 of the CBC, which regulates grading activities, including drainage and erosion control.

Furthermore, as described in Section 4.9, Hydrology and Drainage, prior to project-related construction a site-specific Storm Water Pollution Prevention Program (SWPPP) would be prepared in accordance with the State Water Resources Control Board (SWRCB) Order No. 99-08-DWQ National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS00002 (General Construction Permit) and the modifications to the General Construction Permit Order No. 2001-046, adopted by the SWRCB. For coverage by the General Construction Permit, the project owner is required to submit to the SWRCB a Notice of Intent (NOI) and develop a SWPPP describing Best Management Practices (BMPs) to be used during and after construction to prevent discharge of sediment and other pollutants in storm water runoff from the project site. The BMPs would provide erosion and sedimentation control through measures such as silt fences, fiber rolls, gravel bags, temporary desilting basins, velocity check dams, temporary ditches or swales, storm water inlet protection, soil stabilization measures such as erosion control mats, tackifier, hydroseeding, etc. Prior to the issuance of grading permits, the SWPPP would be required to be prepared and submitted to the City Engineer and the Director of Public Works. Compliance with applicable regulatory requirements described above would ensure that impacts regarding substantial erosion or topsoil loss during future on-site construction activities are less than significant.

During operation of the proposed project, as indicated in the Geotechnical Investigation, heavy seepage and deep saturation may result in surficial slope failures and erosion. This is considered a potentially significant impact. However, development of the project site would include drainage improvements to minimize soil erosion and loss of topsoil on the project site and along sloped areas. According to the Geotechnical Investigation, tentative grading plans indicate cut and sill slopes up to approximately 20 feet high are being considered at the site, as shown on the Geotechnical Maps, Plates 1 and 2. The Geotechnical Investigation recommends that the permanent cut and fill slopes be no steeper than 2:1 (horizontal to vertical), which in combination with other drainage improvements would minimize soil erosion. Surficial slope stability would be enhanced by providing proper drainage. Per the Geotechnical Investigation recommendations, the project site would be graded so that water from surrounding areas is not able to flow over the slope tops. Diversion structures would be provided, where necessary. Surface runoff would be confined to gunite-lines swales or other appropriate devices to reduce the potential for erosion. The Geotechnical Investigation also recommends that slopes be planted with vegetation to increase

surficial stability. A landscape architect would be consulted to develop a planting palate suitable for slope stabilization.

In addition, as discussed in detail within Section 4.9, Hydrology and Drainage, for purposes of post-construction storm water quality management, all post-project flows would follow the guidelines and requirements set forth in the following documents:

- *Development Storm Water Manual for Development & Redevelopment Projects,* adopted by the City of Chula Vista in January 2008 (also referred to as the *Storm Water Standards Manual*);
- *California Regional Water Quality Control Board San Diego Region (SDRWQCB) National Pollutant Discharge Elimination System (NPDES) Municipal Storm Water Permit Order No. R9-2007-0001* (also referred to as the "Municipal Permit"); and
- *County of San Diego Low Impact Development Handbook Stormwater Management Strategies*, December 31, 2007.

In addition to these standards, all post-project flows would be detained within the proposed on-site and existing off-site detention facilities. These facilities would ensure that project discharges do not exceed pre-project peak flows and adversely affect downstream facilities. Section 4.9, Hydrology and Drainage, provides a comprehensive analysis of the existing and proposed hydrology and drainage features of the proposed project.

In conclusion, compliance with the applicable hydrology/water quality regulatory requirements discussed in Section 4.9, Hydrology and Drainage, would reduce long-term erosion impacts in the immediate vicinity of the project area. Please refer to Section 4.9, Hydrology and Drainage, for a detailed discussion of potential erosion impacts associated with project stormwater runoff. As potentially significant soil erosion impacts could occur on an operational basis, mitigation requiring the proposed project to implement the recommendations in the Geotechnical Investigation has been prescribed to reduce these impacts to a less-than-significant level.

B. Off-site Soils Stockpiling Area

The stockpiling of soils in the off-site SSA would be carried out under the observation of a soils engineer and engineering geologist in accordance with the recommendations contained in a geotechnical report prepared for the SSA and the current grading ordinance of the City of Chula Vista.[3] These recommendations and requirements include compaction and watering of soils, seeding and planting of slopes, monitoring, and other actions that would limit the potential for soil

[3] *Geotechnical Recommendations for Proposed Import Soils, Second Revision, Otay Land Parcel "C", Chula Vista, California, Pacific Soils Engineering. July 10, 2007.*

erosion. As with the EUC SPA Plan area, the SSA would require a site-specific SWPPP that incorporates BMPs to be used during and after construction to prevent discharge of sediment and other pollutants in storm water runoff from the SSA area. Prior to the issuance of grading permits, the SWPPP would be required to be prepared and submitted to the City Engineer and the Director of Public Works. Compliance with applicable regulatory requirements and recommendations contained within the SSA Geotechnical Report would ensure that impacts regarding substantial erosion or topsoil loss during future on-site construction activities are less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area would require limited trenching and the exposure of soils to erosion. As with the EUC SPA Plan, the SCSL Improvement would require a site-specific SWPPP that incorporates BMPs to be used during and after construction to prevent discharge of sediment and other pollutants in storm water runoff from the SSA area. Prior to the issuance of grading permits, the SWPPP would be required to be prepared to the satisfaction of the City Engineer and the Director of Public Works. Compliance with applicable regulatory requirements would ensure that impacts regarding substantial erosion or topsoil loss during future on-site construction activities are less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI involves the replacement of an existing pipeline within an existing roadway. As such, exposure of soils would be limited and exposure of soils to erosion is not anticipated. Therefore, the proposed PCSI would be less than significant with respect to this threshold.

Threshold 3: *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.*

A. EUC SPA Plan Area

Loose, compressible soils are found over much of the EUC SPA Plan area. These materials, which include residuum, colluvium, alluvium and the surface of the fill slope in the southeast portion of the site, may settle under increased loads, or due to an increase in moisture content from changes in irrigation or site drainage. Thus, soils could become unstable over time. As a result, there is the potential for land sliding, lateral spreading, liquefaction and/or collapse. These impacts are considered to be potentially significant.

The Geotechnical Investigation recommends these materials be excavated and replaced as compacted fill in areas that would be subjected to fill or structural loads. Relatively deep remedial excavations would be conducted along the existing fill slope in the southeast portion of the project site to remove and compact the loose surficial fill soils.

Deep fills, even if well compacted, will undergo some settlement over time. The amount of settlement is related to the fill depth, and the amount of surface irrigation and subsequent groundwater level. To reduce the magnitude of long term fill settlement, the Geotechnical Investigation recommends that future fills placed more than 40 feet below finish grade be compacted to at least 93 percent relative compaction. This criterion would apply only to the deep fills proposed in the canyon in the southeast portion of the site or other fills 40 feet or more in depth.

Most of the earth material at the site is suitable for re-use in compacted fills. However, vegetation and large fragments of construction debris are considered deleterious and unsuitable for re-use in compacted fills. Accordingly, the Geotechnical Investigation recommends that the construction debris stockpiles in the Wolf Canyon Fill Site be removed from the site, or broken down to a size suitable for incorporation into compacted fill. Also, it is recommended that the surface of the Wolf Canyon Fill Site be re-compacted prior to additional fill placement.

As discussed under Thresholds 1 and 2 above, there is no evidence of ancient landslides or slope stabilities. To ensure that slope stability hazards are minimized, the Geotechnical Investigation provides recommendations that focus on the construction of slope stabilization fills and buttresses, as well as irrigation control, and deep-rooted landscape planting. As stated in Subsection B(3)(g), Subsidence, development of the site with the proposed urbanized uses would not result in subsidence hazards. In addition, as discussed under Threshold 1, potential liquefiable soils on the project site include colluvium, alluvium and residual soils. Pursuant to the recommendations in the Geotechnical Investigation, these materials would be excavated and replaced as compacted fill. In summary, with implementation of the recommendations in the Geotechnical Investigation, which are prescribed as mitigation measures for the project, and compliance to all applicable regulatory requirements, potentially significant geological impacts regarding unstable geologic units or soils that could be susceptible to on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse would be reduced to a less-than-significant level.

B. Off-site Soils Stockpiling Area

The stockpiling of soils within the off-site SSA does not involve the development of habitable or permanent structures that would be affected by unstable geologic units or soils. Although general development can destabilize landslide or subsidence-prone areas through heavy- and long-term landscape irrigation or certain subsurface activities, the short-term SSA would not require long-term irrigation or subsurface activity. Furthermore, the stockpiling of soils in the SSA would be carried out in accordance with the recommendations contained in a geotechnical report prepared for the SSA and with the current grading ordinance of the City of Chula Vista. Therefore, as the SSA would not be susceptible or contribute or to ground failure caused by unstable geologic units or soils, this activity would be less than significant with regard to Threshold 3.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The proposed 173-foot SCSL has the potential to be affected by unstable geologic units or soils. It is anticipated that the proposed project would be developed in accordance with existing structural regulations and the recommendations contained in the geotechnical report prepared for the SCSL Improvement Area project.[4] Construction of the SCSL Improvement in accordance with these recommendations and requirements would ensure that impacts of the SCSL Improvement related to unstable units or soils would be less than significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area involves the replacement of a section of 18-inch line with a section of 21-inch line within the same location. The existing pipeline trench is located within Olympic Parkway, an arterial highway constructed according to current engineering standards. As the roadbed and existing trench would have addressed geologic conditions in accordance with CBC requirements, the impact of the PCSI with respect to unstable soil and geologic conditions would be less than significant.

Threshold 4: *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.*

A. EUC SPA Plan Area

As discussed in Subsection B(3)(d), Compressible and Expansive Soils, the predominately clayey sand and sandy clay materials within the Otay Formation, as well as the colluvium, alluvium, and residuum, have a moderate to high expansion potential. However, due to the wide range of expansion potential typically exhibited by soils in this area, localized areas may possess a very low expansion potential while others may have a high expansion potential. Expansive soils within pavement, foundation or slab subgrade could heave when wetted, resulting in cracking or failure of these developments improvements. This is considered to be a potentially significant impact.

To ensure that expansive soils do not adversely affect future development on the project site, the Geotechnical Investigation recommends conducting remedial grading so that highly expansive soils are not exposed at finished grade in heave sensitive areas. However, the Geotechnical Investigation acknowledges that each of the future on-site structures may be affected differently by the as-graded geotechnical conditions, depending on the type of structure, the location of the structure relative to the as-graded cut/fill transitions, and the presence of expansive soils within the foundation or flatwork influence zones. It may not be feasible to mitigate these hazards during

[4] *Geotechnical Investigation for the Proposed Salt Creek Gravity Sewer Interceptor Project, Leighton & Associates, October 2000.*

mass grading (unless fine grading and improvement plans are available at that time). When details of the proposed structures and improvements become available, the Geotechnical Investigation recommends that supplemental geotechnical reports be prepared to address remedial grading and foundation design. This would ensure that no adverse impacts regarding expansive soils occur.

B. Off-site Soils Stockpiling Area

The stockpiling of soils within the SSA does not involve the development of habitable or permanent structures that would be affected by expansive soils. Nonetheless, the recommendations contained in the geotechnical reports for the SSA address the potential for future development of that site to be subject to expansive soils. Therefore, with implementation of the recommendations contained in the geotechnical reports prepared for the SSA, impacts would be less than significant with regard to this threshold and expansive soils.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The proposed 173-foot SCSL Improvement has the potential to be affected by expansive soils. It is anticipated that the proposed project would be developed in accordance with existing structural regulations and the recommendations contained in the geotechnical report prepared for the proposed project.[5] Construction of the SCSL improvement in accordance with these recommendations and requirements would ensure that impacts of the SCSL improvement related to expansive soils would be less than significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI involves the replacement of a section of 18-inch line with a section of 21-inch line within the same location. The existing pipeline trench is located within Olympic Parkway, an arterial highway constructed according to current engineering standards. As the roadbed and existing trench would have addressed geologic conditions, such as expansive soils, in accordance with CBC requirements, the impact of the PCSI with respect to unstable soil and geologic conditions would be less-than-significant.

Threshold 5: *Be inconsistent with General Plan geotechnical policies thereby resulting in a significant physical impact.*

The proposed project would be consistent with the Chula Vista General Plan Geology and Soils objective to minimize the risk of injury, loss of life, and property damage associated with geologic hazards through engineering analyses of potential seismic hazards; avoidance of geologically

[5] *Geotechnical Investigation for the Proposed Salt Creek Gravity Sewer Interceptor Project, Leighton & Associates, October 2000.*

hazardous areas; and appropriate engineering design. The proposed project is compared to the applicable objective in Table 4.10-2, *Project Consistency With Applicable General Plan Geology and Soils Policies*, on page 4.10-20.

4.10.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

A. Seismicity

The exposure of people and structures to moderate-to-severe ground shaking generated from potential earthquakes along active faults in the region is considered to be a less than significant impact since future development projects in the EUC SPA Plan area and off-site areas would be constructed in accordance with the City of Chula Vista Grading Ordinance, current seismic design specifications of the Structural Engineering Association of California, current UBC standards for Seismic Zone 4, and other regulatory requirements.

Due to the presence of potential liquefiable soils in the EUC SPA Plan area and SCSL Improvement Area, seismic-related impacts regarding unstable soils are considered to be a potentially significant impact. Also, grading activities associated with either of the two grading options in combination with future irrigation and changes in drainage could result in slope instabilities or landslides within the EUC SPA Plan area. This considered a potentially significant impact.

B. Soil Erosion

Compliance with applicable regulatory requirements and the recommendations contained within applicable geotechnical reports would ensure that impacts regarding erosion and loss of topsoil would be less than significant during construction activities. However, heavy seepage and deep saturation may result in surficial slope failures and erosion during project operation. The potential for soil erosion and/or loss of topsoil is considered a potentially significant impact during operation of the project.

C. Slope Stability

The presence of loose compressible materials on the project site, including residuum, colluvium, alluvium and the surface of the fill slope in the southeast portion of the site, could become unstable as a result of the proposed project. As a result, there is the potential for land sliding, lateral spreading, liquefaction and/or collapse. These impacts are considered to be potentially significant.

Table 4.10-2

Project Consistency with Applicable General Plan Geology and Soils Policies

Applicable Policies	Evaluation of Consistency
E14.1, 14.2	The EUC SPA Plan is **consistent** with these relevant policies in that it will protect against injury, loss of life, and major property damage through engineering analyses of potential seismic hazards, appropriate engineering design, and compliance with applicable regulations and standards; prohibit the subdivision, grading, or development of lands subject to potential geologic hazards; and provide site-specific-geotechnical investigations within areas subject to potential geologic hazards and ensure that all measures deemed necessary by the City Engineer and/or Building official to avoid or adequately mitigate such hazards will be implemented.

D. Expansive Soils

The predominately clayey sand and sandy clay materials within the Otay Formation, as well as the colluvium, alluvium, and residuum, have a moderate to high expansion potential. Development of structures on these soils could create substantial risks to life or property. This is considered a potentially significant impact with respect to the EUC SPA Plan area and SCSL Improvement Area.

4.10.5 MITIGATION MEASURES

4.10-1 Prior to the issuance of each grading permit within the EUC SPA Plan area, the Applicant shall verify that the applicable recommendations in the *Geotechnical Investigation* prepared by Geotechnics Incorporated, dated March 1, 2007, and the *Updated Seismic Design Parameters* report prepared by Geotechnics Incorporated, dated December 15, 2008 for the Eastern Urban Center have been incorporated into the project design and construction documents to the satisfaction of the City Engineer of the City of Chula Vista.

4.10-2 Prior to the approval of grading permits for placement of soils within the off-site SSA, the Applicant shall ensure that the applicable recommendations in the *Geotechnical Recommendation for Proposed Import Soils Second Revision, Otay Ranch Parcel "C",* dated July 10, 2007, and the *Preliminary Geotechnical Investigation Parcel "C" Portion of Otay Ranch,* dated August 30, 2006, both prepared by Pacific Soils Engineering, Inc., have been incorporated into the grading plans to the satisfaction of the City Engineer of the City of Chula Vista.

4.10-3 Prior to issuance of the grading permit for the SCSL Improvement, the City shall ensure that the applicable recommendations in the *Geotechnical Investigation for the Proposed Salt Creek Gravity Sewer Interceptor Project, Leighton & Associates,* dated October 2000, have been incorporated into the project to the satisfaction of the City Engineer of the City of Chula Vista.

4.10.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the above mitigation measures, which require that the recommendations in the geotechnical reports cited in Mitigation Measures 4.10-1 through 4.10-3, be implemented to the satisfaction of the City Engineer, the identified potentially significant geology and soils impacts would be reduced to a less than significant level.

4.11 PUBLIC SERVICES AND UTILITIES

Section 3.13, Public Services and Utilities, of the Otay Ranch GDP Program EIR (EIR 90-01) addressed existing conditions, potential impacts, and mitigation measures related to public services and utilities. Additional analysis of the availability, capacity, and additional services required as a result of regional growth were provided in the 1995 City of Chula Vista Sphere of Influence Update Program EIR and the General Plan Update EIR (05-01). The public service analyses in this section pertaining to the EUC site and off-site locations update the applicable information in these previously certified EIRs. These documents are incorporated by reference. This section discusses the availability of public services and utilities for the implementation of the proposed EUC SPA Plan.

4.11.1 FIRE AND EMERGENCY MEDICAL SERVICES[1]

4.11.1.1 EXISTING CONDITIONS

This section describes the existing policies that regulate the provision of fire and medical emergency services the existing fire and medical emergency facilities that serve the City, and assesses the potential for related impacts associated with implementation of the EUC project.

A. Regulatory Framework

(1) City of Chula Vista General Plan

The 2005 Chula Vista General Plan recognizes that fire protection and emergency services will need to expand as the City's population grows. The following objectives and policies within the City of Chula Vista General Plan are applicable to the project:

Objective PFS 5 - Maintain sufficient levels of fire protection and emergency medical service to protect public safety and property.

Policies

PFS 5.1 - Continue to adequately equip and staff the Fire Department to ensure that established service standards for emergency calls are met.

PFS 5.2 - Upgrade fire and emergency medical equipment, as required, to protect the public from hazards and to ensure the safety of firefighters.

[1] *E-mail correspondence, Justin Gipson, Fire Marshall, Chula Vista Fire Department, May 30, 2008.*

PFS 5.3 - Support the provision of new fire stations, as deemed necessary through the existing or updated Fire Station Master Plan.

PFS 5.7 - Prior to approval of any discretionary projects, ensure that construction is phased with provision of fire protection services such that services are provided prior to or concurrent with need.

Objective PFS 6 - Provide adequate fire protection services to newly developing and redeveloping areas of the City.

Policies

PFS 6.1 - Continue to require new development and redevelopment projects to demonstrate adequate access for fire vehicles.

PFS 6.2 - Require new development and redevelopment projects to demonstrate adequate water pressure to new buildings.

Objective GM 1 - Concurrent public facilities and services.

Policy

GM1.11 - Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

The General Plan identifies the current and planned fire station locations within the City of Chula Vista. The General Plan locates a site within the EUC for proposed Fire Station #10 (EUC Fire Station).

(2) Otay Ranch General Development Plan

The purpose of the Fire Protection and Emergency Facility section of the Otay Ranch GDP is to establish goals, objectives, policies, standards, and processing requirements for the timely provision of these facilities. As stated therein, the goal is to provide protection to the Otay Ranch project area and surrounding communities from loss of life and property due to fires and medical emergencies. The GDP also states that four new fire stations are necessary to serve the Otay Ranch Project Area at build-out. In accordance with ongoing demand, one station (Fire Station #7) has been developed to serve Otay Ranch. The Otay Ranch GDP indicates a new fire station within the EUC. The EUC station (Fire Station #10) is designated to meet projected growth within the Otay Ranch under the build-out of the EUC and other villages within the EUC vicinity. The other two fire stations that would be needed to serve the Otay Ranch GDP area at build-out have not yet been planned by the CVFD, due to extensive areas of the GDP in which future development plans are still unknown.

(3) Fire Station Master Plan

The August 1997 City of Chula Vista Fire Station Master Plan evaluates the planning area's fire coverage needs and recommends a nine-station network at General Plan build-out to maintain compliance with the threshold standard of emergency response within seven minutes in 80 percent of calls. The adopted Fire Station Master Plan contains six guidelines to assess alternative fire station needs and networks. These guidelines address travel time, response time, cost, and relative workloads among stations. Figure 5 of the adopted Fire Station Master Plan identifies a new fire station, Fire Station #10 (EUC Fire Station) in the EUC. An updated Fire Station Master Plan has been prepared, but is pending review and approval by the City Council at this time.

(4) Zoning Code and GMOC Ordinance

In accordance with Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade existing public services and facilities below acceptable standards for fire and other public services. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040B specifically requires that "properly equipped and staffed fire and medical shall respond to calls throughout the City within seven minutes in 80 percent of the cases". Section 19.09 also requires a PFFP and the demonstration that public services, such as fire services, meet the GMOC quality of life threshold standards.

B. Existing Services

Fire protection and emergency services for the City of Chula Vista are provided by the CVFD. Currently, nine fire stations serve the City. At the time of this report, the CVFD employs 136 people including firefighters and administrative staff. During a typical 24-hour shift, approximately 35 line firefighters and two Battalion Chiefs are on constant duty spread among the City's nine fire stations.[2] The nine fire stations service a population of approximately 223,423 people and an area covering over 52 square miles. In 2007, the CVFD received approximately 14,084 calls for service.[3] According to the *2008 Growth Management Oversight Commission (GMOC) Annual Report*, a volume of 10,020 calls, or 88.1percent, were responded to within a response time of seven minutes during the 2007 calendar year.[4] The current GMOC threshold standard for emergency fire response is seven minutes or less in

[2] *City of Chula Vista Fire Department website, CVFD, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/About_CVFD/Default.asp, accessed March 7, 2008.*

[3] *Electronic correspondence, Justin Gipson, Fire Marshall, Chula Vista Fire Department, March 20, 2008.*

[4] *City of Chula Vista Growth Management Oversight Commission 2007 Annual Report, http://www.ci.chula-vista.ca.us/city_Services/Development_Services/Planning_Building/Boards_Commissions/documents/Vol-1_complete.pdf, accessed March 10, 2008.*

80 percent of cases. The CVFD currently meets the GMOC threshold standards established for response time.

There are currently nine fire stations serving the City of Chula Vista. Table 4.11-1, *City of Chula Vista Fire Station Facilities,* on page 4.11-5 shows the locations of CVFD stations. The project site is currently located within the response district of Fire Station #7, which is located at 1640 Santa Venetia in Otay Ranch Village Two, approximately 1.53 miles from the northwest corner of the EUC. Distances to interior locations within the EUC increase as much as a mile due to the geographic size of the project site. CVFD Fire Station #7 serves the communities of Otay Ranch, Village of Heritage, Heritage Hills, and the Village of Countryside.[5][6] A total of 24 firefighters, which includes three Battalion Chiefs, operate out of Fire Station #7, which is equipped with one fire engine and one fire truck.[7] Fire Station #7 is also the battalion headquarters for the eastern part of the City.

The project site is located in close proximity to Fire Station #8, at 1180 Woods Drive, approximately 3.24 miles from the northeast corner of the EUC SPA Plan area. Distances to interior locations within the EUC increase as much as a mile due to the geographic size of the project site. This station serves the communities of EastLake, Rolling Hills Ranch, San Miguel Ranch, Tour de Elegance, and The Woods.[8] A total of nine firefighters operate out of Fire Station #8, which is equipped with one fire engine.[9] Although within proximity of the EUC SPA Plan area, the EUC SPA Plan area and Otay Ranch are not within the designated service area of Fire Station #8.

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[5] *City of Chula Vista Fire Department website, Station Locations and Apparatus, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/Stations/Default.asp, accessed October 24, 2008.*

[5] *Electronic correspondence, Justin Gipson, Fire Marshall, Chula Vista Fire Department, March 20, 2008.*

[5] *City of Chula Vista Fire Department website, Station Locations and Apparatus, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/Stations/Default.asp,*

[6] *City of Chula Vista Fire Department website, Station Locations and Apparatus, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/Stations/Default.asp, accessed March 7, 2008.*

[7] *Electronic correspondence, Justin Gipson, Fire Marshall, Chula Vista Fire Department, March 20, 2008.*

[8] *City of Chula Vista Fire Department website, Station Locations and Apparatus, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/Stations/Default.asp, accessed March 20, 2008.*

[9] *E-mail correspondence, Justin Gipson, Fire Marshall, Chula Vista Fire Department, March 20, 2008.*

Table 4.11-1

City of Chula Vista Fire Station Facilities

Station	Location	Equipment		Staffing
		Current Facilities		
Station #1	447 F Street Chula Vista, CA 91910	Engine 51 Battalion 51	Truck 51	Assigned: 24 On Duty: 8
Station #2	80 East J Street Chula Vista, CA 91910	Engine 52	Brush 52	Assigned: 9 On Duty: 3
Station #3	1410 Brandywine Avenue Chula Vista, CA 91911	US and R 53		Assigned: 12 On Duty: 4
Station #4	850 Paseo Ranchero Chula Vista, CA 91910	Engine 54		Assigned: 9 On Duty: 3
Station #5	391 Oxford Street Chula Vista, CA 91911	Engine 55		Assigned: 9 On Duty: 3
Station #6	605 Mt. Miguel Road Chula Vista, CA 91914	Engine 56		Assigned: 9 On Duty: 3
Station #7	1640 Santa Venetia Road Chula Vista, CA 91913	Engine 57 Battalion 52	Truck 57	Assigned: 24 On Duty: 8
Station #8	1180 Woods Drive Chula Vista, CA 91914	Engine 58		Assigned: 9 On Duty: 3
Station #9	291 East Oneida Street Chula Vista, CA 91911a	Engine 59		Assigned: 9 On Duty: 3
		Planned Facilities		
Station #10	Eastern Urban Center	EUC Engine	EUC Truck	Assigned: 21 On Duty: 7
Station #11	80 East J Street Chula Vista, CA 91910	Bayfront Engine	Bayfront Truck	Assigned: 21 On Duty: 7

Source: CVPD, 2008.

The CVFD currently has mutual aid agreements with Bonita-Sunnyside, Imperial Beach, National City, San Diego, and San Diego County.

Emergency medical services for the City of Chula Vista are contracted to the American Medical Response (AMR). Currently, two full-time units are stationed within City limits and are dedicated to the City, while two other full-time units are shared with other cities.[10]

[10] *Ibid.*

4.11.1.2 THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that impacts to fire protection and emergency services would be significant if the project would:

Threshold 1: *Result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.*

In addition, the GMOC Threshold Standards state that impacts to fire protection and emergency responses would be significant if the project would:

Threshold 2: *Reduce the ability of properly equipped and staffed fire and medical units to respond to calls throughout the City within seven minutes in 80 percent of the cases.*

In addition to the above thresholds, impacts to fire and emergency medical services would be significant if the proposed project would:

Threshold 3: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding fire protection and emergency medical services thereby resulting in a significant physical impact.*

4.11.1.3 IMPACT ANALYSIS

Threshold 1: *Result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.*

A. EUC SPA Plan Area

Consistent with the City of Chula Vista General Plan and Otay Ranch GDP, the proposed EUC SPA Plan includes a fire station to be constructed within the Civic District of the EUC SPA Plan. The fire station is located at the southeast corner of Street “A” and Street “F” on a 1.07 acre site. The proposed 2-story fire station will consist of three bays and associated work and living areas. Access to the fire station will be provided from Street “B” and fire equipment will be able to exit directly onto Street “A” at a signalized intersection. Construction effects

associated with the fire station itself are not expected to be significant as construction would be undertaken in compliance with applicable City regulations.

Impacts associated with overall construction of the EUC SPA Plan are evaluated in the various topical sections in Chapter 4, Environmental Impact Analysis, of this EIR, along with mitigation measures to address significant impacts. As discussed in this EIR, project construction impacts would be less than significant for air, noise, cultural resources, biological resources, hydrology, water quality, and other relevant issues.

B. Off-site Soils Stockpiling Area

The off-site SSA would involve the export and disposal of soils from the project site to an off-site area of designated Village Nine. This construction activity would not involve any permanent or habitable structures or population increase and, as such, would not require the development or expansion of any fire facilities. Therefore, the impact of Grading Option 1 would be less than significant with respect to Threshold 1. Grading Option 2 would retain all grading materials on-site and therefore would not affect the off-site SSA.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The proposed SCSL Improvement requires the construction of 173 feet of sewer line in an off-site area to the southeast of the Hunte Parkway/EastLake Parkway intersection. This construction activity would not involve any permanent or habitable structures or population increase and, as such, would not require the development or expansion of any fire facilities. Therefore, the impact of the SCSL Improvement would be less than significant with respect to Threshold 1.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI requires the construction of a 100.7-foot sewer line in Olympic Parkway at Brandywine Avenue. This construction activity would not involve any permanent or habitable structures or population increase and, as such, would not require the development or expansion of any fire facilities. Furthermore, the temporary construction activities would be carried out in a manner that would not significantly impede emergency response and access. Therefore, the impact of this off-site improvement would be less than significant with respect to Threshold 1.

Threshold 2: *Reduce the ability of properly equipped and staffed fire and medical units to respond to calls throughout the City within seven minutes in 80 percent of the cases.*

A. EUC SPA Plan Area

The CVFD currently responds to 88.1 percent of calls within seven minutes and, therefore, meets the GMOC threshold of responding to 80 percent of calls within seven minutes. However, build-out of the EUC SPA Plan would result in a residential population of 7,696 people. In addition, the proposed 3.4 million square feet of non-residential uses would add a significant employment base. This increase in residential and employment population would result in an increase in demand for fire and emergency medical services. An increase in demand for fire and emergency medical services could also increase response times. However, as part of the development of the EUC SPA Plan and, consistent with the General Plan, Fire Station #10 (EUC SPA Plan Fire Station) would be constructed within the Civic District of the EUC SPA Plan in order to provide adequate fire protection and emergency services to the area. As response times are in large part attributed to distance, development of this station within the EUC SPA Plan would greatly shorten the travel time for responding fire and medical units to the area. Until the on-site station is constructed and fully operational, existing Fire Station #7 located approximately 1.53 miles from the EUC SPA Plan would provide fire and emergency medical services. Fire Station #7 and other proximate stations would also respond to calls, as needed, within the EUC SPA Plan once Fire Station #10 is fully operational. As a result, impacts associated with emergency response would be less than significant.

Fire services are funded through development impact fees collected as part of the City's Public Facilities Development Fee (PFDIF) Program. Implementation of the proposed project would require the collection of the PFDIF. The PFDIF addresses the project's proportional impact on capital facilities, such as structures and equipment, associated with the fire protection. It does not address the impact associated with operations and maintenance for those facilities. It is the city's policy to use public funds such as property taxes, sales taxes, and fees generated by the project to cover the incremental costs associated with providing fire services and other public services such as library, parks, police protection, etc.

A fiscal impact analysis (FIA) has been conducted for the EUC to determine the revenues and costs expected to be generated by the development. Net revenues are used to finance costs associated with operations and maintenance associated with the public services required to serve the project.

In addition, the City Council has adopted Threshold Standards establishing "quality-of-life" indicators for eleven public facility and service topics. Adherence to these citywide standards is intended to preserve and enhance both the environment and residents' quality of life as growth occurs. To provide an independent, annual, City-wide Threshold Standards compliance review, the Growth Management Oversight Commission (GMOC) was created. It is composed of nine members representing each of the City's four major geographic areas, a member of the Planning Commission, and a cross section of interests including education, environment, business, and development.

The Growth Management Oversight Commission (GMOC) assesses, on an annual basis, compliance with the growth management thresholds. Should the GMOC determine that the growth management threshold standard is not being satisfied because of the impacts of growth, the City Council shall consider adopting specific mitigation measures to bring the condition into conformance, prior to issuing further building permits.

Furthermore, as discussed in Section 4.11.5.1A, the General Plan includes policies that address fire protection and provision of public services commensurate with need. Specifically, these policies:

- Ensure that the City the Fire Department is adequately equipped and staffed in order to meet established service standards for emergency services (PFS 5.1);

- Require that construction of large-scale development be phased with provision of fire protection services prior to or concurrent with need (PFS 5.7);

- Call for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and

- Establish the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide fire services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met. Therefore, the combination of PFDIF fees from the Applicant and existing City policies and mechanisms would reduce impacts associated with fire operations and maintenance to less than significant.

Fire flow was evaluated as part of the analysis of water supply and demand (Section 4.11.6). The fire flow requirements for each building within the EUC SPA Plan will be a function of building design including height and structure type. As required by Mitigation Measure 4.11.6-2, the Applicant is required to prepare a final Subarea Master Plan (SAMP) prior to approval of the first final map. The SAMP will be reviewed by the City of Chula Vista and approved by OWD. Among other topics, the SAMP will identify existing on-and off-site pipeline locations, size and capacity and the City of Chula Vista's fire flow requirements (e.g., flow rate, duration, hydrant spacing, etc). As part of the building permit process, the City of Chula Vista will evaluate the fire flow requirements for each project in accordance with the adopted Fire Code and approved SAMP. Approval of the SAMP prior to approval of the first final map will ensure adequate that appropriate infrastructure is developed to serve the project's water needs,

including fire flow for individual buildings. In addition, as a fire prevention measure, Project Applicants within the EUC SPA Plan would be required to equip all commercial buildings four stories in height or more with fire sprinklers in accordance with City Ordinance.

The project would support Chula Vista General Plan objectives through the provision of a fire station in the Civic Center district, compliance with applicable regulations regarding disposal of hazardous waste, the determination that the SAMP ensures adequate water infrastructure, and Fire Marshall approval of fire flow and other fire prevention measures for individual development projects based on building floor area heights and other considerations.

The proposed project would be consistent with the GDP's description of uses to be provided in the EUC because the proposed project would include a fire station site (Part II, Chapter 1, Section F.12.b) in accordance with the siting criterion in the Facility Implementation Plan.

B. Off-site Soils Stockpiling Area

Under Grading Option 1, fill soils would be transported to an off-site SSA. The SSA project would not involve permanent or habitable structures or population increase and, as such, would not increase demand on fire services or reduce the ability of properly equipped and staffed fire and medical units to respond to calls. Due to the off-road location of the SSA parcel (south of Hunte Parkway in the area of designated Village Nine), grading activities on the off-site area would also not interfere with established emergency routes. In the stockpiling of soil, the grading project would not increase fire services demand, as no population increase is associated with this activity. Therefore, this construction project would be less than significant with respect to Threshold 2.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The SCSL Improvement Area would not involve permanent or habitable structures that would result in a population increase and, as such, would not increase demand on fire services or reduce the ability of properly equipped and staffed fire and medical units to respond to calls. Due to the off-road location to the Salt Creek Interceptor, grading activities would not interfere with established emergency routes. Therefore, this construction project would be less than significant with respect to Threshold 2.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area would not involve permanent or habitable structures that would result in a population increase and, as such, would not increase demand on fire services or reduce the ability of properly equipped and staffed fire and medical units to respond to calls. This project would occur within the Olympic Parkway right-of-way. As Olympic Parkway is a six-lane prime arterial, with available through lanes anticipated during the sewer improvement project, is it

expected that no street closure would be required for the construction project. As such, fire response, which has priority access to the roadway during emergency conditions, would not be significantly impacted. Therefore, the PCSI Area short-term construction activities would not significantly impact fire services with respect to Threshold 2.

Threshold 3: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding fire protection and emergency medical services thereby resulting in a significant physical impact.*

Table 4.11-2, *Project Consistency with Applicable General Plan Fire Service Policies,* on page 4.11-12 evaluates the consistency of the proposed project with the applicable General Plan objectives. As shown in Table 4.11-2, the proposed project would be consistent with policies that would specifically apply to the project.

4.11.1.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The anticipated increase in residential population of 7,696 people and the employment base of 3.4 million square feet of non-residential development would increase demand on fire and emergency medical services. The increase in demand would be significant if a fully operational and appropriately equipped and staffed fire station is not provided commensurate with the demand on fire and emergency medical services. Fire flow requirements for individual projects within the EUC could be significant depending upon the ultimate building height and structure type.

4.11.1.5 MITIGATION MEASURES

4.11.1-1 Prior to the approval of each building permit, the Applicant shall pay Public Facilities Development Improvement Fees (PFDIF) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP.

4.11.1-2 In order to determine the EUC SPA Plan's increased demand on fire services and potential to exceed GMOC standards, the City of Chula Vista shall continue to monitor the Chula Vista Fire Department responses to emergency fire and medical calls and report the results to the GMOC on an annual basis.

4.11.1-3 Prior to the approval of each building permit and to the satisfaction of the City of Chula Vista Fire Marshall, the proposed project shall meet the provisions of the City's adopted California Fire Code. In meeting said provisions, the project shall also meet the minimum fire flow requirements based upon construction type and square footage.

Table 4.11-2

Project Consistency with Applicable General Plan Fire Service Policies

Objective	Applicable Policies	Evaluation of Consistency
Objective PFS 5 - Maintain sufficient levels of fire protection and emergency medical service to protect public safety and property.	PFS 5.1, 5.2, 5.3, 5.7	The EUC SPA Plan is **consistent** with this General Plan objective and relevant policies. The EUC will provide a Fire Station as planned in the adopted Fire Station Master Plan. The PFFP for the EUC identifies the public facilities needed to support the project including fire, police and emergency medical services. The PFFP identifies when these services will be required and the appropriate funding mechanism(s) to ensure that facilities, equipment and personnel operational prior to or concurrent with need.
Objective PFS 6 - Provide adequate police protection services to newly developing and redeveloping areas of the City.	PFS 6.1, 6.2	The EUC SPA Plan is **consistent** with this General Plan objective and these relevant policies. *Access for emergency vehicles:* The City's Fire Department has determined that the proposed street system and location of the proposed Fire Station provide adequate access for fire and emergency medical vehicles. *Water Pressure*: The fire flow requirements for each building within the EUC SPA Plan will be a function of building design including height and structure type. Prior to the issuance of building permits for projects within the EUC SPA Plan there will be verification by OWD and the City of Chula Vista Fire Department that there is adequate fire flow (flow rate, duration, hydrant spacing, etc.) to service the project.
Objective GM 1 – Concurrent public facilities and services	GM 1.11	The EUC SPA Plan is **consistent** with this General Plan objective and policy because the PFFP will identify the fire staffing requirements for the EUC SPA Plan , when these services will be required and the appropriate funding mechanism(s) to ensure that facilities, equipment and personnel operational prior to or concurrent with need. The City Council has the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

4.11.1-4 The Applicant shall deliver a site for a future fire station in accordance with the triggers/phasing prescribed in the PFFP.

4.11.1-5. Subject to approval of the City Council, in lieu of paying the required impact fee, the Applicant may satisfy that requirement through a written agreement, by which the Applicant agrees to either pay the fee or build the facility in question, pursuant to the terms of the agreement.

4.11.1.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of Mitigation Measures 4.11-1 through 4.11-5, impacts to fire and emergency medical services would be mitigated to less than significance.

4.11.2 POLICE SERVICES

4.11.2.1 EXISTING CONDITIONS

This section describes existing police facilities that serve the City and existing policies that regulate the provision of such services, and assesses the potential for related impacts associated with implementation of the EUC SPA Plan.

A. Regulatory Framework

(1) City of Chula Vista General Plan

The *2005 Chula Vista General Plan* recognizes that police services will need to expand as the City's population grows. The following objectives and policies within the City of Chula Vista General Plan are applicable to the project:

Objective PFS 5 - Maintain sufficient levels of police services to protect public safety and property.

Policies

PFS 5.4 - Provide adequate law enforcement staff and equipment pursuant to Police Department strategic plans to meet established service standards.

PFS 5.5 - Explore the need to establish local, community-based satellite or storefront police offices to enhance community well being.

PFS 5.6 - Encourage crime watch programs in all neighborhoods.

PFS 5.7 - Prior to the approval of any discretionary projects, ensure that construction is phased with provision of police protection services such that services are provided prior to or concurrent with need.

Objective PFS 6 - Provide adequate police protection services to newly developing and redeveloping areas of the City.

Policies

PFS 6.1 - Continue to require new development and redevelopment projects to demonstrate adequate access for police vehicles.

PFS 6.3 - Encourage Crime Prevention through Environmental Design (CPTED) techniques in new development and redevelopment projects.

Objective GM 1 - Concurrent public facilities and services.

Policy

GM1.11 - Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

(2) Otay Ranch General Development Plan

The purpose of the Law Enforcement Facilities section of the Otay Ranch GDP is to establish goals, objectives, policies, standards, and processing requirements for the timely provision of law enforcement facilities. As stated therein, the goal is to protect life and property and prevent the occurrence of crime. The Otay Ranch GDP also states that one "central" police station located in the EUC is necessary to serve the Otay Ranch Project Area at build-out.

(3) Zoning Code and GMOC Ordinance

In accordance with Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade existing public facilities below acceptable standards for police and other public services. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040A specifically requires that "properly equipped and staffed police units shall respond to 81 percent of Priority One emergency calls within seven minutes and maintain an average response time to all Priority One emergency calls of 5.5 minutes or less. Section 19.09 also requires a PFFP and the demonstration that public services, such as police services, meet the GMOC quality of life threshold standards.

B. Existing Services

The Chula Vista Police Department (CVPD) provides police protection services for the Otay Ranch area from its existing police facility at 315 Fourth Avenue in downtown Chula Vista, approximately 7 miles from the project site. The CVPD is currently authorized for 3,385 employees, 244 sworn officers and 95.5 civilian staff. Currently, the CVPD has open recruiting of new officers to maintain staffing levels and has been authorized for up to 10 overhires.[12] The project site is located in Beat 32. At least one patrol car serves each beat in the City 24 hours a day. As the City continues to grow and the demand for police services increases, the CVPD regularly evaluates beat structure. In addition, the CVPD participates in regional mutual aid agreements.[13]

[12] *E-mail correspondence, Richard Preuss, Police Community Relations Specialist, Chula Vista Police Department, March 20, 2008.*

[13] *Ibid.*

The 2008 GMOC Annual Report indicates that the CVPD responded to 84.5 percent of Priority I emergency calls within seven minutes and maintained an average response time for Priority I calls of 4 minutes 59 seconds.[14] This met the GMOC threshold standards that require properly equipped and staffed police units to respond to 81 percent of Priority I emergency calls within 7 minutes with an average response time of 5 minutes 30 seconds.[15]

During the same period addressed in the 2008 GMOC Annual Report, the CVPD responded to 43.3 percent of Priority II urgent calls within seven minutes and maintained an average response time for Priority II calls of 11 minutes 18 seconds, thereby not meeting the GMOC threshold standards that require properly equipped and staffed police units to respond to 57 percent of Priority II urgent calls within seven minutes with an average response time of 7 minutes and 30 seconds.[16,17,18]

4.11.2.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would result in a significant impact to police protection services if it would:

Threshold 1: *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.*

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[14] *Priority I-Emergency Calls. Life threatening calls; felony in progress; probability of injury (crime or accident); robbery or panic alarms; urgent cover calls from officers. Response: Immediate response by two officers from any source or assignment, immediate response by paramedics/ fire if injuries are believed to have occurred.*

Source: Growth Management Oversight Commission, 2008 GMOC Annual Report, June 2008.

[15] *City of Chula Vista Growth Management Oversight Commission 2007 Annual Report, http://www.ci.chula-vista.ca.us/city_Services/Development_Services/Planning_Building/ Boards_Commissions/documents/Vol-1_complete.pdf, accessed March 10, 2008.*

[16] *Priority II-Urgent Calls. Misdemeanor in progress; possibility of severe injury; serious non-routine calls (domestic violence or other disturbances with potential for violence); burglary alarms. Response: immediate response by one or two officers from clear units or those on interruptible activities (traffic, field interviews, etc.).*

Source: Growth Management Oversight Commission, 2008 GMOC Annual Report, June 2008.

[17] *City of Chula Vista Growth Management Oversight Commission 2007 Annual Report, http://www.ci.chula-vista.ca.us/city_Services/Development_Services/Planning_Building/ Boards_Commissions/documents/Vol-1_complete.pdf, accessed March 10, 2008.*

[18] *E-mail correspondence, Richard Preuss, Police Community Relations Specialist, Chula Vista Police Department, March 20, 2008.*

In addition, the GMOC Threshold Standards state that impacts to police services would be significant if the project would:

Threshold 2: *Exceed the threshold standard to respond to 81 percent of Priority I emergency calls throughout the City within seven minutes and maintain an average response time to all Priority I calls of 5 minutes and 30 seconds or less.*

Exceed the threshold standard to respond to 57 percent of Priority II urgent calls throughout the City within seven minutes and maintain an average response time to all Priority II calls of 7 minutes and 30 seconds or less.

In addition to the above thresholds, impacts to police services would be significant if the proposed project would:

Threshold 3: *Be inconsistent with General Plan objectives and policies regarding police protection thereby resulting in a significant physical impact.*

Threshold 4: *Be inconsistent with General Plan, GDP or other objectives and policies regarding police protection services thereby resulting in a significant physical impact.*

4.11.2.3 IMPACT ANALYSIS

Threshold 1: *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.*

While the EUC SPA Plan permits civic facilities, such as a police station, the proposed project does not include the development of a police station or facilities because the CVPD does not recommend the construction of a central police station in the EUC SPA Plan area. The three off-site improvements would not involve permanent or habitable structures, population increase, or street closures. As such, these off-site improvements would not require the construction of a police station. Therefore, this threshold does not apply to the proposed project with respect to police protection services. A discussion of demand for police services is provided under Threshold 2, below.

Threshold 2: *Exceed the threshold standard to respond to 81 percent of Priority I emergency calls throughout the City within 7 minutes and maintain an average response time to all Priority I calls of 5 minutes and 30 seconds or less.*

Exceed the threshold standard to respond to 57 percent of Priority II urgent calls throughout the City within seven minutes and maintain an average response time to all Priority II calls of 7 minutes and 30 seconds or less.

A. EUC SPA Plan Area

As stated above, the CVPD currently meets the GMOC response time thresholds for Priority I calls, but not Priority II calls. Development of the proposed project would increase the demand for police services as a result of increased population and development density. Demand for police services would increase response times due to a potential increase in the frequency of police calls and contacts. Although population is only one factor of many that generate a demand for police services, the CVPD estimates that the EUC SPA Plan would result in a 3 to 4 percent increase in citizen-initiated calls for service (approximately 2,500). The projected CFS increase is the CVPD's best estimate given current available information. For example, if the average time spent on CFS changes during the next comprehensive staffing study released by the Department, the EUC SPA Plan estimates would also change. If establishments that serve alcohol comprise a significant percentage of businesses in the EUC SPA Plan, the CFS estimates may change. To estimate calls for service for different land use types, the CVPD uses local or regional per acre (or per unit) averages for similar properties or areas. The CVPD also uses a nationally recognized staffing model to calculate the number of officers required to maintain adequate levels of service.

The central police station at Fourth Avenue and F Street is sufficient to meet the law enforcement needs created by the increased demand associated with the proposed project. However, in order to maintain response times, more police officers would be needed. Based on a projected increase of 2,500 calls for service, a minimum of five additional police officers, along with related equipment, would be required to serve the project area to maintain GMOC threshold standards for Priority I calls for service. The CVPD recommends adding two officers during the initial phase of EUC SPA Plan and one officer during each of the other three development phases.

Although the GDP identifies one "central" police station in the EUC SPA Plan, the CVPD does not recommend constructing a substation in the EUC SPA Plan for several reasons (see also discussion of GDP compliance under Threshold 3). A substation will not reduce call for service response times because patrol officers respond to calls for service from the field rather than from a fixed station. Additionally, the cost to build a substation was estimated at $12 million to $15 million several years ago, and construction costs have increased substantially since then. If this level of funding were available, it would have the most impact on response times if it were used to fund additional patrol officers in the field; however, the provision of five additional officers would preserve the status quo with respect to workload and response times.

Implementation of the proposed project would require the collection of Public Facilities Development Impact Fees (PFDIF). The PFDIF addresses the project's proportional impact on

capital facilities, such as structures and equipment, associated with the police protection. It does not address the impact associated with operations and maintenance for those facilities. It is the city's policy to use public funds such as property taxes, sales taxes, and fees generated by the project to cover the incremental costs associated with providing police services and other public services such as library, parks, fire protection, etc.

A fiscal impact analysis (FIA) has been conducted for the EUC to determine the revenues and costs expected to be generated by the development. Net revenues are used to finance costs associated with operations and maintenance associated with the public services required to serve the project.

In addition, the City Council has adopted Threshold Standards establishing "quality-of-life" indicators for eleven public facility and service topics. Adherence to these citywide standards is intended to preserve and enhance both the environment and residents' quality of life as growth occurs. To provide an independent, annual, City-wide Threshold Standards compliance review, the Growth Management Oversight Commission (GMOC) was created. It is composed of nine members representing each of the City's four major geographic areas, a member of the Planning Commission, and a cross section of interests including education, environment, business, and development.

The GMOC assesses, on an annual basis, compliance with the growth management thresholds. Should the GMOC determine that the growth management threshold standard is not being satisfied because of the impacts of growth, the City Council shall consider adopting specific mitigation measures to bring the condition into conformance, prior to issuing further building permits.

Furthermore, as discussed in Section 4.11.5.1A, the General Plan includes policies that address police protection and provision of public services commensurate with need. Specifically, these policies:

- Require that the City provide adequate law enforcement staff and equipment equivalent to the existing ratio of police officers to population to meet established service standards (PFS 5.4);

- Call for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and

- Establish the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide police services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met. Therefore, the combination of PFDIF fees from the Applicant and existing City policies and mechanisms would reduce impacts associated with police operations and maintenance to less than significant.

The physical design and features of a project can also reduce demand on police services by affecting the ability of the police to respond to reported activities or reduce/ increase the potential for accidents or criminal activity. As the design of the project would affect the impact of the project on police services, all building plans would be submitted to the CVPD for review to determine the use of CPTED features. According to the EUC SPA Plan, consideration will be given to CPTED features that include controlling access points to public and private spaces, by maximizing visibility of public areas, by using building orientation, and design to reinforce and define boundaries between public and private spaces, and by requiring rental properties to participate in the Crime Free Multi-Housing Program, which addresses security standards and includes an on-site manager as a liaison to the CVPD. In addition, the Form Based Code (FBC) requires safety features such as clearly defined and readily identifiable pedestrian entrances to parking structures, stairwells, and elevators. These areas would be designed to be safe and user-friendly and to allow effective surveillance. The FBC also requires that consideration be given to CPTED principles in the design of all parking structures to permit active surveillance of the street. In particular, completely controlling access to surface parking lots and structures would reduce vehicle crime in the EUC SPA Plan area. Additionally, the use of construction materials and design approaches that reduce interior noise levels in habitable rooms may reduce calls to the police for activities that generate a high noise level, such as parties, outdoor events, or people conversing in the street. Noise transfer reduction may include the provision of mechanical ventilation or air conditioning systems to allow closed windows (see Section 4.5, Noise).

B. Off-site Soils Stockpiling Area

Under the off-site SSA project, the transport to and placement of fill soils in the off-site soils stockpiling area would involve no permanent or habitable structures, population increase, or street closures and, as such, would not increase response times. Therefore, Grading Option 1 would not significantly impact police services with respect to Threshold 2. Similarly, Grading Option 2, which would retain all grading materials on-site, would not involve permanent or habitable structures, population increase, or street closures. Therefore, Grading Option 2 would not be applicable to this threshold.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The proposed SCSL Improvement Area would not involve permanent or habitable structures, street closures, or population increase and, as such, would not increase police response time due to a permanent increase in demand for police services or response times. Therefore,

short-term construction activities associated with the SCSL Improvement would not significantly impact police services with respect to Threshold 2.

D. Off-site Poggi Canyon Sewer Improvement Area

The off-site PCSI Area would not involve permanent or habitable structures or population increase. This project would occur within the Olympic Parkway right-of-way. As Olympic Parkway is a six-lane prime arterial, with through lanes anticipated during the construction activity, it is expected that no street closure would be required for the construction project. As such, police response, which has priority access to the roadway during emergency conditions, would not be significantly impacted. In addition, the sewer improvement project would not increase demand with respect to police response, as no population increase is associated with this activity. Therefore, the short-term construction activities associated with the PCSI Area would not significantly impact police services with respect to Threshold 2.

Threshold 3: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding police protection services thereby resulting in a significant physical impact.*

The proposed EUC SPA Plan is compared to the applicable General Plan objectives and policies in Table 4.11-3, *Project Consistency with Applicable General Plan Police Service Policies,* on page 4.11-21. The proposed EUC SPA Plan would be consistent with the Chula Vista General Plan objective and policies pertaining to police services primarily because the PFFP will identify the police staffing requirements for the EUC SPA Plan, when these services will be required and the appropriate funding mechanism(s) to ensure that facilities, equipment and personnel operational prior to or concurrent with need. In addition, the proposed EUC SPA Plan includes CPTED features that will reduce the demand on police services.

Part II, Chapter 5, Section E.6 of the GDP suggests that one “central” police station should be located in the EUC SPA Plan to serve the Otay Ranch Project Area at build-out. The GDP also states that “Additional facilities within villages or shared use of other public facilities may be constructed at the SPA level. The size and character of these facilities will be determined, in part, by the necessary operation structure and cost by jurisdictional arrangement. In addition, the GDP states “Storefronts can serve as ‘outlets’ for multiple civic services, such as fire safety or public information, in addition to law enforcement services.”

The City has determined that the size, character, and operational structure of law enforcement facilities on a citywide basis would better be served by a central law enforcement facility, which was adopted and is now in operation. Consistent with a single station concept, the police department provides law enforcement services throughout all areas of the city through in the field staffing strategies and the use of police patrol beat system. The EUC SPA permits both law enforcement facilities and storefront public service facilities, if prior to build-out of the Otay Ranch Project, the current operation structure for law enforcement in the City were to change.

Table 4.11-3

Project Consistency with Applicable General Plan Police Service Policies

Applicable Policies	Evaluation of Consistency
PFS 5.4, 5.5, 5.6, 5.7	The EUC SPA Plan is **consistent** with these relevant policies. The PFFP for the EUC SPA Plan identifies the public facilities needed to support the project including police services. The PFFP identifies when these services will be required and the appropriate funding mechanism(s) to ensure that facilities, equipment and personnel operational prior to or concurrent with need. The EUC SPA Plan permits storefront police offices, however the CVPD does not recommend the construction of a central police station in the EUC SPA Plan. Crime watch programs will be encouraged in all neighborhoods.
PFS 6.1, 6.3	The EUC SPA Plan is **consistent** with these relevant policies. *Access for emergency vehicles:* The City's Police Department has determined that the proposed street system provides adequate access for police vehicles. *Crime Prevention Through Environmental Design (CPTED)*: The EUC SPA Plan FBC has incorporated several features that encourage Crime Prevention Through Environmental Design (CPTED) including: **Design of Buildings** – orienting buildings to the street in order to keep "eyes on the street" and providing for uses in the commercial areas that will ensure people are present at all hours. **Design of Streets** – On-street parking, slower speeds. **Parking Structures** – keeping the structures open to allow for visibility inside and out of the structures. **Police Storefront** – The EUC SPA Plan provides opportunities to establish a police storefront. **Lighting** – The EUC SPA Plan provides upgraded lighting in the parks and unique lighting throughout the project.
GM 1.11	The EUC SPA is **consistent** with this policy because the PFFP will identify the police staffing requirements for the EUC SPA Plan, when these services will be required and the appropriate funding mechanism(s) to ensure that facilities, equipment and personnel are operational prior to or concurrent with need.

4.11.2.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The proposed project would not result in significant impacts associated with the provision of new or expanded police facilities. Future growth associated with the proposed EUC SPA Plan is anticipated in the General Plan and would not require the construction of new or expanded police facilities. Existing physical facilities are adequate to handle police protection for the proposed project. The CVPD currently does not meet GMOC thresholds for responses to Priority II calls. The proposed EUC SPA Plan would increase demand on police protection, which could increase response times if additional police officers are not provided commensurate with demand. This is considered a significant impact prior to mitigation.

4.11.2.5 MITIGATION MEASURES

4.11.2-1 Prior to the issuance of each building permit for any residential dwelling units, the Applicant(s) shall pay Public Facilities Development Impact Fees (PFDIF) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP, unless stated otherwise in a separate development agreement..

4.11.2-2 The City of Chula Vista shall continue to monitor the CVPD responses to emergency calls and report the results to the GMOC on an annual basis.

4.11.2-3 Prior to approval of each design review permit, site plans shall be reviewed by the CVPD to ensure the incorporation of CPTED features and other recommendations of the CVPD, including, but not limited to, controlled access points to parking lots and buildings; maximizing the visibility along building fronts, sidewalks, paesos, and public parks; and providing adequate street, parking lot, and parking structure visibility and lighting.

4.11.2.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the above mitigation measures would reduce impacts on police services and response times to a less than significant level. Implementation of the above Mitigation Measures 4.11.2-1 through 4.11.2-3 would reduce the project's impact on police services to below significance.

4.11.3 SCHOOLS

This section describes existing school facilities that serve the City and existing policies that regulate the provision of schools, and assesses the potential for related impacts associated with implementation of the EUC SPA Plan.

4.11.3.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) City of Chula Vista General Plan

The General Plan recognizes that demand for school facilities will continue to increase as the City's population grows and states that it is the intent of the City to facilitate the efforts of the districts to provide school services. The following objectives and policies within the General Plan are applicable to the proposed project:

Objective PFS 9 - Develop schools that cultivate and educate people of all ages, that meet the needs of the workforce, and that serve as community centers.

Policies

PFS 9.1 - Coordinate with local school districts during review of applicable discretionary approval to provide adequate school facilities, to meet needs generated by development, and to avoid overcrowding, in accordance with the guidelines and limitations of Government Code 65996(b).

PFS 9.3 - Assist school districts in identifying and acquiring school sites for new construction in needed timeframes.

Objective PFS 10 - Efficiently locate and design school facilities.

Policy

PFS 10.1 - Coordinate and make recommendations to the school districts and property owners and developers on the location, size, and design of school facilities relative to their location in the community. Encourage school districts to consider joint use and alternative structural design, such as multi-story buildings, where appropriate.

PFS 10.3 – Require that proposed land uses adjacent to a school site be planned in such a manner as to minimize noise impacts and maximize compatibility between the uses.

PFS 10.6 – Consider siting elementary schools adjacent to neighborhood parks, where feasible, to allow for expanded use of the school grounds and classrooms by the general public and the park area by the school children.

(2) Otay Ranch General Development Plan

The purpose of the school Facility Section of the *1993 Otay Ranch General Development Plan* (GDP) is to establish goals, objectives, policies, and processing requirements to ensure the timely provision of local school facilities. As stated therein, the goals of the GDP with respect to school facilities is to provide high quality K-12 educational facilities for Otay Ranch residents by coordinated planning of school facilities with the appropriate school district and to coordinate the planning of adult educational facilities with the appropriate district. In addition, the GDP states that buildout of the Otay Ranch GDP would generate a demand for 13 elementary schools, two middle schools, and two high schools. The GDP designates a future high school site and a future elementary school site within the EUC, although it is also noted in the GDP that the final determination of whether a high school will be provided in the EUC is to be determined by the high school district.

The GDP also includes a list of criteria for siting schools within the individual villages. The siting criteria address site size, location in proximity to residential development and parks and accessibility to all modes of transportation including pedestrian, bicycle and vehicular traffic, topographic and soils considerations, proximity to high-level noise generators, accessibility to utilities and services, and distance to Brown Field. The GDP notes that while it is unlikely that every site can meet all the criteria, each site should meet most of the listed criteria.

(3) Zoning Code and GMOC Ordinance

In accordance with Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade existing public services and facilities below acceptable standards for schools and other public services. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040.C requires that the City annually provide the two local school districts with a 12- to 18-month development forecast and requests an evaluation from the districts of their ability to accommodate the forecast and continuing growth. The districts must address the following:

1. Amount of current capacity now used or committed;

2. Ability to absorb forecast growth in affected facilities;

3. Evaluation of funding and site availability for projected new facilities;

4. Other relevant information the district(s) desire(s) to communicate to the City and growth management oversight commission (GMOC).

The growth forecast and school district response letters are delivered to the GMOC for inclusion in its review.

Section 19.09 also requires a PFFP and the demonstration that public services, including schools meet the GMOC quality of life threshold standards. The analysis of school services provided in this section, along with the PFFP to ensure funding for any needed expansion of services, ensure that schools will be provided commensurate with development and demand.

(4) California Senate Bill (SB) 50

Two public school districts provide primary and secondary school facilities and services for the City of Chula Vista; the CVESD (kindergarten through sixth grade) and the SUHSD (seventh through twelfth grade). Senate Bill (SB) 50, enacted in 1998, allows both the CVESD and the SUHSD to levy a fee, charge, dedication, or other requirement against any development project within its boundaries for the purpose of funding the construction or reconstruction of school facilities. Pursuant to Government Code Section 65996, the payment of these fees by a developer serves to fully mitigate all potential project impacts on school facilities to less than significant levels.

B. Existing and Planned Educational Facilities

The CVESD, established in 1892, is the largest kindergarten through sixth grade (grades K-6) school district in California, and serves approximately 27,400 students in 44 elementary schools with approximately 2,525 employees (both certified and classified) district wide.[21] K-3 classrooms have a capacity of 20 students, while four through six classrooms have a capacity of 31 students.

Founded in 1920, the SUHSD serves more than 42,000 students in middle and high school (grades 7-12) and more than 32,000 adult learners at 32 campuses.[22] Several middle and high schools are planned or have been recently opened in the area. Olympian High School was opened in 2006 within Village Seven of Otay Ranch, and has a capacity of 2,600 students. In addition, a new combination middle school/high school is planned within Village Eleven, directly east of the project site. This school would have a capacity of approximately 3,000 students (1,000 students in grades 7-8 and 2,000 students in grades 9-12). Although this school has been approved, a date for initiating construction has not been set and will be determined in the future based on need.

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[21] *Chula Vista Elementary School District, District Overview, http://www.cvesd.org/district/default.aspx, accessed March 10, 2008.*

[22] *Sweetwater Union High School District, About the Sweetwater Union High School District, http://www.suhsd.k12.ca.us/students_parents_aboutthedistrict.asp, accessed March 10, 2008.*

Currently, the district-wide student enrollment is stable. However, according to the *2008 Growth Management Oversight Commission (GMOC) Annual Report*, both the CVESD and the SUHSD have indicated that facilities will be required in the Otay Ranch to accommodate growth in the next five years, and that the facilities will be constructed when funding is available.

4.11.3.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts to the existing school system facilities would be significant if the project would:

Threshold 1: *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for educational facilities services.*

According to the Otay Ranch GDP, impacts on school facilities would be significant if:

Threshold 2: *The proposed EUC SPA Plan would locate schools:*

1. *In areas where disturbing factors such as traffic hazards, airports, or other incompatible land uses are present;*
2. *In areas where they are not integrated into the system of alternative transportation corridors, such as bike lanes, riding and hiking trails, and mass transit;*
3. *Where private elementary and secondary schools are not spaced far enough from public schools and each other to prevent a concentration of school impacts;*
4. *Without at least 10 usable acres for an elementary school;*
5. *Without a central location to residential development;*
6. *Adjacent to a street or road which cannot safely accommodate bike, foot, and vehicular traffic;*
7. *In areas not adjacent to parks, thereby discouraging joint field and recreation facility uses;*

8. *At an unsafe distance from contaminants or toxins in the soil or groundwater from landfills, fuel tanks, agricultural areas, power lines, utility easements, and so on; or*

9. *Inside of floodplains; on unstable soils; or near fault lines.*

In addition, impacts to school services would also be significant if the proposed project would:

Threshold 3: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding school services thereby resulting in a significant physical impact.*

4.11.3.3 IMPACT ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area, and PCSI Area are related to short-term construction activities. These off-site activities would not generate population or housing, and as such would not increase the demand for school services. Therefore, these project components are not evaluated in this section. Similarly, the grading options would not affect population or housing. Therefore, Grading Options 1 and 2 are not evaluated in this section.

Threshold 1: *Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for educational facilities services.*

A. EUC SPA Plan Area

The CVESD has estimated that buildout of the proposed EUC SPA Plan's 2,983 residential units would generate approximately 624 elementary school students. To provide for future elementary school demand in the EUC SPA Plan, an elementary school site of approximately six acres would be provided within the EUC SPA Plan. In addition, the Applicant will be required to pay school impact fees pursuant to California Government Code, Section 65996(b).

While the exact location of the proposed elementary school site is not known at this time, the CVESD has expressed that its preferred location is within District 9 (central southern neighborhood district) of the EUC SPA Plan.[23] An alternative site is shown in District 10 on the

[23] *E-mail correspondence, Sally Anson, Facilities Planning Department, Chula Vista Elementary School District, March 13, 2008.*

Site Utilization Plan. The ultimate site location, design and construction of the elementary school would be the responsibility of the CVESD.

The proposed EUC SPA Plan would generate approximately 188 middle school students and 283 high school students. According to the SUHSD, the EUC project is within the EastLake Middle School and Olympian High School attendance areas. It is anticipated that the approximately 188 middle school students generated by the EUC would attend the EastLake Middle School located approximately 4 miles from the project. Currently, EastLake Middle School has the capacity to accept the estimated students generated by the project. It is also anticipated that the approximately 283 high school students will attend Olympian high school located less than a mile west of the project. Currently, Olympian High has the capacity to accept the estimated students from the project. In the future, middle/high school students from the EUC may be able to attend the new school in Village Eleven.

The Otay Ranch GDP designates a high school site within the EUC SPA Plan Area, but the Otay Ranch GDP also includes a policy that states that the final determination of whether a high school is provided in the EUC will be determined by the school district. According to the SUHSD, the demand for a high school is expected to be met by the new Olympian High School in Village Seven, west of the site, just to the west of SR-125. Based on consultation with the serving school districts, demand for high school and middle school sites are expected to be met by existing designated locations in adjoining villages. Accordingly, the EUC SPA Plan does not include the provision of a high school site.

Threshold 2: *If the proposed EUC SPA Plan project locates schools:*

1. *In areas where disturbing factors such as traffic hazards, airports, or other incompatible land uses are present;*
2. *In areas where they are not integrated into the system of alternative transportation corridors, such as bike lanes, riding and hiking trails, and mass transit;*
3. *Where private elementary and secondary schools are not spaced far enough from public schools and each other to prevent a concentration of school impacts;*
4. *Without at least 10 usable acres for an elementary school;*
5. *Without a central location to residential development;*
6. *Adjacent to a street or road which cannot safely accommodate bike, foot, and vehicular traffic;*
7. *In areas not adjacent to parks, thereby discouraging joint field and recreation facility uses;*

8. *At an unsafe distance from contaminants or toxins in the soil or groundwater from landfills, fuel tanks, agricultural areas, power lines, utility easements, and so on; or*
9. *Inside of floodplains; on unstable soils; or near fault lines.*

A. EUC SPA Plan Area

The selection of an appropriate school site and ultimate design and construction of the school is the responsibility of the school district. Safety is the first consideration in the selection of school sites. Certain health and safety requirements are governed by state regulations and the policies of the school department. In selecting a school site, considerations may include, but not be limited to, proximity to airports; proximity to high voltage power transmission lines; presence of toxic and hazardous substances; hazardous air emissions and facilities within one-quarter mile; proximity to railroads and major roadways; proximity to high pressure natural gas pipelines and propane tanks; noise; geologic and soil conditions; traffic and school bus safety; safe routes to school; and safety issues for joint-use projects. The CVUSD, in coordination with the California Department of Education, will take these factors into consideration in selecting an elementary school site within the EUC SPA Plan Area.

As stated above, the exact location of the proposed EUC elementary school is not known at this time. The CVESD has expressed a preference for a school site in District 9 due to the greater distance of this area from Eastlake and Hunte Parkways. An alternative site is shown in District 10. Either school site would meet most of the siting criteria stated in the GDP. Districts 9 and 10 are planned as predominantly residential districts, characterized by local streets designed to minimize traffic and promote bike and pedestrian activity. Either of these school sites would be compatible with surrounding uses. With respect to proximity to airports, the EUC is located approximately 2.5 miles to the northeast of Brown Field, a City of San Diego municipal airport, outside of the airport's two-mile area of influence (see Section 4.12, Hazards and Risk of Upset, of this EIR regarding safety of structures within this distance). The Federal Aviation Administration (FAA) has determined that there would be no hazards to navigation provided that structures within the EUC do not exceed 15 stories in height. The future elementary school would not exceed this height limitation, and therefore would not be an incompatible land use with Brown Field.

Since transit stops would be located within ¼ mile of the great majority of uses in the EUC, either school site would be accessible from the public transit system. In addition, pedestrian and bike routes and pedestrian-oriented features are a major component of the EUC's circulation system and urban design. As such, the proposed alternative transportation network would support the future elementary school.

As the General Plan and GDP define the EUC as an urban community, with high densities and intensities of development, the proposed elementary school is anticipated to be urban in

character. It is envisioned that the elementary school would be more vertical in nature than traditional school designs. The GDP recommends a minimum of 10 acres for elementary school sites. Due to the urban vision for the EUC, a smaller school site that meets the school district's capacity requirements would still meet the intent of the GDP. Either school site would also be adjacent to a public park, with a potential for shared use with the school site (see Chapter 3.0, Project Description, Figure 3-5).

The proposed school site must comply with the CVESD and State standards regarding health and safety issues, including the potential for toxins in the soil. As discussed in Section 4.12, Organochlorine pesticides (OCPs) have been detected in on-site soils in some areas of the project site. As discussed in Section 4.12, Hazards and Risk of Upset of this EIR, these soils would be remediated in accordance with Geocon Consultant's *Organic Pesticide Assessment and Soil Reuse Plan* (June 5, 2007, revised October 4, 2007). Implementation of Mitigation Measure 4.12-9, which requires the removal of contaminated soils to industry standards, would reduce this potential conflict with the school site. As discussed in Section 4.10, Geology and Soils, the EUC SPA Plan is not within a floodplain or on a fault line, but unstable soils could occur on-site, and the region is seismically active. Implementation of Mitigation Measure 4.10-1, which requires conformance with site-specific geotechnical studies, would reduce this school site consideration to below significance.

Threshold 3: *Be inconsistent with General Plan, GDP, or other objectives and policies regarding school facilities thereby resulting in a significant physical impact.*

A. EUC SPA Plan Area

Table 4.11-4, *Project Consistency with Applicable General Plan School Policies,* on page 4.11-31. The proposed EUC SPA Plan would be consistent with the Chula Vista General Plan objectives and policies pertaining to schools primarily because the Applicant has been working with the school district to obtain the preferred site and vision for the elementary school. In addition, the PFFP will identify the school requirements for the EUC and will identify measures to ensure the site is delivered when needed by the district. The proposed project would be consistent with the GDP's description of the EUC because an elementary school is being provided (Part II, Chapter 1, Land Use Plan, Section F.12.b, Planning Area Twelve, EUC Description). As noted previously, a high school is not being provided because the District has indicated that existing adjacent high schools would accommodate high-school age children from the EUC.

4.11.3.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Project implementation would result in a significant impact to elementary schools unless construction of an elementary school coincides with student generation and associated service demands. Provision of school facilities is the responsibility of the school district when additional demand warrants. The potential also exists for OCPs, methane, or other organic

Table 4.11-4

Project Consistency with Applicable General Plan School Policies

Applicable Policies	Evaluation of Consistency
PFS 9.1, 9.3	The EUC SPA Plan is **consistent** with these General Plan policies. The applicant and City have been coordinating with the Chula Vista Elementary School District (CVESD) in the site selection for an elementary school within either District 9 or 10 of the EUC. Design considerations have included the use of a multi-story building. High schools will be located in Village Eleven, adjacent and to the east, and Village Seven, adjacent and to the west, of the EUC. The High School District has indicated that there is no need for a high school within the EUC.
PFS 10.1, 10.3, 10.6	The EUC SPA Plan is **consistent** with these General Plan policies. In coordination with the school district, the Applicant has identified an approximately 6-acre elementary school site adjacent to a proposed park and mixed-use residential neighborhood within District 9 with an alternative site within District 10. Although the project would not meet the GDP criteria of 10 usable acres,[24] the CVESD has indicated that either of the proposed EUC elementary school sites, as well as other elementary school sites in the area, are smaller due to less acreage being available and the high cost of land.[25] Furthermore, Policy 10.1 suggests school districts consider "joint use and alternative structural design such as multi-story buildings, where appropriate". The EUC elementary school is envisioned as an urban, multi-story school. Either site shown on the Site Utilization Plan would be located next to a park, which would have the potential for joint use with the school. A noise analysis for the SPA has been prepared, and indicates that noise from the school outdoor activities could increase ambient noise levels above 65 CNEL in the residential areas. Building design measures are included in the analysis to reduce noise impacts on proposed residential areas from the school. Prior to construction of the elementary school, the school district may be required to prepare an environmental document in accordance with CEQA that will address noise impacts on the school from adjacent land uses. The ultimate siting and design of the school would be the responsibility of the school district. With the implementation of General Plan policies to require the coordination of siting needs with the CVESD, compatibility issues related to the school site would be reduced to below significance.

gases at the future school site to exceed CVESD and State standards and for potential unstable soils to occur on-site. These issues are discussed in Section 4.10 and 4.12, respectively. In addition to the mitigation measures below, implementation of Mitigation Measures 4.10-1 and 4.12-9 would reduce these impacts to below significance.

[24] *Ibid.*

[25] *Ibid.*

4.11.3.5 MITIGATION MEASURES

4.11.3-1 Prior to the issuance of each building permit, the Applicant(s) shall provide the City with evidence or certification by the CVESD that any fee charge, dedication, or other requirement levied by the school district has been complied with or that the district has determined the fee, charge, dedication or other requirements does not apply to the construction.

4.11.3-2 Prior to approval of a final map for private development on Lots 26 or 27 of the Tentative Map, the Applicant shall provide evidence from the CVESD that the site has not been determined by the district to be needed for use as a school site.

4.11.3.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of Mitigation Measures 4.11.3-1 and 4.11.3-2, impacts on school services would be less-than-significant.

4.11.4 LIBRARIES

This section describes existing library facilities that serve the City and existing policies that regulate the provision of libraries and assesses the potential for related impacts associated with implementation of the EUC SPA Plan.

4.11.4.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) City of Chula Vista General Plan

The 2005 Chula Vista General Plan recognizes that demand for library facilities will continue to increase as the City's population grows in the eastern areas of the City through new development, and that location is the single most important reason residents choose to utilize a particular public library. The following objectives and policies within the City of Chula Vista General Plan are applicable to the proposed project:

Objective PFS 11 - Provide a library system of facilities and programs that meets the needs of Chula Vista residents of all ages.

Policy

PFS 11.1 - During review of land use issues requiring discretionary approval, coordinate with the City of Chula Vista Public Library to provide adequate library facilities that meet the needs generated by development.

Objective PFS 12 - Efficiently locate and design library facilities.

Policy

PFS 12.3 - Require that proposed land uses adjacent to a library site be planned in such a manner as to minimize noise impacts and maximize compatibility between the uses.

Objective GM 1 - Concurrent public facilities and services.

Policy

GM1.11 - Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

(2) Otay Ranch General Development Plan

The purpose of the Library Facility section of the *1993 Otay Ranch General Development Plan* (GDP) is to establish goals, objectives, policies, standards, and processing requirements for the timely provision of library facilities. As stated therein, the goal is to provide sufficient libraries to meet the information and education needs of Otay Ranch residents. In addition, the GDP states that a library facility in the EUC is necessary to serve the Otay Ranch at build-out, and would serve as a main library for all residents of Otay Ranch. The GDP also states that one library facility located in the EUC is necessary to serve the Otay Ranch at build-out.

(3) Chula Vista Public Library Master Plan

The *Chula Vista Public Library Master Plan* (Master Plan) was developed in December 1998 to make recommendations for the future development of the Chula Vista Public Library (CVPL) as surrounding areas continue to grow. The recommendations set forth in the Master Plan include the construction of a full service regional library facility east of Interstate-805 as soon as possible, development of the Rancho del Rey Branch as the next library facility, and planning for a second library facility. Due to the projected growth in the Otay Ranch, the Master Plan states that the EUC "represents an excellent opportunity to establish a library site".[27]

(4) Chula Vista Public Library Strategic Plan

The *Chula Vista Public Library Strategic Plan 2002-2006* is a five-year blueprint of library service designed to create the highest quality library service possible. As stated therein, the library allocates its critical resources in order to focus on six primary services: 1) basic literacy; 2) commons/community center; 3) current topics and titles; 4) general information; 5) lifelong learning; and 6) local history.[28] This strategic plan includes goals and objectives for implementing the library's vision and mission. These goals include maintaining an excellent and responsive materials collection, ensuring a high quality of public library services through appropriate planning processes, ensuring that library programs and services are accessible to the broadest range of potential users, and increasing the visibility and community awareness of the library, its services, programs, and funding needs.

[27] *City of Chula Vista Public Library Master Plan, http://www.chulavistalibrary.com/PDFs/01_Facilities_master_plan_exec_summ.pdf, accessed March 18, 2008.*

[28] *Chula Vista Public Library Strategic Plan 2002-2006, http://www.chulavistalibrary.com/PDFs/01_Planning_Strategic_Plan.pdf, accessed March 18, 2008.*

(5) Zoning Code and GMOC Ordinance

In accordance with Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade existing public services and facilities below acceptable standards for libraries and other public services. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040D specifically requires "500 square feet (gross) of adequately equipped and staffed library facility per 1,000 population. The City shall construct 60,000 gross square feet (GFS) of additional library space, over the June 30, 2000, GSF total, in the area east of Interstate 805 by buildout." The construction of library facilities is intended to be phased so that the City will not fall below the City-wide ratio of 500 GSF per 1,000 population. Library facilities are to be adequately equipped and staffed. The analysis of library services provided in this section, along with the PFFP are intended to ensure funding for any needed expansion of services, while also ensuring that library services will be provided commensurate with development and demand.

B. Existing Library Facilities and Services

The City of Chula Vista operates three library facilities: the South Chula Vista Branch Library with approximately 187,000 volumes, the Civic Center Branch Library with approximately 236,000 volumes, and the EastLake Branch Library with approximately 49,000 volumes.[29] The South Chula Vista Branch Library is located at 389 Orange Avenue, approximately 6.08 miles from the project site, and consists of approximately 37,000 square feet. This branch has two conference rooms seating approximately 25 and 35 each, three small study rooms for groups of two or more that may be reserved on-site, and the Rosemary Lane Galleria which acts as an exhibition space for local artists.[30] The Civic Center Branch Library is located at 365 F Street, approximately 6.94 miles from the project site, and is the largest library facility, within the City, consisting of a two-story, 55,000 square foot building. It also has a 152-seat auditorium, a 26-seat conference room, and serves as a multi-use facility including storage for the Heritage Museum and limited exhibition space. The EastLake Branch Library is located at 1120 EastLake Parkway on the campus of EastLake High School, approximately 1.86 miles from the project site, and consists of approximately 10,000 square feet. The EastLake Branch Library is a joint-use facility between the CVPL and the Sweetwater Union High School District. During the school day it serves as the high school library, and during non-school hours serves as a public library.[31]

In addition to the existing libraries described above, the City has plans to construct the Rancho del Rey Library, which would be approximately 30,000 square feet in size, at the intersection of

[29] *Electronic correspondence, Roderick Reinhart, Assistant Library Director, City of Chula Vista Public Library, March 13, 2008.*

[30] *Ibid.*

[31] *Ibid.*

East H Street and Paseo Ranchero, approximately 2.97 miles from the project site. The Rancho del Rey Library has been delayed with eventual construction dependent on an upturn in new housing construction in areas subject to the City's Development Impact Fee Program and other funding such as state grants.[32]

The CVPL currently serves a citywide population of approximately 229,613.[33] Based on the GMOC Threshold Standard of 500 square feet of library space per 1,000 population, the total library space needed to serve the existing population of the City would be approximately 114,807 square feet. As approximately 102,000 square feet of library space is currently provided, a shortfall of approximately 12,807 square feet currently exists.

4.11.4.2 THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that impacts to library services would be significant if the proposed project would:

Threshold 1: *Result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.*

In addition, the GMOC Threshold Standards state that impacts to library services would be significant if the proposed project would:

Threshold 2: *Fail to provide 500 square feet of library space, adequately equipped and staffed, per 1,000 population.*

In addition to the above thresholds, impacts to library services would be significant if the proposed project would:

Threshold 3: *Be inconsistent with General Plan, GDP or other objectives and policies regarding library services thereby resulting in a significant physical impact.*

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[32] *Ibid.*

[33] *City of Chula Vista Growth Management Oversight Commission 2008 Annual Report, http://www.ci.chula-vista.ca.us/city_Services/Development_Services/Planning_Building/ Boards_Commissions/documents/Vol-1_complete.pdf, accessed June, 2008.*

4.11.4.3 IMPACT ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area, and PCSI Area are related to short-term construction activities. As these off-site activities would not generate a demand for libraries, these project components are not evaluated with regard to impacts on this public service. In addition, since the grading options do not affect the project's library requirements, Grading Options 1 and 2 are not evaluated with regard to impacts on this public service.

Threshold 1: *Result in a substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.*

The project includes a proposed library site within the Civic Core of the EUC. Construction effects associated with the library itself are not expected to be significant as construction would be undertaken in compliance with applicable City regulations. Nonetheless, impacts associated with overall construction of the EUC SPA Plan are evaluated in the various topical sections in Chapter 4, Environmental Impact Analysis, of this EIR, along with mitigation measures to address significant impacts.

Threshold 2: *Fail to provide 500 square feet of library space, adequately equipped and staffed, per 1,000 population.*

As discussed above, there is an existing shortfall of approximately 12,807 square feet of library space. As discussed in Section 4.13, Housing and Population, of this EIR, development of the EUC SPA Plan would result in a population of approximately 7,696**,** thereby generating a demand for an additional 3,848 SF of library space (500 SF/1,000 population). A site for a future approximately 30,000 SF library is proposed within the Civic Core of the EUC SPA Plan. The proposed library in the EUC would provide sufficient library space for EUC residents in accordance with existing GMOC standards, and would provide additional library facilities in the EUC SPA Plan area as envisioned by the Library Master Plan.

Threshold 3: *Be inconsistent with General Plan, GDP or other objectives and policies regarding library services thereby resulting in a significant physical impact.*

Table 4.11-5, *Project Consistency with Applicable General Plan Library Policies,* on page 4.11-38 evaluates the consistency of the proposed project with the applicable General Plan policies. As shown in Table 4.11-5, the project would be consistent with policies that would specifically apply to the proposed project.

Table 4.11-5

Project Consistency with Applicable General Plan Library Policies

Applicable Policies	Evaluation of Consistency
PFS 11.1	The EUC SPA Plan is **consistent** with this General Plan policy. A library is a planned component within the Mixed-Use Civic/Office Core District of the EUC.
PFS 12.3	The EUC SPA Plan is **consistent** with this General Plan policy. The EUC SPA Plan EIR contains a noise analysis and addresses noise sensitive uses. The library would be located within the Mixed-Use Civic/Office Core District. The library would be designed to meet interior noise standards for a library.
GM 1.11	The EUC SPA is **consistent** with this policy because the PFFP will identify the library staffing requirements for the EUC SPA Plan, when library services will be required and the appropriate funding mechanism(s) to ensure that facilities, equipment and personnel are operational prior to or concurrent with need.

Implementation of the proposed project would require the collection of Public Facilities Development Impact Fees (PFDIF). The PFDIF addresses the project's proportional impact on capital facilities, such as structures and equipment, associated with the library. It does not address the impact associated with operations and maintenance for those facilities. It is the city's policy to use public funds such as property taxes, sales taxes, and fees generated by the project to cover the incremental costs associated with providing library services and other public services such as parks, police and fire protection, etc.

A fiscal impact analysis (FIA) has been conducted for the EUC to determine the revenues and costs expected to be generated by the development. Net revenues are used to finance costs associated with operations and maintenance associated with the public services required to serve the project.

In addition, the City Council has adopted Threshold Standards establishing "quality-of-life" indicators for eleven public facility and service topics. Adherence to these citywide standards is intended to preserve and enhance both the environment and residents' quality of life as growth occurs. To provide an independent, annual, City-wide Threshold Standards compliance review, the Growth Management Oversight Commission (GMOC) was created. It is composed of nine members representing each of the City's four major geographic areas, a member of the Planning Commission, and a cross section of interests including education, environment, business, and development.

The GMOC assesses, on an annual basis, compliance with the growth management thresholds. Should the GMOC determine that the growth management threshold standard is not being satisfied because of the impacts of growth, the City Council shall consider adopting specific mitigation measures to bring the condition into conformance, prior to issuing further building permits.

Furthermore, as discussed in Section 4.11.5.1A, the General Plan includes Objective GM-1 which:

- Calls for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and

- Establishes the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide library services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met. Therefore, the combination of PFDIF fees from the Applicant and existing City policies and mechanisms would reduce impacts to operations and maintenance of library facilities to less than significant.

The proposed project would be consistent with the description of uses to be provided in the EUC (Part II, Chapter 1, Land Use Plan, Section F.12.b Planning Area Twelve, EUC Description) since a library is being provided. Part II, Chapter 1, Section F.12.c of the GDP includes EUC character policies to guide future development of the EUC. This section requires the location of civic and regional purpose facilities in accordance with the siting criteria in the Facility Implementation Plan with the amount and size to be determined at the SPA level. The proposed project (as described in the EUC SPA Plan and FBC) would incorporate civic and regional purpose facilities, including a library, a fire station, and a civic center in a central location within the EUC, in accordance with the siting criterion in the FIP. The FIP recommends locating a central library and a cultural arts center within the EUC. The location and proposed design features of the proposed library and adjacent civic plaza would support accessibility to the public and educational and cultural programs. Lastly, the provision of a library in the EUC SPA Plan area meets the requirement for a library as envisioned by the Library Master Plan.

4.11.4.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The proposed project would increase demand on library services, which would be significant if the proposed EUC library is not provided commensurate with demand.

4.11.4.5 MITIGATION MEASURES

4.11.4-1 Prior to the issuance of each building permit for any residential dwelling units, the Applicant shall pay required Public Facility Development Impact

Fees in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP.

4.11.4-2 The Applicant shall deliver a site for the public library in accordance with the PFFP.

4.11.4-3 Subject to approval of the City Council, in lieu of paying the required impact fee, the Applicant may satisfy that requirement through a written agreement by which the Applicant agrees to either pay the fee or build the facility in question, pursuant to the terms of the agreement.

4.11.4.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of Mitigation Measure 4.11.4-1 through 4.11.4-3, impacts on library services would be less than significant.

4.11.5 PARKS, RECREATION, OPEN SPACE, AND TRAILS

This section describes existing park, recreation and open space facilities that serve the City as well as compliance with relevant plans, and assesses the potential for related impacts associated with implementation of the EUC SPA Plan.

4.11.5.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) Chula Vista Municipal Code

The City of Chula Vista park dedication policies are contained in CVMC Chapter 17.10, Park Land Dedication Ordinance (PLDO). The PLDO establishes requirements for parklands and public facilities, including regulations for the dedication of land and development of improvements for park and recreational purposes (Section 17.10.010); determination of park and recreational requirements (Section 17.10.020); area to be dedicated (Section 17.10.040); specifications for park improvements (Section 17.10.050); criteria for area to be dedicated (Section 17.10.060); procedures for in lieu fees for land dedication and/or park development improvements (Section 17.10.070); and, other regulations regarding park development and collection and distribution of fees. The PLDO, which has a coefficient factor of 2.61 persons per multi-family household, requires the dedication of three acres of parkland per 1,000 people or a combination of land dedication, in-lieu fees, or park development improvements to be offered at the time of final map or in the case of a residential development that is not required to submit a final map, at the time of the first building permit application.

(2) GMOC Ordinance

In accordance with the Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade existing public services and facilities below acceptable standards for parks and other public services. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040 E specifically requires a population coefficient of “three acres of neighborhood and community park land with appropriate facilities per 1,000 residents east of I-805.” Section 19.09 also requires a Public Facilities Financing Plan (PFFP) and the demonstration that public services, such as parks, meet the GMOC Quality Of Life Threshold Standards. The analysis of parks provided in this section, along with the PFFP to ensure funding for any needed expansion of parks, confirm that parks will be provided commensurate with development and demand.

(3) City of Chula Vista General Plan

The goals of the General Plan to provide and maintain infrastructure and public services and to improve sustainability of the City's natural resources are established in the Public Facilities and Services and Environmental Elements of the General Plan (see Section 4.1, Land Use). The Public Facilities and Services Element contains the policy framework for infrastructure and community services, such as parks and recreation centers that support and enhance the well-being of the City's residents, and include Objectives PFS 14 (Policies PFS 14.1 through 14.10), PFS 15 (Policies 15.1 through 15.11), and PFS 16 (Policies 16.1 through 16.3). The Environmental Element of the General Plan establishes the policy framework for improving sustainability through the responsible stewardship of the City's natural and cultural resources (Policy E.1.1), including the preservation of open space and development of connecting trails. The Land Use and Transportation Element of the General Plan addresses the EUC and include Objectives LUT 94 and 95) that affect park standards and the development of a Parks and Recreation Master Plan for the EUC. Growth Management Objective GM1 applies to public facilities, including parks. General Plan policies specifically applicable to the EUC include:

Objective LUT 94 - Provide a centralized urban area to support the East Chula Vista/Otay Ranch and south San Diego County population, providing regional goods and services that cannot be accommodated in the residential Village Cores of Otay Ranch.

Policies

LUT 94.1 - Integrate civic uses; recreation activity; a system of parks; necessary schools; and other resident-serving uses and encourage joint use of public and private facilities.

LUT 94.3 - Provide sufficient acreage to accommodate cultural and community public facilities, open space, park(s), and schools within the urban center and encourage the development of a performing arts center.

Objective LUT 95 - Establish an area that functions as a retail commercial, services, and office node providing an intense, pedestrian-oriented urban activity center that is linked by land use design, and circulation, including a Bus Rapid Transit (BRT) to the region, other villages of the Otay Ranch and the University Village, University Campus, Regional Technical Park, and Freeway Commercial Focus Area.

Policy

LUT 95.5 - The requirements for park area, function, and design shall be provided for in an EUC Parks Master Plan prepared as part of any SPA Plan within the EUC. The EUC Parks Master Plan shall be guided by the needs and standards identified in the framework plan prepared for the University Study Area.

Objective PFS 14 - Provide parks and recreation facilities programs Citywide that are well-maintained; safe; accessible to all residents; and that offer opportunities for personal development, health, and fitness, in addition to recreation.

Policies

PFS 14.9 - Consider a broad mix of public park types to meet public park requirements in the Eastern Urban Center (EUC), in response to the densities and development planned.

PFS 14.10 - Explore opportunities in the Eastern Urban Center (EUC) for development of a unique, shared, or clustered complex of public facilities, such as a recreation community center, library, cultural arts center, or museum.

Objective PFS 15 – Provide new park and recreation facilities for resident of new development, City-wide.

Policy

PFS 15.7 - Work with proponents of new development projects and redevelopment projects at the earliest stages to ensure that parks, recreation, trails, and open space facilities are designed to meet City standards and are built in a timely manner to meet the needs of residents they will serve.

Objective GM 1 - Concurrent public facilities and services.

Policy

GM1.11 - Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

(4) Otay Ranch General Development Plan

The parks and open space goal of the Otay Ranch GDP is to provide diverse park and recreational opportunities within Otay Ranch which meet the recreational, conservation, preservation, cultural, and aesthetic needs of project residents of all ages and physical abilities.

The Otay Ranch GDP also establishes the following policies:

- Provide 15 acres of regional park and open space per 1,000 Otay Ranch residents.

- Provide a minimum of three acres of neighborhood and community park land (as governed by the Quimby Act) and 12 acres per 1,000 Otay Ranch residents of other active or passive recreation and open space areas.

In order to achieve these goals and policies, the GDP establishes a four tier system of parks to be provided throughout the community, including: (1) park amenities in town square parks; (2) active play facilities in neighborhood parks: (3) community-level playing fields in community parks, and (4) region-wide active and passive recreational areas in designated regional parks.

The GDP Parks and Open Space policies also state that parks will be established at the SPA Plan level. According to the GDP: "The EUC will provide sufficient area for local parks/town squares and plazas, or other park facilities to meet its needs on-site as required by the EUC Parks Master Plan prepared as part of the SPA Plan. The SPA-level Parks Master Plan shall consider the needs and standards identified in the framework strategy prepared for the 'University Study Area,' which may include variations from conventional parkland standards." The framework strategy for the "University Study Area" is an ongoing process, but the framework strategy report for the EUC was accepted as complete by the City Council on May 1, 2007.

Also according to the GDP, the following directives apply to the provision of park and open space areas in the EUC.

- Incorporate a pedestrian open space/trail corridor across the EUC which connects to Wolf Canyon and Salt Creek. This corridor will create a strong east/west open space system and reflect differing characteristics as it moves through the Otay Ranch. This corridor has been defined by the overall Ranch Design Plan, but will be more specifically defined in the EUC SPA Design Plan. Within the EUC, this corridor shall serve as an identifiable pedestrian corridor and element that ties plazas, parks, and other urban features together to fulfill multiple functions including urban relief, recreation, and trail connectivity, while maintaining its primary role as a key segment of the City's Greenbelt and trail system.

- Provide a network of pedestrian spaces, plazas, malls, promenades, and squares to create a pedestrian oriented environment. The amount of credit toward satisfying park area requirements for these amenities shall be determined in the EUC Parks Master Plan.

- Individual building and building clusters should integrate pedestrian plazas with the overall pedestrian system. Pedestrian plaza should incorporate fountains or artistic features as visual focus.

(5) Greenbelt Master Plan

The City of Chula Vista Greenbelt Master Plan provides guidance and continuity for planning open space and constructing and maintaining the Greenway Trail. For the purpose of the Greenbelt, there are two general types of trails, "Multi-use" and "Rural." Multi-use trails are designed for a

variety of users, such as bicyclists, equestrians, pedestrians, joggers and other non-motorized activities. According to the Greenbelt Master Plan, even a single-track pedestrian-only trail would be considered "multi-use," since it could accommodate hikers, backpackers, runners, bird watchers, etc. Minimum standards for trails are set forth in the City's Landscape Manual and in the Greenbelt Master Plan. A Multi-use Trail may also be improved with a variety of trail surfaces, with concrete and asphalt surfacing to accommodate the broadest range of users in an urban setting. A concrete Multi-use Trail would be 10 feet with two-feet of natural shoulders. However, variation in the minimum standards may be allowed, based on consideration of the number and types of trail users and environmental constraints. Other minimum standards include Greenbelt Trail Signs. The segment of the Greenway Trail applicable to the EUC SPA Plan is the Otay Ranch Village Greenway segment. The Village Greenway segment has been added to the Greenbelt Master Plan as a major trail linkage identified in the GDP. This trail presents an opportunity as a Multi-use Trail that would provide mobility for residents between several villages and connectivity between recreation areas in the EUC and future parks along the Greenway.[1] The Greenbelt Master Plan contemplates either a decomposed granite or concrete surface in the EUC and acknowledges that the design of the trail though the EUC may be a unique design due to the unique urban character of this village. (pages 21, 56 and 57 of the plan). The Village Greenway through the EUC is intended as a major trail connection that would enhance mobility, connect key destinations within the EUC, and provide an opportunity in the EUC for both residents and employees to recreate. The Village Greenway is intended to connect active and passive users and provide them with the opportunity to stop and enjoy an enhanced open space paseo. Under the Greenbelt Master Plan, the Greenway Trail through the EUC would provide a link that would connect from Salt Creek to Wolf Canyon and, eventually, to the Otay Valley.

(6) Chula Vista Parks and Recreation Master Plan

The City of Chula Vista Parks and Recreation Master Plan, adopted by City Council in 2002, describes a comprehensive parks and recreation system that services the community at large through the delivery of a variety of park sites containing a variety of recreational experiences. As stated in the document, each park within the system is viewed in the context of the whole park system to insure that it functions properly in providing a balance of recreational opportunities. The document describes existing and future park sites and as such identifies parks within the Otay Ranch area, including the EUC. The City is currently in the process of updating the 2002 Parks and Recreation Master Plan in response to the 2005 update of the General Plan. The 2002 Parks and Recreation Master Plan identifies a range of passive and active park elements to serve the residents of the EUC. The Plan also contains several policies that address the design and delivery of park sites.

[1] *City of Chula Vista Greenbelt Master Plan, page 56 (September 16, 2003).*

B. Current Facilities

The City of Chula Vista park system contains 59 public parks and recreation facility sites, including nine community parks totaling 244.6 acres and 34 neighborhood parks, 10 mini parks, one special purpose park, and five recreation facility sites, totaling 528.2 acres. Of the 43 community and neighborhood parks, four neighborhood parks are located within a 1-mile radius of the EUC, and two community parks are located within a 2.0-mile radius of the EUC. Public parks in the City are open to all of the area's citizens. Neighborhood parks generally serve a local adjacent or nearby residential neighborhood, while community parks serve the broader community and provide a greater range of services. Regional and County parks and the Otay Ranch Preserve are also located in eastern Chula Vista and adjacent San Diego County. Figure 4.11-1, *Existing Parks and Recreational Facilities*, on page 4.11-47, illustrates the network of parks and recreational facilities in the Otay Ranch area nearest the EUC.

(1) Neighborhood Parks

- Santa Venetia Park, 1500 Magdalena (Village Six): This park encompasses 7.7 acres and is located approximately 0.5 mile northwest of the EUC. Facilities include picnicking and barbeque facilities, an open green space, a park shelter/gazebo, play equipment, restrooms, a sports field and softball field.

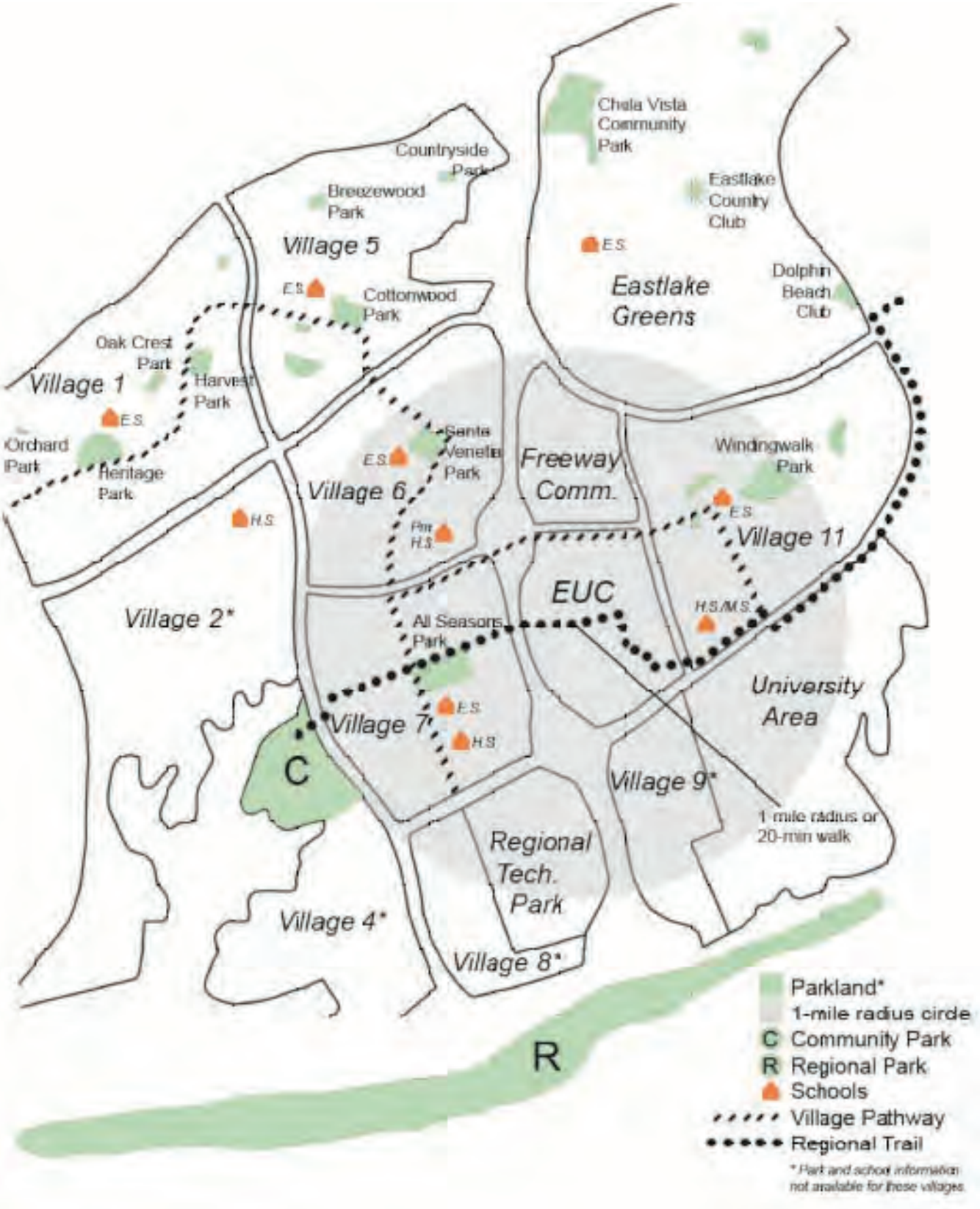
- Windingwalk Park, 1675 Exploration Street (Village Eleven): This park encompasses 7.1 acres and is located approximately 0.5 mile northeast of the EUC. Facilities include picnicking and barbeque facilities, an open green space, a park shelter/gazebo, play equipment, restrooms, a softball field and tennis courts.

- Sunset View Park, 1390 South Greenwood Drive (north of Olympic Parkway): This park encompasses 11.8 acres, and is located approximately 0.75 mile northeast of the EUC. Facilities include picnicking and barbeque facilities, basketball courts, an open green space, a park shelter/gazebo, play equipment, restrooms and a sports field.

- Mountain Hawk Park, 1475 Lake Crest Drive (north of Olympic Parkway): This park encompasses 12 acres, and is located approximately two miles northeast of the EUC. Facilities include amphitheater, picnicking and barbeque facilities, basketball courts, open green space, a park shelter/gazebo, play equipment, and restrooms.

(2) Community Parks

- Chula Vista Community Park, 1060 Eastlake Parkway: This park encompasses 14.9 acres, and is located approximately 1.7 miles north of the EUC. Facilities include picnicking and barbeque facilities, open green space, a park shelter/gazebo, play equipment, restrooms, a sports field, softball field and tennis courts.



NO SCALE

Figure 4.11-1
Existing Parks and Recreational Facilities

Source: Cinti Land Planning, 2009.

- Salt Creek Park, 2710 Otay Lakes Road: This park encompasses 19.8 acres, and is located approximately 2.1 miles northeast of the EUC. Facilities include picnicking and barbeque facilities, basketball, fitness course, gymnasium, open green space, park shelter/gazebo, play equipment, recreation center, restrooms, a sports field, tennis courts, a roller hockey and skate park.

(3) Regional and County Parks and Preserve

- Otay Valley Regional Park (OVRP). This park is located approximately two miles south of the EUC and is bisected by the SR-125. The OVRP will ultimately comprise 2,029 acres passing through the jurisdictions of the County of San Diego and Cities of San Diego and Chula Vista. The OVRP is located in the Multiple Habitat Planning Area of the City of San Diego and the Preserve Management Area of the City of Chula Vista under each City's Multiple Species Conservation Program (MSCP) Subarea Plan and represents one of the major open spaces within southern San Diego County.

- Otay Lakes County Park. This park is operated by the County of San Diego Department of Parks and Recreation operates the Otay Lakes County Park approximately 3 miles (driving distance via Wueste Road) from the EUC. The approximately 78-acre park, which provides picnicking, playground, hiking trails, and a native plant/demonstration garden, will ultimately be the eastern gateway/staging area for the Otay Valley Regional Park.

- Otay Ranch Preserve. This preserve will contain approximately 11,375-acres, all of which will be included in the MSCP Subregional Preserve. To date, over 2,000 acres of the Open Space Preserve has been dedicated to the City and county, with the Otay Ranch Company dedicating the bulk of the land. For every acre approved for development in Otay Ranch, 1.18 acres is dedicated to the Otay Ranch Preserve. The land developers contributing to this preserve have established a financing program to ensure funds are available to pay for the active management of the entire preserve system in perpetuity. The Preserve's dedicated conservation lands will connect large areas of open space through a series of wildlife corridors, including connections between large, regional open spaces, such as Otay Reservoir and San Miguel Mountain.

4.11.5.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts on recreation would be significant if the proposed project would:

Threshold 1: *Increase use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;*

Threshold 2: *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

In addition, the GMOC Threshold Standards state that impacts to parks and recreation would be significant if the project would:

Threshold 3: *Not meet the City's threshold standard of three acres of neighborhood and community parkland per 1,000 residents.*

In addition to the above thresholds, impacts to parks and recreation would be significant if the proposed project would:

Threshold 4*:* *Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding parks thereby resulting in a significant physical impact.*

4.11.5.3 IMPACTS ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area, and PCSI Area are related to short-term construction activities. As these off-site activities would not generate a demand for public parks, these project components are not evaluated with regard to impacts on this public service. In addition, since the grading options do not affect the project's park requirements, grading options 1 and 2 are not evaluated with regard to impacts on this public service.

Threshold 1: *Increase use leading to physical deterioration of existing facilities.*

The project would potentially increase use of existing and proposed regional and community parks, including the future 70+ acre community park in Villages Two and Four, less than one mile west of the EUC; the OVRP, located approximately one mile south of the EUC; and the Otay Lakes County Park, located approximately three miles from the EUC. However, the proposed project would be consistent with regional growth plans and would not exceed the anticipated build out use of these facilities. As identified in the Chula Vista Parks and Recreation Master Plan document, the City's inventory of parks and recreational facilities represents a comprehensive and interrelated system of parks. As such, residents typically utilize parks throughout the City in addition to park sites located immediately adjacent to their homes. The proposed project would incorporate neighborhood parks, trails and other recreational facilities as well as provide for the payment of in lieu park fees concurrent with its phases of development that, combined with community and regional parks, would adequately serve the recreational needs of the EUC's residential population (please refer to the discussion of the GDP and CVMC parkland requirements under the discussions of Thresholds 2 and 3, below). As the proposed project would be consistent with anticipated growth in the Otay Ranch area and would provide on-site parks and recreational facilities as well as in lieu fees for the purpose of meeting a portion of the proposed project's recreational needs off-site, it would not

cause the deterioration of existing facilities, including existing and planned regional and county parks in the area. Therefore, the project would have a less-than-significant impact associated with deterioration of existing park and recreational facilities.

Threshold 2: *The project would require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.*

The development of parks and trails is a component of the proposed EUC SPA Plan. Construction of the EUC SPA Plan's parks and open space would occur within the EUC SPA Plan and would not directly impact off-site areas, including adjacent villages or regional open space or habitat areas. Furthermore, mitigation measures provided in Sections 4.4, Air Quality, 4.5, Noise, and 4.9, Hydrology and Drainage, would reduce potential indirect impacts associated with construction of EUC SPA Plan recreational facilities. A portion of the proposed project's park obligation would be met with the payment of in lieu fees that would be utilized to meet a portion of the project's recreational needs off-site. Construction of recreational facilities off-site would occur at a General Plan designated location for active recreational use and therefore, the project would have a less-than-significant impact associated with construction or expansion of recreational facilities.

Threshold 3: *The project fails to meet the City's threshold standard of three acres of neighborhood and community parkland per 1,000 residents.*

Parkland dedication requirements (3 acres/1,000 population) in the City of Chula Vista are based on population, which is determined according to the number of dwelling units and a coefficient of 2.61 persons per multi-family dwelling unit (CVMC Chapter 17.10). As shown in Table 4.11-6, *Parkland Dedication Requirements*, on page 4.11-51, the proposed project (2,983 multi-family units) would be required to dedicate land, provide in-lieu fees, or provide park development improvements equivalent to 23.36 acres of parkland pursuant to the requirements of the CVMC. Also included in Table 4.11-6 is a calculation based on the GDP population coefficient of 2.58 persons per household for multi-family dwelling units. The GDP coefficient calculation has been provided for informational purposes only. Potential impacts related to overall park obligation for the proposed project has been analyzed based on the CVMC's defined coefficient of 2.61 persons per multi-family dwelling unit.

The proposed project would provide 15.63 acres of parkland, consisting of the Civic Park, a Town Square Park with its 40-foot wide connection to Street K, four urban scale neighborhood parks, office plazas, and dedicated jogging/walking promenade.

The difference between 15.63 and 23.36 acres (7.73 acres) would be provided through the payment of in lieu fees. A portion of the in lieu fees would be reinvested into the previously mentioned 15.63 acres of parkland, an amount representing 5.88 acres of developed parkland (representing 25 percent of overall park obligation). Another portion of the in lieu fees would go toward the delivery of recreational facilities at an off-site location, an amount representing 1.85 acres of developed parkland. CVMC 17.10.070 allows the City to deem that a combination of

Table 4.11-6

Parkland Dedication Requirements

Multi-Family Residential Units	Plan or Policy	Persons/ Household	Total Population	Parkland Required
2,983 units	CVMC Section 17.10	2.61	7,786	23.36 acres
	Otay Ranch GDP	2.58	7,696	23.09 acres

dedication of parkland and the payment of in lieu fees would better serve the public and the park and recreation needs of future residents of the project if, in the judgment of the City, suitable land does not exist. Furthermore CVMC states that the amount and location of the land or in lieu fees, or combination thereof, shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision.

The portion of in lieu fees that would be re-invested into the 15.63 acres of parks would result in enhanced park amenities, which would allow the parks to achieve a higher level of improvements not typically associated with public parks.[2] Amenities would include innovative, exceptionally detailed urban parks and recreational facilities, including the integration of civic and resident-serving uses and urban "place making" elements, and would reinforce the pedestrian nature of the EUC. Additional features may include recreational and fitness equipment, parks designed according to specific themes, ornamental gardens, water features, and Wi-Fi access. Trails that are internal or immediately adjoining a park shall be included as park acres for determination of parkland credit. The unique character of the park program is consistent with the General Plan which specifically contemplates the application of unique standards in the EUC to accomplish it's urban vision. The park program is described in detail in the SPA Plan's Urban Parks, Recreation, Open Space, and Trails Plan, Section II.C, EUC Parks Obligation. Consistent with CVMC Chapter 17.10 (*Parklands and Public Facilities*) parkland obligation for the proposed project would be met through a combination of the delivery of developed parkland and payment of in lieu fees.

Threshold 4: *Be inconsistent with General Plan, GDP or other relevant plan objectives and policies regarding parks thereby resulting in a significant physical impact.*

A. General Plan

Table 4.11-7, *Project Consistency with Applicable General Plan Park Policies,* on page 4.11-52, evaluates the consistency of the proposed project with the applicable General Plan objectives. As shown in Table 4.11-7, the proposed project would be consistent with policies that would specifically apply to the proposed project.

[2] *EUC SPA, Urban Parks, Recreation, Open Space & Trails Plan, Table 3.*

Table 4.11-7

Project Consistency with Applicable General Plan Park Policies

Applicable Policies	Evaluation of Consistency
LUT 94.1, 94.3	The EUC SPA Plan is **consistent** with these General Plan policies. The integration of recreation activities is provided through its plans of parks and interconnecting pedestrian paths. Joint use of public and private facilities is encouraged through the siting and design criteria as described in the FBC. Active and passive recreation opportunities are provided in the EUC as outlined in the Parks Master Plan.
LUT 95.5	The EUC SPA Plan is **consistent** with this policy. This policy requires preparation of a EUC Parks Master Plan as part of the SPA. The EUC SPA includes a Parks Master Plan that identifies the various urban park locations, functions and designs.
PFS 14.9, 14.10, 15.7	The EUC SPA Plan is **consistent** with these relevant policies. The Applicant has worked with the City to develop the Parks Master Plan. All park and recreation facilities will be designed to meet City standards and be built in timely manner to serve the residents of the EUC. The PFFP and phasing plan prescribe the timing of construction for facilities, including parks and recreation, commensurate with growth/development activity within the EUC. It is anticipated that a Parks Agreement will be entered into by the Applicant and the City to further refine the details of park construction, parkland dedication, and payment of in lieu fees. The EUC provides a broad mix of public parks types that meet the recreational needs of the future residents while reinforcing the character and function as an urban mixed-use center. The public parks are designed for an urban context as defined in the EUC Parks Master Plan. The EUC would provide a unique cluster of public facilities, which could include a recreation community center, library, cultural arts center or museum.

The project would also be consistent with Environmental Policy E.1.1, in that it would not infringe on any natural habitat and would provide a connection in the City's Greenbelt System, including connections to the City's natural open space areas. Furthermore, as discussed in Section 4.11.5.1A, the General Plan includes Objective GM-1 which:

- Calls for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and

- Establishes the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide park services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met.

B. Otay Ranch General Development Plan

The proposed project would also be consistent with the objectives of the Otay Ranch GDP to provide diverse park and recreational opportunities within Otay Ranch to meet the recreational, conservation, preservation, cultural, and aesthetic needs of all residents. The EUC's parks would be located in several areas throughout the EUC, as shown in Figure 3-11 in Chapter 3, Project Description, of this Draft EIR. Park sizes and locations are summarized in Table 4.11-8, *Proposed Parks and Eligible Credits*, on page 4.11-54.

The EUC is planned to serve an entirely "urban" community with regional services and activities that have a different character from other Otay Ranch villages, which are primarily residential. Urban parkland in the EUC would be provided through highly amenitized and concentrated land uses. Small urban parks, defined as parks that provide neighborhood access to green space in a highly urbanized setting, would be distributed through the EUC's neighborhood districts, linked with widened pedestrian corridors as park promenades, and serve as "pedestrian-pocket" parks. The distribution of the parks and plazas in the EUC is intended to facilitate pedestrian access, with each unit in the EUC no more than 3-4 minutes walk from a public park, and to serve as neighborhood focal elements.

Urban parks would be the site of informal social and recreational activities, as well as programmed neighborhood events. Facilities may include plazas or open areas for village events and performances, seating areas, tot lots, picnic areas, multi-purpose lawn areas, active sport courts, and passive play areas. The EUC SPA Plan would provide town squares in the Main Street and Civic Plaza Districts. The Business District would contain internal plazas that are linked to the jogging trails and primary pedestrian grid within the balance of the EUC. Additional recreational facilities would be provided in the mixed-use context of the EUC, and a possible Community Center may be housed within a building in the civic core.

The SPA would be consistent with GDP policies to incorporate park amenities in town square parks and active play facilities in neighborhood parks; to incorporate a pedestrian open space/trail corridor across the EUC which ties plazas, parks, and other urban features together to fulfill multiple functions and ultimately provides connection between Wolf Canyon and Salt Creek; to provide a network of pedestrian spaces, plazas, malls, promenades, and squares to create a pedestrian oriented environment; to integrate pedestrian plazas with individual buildings and building clusters; and to incorporate fountains or artistic features as visual focus.

Under the GDP co-efficient of 2.58 persons per residential unit, the EUC SPA Plan would generate a population of 7,696 persons and a demand for 23.08 acres of parkland. However, CVMC Section 17.10, the parkland and facilities implementing ordinance, identifies a population coefficient of 2.61 per multi-family unit, which translates to a population of 7,786 persons and a demand for 23.36 acres of parkland. As the SPA's variety of parks and recreational facilities would support the parks and open space policies of the GDP and, with the delivery of a combination of improved parkland and the provision of in lieu fees in accordance with CVMC 17.10, the proposed project

Table 4.11-8

Proposed Parks and Eligible Credits

Park Element	Location (Site Utilization Plan Designation)	Character	Acresa
Town Square	Area 6	Town Square	2.28
Civic Plaza Mall	Area 5	Civic Plaza	1.62
Northeast Residential Park	Area 2	Urban Park	1.97
Southeast Residential Park	Area 10	Urban Park	1.51
South-Central Residential Park	Area 9	Urban Park	1.9
Southwest Residential Park	Area 8	Urban Park	3.6
Office Plazas, Jogging Path Promenade	Areas 1, 4, & 8	Urban Park	2.75
Total Parkland			**15.63**
In Lieu Fees Reinvested on-site			5.88
In Lieu Fee – Off-site Facilities			1.85
Total In Lieu			**7.73**
Required Minimum Parkland			23.36
Difference			**0.00**

[a] *Actual acres and in lieu fees will be determined at the time of the filing of the final map, or in the case of a residential development that is not required to submit a final map, at the time of the first building permit application.*

Source: EUC SPA, page V-3 (July 2008).

would meet the threshold standard of three acres of parkland per 1,000 residents with respect to the GDP.

The proposed project would be consistent with the GDP's description of the EUC because the proposed project would include five local parks, a public plaza, paseos, and a town square park and in lieu fees (Part II, Chapter 1, Section F.12.b). Activity nodes, including the civic plaza, library, transit station and five parks are described within the FBC, Chapter 2, and are depicted within the district specific Design Framework Plans. The proposed project would contain a variety of mixed uses within the Main Street District, which is oriented toward the civic buildings and public plaza park as described in the FBC Chapter 2 (District Regulations and Design Guidelines). The FBC, Chapter 2, District Regulations and Design Guidelines, describes the various mixed-use land use districts and connections. As articulated in the Urban Parks, Recreation, Open Space, and Trails chapter of the EUC SPA Plan, the proposed project would provide an east-west, urban-based pedestrian corridor linking to the City's Greenway Trail System connecting to Village Seven on the west, with Village Eleven to the east via a pedestrian bridge over Eastlake Parkway. As discussed above, the proposed project would be consistent with the Part II, EUC Parks and Open Space Policies (Chapter 1, Section F.12.b) because the combination of the dedication of parkland, payment of in lieu fees and providing improvements would serve to meet the recreational needs of

the EUC residents. Trails that are integral or continuous to a park would be included as park acres for the determination of parkland credit.

Table 4.11-9, *Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan,* on page 4.11-56 evaluates the consistency of the proposed project with applicable parks and open space policies of the GDP. As shown in the analysis, the proposed EUC would be consistent with relevant park policies of the GDP.

C. Greenbelt Master Plan

The Greenbelt Master Plan provides for a trail segment through the EUC as part of the Otay Ranch Village Greenway segment. Under the Greenbelt Master Plan, the Village Greenway Trail would serve as a segment in a continuous trail that would eventually connect Salt Creek to Wolf Canyon, and ultimately, the Otay Valley. The trail would extend under SR-125 and traverse the EUC via an open space corridor. Under the proposed EUC SPA plan, the proposed project would provide a link in the City's Greenway Trail system via an east-west pedestrian trail crossing under SR-125, passing continuously through the EUC and exiting the EUC via a pedestrian bridge over Eastlake Parkway in the southeast portion of the EUC. In accordance with the Greenbelt Master Plan's proposed trail characteristics (Greenbelt Master Plan, Table 5), the trail segment through the EUC would be multi-use for a variety of pedestrian-only activities. Within the EUC, the trail corridor would connect activity centers and tie plazas, parks, and other urban functions, and provide urban relief and recreation, as well as trail connectivity to the east and west. The EUC's Village Greenway would meet the Greenbelt Master Plan's requirement for signage and identifiable character. Since the EUC would be a highly urbanized, regional destination area, activities along the trail could also be urbanized with vendors, civic functions, a possible farmer's market, art fairs, street theater, and similar activities. In addition, the trail would provide a 10-foot wide, minimum, clear pedestrian passage through the EUC. Along the urban parks, such as the Civic Plaza Park and the 40-foot wide paseo, south of Main Street, the trail would be incorporated into the park design and become part of the park(s) (SPA Plan, page III-2).

As presented in Table 4.11-10, *Comparison of the EUC SPA Plan to the Applicable Goals and Policies of the Greenbelt Master Plan,* on page 4.11-58, the proposed project would be consistent with the Master Plan goal to establish a greenbelt system that would visually reinforce the character of the community and integrate cultural resources, to ensure public access through an active and passive recreation park system with trails connecting each segment, to accommodate a wide range and number of users, to offer a variety of active and passive recreation experiences, to provide disability access, and to provide other amenities that enhance the Greenbelt System. Therefore, the proposed project would be consistent with the applicable policies of the Greenbelt Master Plan. As the proposed project would be consistent with the standards of the Greenbelt Master Plan, it would have a less-than-significant impact with respect to the City's threshold standards.

Table 4.11-9

Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan

Policies	Consistency Analysis
Part II, Chapter 1, Land Use Plan, Section F.12.b EUC Parks and Open Space Policies	
Parks and Open Space Policy: Application of the 3 acres per 1,000 residents standard would result in the development of approximately 29.3 acres of local parks in the EUC. The EUC would provide sufficient area for local parks/town squares and plazas, or other park facilities to meet its needs on-site, as required by the EUC Parks Master Plan prepared as part of the SPA Plan. The SPA-level Parks Master Plan shall consider the needs and standards identified in the framework strategy prepared for the "University Study Area," which may include variations from conventional parkland requirements.	**Consistent.** As described in the SPA Plan (Urban Parks, Recreation, Open Space, and Trails Plan Chapter) the current Park Land Dedication Ordinance (CVMC Section 17.10.040) requires three acres of parkland per 1,000 population, based on a multi-family occupancy factor of 2.61 persons (CVMC Section 17.10.110) per household. Based on the CVMC defined coefficient factor, the project's 2,983 units would generate a demand for 23.36 acres of parkland. In addition to the 15.63 acres of parkland described above, remaining park obligation would be provided for through the payment of in lieu fees. It is anticipated that the Applicant and the City will enter into a Parks Agreement which would provide that a portion of in lieu fees to be utilized on-site and a portion would be utilized off-site to go toward the delivery of recreational facilities at an off-site location. The portion of in lieu fees to be utilized on-site, would be re-invested into the 15.63 acres of parks, resulting in enhanced park amenities consistent with the character and purpose of the EUC, which would allow the parks to achieve a higher level of improvements not typically associated with public parks. CVMC 17.10.070 allows the City to deem that a combination of dedication of parkland and the payment of in lieu fees would better serve the public and the park and recreation needs of future residents of the project if in the judgment of the City, suitable land does not exist. Furthermore CVMC states that the amount and location of the land or in lieu fees, or combination thereof, shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision. The combination of the dedication of parkland, payment of in lieu fees and providing improvements would serve to meet the recreational needs of the EUC residents. Trails that are integral or continuous to a park would be included as park acres for determination of parkland credit.

Table 4.11-9 (Continued)

Comparison of the Project with the Applicable Policies of the Otay Ranch General Development Plan

Policies	Consistency Analysis
The following policies shall guide the design of parks and open spaces in the EUC and shall be further refined by the SPA-level Parks Master Plan: • Incorporate a pedestrian open space / trail corridor across the EUC which connects to Wolf Canyon and Salt Creek. The corridor will create a strong east-west open space system and reflect differing characteristics as it moves through the Otay Ranch. This corridor has been defined by the overall Ranch Design Plan, but will more specifically defined in the EUC SPA Design Plan. Within the EUC, this corridor shall serve as an identifiable pedestrian corridor and element that ties plazas, parks, and other urban features together to fulfill multiple functions, including urban relief, recreation, and trail connectivity, while maintaining its primary role as a key segment of the City's Greenbelt and trail system. • Provide a network of pedestrian spaces, plazas, malls, promenades, and squares to create a pedestrian oriented environment. The amount of credit toward satisfying park area requirements for these amenities shall be determined in the EUC Parks Master Plan. • Individual building and building clusters should integrate pedestrian plazas with the overall pedestrian system. • Pedestrian plazas should incorporate fountains or artistic features as visual focus.	**Consistent.** The proposed project, as described in the EUC SPA Plan (Urban Parks, Recreation, Open Space, and Trails Plan Chapter), would provide an east-west pedestrian trail through the EUC that would create a link in the City's Greenway Trail system. From Wolf Creek in Village Two, the corridor would pass through Village Seven to the EUC. From the EUC, the corridor would pass along the south and east edge of Village Eleven (following Hunte Parkway) to Salt Creek. Within the EUC, the corridor would connect activity centers and tie plazas, parks, and other urban functions, and provide urban relief and recreation, as well as trail connectivity to the east and west. Since the EUC would be a highly urbanized, regional destination area, activities along the trail may be urbanized with vendors, civic functions, a possible farmer's market, art fairs, street theater, and similar activities. The trail would be developed as an identifiable trail system with broad paved walkways and landscaping. The proposed project would provide a network of pedestrian spaces, including a public plaza in the Civic Core, a town square and promenade in the Main Street District, and paseos leading between streets. The urban design policy requiring individual buildings and building clusters to integrate pedestrian plazas with the overall pedestrian system would be implemented as a design feature of the proposed project in compliance with the FBC. The urban design policy to incorporate fountains or artistic features as visual focus of parks and pedestrian plazas would be implemented as a design feature of the proposed project in compliance with the FBC.

D. Chula Vista Parks and Recreation Master Plan

The Chula Vista Parks and Recreation Master Plan identifies a range of passive and activity park elements to serve the residents of the EUC. The Master Plan envisioned the EUC park obligation being met both on- and off-site. The proposed project is generally consistent with the Master Plan defined range of recreational experiences anticipated to serve the demands of the EUC residents in that both passive and active recreational opportunities will be provided through the delivery of

Table 4.11-10

Comparison of the EUC SPA Plan to the Applicable Goals and Policies of the Greenbelt Master Plan

Code Requirement	Proposed Project
Area to be Dedicated	
Goal 1.0: To establish a comprehensive and coordinated greenbelt system that visually reinforces the natural character of the community and integrates unique historic and cultural resources, open space areas, creeks and trails.	**Consistent.** The GDP provides for the Village Greenway to pass through the EUC, connecting west to Village Seven and east to Village Eleven. Along its route through the EUC, the Greenbelt trail would connect four parks (Civic Center, Town Square, South Central, Southeast) and the Paseo. The width of the Greenbelt trail and connectivity to several park areas would accommodate and allow access to destination uses and activity areas in the EUC. As the EUC would be highly urbanized, the Greenway would take on the character of the surrounding districts . The Village Greenway, which would include way-finding elements, banners, signage, and distinctive pavement treatments, would create a variety of experiences as it passes through the different districts of the EUC.
Goal 2.0: To provide connected open space surrounding Chula Vista to enhance the natural beauty and to preserve native biological and cultural resources as well as sensitive habitats.	**Consistent.** The proposed project would incorporate a segment of the Village Greenway that would ultimately provide connectivity between natural habitats in Salt Creek, Wolf Canyon, and the Otay Valley Regional Park.
Policy 2.1: The City will strive to ensure the protection of the natural habitat from encroachment of trail users through education, fencing, signing, and design.	**Consistent.** No sensitive habitat has been identified in the previously farmed EUC SPA Plan site. As such, the segment of the Village Greenway passing through the EUC SPA Plan would not encroach upon any known sensitive habitat
Policy 2.5: The City will locate trails in areas that avoid or minimize conflicts with natural resources.	**Consistent.** As the EUC site was previously disturbed and partially graded, it is an area with minimal natural resources. Therefore, the routing of the Village Greenway through the EUC avoids conflicts with natural resources.
Policy 2.6: All proposed trails shall adhere to guidelines contained within the City's adopted MSCP as well as stipulations contained in other mitigation agreements.	**Consistent.** The EUC project site is not located within the City's MSCP preserve area nor does it contain any areas subject to mitigation agreements.
Policy 2.7: Impervious trails should be avoided in watershed and flood plain areas where potential contamination of resources could occur.	**Consistent.** Although the segment of the Village Greenway passing through the EUC would be paved and impervious, the EUC site is not located within a floodplain. Potential contamination of resources would be unlikely as all surface water runoff would be collected in a storm water drainage system and routed to master drainage facilities, including detention/storm water quality management basins and other existing open channel drainages.

Table 4.11-10 (Continued)

Comparison of the EUC SPA Plan to the Applicable Goals and Policies of the Greenbelt Master Plan

Code Requirement	Proposed Project
Goal 3.0: To establish a Greenbelt that ensures public access within the Greenbelt through an active and passive recreation park system with trails connecting each segment.	**Consistent.** The Village Greenway through the EUC would connect and provide public access to the Civic Plaza, and Main Street, as well as providing ultimate connection to on-site and off-site parks and recreational sites, including the Otay Valley Regional Park.
Policy 3.1: The City will actively pursue open space programs and develop trail links connecting to parks and regional trails.	**Consistent.** The proposed project would support this policy through the provision of a segment of the Village Greenway, as previously discussed under Goal 3.0.
Policy 3.2: The City will design trails that will accommodate a wide range of number of users anticipated.	**Consistent.** Please refer to Goal 1.0, above.
Policy 3.3: The City will develop a greenbelt system that offers a variety of active and passive recreation experiences.	**Consistent.** Please refer to Policy 3.2, above.
Policy 3.4: The City will develop trails, wherever possible, which provide for accessibility for all, including those with disabilities.	**Consistent.** As the Village Greenway would take the form of public sidewalks through the EUC, these facilities would be consistent with all state-mandated ADA requirements.
Policy 3.5: The City will locate staging areas, parking areas, and other amenities in areas that enhance the greenbelt system.	**Consistent.** The Village Greenway through the EUC would be located entirely within an urban area, where parking areas would be readily available. Other amenities, including access to the EUC SPA Plan's commercial promenades and civic plaza, would enhance the Greenbelt System by providing an interesting destination or stop-over, in which passing users may lunch, rest, or shop.
Goal 4.0: To provide a Greenbelt system that receives the necessary resources for open space acquisition, park and trail development, maintenance, and to establish volunteer programs.	**Consistent.** The Village Greenway through the EUC, which would be privately developed concurrently with the phased development of the project site, would be acquired by the City as public sidewalks. Maintenance districts or other mechanisms may be established to ensure proper management and maintenance.
Policy 4.4: The City will collaborate with private organizations for constructing, maintaining, and monitoring trails.	**Consistent.** The proposed project would support this policy through the private development of a segment of the Village Greenway, as discussed under Goal 4.0.

developed urban parks and the provision of in lieu fees to be utilized to provide both enhanced urban park features as well as provide for active amenities off-site.

4.11.5.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Implementation of the proposed project would generate increased demand for parks and recreation facilities. A potentially significant impact could result, due to increased demand on existing parkland and facilities, if dedication of parkland and development of new recreation facilities does not coincide with project implementation and project population growth.

4.11.5.5 MITIGATION MEASURES

4.11.5-1 Prior to approval of the final map(s), or for projects not requiring a final map prior to building permit approval, for residential projects, the Applicant(s) shall dedicate parkland and pay in lieu fees for the area covered by the final map(s). The delivery of said parkland and payment of in lieu fees shall be in accordance with the fees and phasing approved in the Public Facilities Financing Plan for the SPA Plan and an EUC Park Agreement, subject to approval of the Directors of Recreation and Development Services.

4.11.5-2 Prior to issuance of each building permit for any residential dwelling units, the Applicant(s) shall pay recreation facility development impact fees (part of the Public Facilities Development Impact Fee) in accordance with the fees in effect at the time of building permit issuance and phasing approved in the PFFP for the SPA Plan, subject to approval of the Directors of Recreation and Development Services.

4.11.5.3 The Applicant may, subject to City Council approval, enter into a written agreement with the City identifying the Applicant's parkland acreage dedication, park development improvements, and in lieu fee obligations and the timing and method of satisfying those obligations. If the Applicant and the City enter into such an agreement, the Applicant may satisfy its parkland dedication, improvement and in lieu fee obligations pursuant to the terms of that agreement.

4.11.5.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the above mitigation measures would reduce the impacts to parks and recreation facilities from development of the proposed project to below a level of significance.

4.11.6 WATER

This section addresses potential impacts on water supply and water distribution infrastructure for the proposed EUC project. This analysis estimates water demand for the proposed project and compares this demand to existing and planned water supply sources and facilities. The information contained herein is based on the *Water Supply Assessment and Verification Report, Eastern Urban Center Sectional Planning Area Plan* (WSA&VR) prepared by the Otay Water District (OWD) (July 2007), the *Eastern Urban Center Technical Water Study* (TWS) prepared by PBS&J (September 2006, revised January 2008), and an addendum letter to the PBS&J report dated May 8, 2008. The WSA&VR, TWS and addendum letter are included in Appendix I of this EIR.

4.11.6.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) City of Chula Vista General Plan

The 2005 Chula Vista General Plan recognizes that, in order to ensure adequate water service, water supplies and facilities need to be maintained and expanded as the City's population grows. The following water supply policies of the City of Chula Vista General Plan may be applicable to the proposed project's estimated water demand:

Objective LUT 62 - Require development to consider and plan for careful use of natural and man-made resources and services, and maximize opportunities for conservation while minimizing waste.

Policy

LUT 62.1 – Require developments within the East Planning Area to provide resource management plans for water; air quality; recycling; solid waste management; and energy.

Objective PFS 1 – Ensure adequate and reliable water, sewer, and drainage services and facilities.

Policy

PFS 1.1 – Coordinate with water districts by providing growth forecast information to allow the districts to plan and design water facilities and ensure adequate supply needed to accommodate anticipated growth continue to adequately equip and staff the Fire Department to ensure that established service standards for emergency calls are met.

Objective PFS 2 – Increase efficiencies in water use, wastewater generation and its reuse, and handling of storm water runoff throughout the City through use of alternative technologies.

Policy

PFS 2.3 – In designing water, wastewater, and drainage facilities, limit the disruption of natural landforms and water bodies. Encourage the use of natural channels that simulate natural drainage ways while protecting property.

Objective H2 – Promote efficient use of water and energy through adopted standards and incentive-based policies to conserve limited resources and reduce long-term operational costs of housing.

Policy

H 2.1 - Encourage the efficient use and conservation of water by residents.

Objective GM 1 Concurrent public facilities and services.

Policy

GM1.11 – Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

(2) Urban Water Management Plan Act

In 1983, the California Legislature enacted the Urban Water Management Act (Sections 10610 through 10657 of the California Water Code). The Act requires that any urban water supplier that provides water for municipal purposes, either directly or indirectly to more than 3,000 customers or supplies more than 3,000 acre-feet of water, prepare and annually update an Urban Water Management Plan (UWMP) at least once every five years. The Act requires a description of specific water supply projects and implementation schedules to meet projected demands over the planning horizon; a description of the opportunities for the development of desalinated water; information on groundwater (where groundwater is identified as an existing or planned water source); description of water quality over the planning horizon; and description of water management tools that maximize local resources and minimize imported water supplies. Additionally, the Act requires evaluation of the reliability of a water supply as part of a development plan. This includes a water supply reliability assessment, a water shortage contingency plan, and development of a plan in case of an interruption of water supplies.

The Metropolitan Water District (MWD), San Diego County Water Authority (SDCWA), and Otay Water District (OWD) all play a role in supplying water to the proposed EUC. All of these agencies have prepared and updated UWMPs in accordance with this statutory requirement.

(a) MWD's Integrated Water Resources Plan and Regional UWMP

MWD is comprised of 26 cities and water districts from Los Angeles, Orange, Riverside, San Diego, San Bernardino, and Ventura counties. MWD is a regional water wholesaler that supplies water to its member agencies, such as the SDCWA, who in turn provide the water to its member agencies, such as the OWD.

Since 1996, MWD has operated under a twenty-year resource plan designed to balance local and imported supplies. The 1996 Integrated Water Resources Plan (1996 IRP) called for investments in water conservation, recycling, groundwater treatment storage, and water transfers in order to diversify and stabilize MWD's water supplies. The 1996 IRP was updated in 2003 and was approved in July 2004.

The 2004 IRP identifies a mix of resources (imported and local) that when implemented will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project (SWP) and Colorado River supplies, groundwater banking, and water transfers. The 2004 IRP includes a water supply planning buffer to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, MWD monitors supply development to ensure that the region is not over-developing water supplies. Managed properly, the planning buffer will help to ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands. As stated in the 2004 IRP, it is MWD's goal to identify an additional 500,000 AF/YR of contingency supplies by 2025, evenly divided between local and imported sources, to buffer against water supply shortfalls.

Subsequently, in compliance with the state law, MWD published its Regional UWMP in November 2005. MWD's Regional UWMP provides member agencies, retail water utilities, cities, and counties within its service area with water supply information to facilitate the development of their own UWMPs as well as water supply assessments and written water supply verifications. The resource targets included in the 2004 IRP serve as a foundation for the planning assumptions used in MWD's Regional UWMP. MWD's Regional UWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 25-year period in average, single-dry year and multiple-dry year periods. As part of this process, MWD used the SANDAG regional growth forecast in calculating regional water demands for its service area. The Regional UMWP concludes that MWD will have sufficient water supplies to serve its member agencies under average, single-dry, and

multiple-dry year conditions through the year 2030. In addition, MWD has identified buffer supplies, such as recycling, groundwater recovery, desalination, SWP storage and transfers.

(b) San Diego County Water Authority UWMP

The SDCWA also adopted its UWMP in November 2005. In April 2007, the SDCWA updated the 2005 UWMP. The 2007 UWMP assesses water demands for the San Diego region, identifies the SDCWA's existing and planned water supplies, including MWD supplies (imported Colorado River and State Water Project (SWP) water supplies), SDCWA supplies (IID water transfer supplies, canal-lining project water supplies, and seawater desalination supplies), and local member agency supplies (surface water reservoirs, water recycling, groundwater, and groundwater recovery); compares water supplies with demands in average, single-dry, and multiple-dry years through 2030; and identifies a diverse mix of existing and projected water resources to be developed over the next 25 years to ensure long-term water supply reliability for the San Diego area.

The 2007 UWMP concludes that SDCWA will have sufficient water supplies to serve its member agencies under average, single-dry, and multiple-dry year conditions through the year 2030. However, as a contingency, the SDCWA's 2007 UWMP contains a detailed analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the SDCWA and its member agencies, through its Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle any interruption of water supplies. The DMP, completed in May 2006, provides the SDCWA and its member agencies with a series of potential actions to take when faced with a shortage of imported water from MWD due to prolonged drought conditions and will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

(c) OWD UWMP and Water Resources Master Plan

OWD is a municipal water district formed in 1956 pursuant to the Municipal Water District Act of 1911 (Water Code Section 71000 et seq.). OWD joined the SDCWA as a member agency in 1956 to acquire the right to purchase and distribute imported water throughout its service area. OWD provides water service to residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses. In addition to providing water throughout its service area, OWD provides sewage collection and treatment services to a portion of its service area known as the Jamacha basin. OWD also operates the Ralph W. Chapman Water Recycling Facility (RWCWRF) with an effective capacity of 1.1 million gallons per day (mgd).

OWD adopted its amended 2005 UWMP in July 2007 and referenced SDCWA's ability to meet its member agency demand during normal, single-dry and multiple-dry years through 2030.

OWD's UWMP is a guidance manual that uses SANDAG's regional forecasts of population and housing through 2030 to determine water demand and supply needs. The current EUC land uses were considered in SANDAG's forecasts and, subsequently, the water demand for this development was accounted for in the update of the UWMP and the WSA&VR approved for the project. It also discusses the steps OWD has taken to promote water conservation and to ensure water is being used wisely. Information from the OWD 2005 UWMP along with supplemental information from OWD's Water Resources Master Plan were utilized to prepare the WSA&VR for the proposed project.

OWD's UWMP acknowledges that because OWD is completely dependent upon imported water provided by the SDCWA, water supply reliability depends on the reliability of water supplied to SDCWA by MWD. According to OWD's UWMP, OWD works closely with the SDCWA and MWD in future supply planning. The diversified improvements put in place by MWD and the SDCWA have led these agencies to state that they will be able to meet projected demands, including potable water demands for the OWD, through 2030.

A key component of OWD's UWMP is the analysis of measures to ensure a reliable water supply. These measures include water conservation measures including a commitment to implementing Best Management Practices (BMP), emergency and operational storage, interagency agreements with neighboring water agencies, and exploring alternative water supplies such as groundwater and recycled water. In addition to potable and recycled water supply and demand estimates for its service area through 2030, the OWD UWMP includes a Water Shortage Contingency Plan, a Recycled Water Plan, an analysis of water quality impacts on reliability and water service reliability. The UWMP concludes that OWD currently meets all its potable water demands with imported treated water from the SDCWA. OWD's UWMP is incorporated by reference.

In addition to OWD's UWMP, OWD relies on its 2002 Water Resources Master Plan (WRMP). The WRMP identifies the capital facilities needed to provide an adequate, reliable, flexible and cost effective potable and recycled water system for the delivery of OWD, City of San Diego, SDCWA and/or MWD water supply to meet approved land use development plans and growth projections consistent with SANDAG's forecasts for the service area. The Master Plan identifies proposed potable and recycled water facilities, and expansions to existing facilities along with their required capacity, phasing, and estimated probable capital costs.

(3) Senate Bills 610 and 221

Senate Bill (SB) 610 requires public water agencies, parties, or purveyors that may supply water to certain proposed development projects to prepare a Water Supply Assessment (WSA) for use by the planning agency in compliance with the California Environmental Quality Act

(CEQA).[39] A WSA is required for any project that is subject to State CEQA Guidelines and includes, among other things, an office development of 250,000 square feet or more of floor space.[40] The EUC SPA project is a qualifying project under this definition and accordingly a WSA has been prepared by the water supplier (OWD) and is included in Appendix I of this EIR.

SB 221 requires proof of a sufficient water supply, while placing the initial burden of proof on the public water system. SB 221 requires a city, county, or local agency to include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available to serve the subdivision. The availability of a sufficient water supply is based on written verification from a water supplier with more than 3,000 service connections (prior to or as a result of serving a subdivision) which may provide water to the proposed project. "Sufficient water supply" is the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand of a proposed subdivision. Moreover, and likely as an attempt to arrest reliance on "paper water" entitlements from the SWP, SB 221 further requires any verification of "projected" water supplies to be based on entitlement contracts, capital outlay programs, and regulatory permits and approvals regarding the right to and capability of delivering the projected supply. These statutes basically require that the water supplies be “sufficient” and “meet projected demand”, but do not specify a particular number of gallons that must be provided.

(4) OWD Water Supply Assessment and Verification Report

In accordance with SB 610 and SB 221, OWD approved a Water Supply Assessment and Verification Report (WSA&VR) in July 2007. The WSA&VR includes, among other information, an identification of existing water supply entitlements, water rights, water services contracts and agreements relevant to the identified water supply needs for the proposed EUC project. The WSA&VR evaluates water supplies that are or will be available during normal, single-dry year and multiple-dry water years during a 20-year projection to meet existing demands, expected demands associated with the EUC project, and reasonably foreseeable planned future water demands served by OWD. The WSA&VR incorporates by reference the aforementioned current UWMPs and other water resources planning documents of the OWD, SDCWA and MWD.

The EUC WSA&VR confirms that the projected water demands for OWD are based on Specific or Sectional Planning Areas, such as the EUC, the Otay Ranch GDP, San Diego County Community Plans, the Cities of San Diego and Chula Vista General Plans and the County of

[39] *SB 610 amended Section 21151.9 of the California Public Resources Code, and amended Sections 10631, 10656, 10910, 10911, 10912, and 10915 of, repealed Section 10913 of, and added and amended Section 10657 of, the California Water Code.*

[40] *Water Code § 10912(a)(1). This section also includes other types of development that are defined as a “project” by this section of the code.*

San Diego General Plan. This land use information is also used by SANDAG as the basis for its most recent growth forecast data, which include projections of future population, housing and employment. As noted previously, SANDAG's regional forecasts were utilized in the preparation of the OWD UWMP to develop the forecasted demands and supply requirements.

OWD concludes in its WSA&VR that the water demand projections for the proposed EUC project are included in the water demand and supply forecasts within the current OWD UWMP and other water resources planning documents of the OWD, SDCWA and MWD. The WSA&VR demonstrates and verifies that there are sufficient water supplies over a 20-year planning horizon to meet projected demand of the proposed EUC project and the existing and reasonably foreseeable planned development projects within the OWD service area. Projected water demand and supply for the proposed project are discussed below.

B. Regional Water Demand

As stated previously, the SDCWA, MWD and OWD update their water demand and supply projections periodically, and these agencies use SANDAG's most recent regional growth forecast to calculate future water supply and demand within their respective service areas. This provides consistency between retail and wholesale agencies to ensure that adequate water supplies are planned for the OWD's existing and future water users.[41]

OWD's regional water demand projection applies the water duty method in which representative values of water use are applied to the acreage of each land use type and then aggregated into an overall total demand. This approach is used for all the land use types, except residential, where a demand per dwelling unit is applied. Commercial and industrial water use categories are further subdivided by type including separate categories for golf courses, schools, and hospitals etc, where specific water demands are allocated. To determine water duties for various land use types, the entire water meter database for the OWD is utilized and sorted by appropriate land use type. The historical and projected potable water demands for the OWD are shown in Table 4.11-11, *OWD's Historical and Projected Potable Water Fiscal Year Demands Incorporating Water Conservation BMP Effort*, on page 4.11-68. As shown in Table 4.11-11, by 2030, OWD projects that 82,405 acre feet/year (AF/YR) of potable water will be needed within OWD's service area.

The historical and projected recycled water demands for the OWD service area are shown in Table 4.11-12, *OWD's Historical and Projected Recycled Water Fiscal Year Demands Incorporating Water Conservation BMP Efforts*, on page 4.11-69. The OWD projects that annual average demands for recycled water would increase to approximately 7,297 AF/YR by 2030 (See Table 4.11-12).

[41] *OWD, WSA&VR, page 6.*

Table 4.11-11

OWD's Historical and Projected Potable Water Fiscal Year Demands (acre feet) Incorporating Water Conservation BMP Effort [a]

Water Use Sectors	1995	2000	2005	2010	2015	2020	2025	2030
Single Family Residential	10,604	15,331	19,850	25,442	29,130	33,316	37,211	42,089
Multi-Family Residential	1,880	1,986	2,893	3,708	4,245	4,855	5,423	6,134
Commercial & Industrial	1,650	3.043	1.549	1,986	2,274	2,600	2,904	3,285
Institutional & Governmental	1,680	2,089	2,115	2,711	3,104	3,550	3,965	4,485
Landscape	3,983	6,256	8,512	10,910	12,491	14,286	15,956	18,048
Agricultural	487	171	2,268	2,907	3,328	3,806	4,251	4,809
Known Losses	b	b	511	655	749	857	957	1,083
System Losses	b	1,733	1,076	1,494	1,711	1,957	2,186	2,472
Total	**20,284**	**30,609**	**38,774**	**49,813**	**57,032**	**65,227**	**72,853**	**82,405**

[a] *Estimates include water conservation BMP efforts.*
[b] *Known losses (i.e., unaccounted for water in the UWMP) and system losses are unavailable.*

Source: WSA&VR, July 2007.

C. Regional Water Supply

As stated previously, OWD currently does not have an independent raw or potable water supply source. The SDCWA provides 100 percent of OWD's potable water through two delivery pipelines, referred to as Pipeline No. 4 and the La Mesa Sweetwater Extension Pipeline. The SDCWA in turn currently purchases the majority of its water from MWD. MWD obtains its water supplies from local sources and two major import sources: (1) the Colorado River conveyed via the Colorado River Aqueduct (CRA), which MWD owns and operates, and (2) the Sacramento-San Joaquin Delta conveyed via the State Water Project (SWP), which is owned and operated by the California Department of Water Resources (DWR).

(1) Colorado River Supply

MWD has the right to divert water from the Colorado River pursuant to a contract with the U.S. Secretary of the Interior. MWD can draw up to 550,000 AF/YR from the Colorado River and an additional 662,000 AF/YR if Colorado River water supplies allow California to exceed its 4,400,000 AF/YR entitlement. However, continued drought in the Colorado River Basin and the Record of Decision on the operation of the Colorado River supplies as well as global climate change present challenges to the continued supply of water from the Colorado River.

Table 4.11-12

OWD's Historical and Projected Recycled Water Fiscal Year Demands (acre feet) Incorporating Water Conservation BMP Efforts

Water Use Sectors	1995	2000	2005	2010	2015	2020	2025	2030
Landscape	614	1,274	1,155	4,040	4,684	5,430	6,294	7,297
Total	**614**	**1,274**	**1,155**	**4,040**	**4,684**	**5,430**	**6,294**	**7,297**

Source: WSA&VR, July 2007.

To respond to continued drought conditions, MWD authorized agreements in December 2007 that implement federal guidelines addressing how water shortages are to be shared amongst the seven states that rely upon Colorado River water supplies. The federal guidelines, embodied in a Record of Decision (ROD), established new rules for the management of the Colorado River. These rules reinforce and protect California's rights to Colorado River water supplies (and correspondingly, MWD's rights); unify the management of Lake Powell and Lake Mead, thereby sharing the risk of drought among all stakeholders; and establish new rules for surpluses that provide rewards for water conservation.

Under this ROD, California's Colorado River supplies will not be reduced until levels at Lake Mead fall to 16 percent capacity. In addition, MWD entered into a series of related agreements that allow it to store as much as 1.5 million AF in Lake Mead (enough water to supply approximately 3 million average households for 1 year). These agreements provide MWD with key storage space for any surplus water obtained in the future, and provide additional certainty to MWD and SDCWA of water supplies from the Colorado River.

Another issue that may affect future supplies from the Colorado River is global climate change (GCC). The MWD's Regional UWMP recognizes climate change as a potential risk to future water supply, and indicates that GCC could affect MWD's water supply from both the CRA and SWP by:

- Reducing the average annual snow pack in the Sierra Nevada;
- Changing the timing, intensity, location, amount and variability in precipitation;
- Elevating sea levels, which could threaten the Delta water diversion system;
- Affecting local supplies, such as groundwater;
- Changing urban and agricultural water demand;
- Impacting human health from water-borne pathogens and water quality degradation;

- Harming ecosystem health and function; and
- Altering power generation and pumping regimes.

Since MWD's Regional UWMP was published, an extensive amount of research has been conducted at the international, national and state levels regarding GCC. Specifically related to Colorado River water supplies, DWR issued a report, *Progress on Incorporating Climate Change into Management of California's Water Resources* in 2006 that specifically considered the impact climate change may have on California's water supply. Although the 2006 DWR Report explicitly states that policy implications and recommendations are beyond its scope, it discusses potential impacts GCC could have on California's water supply (including the Colorado River) under various greenhouse gas (GHG) emissions scenarios. With regard to California's Colorado River supplies, the 2006 DWR Report concludes that less precipitation will fall as snow and there will be an earlier snow melt, evaporation will increase from reservoirs and conveyance facilities, more sediment will be produced due to more extreme storm events and more rain instead of snow, and there will be changes in water demand.

(2) State Water Project

MWD possesses a contract with the DWR that entitles it to water from the SWP, which is diverted from the Feather River at Lake Oroville, released and conveyed through the Sacramento-San Joaquin River Delta and rediverted to the California Aqueduct to Southern California and MWD.[42] MWD has a contracted right to 2,011,000 AF/YR of the 4,230,000 AF/YR of water from the SWP (approximately 48 percent of SWP supplies), as the SWP was originally conceived. Issues potentially affecting the SWP's water supply include the federal court ruling on protection of the Delta smelt and associated constraints on Delta water extraction, extended drought conditions in the southwest as well as the aforementioned GCC.

In May 2007, a federal judge invalidated the Biological Opinion issued by the U.S. Fish & Wildlife Service (USFWS) for operations of the SWP and Central Valley Project (CVP) with regard to the Delta smelt, a federally and state-listed threatened fish species that inhabits the estuaries of the Bay-Delta region. (See Natural Resources Defense Council v. Kempthorne, May 2007). As required by the federal court, the USFWS delivered its Biological Opinion (BO) to the Bureau of Reclamation on December 15, 2008, on the effects of the continued operation of the Federal Central Valley Project and the California State Water Project on the delta smelt and its designated critical habitat. The USFWS has determined that the continued operation of these two water projects as described in the Biological Assessment (BA) is likely to jeopardize the continued existence of the delta smelt and adversely modify its critical habitat. The BO is accompanied by a Reasonable and Prudent Alternative (RPA) intended to protect each life-

[42] See *Contract Between the State of California Department of Water Resources and the Metropolitan Water District of Southern California For a Water Supply (November 4, 1960), as amended through Amendment No. 28, available at http://www.swpao.water.ca.gov/wsc/pdfs/MWDSC_O_C.pdf.*

stage and critical habitat of this federally protected species. The Bureau of Reclamation is currently reviewing the BO to determine it can be implemented in a manner that is consistent with the intended purpose of the action, is within the agency's legal authority and jurisdiction, and is economically and technologically feasible. The final outcome on water supply may not be known for some time as certain conclusions from this BO to increase reservoir releases in the fall to reduce salinity may in conflict with another Biological Opinion expected this March to protect other fish species.

In April 2008, there was a ruling that a 2004 Biological Opinion prepared to study impacts from the operations of the SWP and CVP to several salmonid species, including the Sacramento River winter-run Chinook salmon, the Central Valley spring-run Chinook salmon, and the Central Valley steelhead, was inadequate (See *Pac. Coast Fed. of Fishermen's Ass'n v. Gutierrez*). Due to the recent nature of this ruling, it is unclear at this time what effect it may have on the operations of the SWP and CVP. Another ruling with uncertain affects, but whose effects generally overlap those of the Delta smelt, concerns the effects of pumping on the longfin smelt.

Regardless of how these Biological Opinions change the operation of the CVP and SWP, statewide actions to address the underlying issues in the Delta are underway. Preserving the Delta's water delivery capacity and restoring the health of the Delta ecosystem are of great import to the Governor and the California Legislature. Numerous research projects to improve the operation of the Delta's water pumps, while also protecting the Delta smelt and other endangered fish species, and to improve emergency preparedness and response across jurisdictional boundaries, were already in process prior to the aforementioned Biological Opinions, including:

- The Delta Vision Process, prepared by the Delta Vision Process Blue Ribbon Panel, which is developing a durable vision for sustainable management of the Delta.

- The Delta Risk Management Strategy, prepared by the DWR, the U.S. Army Corps of Engineers (USACE), and the California Department of Fish & Game (CDFG), which is evaluating the potential impacts on water supply in the Delta due to subsidence, earthquakes, floods, climate change, and combinations of these factors.

- The Delta Protection Commission's Emergency Planning and Response Collaborative Process, which is facilitating an effort between the five Delta counties, the Governor's Office of Emergency Services, and federal agencies to achieve a coordinated regional emergency response framework plan.

- The CALFED Ecosystem Restoration Program Conservation Strategy, which is to be used to guide future ecosystem restoration in the Delta. The Conservation Strategy is being developed in conjunction with the Bay-Delta Conservation Plan.

- The Bay-Delta Conservation Plan, prepared by the California Resources Agency in cooperation with state and federal agencies, which is a voluntary planning document for the Delta that

balances both the conservation and water supply goals of the federal Habitat Conservation Plan and state Natural Community Conservation Planning (HCP/NCCP) agreement of 2006.

- The Delta Protection Commission's Land Use and Resource Management Plan update process, which is evaluating the impact of changing land use patterns in the Delta, and how those changing patterns may impact the existing water export system and the Delta ecosystem.

- The California Governor's recent direction to the DWR to take near-term actions to prepare to implement solutions for the Delta, including a study of the alternatives available for improving the Delta water conveyance system by beginning the NEPA/CEQA process, expediting existing programs to protect Delta water quality and restore Delta habitat, and to conduct multiagency Delta disaster planning.

MWD has acknowledged that conveyance of water through the Delta can present challenges for SWP supplies due to water quality and environmental issues that can affect pumping operations. On average, MWD receives approximately 60 percent of its water through the SWP from the Delta, and has determined that it will allocate any risk of shortage evenly among its member agencies. Risks to SWP supply also include potential levee failure. The State is actively studying the risk of levee failure and potential impacts to SWP supplies and developing a plan to protect the Delta. The on-going Delta Risk Management Stratagy (DRMS) will analyze risks to the levee system, and assess alterative implementing measures and management practices.

MWD is focused on the challenges relating to the reliability of the Delta water supply. In May 2007, its Board adopted a Delta Action Plan to address water supply risks in the Delta both for the near, mid, and long term. The near-term and mid-term actions outlined in the Delta Action Plan are intended to implement measures to reduce fishery and earthquake-related risks, such as aggressive monitoring, ecosystem restoration, local water supply projects, and emergency preparedness and response plans. The long-term actions are intended to create a global, comprehensive approach to the fundamental environmental issues facing the Delta, and to create a sustainable ecological environment through Delta ecosystem restoration, improved water supply conveyance, flood control protection, and development of storage facilities.

MWD has also engaged in planning processes that will identify solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies. In the near term, MWD will continue to rely on the plans and policies outlined in its Regional UWMP and IRP to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. Campaigns for voluntary conservation, curtailment of replenishment water, and agricultural water delivery are some of the actions outlined in the Regional UWMP. If necessary, reduction in municipal and industrial water use and mandatory water allocation could be implemented, but is unlikely to be in effect in the long term.

(3) Other MWD Water Supply Programs

MWD has embarked on many proactive programs to deal with potential future delivery restrictions as described above, should they occur. For example, MWD is focusing on voluntary Central Valley storage and transfer programs to bank MWD's SWP water supplies. In its 2006 Integrated Water Resources Plan Implementation Report, MWD reported that 492,000 AF of dry-year yield has been developed in Central Valley storage and transfer programs. MWD has also employed conjunctive use programs that utilize groundwater basins to store water during wet seasons, which provides a buffer supply that MWD can extract during dry periods.

MWD continues to seek additional opportunities in Southern California to expand groundwater conjunctive use storage programs. MWD has also increased the capacity of its reservoirs and its overall water reserve is several times larger than it was during the 1991-1992 drought. However, at the start of calendar year 2007, MWD estimated that water demands would exceed annual supplies (not including stored water) by approximately 300,000 AF.[43] In response, MWD took the following actions: (1) called for water stored in its Central Valley storage programs; (2) initiated replenishment cuts and notified participating agencies with in-basin groundwater storage programs; (3) embarked on a public outreach and media conservation campaign; and (4) announced reductions in discounted agricultural supplies.

MWD and its participating member agencies are also working toward updating the IRP and will be further refining their long long-term resource development allocations in the forthcoming 2009 IRP.[44] In addressing new supplemental water supply policies and actions in light of changing water circumstances facing Southern California, the updated IRP will refine an achievable, sustainable long-term implementation plan through 2030. Although the specific mix of multiple supply sources, facility completion timelines and measures will undergo further adjustments, MWD's overall conclusion - that adequate water supplies will be available to meet the needs of the region and individual member agency demands throughout the planning period (2030) - is expected to remain valid.[45]

(4) San Diego County Water Authority

Local sources provide between 5 and 25 percent of SDCWA's water, and MWD provides the remainder of the water supply (see MWD water supply discussion above). Local sources include surface and groundwater supplies and recycled (reclaimed) water.

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[43] *Metropolitan Water District of Southern California, Water Surplus and Drought Management Plan at 3 (June 21, 2007) [Appendix J]. The figure in Appendix J does not include the risk of the SWP supply being restricted to protect Delta smelt, which in fact occurred.*

[44] *Ibid.*

[45] *Ibid.*

SDCWA is continuing to seek alternative water sources, prompted by water supply cutbacks from MWD during a 6-year drought that began in 1987. SDCWA has pursued this goal in multiple ways, including conservation, groundwater supplies, recycled water development, desalination, and long-term water transfers. The SDCWA, which serves the region's three million residents, was created in 1944 to administer the region's Colorado River water rights, import water, and take over operation of the Colorado River Aqueduct. The SDCWA is also a signee on the Quantification Settlement Agreement (QSA) to allow California a transition period to reduce its draw on Colorado River water to its 4.4 million AF annual apportionment. The QSA allows up to 200,000 AF of water from the Imperial Irrigation District (IID) to the SDCWA for up to 75 years. An additional 77,700 AF of water, which will be conserved by concrete lining of the All-American and Coachella canals to prevent seepage loss, will flow annually to the SDCWA for 110 years. With implementation of the improvements and transfers, the SDCWA will receive nearly 280,000 AF annually of new, reliable water supplies. Table 4.11-13*, San Diego County Water Authority Projected Normal Year Verifiable Water Supplies*, on page 4.11-75 summarizes the projected yields from supply projects.

The SDCWA also supports the use of local supplies through the use of recycled water, desalination of brackish groundwater through modern reverse osmosis technology, development of groundwater storage programs, and conservation. The SDCWA's conservation programs, including its current 20-gallon challenge, have saved more than 473,000 AF since 1990.

Based on SDCWA's existing and planned investments, the region's water supply reliability is expected to increase substantially over time. For example, by 2030, less than 25 percent of the SDCWA's normal year water demands are expected to be met through MWD deliveries from the SWP. In addition, the SDCWA's Capital Improvement Program includes projects that will increase delivery capacity, operational flexibility, and reliability of the aqueduct system. These projects will also provide adequate storage to meet emergency needs.

D. Local Water Supply

OWD's primary source of potable supply is treated water delivered through the SDCWA's Pipeline No. 4. Pipeline No. 4 delivers potable water treated at MWD's Skinner Water Treatment Plant in Riverside County. The SDCWA has multiple flow control facilities on Pipeline No. 4 that feed into OWD's distribution system. During normal operations, most of the District's potable demand is met with water from Pipeline No. 4. OWD's planning objective is to have sufficient capacity through Pipeline No. 4 to meet ultimate demands. OWD has entered into arrangements with the SDCWA and neighboring water agencies to provide potable water directly to their northern service area under varying normal water demand conditions, and during periods when supply from Pipeline No. 4 is unavailable.

OWD owns and operates the Ralph W. Chapman Water Recycling Facility (RWCWRF), which supplies approximately 1,230 AF/YR of recycled water. In addition to recycled water from the

Table 4.11-13

San Diego County Water Authority Projected Normal Year Verifiable Water Supplies (acre feet)

Water Supply Sources	2010	2015	2020	2025	2030
SDCWA Supplies					
Metropolitan Supplies	445,858	399,855	331,374	342,870	372,922
SDCWA/IID Transfer	70,000	100,000	190,000	200,000	200,000
All American Canal and Coachella Canal Lining Projects	77,700	77,700	77,700	77,700	77,700
Member Agency Supplies					
Local Surface Water	59,649	59,649	59,649	59,649	59,649
Recycled Water	33,668	40,662	45,548	46,492	47,584
Seawater Desalination	0	34,689	36,064	37,754	40,000
Groundwater	17,175	18,945	19,775	19,775	19,775
Groundwater Recovery	11,400	11,400	11,400	11,400	11,400
Total Projected Supplies	**715,450**	**742,900**	**771,510**	**795,640**	**829,030**

Source: San Diego County Water Authority 2005 Updated Urban Water Management Plan.

RWCWRF, which has a maximum production of approximately 1,300 AF/YR of recycled water, recycled water has become available from the City of San Diego's San Diego's South Bay Water Reclamation Plant (SBWRP). Recycled water from the SBWRP has been available since May 2007. The SBWRP can provide an additional 6 mgd (or more if available) of recycled water to the OWD, or approximately 6,700 AF/YR. According to the OWD's WSA&VR report, OWD continues to construct recycled water storage, pumping, transmission, and distribution facilities to meet projected recycled water market demands.

OWD's historic imported and local water supplies including recycled water are provided in Table 4.11-14, *OWD's Historic Imported and Local Water Supplies*, on page 4.11-76.

OWD's UWMP identifies other sources of water that are being evaluated, including local groundwater supply, proposed regional seawater desalination project at the Encina Power Station, and recycled water programs. OWD currently does not use local groundwater to meet any of its demands. The supply forecasts contained within the UWMP do not consider local groundwater development as a proven supply resource. However, OWD is investigating the potential for developing local groundwater to reduce its dependence on imported water. OWD maintains an active recycled water program and is actively pursuing conservation programs such as:

- Cash for Plants Landscape Retrofit Program;
- Signage Grant Received to Highlight Waterwise Model Homes;

Table 4.11-14

OWD's Historic Imported and Local Water Supplies

Calendar Year	Imported Water (AF)	Recycled Water (AF)	Total (AF)
1980	12,558	0	12,558
1985	14,529	0	14,529
1990	23,200	0	23,200
1995	20,922	614	21,536
2000	30,936	948	31,884
2005	40,322	1,227	41,549

Source: OWD WSVR, July 2007.

- Water Conservation Programs for New Homes;
- Outreach Efforts to Otay Customers;
- Commercial Water Conservation Programs;
- Large Landscape Programs;
- Residential ULFT Program-$75 and $95 Vouchers;
- Residential High Efficiency Clothes Washer Program;
- School Education Program;
- Residential Weather-Based Irrigation Controller (WBIC) Incentive Program.

The availability of sufficient potable water supplies and plans for acquiring additional supplies of water to serve existing and future demands of the OWD are based on the water supply resources of the MWD and SDCWA. According to the OWD's WSA&R, projected potable demand and supply requirements as described in SDCWA's 2005 UWMP verifies that sufficient water would be available for the OWD service district, including the EUC SPA project, through 2030.[46]

E. Existing Infrastructure

The EUC lies within the 980 Pressure Zone (PZ) of OWD's Central Area. The Second San Diego Aqueduct provides potable water to OWD's Central Service Area, which primarily includes developments west of the Lower Otay Lakes Reservoir. The 980 PZ is currently

[46] *OWD, WSA&VR, page 33.*

served by two 5-million gallon storage tanks and available storage located in the District's 624 PZ via pumping operations. OWD's current planning includes an additional 13 million-gallon tank within the 980 PZ. An existing 20-inch main along Eastlake Parkway and a 12-inch main in Birch Road would provide water to the EUC. In addition, the new 980-2 pump station was recently completed and is in operation to supply the 980 PZ directly form the 624 PZ.

4.11.6.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts to water supply would be significant if the proposed project would:

Threshold 1: *Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

Threshold 2: *Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.*

According to the City's GMOC Thresholds:

Threshold 3: *Impacts to potable water would be significant if the project would exceed the City's threshold standards which seek to ensure that adequate supplies of quality water, appropriate for intended use, are available. The standards require the following actions:*

- *The applicant must request and deliver to the City service availability letters from the appropriate water district for each project.;*
- *The applicant is required to submit a Water Conservation Plan along with the SPA Plan application; and*
- *The project plans shall ensure an adequate supply of water on a long-term basis prior to the development of each Otay Ranch SPA.*

In addition to the above thresholds, impacts to water supply would be significant if the proposed project would:

Threshold 4*:* *Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding water supply thereby resulting in a significant physical impact.*

4.11.6.3 IMPACT ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area, and PCSI Area are related to short-term construction activities. As these off-site activities would not generate a long-term demand for water, these off-site project components are not evaluated with regard to impacts on this public service. In addition, since the grading options do not affect the project's water demand, grading options 1 and 2 are not evaluated with regard to impacts on this public service.

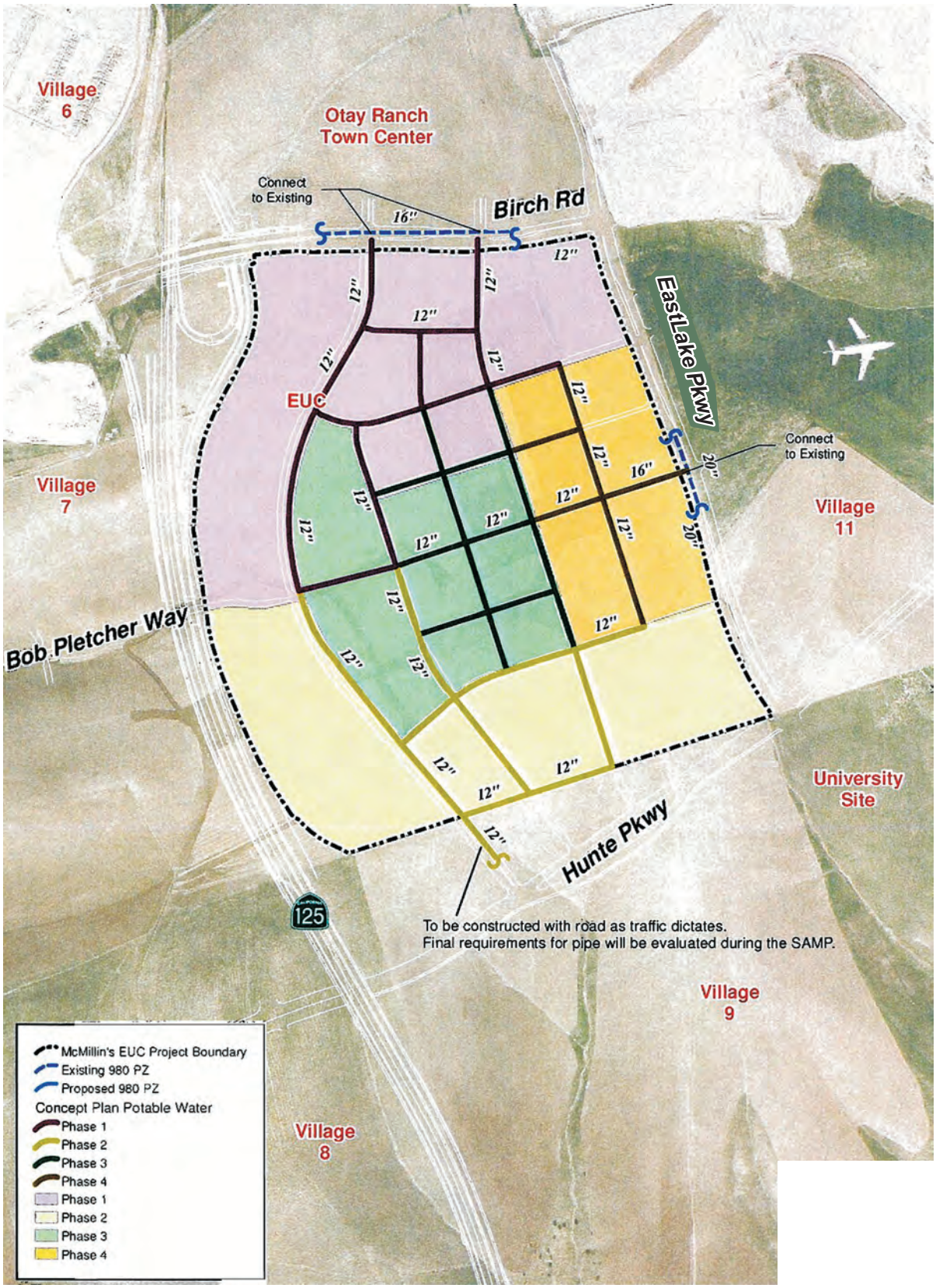
Threshold 1: *Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.*

A. Potable Water Facilities

Based on preliminary land use data and information provided in OWD's WRMP, the construction of off-site water storage or transmission piping will not be required to serve the proposed EUC project. The OWD's proposed 13 mpd water tank, which is planned to serve growth west of the Lower Otay Reservoir, is currently incorporated into the OWD's Capital Improvements Program (CIP) for 980 PZ. In addition, current potable water and recycled water transmission facilities are adequate to meet projected demands. The on-site and off-site analysis of the potable water and recycled water facilities have been included in the TWS and are attached in Appendix I.

On-site potable water facilities will include 8- to 16-inch diameter pipes in a network of looped distribution mains. Figure 4.11-2, *On-Site Potable Water System,* on page 4.11-79 and Figure 4.11-3, *Off-Site Potable Water System,* on page 4.11-80 illustrate the on- and off-site potable water system, respectively. Current planning for the EUC takes into account high-rise buildings up to 15 stories using the WRMP criteria of 1,785 gpd/ac for non-residential uses. The EUC's Water Technical Study is based on flexibility, since there is uncertainty as to the type of buildings that will be constructed and where they will be located. To ensure that the on-site water distribution system can accommodate the location of higher density uses, the water study placed the highest density uses at critical points and confirmed that the maximum day plus fire flow conditions would not adversely impact water pressures and velocities, regardless of the final development plan. The analysis is based on a conservative steady state methodology (Haestad FlowMaster v.5.0).

Fire flow was evaluated as part of the analysis of water supply and demand. The fire flow requirements for each building within the EUC will be a function of building design including height and structure type. As part of the building permit process, the City of Chula Vista Fire Department will evaluate fire flow requirements. The Applicant is required to prepare a final Subarea Master Plan (SAMP) prior to approval of the first final map. The SAMP will be reviewed by the City of Chula Vista and approved by OWD. Among other topics, the SAMP will identify existing on-and off-site pipeline locations, size and capacity and the City of Chula Vista's fire flow requirements (flow



N

No Scale

Figure 4.11-2
On-Site Potable Water System

Source: PBS&J, 2009.

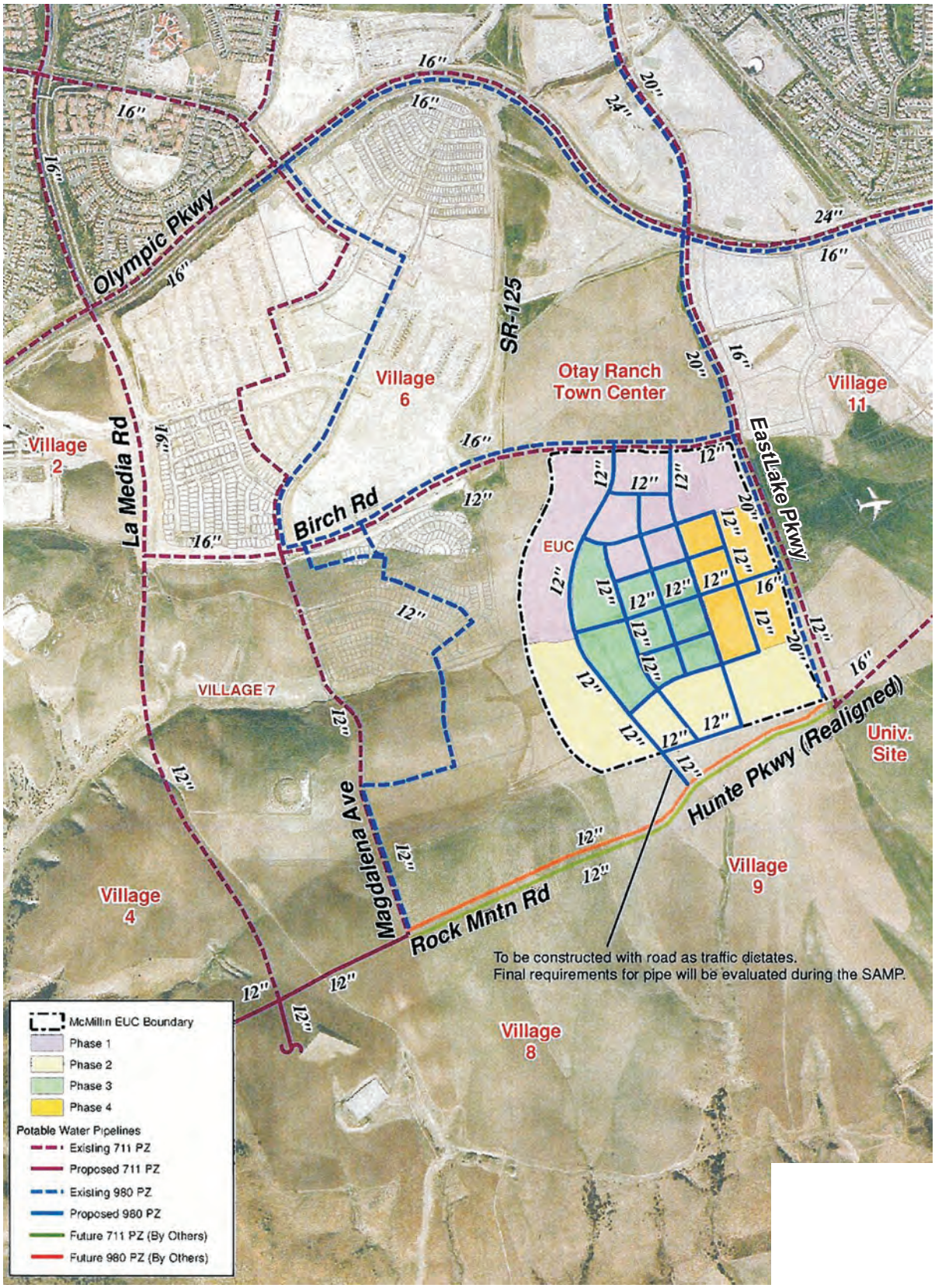


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Figure 4.11-3
Off-Site Potable Water System

Source: PBS&J, 2009.

rate, duration, hydrant spacing, etc). The EUC's on-site system could meet a fire flow of 5,000 gpm.

B. Recycled Water Facilities

The EUC SPA project would use recycled water for landscape irrigation. The project is located within OWD's 944 Recycled Water PZ. Recycled water in this area, which is provided by the RWCRWF, meets State of California Title 22 requirements for non-potable uses. On-site mains are expected to be 8-inch diameter. Existing recycled water distribution mains include a 12-inch main in Birch Road and an existing 12-inch main in Eastlake Parkway. Under the OWD's CIP, a future 8-inch main in Hunte Parkway and a connection in Bob Pletcher Way, under SR-125, to an existing 8-inch recycled water main, are planned. As the project would not require the construction of any additional potable or recycled water facilities, the project would be less than significant with respect to this threshold. Figure 4.11-4, *Recycled Water System*, on page 4.11-82 illustrates the recycled water system.

Threshold 2: *Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.*

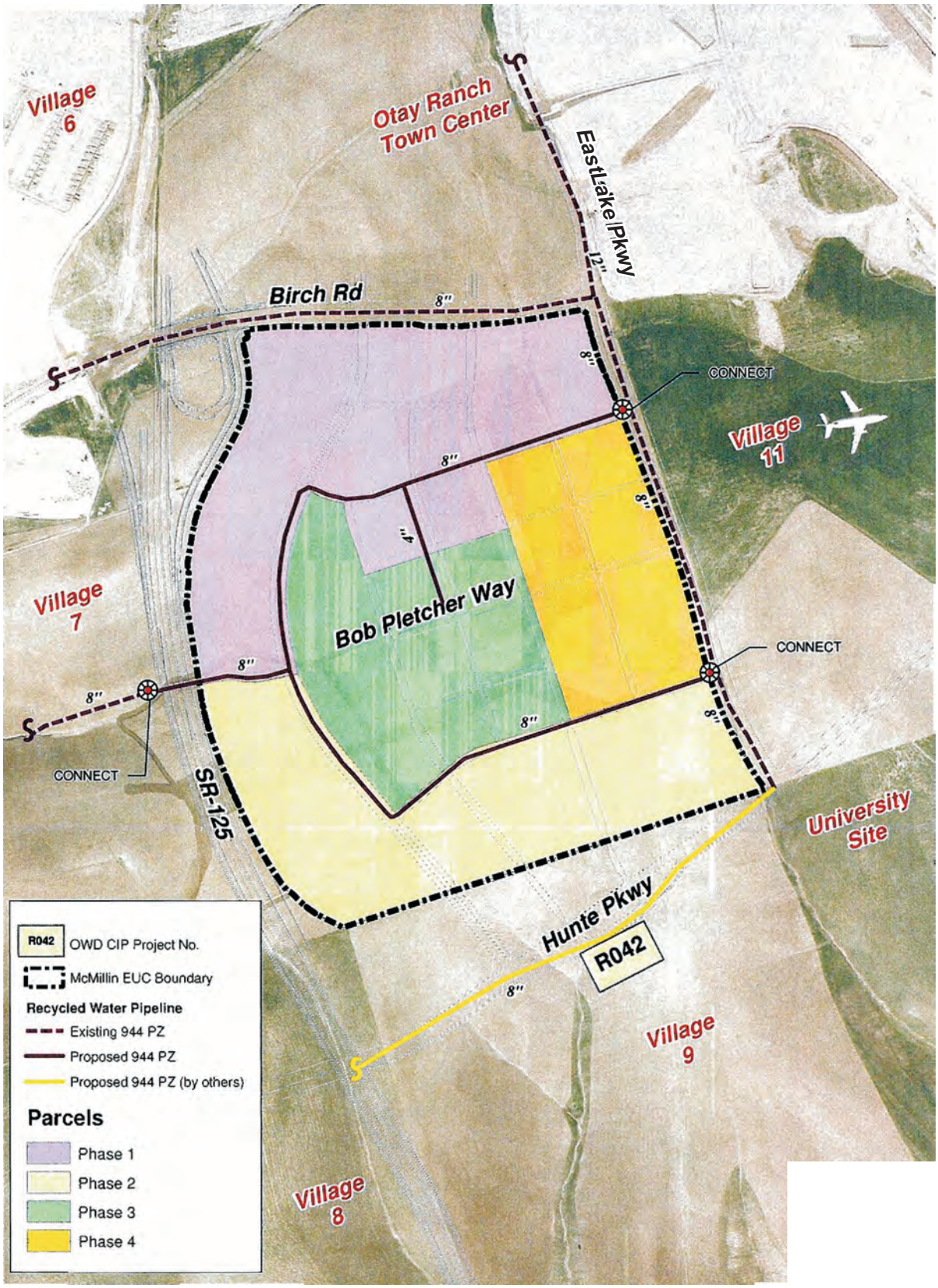
(1) Local Potable Water Supply

The proposed EUC development potential is consistent with the City of Chula Vista's 2005 General Plan Update. The total volume of residential and non-residential development is consistent with SANDAG's projections for the region. In turn, OWD uses SANDAG's regional development projections in their future water demand estimates.

According the WSA&V, the five-year increments for a 20-year projection indicate that projected water supply would meet the estimated demand of the OWD (38,774 acre feet in 2005 to 72,853 acre feet in 2025), per the 2005 UWMP. Based on dry year forecasts, the estimated water supply is also projected to meet single and multiple-dry year scenarios. On average, the dry year demands are approximately seven percent higher than normal demands. Under this model, the single-dry year scenario for 2010 is 53,299 acre feet and for multiple-dry years (beginning in 2007) ranges from 46,212 acre feet to 50,936 acre feet to meet demand.[47]

In determining the EUC's water demand according to WRMP methodology, the OWD applied established water duties to the proposed land use at ultimate development. Under this method, the average potable water demand for the proposed EUC SPA is projected to total

[47] *OWD, WSA&VR, page 3.*



No Scale

Figure 4.11-4
Recycled Water System

Source: PBS&J, 2009.

approximately 911,689 gpd.[48] OWD's July 2007 WSA&V report demonstrates that sufficient water supplies are available to meet this projected demand for a 20-year planning horizon, in single- and multiple-dry years.

To reflect the mixed-use nature of the project, the EUC Technical Water Study, provides an additional evaluation of the EUC's projected water demand according to more specific land uses, including the hotel and fire station. According to the TWS analysis of the EUC SPA project, the average water demand at buildout would be approximately 908,381 gpd. Water demand, phased over a 20-year period, is summarized in Table 4.11-15, *EUC's Potable Water Demand by Phase*, on page 4.11-84.

Due to the difference in demand methodologies between the OWD and the EUC's Technical Water Study, total water demand varies slightly. However, the EUC's estimated average daily total potable water demand (908,381 gpd) would not exceed the OWD's projections for the EUC SPA of approximately 911,689 gpd at project buildout, or the water demand forecasts of the OWD's 2005 UWMP.[49] Accordingly, the proposed project would not have a significant impact because sufficient water supplies are available to serve the project from existing entitlements and resources.

It should also be noted that the EUC SPA plan includes a Sustainability Element that includes a Water Conservation Program that identifies a series of water conservation techniques that will be implemented in the project. It is estimated that implementation of those techniques would save approximately 0.099 million gallons of water per day. Those savings are not reflected in the water demand figures contained in Tables 4.11-14 or 4.11-15.

(2) Local Recycled Water Supply

The EUC SPA project would use recycled water for landscape irrigation, including medians, parks, open space, and common landscaped areas. The primary benefit of using recycled water is that it would offset potable water demand. The projected recycled water demand for the proposed EUC SPA is shown in Table 4.11-16, *EUC SPA Projected Recycled Water Annual Average Demands,* on page 4.11-85. OWD's RWMP projected recycled water demand for the EUC SPA is approximately 81,880 gpd. As shown in Table 4.11-16, the project's recycled water demand would be approximately 63,861 gpd on an average annual basis.[50] The project's recycled water demand would not exceed the OWD's RWMP projected demand for the EUC SPA. As the project would not exceed the OWD's forecast, sufficient recycled

[48] *PBS&J, page 5.*

[49] *OWD, WSA&VR, page 9.*

[50] *PBS&J, Op.Cit., page 10.*

Table 4.11-15

EUC's Potable Water Demand by Phase

Land Use	Average Gallons Per Day	Maximum Gallons Per Day [a]	Peak Hour Gallons Per Day [b]
Phase 1			
Non-residential	50,951	152,853	356,658
Hotel	17,250	51,750	120,750
Residential	198,390	555,492	1,230,018
Total Phase 1	*266,591*	*733,126*	*1,599.547*
Phase 2			
Non-residential	39,586	118,758	277,101
Residential	246,075	664,403	1,451,843
Total Phase 2	*285,661*	*757,001*	*1,656,833*
Phase 3			
Non-residential	33,660	100,979	235,617
Residential	147,900	428,910	1,020,510
Total Phase 3	*181,560*	*522,891*	*1,243,683*
Phase 4			
Non-residential	6,270	18,809	43,887
Residential	168,300	479,655	1,077,120
Total Phase 4	*174,570*	*495,778*	*1,117,246*
All Phases Total	**908,381**	**2,225,534**	**4,632,743**

[a] *Maximum Day Demand Factors per OWD's WRMP, Figure 4-1.*
[b] *Peak Hour Demand per OWD's WRMP, Figure 4-2.*

Source: PBS&J, Eastern Urban Center Technical Water Study, January 2008.

water supplies would be available to serve the project. Therefore, the project would be less than significant with regard to Threshold 2.

(3) Regional Water Supply

Water suppliers in California have long recognized that regulatory and environmental issues including climatic change continue to present challenges and pose a degree of uncertainty as to future water supplies available from specific sources and overall delivery system (transmission and storage) reliability. Such issues represent one of the multiple reasons why both MWD and the SDCWA have substantially diversified their supply and storage capabilities and implemented the IRP in order to meet the needs of their respective constituencies.

Over past six months various state, regional and local water agencies have released a number of important documents and presentations addressing the reliability of California's future water supplies and/or as scheduled as part of the State Water Plan process. These include:

- Metropolitan's 2007 IRP Implementation Report, October 2007;

Table 4.11-16

EUC SPA Projected Recycled Water Annual Average Demands

Land Use	Area (acres)	Percent Irrigated [a]	Irrigated Acres	Demand (gpd)[b]
Mixed-Use (Commercial/Hotel/Residential)	143.2	10	14.3	30,853
Parks	12.8	100	12.8	27,562
Right-of-Way [c]	50.5	5	2.5	5,446
Total	**206.5**		**29.6**	**63,861**

a Percentage irrigated per OWD's WRMP, or approximately 2,155 gdp/ac.
b Total demand based on OWD's WRMP, with the exception of the right-of-way.
c Irrigated areas for right-of-way include landscaped medians, nor previously called out as parks.

Source: PBS&J, Eastern Urban Center Technical Water Study, page 10 (November 2007 – Update #3).

- San Diego County Water Authority Water Supply Reliability Presentation to City Council, member agencies and interested parties, October 2007;
- Final San Diego Integrated Regional Water Management Plan, Regional Water Management Group and Advisory Committee, November 2007;
- Governor's Blue Ribbon Task Force "Our Vision for the California Delta", January 2008;
- Water Authority & Semitropic-Rosamond Water Bank Authority Water Storage Agreement, January 2008;
- The State Water Project Delivery Reliability Report 2007, DWR January 2008;
- California Water Plan 2009 Draft Assumptions & Estimates, DWR January 2008;
- Metropolitan's Adopted Water Supply Allocation Plan, February 2008;
- Metropolitan's IRP White Paper on Future Water Use Efficiency, March 2008.

These public releases, both individually and collectively, support an underlying premise that with regard to resource development categories (e.g., regional and local supply sources, demand management measures, water marketing/transfers/groundwater banking/storage, etc.), significant challenges in some resource areas are likely to involve modifications in strategies and specific implementation approaches on others to reach long-term targets. Nevertheless, adequate water supplies are expected to be available to meet projected demands over the next 20 years as expressed in the current OWD, MWD and SDCWA UWMPs, and the WSA.

The SDCWA UWMP identified a diverse mix of water resources to be developed over the next 25 years to ensure long-term water supply reliability for the San Diego area and concluded that

if the SDCWA and its member agency supplies are developed as planned in conjunction with MWD's IRP, shortages through 2030 are not anticipated. The area, as all of coastal Southern California, is not reliant on a sole source of water supply. As described in the Updated UWMP, the SDCWA and its member agencies are continuing to diversify their composite supply mix. Reduced availability of one source, such as the SWP, can be offset by the extensive portfolio of options, actions and measures available to both the SDCWA and MWD. By 2030, less than 25 percent of the SDCWA's normal year water demands are expected to be met through Metropolitan deliveries from the SWP; a source that in several recent years has constituted up to one-half of total supplies to the region. MWD and its participating member agencies will be further refining their long-term resource development allocations in the forthcoming 2009 IRP Update.

To replace or supplement any long-term decrease in amounts from an existing supply source, the SDCWA has stated that, it is fully prepared to take additional local steps by increasing development of transfers, water banking and seawater desalination. Many of the SDCWA's member agencies are also prepared to further maximize development of local recycled water, groundwater and seawater desalination. With a successful conservation program already in place, many member agencies, including OWD, are prepared to implement supplemental extraordinary conservation measures to assist in ensuring reliability under severe drought conditions and/or emergencies. To complement these plans and further augment regional reliability, MWD identified an IRP water efficiency buffer of supplemental water resource options (e.g., accelerated seawater desalination, storm water banking, subsided demand reductions, enhanced groundwater recharge and recovery, etc.) that can be expanded if anticipated established supplies are not developed as planned. Effective management of these diverse resources through the IRP is essential to ensuring reliable supplies for Southern California are available throughout the next several decades.

C. Local Water Supply

The OWD, as a member agency of the SDCWA, is working with MWD toward updating the 2009 IRP. In addressing new supplemental water supply policies and actions in light of changing water circumstances facing Southern California, the updated Plan will refine an achievable, sustainable long-term implementation plan through 2030. A draft plan update is expected to be completed and released later this year with the final scheduled for adoption in mid-2009. Although the specific mix of multiple supply sources, facility completion timelines and measures will undergo further adjustments, the overall conclusion - that adequate water supplies will be available to meet the needs of the region and individual member agency demands throughout the planning period (2030) - is expected to remain valid.

Although OWD is not in a position to accurately quantify, with any degree of certainty, possible long-range impacts associated with SWP supply cutbacks on MWD and the SDCWA, OWD is confident that supply and demands through the planning horizon (2030) will remain balanced. As regional supply agencies possess multiple water management options to compensate for

shortfalls under a broad range of conditions, circumstances and periods of time, the diversity of Southern California water supplies, integration of alternative sources, storage and conveyance options, combined with built-in buffer and contingency demand management actions, will result in minimal adverse effect on supplies delivered to OWD, even under critical multiple-dry year conditions.

D. GCC Effects on Regional Water Supply

MWD's Regional UWMP indicates that its 2003 IRP planning process will help MWD adapt to climate change due to its focus on conservation and recycling, groundwater conjunctive use, transfer programs, and storage and conveyance facilities, such as Diamond Valley Lake and the nearly completed Inland Feeder. The 2003 IRP's water resource portfolio emphasizes diversification and adaptability of supply sources to manage uncertainties created by global climate change. The 2003 IRP also stresses local water supplies that are arguably less affected by global climate change. Moreover, it is MWD's goal to develop a 500,000 AF/YR buffer by 2025 composed evenly of both imported and local sources of supply.

MWD has also entered agreements to store water in groundwater reservoirs within and outside of Southern California, as described in the MWD's Regional UWMP. While not eliminating the risks created by global climate change, these actions should decrease the adverse impacts on MWD's water supplies. The aforementioned December 2007 ROD will also help to address potential global climate change impacts in the Colorado River by bringing clarity to how shortage conditions will be handled, and providing for additional storage in wet years. Furthermore, SDCWA's supply diversification efforts are a positive response to climate change concerns—particularly with regard to groundwater development, desalination, conservation, and recycled water—because they do not depend on precipitation patterns, and are local sources of supply.

Climate change due to warming is a global issue and is dependent upon worldwide Greenhouse Gas Emissions (GHG) levels. As such, the ability to estimate water supply impacts at the project or state level is dependent upon worldwide actions and controls that reduce GHG emissions. Although widespread consensus has developed that warming due to GCC is occurring, and that this warming could affect water supplies from the Colorado River and the SWP, the state of the science is still insufficient to make long-term projections that conclusively determine how climate change will impact water supply. Despite this uncertainty, however, long-term water planning by MWD, SDCWA, and the OWD to conserve water, improve reliability of local supplies, and increase the use of recycled water will allow MWD, SDCWA, and the OWD to adapt to changing climate in order to meet current and expected demand.

Threshold 3: *Impacts to potable water would be significant if the project would exceed the City's threshold standards which seek to ensure that adequate supplies of*

quality water, appropriate for intended use, are available. The standards require the following actions:

- *The applicant must request and deliver to the City service availability letters from the appropriate water district for each project;;*
- *The applicant is required to submit a Water Conservation Plan along with the SPA Plan application; and*
- *The project plans shall ensure an adequate supply of water on a long-term basis prior to the development of each Otay Ranch SPA.*

As required by the City, the Applicant shall provide service availability letters prior to issuance of each building permit. This requirement is incorporated into the project's Mitigation Monitoring and Reporting Program.

In addition, the EUC SPA's Sustainability Element incorporates a Water Conservation Plan to address water use during project construction and operation. The WCP provides an analysis of water usage requirements of the proposed project, as well as a detailed plan of proposed measures for water conservation, use of reclaimed water, other means of reducing per capita water consumption from the proposed project, and a program to monitor compliance. The goals of the WCP are as follows:

- To conserve water during and after construction;
- To comply with water conservation standards of the City of Chula Vista an OWD;
- To create a comprehensive framework for the design, implementation, and maintenance of water conserving measures, both indoor and outdoor; and
- To be economically efficient and cost effective.

The City has adopted formal guidelines for all large residential and non-residential projects subject to WCP requirements for the preparation and implementation of the required WCPs. The proposed project will comply with City of Chula Vista guidelines by requiring:

- Hot water pipe insulation (residential and non-residential uses);
- Pressure reducing valves (residential and non-residential uses);
- Water efficient dishwashers (residential only);
- At least one outdoor water conservation measure from the Residential or Non-Residential Water Conservation Measures List, as applicable; and

- At least one additional water conservation measure from either the indoor or outdoor categories of the Residential or Non-residential Water Conservation Measures List, as applicable.

In addition, the project will incorporate the following non-mandated conservation measures:

- Dual flush toilets (residential and non –residential uses);
- Water efficient landscaping (for all developer installed residential landscaping); and
- Evapotranspiration irrigation controllers (non-residential uses).

The project would also incorporate appliance efficiency regulations required by the State of California (CCR Title 20). These include maximum flow rates for all new showerheads, lavatory faucets, sink faucets, metering faucets in public restrooms, tub spout diverters, residential and commercial water closets, and flushometer valves. Also, under the EUC SPA Water Conservation Plan, the project would use recycled water in all common landscaped areas, in compliance with the recycled water requirements of the City of Chula Vista Landscape Manual and OWD ordinance. The use of recycled water would not reduce the irrigation demand for landscaping, but would reduce potable water demand. The total water conservation estimate for the EUC is 0.099 million gallons per day. As the EUC SPA would implement a Water Conservation Plan, it would be consistent with this threshold requirement.

Finally, and as discussed above under Threshold 2, the EUC's WSA&V report prepared by the OWD describes current and long-range storage capacity and ensures that the OWD would be able to absorb the EUC's forecasted growth. The WSA&V also provided documentation of entitlements and contracts, and a financial analysis of OWD's maintenance and future water supplies. The WSA&V report concludes that adequate long-term water supply will be available to the EUC SPA project. The Technical Water Study prepared by PBS&J also provides information that existing and OWD CIP off-site conveyance and storage facilities would be adequate to serve the EUC SPA project (see Appendix I).

As the EUC SPA Plan project would be required to provide service availability letters for each building permit, the SPA Plan has incorporated a Water Conservation Plan, and an adequate supply of water on a long-term basis has been documented by OWD's WSA&V report prior to the development of the SPA, the proposed project is consistent with the City's GMOC thresholds.

***Threshold 4**: Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding water supply thereby resulting in a significant physical impact.*

Table 4.11-17, *Project Consistency with Applicable General Plan Water Service Policies,* on page 4.11-90 evaluates the consistency of the project with the applicable General Plan

Table 4.11-17

Project Consistency with Applicable General Plan Water Service Policies

Applicable Policies	Evaluation of Consistency
LUT 62.1	The proposed SPA is consistent with this General Plan objective and Policy 62.1 because the Sustainability Element includes a Water Conservation Plan. The Water Conservation Plan addresses State, Federal and local water conservation requirements as well as on-site water conservation measures and estimated savings.
PFS 1.1	The EUC SPA is consistent with this General Plan objective and policy PFS 1.1. A Water Supply Study and Water Supply Assessment and Verification Report (WS&V Report) have been prepared by OWD for the project. The Assessment outlines the source and quantity of potable and reclaimed water for the next 20 years, and the WSA&V Report bases future water demand estimates on SANDAG's regional growth forecasts. Prior to final map, the applicant will be required to prepare a Subarea Master Plan (SAMP) for both potable and reclaimed water, which demonstrates that adequate facilities and capacity is available to serve the EUC. Future builders within the EUC will be required to demonstrate water service availability through the building permit process. The PFFP prepared for the EUC identifies funding mechanisms and the timing required to construct public facilities and infrastructure associated with the EUC.
PFS 2.3	The EUC SPA is consistent with this General Plan objective and policy 2.3. No significant natural landforms occur on-site, and no water bodies occur on-site. The proposed water distribution facilities would be placed underground. No new water storage facilities are required for the proposed project.
H2.1	The EUC SPA is consistent with this General Plan policy because it contains a Water Conservation Plan that addresses water use efficiency. See also the analysis under Threshold 3.

Source: PBS&J, Eastern Urban Center Technical Water Study (November 2007 – Update #3).

objectives. As shown in Table 4.11-15, the project would be consistent with applicable water supply policies.

Furthermore, as discussed in Section 4.11.4.A, the General Plan includes Objective GM-1 that contains policies that demonstrate Chula Vista's commitment to ensuring adequate public services commensurate with need. Specifically, this objective:

- Calls for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and

- Establishes the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide adequate water services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met.

4.11.6.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The impact to water storage and pumping facilities would be significant if construction of facilities does not coincide with anticipated growth. The increase in demand for water would not have a significant impact on the ability of OWD to provide service to the proposed project.

As fire flow requirements are a function of the size and materials of structures, and no structure locations or specifications are available at this time, fire flow pressure requirements are not known at this time and could be significant.

4.11.6.5 MITIGATION MEASURES

4.11.6-1 Prior to issuance of each building permit, the permit applicant shall deliver to the City service availability letters from the appropriate water district.

4.11.6-2 Prior to approval of the first final map, the applicant shall provide a Sub-Area Master Plan (SAMP) to the Otay Water District. Water facilities improvements shall be financed or installed on-site and off-site in accordance with the fees and phasing in the approved PFFP and SAMP. The SAMP shall include, but shall not be limited to:

- Existing pipeline locations, size, and capacity;
- The proposed points of connection and system;
- The estimated water demands and/or sewer flow calculations;
- Governing fire department's flow requirements (flow rate, duration, hydrant spacing, etc);
- Agency Master Plan;
- Agency's planning criteria (see Sections 4.1 through 4.3 of the Water Agencies Standards);
- Water quality maintenance; and
- Size of the system and number of lots to be served.

4.11.6-3 Prior to approval of the first final map, the applicant shall obtain OWD's approval of the Sub Area Master Plan (SAMP) for both potable and recycled water. Any on-site and off-site facilities identified in the SAMP required to serve a final mapped area shall be secured or constructed by the applicant prior to the approval of the final map.

4.11.6.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation Measures 4.11.6-1, 4.11-2, and 4.11.6-3 would reduce potential water supply impacts to below significance.

4.11.7 WASTEWATER

This section describes existing wastewater conveyance and treatment systems serving the project area and addresses the adequacy of these systems and proposed improvements to accommodate wastewater associated with the proposed project. The analysis is based on the *Eastern Urban Center Technical Sewer Study (TSS),* prepared by PBS&J (January 2008) and the addendum to that report dated May 8, 2008, contained in Appendix J of this Draft EIR.

4.11.7.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) City of Chula Vista General Plan

The Chula Vista General Plan recognizes that to ensure adequate and reliable sewer service and facilities, services need to be maintained and expanded as the City's population grows. The General Plan sets forth the following wastewater policies that may be applicable to the proposed project's demand increase:

Objective PFS 1 – Ensure adequate and reliable water, sewer, and drainage services and facilities.

Policy

PFS 1. 2 – Plan for adequate systems and facilities to manage the City's wastewater generation, treatment, and disposal.

Objective PFS 2 – Increase efficiencies in water use, wastewater generation and its reuse, and handling of storm water runoff throughout the City through use of alternative technologies.

Policy

PFS 2.3 – In designing water, wastewater, and drainage facilities, limit the disruption of natural landforms and water bodies. Encourage the use of natural channels that simulate natural drainage ways while protecting property.

Objective GM 1 – Concurrent public facilities and services.

Policy

GM1.11 Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

(2) Wastewater Master Plan

The *City of Chula Vista Wastewater Master Plan* was adopted in May 2005 for the purpose of evaluating the capacity of the City's sewer system, assessing the condition of existing pump station facilities, developing a capital improvement plan (CIP) for rehabilitation and expansion of the collection system, and recommendation of a revised capacity charge. The 20-year CIP includes the recommended system improvements to address existing and projected demand at the City's build out. Future City flow estimates, based on current (2005) growth projections, indicate that the City would exceed the existing (or increased to 20.870 mgd) share in the Metropolitan Wastewater District (METRO) system by 2010. As such, the wastewater generation analysis presented in the Wastewater Master Plan is intended to be used by the City to establish a basis for future METRO capacity acquisitions to allow for the implementation of the City's General Plan Goals.

The Wastewater Master Plan also presents the methodology and findings of the sewer capacity evaluation, including summaries of hydraulic computer model analyses used to present findings of existing pump station assessments and recommended facility improvements. Sewer system design standards under the Wastewater Master Plan are based on the City's Subdivision Manual Section 3-300 in which wastewater unit generation rates for use in design of sewer improvements are shown in Table 4.11-18, *Wastewater Master Plan Recommended Sewer Design Unit Generation Rates,* on page 4.11-95.

(3) Zoning Code and GMOC Ordinance

In accordance with Zoning Code Section 19.80.030, development is not permitted in the City of Chula Vista that would degrade existing public services and facilities below acceptable standards for public services and utilities. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040G specifically requires that "that sewage flows and volumes shall not exceed City engineering standards as set forth in the subdivision manual." In addition the City must annually provide METRO with a 12- to 18-month development forecast and request confirmation that the projection is within the City's purchased capacity rights and an evaluation of their ability to accommodate the forecast and continuing growth, or the City Engineering Department staff shall gather the necessary data. The information provided to the GMOC must include the following:

- Amount of current capacity now used or committed;
- Ability of affected facilities to absorb forecast growth;
- Evaluation of funding and site availability for projected new facilities;
- Other relevant information.

Table 4.11-18

Wastewater Master Plan
Recommended Sewer Design Unit Generation Rates [a]

Land Use	Unit Generation Rate
Residential (R-1 and R-2)	265 gpd per dwelling unit
Residential (R-3 and MHP)	199 gpd per dwelling unit
Commercial/Industrial/Institutional	2,500 gpd per acre
Parks	500 gpd per acre

[a] *Based on the Chula Vista Subdivision Manual – Sewer Design (Appendix N of the Wastewater Master Plan).*

The growth forecast and authority response letters are to be provided to the GMOC for inclusion in its review. Section 19.09 also requires a Public Facilities Financing Plan (PFFP) and the demonstration that utilities, such as sewers, meet the GMOC quality of life threshold standards. The analysis of sewer services provided in this section, along with the PFFP are intended to ensure funding for any needed expansion of sewers and to confirm that wastewater services will be provided commensurate with development and demand.

B. Existing Facilities

The City of Chula Vista operates and maintains it own sanitary collection system that connects to the City of San Diego's Metropolitan Sewerage System (METRO). The METRO system operates three wastewater treatment plants: (1) the Point Loma Wastewater Treatment Plan (PLWTP), (2) the Southbay Water Reclamation Plant (SBWRP), and (3) the North City Water Reclamation Plant (NCWP). Currently, the three combined treatment plants have a maximum permitted treatment capacity of 285 million gallons per day of wastewater for the City of San Diego and 15 other participating agencies. All wastewater within the Otay Ranch area will eventually be conveyed to either the Poggi Canyon or Salt Creek Sewer Interceptors that discharge into the METRO system. The wastewater is ultimately treated by the City of San Diego at the Point Loma Wastewater Treatment Plant (PLWTP). The PLWTP currently treats approximately 175 million gallons of wastewater each day for the City of San Diego and 15 other cities and districts in the region, and has a maximum daily treatment capacity of 240 million gallons. METRO also operates the South Bay Water Reclamation Plant (SBWRP), which is located in the Tijuana River Valley, southwest of the Interstate-5 (I-5) freeway. The reclamation plant relieves the South Metro Sewer Interceptor System and provides local wastewater treatment services and reclaimed water to the South Bay. The plant opened in May 2002 and has a wastewater treatment capacity of 15 million gallons per day (mgd). METRO currently has adequate sewage treatment capacity to serve the region until approximately 2025.[53]

[53] *Easter Urban Center Technical Sewer Study, Update # 3, page 2 (January 2008).*

The City of Chula Vista currently has wastewater treatment capacity rights of 19.843 mgd in the METRO System. Furthermore, according to City staff, the City will be allocated 1.02 mgd of additional capacity through a re-rating system, resulting in a total allocation of 20.864 mgd. The additional allocation will be ratified by the end of this year. The City currently generates an average flow of approximately 17 mgd; therefore, the City has remaining capacity of approximately 3.864 mgd. However, according to the Chula Vista Wastewater Master Plan, the City will require 6.33 mgd of additional capacity for the General Plan Update preferred alternative by 2030.

4.11.7.2 THRESHOLDS OF SIGNIFICANCE

The following thresholds are based on Appendix G, Environmental Checklist of the CEQA Guidelines and City of Chula Vista Engineering Standards.

Threshold 1: *The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the providers existing commitments;*

Threshold 2: *The project would require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of would cause significant environmental effects;*

Threshold 3: *Sewage flows and volumes shall not exceed City Engineering Standards: (1) 75 percent of capacity for mains over 12 inches and 50 percent of capacity for mains 12 inches and smaller; and (2) a cleaning velocity of 2 fps, or a minimum slope of 1 percent.*

In addition to the above thresholds, impacts to water supply would be significant if the proposed project would:

Threshold 4*:* *Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding water supply thereby resulting in a significant physical impact.*

4.11.7.3 IMPACT ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area and PCSI Area are related to short-term construction activities. Threshold 1 is not applicable to these off-site construction activities because these would not generate wastewater or demand for wastewater facilities. The SCSL Improvement and PCSI are analyzed under Thresholds 2 and 3. Because the SSA would not generate population or wastewater, nor would involve the improvement to a wastewater facility, none of the thresholds are applicable to the SSA.

Threshold 1: *The project would result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the providers existing commitments.*

A. EUC SPA Plan Area

The design criteria used to determine wastewater flow is based on the 2002 Chula Vista Subdivision Manual criteria for residential and commercial uses. Wastewater generation for residential uses is based on a factor of 265 gpd/equivalent dwelling unit (EDU).[54] A single-family residence is equivalent to one EDU and a multi-family residence is equivalent to 0.75 EDU. Non-residential wastewater generation rates are based on a factor of 2,500 gpd/acre. This is converted to square feet and multiplied by a 0.8 gross-to-net floor factor to account for non-buildable areas.[55] Therefore, a generation rate of 0.072 gpd/square foot (sf) is used for non-residential land uses. The project's sewer generation according to proposed land uses is shown in Table 4.11-19, *Project Sewer Generation by Land Use*, on page 4.11-98.

As shown in Table 4.11-19, residential uses would account for 592,871 gpd, and commercial floor area would account for 237,747 gpd. All uses, including the fire station, hotel, and parks, would total 851,504 gpd of wastewater generation.

Chula Vista has wastewater treatment capacity rights of 19.843 mgd in the METRO System. However, according to City staff (Wastewater Engineering Section), the City has been allocated an additional 1.02 mgd of treatment capacity through a re-rating system, for a total allocation of 20.864 mgd. The additional allocation is expected to be ratified at the end of 2009. The City currently generates an average flow of approximately 17 mgd; therefore, the City of Chula Vista has a remaining capacity of approximately 3.864 mgd in the METRO system.

The development of the EUC SPA Plan would be consistent with the growth anticipated by the Otay Ranch GDP (approximately 3.487 million square feet of commercial floor area and 2,983 multi-family residential units) and General Plan. However, the City has committed most of its existing sewage treatment capacity to existing developments. With a limited amount of treatment capacity remaining, the City is working on a variety of alternatives that would provide additional treatment capacity in order to serve all of the anticipated development within City limits. While City staff anticipates the approximately 851,504 gpd generated by the proposed EUC project can be accommodated within existing capacity at this time, the EUC flow, combined with additional flows from other projects currently under consideration, could result in the City exceeding its allocated treatment capacity rights depending on the rate of development within the City. Therefore, building permits for any project in the City will be issued only if the City Engineer at that time has determined that adequate treatment capacity exists. As no development would occur in the

[54] *PBS&J, Eastern Urban Center Technical Sewer Study Update #3, page 5 (January 2008).*

[55] *PBS&J, op. cit., page 6.*

Table 4.11-19

Project Sewer Generation by Land Use

Use	Non-Res.	Residential	Generation Rates Non-Res.	Generation Rates Residential	Total Sewer Demand (gpd)
Commercial	3,314,000 sf	n/a	0.072 gpd/sf	n/a	237,747
Fire Station	18,000 sf	n/a	0.072 gpd/sf	n/a	1,291
Hotel	155,000 sf	150 rooms	88 gpd/sf	n/a	13,200
Multi-family residential		2,983 units		199 gpd/ multi-family DU	592,871
Parks & Fountains	12.8 acres	n/a	n/a	n/a	6,395
Total					**851,504**

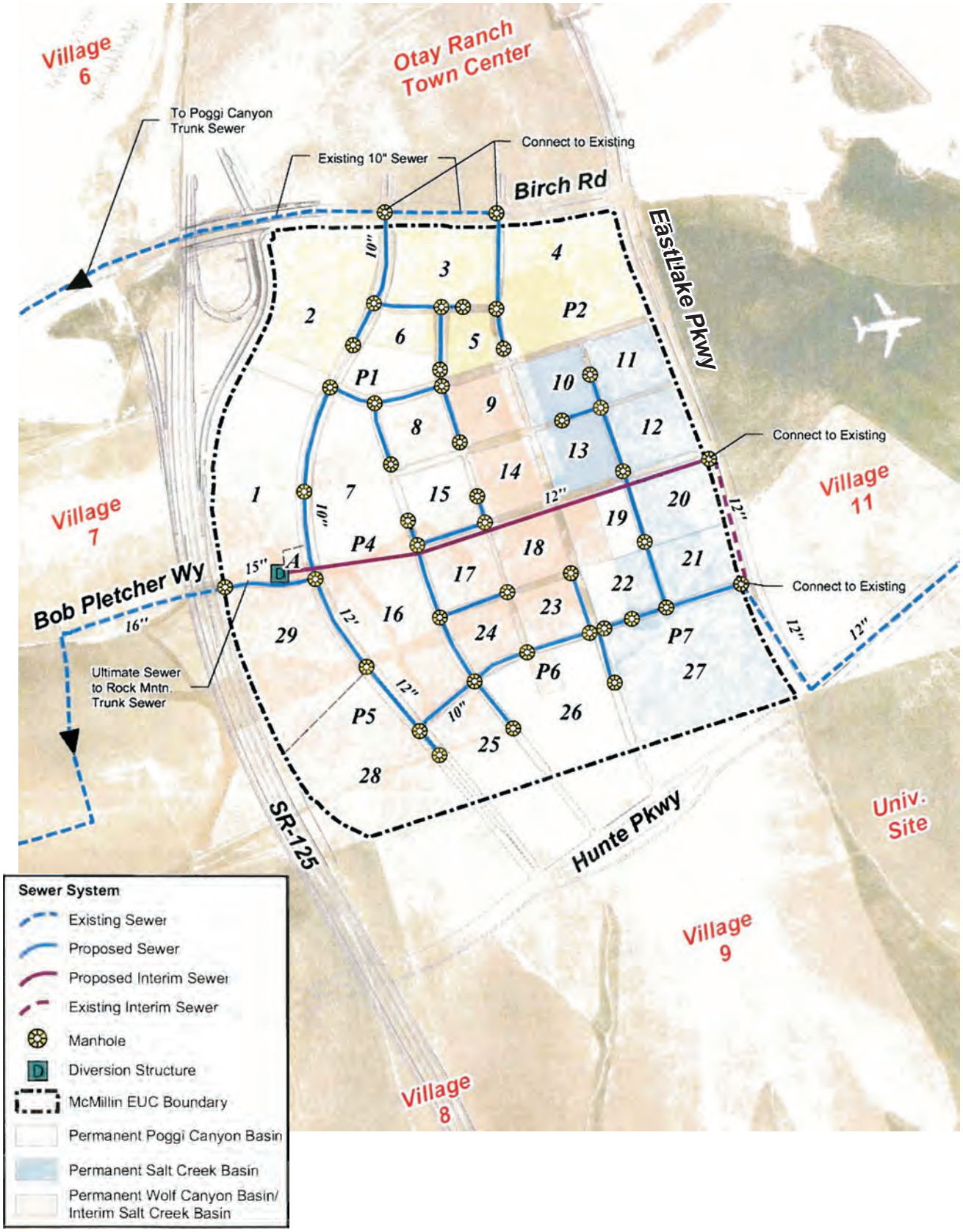
Source: PBS&J, Eastern Urban Center Technical Sewer Study, Table 3 (January 2008 – Update #3).

absence of adequate treatment capacity, the proposed project would have a less-than-significant impact on committed or future wastewater treatment capacity.

Threshold 2: *The project would require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of would cause significant environmental effects.*

A. EUC SPA Plan Area

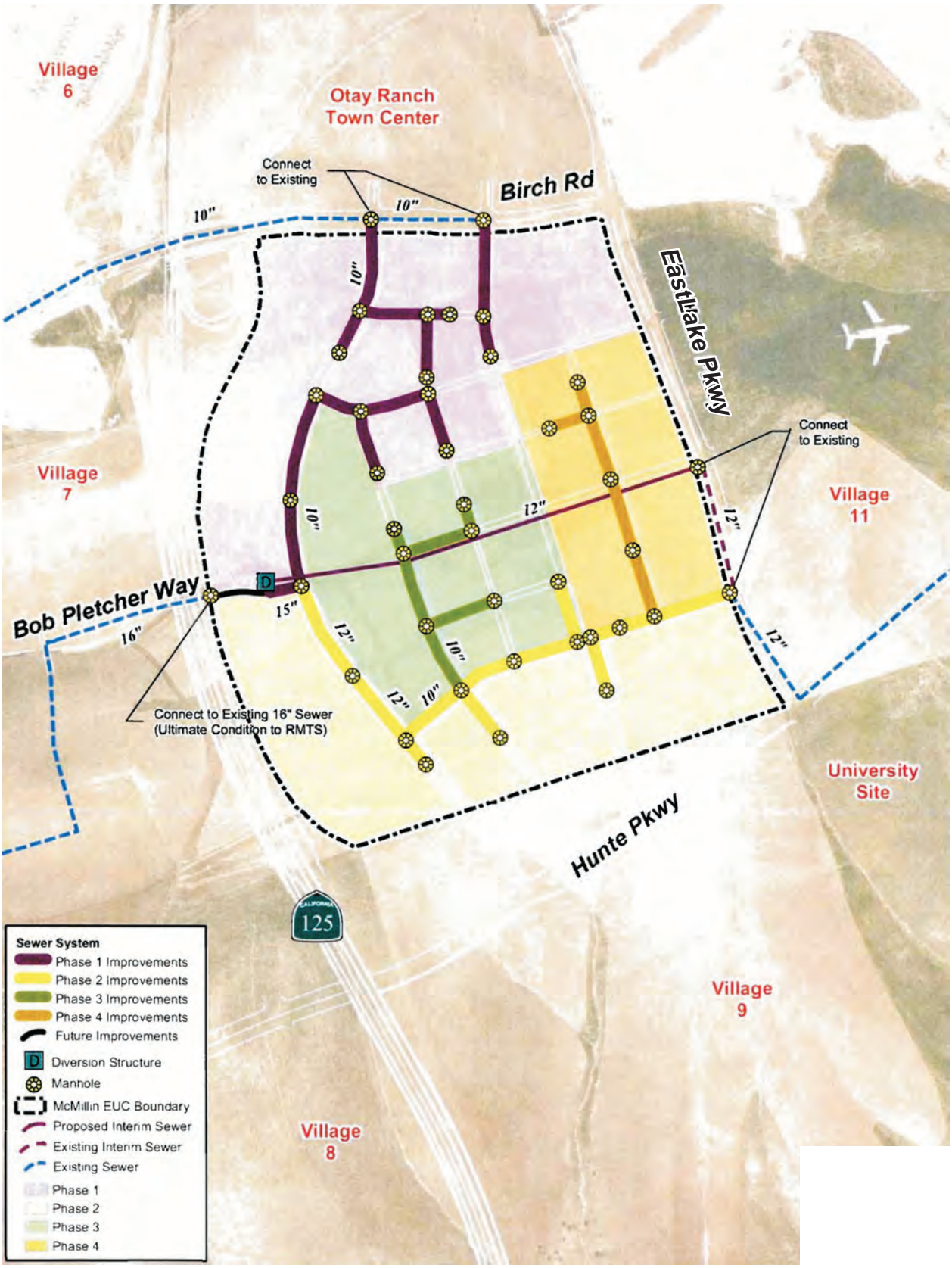
Construction of new on- and off-site wastewater conveyance lines that would contribute to or expand existing facilities would be required for the operation of the proposed project. The on-site sewer system is expected to consist of 8- to 15-inch diameter pipes, depending on the projected flows, available grade, and anticipated land use. Several currently planned on-site sewer lines may also need to be extended during final engineering to accommodate development of the individual blocks at multiple or alternative connection points. This system is described in greater detail under Subsection (3), Threshold 3, below. Figure 4.11-5, *On-Site Sewer System*, on page 4.11-99 illustrates the location of the proposed on-site sewer system. Figure 4.11-6, *On-Site Sewer Facility Phasing Program*, on page 4.11-100 illustrates the proposed on-site sewer facility phasing program. Figure 4.11-7*, Allowable EDU's in the On-site Sewer System*, on page 4.11-101, illustrates the maximum corresponding EDU's to be conveyed by, and allowed within each sewer segment. Table 4.11-20, *Piping Required by Block*, on page 4.11-102 lists the piping required by block. As described in Section 3.0, two grading options are being considered for the proposed project. The location and depth of the on-site sewer lines would vary slightly between the two options. No additional impacts to the on-site sewer system would result from the grading options. Exhibits for the grading options are provided in the TSS.



NO SCALE

Figure 4.11-5
On-Site Sewer System

Source: PBS&J, 2009.



NO SCALE

Figure 4.11-6
On-Site Sewer Facility Phasing Program

Source: PBS&J, 2009.

PCR

0 500 1000 Feet

Source: PBS&J, 2009.

Figure 4.11-7
Allowable EDUs in the On-Site Sewer System

Table 4.11-20

Piping Required by Block

Block	Pipe(s) Required	Total Length (ft)
1	P13, P14, P15, P39	3,182
2	P1, P5	666
3	P3, P4, P5	1,004
4	P6, P7	694
5	P2, P3, P4, P5	1,370
6	P1, P2, P12 – P15, P39	4,317
7	P13 – P15, P39	3,182
8	P10 – P15, P39	4,380
9	P8 – P15, P39	5,054
10	P30 - P34, P38	2,326
11	P30, P32 – P34, P38	1,980
12	P33 - P34, P38	1,235
13	P34 - P35, P39	1,225
14	P27, P29, P25, P26, P20, P22, P23, P15, P39	5,654
15	P22 – P26, P20, P15, P39	5,298
16	P22 – P23, P15, P39	3,669
17	P26, P20, P22, P23, P15, P39	4,531
18	P29, P28, P20, P22, P23, P15, P39	4,939
19 (WC)	P16 - P18, P20, P22, P23, P15, P39	5,222
19 (SC)	P34, P38	843
20	P34, P38	843
21	P34, P38	843
22 (SC)	P36, P38	881
23	P17, P18, P20, P22, P23, P15, P29	4,876
24	P20, P22, P23, P15, P39	4,131
25	P19, P20, P22, P23, P15, P39	4,533
26	P35 – P8	1,263
27	P35 – P8	1,263
28	P21 – P23, P15, P39	2,629
29	P23, P15, P39	3,291
Fire Station	P14, P15, P39	2,694
Hotel	P12 - P15, P39	3,748
P1	P6, P7	694
P3	P28, P25, P26, P20, P22, P23, P15, P39	5,371
P2	P15, P39	2,619
P6	P23, P15, P39	3,291
P5	P18, P20, P22, P23, P15, P39	4,458
P4	P37, P38	613

Source: PBS&J, Eastern Urban Center Technical Sewer Study, January 2008, Update #3.

Off-site sewer improvements would be required in the PCSI Area and the SCSL Improvement Area. Improvements to the PCSI require the replacement of an existing 18-inch line with a 21-inch line to increase line capacity at Reach P270, downstream from the project site. The proposed replacement would occur at the same location as the existing 18-inch sewer pipeline (the westbound lane #1 of Olympic Parkway at Brandywine Avenue). To remove the existing pipeline, an excavation trench of approximately 8-feet wide and 14-feet deep would be needed. The replacement sewer, which would connect at the two existing manholes at the same elevation and slope as the existing pipe, would require reconstruction of the internal flow channel in each manhole. However, replacement of the manholes is not anticipated. A temporary by-pass pumping system to pump existing sewer flows from an upstream manhole to a downstream manhole is expected during construction. The construction period is expected to take five to seven days. A large portion of the SPA Plan would drain to the Salt Creek Interceptor through the future Rock Mountain Trunk Sewer (RMTS). Until construction of the RMTS is completed (by others), the Applicant proposes to install an interim line in the Salt Creek trunk sewer system. The Applicant would install a 173-foot, 15-inch diameter sewer line to the Salt Creek trunk sewer to serve the fully-developed tributary area. The 15-inch pipeline would be constructed adjacent to the existing 12-inch sewer installed to serve the Otay Ranch Village Eleven subdivision. Upon completion of the 15-inch sewer and connection to the Salt Creek trunk sewer, the existing 12-inch sewer would serve to provide emergency backup in case of blockage within the 15-inch sewer, thereby significantly reducing the possibility of sewer overflow and spillage into the preserve.

The proposed sewer pipeline would be installed using conventional open trench excavation for portions of the length of the pipeline, and would use a boring and jacking method of construction for the portions of the pipeline traversing sensitive wetland resources to avoid impacts to these areas. The SCSL Improvement would include the installation of two additional manholes and tie-ins to the existing manholes along the existing 12-inch line and at the SCSL Improvement Area. Modification to the upstream manhole would include the capability to split the sewer flows between the 12-inch and 15-inch parallel pipelines, thus providing redundancy in the event of blockage within the 15-inch sewer. Modification to the Salt Creek manhole would also be necessary to connect the new 15-inch pipeline to the existing 24-inch Salt Creek line.

To install the proposed 15-inch pipeline, a 70-foot wide staging area (40 feet on one side of the proposed pipe centerline and 30 on the other) would be cordoned off on the northern upstream end of the proposed pipeline. The southern downstream end of the proposed pipeline would encompass a cordoned off 80-foot wide staging area (40-feet on each side of the proposed pipe centerline). Within the upstream staging area (70 feet x 150 feet) a pit approximately 12 feet wide, 40 feet long, and 12 feet deep would be excavated to contain the 36-inch boring and jacking apparatus. Within the southern downstream staging area (80 feet x 100 feet), a pit 8 feet wide, 16 feet long, and 12 feet deep would be excavated to contain the 36-inch boring and jacking receiving apparatus. Once the 36-inch pipe is successfully installed over the course of the entire 173-foot span, a 15-inch pipe would be fitted within the 36-inch pipe and secured with adjustable spacers. The spacers would then be adjusted to allow the correct amount of fall to enable the sewer to flow throughout the pipe.

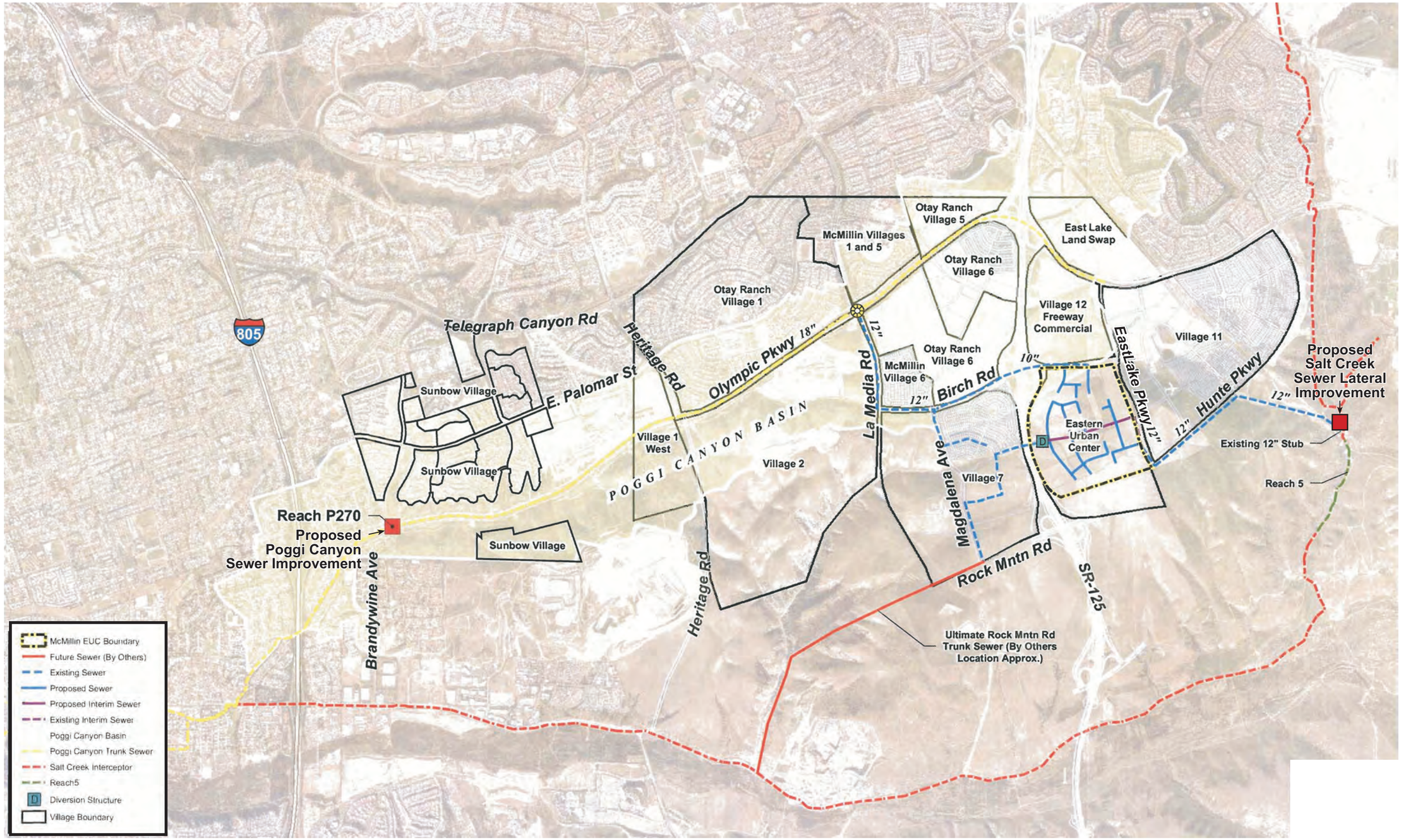
The new sewer would connect at the two existing manholes at the same invert elevation and slope as the existing pipe and would require reconstruction of the internal flow channel in each existing manhole. Replacement of the manholes is not anticipated. A temporary by-pass pumping system to pump existing sewer flows from an upstream manhole to a downstream manhole using a temporary highline is expected during construction for the SCSL Improvement. The highline would consist of one or two 4-inch diameter flexible pipes laid on the ground surface which would not involve any excavation or surface disturbance. In addition, by-pass pumping system redundancy would be provided in case of failure of the primary system in order to prevent sewage spillage into the preserve and other environmentally-sensitive areas. The site would be temporarily accessed on existing dirt and paved roads. The SCSL Improvement Area and PCSI Area are illustrated in Figure 4.11-8, *Off-Site Sewer System*, on page 4.11-105. The impacts of these construction projects are evaluated in applicable sections of this EIR, including but not limited to Section 4.6, Cultural Resources, and Section 4.7, Biological Resources.

Construction of on- and off-site site sewer lines has the potential to generate vehicle and equipment emissions and dust, increase noise levels, impact undiscovered cultural resources, and cause contamination of groundwater and erosion. These issues have been addressed as part of the construction analyses presented in Sections 4.4, Air Quality; 4.5, Noise; 4.6, Cultural Resources; 4.7, Biological Resources; and 4.9, Hydrology/Drainage, of this EIR. Mitigation measures are proposed in these sections to reduce construction impacts of on- and off-site sewer lines to less-than-significant levels.

As discussed in Section 4.11.7.1.B, the General Plan includes Objectives PFS 1, PFS 4, and GM-1 that contain policies addressing the need for the City to ensure adequate and reliable sewer service and facilities and the authority of the City to deny development for projects not in compliance with those standards. Specifically, these objectives and policies:

- Require that the City provide long-term wastewater treatment capacity to meet the needs of existing and new development in Chula Vista (PFS 4),
- Call for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and,
- Establish the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

As previously discussed under Threshold 1, the proposed project could require sewage treatment capacity beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Implementation of respective General Plan policies would ensure that treatment capacity would be provided by the City; however, the means by which additional treatment capacity would be acquired is unknown. The City's options include the acquisition of



N
No scale

Source: PBS&J, 2009.

Figure 4.11-8
Off-Site Sewer System

treatment capacity from a METRO member agency, including the City of San Diego, or construction of a Chula Vista treatment facility. Final determination on the means by which additional treatment capacity would be acquired has not yet been made. As the location and scope of construction for any newly developed treatment facilities are unknown, and the development of treatment capacity beyond the City's existing and allocated capacity may result in impacts on the environment, it is conservatively concluded that a potentially significant environmental impact associated with construction of new or expanded treatment facilities may occur.

Threshold 3: *Sewage flows and volumes shall not exceed City Engineering Standards: (1) 75 percent of capacity for mains over 12 inches and 50 percent of capacity for mains under 12 inches; and (2) a cleaning velocity of 2 fps, or a minimum slope of 1 percent.*

A. On-Site Sewage Collection System

The proposed on-site sewer collection system and pipe sizing has been designed according to the EUC's Option 1 grading plan, assigned land use classifications, maximum square footage, and dwelling unit count. The preliminary grading analysis of the project shows that the northern blocks of the EUC would drain toward the north. The eastern portion of the project would drain by gravity to Eastlake Parkway and a large portion of the remaining project would be graded to drain to a centrally-located diversion structure located near the intersection of Bob Pletcher Way and Street A. The large portion of the EUC (currently located in the Wolf Canyon Drainage) would eventually drain via this diversion structure to the existing sewer in Village Seven and, ultimately, to the future Rock Mountain Trunk Sewer (RMTS). The three on-site sewage collection systems are illustrated in the previously referenced Figure 4.11-5. In accordance with the grading and land use plan, average and peak flow projections have been made to allow for alternative densities and multi-story buildings, according to adjusted Subdivision Manual Criteria. Detailed calculations for the on-site sewer system are provided in Appendix B of the Technical Sewer Study,[56] contained in Appendix J of this EIR. As the EUC has the potential to develop in a variety of ways, with a different ratio of residential/non-residential land uses, a change in specific locations of future high-rises, and variations in localized density, the preliminary on-site sewer system has been sized to accommodate changes in land use densities and location. Flow projections are based on the adjusted Subdivision Manual Criteria and ranked from highest to lowest to allow the maximum or minimum flow to accommodate changes in land use densities and locations. Maximum flow reflecting changes in land use have been calculated to determine the adequacy of lines and minimum flow conditions are evaluated to determine if the pipe sizes are adequate to convey minimum flows while maintaining a cleansing velocity of two feet per second. Steps used to determine maximum and minimum conditions are described in the previously referenced Technical Sewer Study. The Technical Sewer Study acknowledges that several on-site lines may need to be relocated (with respect to the existing preliminary plan) during final engineering to accommodate development of the individual blocks at multiple or alternative connection points. The design of the

[56] *PBS&J, op. cit., pages 7 and 8.*

proposed on-site system would be required to comply with the existing Subdivision Manual, Section 3 (General Design Criteria) and would be subject to review by the City's Engineering Department. Compliance with regulatory design criteria would ensure that on-site lines would not exceed 75 percent of pipe capacity for pipes greater than 12 inches in diameter or 50 percent for pipes 12 inches or less in diameter. Therefore, the project would be less-than-significant with respect to this threshold requirement.

B. Off-Site Sewage Collection System

(1) Off-Site Poggi Canyon Sewer Improvement Area

Detailed analysis of the off-site sewage collection system and potential impacts to each sewer drainage basis are provided in the TSS attached in Appendix J of this EIR.

The current preliminary Grading Analysis of the proposed project shows that the northern blocks of the EUC (Blocks 2 through 6 and Park P1), would drain north to an existing 10-inch gravity sewer in Birch Road, where wastewater would be conveyed to the Poggi Canyon Trunk Sewer (PCTS) The *Poggi Canyon Sewer Basin Plan Update and Pumped Flow Analysis* (PBS&J, May 2002), which determined the number of committed and future EDUs in the PCTS found that Reaches P205 and P270 were the most critical in the PCST system. Since the study, Reach P205 has been replaced, leaving Reach P270, located at the intersection of Olympic Parkway and Brandywine Avenue, as the remaining critical reach. Based on the City's Subdivision Manual Criteria of 265 gpd/EDU and a flow of 75 percent of system capacity, a 21-inch replacement for Reach 270 is determined sufficient to serve the interim and ultimate worst case flow conditions for the maximum land use plan in the north sector of the EUC, including the potential for shifts in land use densities and ultimate flow conditions for the maximum land use plan.[57] As demonstrated in the Technical Sewer Study, the maximum condition, which includes 464 EDUs (122,960 gpd) from Village Seven and 580 EDUs (153,700 gpd) from the EUC, would increase tributary units to 14,236 EDUs. The resulting rate of 6,262,416 gpd would increase the flow in the Poggi Canyon system to 67.6 percent of capacity, which would be less than the 75 percent threshold. Reach P270 (the PCSI) is proposed to be replaced as part of the EUC project with design plans to be complete prior to the approval of any Final Maps for any areas in the EUC within the Poggi Canyon Basin, and construction to be completed prior to first occupancy of units that would utilize the PCTS. Mitigation measures are recommended to ensure that improvements would be completed in a manner acceptable to the City Engineer. With the completion of the proposed improvement, the proposed project would have a less-than-significant impact with respect to the capacity of the PCTS. Therefore, the project would not exceed the threshold capacity in this system.

[57] *PBS&J, op. cit., page 13.*

(2) Off-Site Salt Creek Lateral Improvement Area

The majority of the EUC SPA Plan would drain to the Salt Creek Interceptor through the Rock Mountain Trunk Sewer (RMTS). However, until the construction of the off-site RMTS by others, sewage from the southern portion of the EUC SPA Plan would flow on an interim basis to the Salt Creek Interceptor to the east of the EUC SPA Plan. The recently constructed 12-inch sewer system is designed to accommodate up to 2,455 EDUs at 265 gpd/EDU from the EUC SPA Plan until such time that the RMTS can be constructed. From the connection point at Exploration Falls Drive, the combined flows from the EUC SPA Plan and Village Eleven Phase 3, a portion of the University Site and High Tech High School sites would flow to the Salt Creek Interceptor through the Village Eleven Lateral. In order to increase the capacity of this system, the addition of the new, parallel 15-inch sewer would accept flows from all developments, and meet the City's Subdivision Manual design criteria. Should this interim facility be built, a section of the existing 12-inch system would temporarily flow at 63.7 percent of capacity, but ultimately less than 50 percent once the RMTS is constructed and units within the Wolf Canyon Basin are switched to flow into the RMTS. The ultimate maximum condition for units flowing to Salt Creek is 1,955 EDUs. Therefore, the Technical Sewer Study concludes that, between the PCTS and the Salt Creek Interceptor, there would be adequate capacity according to the City's design criteria to serve the remaining EUC SPA Plan on an interim basis, until the RMTS is constructed.[58] Design plans would be completed prior to the approval of any Final Maps for the portions of the EUC SPA Plan within the Salt Creek Basin. Mitigation measures are recommended to ensure that the improvements associated with the Salt Creek Sewer Interceptor and switch over to the RMTS would be completed in a manner acceptable to the City Engineer.

(3) Salt Creek Reach 5

The *Salt Creek Interceptor Sewer Hydraulic Basis of Design Report* (Dudek, 2002, cited in PBS&J, January 2008), identified a critical reach (Reach 5) of the interceptor sewer. As shown in Figure 4.11-6, the EUC enters the Salt Creek Interceptor upstream from Reach 5. The Dudek report did not consider the EUC to be upstream from Reach 5 and, according to Dudek's calculations, the incorporation of the EUC under the maximum interim condition would exceed the (2002) design capacity of this critical reach. However, subsequent analysis based on changes in development projections, the *City of Chula Vista 2004 Update to the Salt Creek Sewer Basin Plan* (2004) has determined that the critical reach would flow just under 75 percent under the interim maximum condition and at 69.9 percent, once the RMTS is constructed. The Update to the Salt Creek Sewer Basin Plan indicates that previously planned developments were converted to open space and would not contribute flow to Reach 5. Therefore, the project would have a less-than-significant impact with respect to the capacity of Salt Creek Reach 5.

[58] *PBS&J, op. cit., page 15.*

In addition to the above thresholds, impacts to water supply would be significant if the proposed project would:

***Threshold 4**: Be inconsistent with General Plan, GDP or other relevant objectives and policies regarding water supply thereby resulting in a significant physical impact.*

Table 4.11-21, *Project Consistency with Applicable General Plan Sewer Service Policies,* on page 4.11-110 evaluates the consistency of the project with the applicable General Plan policies, and the analysis demonstrates that the project would be consistent with applicable General Plan policies.

Furthermore, the General Plan includes Objective GM-1 contains policies that demonstrate Chula Vista's commitment to ensuring adequate public services commensurate with need. Specifically, this objective:

- Calls for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and
- Establishes the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide adequate wastewater conveyance and treatment services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met.

4.11.7.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The development of the EUC would be consistent with the growth anticipated by the Otay Ranch GDP and would not result in a determination by the City of Chula Vista or METRO that it has inadequate capacity to serve the proposed project's projected demand in addition to the providers' existing commitments. Although additional capacity may need to be acquired from METRO or other sources to support buildout of the proposed project and other anticipated development in the City, building permits within the EUC would only be issued once the City Engineer has determined that adequate treatment capacity exists. As no development would occur in the absence of adequate treatment capacity, no impacts associated with inadequate treatment capacity would occur.

With respect to the capacity of off-site sewage conveyance lines, mitigation measures are recommended to ensure that the proposed project would not exceed the capacity of any line in the existing wastewater conveyance system by more than 75 percent of pipe capacity for pipes greater than 12-inch in diameter or 50 percent for pipes 12-inch or less in diameter. Construction of sewer facilities has the potential to result in significant short-term air emissions (including dust; noise; impacts on biological, archaeological, and paleontological resources; erosion; and ground water

Table 4.11-21

Project Consistency with Applicable General Plan Sewer Service Policies

Applicable Policies	Evaluation of Consistency
PFS 1.2, 2.3	The EUC SPA is **consistent** with these General Plan policies. The City's Wastewater Master Plan (WMP) has been completed, and the EUC has been factored into the City's WMP. A sewer study was prepared for the proposed EUC, and both on-and off-site improvements will be required for the proposed EUC based on the phasing identified in the PFFP. See also the analysis of impact on the City's sewer system under Thresholds 1, 2 and 3. No significant natural landforms occur on-site, and no water bodies occur on-site. The proposed water distribution facilities would be placed underground. No new water storage facilities are required for the proposed project.

contamination. (Please see Sections 4.4, Air Quality; 4.5 Noise; 4.6 Cultural Resources; 4.7, Biological Resources; 4.9, and Hydrology and Water Quality, which address and provide mitigation for construction impacts of off-site improvements.)

In addition, the proposed project would require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Therefore, additional capacity would need to be acquired from METRO or other sources. The means by which additional treatment capacity would be acquired is unknown and the development of additional capacity may require construction of new treatment facilities. As the location and scope of construction for any newly developed treatment facilities is unknown, the development of treatment capacity beyond the City's existing and allocated capacity may result in a potentially significant environmental impact, even understanding that such projects would likely be subject to environmental review.

4.11.7.5 MITIGATION MEASURES

4.11.7-1 Prior to design review approval and in accordance with the Intensity Transfer provisions in the EUC SPA Plan, the Applicant(s) shall provide a wastewater technical report with each proposed project requesting an intensity transfer. The technical report shall demonstrate to the satisfaction of the City Engineer that adequate wastewater infrastructure will be available to support the transfer. The transfer of residential density shall be limited by the ability of sewerage facilities to accommodate flows (as shown in Figure 4.11-7, *Allowable EDU's in the On-site Sewer System*).

4.11.7-2 Prior to issuance of the first building permit related to any uses within the portion of the EUC served by the Poggi Canyon System, and to the satisfaction of the City Engineer, the developer shall:

- Bond for the improvement of the constrained reach at Brandywine Avenue (Reach P270) with the first final map for the project;

- Monitor sewer flows within the Poggi Canyon Sewer Basin to the satisfaction of the City Engineer and submit quarterly reports to the City upon the issuance of the first building permit for the EUC;
- Obtain the approval for the improvement plan and any necessary environmental permits for Reach P270 prior to the first final "B" map, unless otherwise approved by the City Engineer;
- Commence construction of Reach P270 upon reaching a d/D of 0.75, unless otherwise approved by the City Engineer;
- Complete construction of Reach P270 the sooner of one year after occupancy of the first unit sewering to the Poggi Canyon System, or a d/D of 0.85, unless otherwise approved by the City Engineer;
- Not seek building permits within the Poggi Canyon Sewer Basin if any segment of the Poggi Canyon Trunk Sewer achieves a d/D of 0.85, or the City Engineer has determined, at his sole discretion, that there is not enough San Diego METRO treatment capacity for the proposed project; and
- Upon the completion of the Rock Mountain Trunk Sewer, divert those Village Seven flows from the Poggi Canyon Sewer Basin that were ultimately designed to flow to Salt Creek Sewer Basin so that additional capacity is provided for the EUC's permanent flows.

4.11.7-3 Prior to issuance of the first building permit related to any uses within the portion of the EUC served by the Village Eleven sewer lateral to the Salt Creek Sewer Interceptor, and to the satisfaction of the City Engineer, the developer shall:

- Bond for the improvement of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor with the first final map for the proposed project;
- Monitor sewer flows within the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor to the satisfaction of the City Engineer and submit quarterly reports to the City upon the issuance of the first building permit for the proposed project that sewers to the Salt Creek System;
- Obtain the approval for the improvement plan and any necessary environmental permits for the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor prior to the first final "B" map covering any parcel that sewers to the Salt Creek System, unless otherwise approved by the City Engineer;
- Commence construction of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor upon reaching a d/D of 0.75, unless otherwise approved by the City Engineer;
- Complete construction of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor the sooner of one year after

occupancy of the first unit sewering to the Salt Creek System, or a d/D of 0.85, unless otherwise approved by the City Engineer;

- Not seek building permits within the Salt Creek Sewer Basin if any portion of the constrained reach along the Village Eleven lateral into the Salt Creek Sewer Interceptor achieves a d/D of 0.85, or the City Engineer has determined, at his sole discretion, that there is not enough San Diego METRO treatment capacity for the proposed project; and
- Upon the completion of the Rock Mountain Trunk Sewer, divert those temporary flows from the constrained reach along the Village Eleven lateral to the sewer within Bob Pletcher Way.

4.11.7-4 Prior to issuance of each building permit, the Applicant shall pay the DIF at the rate in effect at the time of building permit issuance and corresponding to the sewer basin that the building will permanently sewer to, unless stated otherwise in a development agreement that has been approved by the City Council.

4.11.7.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the proposed mitigation measures, no significant impacts with respect to wastewater conveyance facilities would occur and adequate treatment capacity to serve new development within the EUC would be ensured through review of available capacity by the City Engineer prior to approval of building permits.

However, the proposed project in combination with other foreseeable growth could require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Therefore, additional capacity may need to be acquired from METRO or other sources to support treatment needs through the Year 2030. The means by which additional treatment capacity would be acquired is unknown and could include the acquisition of available METRO treatment capacity from another participating agency, including the City of San Diego, or the construction of new treatment facilities. As the location and scope of construction for any future expanded or newly developed treatment facilities is unknown, the development of treatment capacity beyond the City's existing and allocated capacity may result in potentially significant and unavoidable impacts associated with construction of new or expanded facilities.

4.11.8 SOLID WASTE

This section describes solid waste disposal services for the project area and addresses the adequacy of existing facilities to accommodate demand for solid waste disposal associated with the proposed project.

4.11.8.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) Integrated Waste Management Act of 1989

The Integrated Waste Management Act of 1989 (PRC Section 4000, et.seq.) requires each city and county in the State of California to recycle or divert 50 percent (or as much as feasible) of its current waste stream from landfills by 2000. In 2005, California diverted 52 percent of its solid waste stream in accordance with the Integrated Waste Management Act.[1] The term, "integrated waste management," refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with a minimum impact on human health and the environment. The Integrated Waste Management Act establishes the following waste management priorities:

- Source reduction;
- Recycling;
- Composting;
- Energy recovery;
- Deposits in landfills;
- Household hazardous waste management.

(2) City of Chula Vista General Plan

Objective PFS 25 of the Public Facilities and Services Element of the City's General Plan encourages the City to "efficiently handle solid waste disposal throughout the City". The General Plan policies related to solid waste address City-wide methods to manage waste generation, permit transfer stations, promote recycled materials and participate in interjurisdictional efforts to maintain

[1] *California Integrated Waste Management Board, www.ciwmb.ca.gov.*

available landfill capacity. As such, the policies are regional in nature and do not specifically address individual developments.

The City of Chula Vista General Plan EIR anticipates that the Otay Landfill would be in operation until 2028 based upon current waste generation rates. Objective PFS-25 in the General Plan directs the City to efficiently handle solid waste disposal throughout the region and is supported by policies that provide for the planning of adequate systems and facilities to manage the City's solid waste generation, treatment, and disposal; to permit transfer stations in areas designated for general industrial uses; to participate in inter-jurisdictional efforts to maintain available landfill capacity in San Diego County; and to attract manufacturers that use recycled materials to provide jobs and increase the value of these materials.

The Environmental Element of the City's General Plan includes policies that address City-wide solid waste reduction (recycling) and the handling of hazardous waste. Policies include efforts to reduce waste, minimize the need for additional landfills; support the development of composting programs for commercial and residential development; implement source reduction strategies, including curbside recycling; provide information about all applicable solid waste reduction programs; encourage the reduction of household hazardous waste generation and disposal through promoting the use of safe substitutes and by promoting and facilitating recycling of household hazardous waste; and permit recycling operations and businesses that utilize recyclable materials in close proximity to the Otay Landfill. These policies apply City programs and requirements and are not project specific.

B. Existing Services

The City of Chula Vista Public Works Department – Environmental Services Division provides guidance in the disposal of solid waste for residences and businesses, recycling, and household hazardous materials disposal, in accordance with the goals and policies of the adopted General Plan and state statutes (Integrated Waste Management Act). Currently, Allied Waste Services is the exclusive solid waste and recycling services provider for Chula Vista's residential, commercial waste, and industrial. All multi-family residences are required per code to have recycling bins or carts for convenient on-site recycling. Allied Waste Services offers free recycling for restaurant and hospitality businesses of food and beverage containers and provides mixed paper and cardboard recycling bins at a reduced rate established by the City. Businesses may also sell or donate reusable materials to an alternative recycling company. Recycling for clean loads of concrete, asphalt and wood are also provided. The City of Chula Vista Public Works Department - Environmental Services Division also enforces a *Special Event Recycling and Solid Waste Management Plan*, in which a permit for special events requires a plan litter control before, during, and after a special event.

The Environmental Services Division also provides a Household Hazardous Waste (HHW) program at the Public Works Center, in which household hazardous materials can be dropped off for a nominal donation. The HHW program also provides home collection of HHW for a fee. The

HHW program is designed to provide a means to safely collect, recycle, treat, and dispose of HHW. HHW collected at the City's facility is sent to various locations throughout the United States for treatment and/or recycling. Public education and awareness programs, including programs for school-age children, contribute to high participation rates.

In addition, the City has a mandatory construction and demolition recycling program mandating that 90% of all inert materials (rock, dirt, concrete, brick, etc) and 50 percent of all other debris be diverted from disposal. Allied Waste Services will be opening a construction and demolition debris processing facility to ensure that these materials are separated from trash and recycled.

Per the City's franchise agreement with Allied Waste Services, both the Otay Landfill and the Sycamore Canyon Landfill are City-authorized landfills, in accordance with all applicable laws. In addition the City now has a mandatory construction and demolition debris recycling program, which mandates that 90 percent of all inert material (rock, dirt, concrete, brick, etc.) and 50 percent of all other debris be diverted from disposal. Allied Waste Services provides a construction and demolition debris processing facility to ensure that these materials are separated from trash and recycled. The Otay Landfill, located in the City of Chula Vista, is a private landfill operated by San Diego Landfill Systems that receives the majority of solid waste from the City. Based on permitted daily maximum disposal rates, the Otay Landfill is expected to be in operation until 2028. When the Chula Vista Landfill closes, it is expected that Allied Waste Services will build a transfer station at the Otay Landfill site to enable trash hauling to Sycamore Canyon or a more distant landfill.

In addition, means are available by which organic waste from multi-family projects can be reduced, thus, minimizing impact on the Otay Landfill. These include mechanical composting, such as green cones, and other natural composters for individual units.

4.11.8.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, the proposed project would be significant if the project:

Threshold 1: *Would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs, or*

Threshold 2: *Does not comply with federal, state, and local statutes and regulations relating to solid waste.*

4.11.8.3 IMPACT ANALYSIS

Threshold 1: *The project would be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.*

A. EUC SPA Plan Area

Residential and commercial solid waste generated in the EUC would be collected by Allied Waste Services and be disposed of at the Otay Landfill. The Otay Landfill currently accepts an average daily rate of disposal of 5,004 tons, with a permitted maximum disposal rate of 5,830 tons per day.[2] Based on the difference between actual disposal and permitted disposal, the Otay Landfill has an available capacity of 826 tons per day. Based on current generation rates, the Otay Landfill is expected to be in operation until 2028. As the projected buildout of the EUC SPA Plan would be 2030, the project could exceed the anticipated lifetime of the landfill.

The Public Facilities and Services Element of the General Plan anticipates the future closure of the Otay Landfill and, as such, supports policies that provide for the planning of adequate systems and facilities to manage the City's solid waste generation, treatment, and disposal; permit transfer stations in areas designated for general industrial uses; and support inter-jurisdictional coordination to maintain available landfill capacity in San Diego County. The City's recycling and source reduction policies would also continue to be implemented throughout the community, including the EUC SPA Plan, to further reduce the City's daily solid waste stream.

Table 4.11-22, *Solid Waste Generation Factors* on page 4.11-117 provides generation rates for business parks and multi-family uses that would be applicable to the proposed project. Table 4.11-23, *Target Development Solid Waste Generation Rates*, on page 4.11-117 summarizes the project's estimated daily solid waste generation, consistent with the established generation rates. According to Table 4.11-22 the proposed project would generate approximately 22.81 tons of solid waste per day. As the Otay Landfill is permitted to receive 5,830 tons of solid waste per day, the project would not exceed the landfill's daily permitted capacity under current conditions. Although the Otay Landfill would reach capacity in 2028, City policies to reduce the solid waste stream, applicable to the City as a whole and the EUC; and to provide future solid waste disposal needs, anticipate available landfill capacity or other disposal programs for the City into the future. According to the General Plan EIR, the Preferred Plan, which includes the EUC, would generate an estimated population of approximately 326,900 people, including the population generated by the EUC SPA Plan. Using a per person average rate of daily disposal into the Otay Landfill, and assuming the additional development at buildout with no additional recycling programs, the Otay Landfill is considered by the General Plan EIR to have sufficient capacity to accommodate the increased waste disposal. The General Plan EIR thus concluded that no significant impacts with respect to solid waste disposal (integrated waste management services) would occur.[3] As the proposed project is included in, and consistent with, the General Plan's projected population growth, the project would have a less than significant impact with respect to solid waste disposal capacity.

[2] *Telephone conversation with Neil Moore, Otay Landfill, March 20, 2007.*

[3] *City of Chula Vista, Final General Plan Update EIR, December 13, 2005 (pages 532-533).*

Table 4.11-22

Solid Waste Generation Factors

Use	Generation Rates	Source
Industrial/Business Park (Commercial)	10 lb/1,000 sq. ft./day	SWANA Tech. Bull. 85-6; Recovery Sciences, 1987; and Matrix Mgmt Group, Best Management Practices Analysis for Solid Waste. [a]
Multi-family Residential	3.6 lb/unit/day	City of L.A. Dept. of Planning, EIR Manual for Private Projects.

[a] *Cited in the Estimated Solid Waste Generation Rates for Industrial, Commercial, Service Establishments, and Residential Developments from the California Integrated Waste Management Board (2006).*

Table 4.11-23

Target Development Solid Waste Generation Rates

Use	Size	Generation Rates	Volume
Industrial/Business Park (Commercial)	3,487,000 sq. ft.	10 lb/1,000 sq. ft./day	17.435 tons per day
Multi-family Residential	2,983 units	3.6 lb/unit/day	5.37 tons per day
Total:			**22.805 tons per day**

B. Off-site Soils Stockpiling Area

The placement of fill soils in the off-site SSA under Grading Option 1 would not involve the generation of solid waste and, as such, there would be no impact related to solid waste associated with the off-site SSA.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The off-site SCSL Improvement would not involve the permanent generation of solid waste and, as such, there would be no long-term impact related to solid waste associated with the off-site SSA. Debris may be generated during the sewer lateral construction. This debris would be handled in accordance with the City's waste management ordinances and Stormwater Manual. No short-term impacts related to construction debris would result from the off-site SCSL Improvement.

D. Off-site Poggi Canyon Sewer Improvement Area

The off-site PCSI would not involve the permanent generation of solid waste, and as such there would be no long-term impact related to solid waste associated with the off-site PCSI. Construction debris may be generated during the sewer line improvement. This debris would be handled in accordance with the City's waste management ordinances and Stormwater Manual. No short-term impacts related to construction debris would result from the off-site PCSI.

Threshold 2: *The project does not comply with federal, state, and local statutes and regulations relating to solid waste*

A. EUC SPA Plan Area

The City of Chula Vista's Office of City Manager, Special Operations Division complies with state and federal requirements through the development and the implementation of goals and policies in the Public Facilities and Services and the Environmental Elements of the General Plan. General Plan policies support and provide for City-wide recycling programs, including educational programs; source reduction programs; the control of litter and solid waste associated with special events; and collection of household hazards materials.

Landfills used for the disposal of Chula Vista's solid waste are legally permitted and consistent with State of California Integrated Waste Management Board requirements and other state and federal requirements. Waste collection for the EUC SPA Plan's commercial and residential land uses would be provided by the City of Chula Vista under its contract agreement with Allied Waste Services. The EUC's waste collection procedures and programs would be required to comply with the municipal requirements for recycling and collection of solid waste, including provision for litter control for public events. Therefore, the project would be consistent with all applicable statutes and regulations, and would have a less than significant impact with respect to solid waste collection and management.

B. Off-site Soils Stockpiling Area

The placement of fill soils in the off-site SSA under Grading Option 1 would not involve the generation of solid waste and, as such, there would be no impact related to solid waste associated with the off-site SSA.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The off-site SCSL Improvement would not involve the permanent generation of solid waste and, as such, there would be no long-term impact related to solid waste associated with the off-site SSA. Collection and disposal of construction debris would be in compliance with the City's waste management ordinances and Stormwater Manual. No short-term impacts related to construction debris would result from the off-site SCSL Improvement.

D. Off-site Poggi Canyon Sewer Improvement Area

The off-site PCSI would not involve the permanent generation of solid waste, and as such there would be no long-term impact related to solid waste associated with the off-site PCSI. Collection and disposal of construction debris would be in compliance with the City's waste management ordinances and Stormwater Manual. No short-term impacts related to construction debris would result from the off-site PCSI.

4.11.8.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

With the availability of adequate solid disposal capacity and the implementation of the City's recycling policies and solid waste reduction programs that are applicable to the EUC and City at large, no significant solid waste impacts have been identified for the proposed EUC SPA Plan.

4.11.8.5 MITIGATION MEASURES

No mitigation measures are required.

4.11.8.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant and unavoidable solid waste impacts are identified for the proposed EUC SPA Plan.

4.12 HAZARDS / RISK OF UPSET

This section addresses potential impacts associated with hazards and risk of upset, which are generally conditions that may cause harm to future residents and other occupants of a site. Hazards and risk of upset were evaluated for the entire Otay Ranch as part of the Otay Ranch GDP Program EIR. The evaluation identified potentially significant impacts with respect to hazardous waste, contamination of soil or groundwater, explosion of previously unexploded ordnance, and increased risk of fire or explosion. Mitigation was identified that would reduce impacts to below a level of significance. The analysis and discussion of hazards from the Otay Ranch GDP Program EIR are incorporated by reference.

Also providing a basis for the following evaluation of hazards and risk of upset are a *Phase I Environmental Site Assessment* ("Phase I ESA"), prepared by Coast 2 Coast Environmental, Inc. (November 30, 2006) and an *Organochorine Pesticide Assessment and Soil Reuse Plan*, prepared by Geocon Consultants (June 5, 2007, revised October 4, 2007). These site-specific studies are contained in Appendix K of this Draft EIR.

4.12.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) Environmental Protection Agency

The United States Environmental Protection Agency (EPA) enforces a mandated National Hazardous Waste Management Program, as established by the Federal Resources Conservation and Recovery Act (RCRA). Under RCRA regulations, hazardous wastes must be tracked from the time of generation to the point of disposal. The RCRA program also sets out standards for hazardous waste treatment, storage and disposal units in manner that minimizes the present and future threat to the environment and human health. The EPA also sets forth regional Preliminary Remediation Goals (PRGs), which establish contamination values for residential land uses. The PRGs are "risk-based tools for evaluating and cleaning up contaminated sites. The EPA Region 9 PRGs combine current EPA toxicity values with "standard" exposure factors to estimate contaminated concentrations in environmental media (soil, air, and water) that are considered protective of humans, including sensitive groups, over a lifetime. Minimum PRG values for DDD, DDE, DDT, and Toxaphene are shown in Table 4.12-1, *Minimum Values for DDD, DDE, DDT, and Toxaphene*, on page 4.12-2.

Table 4.12-1

Minimum Values for DDD, DDE, DDT, and Toxaphene

Chemical	PRG (µg/kg)[a]	CHHSL (µg/kg)[a]
DDD	2,400	2,300
DDE	1,700	1,600
DDT	1,700	1,600
Toxaphene	440	460

[a] *(µg/kg) = micrograms per kilogram.*

(2) Federal Aviation Administration

The Federal Aviation Administration (FAA), which oversees airport safety and rules associated with development that may present a safety concern near existing airports, requires that Form 7460-1, Notice of Proposed Construction or Alteration, be filed with the FAA regional office prior to construction of buildings that are 200 feet or higher above the graded terrain. Minimum FAA safety standards include the marking or lighting of any structures 200 feet in height or greater from the graded terrain.

(3) California Environmental Protection Agency Department of Toxic Substances Control

The California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC) is the primary regulatory agency administering RCRA and non-RCRA hazardous waste programs. Under California Code of Regulations (CCR) Title 22, Division 4.5, wastes are classified as "California hazardous," if (1) the total constituent content exceeds the Total Threshold Limit Concentration (TTLC), or (2) the soluble constituent content exceeds the Soluble Threshold Limit Concentration (STLC) based on a Waste Extraction Test (WET). If transported off-site, "California hazardous" wastes require management as a hazardous waste and disposal at a Class 1 disposal facility.

(4) California Environmental Protection Agency-California Office of Environmental Health Hazard

The Cal-EPA-California Office of Environmental Health Hazard sets forth the California Human Health Screening Levels (CHHSLs), a standard minimum level for risk-based concentrations of various chemicals on contaminated properties. The CHHSL values are non-regulatory, and do not necessarily imply that adverse effects to human health would occur if the constituents are found at a site at concentrations above the respective CHHSL. Minimum CHHSL values for DDD, DDE, DDT, and toxaphene are shown in Table 4.12-1.

(5) Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB) implements the California Water Code (CWC) in the regulation of discharges to land. If a discharge of waste threatens the waters of the state, a Report of Waste Discharge or an application for a waiver of a Report of Waste Discharge, must be filed with the RWQCB. The RWQCB accomplishes its permitting responsibility by issuing either a general or site-specific permit (Waste Discharge Permit) or a waiver of a permit.

(6) City of Chula Vista General Plan

The goals of the General Plan to remediate future development sites in accordance with applicable state and federal standards and to manage household hazardous waste are expressed in the General Plan. Applicable objectives and policies are as follows:

Objective E-16 - Minimize the risk of injury and property damage associated with wildland fire hazards.

Policy

E 16.1 – Implement brush management programs that are consistent with the Chula Vista MSCP Subarea Plan and the City's Urban-Wildland Interface Code, with urban development and open space interface areas in order to reduce potential wildland fire hazards. Brush management guidelines with the MSCP Subarea Plan and the Urban-Wildland Interface Code shall include limits and measures to prevent increased risk of erosion.

Objective E-17 - Ensure that adequate remediation of contaminated sites as redevelopment occurs in order to protect public health and safety.

Policies

E 17.1 – Clean contaminated sites to protective limits to ensure that planned future uses of such sites and public health and safety are not compromised.

E 17.2 – Prior to the redevelopment of contaminated sites, ensure adequate remediation in accordance with the recommendations of appropriate environmental assessments and consistent with all applicable regulations and standards.

B. Regulatory Databases

The Phase I ESA for the project site evaluated current environmental conditions and the presence of hazardous materials or substances. As part of the Phase I ESA, a search of standard environmental regulatory databases was conducted by Environmental Data

Resources, Inc. (EDR) to determine if any listed hazardous sites are located within the project site, or within an established radius that would expose the project site to air or waterborne toxic or hazardous materials. Exposure radii depend on the type of list and vary from adjacent sites to locations up to one or two miles from the project site. The Phase I ESA reviewed a broad range of standard federal and state environmental regulatory databases, as well as additional environmental record sources to supplement the standard databases. The project site is not listed in any of the standard regulatory databases; however, the search determined that the project is within the search radius of a Leaking Underground Storage Tanks (LUST) site is located on Birch Road in Village Seven. According to the Phase I ESA, this site has been remediated and is located at a lower elevation than the project site. There is no indication that the project site has been affected by conditions at this off-site location.

The review of additional environmental regulatory databases determined that the project site is within the search radii of two listed sites, including an EnviroStor site at Birch Road/Magdalena Avenue in Village Seven, and an EnviroStor site at EastLake Parkway/Birch Road in Village Eleven (School Site S-1). These sites were previously remediated and, according to the Phase I ESA report, there are no indications that the project site has been adversely impacted by conditions at these off-site locations, or that these sites present an imminent threat to the project site.[1]

C. Conditions Associated with Existing Uses

The project site is unoccupied except for a temporary construction office and storage bins in the northeast corner of the project site. No paved roads are present on the project site, although some grading has occurred along the west edge of the future Bob Pletcher Parkway. This grading was performed to allow excess soils from grading in Villages Six and Seven to be placed in the west/central portion of the project site. Some grading also occurred along the north edge of the project site in conjunction with the development of Birch Road. According to the Phase I ESA, the project site is presently covered by native vegetation,[2] however, a subsequent biological assessment has determined that the vegetation on the project site is either agricultural land, disturbed or developed.[3] Dirt roads parallel the west, north and east sides of the project site and an east-west dirt road that had existed for at least 50 years is located near the south edge of the project site. The ESA prepared for the project site concluded that no current activities of environmental concern were observed on the project site.[4]

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[1] *Coast 2 Coast Environmental, Inc., Phase I Environmental Site Assessment, page 27 (November 30, 2006).*

[2] *Coast 2 Coast, op. cit., page 4.*

[3] *URS Corporation, Biological Impact Assessment for OLC Parcek C/EUC Soils Stockpiling Project (November 29, 2007).*

[4] *Coast 2 Coast, op. cit., page 27.*

D. Conditions Associated with Prior Uses

According the Phase I ESA, prior uses of the project site included row crops and dry farming at various times between 1928 and 1996. The report concluded that potential soil contamination, similar to that previously found in the adjacent Village Seven, may be present, as the two sites share a similar agricultural history.[5] Citing a prior soils investigation report and conceptual mitigation plan prepared for the Village Seven site, the Phase I ESA stated that in Village Seven, six organochlorine pesticides (OCPs) were detected above the analytical method limits in the upper one and two feet of soil. However, only toxaphene and DDE[6] were detected in various samples above their respective residential Preliminary Remediation Goals (PRGs).[7] Remediation included the removal of the top 1½ feet of soil, stockpiling, and testing on the Village Seven site. This fill was covered by a minimum of 10 feet of clean fill either from on-site or imported sources.

(1) Testing for Organochlorine Pesticides

In order to determine the extent and concentration of potential Organochlorine Pesticides (OCP) contamination in the EUC area, soil sampling and testing of on-site soils was conducted.[8] The purpose of the testing was to develop a plan for on-site soil reuse that would comply with current regulatory criteria and would be protective of human health in accordance with EPA Preliminary Remediation Goals (PRGs). Soil samples from 22 locations identified as HA1 through HA22, were collected on August 21, 2006, and additional soil samples were collected on February 8 and March 1, 2007 from additional locations identified as HA23 through HA36. At each sample site, soil was also collected and tested from the surface, and at one, two, and three feet. A total of 132 soil samples were collected during the three sampling events. Of the 132 soil samples, the 36 surface samples (HA1-0 through HA36-0) were analyzed for OCPs by EPA method 8081. Additional samples from the one- and two-foot depths were also analyzed for OCPs. Additional samples were analyzed if surface samples contained concentrations of DDE and/or toxaphene above the respective residential PRGs, or to further identify areas in which surface samples exhibited OCPs. A total of 54 soil samples were tested for OCPs. Soil samples collected from HA23-0 through HA34-0 were also tested for arsenic.

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[5] *Coast 2 Coast, op. cit., page 15.*

[6] *4,4'-dichlorodiphenyl-dichloroethylene*

[7] *Revised Soil Investigation Report and Conceptual Mitigation Plan, Otay Ranch – Village 7, Chula Vista, California, Environmental Resources Management (ERM), August 2004 (cited in the Coast 2 Coast ESA, page 14).*

[8] *Geocon Consultants, Inc., Organochlorine Pesticide Assessment and Soil Reuse Plan, (June 5, 2007, revised October 4, 2007).*

Soil sample results were also compared to the California Human Health Screening Levels (CHHSLs).[9] CHHSLs are risk-based concentrations of various chemicals used to aid in the cleanup of sites where these chemicals are present. Like the PRGs, these values are non-regulatory, and do not necessarily imply that adverse effects to human health will occur if the constituents are found at concentrations above the respective CHHSL.[10]

(2) Test Results

Concentrations of OCPs, including BHCDDD, DDT, DDE and toxaphene, are found to occur in tested soil samples. Of these, only BHC does not have a published risk level or hazardous waste criteria and was not further evaluated.[11]

DDD was reported by the laboratory in four of the 36 surface samples. Concentrations of DDD ranged from 2.3 to 12 micrograms per kilogram (µg/kg), well below the residential PRG and CHHSL values of 2,400 and 2,300 µg/kg, respectively. DDT was reported by the laboratory in 34 of the 36 surface samples and was determined to be less than the residential PRG and CHHSL values. DDE was detected in 34 of the 36 soil samples. The maximum detected level of DDE (3,700 µg/kg) exceeds the respective residential PRG and CHHSL values of 1,700, and 1,600 µg/kg.

Toxaphene was also detected at concentrations exceeding the residential PRG and CHHSL values in 11 of 36 surface samples. The maximum detected level of toxaphene (4,900 µg/kg) exceeds the respective residential PRG and CHHSL values of 440 and 460 µg/kg. Toxaphene concentrations in 16 soil samples collected from a depth of one foot did not exceed the residential PRG for toxaphene, with the exception of sample location HA 36-1, which had a concentration of 520 µg/kg. Toxaphene was not detected at or above the laboratory detection limit of 85 µg/kg in either of the two-foot sample locations HA 3 and HA 4.

Based on the laboratory results, three on-site areas (Areas A, B, and C) were identified as containing concentrations of toxaphene above the PRG.[11] These areas are delineated according to the concentrations of toxaphrene above the PRG. A line extending half the distance to the nearest samples containing toxaphrene concentrations below the PRG or to the edge of the site was drawn around the groups of samples containing toxaphrene concentrations above the PRG.

The volume of soils that would require special handling (i.e., soils containing toxaphrene concentrations above the PRG) was calculated by Project Design Consultants (PDC), the civil

[9] *California EPA, California Office of Environmental Health Hazard Assessment, Use of California Human Health Screening Levels in Evaluation of Contaminated Properties, January 2005.*

[10] *Geocon Consultants, op. cit., page 4.*

[11] *Geocon Consultants, op. cit., Figure 2.*

engineer of record.[12] Based on a modified grading plan showing daylight lines delineating the cut areas from the fill areas, PDC estimated the volume of soils requiring special handling. Based on volumes provided by PDC for Areas A, B, and C, Area A, located in the easterly sector of the EUC in the approximate locations of Sections 3 and 7 and the southeast edge of Section 2, contains approximately 45,800 cubic yards of soil with toxaphrene concentrations above PRG. Area B, located in the northwest sector of the EUC in Section 1, west of Street A, contains approximately 23,347 cubic yards of soil with toxaphrene concentrations above PRG. Area C, located in the southwest sector of the EUC in the southerly portion of Section 4, contains approximately 9,296 cubic yards of soil with toxaphrene concentrations above PRG. The total volume of soils that would require special handling is approximately 78,443 cubic yards. Arsenic, which was detected at concentrations up to 2.8 milligrams per kilogram (mg/kg) in 11 samples (HA 23-0 through HA 34-0), was consistent with naturally occurring background concentrations. The mean arsenic concentrations were 1.6 mg/kg.

(3) Waste Classification

The evaluation of the Total Threshold Limit Concentration (TTLC) and Soluble Threshold Limit Concentration (STLC) for the detected contamination determined that none of the soil at the project site would be classified as hazardous on the basis of concentrations of OCPs.[13] As determined in the soils analysis, the 80 percent upper confidence level (UCL) for DDE and DDT would be below the respective PRG and CHHSL values for all groups of samples. UCL for DDD was not evaluated due to the minimal levels of DDD detected onsite. However, the 80 percent UCL for toxaphene would exceed both the PRG and CHHSL values for all soil samples, except those areas outside of Areas A, B, and C.

E. Other Potential Environmental Hazards

The Otay Ranch GDP Program EIR identifies land uses surrounding the Otay Ranch, including the Otay Landfill, Brown Field, and Rock Mountain Quarry, that could potentially create a hazard or risk of upset. The Otay Landfill, located approximately 2.5 miles west of the EUC is the site of a former hazardous waste reprocessing operation and continues to provide disposal waste services. Brown Field, located approximately 2.5 miles to the southwest of the EUC historically maintained numerous storage tanks and a bombing range. The Rock Mountain Quarry, located approximately 1.5 miles to the southwest of the EUC, represents a potential source of contamination from waste oil, fuel spillage, residual blasting chemicals, and air emissions.

Brown Field, a municipal airport operated by the City of San Diego, may also present a risk of upset due to flights occurring over the EUC due to the difficulty of a precision approach to

[12] *Geocon Consultants, op. cit., page 8.*

[13] *Geocon Consultants, op. cit., pages 7 and 8.*

Brown Field including steep, rising terrain less than six miles to the northeast of the airport (elevation 3,600 feet), restricted over flight below 1,500 feet of an antenna array located 0.3 mile directly north of the airport, and the presence of the Tijuana Airport less than 2 miles to the south of Brown Field. The Tijuana Airport has a similar runway length and a slightly different orientation, but is a commercial passenger facility. The manager of Brown Field has expressed the concern that the EUC would be subject to heavy over flight operations involving non-instrument, visual flight rules (VFR) traffic, as well as instrument flight rules (IFR) circle-to-land procedures.[14] It is noted that much of the EUC is located more than 600 feet above mean sea level (MSL) (elevations in the EUC range from the high 500s to more than 660 feet above MSL) and approximately 100 feet higher than Brown Field, located at an elevation of approximately 503 to 520 feet above MSL.[15]

4.12.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts from hazards and hazardous materials would be significant if the proposed project:

Threshold 1: *Is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, creates a significant hazard to the public or the environment;*

Threshold 2: *Creates a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials;*

Threshold 3: *Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;*

Threshold 4: *Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;*

Threshold 5: *Is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the project area;*

Threshold 6: *Is located within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the project area;*

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[14] *Phillip Miller, Brown Field Airport Manager, Letter to City of Chula Vista, April 23, 2007.*

[15] *Goggle Earth Professional.*

Threshold 7: *Impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan; and*

Threshold 8: *Expose people or structures to a significant risk or loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas.*

The Otay Ranch GDP Program EIR also identified the following thresholds for determining impacts to public health and safety:

Threshold 9: *Increase in urbanization would result in an increase in the uses, transport, storage, and disposal of hazardous waste materials and an associated increase in the risk of an upset condition in the area; and*

Threshold 10: *Historic use of pesticides which would result in soil contamination and health effects.*

In addition, hazards impacts would be significant if the proposed project would:

Threshold 11: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding hazards thereby resulting in a significant physical impact.*

4.12.3 IMPACT ANALYSIS

Threshold 1: *Is located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, a significant hazard to the public or the environment would be created.*

A. EUC SPA Plan Area

The EUC SPA Plan area and other sites, including the Otay Landfill, Brown Field (ordinance), and Rock Mountain Quarry, that are identified in the Otay Ranch GDP Program EIR as potentially hazardous, are not listed in any of the searched standard or additional regulatory databases, as discussed in the Phase I ESA.[16] It is expected that formerly hazardous conditions at these off-site locations have been remediated. In addition, all of these sites are located at least 1.5 miles away and down gradient from the project site, and any residual materials would not enter groundwater below the EUC. Therefore, no impacts with respect to this threshold would occur.

[16] *Coast 2 Coast Environmental, Inc., Phase I Environmental Site Assessment, Otay Ranch Eastern Urban Center, Appendix D (November 30, 2006).*

B. Off-site Soils Stockpiling Area

As with the EUC SPA Plan area, the SSA is not listed in any of the searched standard or additional regulatory databases discussed in the Phase I ESA. Additionally, the SSA would not be at risk from other sites identified through the database search as they have been remediated, or, from contaminated ground water associated with sites identified in the Otay Ranch GDP EIR as potentially hazardous due to distance and direction of groundwater flow. Therefore, no impacts with respect to the SSA and this threshold would occur.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The Phase I ESA report prepared for the Otay Ranch EUC provided a survey of listed sites within a two-mile radius of the project site.[17] As indicated in the Phase I report, the SCSL Improvement Area is not a listed site pursuant to Government Code Section 65962.5. In addition, the SCSL would not be affected by any off-site listed sites as it is located up gradient from Otay Landfill, Brown Field (ordinance), and Rock Mountain Quarry and would not receive contaminated ground water as a result of activities at these potentially hazardous sites. Therefore, no impacts with respect to this threshold would occur.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI area falls within an existing paved roadway. As no activities associated with the use, handling, storage of hazardous materials are associated with the roadway, the PCSI Area would not be listed as a hazardous materials site. In addition, this site is not shown as a listed site in the Phase I ESA prepared for the Otay Ranch EUC. Therefore, no impacts with respect to this threshold would occur.

Threshold 2: *Creates a significant hazard to the public or environment through the routine transport, use or disposal of hazardous materials.*

Threshold 3: *Creates a significant hazard to the public or reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.*

A. EUC SPA Plan Area

Construction activities in the EUC would involve the use of common, but potentially hazardous materials, including vehicle fuels, paints, cleaning materials, and caustic construction compounds. While these substances could pose a potential health risk to construction workers

[17] *Coast 2 Coast Environmental, Inc., Phase I Environmental Site Assessment, Otay Ranch Eastern Urban Center, Appendix D, Overview Map – 1698595.1s (November 30, 2006).*

and to the general public during transport, handling of these common, potentially hazardous materials would occur in accordance with California Occupational Safety and Health Administration (Cal/OSHA) guidelines and would be disposed of in accordance with state and county regulations. Adherence to federal, state and local regulations regarding the use and disposal of hazardous materials and wastes, would reduce potential impacts on human health and safety from handling and transport of hazardous construction materials to less than significant.

However, potentially significant impacts could result from the exposure of workers and the public to OCPs occurring in soils in Areas A, B, and C of the EUC. Exposure would occur with any OCP-containing soils that would be released or uncovered onsite. However, fill available area exists on-site for the burial of OCP-containing soils, and no off-site disposal would be required. This impact is discussed in greater detail under Threshold 10, below.

Occupation of proposed commercial and residential use and maintenance of parks and other public facilities would also involve the use or storage of common hazardous materials, including cleaning solvents typically used in multi-family residential and commercial development, pesticides and related chemicals associated with landscaping maintenance, and paints and solvents. Certain establishments, such as dry cleaners, also require the use, storage, and transport of hazardous chemicals or materials, which are regulated by current federal and state regulations. Residents would be informed of the Pacific Waste Services' Households Hazardous Waste Collection Facility to encourage proper disposal of household hazardous wastes. Compliance with manufacturers' instructions and existing regulations is anticipated and would reduce potential exposure of the public and the environment to hazardous materials. Therefore, the probable frequency and severity of impacts associated with health hazards to people due to the transport, use and storage of common hazardous materials used in commercial cleaning, landscaping, house painting, and similar common activities would be less-than-significant.

The proposed fire station site may potentially include above-ground fuel storage tanks for operation of the emergency generator and fire engines. Emergency shutoff switches and a fire suppression system will be installed. Potentially significant hazard impacts could occur if a leak occurred in either of the fuel tanks. Containment measures will be required to mitigate potential spill impacts from the above ground storage tanks.

B. Off-site Soils Stockpiling Area

No construction activities, other than soils stockpiling, or any on-going occupation or use of the SSA would occur. With the exception of vehicle fuels, common, but potentially hazardous materials associated with construction or occupation of a site would not occur. Existing contaminated soils in the EUC would be remediated on the EUC site and would not be transported to the SSA. Therefore, impacts associated with the transport or use of hazardous materials regarding the SSA would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

Construction of a sewer pipeline in the SCSL Improvement would potentially involve the use of common, but potentially hazardous materials, including vehicle fuels and caustic construction compounds. While these substances could pose a potential health risk to construction workers and to the general public or environment during transport, handling of these common, potentially hazardous materials would occur in accordance with California Occupational Safety and Health Administration (Cal/OSHA) guidelines and would be disposed of in accordance with state and county regulations. Through compliance with existing regulations for the use and disposal of hazardous materials and wastes, impacts on human health and safety from handling and transport of hazardous construction materials for the SCSL Improvement would be less-than-significant. The site would not be occupied and the use of hazardous materials during operation would not occur or would be minimal and less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

Construction of a sewer pipeline in the PCSI Area would involve the use of common, but potentially hazardous materials, including vehicle fuels and caustic construction compounds. Similar to the SCSL Improvement, compliance with existing regulations for the use and disposal of hazardous materials and wastes, would ensure that impacts on human health and safety from handling and transport of hazardous construction materials would be less-than-significant. After completion of the improvement, the roadway surface would be repaired and no impacts associated with use of hazardous materials during operation would occur.

Threshold 4: *Emits hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.*

A. EUC SPA Plan Area

The EUC SPA Plan includes an approximately 6-acre elementary school site. Prior to approval of the future school, conditions on the site will be required to comply with CVESD and State standards for health and safety issues, including the potential for organics or methane in the soil. In addition, the project site is located within 0.25 miles of Olympian High School and Wolf Canyon Elementary School, located in the southeast sector of Village Seven just southwest of the EUC SPA Plan area, and a combined Middle School and High School has been approved by the Sweetwater Union High School District on a site located along EastLake Parkway immediately east of the EUC. As OCPs have been detected in some on-site soils and methane may occur as a result of decaying organic debris, a slight potential exists for the presence of OCPs or methane, subsequent to remediation. Existing OCP-containing soils could result in exposure to schools during grading, or if left exposed during operation of the proposed project. As the potential exists for methane or other organic gases or materials at the future EUC school site, or at other nearby school sites to exceed CVESD and State

standards, the project could present a potential impact with respect to health standards for public schools.

B. Off-site Soils Stockpiling Area

No contaminated soils would be deposited in the SSA. Hazardous materials, such as organics or methane gas would not be present in the stockpiled soils. Therefore, impacts on schools as a result of the use or exposure to acutely hazardous materials would not occur.

C. Off-site Salt Creek Sewer Lateral Improvement Area

Soils within the SCSL Improvement Area may include organic or hazardous materials from former ranching on a portion of the site. This site is located within one-quarter mile of the proposed school site in Village Eleven. However, any potential contaminants are not expected to be acutely hazardous or to affect a school site as excavation activities would not occur adjacent to a school site. Therefore, construction of a pipeline in the SCSL Improvement Area would have a less-than-significant impact with regard to hazards and public schools.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area is located within an existing roadway. Construction of the sewer line is geographically limited and is not expected to cause the release of any acutely hazardous materials. No schools are adjacent to the construction site and, as such, construction activities in the PCSI Area would be less-than-significant.

Threshold 5: *Is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the project area.*

Threshold 6: *Is located within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the project area.*

A. EUC SPA Plan Area

The EUC SPA Plan area is located approximately 2.5 miles to the northeast of Brown Field, a City of San Diego municipal airport. Although the project site is outside the airport's 2-mile radius, constraints created by an antenna array to the north of the airport, the sharp terrain change to the northeast of the airport, and the presence of the Tijuana Airport, a commercial facility, just over one mile to the south of Brown Field, require frequent aircraft over flight from Brown Field, including craft flying under VFR or circle-to-land procedures. Within the EUC, buildings may be constructed up to 15 stories and may exceed 170 feet above finished grade.

The FAA has determined that there would be no hazards to navigation provided that structures within the EUC do not exceed 170 feet above ground level (AGL) or 800 feet above mean sea level (AMSL). During construction, however, rooftop cranes or other temporary construction equipment rising above these structures may be used. The ground level in many areas of the EUC is 100 feet higher than Brown Field and, relative to the airport, rooftop construction cranes and other temporary construction equipment may exceed 270 feet above the airport runway. Therefore, impacts are considered potentially significant with respect to aircraft safety within the EUC SPA Plan area should structures or equipment exceed 170 feet above the ground level on the project site.

B. Off-site Soils Stockpiling Area

The stockpiling of soils within the SSA would not involve the construction of any habitable buildings that could pose an air hazard or be impacted by air traffic or other air activity. Therefore, no impacts with respect to this threshold would occur.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The construction of pipeline in the SCSL Improvement Area would not involve the development of any habitable buildings that could pose an air hazard or be impacted by air traffic or other air activity. Therefore, no impacts with respect to this threshold would occur.

D. Off-site Poggi Canyon Sewer Improvement Area

The construction of pipeline in the PCSI Area would not involve the development of any habitable buildings that could pose an air hazard or be impacted by air traffic or other air activity. Therefore, no impacts with respect to this threshold would occur.

Threshold 7: *Impairs implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan.*

A. EUC SPA Plan Area

The EUC SPA Plan would support the intent of local and regional emergency response and evacuation plans through immediate accessibility to fire services from the on-site fire station, proximity to major arterials along three sides (Birch Road, Hunte Parkway, and EastLake Parkway), and proximity to the immediate SR-125 interchange systems at Birch Road and Hunte Parkway. Evacuation from and emergency response within the EUC would be enhanced by the EUC's system of grid streets including Street A, an arterial running directly between Birch Road and Hunte Parkway. As the EUC would provide a grid street system with multiple accesses to any point within the EUC, incorporate a City fire station, and have multiple points of access to the surrounding system of major highways, the proposed project would not

interfere with the City's emergency response plans. In addition to facilitating evacuation, the EUC SPA Plan's multiple points of access to surrounding major highways would reduce gridlock or blockage of the major highways, which are needed to provide evacuation during major disasters. Therefore, impacts with respect to emergency preparedness and evacuation would be less-than-significant.

B. Off-site Soils Stockpiling Area

The stockpiling of soils within the SSA would not require the closure of public streets, change street patterns, or result in any permanent impact on the local transportation system and emergency response. Trucks may access public streets to transport soils between the EUC site and the SSA, however, this activity would be temporary, occur as a single event, and would not cause any street closures. Therefore, impacts with respect to evacuation and emergency response would be less-than-significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The construction of a pipeline in the SCSL Improvement Area would not cause the closure of public streets, change street patterns, or result in any permanent impact on the local transportation system or emergency response. In addition, construction activity would be temporary and would not cause any street closures. Therefore, impacts with respect to evacuation and emergency response would be less-than-significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The construction of the pipeline segment in the PCSI Area may result in temporary delays in the vicinity of the construction zone. However, construction activities would not require the closure of any streets, and a traffic control plan would be developed by the City to control traffic during regular and peak hours. Emergency vehicles would have full access through the construction zone. Therefore, impacts with respect to evacuation and emergency response would be less-than-significant.

Threshold 8: *Expose people or structures to a significant risk or loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas.*

A. EUC SPA Plan Area

The EUC SPA Plan area is located within a designated High Hazard area (General Plan, Figure 9-9 of the General Plan). The site has been used historically for agricultural purposes and is void of wildland areas. In addition, the site does not adjoin a wildland or Very High Hazard area, as designated on Figure 9-9 of the General Plan. As the EUC would develop in

phases over a 20-year period, vacant sections of the project site could be adjacent to occupied development within the EUC. Although the exposure of people and structures to wildland fires is greatest in areas located within or adjacent to wildlands, vacant lands in which weeds and brush have not been controlled in close proximity to occupied uses may also present a wildfire hazard.

B. Off-site Soils Stockpiling Area

As with the EUC, the SSA is located within a High Hazard fire area. This site would not be developed in the near future and, as such, it has the potential to result in the growth of weeds and brush. However, this site is not located in close proximity to existing or proposed occupied development. Therefore, potential wildfire hazard from this site would not be significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

As with the EUC, the SCSL Improvement Area is located within a High Hazard fire area. This site would not be permanently developed along the surface and the re-growth of the same vegetation existing under current conditions is anticipated. As this site is not located in close proximity to existing or proposed occupied development, potential wildfire fire hazards would not be significant.

D. Off-site Poggi Canyon Sewer Improvement Area

The PCSI Area is located within an existing roadway, therefore, no impacts with respect to wildfire fires would occur.

Threshold 9: *Increase in urbanization would result in an increase in the uses, transport, storage, and disposal of hazardous waste materials and an associated increase in the risk of an upset condition in the area.*

A. EUC SPA Plan Area

As discussed under Thresholds 2 and 3 above, impacts associated with the routine transport, use, or disposal of hazardous materials would be less-than-significant because the project would be required to adhere to federal, state and local regulations pertaining to handling, storage and transport of hazardous materials. Potential hazards from soils containing OCPs in Areas A, B, and C are addressed under Threshold 10, below.

B. Off-site Soils Stockpiling Area

As discussed under Thresholds 2 and 3 above, impacts associated with the routine transport, use, or disposal of hazardous materials would be less-than-significant in the off-site SSA.

C. Off-site Salt Creek Sewer Lateral Improvement Area

As discussed under Thresholds 2 and 3 above, impacts associated with the routine transport, use, or disposal of hazardous materials would be less-than-significant in the off-site SCSL Improvement Area.

D. Off-site Poggi Canyon Sewer Improvement Area

As discussed under Thresholds 2 and 3, above, impacts associated with the routine transport, use, or disposal of hazardous materials would be less than significant in the off-site PCSI Area.

Threshold 10: *Historic use of pesticides which would result in soil contamination and health effects.*

A. EUC SPA Plan Area

The development of the EUC SPA Plan would include mass grading throughout the property under one of two options. Option 1 includes a cut volume of approximately 3.4 million cubic yards of soil, and a fill volume of approximately 2.6 million cubic yards, requiring a net export of approximately 1.1 million cubic yards. Option 2 includes a cut and fill volume of 3.2 million cubic yards that would be balanced on-site. Three on-site areas associated with the historic use of the project site for agricultural purposes have been identified as containing concentrations of toxaphene (a pesticide) above the PRG. These areas are identified in the Geocon Report, as Areas A, B, and C.[18]

Based upon PDC's estimate, approximately 78,443 cubic yards of soil containing Toxaphrene concentrations above the PRG would require special handling. Under special handling, contaminated soils may be replaced on-site in fill areas with a 10-foot hold down from grade and 5 feet above canyon drains (lowest points in the fill areas on-site).[19] The greater the available fill in the on-site disposal area, the more the required disposal criteria can be met. Under Grading Option 1, PDC estimates that approximately 664,000 cubic yards of available space in the fill area in the west-central portion of the site meets these criteria. This volume is considered adequate for the disposal of soil containing Toxaphrene concentrations. Grading

[18] *Geocon Consultants, op. cit., Figure 2.*

[19] *Geocon Consultants, op. cit., page 8.*

Option 2 would require the balance of cut and fill within the project site, resulting in more and deeper fill soils in the disposal area (west-central portion of the site) than under Option 1. As fill soils would be deeper, the on-site available space in the fill area would be greater. Available fill space exceeds the volume of soils requiring special handling by a factor of 8 under Grading Option 1 and an even greater factor under Grading Option 2. Therefore, fill activities under both options meet the criteria for the safe on-site disposal of contaminated soils. No export or offsite soil waste disposal would be required. In addition, grading for remediation would occur in a single phase and no stockpiling of OCP-containing soil is anticipated during the phased development of the proposed project.[20]

However, due to the occurrence of OCPs (toxaphene) above the PRGs in Areas A, B, and C,[21] general construction activities may mobilize potential pollutants on- or off-site, through dust or percolation of dust calming water into the groundwater system. As such, the potential exists for the exposure of workers or the general public to OCPs during grading activities, or the exposure of nearby residents to OCPs during the later phases of construction, if contaminated soils are left exposed.

If not remediated, the presence of OCPs in soils in Areas A, B, and C of the EUC would also present a potential health hazard for future residents and a significant impact with respect to this threshold.

B. Off-site Soils Stockpiling Area

The proposed project does not involve the movement of soil within the SSA. Rather, soil would be stockpiled on the off-site location. No construction activities other than the stockpiling of soils from the EUC SPA Plan area are anticipated, therefore it is not expected that workers associated with stockpiling activities would be exposed to residual pesticides. No contaminated soils from the EUC SPA Plan area would be deposited within the SSA. As no construction or occupation of the SSA would occur, the impact of any potentially unidentified residual pesticides would be less than significant.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The proposed jack-and–bore method of construction within the off-site SCSL Improvement Area would minimize exposure to soils. In addition, exposure to pesticides within the SCSL Improvement Area would be unlikely due to the existing conditions and former uses of the area for livestock grazing. Construction within this area would be temporary, and there would be no permanent occupation of the off-site SCSL Improvement Area. Therefore, impacts with respect to residual pesticides are considered less-than-significant.

[20] *Geocon Consultants, op. cit., page 2.*

[21] *Geocon Consultants, op. cit., Figure 2.*

D. Poggi Canyon Sewer Improvement Area

The PCSI area is located within an existing roadway. Also, as a pipeline construction project, exposure to soils would be limited, temporary and would not involve the permanent occupation of the PCSI area. Given the disturbed nature of the soils within the roadbed and temporary nature of the construction project, impacts with respect to residual pesticides are considered less-than-significant.

Threshold 11: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding hazards thereby resulting in a significant physical impact.*

A. EUC SPA Plan Area

The project's consistency with applicable policies of the Chula Vista General Plan is discussed in Table 4.12-2, *Project Consistency with Applicable General Plan Hazards Policies*, on page 4.12-20. As shown in Table 4.12-2, the project would meet the policy requirements of General Plan.

As the project would be consistent with applicable hazards policies of the General Plan, it would have a less than significant impact with respect to this threshold.

B. Off-site Soils Stockpiling Area

The SSA Area would not involve the use or handling of hazardous materials. In addition, the implementation of brush control as a mitigation measure would minimize fire hazard. Therefore, the stockpiling project would be consistent with the General Plan and would have a less than significant impact with respect to General Plan hazards policies.

C. Off-site Salt Creek Sewer Lateral Improvement Area

The use and disposal of hazardous materials in the construction of the SCSL Improvement Area would adhere to federal, state and local guidelines. In addition, the implementation of brush control as a mitigation measure would minimize fire hazard. Therefore, the SCSL Improvement Area would be consistent with the General Plan and would have a less-than-significant impact with respect to General Plan hazards policies.

D. Off-site Poggi Canyon Sewer Improvement Area

Hazardous materials used in the construction of the PCSI sewer pipeline would occur in accordance with Cal/OSHA guidelines and would be disposed of in accordance with state and county regulations. As this project would occur entirely within an existing public roadway,

Table 4.12-2

Project Consistency with Applicable General Plan Hazards Policies

Applicable Policies	Evaluation of Consistency
E 16.1	The EUC SPA Plan is **consistent** with this policy. Although the project site is located in a designated High Hazard area (General Plan, Figure 9-9) and may be susceptible to fires, the conversion of the site from agriculture to urban uses and on-going practice of brush management would minimize wildland fire potential. In addition, mitigation would be applied regarding brush control in vacant areas during project development.
E 17.1,17.2	With implementation of mitigation measures presented in this EIR, the EUC SPA Plan would be **consistent** with these policies. OCPs (toxaphene) occur above the Preliminary Remediation Goals (PRGs) in Areas A, B, and C,[22] and general construction activities may mobilize potential pollutants on- or off-site, through dust or percolation of dust calming water into the groundwater system. As such, the potential exists for the exposure of workers or the general public to OCPs during grading activities, or the exposure of nearby residents to OCPs during the later phases of construction, if contaminated soils are left exposed. Contaminated areas would be remediated in accordance with Geocon Consultant's *Organic Pesticide Assessment and Soil Reuse Plan* (June 5, 2007, revised October 4, 2007). In addition, monitoring of grading and excavation activities would be provided during construction of the future school site.

implementation of brush control would not be required. Therefore, the PCSI project would be consistent with the General Plan and would have a less-than-significant impact with respect to General Plan hazards policies.

4.12.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Potentially significant impacts could result from the exposure of construction workers and the public to OCPs occurring in soils in Areas A, B, and C of the EUC. Exposure may result from any OCP-containing soils that would be released or become airborne during excavation, be left uncovered on-site, or exported off-site. The presence of organic toxins and gases at the future school site may exceed CVESD and state standards for public schools. If weeds or brush are allowed to develop in vacant areas of the EUC adjacent to occupied development, a potentially significant fire impact could occur. In addition, hazards associated with the poor visibility of tall structures under construction or rooftop cranes may contribute to an airport-related hazard, due to the proximity of Brown Field and aircraft over flight of the EUC under VFR or circle-to-land procedures. Also, as buildings, rooftop cranes and other temporary construction equipment in the EUC may exceed 170 feet in height, these structures would be approximately 270 feet higher than the Brown Field runway elevation. This may present an aircraft safety hazard.

[22] *Geocon Consultants, op. cit., Figure 2.*

4.12.5 MITIGATION MEASURES

The proposed project will be required to comply with all federal, state and local regulations with regard to the handling, transport and storage of hazardous materials. However, specific measures are recommended to enforce compliance. These include the following:

4.12-1 Prior to approval of grading permits, the following note shall be placed on the grading plans to the satisfaction of the City Engineer: "Grading with Areas A, B, and C, as shown in Figure 2 of the *Organic Pesticide Assessment and Soil Reuse Plan* (prepared by Geocon dated June 5, 2007, revised October 4, 2007), shall be managed in accordance with the remediation measures included in the *Organic Pesticide Assessment and Soil Reuse Plan* (prepared by Geocon dated June 5, 2007, revised October 4, 2007) to the satisfaction of the City Engineer." The grading plans shall demonstrate compliance with the 2007 Geocon report.

4.12-2 In accordance with the City's waste management ordinances and Stormwater Manual, the applicant shall implement Best Management Practices in Areas A, B, and C, during the excavation and placement of soil from the upper two feet of existing grade, so that dust, erosion, excessive pooling, and stormwater runoff do not pose a problem at the site to the satisfaction of the City Engineer.

4.12-3 Prior to issuance of building permit, information regarding Pacific Waste Services' Households Hazardous Waste Collection Facility shall be posted within each residential unit.

4.12-4 Prior to issuance of building permits, the FAA shall be notified of each high-rise building, structure or construction equipment that would be 800 feet or more above MSL (275 feet above Brown Field ground level). FAA recommendations regarding marking and/or lighting shall be incorporated into unfinished high rise buildings, rooftop cranes, finished high rise buildings, and any other tall structures.

4.12-5 Brush and weed control within open space and undeveloped areas of the EUC not used for agricultural purposes, shall be implemented as applicable in accordance with the City's Urban-Wildland Interface Code.

4.12-6 Concurrent with the first submittal of construction plans for the fire station, the fire station design shall demonstrate to the satisfaction of the Director of Development Services and Fire Marshal that the above-ground fuel tanks comply with applicable local, State and Federal fuel storage and containment regulations.

4.12.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Compliance with existing ordinances, in combination with proposed Mitigation Measures 4.12-1 through 4.12-6 would reduce potentially significant impacts associated with hazards and risks to less-than-significant.

4.13 HOUSING AND POPULATION

The Otay Ranch GDP Program EIR (90-01) analyzed the potential for implementation of the Otay Ranch GDP to result in population and housing impacts. The Otay Ranch GDP Program EIR addressed the Otay Ranch development's growth-inducing effect on population, housing, and employment opportunities, and the impact it would have on public facilities and utilities. Mitigation introduced for this impact in the Otay Ranch GDP Program EIR involves the provision of adequate facilities, which would accommodate the growth provided. The Housing Element of the 2005 General Plan identifies existing and projected population and housing needs and recommends ways to meet these needs while balancing other community objectives and resources. The Housing Element also includes an Affordable Housing Program. The GPU EIR concluded that implementation of the GPU would increase population in areas not currently developed. This would be a significant and unavoidable impact of the GPU. The analysis and discussion of population and housing issues contained in the Otay Ranch GDP Program EIR and GPU EIR are incorporated by reference.

This section addresses the proposed project's impacts on population and housing growth with respect to the Otay Ranch GDP, the City of Chula Vista General Plan, and SANDAG adopted growth forecasts.

4.13.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) San Diego Association of Governments

The San Diego County Association of Governments (SANDAG) conducts population and transportation research and is the forum for decision-making on regional issues, such as growth. *SANDAG's 2030 Regional Growth Forecast Update, p*ublished July 2008 predicts 971,739 new population, 288,726 new homes, and 464,333 new jobs between 2004 and 2030. All of the 19 jurisdictions (including unincorporated San Diego County) that comprise SANDAG anticipate a higher percentage increase in population than in housing, and population growth is expected to outpace home construction, as is the case today.

For the 18 incorporated cities in the region, the forecast is based on adopted land use plans and policies. The 2030 Regional Growth Forecast Update also summarizes the growth rate among jurisdictions. As depicted on 2030 Regional Growth Forecast, Figure 2. As shown in the Growth Forecast, unincorporated San Diego County is expected to experience the greatest growth (approximately 55 percent) and the City of Chula Vista is expected to be second in growth

(approximately 52 percent). The region as a whole is expected to experience an approximate 32 percent growth rate. According to the 2030 Regional Growth Forecast, the City of Chula Vista would increase from a 2004 population of 208,675 to a 2010 population of 248,174 a 2020 population of 289,304, and a 2030 population of 316,445. Chula Vista's total population increase is estimated to be 107,770.

Under the 2030 Regional Growth Forecast Update, the growth in housing units in the City of Chula Vista is also second in the region, with an estimated growth of 46 percent by 2030. According to the SANDAG forecast, housing units in the City of Chula Vista would increase from 70,609 in 2004 to 84,166 in 2010, to 97,732 in 2020, and to 102,885 in 2030. Chula Vista's total increase in housing is estimated to be 32,276 units during this 26-year period. During this period, Chula Vista is also anticipated to experience an increase from 55,226 jobs in 2004 to 109,780 jobs in 2030, a 99 percent increase in employment opportunities.

(2) Chula Vista General Plan Update

The Chula Vista General Plan Vision 2020 divides the City into three planning areas: (1) the Southwest Planning Area; (2) the Northwest Planning Area; and (3) the East Planning Area. Within the East Planning Area, the EUC is located within the Eastern University District. The EUC is also designated a "Future Activity Center,"[1] within the "East Focus Areas of Change"[2] Activity centers contain the highest concentrations of jobs; shopping centers that serve local or regional needs, significant community gathering places, and major commercial uses, City-serving land uses that tie the City together, and transit corridors. Focused areas of change are those areas where more intensive development, revitalization and/or redevelopment are proposed to occur. With regard to focused areas of change, including future development areas of the Otay Ranch, the General Plan states: "These are parts of our City where new growth and redevelopment can best be accommodated because of current or future transportation choices, and opportunities for mixed-use development and higher density housing." In accordance with these designations, the General Plan designates the EUC as a hub of the Otay Ranch regional services, and commercial and residential uses in the area.[3] The respective General Plan Policy LUT 94.2 allows for the EUC to be developed with residential and commercial development at densities and intensities at higher ranges.

Under the General Plan's Land Use and Transportation Element, population for Chula Vista is projected to grow from 222,300 in 2004 to 323,900 in 2030. Projected growth in the City's five planning areas is summarized in Table 4.13-1, *Chula Vista Projected Population in 2030*, on page 4.13-3. The Chula Vista General Plan's projected population exceeds SANDAG's current 2030 Regional Forecast Update. The SANDAG 2030 Growth Forecast Update projects Chula Vista's

[1] *City of Chula Vista, General Plan Update, Figure 5-9.*

[2] *Ibid, Figure 5-10.*

[3] *Ibid, Chapter 5, Section 10.5.4.*

Table 4.13-1

Chula Vista Projected Population in 2030

Planning Area	Year 2004	Year 2030
Bayfront	0	2,500
Southwest	53,560	61,900
Northwest	56,930	74,800
East (incorporated area)	98,710	157,700
East (unincorporated area)	13,100	27,000
Total	**222,300**	**323,900**

Source: Chula Vista General Plan, Table 5-5.

2030 population as 316,445, a shortfall of 7,455 people compared to the General Plan Update. However, the SANDAG forecast does not include some areas located outside of the existing City boundaries. The intent of the General Plan Update is to meet housing demand, Instead of "exporting" housing demand to neighboring regions. Therefore, the efforts of the Chula Vista General Plan to add mixed use and higher densities is consistent with the intent of the SANDAG RCP, which encourages local jurisdictions to add housing capacity to their general plans. As SANDAG forecasts are updated every few years, it is expected that SANDAG's 2030 Regional Forecast will be revised several times over the life of the Chula Vista General Plan resolving any inconsistencies with City projections. The General Plan anticipates population in the East Planning Area to grow from 98,710 in 2004 to 157,700 in 2030.

The Chula Vista General Plan also incorporates a Housing Element (adopted October 24, 2006) that identifies strategies for expanding housing opportunities for the City's various economic segments. Under the Housing Element, the provision of new housing opportunities within mixed-use areas and at higher density levels, particularly transit focus areas, is encouraged. A primary issue of the Housing Element is the shortfall of housing, particularly affordable housing, in Chula Vista and the region. To address this issue, the Housing Element requires that residential developments with fifty or more dwelling units provide 10 percent of total units for low- and moderate-income households, with at least half of those (5 percent) designated for low-income households.

Applicable General Plan objectives and policies are listed below:

Objective H4 - Minimize impacts on housing choice within each of the four geographic planning areas, especially to very low-and low-income residents, that result from conversion or demolition of rental housing units.

Policy

H 4.1 – Promote an equitable distribution of housing types (e.g., multi-family rental and owner occupied housing) based upon identified needs within the Northwest, Southwest and East Planning Areas to provide a range of housing opportunities for all income levels.

Objective H5 - Encourage the provision of a wide range of housing choices by location, type of unit, and price level, in particular the establishment of permanent affordable housing for low-and moderate-income households.

Policy

H 5.1 – Balanced communities-Affordable Housing: Require newly constructed residential developments to provide a portion of their development affordable to low-and moderate-income households.

H 5-2 – Encourage the development of sufficient and suitable new rental housing opportunities within each of the City's four geographic Planning Areas, particularly for very low-and low-income households.

Objective H6 - Promote the development of a variety of housing choices, coupled with appropriate services, to meet the needs of special population groups, including the homeless, those "at-risk" of becoming homeless, persons with physical and/or development disabilities, emancipated foster youth, students, athletes at the Olympic Training Center, single-parent households, farm workers and seniors.

Policy

H 6-2 – Encourage the development of alternative housing types in locations with easy access to goods, services, transportation, recreation and other appropriate services to accommodate the special needs of seniors, persons with disabilities, emancipated foster youth, students, athletes and single person households.

Objective H7 - Facilitate the creation, maintenance, preservation and conservation of affordable housing for lower and moderate-income households through comprehensive planning documents and processes, and the provision of financial assistance and other incentives.

Policy

H 7-1 – Ensure Chula Vista's plans and policies addressing housing, such as the Zoning Ordinance, Sectional Planning Area Plans, and Specific Plans, encourage a variety of housing product that responds to variations in income level, the changing live-work patterns of residents and the needs of the City's diverse population.

Objective H8 - Ensure the availability of housing opportunities to persons regardless of race, color, ancestry, national origin, religion, sex, disability, marital status, and familial status, source of income or sexual orientation.

Policy

H 8-1 – Ensure equal housing opportunities to prevent housing discrimination in the local housing market.

(3) Otay Ranch General Development Plan

The Otay Ranch GDP establishes a maximum residential buildout for the entire EUC of 3,313 multi-family residential units, with 2,983 of those units located within the applicant's ownership. Based on a coefficient of 2.58 persons per household, the Otay Ranch GDP establishes the maximum population for the EUC of 8,548. As the proposed EUC SPA Plan incorporates approximately 90 percent of the EUC, under the GDP the maximum residential units for the proposed project would be 2,983 and the maximum population would be 7,696.

B. Existing Conditions

Throughout its history, the project site has been used primarily for agricultural purposes. The project site has not been formerly, nor is currently, occupied. No former or current residential uses are located within the project site.

4.13.2 THRESHOLDS OF SIGNIFICANCE

According to Appendix G of the CEQA Guidelines, impacts to housing and population would be significant if the proposed project would:

Threshold 1: *Induce substantial population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure); and*

Threshold 2: *Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.*

In addition, impacts to housing and population would also be significant if the proposed project would:

Threshold 3: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding housing and population thereby resulting in a significant physical impact.*

4.13.3 IMPACT ANALYSIS

The impacts associated with the off-site SSA, SCSL Improvement Area and PCSI Area are related to short-term construction activities. As these off-site activities would not generate population or housing, these project components are not evaluated in this section. Similarly, the grading options would not affect population or housing. Therefore, Grading Options 1 and 2 are not evaluated in this section.

Threshold 1: *Induce substantial population growth in an area, either directly (i.e., by proposing new homes and businesses) or indirectly (i.e., through extension of roads or other infrastructure).*

The proposed project would directly contribute to population growth in the area through the development of 2,983 multi-family residential units. In accordance with Zoning Code Section 19.80.030, the proposed project must contribute to additional police, fire, schools, libraries, water, wastewater, and drainage services and utilities and provide a traffic study and air quality analysis. The proposed project would provide for new infrastructure improvements, including interior roadways, sewage and water lines, power and telecom lines, and transit routes and stations for regional and local service. Off-site infrastructure improvements include the installation of a segment of 15-inch wastewater pipeline on the Salt Creek Interceptor and the replacement of Reach 270 on the Poggi Canyon Trunk Sewer. The proposed EUC SPA Plan also incorporates sites for a library, an elementary school, and a fire station.

In accordance with Section 19.09 (Growth Management), the proposed project must provide a Public Facilities Financing Plan (PFFP) that identifies costs of development and financing mechanisms to provide public services commensurate with development and to maintain the quality of life threshold standards set forth in Section 19.09. Implementation of the proposed project would require the collection of Public Facilities Development Impact Fees (PFDIF) at the time of building permits. The PFDIF addresses the project's proportional impact on capital facilities, such as structures and equipment, associated with fire, police, and library services. It does not address the impact associated with operations and maintenance for those facilities. It is the city's policy to use public funds such as property taxes, sales taxes, and fees generated by the project to cover the incremental costs associated with providing fire services and other public services such as library, parks, police protection, etc.

A fiscal impact analysis (FIA) has been conducted for the EUC to determine the revenues and costs expected to be generated by the development. Net revenues are used to finance costs associated with operations and maintenance associated with the public services required to serve the project.

In addition, the City Council has adopted Threshold Standards establishing "quality-of-life" indicators for eleven public facility and service topics. Adherence to these citywide standards is intended to preserve and enhance both the environment and residents' quality of life as growth

occurs. To provide an independent, annual, City-wide Threshold Standards compliance review, the Growth Management Oversight Commission (GMOC) was created. It is composed of nine members representing each of the City's four major geographic areas, a member of the Planning Commission, and a cross section of interests including education, environment, business, and development.

The GMOC assesses, on an annual basis, compliance with the growth management thresholds. Should the GMOC determine that the growth management threshold standard is not being satisfied because of the impacts of growth, the City Council shall consider adopting specific mitigation measures to bring the condition into conformance, prior to issuing further building permits.

Furthermore, as discussed in Section 4.11.5.1A, the General Plan includes Objective GM-1 which:

- Calls for the City to maintain a set of quantitative levels of service measures (growth management threshold standards) as a tool to assess the relative impact of new facility and service demands created by growth and apply those standards as appropriate to approval of discretionary projects (GM 1.1); and

- Establishes the authority of the City Council to withhold discretionary approval and subsequent building permits for projects out of compliance with those standards (GM1.11).

These policies require that the City provide public services to meet established service standards and give the City Council the discretion to withhold permits if the standards are not met. Therefore, the combination of PFDIF fees from the Applicant and existing City policies and mechanisms, would reduce operational and maintenance impacts to less than significant.

All new utilities and public services, particularly if excess capacity occurs, have the potential to generate new development and population growth. However, the extension of water and wastewater infrastructure into the EUC would occur in accordance with anticipated growth under the proposed EUC SPA Plan and would not accommodate additional growth beyond that anticipated under the Otay Ranch GDP or Chula Vista General Plan Update. Furthermore, the proposed library is intended to meet existing and projected demand in the Otay Ranch Master Plan and east Chula Vista area, and would not serve unanticipated growth in the area. The proposed EUC SPA Plan's proposed elementary school would be developed and phased in coordination with the CVESD according to the CVESD's projected student demand for the EUC and would serve populations anticipated under the Otay Ranch GDP. With respect to police and fire services, population growth would be consistent with that anticipated under the Otay Ranch GDP and Chula Vista General Plan Update. And, as further discussed in Section 4.11, Public Services and Utilities, these services would be increased to support the SPA Plan's projected demand. Thus, infrastructure and services improvements provided under the proposed EUC SPA Plan would not create excess capacity or generate additional population growth.

In compliance with the General Plan Housing Element, the proposed EUC SPA Plan also incorporates a Comprehensive Affordable Housing Plan. Under this plan, 10 percent of the total residential units in the EUC would be affordable for low- and moderate-income households, with at least half of those (five percent) to be designated for low-income households. The SPA's Affordable Housing Plan provides a total of 376 affordable units, including 189 low-income units and 187 moderate-income units. This total includes 78 units (40 low and 38 moderate income) that were transferred from Village Seven via an Affordable Housing Transfer Agreement (December 2005). The remaining affordable units (298) represent 10 percent of the 2,983 residential units that make up proposed EUC SPA Plan.

With the development of 2,983 multi-family residential units, the proposed project is expected to generate a population of 7,696 under a 2.58 household coefficient set forth in the Otay Ranch GDP. This population growth would not exceed forecasted growth in the Otay Ranch GDP, or in the General Plan's East Planning Area, both of which are based on a development cap in the GDP of 2,983 residential units.

The proposed project would be consistent with the applicable policies and provisions of the General Plan Housing Element. In addition, the proposed project's maximum development level of residential units (2,983) would not induce substantial population growth in the area beyond that already planned for the EUC and forecasted in the Otay Ranch GDP and General Plan. As such, under this scenario the proposed project would be consistent with projected General Plan and Otay Ranch GDP growth, and impacts with respect to Threshold 1 would be less-than-significant.

Threshold 2: *Displace substantial numbers of existing households or people, necessitating the construction of replacement housing elsewhere.*

No existing or former residential uses occupy the project site. As such, the proposed EUC SPA Plan would not displace any existing households or people, or necessitate the construction of replacement housing elsewhere. Therefore, the proposed project would have no impact associated with displacement of households or people.

Threshold 3: *Be inconsistent with General Plan, GDP, and other objectives and policies regarding housing and population thereby resulting in a significant physical impact.*

The proposed project is compared to applicable housing objectives of the General Plan in Table 4.13-2, *Project Consistency with Applicable General Plan Housing Policies,* on page 4.13-9. As shown in Table 4.13-2, the project would be consistent with the General Plan's housing objectives in that it provides an Energy Conservation Plan to address energy efficiency; includes an Affordable Housing Plan that will be reviewed and approved by the City prior to approval of the EUC SPA Plan; identifies all areas of the EUC as suitable for affordable housing, but encourage consideration of proximity and availability of amenities; would provide housing for all levels of the population; would provide housing to meet ADA requirements; would be consistent with the

Table 4.13-2

Project Consistency with Applicable General Plan Housing Policies

Applicable Policies	Evaluation of Consistency
H: 4.1	The EUC SPA Plan is **consistent** with this General Plan policy. The City's General Plan Housing Element addresses housing needs Citywide. The City's Housing division monitors and ensures that housing opportunities for all income levels are provided. The EUC SPA Plan includes an Affordable Housing Plan that will be reviewed and approved by the City prior to approval of the SPA.
H: 5.1, 5.2	The EUC SPA Plan is **consistent** with the policies. The City's Affordable Housing Policy requires that 10 percent of the total residential units be provided at affordable levels. An Affordable Housing Program has been prepared for the EUC to meet this requirement. The Affordable Housing Plan identifies that the obligations of EUC be met through a combination of rental and for-sale housing, in compliance with affordability criteria as defined in the State, federal and City codes and policies. The EUC's Affordable Housing Plan will be reviewed and approved by the City prior to approval of the SPA.. The EUC will also include a wide range of housing choices for a variety of age groups and income levels.
H: 6.2	The EUC SPA Plan is **consistent** with this General Plan policy. The Affordable Housing Plan identifies all areas of the EUC as suitable for affordable housing, but encourages consideration of proximity and availability of amenities. The EUC will further provide housing for all levels of the population, and is designed to meet ADA requirements.
H 7.1	The EUC SPA Plan is **consistent** with this General Plan policy. The EUC will respond to market conditions. The EUC Affordable Housing Plan provides compliance with the Balanced Communities policy for affordable units and will have access to financial incentives and other assistance as provided for in the General Plan Housing Element and the City's Inclusionary Housing policies.
H: 8.1	The EUC SPA Plan is **consistent** with this General Plan policy. The Affordable Housing Plan for the EUC Developer(s) shall provide a marketing plan to the City, for proactively marketing the low and moderate-income housing units. All development in the EUC must comply with local, State and federal fair housing laws.

Balanced Communities policy for affordable units; and provides a marketing plan to the City, for proactively marketing the low and moderate-income housing units. All development in the EUC would comply with local, state and federal fair housing laws. As the proposed project would be consistent with the General Plan housing policies, it would have a less than significant impact with respect to this threshold.

Similarly, the proposed project would be consistent with the project as envisioned in the GDP. Build-out population (as detailed on Table B, Page I-21 of SPA Plan) for the project would be consistent with projections for the project based on total dwelling units anticipated and a standard application of an average persons per household for multi-family dwelling unit product type. Consistent with the description of the EUC in Chapter 1, Section F.12.b, the proposed project would include 10 percent affordable housing as identified in the Affordable Housing Program section of the SPA Plan.

4.13.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

The Chula Vista General Plan Update incorporates population projections based on the sum of anticipated growth in the City's various land use plans, including the Otay Ranch GDP. The development of a maximum 2,983 residential units is anticipated by the Otay Ranch GDP and is therefore consistent with growth projections. In addition, it is not anticipated that the proposed project would exceed the household occupancy rate of 2.58 persons per unit, as set forth under the Otay Ranch GDP. As the proposed project is not expected to exceed the population projections of the Otay Ranch GDP, it is not expected to directly or indirectly induce substantial population growth beyond that anticipated under the General Plan. In addition, as no development currently exists on the proposed project site, the proposed project would not displace any existing housing or people. As the proposed project would not exceed the population and housing threshold standards, it would have a less than significant impact with respect to this issue. As such, impacts with respect to population and housing would be less-than-significant.

4.13.5 MITIGATION MEASURES

No significant impacts with regard to population and housing would occur. No mitigation measures are necessary.

4.13.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant and unavoidable impacts with respect to housing and population would occur.

4.14 GLOBAL CLIMATE CHANGE

The following analysis evaluates the proposed project's potential impacts associated with global climate change. The project's future greenhouse gas (GHG) emissions have been calculated in order to determine the significance of impacts to global climate associated with the proposed project.

4.14.1 EXISTING CONDITIONS

A. Regulatory Framework

(1) National

There has been activity at the federal level with respect to the regulation of GHGs. In Massachusetts v. Environmental Protection Agency (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the EPA have authority to regulate greenhouse gases, but the EPA's reasons for not regulating this area did not fit the statutory requirements. As such, the U.S. Supreme Court ruled that the EPA should be required to regulate CO_2 and other greenhouse gases as pollutants under the federal Clean Air Act (CAA). To date, the EPA has not developed a regulatory program for greenhouse gas emissions, nor has it been mandated to do so.

In addition, Congress has increased the corporate average fuel economy (CAFÉ) of the U.S. automotive fleet. In December 2007, President Bush signed a bill raising the minimum average miles per gallon for cars, sport utility vehicles, and light trucks from an average of 27 miles per gallon to 35 miles per gallon by 2020. This increase in CAFÉ standard will create a substantial reduction in GHG emissions from automobiles, which constitutes the largest single GHG-emitting sector in California.

(2) State

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the State. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. It should be noted that setting emission standards on automobiles is solely the responsibility of the federal EPA. The federal CAA allows States to set state-specific emission standards on automobiles if they first obtain a

waiver from the USEPA. The USEPA denied California's request for a waiver, thus delaying CARB's proposed implementation schedule for setting emission standards on automobiles to help reduce GHGs.

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions targets for the state, as well as a process to ensure the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California EPA, was formed. The CAT published its report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the executive order.

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB32, into law. AB32 commits the State to achieving the following:

- 2000 GHG emission levels by 2010 (a reduction of approximately 11 percent below "business as usual").[1]
- 1990 levels by 2020 (25 percent below business as usual).
- 80 percent below 1990 levels by 2050.

To achieve these goals, AB32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. The following schedule outlines the CARB actions mandated by AB32:

- By January 1, 2008, CARB adopts regulations for mandatory (GHG) emissions reporting, defines 1990 emissions baseline for California (including emissions from imported power), and adopts it as the 2020 statewide cap.[2]
- By January 1, 2009, CARB adopts plan to effect GHG reductions from significant sources of GHG via regulations, market mechanisms and other actions
- During 2009, CARB drafts rule language to implement its plan and holds a series of public workshop on each measure (including market mechanisms).
- By January 1, 2010, early action measures will take effect.
- During 2010, CARB, after workshops and public hearings, conducts series of rulemakings to adopt GHG regulations including rules governing market mechanisms.

[1] *"Business as usual" refers to a scenario in which no GHG reduction measures are implemented.*

[2] *CARB has to date not adopted any such regulations.*

- By January 1, 2011, CARB completes major rulemakings for reducing GHGs, including market mechanisms. CARB may revise and adopt new rules after January 1, 2011 to achieve the 2020 goal.

- By January 1, 2012, GHG rules and market mechanisms adopted by CARB take effect and become legally enforceable.

- December 31, 2020 is the deadline for achieving 2020 GHG emissions cap.

A companion bill to AB32, Senate Bill (SB) 1368, requires the California Public Utilities Commission (PUC) and CEC to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the State. CARB's list of discrete early action measures that can be adopted and implemented before January 1, 2010 was approved on June 21, 2007, and focuses on major State-wide contributing sources and industries, not on individual development projects or practices. These early action measures are: (1) a low-carbon fuel standard; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills. Recently, CARB released emissions inventory estimates for 1990 through 2004.

An additional bill related to AB32, SB 97, requires the California Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop, and transmit to the Resources Agency, guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by the California Environmental Quality Act (CEQA), including but not limited to, effects associated with transportation or energy consumption. The Resources Agency will then be required to certify and adopt the guidelines by January 1, 2010, and to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to AB32.[3] OPR has already proposed amendments to the CEQA Guidelines regarding climate change, but the amendments have not been formally enacted. Therefore, they are not in effect.[4] However, the following discussion, though not required to do so, is generally consistent with the proposed amendments. The State Air Resources Board has so far explicitly avoided suggesting quantitative GHG emissions standards for residential projects.[5]

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[3] *Senate Bill No. 97, Chapter 185, approved by Governor Schwarzenegger and filed with the Secretary of State, August 24, 2007.*

[4] *Footnote 1: Governors Office of Planning and Research Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions and Public Workshop Announcement, January 8, 2009.*

[5] *CARB Preliminary Draft Staff Proposal, "Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act:, October 24, 2008, page 11("X metric tons CO2 e/yr (criteria to be developed)").*

Regarding the effects of global climate change on water resources, in June 2006, the California Department of Water Resources (DWR) published a Technical Memorandum Report entitled Progress on Incorporating Climate Change into Planning and Management of California's Water Resources in response to the Executive Order S-3-05 (DWR 2006a). The report describes progress made in addressing climate change issues in existing water resources planning, management tools, and methodologies. The report covers a wide range of topics addressing climate change and its potential impact on California's water resources. These include the following:

- Causes of climate change and potential threat to California's water resources, and measures that could be taken to adapt to or mitigate the effects of climate change.
- Background and approach used for the climate change analyses included and the climate change scenarios used in the Report.
- Potential impacts of the selected climate change scenarios on State Water project (SWP) and Central Valley project operations.
- Potential impacts to Delta water quality and water levels, including effects of modified Delta inflows and exports on compliance with water quality standards and the implications of sea level rise.
- Implications of global warming for managing floods.
- Potential increases in crop water use due to global warming, and application of analysis tools to assess changes in estimated net irrigation requirements for crops.

In addition, the report included directions for further work to incorporate climate change into California's water resources management. This includes probability estimates of potential climate change scenarios in order to provide policymakers with both ranges of impacts and the likelihoods associated with those impacts.

(3) Local

The San Diego Air Pollution Control District (APCD) and the City of Chula Vista do not regulate GHG emissions and have not yet adopted CEQA significance thresholds for GHG emissions.

As part of the international, multicity International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Protection Campaign, the City of Chula Vista adopted a CO_2 Reduction Plan in order to reduce the City's GHG emissions and address the community's impact on climate change. The CO_2 Reduction Plan outlines baseline and future CO_2 emission estimates and includes a reduction strategy with estimated potential CO_2 savings. The Plan

goes further to outline specific reduction goals and policies and to design an action plan to implement the policies and achieve the reduction goal.

The goal of the CO_2 Reduction Plan is to reduce Chula Vista's CO_2 emissions to 80 percent of 1990 levels by the year 2010. This is equivalent to a savings of approximately 400,000 tons/year in 2010 compared to projected emission levels without any municipal action. In order to achieve this goal, the CO_2 Reduction Plan describes an action plan composed of ongoing CO_2 reduction projects and a set of 20 action measures recommended for implementation following adoption of the CO_2 Reduction Plan. By 2010, these measures are estimated to produce about 100,000 tons/year of CO_2 savings, which is approximately one-quarter of the savings needed to achieve the international reduction goal. The highest priority CO_2 action area under the CO_2 Reduction Plan is transportation due to its high CO_2 emissions, significant potential for savings, and major environmental and economic improvement opportunities. The CO_2 Reduction Plan identifies these 20 action measures, in addition to CO_2 reduction projects already being implemented by the City, as the key components of the City's overall reduction strategy and action plan. Additional reduction measures were included in the CO_2 Reduction Plan as measures suitable for Chula Vista.

The City of Chula Vista released a Greenhouse Gas Inventory in 2005, which is considered a first step in the City's "effort to assess its emission reduction progress and to redefine policies and programs require to reach its 2010 reduction commitment." The report concluded that 18 of the 20 action measures had been implemented, and emissions from City-initiated activities had decreased 17 percent. However, GHG emissions from the Chula Vista community increased from 1990 levels in most sectors. Much of this increase in CO_2 emissions can be attributed to growth in population and geography, by 61 percent and 78 percent, respectively. The 2005 Inventory Report also listed options and recommendations from the ICLEI Cities for Climate Protection program that could help the City achieve its GHG reduction goals. While some of these measures have already been implemented by the City of Chula Vista, the Inventory Report did not specify which. The Chula Vista City Council, On May 1, 2007, directed staff to reconvene a climate change working group.

The Chula Vista Climate Change Working Group was tasked with identifying climate protection actions to help meet the ICLEI/Kyoto commitment of reducing Citywide GHG emissions to 20 percent below 1990 levels. In April 2008, the working group submitted a final report to the City Council, recommending seven measures for the City to implement in order to reduce Chula Vista's GHG emissions over the next several years. On April 1, 2008, the Chula Vista City Council adopted the recommendations of the Chula Vista Climate Change Working Group.

One of the proposed measures (No. 4) is intended to create heightened, community-wide, green building standards. This action has two primary components. First, the City would institute an early adoption of the California Green Building Code. Currently the State will implement these requirements in January 2011; Chula Vista is currently planning to have this requirement implemented in May 2009. Second, all new and substantially renovated buildings

would be required to achieve either a reduction in carbon emissions or an increase in energy efficiency equal to 15 percent over Title 24 for residential buildings and 10 percent over Title 24 for non-residential buildings. It is anticipated that City Council will adopt an ordinance detailing this provision in May 2009. Shortly after adoption by the City Council, the proposed ordinance will need to be reviewed and approved by the California Energy Commission (CEC) before the ordinance will go into effect. The planned effective date of the ordinance is anticipated in August 2009.

The City of Chula Vista Growth Management Ordinance also requires that an Air Quality Improvement Plan (AQIP) and a Water Conservation Plan (WCP) be submitted with all Sectional Planning Area (SPA) Plans, Tentative Maps, or for any major development project. The AQIP must provide an analysis of air pollution impacts that would result from the project, and demonstrate that the project has the best available design to reduce vehicle trips, maintain or improve traffic flow, reduce VMT, and other means of reducing emissions from the project, as well as identifying a program to monitor compliance. Projects must either participate with the GreenStar Building Efficiency Program or have the project assessed using the Chula Vista CO_2 INDEX model. With GreenStar Program participation, developers must exceed Title 24 by 15 percent in 50 percent or greater of residential dwelling units, and by 10 percent in 50 percent or greater of the non-residential structures. Projects using the CO_2 INDEX Model must reflect improvements at or beyond the threshold scores in two out of for indicators in each of the following elements: Land Use, Transportation, and Environment. The project has complied with the City's AQIP Guidelines by completing and passing the City's INDEX Modeling, the results of which are summarized in Table 4.14-1, *Summary of Chula Vista CO_2 INDEX Modeling Results*, on page 4.14-7.

The WCP must provide an analysis of water usage requirements of the project, a plan for conserving water, use of reclaimed water, and other means of reducing per capita water consumption, as well as identifying a program to monitor compliance. All residential projects must utilize hot water pipe insulation, pressure reducing valves, and water-efficient dishwashers. Non-residential projects utilize hot water pipe insulation and pressure reducing valves. Both residential and non-residential projects must also incorporate at least two other additional water conservation measures, one indoor, and one outdoor.

B. Setting

GHGs include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Carbon dioxide is the most abundant GHG in the atmosphere. GHGs are the result of both

Table 4.14-1

Summary of Chula Vista CO_2 INDEX Modeling Results

Element	Key Indicator	Unit of Measure	Threshold Scores	EUC Score	Compliance with Threshold
Land Use	Land Use mix	0 to 1 Index	0.4 or higher (threshold score represents the proportion of dissimilar uses among adjacent one-acre grid cells)	0.46	YES: This is the result of the highly mixed-use character of the project.
	Land Use Balance	0 to 1 Index	0.75 or higher (threshold score represents the proportions of land uses, by land area, within the total project area)	0.90	YES: This is the result of the highly mixed-use character of the project.
	Neighborhood Completeness	% of Key Issues	50% or higher (Key Issues include fire/police station, library, park, school, and/or general commercial/retail uses)	80%	YES: The project contains many of these key neighborhood facilities.
	Internal Connectivity for Vehicles	0 to 1 Index	0.75 or higher (threshold score represents the ratio of street intersections vs. intersections and cul-de-sacs longer than 150 feet	1.00	YES: The project's street system is a completely interconnected grid.
OVERALL LAND USE ELEMENT CO_2 INDEX MODELING RESULTS:			Improvements at or beyond the threshold scores in two out of four indicators.	**4 of 4**	**PASS:** With improvements over the threshold scores in four out of four of the indicators the project has demonstrated conformance.
Transportation	Pedestrian Network Coverage	Pedestrian Routes / Streets Ratio	1.0 or higher (threshold score represents the ratio of total pedestrian network centerline distance vs. total street centerline distance)	1.00	YES: Due to the urban character of the EUC with enhanced sidewalks and paseos adjacent to the street network

Table 4.14-1 (Continued)

Summary of Chula Vista CO_2 INDEX Modeling Results

Element	Key Indicator	Unit of Measure	Threshold Scores	EUC Score	Compliance with Threshold
	Pedestrian Route Directness	Walkable Distance vs. Straight Line Ratio	1.5 or lower (threshold score represents ratio of shortest walkable distance from multiple origins to designated nodes vs. straight line distance between the same points)	1.48	YES: Due to the fine grain walkable grid system of streets and a multi layered system of trails, paths, and paseos
	Transit Service Coverage	Stops/ square mile	10 or higher (threshold score represent the number of public transportation stops provided per square mile)	6.1	NO: Only the BRT was factored into onto the modeling, thus no credit for local transit routes was given. Local transit will be provided; facility siting will be refined through project implementation.
	Daily Auto Driving	Vehicle miles traveled/ day/ capita	20 or less (threshold represents the average daily miles traveled per capita)	26.00	NO: More a reflection of the regional commute distances than the project's design.
OVERALL TRANSPORTATION ELEMENT CO_2 INDEX MODELING RESULTS:			Improvements at or beyond the threshold scores in two out of four indicators.	**2 of 4**	**PASS:** With scores equal to or demonstrating improvements over the thresholds in two out of the four indicators the project has demonstrated conformance.
Environment	Park Proximity	Distance to Closest Park	1,200 feet or less: (the average distance from all dwellings to the closest park measured in feet)	635 feet	YES: As a result of the project' parks master plan and the strategic placing of urban parks within each of the neighborhoods
	Total Residential Energy Use	MMBtu/ year/ capita or less	24 or less (threshold score represents the average residential energy consumption per year)	16.67	YES: As a result of the high density character of the residential development and the energy efficient building systems

Table 4.14-1 (Continued)

Summary of Chula Vista CO_2 INDEX Modeling Results

Element	Key Indicator	Unit of Measure	Threshold Scores	EUC Score	Compliance with Threshold
	Total Non-Residential Energy Use	MMBtu/ year/ capita or less	12 or less (threshold score represents non-residential average energy consumption per year)	26.00	NO: Likely due to the high percentage of non-residential uses in the plan, rather than any issue related to the type of design of the future non-residential uses.
	Total Residential and Non-Residential Energy Use	MMBtu/ year/ capita or less	70 or less (threshold score represents the combined residential & non-residential average energy consumption per year)	50.61	YES: As a result of the high density character of the project and the energy efficient systems included within the buildings
OVERALL ENVIRONMENTAL ELEMENT CO_2 INDEX MODELING RESULTS:			Improvements at or beyond the threshold scores in two out of four indicators.	**3 of 4**	**PASS:** With improvements over the threshold scores in three out of the four indicators, the project has demonstrated conformance.

natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

(1) Global

Based on a 2007 study prepared by the Intergovernmental Panel on Climate Change (IPCC), the global mean concentration of CO_2 has risen considerably since the Industrial Revolution. Scientists estimate that the global mean concentration of CO_2 was approximately 280 parts per million (ppm) 250 years ago. The estimate for 2007 was 384 ppm.[6] Furthermore, according to the IPCC, global GHG emissions were estimated to have increased by 70 percent between 1970 and 2004. From 1990 to 2004, however, industrialized countries' GHG emissions decreased three percent, from 18.6 to 17.9 billion tons CO_2e.[7,8]

[6] *National Oceanic and Atmospheric Administration, Earth System Research Laboratory. Mauna Loa CO_2 Annual Mean Data.*

[7] *UNFCCC, National GHG Inventory Data for the Period 1990-2004 and Status of Reporting, 2006.*

(2) National

A 2007 United States Environmental Protection Agency (USEPA) study of trends in GHG emissions estimated that between 1990 and 2005, United States GHG emissions rose by over 16 percent, from 6.2 billion tons of CO_2e emitted in 1990 to 7.3 billion tons in 2005. GHG contributions are commonly quantified in the equivalent mass of CO_2, denoted as CO_2e. Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[9] CO_2 is the largest constituent of GHGs emitted in the United States, and the majority of these emissions originate from the burning of fossil fuels.[10]

(3) State

According to the 2007 California Air Resources Board (CARB) Draft GHG Inventory,[11] California's net GHG emissions increased 13 percent between 1990 and 2004, from 442 to 499 million metric tons of CO_2e. California represents less than seven percent of US GHG emissions. According to the California Energy Commission (CEC), fossil fuel consumption in California represents approximately 81 percent of GHG emission, and transportation represents approximately 41 percent of all GHG emissions.[12]

4.14.2 THRESHOLDS OF SIGNIFICANCE

The project would have a significant impact on or from global warming if it would:

Threshold 1: *Would the project conflict with or obstruct goals or strategies of the California Global Solutions Act of 2006 (AB32) or related Executive Orders?*

Threshold 2: *Would the project result in substantially increased exposure of the project from the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006 (AB32)?*

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[8] *IPCC: Summary for Policymakers. In: Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment, 2007.*

[9] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

[10] *USEPA, Inventory of US GHG Emissions and Sinks: 1990-2005, Chapter 2: Trends in GHG Emissions, 2007.*

[11] *CARB, Draft Updated California Greenhouse Gas Emissions Estimates: Summary Table, 2007.*

[12] *California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, 2006.*

4.14.3 IMPACT ANALYSIS

The California Climate Action Registry (CCAR) has prepared a General Reporting Protocol (GRP) for calculating and reporting GHG emissions from a number of general and industry-specific activities.[13] No specific protocols are available for land use projects, so the CCAR GRP has been adapted to address GHG emissions from the project. The information provided in this section is consistent the CCAR GRP's minimum reporting requirements. The CCAR GRP recommends the separation of GHG emissions into direct and indirect emissions. Direct emissions are emitted from sources that are owned or controlled by the project, while indirect emissions occur because of a project's actions, but are produced by sources owned or controlled by a different entity. The World Resources Institute (WRI), in cooperation with the World Business Council for Sustainable Development, has developed the GHG Protocol Corporate Standard, which promotes accounting and reporting standards for business. The GHG Protocol Corporate Standards recommends the classification of GHG emissions into three categories that reflect different aspects of ownership or control over emissions:

- Scope 1: Direct, combustion of fossil fuels by equipment or vehicles owned or controlled by the project (e.g., natural gas, propane, gasoline, and diesel);
- Scope 2: Indirect, emissions associated with purchased electricity or purchased steam;
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.

CARB asserts that consideration of indirect emissions provides a more complete picture of the GHG footprint of a facility: "As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information" to CARB to be considered for future strategies by the industrial sector.[14] For these reasons, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Therefore, direct and indirect emissions have been calculated for the proposed project.

The applicant has varying degrees of operational control with regard to the three categories of GHG emissions enumerated above. For a development project such as this, the Scope 1 emissions are anticipated to be relatively small, with most emissions coming from private entities (third party vendors during construction, and privately and publically controlled sources

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[13] *California Climate Action Registry, General Reporting Protocol Version 3.0, 2008.*

[14] *California Air Resources Board (ARB), 2007a. Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (Assembly Bill 32). Planning and Technical Support Division Emission Inventory Branch, October 19, 2007.*

during operation). The applicant can exercise Scope 2 operational control in the design and building phase of the proposed project. Upon buildout, however, the applicant will not have operational control of the project, as the properties within the project will be owned and operated by private entities. Scope 3 emissions are also outside of the project's operational control. The applicant does not have direct operational control over emissions standards for vehicles or vehicle purchase choices or driving habitats of guests. However, the applicant does have control over transportation emissions in that it controls the size and design of the proposed project, which directly relates to the number of traffic trips the project will generate. Accordingly, transportation emissions are included as part of this analysis. This analysis considers only the GHG emissions resulting from the incremental increase in usage of on-road mobile vehicles, electricity, and natural gas upon implementation of the project as project-related. As the site is currently relatively undeveloped, it is considered conservative and appropriate to consider all project-related emissions as an incremental increase. In addition, since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis.

Threshold 1: *Would the project conflict with or obstruct goals or strategies of the California Global Solutions Act of 2006 (AB32) or related Executive Orders?*

Construction emissions are calculated using the URBEMIS2007 model. URBEMIS2007 outputs report CO_2 emissions only. Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the equivalent mass of CO_2, denoted as CO_2e. Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[15] These GWP ratios are available from the USEPA and published in the CCAR Protocol. By applying the GWP ratios, project related CO_2e emissions can be tabulated in metric tons per year. The CO_2e values are calculated for all construction years in order to generate a net change in GHG emissions for construction and operation (Appendix L). Construction output values used in this analysis are adjusted to represent a CO_2e value representative of CO_2, CH_4, and N_2O emissions from project construction activities. Construction CH_4 and N_2O values are derived from factors published in the CCAR GRP Version 3.0. These values are then converted to metric tons for consistency (refer to Appendix L).

Emissions of GHGs were calculated for each year of project construction. Results are presented in Table 4.14-2, *Construction Greenhouse Gas Emissions (2008-2030*), on page 4.14-13. Also included in Table 4.14-2 is the CARB's estimated 2004 State-wide inventory, the latest year for which data are available. As shown, the highest net increase in temporary GHG emissions from on-road mobile source emissions and on site construction equipment relative to the 2004 state-wide levels, due to the project, would be only 0.00078 percent in 2009 and 0.00028 percent in 2010.

[15] *CO_2e was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.*

Table 4.14-2

Construction Greenhouse Gas Emissions (2008-2030)
CO_2e[d] (Metric Tons)

Emission Source	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
CO_2 Emissions [a]	92,293	92,293	78,497	78,513	78,529	78,546	78,562	78,575	78,584	78,592	78,600	78,607	112,220	33,602	33601.7	33601.7	33601.7	33601.7	33607.06	33607.06	33607.06	33607.06	33607.06
CH_4 Emissions[b]	267	267	227	227	227	228	228	228	228	228	228	228	325	97	97	97	97	97	97	97	97	97	97
N_2O Emissions[b]	282	282	240	240	240	240	240	240	240	240	240	240	343	103	103	103	103	103	103	103	103	103	103
Total CO_2e Emissions	**92,842**	**92,842**	**78,964**	**78,980**	**78,996**	**79,013**	**79,029**	**79,043**	**79,052**	**79,060**	**79,067**	**79,074**	**112,888**	**33,802**	**33,802**	**33,802**	**33,802**	**33,802**	**33,807**	**33,807**	**33,807**	**33,807**	**33,807**
Net Increase as Percentage of 2004 Statewide Inventory: 479,740,000 tons CO_2e[c]	**0.0194%**	**0.0194%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0165%**	**0.0235%**	**33,672**	**33,672**	**33,672**	**33,672**	**33,672**	**33,678**	**33,678**	**33,678**	**33,678**	**33,678**

[a] *Compiled using the URBEMIS 2007emissions inventory model. The equipment mix and use assumption for each phase is provided in Appendix L of this EIR.*
[b] *CH_4 and N_2O values derived using emission factors from the California Climate Action Registry General Reporting Protocol, Version 3.0, April 2008.*
[c] *Statewide totals were derived from the CARB Draft California GHG Inventory.*
[d] *All CO_2E factors were derived using the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

The GHG emissions estimates presented in Table 4.14-2 do not take into account the recent changes in the CARB regulations relating to construction equipment emissions levels, or the implementation of GHG-reducing construction practices the Applicant will be required to comply with. The construction "best practices," described in Section 4.4.5 include power poles, rather than temporary diesel or gasoline generators to power construction equipment, and limiting construction vehicle idling. The implementation of these construction "best practices" would reduce energy consumption and thus GHG emissions, and thus would represent an improvement above "business as usual." The project would thus result in a less than significant impact.

Mobile source emission calculations associated with operation of the proposed project utilize a projection of annual vehicle miles traveled (VMT), which is derived from default trip rates provided in URBEMIS2007. These values account for the daily and seasonal variations in trip frequency and length associated with retail land-uses and residents traveling to and from work and other activities that require a commute. Net emission values are calculated based on the incremental increases from the existing conditions to the proposed project buildout conditions. Mobile source calculations also utilize EMFAC2007 and the CCAR GRP, Version 3.0 to generate emission factors for CO_2 and CH_4, and N_2O. These emission factors are then applied to the annual VMT calculated in the traffic study. It should be noted that the total VMT in the traffic study include trips generated from the full EUC property, and not just the portion owned by the applicant. This is considered to be a conservative, worst case evaluation and actual project impacts will likely be less.

The consumption of fossil fuels to generate electricity and to provide heating and water creates GHG emissions. Future fuel consumption rates are estimated based on specific square footage of the dwelling units and commercial/retail units, as well as predicted water supply needs of the proposed project. Natural gas and electricity usage factors derived from the SCAQMD CEQA Handbook are used to project fuel consumption rates. Electricity and natural gas usage factors based on square footage are derived from the SCAQMD CEQA Handbook. The project is estimated to generate 67,456 MWh of electricity and 260,491 million BTU of natural gas annually. Embodied energy rates associated with the proposed project's future water supply needs are calculated using factors derived from the California Energy Commission (CEC). As stated in Section 4.11.6, Water, the project is expected to have an average daily demand of 908,381 gallons per day. GHG emission factors from the CCAR protocol are then applied to the respective usage rates, to calculate annual greenhouse gas emissions in metric tons. The emission factors used in this analysis represent a State-wide average of known power producing facilities, utilizing various technologies and emission control strategies, and do not take into account the any unique emissions profiles. In addition, these emission factors do not reflect targeted future reductions in GHG emissions under SB 1368. Thus, these emission factors are considered conservative and representative.

The California Energy Commission's estimate for energy intensity of the water use cycle in Southern California is used to calculate the energy usage related to water conveyance.

Emission factors from the CCAR GRP, Version 3.0 are implemented in calculating the associated GHGs.

Emissions of GHGs were calculated for the implementation of the proposed project. Most notably, the project is a pilot development project under the US Green Building Council's (USGBC) Leadership in Energy and Environmental Design Neighborhood Development (LEED-ND) program, which is designed to certify exemplary development projects that perform well in terms of smart growth, new urbanism and green building standards.[16] The following characteristics of the proposed EUC SPA plan, which are incorporated into the plan's Sustainability Element and the physical project design, would serve to decrease the project's GHG emissions.

A. Land Use and Community Design

- Walking will be encouraged by designing short blocks and the high density, mixed use development.
- The residential portion of the project will only include multi-family development, which is more energy efficient than single-family residential development.
- Limiting street widths will reduce the urban heat island effect, and reduce the demand for air conditioning.
- Shared parking and reduced parking ratios will be required to reduce the need for extensive paved parking facilities.
- The project is located such that it will utilize existing public water and wastewater infrastructure, thus conserving the natural resources otherwise necessary to build, support and maintain support infrastructure.
- 200 acres of permanent open space will be preserved as part of the project.
- The project will develop recycling, composting, and material re-use programs for the community.

B. Transit Facilities

- The project encourages the use of alternative forms of transportation, including public transportation, bicycling, and walking, as well as carpooling, and ridesharing.

[16] *U.S. Green Building Council. LEED for Neighborhood Development Rating System, Pilot Version, 2007.*

- The project's transportation action measures make the project more pedestrian-and bicycle-friendly, as well as improve the circulation system.

- The project will include both regional and local bus systems. The project will also accommodate bicyclists on several levels. The EUC plan is fully consistent with the City's adopted Bikeway Master Plan as designated bike lanes will be provided on all the perimeter arterial streets including Birch Road, Eastlake Parkway and Hunte Parkway. Within the project, bike routes in the form of widened outside lanes will be provided the full length of Streets "A" and "K". These routes will link the City's arterial bike lane system with key destinations within the project. The remainder of the EUC streets will accommodate bicycle traffic in mixed flow due to the low proposed designated speed limit (25 mph) on these streets.

- The project will also encourage car sharing and carpooling to provide additional transportation alternatives for residents and office tenant employees. According to the Sustainability Element, "research shows that for every carshare vehicle, approximately 15 private automobiles are taken off the road, thereby reducing miles driven, emissions and parking congestion."

C. Energy Efficiency

- Energy efficient appliances and "Energy Star" appliances will be encouraged for residences. Energy Star qualified appliances "incorporate advanced technologies that use 10 to 50 percent less energy and water than standard models." Energy Star dishwashers require approximately 10 percent less energy, clothes washers require approximately 50 percent less energy, and refrigerators use roughly 15 percent less energy than their counterparts.

- The project will encourage commercial builders to include energy efficient lighting. In California interior and exterior lighting account for 35 percent of commercial electricity energy usage, and 30 percent of residential electricity usage.[17] Therefore, efforts to increase the energy efficiency of lighting would substantially reduce the Project's energy needs – and accordingly, its GHG emissions. For example, compact fluorescent light bulbs (CFLs) use 75 percent less energy than incandescent bulbs. The use of CFLs in the Project's high-efficiency lighting systems would have the potential to reduce electricity usage by over 20 percent. Timers and motion sensors save energy by reducing energy waste associated with unnecessary lighting.

- Public area lighting will use energy-efficient fixtures.

- The project will incorporate solar heating and solar power generation, thus reducing grid-energy demand.

- Shade trees will be planted to reduce the demand for air conditioning and the energy associated with it.

[17] *California Energy Commission, California Commercial End-Use Survey. March 2006.*

D. Water Efficiency

- The project will require hot water pipe insulation, which reduces the amount of time a faucet needs to run to produce hot water. Water pipe insulation is estimated to save 2,400 gallons per residential units per year and 1,200 gallons per non-residential unit per year.

- Pressure reducing valves will be required to reduce leakage and excessive flow. Pressure reducing valves that maintain water pressure below 60 psi are estimated to save 1,800 gallons per residential unit per year and 900 gallons per unit non-residential unit per year.

- The project will require the use of water saving dishwashers. Dishwashers with water saving features conserve 650 gallons per unit annually, and Energy Star dishwashers require approximately 10 percent less energy than their counterparts.

- Water-saving dual flush toilets will be required for both residential and non-residential development. Dual flush toilets in most residences, which can save 4,000 gallons of water per residential unit and 2,000 gallons per unit non-residential unit per year.

- The project will also require water efficient landscaping and evapotranspiration irrigation controllers. Residential landscaping will be water-efficient to save 1,200 gallons per year.[18] Evapotranspiration controllers, which both save 2,000 gallons per unit annually.[19]

By incorporating these design features, the project would strive to reduce energy use in excess of Title 24 standards. In addition, the project would encourage pedestrian and bicycle traffic, as well as the use of transit. As a result, the project would represent an improvement over "business as usual."

Actual project emissions may be lower than the estimates presented for the operational scenarios in Table 4.14-3, *Operational Greenhouse Gas Emissions (2030*), on page 4.14-18, as the estimates do not account for the emissions reduction requirements associated with AB1493, SB 1368, AB32, Executive Order S-3-5, and regulations that have yet to be created. If AB1493 is reinstated, CARB will create GHG emission reduction rules for cars and light trucks. According to the CEC, the reductions in emissions would be equivalent to reducing gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020. Similarly, emission standards on the State's power plants under SB 1368 have not been used to predict emissions shown in Table 4.14-3, and would likely result in actual emissions below the levels presented.

[18] *Sustainability Element: Eastern Urban Center (EUC) Sectional Planning Area (SPA) Otay Ranch GDP, April 2009.*

[19] *Sustainability Element: Eastern Urban Center (EUC) Sectional Planning Area (SPA) Otay Ranch GDP, April 2009.*

Table 4.14-3

Operational Greenhouse Gas Emissions (2030)

Emission Source	Metric Tons CO_2e[f]			
	CO_2	CH_4	N_2O	Total
Without project Features				
On Road Mobile Sources[a]	221,106	158	6,383	227,647
Electricity[b]	26,866	4	35	26,926
Water Conveyance	1,862	0.30	2	1,865
Natural Gas[c]	6,700	16	4	6,719
Total	**256,269**	**178**	**6,424**	**263,157**
With Project Features				
On Road Mobile Sources[a]	143,136	102	4,132	147,370
Electricity[b]	25,300	4	33	25,337
Water Conveyance	1,597	0.26	2	1,600
Natural Gas[c]	6,269	15	4	6,288
Total	**176,302**	**121**	**4,171**	**180,595**
Net Increase as Percentage of 2004 Statewide Inventory: 479,740,000 Metric Tons CO_2e				**0.038%**
Percent Reduction in GHG Emissions with project Features				**31%**

[a] *Mobile source values were derived using EMFAC2007 in addition to the California Climate Action Registry General Reporting Protocol; Version 3.0, April 2008.*

[b] *Electricity Usage Rates from Table A9-11-A, CEQA Air Quality Handbook, SCAQMD, 1993.*

[c] *Natural Gas Usage Rates from Table A9-12-A, CEQA Air Quality Handbook, SCAQMD, 1993.*

[d] *Water Conveyance Calculations are based on factors derived from the California Energy Commission, and calculations are part of the electricity calculations in Appendix L.*

[e] *Statewide totals were derived from the CARB Draft California GHG Inventory, 2007.*

[f] *All CO_2e factors were derived using the California Climate Action Registry General Reporting Protocol; Version 2.2, March 2007.*

Calculations were performed for development with and without the above listed project features. The inclusion of the project features results in an annual savings of 82,378 metric tons of CO_2e. GHG emissions from electricity and natural gas reflect the following GHG reduction measures:

- The mixed-use nature of the project design allows for a 33 percent reduction in daily trips through internal captures and walking trips between the residential and commercial uses in the EUC and adjacent uses in the vicinity of the EUC.[20]

[20] *Fehr and Peers/Kaku Associates, Revised Draft Focused Buildout Traffic Study for the Proposed Eastern Urban Center, October 2007.*

- The project's proximity to transit allows for a 10 percent reduction in daily trips associated with office and residential uses, as almost the entire EUC will be within a ¼-mile walk to the BRT system.[21]

- The project has complied with the City's AQIP Guidelines by completing and passing the City's INDEX Modeling. In addition, the project will be subject to any requirements (Green Building Standards, etc.) in place at the time of project approval.

- All project civic buildings will meet LEED Silver design standards or the equivalent as required by the City of Chula Vista.

- Water conveyance GHG emissions take into account the residential water savings associated with the City of Chula Vista's Water Conservation Plan Guidelines, which requiring hot water pipe insulation, pressure reducing valves, and water-efficient dishwashers. Water pipe insulation is estimated to save 2,400 gallons per residential units per year. Pressure reducing valves that maintain water pressure below 60 psi are estimated to save 1,800 gallons per residential unit per year. Dishwashers with water saving features conserve 650 gallons per unit annually.[22] In addition, the project will install dual flush toilets in most residences, which can save 4,000 gallons of water per year. Residential landscaping will be water-efficient to save 1,200 gallons per year.[23]

- Water conveyance GHG emissions calculations also take into account the non-residential water savings associated with Water Conservation Plan Guidelines. All non-residential uses subject to the water conservation plan requirements must install hot water pipe insulation and pressure reducing valves. Hot water pipe insulation in non-residential uses can save 1,200 gallons per unit[24] per year, and pressure reducing valves can reduce water demand by 900 gallons per unit per year. The project will also install dual flush toilets throughout non-residential uses of the project, as well as implement evapotranspiration controllers, which both save 2,000 gallons per unit annually.[25]

As shown in Table 4.14-3, the largest reduction is from the on-road vehicle category, representing a 35 percent reduction in VMT. This reduction is a result of the community design, which embraces "smart growth" principles, such as its emphasis on public transit and mixed-use development. The level of GHG emissions that would be generated by the project represents an approximately 31 percent reduction from equivalent development with "business

[21] *Ibid.*

[22] *City of Chula Vista, Water Conservation Plan Guidelines.*

[23] *Cinti Land Planning, Sustainability Element: Eastern Urban Center (EUC) Sectional Planning Area (SPA) Otay Ranch GDP, December 2007.*

[24] *According to the Sustainability Element cited above, 3,350 square feet of non-residential use is considered equivalent to one multi-family residential unit.*

[25] *Sustainability Element: Eastern Urban Center (EUC) Sectional Planning Area (SPA) Otay Ranch GDP, December 2007.*

as usual" standards and practices. Therefore, project would result in a less than significant impact on a project level.

The project's design and the incorporation of the features listed above would decrease the GHG emissions associated with the project. The project would achieve a GHG emissions reduction of 31 percent below business as usual. This reduction below business as usual illustrates that the project would not conflict or obstruct the goals of the California Global Warming Solutions Act of 2006 as listed above. In addition, the project shows GHG emissions reductions greater than the State's 2020 goal and reasonable progress towards the State's 2050 GHG emissions reduction goal.

The project is estimated to represent a net increase of 0.038 percent of 2004 State-wide total emissions. A sizeable percentage of the operational GHG emissions conservatively associated with the proposed project likely should not be considered new emissions attributable to the project, because the future occupants and employees of the project already generate emissions through their current activities. Further, the emissions estimate does not reflect improvements in technology and other reductions in GHG emissions that are likely to occur pursuant to State regulations, such as AB 1493, SB 1368, AB 32, and Executive Order S-3-5, as well as future federal and/or State regulations. Additionally, the project will apply for LEED-ND certification and has incorporated design features and measures to reduce the project's VMT and energy demand, which would reduce its potential GHG emissions consistent with the goals of AB 32 and the CAT strategies discussed in this EIR and summarized in Table 4.14-4, *Consistency with Applicable California Climate Action Team Report Strategies*, on page 4.14-21. The project features listed in Table 4.14-4 apply directly to CAT strategies for reducing GHG emissions. AB1493 mandates that CARB create GHG emission reduction rules for cars and light trucks. According to the CEC, if AB1493 is reinstated, the reductions in emissions will be equivalent to reducing gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020. When the rules are fully implemented and older cars are replaced with AB1493 compliant vehicles there will be further reduction in GHGs from trips to and from the proposed project. New power plant emission standards are proposed and anticipated to go into effect as a result of AB 32. These anticipated emission reductions are not taken into account for this project, and future CO_2e emission factors would be reduced when these measures go into effect.

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions targets for the state as well as a process to ensure the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California EPA, was formed. The CAT published its report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the

Table 4.14-4

Consistency with Applicable California Climate Action Team Report Strategies

Strategies for Reducing GHG Emissions	Project Consistency
Vehicle Climate Change Standards and Other New Light Duty Vehicle Technology Improvements	
Reduce GHG emissions from vehicles by conforming to AB1493. AB 1493 mandates that California develop and adopt regulations to accomplish the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light duty trucks. CARB adopted these regulations in 2004; they pertain to passenger vehicles and light duty trucks and phase in during model years 2009 through 2016.	Not applicable. The project would not monitor vehicle emissions or enforce CARB regulations.
Diesel Anti-Idling	
Reduce GHG emissions from diesel-fueled commercial motor vehicle idling, by reducing idling times and electrifying truck stops.	All diesel trucks at the project site would be prohibited from idling in excess of five minutes, both on- and off-site. As a condition of project approval, the Applicant shall incorporate into sign programs developed in conjunction with future commercial developments, signage advising drivers to shutdown their vehicles during loading and unloading activities.
Hydrofluorocarbon Reduction	
Reduce HFC emissions from vehicular and commercial refrigeration systems, by adopting measures to ban the sale of HFCs in small cans, limit the use of higher GWP refrigerants used in commercial and vehicular refrigeration systems, and reduce the level of refrigerant leakage in commercial and vehicular refrigerant systems.	Not applicable. Adoption of statewide air quality control measures to reduce and/or ban the sale of HFCs is beyond the operational control of this project.
Transportation Refrigeration Units (TRUs), Off-road Electrification, Port Electrification (ship to shore)	
TRUs. Reduce GHG emissions from TRUs by mandating electric standby systems in TRUs and electric infrastructure at cold storage facilities.	Not applicable. This project will not control any TRUs.
Off-road Electrification. Improve emission performance standards for engines, so diesel engines will be replaced with new cleaner certified diesel engines or electric motors.	This project does not control emission performance standards.
Port Electrification. Expand use of shore-side power by requiring vessel modifications and shore-side infrastructure.	This project does not contain a port.

Table 4.14-4 (Continued)

Consistency with Applicable California Climate Action Team Report Strategies

Strategies for Reducing GHG Emissions	Project Consistency
Manure Management Reduce VOCs from confined animal facilities by improving manure management practices, manure handling practices, and exercise lagoon/liquid waste control options.	Not applicable. This project does not include confined animal facilities.
Semi Conductor Industry Targets (PFC Emissions) Reduce PFC emissions by developing a model rule for districts to consider adopting.	Not applicable. This project will not be involved with the semi conductor industry.
Alternative Fuels: Biodiesel Blends and Ethanol Increase the use of alternative fuels that are less GHG-intensive, by adopting regulations to require the use of biodiesel to displace California diesel fuel, increasing the number of flexible fueled vehicles present in California, and increasing the percentage of ethanol used in gasoline.	The fuel used by most vehicles travelling to and from the project are out of the project's operational control, but would be subject to regulations pertaining to the use of biodiesel to displace California diesel fuel, and to the increase in the ethanol percentage used in gasoline. In addition, project residents may choose to purchase flex-fuel vehicles.
Heavy-Duty Vehicle Emission Reduction Measures Reduce GHG emissions from heavy-duty vehicles, by improving vehicle aerodynamics, climate engine-based efficiency, and rolling and inertia resistance, as well as by reducing vehicle weight and educating drivers on how to optimize vehicle operation.	Not applicable. This project will not control heavy-duty vehicles.
Reduced Venting and Leaks in Oil and Gas Systems Develop a model rule for Air Pollution Control Districts that entails improving management practices, rather than implementing new technologies.	Not applicable.
Hydrogen Highway Conform to the mission and goals of the California Hydrogen Highway Network (CA H2 Net), a state initiative, to promote the use of hydrogen to diversify the sources of transportation energy, by installing hydrogen infrastructure for use when hydrogen technologies become commercially available.	Not applicable. Hydrogen infrastructure is beyond the project's direct operational control.

Table 4.14-4 (Continued)

Consistency with Applicable California Climate Action Team Report Strategies

Strategies for Reducing GHG Emissions	Project Consistency
Achieve 50 percent Statewide Recycling Goal	
Achieve California's 50 percent waste diversion mandate (AB 939, Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction. AB 939 required each city or county plan to include an implementation schedule that showed 50 percent diversion of all solid waste by January 1, 2000, through source reduction, recycling, and composting.	An overall recycling waste program would be developed in accordance with City guidelines that would promote recycling. The project would also encourage the use of recycled-content, salvaged, refurbished, reusable, and durable materials for building and landscape construction.
Landfill Methane Capture	
Capture methane before it escapes to the atmosphere by installing direct gas use projects or electricity projects with backup flare systems to capture and use methane.	Not applicable. This project does not include a landfill.
Zero Waste – High Recycling	
Reduce GHG emissions associated with virgin material extraction and landfill methane emissions by recovering additional recyclables from landfills and transforming organics/biomass and plastic waste into marketable products.	Not applicable. This project does not include a landfill.
Forest Management	
Store more carbon through prudent forest management activities, such as increasing the overall age of trees prior to harvest, dedicating land to older aged trees.	Not applicable. Forest management activities / operations are outside of the applicant's operational control.
Forest Conservation	
Minimize and/or prevent GHG emissions associated with deforestation by creating incentives to maintain an undeveloped forest landscape.	Not applicable.
Reduced Venting and Leaks in Oil and Gas Systems	
Develop a model rule for Air Pollution Control Districts that entails improving management practices, rather than implementing new technologies.	Not applicable. This project is not an APCD.
Urban Forestry	
Increase carbon sequestration by planting five million trees in urban areas statewide by 2020.	Landscaping for the proposed project would include planting trees that are conducive to sequestering carbon (fast-growing) while remaining drought-resistant.

Table 4.14-4 (Continued)

Consistency with Applicable California Climate Action Team Report Strategies

Strategies for Reducing GHG Emissions	Project Consistency
Afforestation (Planting Trees)/ Reforestation Projects	
Increase carbon sequestration by implementing projects that restore native tree cover on lands that were previously deforested.	Not applicable. Landscaping of the proposed project would include planting native plants.
Water Use Efficiency	
Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	The project will incorporate pipe insulation, pressure reducing valves, water efficient dishwashers, and dual flush toilets into the project. Water efficient landscaping will be utilized on all developer installed landscaping. In addition, landscaping will use recycled water, where available, and evapotranspiration irrigation controllers.
Building Energy Efficiency Standards in Place and in Progress	
Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates building energy efficiency standards that apply to newly constructed buildings and additions to and alterations to existing buildings. Both the Energy Action Plan and the Integrated Energy Policy Report call for ongoing updating of the standards	At least 50 percent of residences and 50 percent of non-residential structures would exceed the 2005 Title 24 requirements by 15 percent. All civic buildings would meet LEED Silver design standards or the equivalent as required by the City of Chula Vista.
Appliance Energy Efficiency Standards in Place and in Progress	
Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	New residences in the EUC would be equipped with new appliances. They would be subject to State law and thus comply with the energy efficiency standards that are in effect at the time of manufacture.
Fuel-Efficient Replacement Tires and Inflation Programs	
Reduce GHG emissions from vehicle fuel consumption by conforming to state legislation mandating a statewide program to encourage the production and use of more fuel efficient tires	Not applicable. This project cannot mandate any statewide programs.
Cement Manufacturing	
Reduce GHG emissions from energy consumption by improving the energy efficiency of cement operations.	Not applicable. This project will not include cement manufacturing.

Table 4.14-4 (Continued)

Consistency with Applicable California Climate Action Team Report Strategies

Strategies for Reducing GHG Emissions	Project Consistency
Municipal Utility Programs	
Improve municipal utilities' energy efficiency and reduce their GHG emissions by implementing additional energy efficiency programs accelerating their efforts to achieve California's Renewable Portfolio Standard, reducing purchases of carbon-intensive power, and transitioning away from carbon-intensive generation to low-carbon alternatives.	Not applicable. This project does not contain a municipal utility.
Combined Heat and Power (CHP) Initiatives	
Reduce GHGs from fossil fuel consumption in both the commercial and industrial sector by implementing policy instruments and additional programs and incentives that encourage on-site power production to meet both heat and electricity loads.	Not applicable.
Alternative Fuels: non-Petroleum Fuels	
Increase the use of non-petroleum fuels in California's transportation sector and coordinate with the Energy Commission and the Bio-Energy Interagency Working Group to develop a workable, long-term transportation fuels plan that will result in substantial reductions in the use of petroleum fuel, and to recommend options to optimize the market potential of bio-fuels.	Not applicable. This project does not have the capacity to do this.
Measures to Improve Transportation Energy Efficiency	
Advance cleaner transportation and reduce GHG emissions by providing incentives, enhancing outreach and educational programs to bring a coordinated message of sustainable transportation and root causes of GHG emissions, diversifying the transportation energy infrastructure, and slowing the rate of VMT growth.	The project would encourage car sharing programs and promote the use of public transportation, carpools, and vanpools. Bicycling will be encouraged by establishing bicycle routes, lanes and providing bicycle racks. In addition, shower and bicycle facilities will be encouraged at employment centers. The project is also designed to improve walkability, with sidewalks and parks.
Smart Land Use and Intelligent Transportation	
Apply strategies that integrate transportation and land-use decisions to reduce VMT, such as promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	The project is transit oriented. A regional transit facility would provide ready access to public mass transit for commuting trips, travel, and regional destinations. The local transit provider would provide bus service to the project, and transit stops would be located in the central core of the project. The project also features an extensive system of pedestrian corridors and promotes non-vehicle transportation.

Table 4.14-4 (Continued)

Consistency with Applicable California Climate Action Team Report Strategies

Strategies for Reducing GHG Emissions	Project Consistency
Conservation Tillage/ Cover Crops Improve farming water use efficiency and reduce tillage requirements, namely fuel, by practicing conservation tillage and using cover crops.	Not applicable. This project does not include agriculture.
Enteric Fermentation Conduct feed adjustments for dairy and beef cattle to reduce methane emissions associated with enteric fermentation.	Not applicable. This project does not include livestock.
Green Buildings Initiative Reduce energy use in public and private buildings to comply with Governor Schwarzenegger's Green Building Executive Order, S-20-04, which mandates a 20 percent reduction in building energy use by 2015.	The project would be built to comply with the Governor's Green Building Executive Order. Commercial builders would be encouraged to include energy efficient lighting, and public area lighting would use energy efficient fixtures.
Accelerated Renewable Portfolio Standard Increase the level of renewable energy in California's resource mix, to be consistent with Governor Schwarzenegger's goal of 33 percent of California's resource mix consisting of renewable energy sources by 2020.	Not applicable. The project does not include power production. However, the project would suggest direct solar access for new buildings, to encourage the use of photovoltaic panels for energy generation.
California Solar Initiative Install one million solar roofs on homes and businesses and increase the use of solar thermal systems to offset the growing demand for natural gas and reduce GHG emissions from electricity usage and heating applications.	The project would suggest direct solar access for new buildings, to encourage the use of photovoltaic panels for energy generation.
Investor-Owned Utility (IOU) Programs Reduce IOUs' GHG emissions by implementing energy efficiency programs with aggressive targets and taking GHG emissions into account when making procurement decisions.	Not applicable. This project does not include any IOUs.

Climate Action Team strategies not listed are not applicable to this project.

targets established in the executive order.[26] Table 4.14-4 illustrates the project's consistency with those recommendations and strategies presented in the CAT report. The project features listed in Table 4.14-4 apply directly to CAT strategies for reducing GHG emissions.

The proposed project, by implementing the project features and GHG reducing measures described above, results in GHG emissions that represent a substantial break from business as usual. The project's features and GHG reduction measures, coupled with the City's initiatives with regard to air quality improvement and water conservation, support its consistency with the goals of AB 32. Thus, the project would not result in a cumulatively considerable increase in GHG emissions and cumulative impacts on global climate change are considered less than significant.

Threshold 2: *Would the project result in substantially increased exposure of the project from the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006 (AB32)?*

(1) Exacerbation of air quality problems

The proposed project has been designed to substantially reduce GHG emissions. With the inclusion of the project design features described in Threshold 1, the proposed project would achieve an annual savings of 82,378 metric tons of CO_2e (CO_2, CH_4, and N_2O), which translates to an overall net reduction of GHG emissions by 31 percent below "business as usual". This reduction below business as usual illustrates that the project would not substantially increase exposure of the project to exasperated air quality impacts as described in the Global Warming Solutions Act of 2006.

(2) Reduction in the quality and supply of water to the state from the Sierra snowpack; rise in sea levels resulting in the displacement of thousands of coastal businesses and residences; damage to marine ecosystems and the natural environment

As indicated above, there are complex physical, chemical, and atmospheric mechanisms involved in global climate change that make it difficult to predict what the effects of global climate change will be, particularly at a State or local level. Due to this unpredictability, the secondary affects that global climate change may have on water supplies for a given region, or on sea levels, marine ecosystems and the natural environment are even more difficult to predict particularly for a given development project. Nonetheless, the California Department of Water Resources (DWR) has addressed the potential for climate change, potential effects on water resources management, and the applicability of existing models to simulate current and future conditions in a number of recent documents. Based on the information provided in a *DWR Technical Memorandum Report*, *Progress on Incorporating Climate Change into*

[26] *California Climate Action Team. Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006.*

Planning and Management of California's Water Resources, Table 4.14-5, *Potential Effects of Climate Change on California's Water Resources and Expected Consequence*, on page 4.14-29 provides a summary of the anticipated future effects of global climate change on California's water resources and the consequences of those effects. In general, the purpose of the report is to demonstrate how various analysis tools used by DWR could be used to address climate change related issues and how such methods and results could help guide future analysis and identify areas where more information is needed. The report acknowledges that there are substantial uncertainties regarding the effects of global warming on State Water project (SWP) supplies and suggests additional analysis to reduce this uncertainty. The report also states that all of the results are preliminary and are not sufficient by themselves to make policy decisions.

DWR addressed the need to consider global climate change as part of long-term planning for the management of California's water resources in Bulletin 160: California Water Plan Update – 2005. This report acknowledges that California's future hydrologic conditions will likely be different from patterns over the past century with increased temperatures, reductions in the Sierra snowpack, earlier snowmelt, and a rise in sea level. The report also states that the extent of climate change impacts is currently uncertain and as more sophisticated tools are developed and more studies completed, better quantification may be possible.

In the SWP Delivery Reliability Report, DWR addressed the uncertainties of global warming with regard to planning and operation of the SWP. The report indicates in part that until the impacts of climate change on precipitation and runoff patterns in California can be better quantified, future weather patterns are usually assumed to be similar to those in the past, especially where there is a significant historical rainfall record. The analyses contained in the report are based upon 73 years of historical records (1922-1994) for rainfall and runoff, adjusted to reflect current and future levels of development by analyzing land use patterns and projecting future land and water use. These series of data are then used to forecast the amount of water available to the SWP under current and future conditions.

DWR states in its California Climate Change Activities update, California's Climate Action Programs, that DWR is working to help increase water use efficiency, conservation, and ground and surface water storage facilities to better manage flood risks and maintain a reliable water supply into the future, particularly in light of changes in precipitation, temperature, sea level and the hydrologic cycle.

In summary, the science on global warming is still evolving and has not reached a point where it can be quantified and incorporated into delivery projections of the SWP. Furthermore, policy recommendations on how to incorporate potential changes to water supply due to climate change into water resource planning and management are still being developed. Therefore, consistent with studies prepared by DWR, it is considered premature to make an assessment of impacts under CEQA of how climate change will affect water availability for the proposed project. Nonetheless, it should also be noted that DWR recognizes the importance of conservation and maintaining a reliable water supply in the context of global warming.

Table 4.14-5

Potential Effects of Climate Change on California's Water Resources and Expected Consequences

Potential Effect	Expected Consequence
Reduction of the State's Average Annual Snowpack	Potential loss of 5 million acre-feet or more of average annual water storage in the State's snowpack
	Increased challenges for reservoir management and balancing the competing concerns of flood protection and water supply
Changes in the Timing, Intensity, Location, Amount, Variability of Precipitation	Potential increased storm intensity and increased potential for flooding
	Possible increased potential for droughts
Long-term Changes in Watershed Vegetation and Increased Incidence of Wildfires	Changes in the intensity and timing of runoff
	Possible increased incidence of flooding and increased sedimentation
Sea Level Rise	Inundation of coastal marshes and estuaries
	Increased salinity intrusion into the Sacramento-San Joaquin River Delta
	Increased potential for Delta levee failure
	Increased potential for salinity intrusion into coastal aquifers (groundwater)
	Increased potential for flooding near the mouths of rivers due to backwater effects
Increased Water Temperatures	Possible critical effects on listed and endangered aquatic species
	Increased environmental water demand for temperature control
	Possible increased problems with foreign invasive species in aquatic ecosystems
	Potential adverse changes in water quality, including the reduction of dissolved oxygen levels.
Changes in Urban and Agricultural Water Demand	Changes in demand patters and evapotranspiration rates

Source: California Department of Water Resources, Technical Memorandum Report, Progress on Incorporating Climate Change into Planning and Management of California's Water Resources in response to the Executive Order, 2006.

Conservation efforts not only assist in adapting to reduced or more varied water supplies, but the less water that is used, the less needs to be pumped and treated. According to the California Energy Commission, conserving one acre foot of water reduces greenhouse gas emissions by approximately one metric ton.

In addition to on-going conservation efforts by DWR, policymakers and water suppliers in California, including MWD who provides the water that is ultimately supplied to the project site, are currently addressing the potential implications of climate change and developing new ways to cope with the types of variability which are outside the range of existing infrastructure. MWD recognizes that climate change will require water suppliers to develop new, alternative water supplies and to focus on water use efficiency. (Testimony of Timothy F. Brick, Chairman of MWD, to U.S. Senate, Energy and Natural Resources Subcommittee on Water and Power, Re Impacts of Climate Change on Water Supply in the U.S. (June 6, 2007).) In March 2002, MWD's Board of Directors adopted climate change policy principles that relate to water resources. These principles are reflected in MWD's Integrated Resources Plan. Further, in response to climate change and uncertainty, MWD's Urban Water Management Plan incorporates three basic elements to promote adaptability and flexibility, important in addressing impacts of climate change: conservation, groundwater recharge, and water recycling.

Most recently, MWD approved criteria to further explain its position on the conveyance options that are currently being discussed to remedy the Bay-Delta, which include addressing projected sea level rise and change in inflows due to climate change. MWD's criteria outline that, "whatever option is chosen, it should provide water supply reliability, improve export water quality, allow flexible pumping operations in a dynamic fishery environment, enhance the Delta ecosystem, reduce seismic risks, and reduce climate change risks." (Report for Metropolitan Water District of Southern California Board Meeting September 11, 2007 Agenda Item 8-4, emphasis added.) MWD has demonstrated a commitment to addressing climate change by evaluating the vulnerability of its water systems to global warming impacts and has developed appropriate response strategies and management tools that account for the impacts of climate change on future water supplies.

Although project specific effects related to global climate change and its potential impact on water supply, sea level rise, damage to marine ecosystems, and the natural environment are speculative, the proposed project incorporates conservation measures that serve to reduce potential impacts associated with climate change and the potential for any related shortfalls in water. In addition, the adequacy of water supplies to serve the project have been substantiated in the *Water Supply Assessment and Verification Report, Eastern Urban Center Sectional Planning Area Plan* (WSA&VR) prepared by the Otay Water District (OWD) (July 2007), as further discussed in Section 4.11.6, Water of this EIR. Regarding the effects of sea level rise, a white paper prepared by the California Climate Center entitled *Projected Future Sea Level (March 2006)*, modeled projected sea level rise for the California coast. This information was used in an analysis of risk from sea level rise in the *Revised Draft EIR for the Chula Vista Bayfront Master Plan, May 2008*. The findings of that analysis indicated that risks for development on the coast in the Chula Vista Bayfront area were less than significant. Accordingly, given the proposed project location upslope and remote from the coast, any effects on the project due to sea level rise are highly unlikely. Regarding damage to marine ecosystems and the environment due to climate change, potential effects of this type are not foreseeable for the proposed project.

4.14.4 LEVEL OF SIGNIFICANCE PRIOR TO MITIGATION

Regarding Threshold 1 and the potential for the project to conflict with or obstruct the goals or strategies of the California Global Warming Solutions Act of 2006 or its governing regulations, as shown above, project emissions, at a State-wide level, represent a minor increment, 0.037 percent of 2004 State-wide total emissions. These emissions are likely overstated due to the conservative assumptions described above, the inability to differentiate those emissions which are displaced versus new emissions, and the lack of proper accounting for future emissions reductions resulting from implementation of promulgated, pending, and planned State regulations. By incorporating the project features described above, the proposed project would result in GHG emission rates 31 percent lower than "business as usual". Because these features and measures would meaningfully reduce project GHG emissions and are consistent with the State's CAT strategies, the project would not conflict with or obstruct the State's goals regarding global climate change and impacts in this regard would be less than significant.

Regarding GHG emissions from construction activities, as mentioned above, construction of the proposed project would incorporate construction "best practices," that would reduce GHG emissions. These "best practices" represent an improvement above conventional construction practices, and thus are an improvement above "business as usual." Therefore, impacts in this regard would be less than significant.

Regarding the reduction of GHG emissions by at least 20 percent below "business as usual," as shown above, the implementation of the project design features and GHG reduction measures would reduce the project's GHG emissions profile by 31 percent beyond what is considered "business as usual." Therefore, impacts in this regard would be less than significant.

Regarding Threshold 2 and the potential for increased exposure to one or more of the potential adverse effects of global warming identified in the California Global Warming Solutions Act of 2006, the proposed project would have significant impacts related to regional and local air quality resulting from construction and operation of the project. Regarding effects on water resources and water supply, consistent with studies prepared by DWR, it is considered premature and speculative to make an assessment of impacts under CEQA of how climate change would affect water availability for the proposed project. Nonetheless, the proposed project incorporates water conservation measures and the adequacy of water supplies to serve the project have been substantiated in the *Water Supply Assessment and Verification Report, Eastern Urban Center Sectional Planning Area Plan* (WSA&VR) prepared by the Otay Water District (OWD) (July 2007).

4.14.5 MITIGATION MEASURES

As indicated above, the proposed SPA Plan includes a Sustainability Element and incorporates a variety of features that would result in GHG emission rates 31 percent lower than "business

as usual." These features and measures would meaningfully reduce project GHG emissions and are consistent with the State's CAT strategies, and would not conflict with or obstruct the State's goals regarding global climate change. Regarding other relevant mitigation measures that also serve to reduce GHG emissions or otherwise address global climate change concerns, see Section 4.3, Transportation; Section 4.4, Air Quality; Section 4.9, Hydrology and Drainage; and, Section 4.11.6, Water, of this EIR.

4.14.6 LEVEL OF SIGNFICANCE AFTER MITIGATION

With implementation of mitigation measures and project features, project-level impacts associated with global climate change would be less than significant.

5.0 CUMULATIVE IMPACTS

5.1 CUMULATIVE IMPACTS

Section 15130 of the State CEQA Guidelines requires that the analysis of potential project impacts include cumulative impacts. CEQA defines cumulative impacts as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts."[1] This analysis of cumulative impacts need not be as in-depth as what is performed relative to the proposed project, but instead is to "be guided by the standards of practicality and reasonableness."[2]

Cumulative impacts are anticipated impacts of the proposed project along with reasonably foreseeable growth. Under Section 15130(b)(1) of the CEQA Guidelines, reasonably foreseeable growth may be based on either:[3]

a) A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts; or

b) A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

5.2 BASIS FOR CUMULATIVE IMPACTS ANALYSIS

The Chula Vista General Plan evaluates the City's four planning areas, including the East Chula Vista Planning Area, which encompasses respective future development of the Otay Ranch under the Otay Ranch GDP. Pursuant to CEQA Guidelines Section 15130(b)(1)(a), a cumulative impacts evaluation may incorporate by reference probable future development and, pursuant to Section 15130(d), cumulative impact discussions may rely on previously approved land use documents such as general plans and specific plans which may be incorporated by reference. If a respective project's EIR anticipates a significant impact that is not anticipated under the General Plan EIR, this impact is taken into consideration as potentially cumulatively significant in the following cumulative impacts analysis.

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[1] *State CEQA Guidelines, 14 California Code of Regulations, § 15355, et seq.*

[2] *Ibid., § 15355.*

[3] *Ibid., § 15130(b)(1).*

A. Chula Vista General Plan

The Chula Vista General Plan provides a long-term strategy to address planning issues for the growth and development of the City. The Final EIR prepared for the Chula Vista General Plan evaluates potential land use changes within the City's three sub-areas under a Preferred Plan and three alternative scenarios. Plan options evaluated in the General Plan EIR include the Otay Ranch subarea as set forth in the Otay Ranch GDP. Land use changes and overall growth include commercial and industrial floor area, open space, parks, public uses, and residential units within each of the City's subareas. The General Plan EIR (EIR #05-01) was certified in December 2005. The following issues were identified as cumulatively significant in the General Plan EIR: landform alteration/aesthetics, cultural and paleontological resources, transportation, noise, water supply, energy, and population and housing. Where the proposed EUC SPA Plan would result in incremental effects to these issues, the effects associated with the proposed project area also considered cumulatively significant. This cumulative impacts analysis incorporates the Chula Vista General Plan EIR by reference.

B. Otay Ranch Villages Two, Three, and a Portion of Four SPA Plan

The Otay Ranch Villages Two, Three, and a Portion of Four SPA Plan encompasses approximately 1,187-acres within the Otay Ranch Master Plan area. This SPA Plan proposes 986 single-family units and 1,800 multi-family units on approximately 87.9 acres within Village Two; a 176.5-acre business park within Village Three; and approximately 587.8 acres of non-residential uses including community purpose facilities, schools, public parks, commercial uses, open space, streets and pedestrian bridges. Otay Ranch Villages Two, Three, and a Portion of Village Four SPA Plan was approved, and the Final Second Tier EIR (EIR # 02-02) was certified in May 2006. This project is located south of Olympic Parkway, west of La Media Road, approximately 0.8 mile west of the EUC. While one of the alternatives considered in the General Plan EIR included the Village Two, Three and a Portion of Four land use mix and intensity that was ultimately approved in 2006, the General Plan preferred alternative that was adopted did not. Therefore, a summary of the cumulative analysis in the Village Two, Three and a Portion of Four EIR is provided below, and the EIR is incorporated by reference in its entirety.

C. Chula Vista Bayfront Master Plan

The Chula Vista Bayfront Master Plan (pending approval) is a reasonably foreseeable project that is located approximately 7.2 miles west of the EUC, partially within the jurisdiction of the Port of San Diego tidelands and partially within the City of Chula Vista. The entire site is west of Interstate 5 and is bordered by the Sweetwater Marsh, mouth of the Sweetwater River on the north and jurisdictional boundary of National City on the north; Palomar Street and South Bay Unit of the San Diego Bay National Wildlife Refuge on the south; and the San Diego Bay on the west.

The General Plan EIR anticipated future development of the Chula Vista Bayfront in the cumulative analysis and assumed the adopted Chula Vista General Plan land uses for the Bayfront site. Since

adoption of the General Plan, the Bayfront project has been refined, and the proposed Bayfront project is addressed in the Revised (Recirculated) Draft EIR for the Chula Vista Bayfront Master Plan (SCH #2005081077) dated May 2008, which is pending certification. The land use assumptions for the General Plan EIR analysis were based on the adopted Bayfront project, which generally assumes a higher intensity development then currently proposed project.

The proposed Bayfront project not only reduces the intensity of development in the Sweetwater District, but also moves intense development to the Harbor District and an area previously impacted and currently planned for industrial and commercial uses. As such, the currently adopted plan is generally equivalent or significantly more intensive than the proposed Bayfront project. One example of a difference in the land use assumptions is a proposed reduction in residential development from 2,000 units to 1,500 units. The General Plan cumulative analysis of the Bayfront development is considered a worst-case analysis. Therefore, the cumulative impacts of the buildout of the General Plan with the EUC and the Bayfront project have been covered in the General Plan EIR, and the analysis is therefore, incorporated by reference.

5.3 ANALYSIS OF CUMULATIVE IMPACTS

A. Land Use

The General Plan EIR addressed the cumulative impact on land use. The General Plan EIR evaluates the anticipated growth in the City's four planning areas and other development and redevelopment areas of the City in its cumulative analysis. According to the General Plan EIR, the land within the East Planning Area is undeveloped and any proposed changes would cause an increase over existing conditions. The Preferred Plan and the three other scenarios analyzed in the EIR have the potential to cause an impact on community character of the surrounding villages within the East Planning Area. Specific objectives and policies are proposed to facilitate compatible land uses within and between each of the districts, as well as retain and preserve the character and retain the quality of the surrounding areas. According to the General Plan EIR, "until future Specific Plans are developed and zoning specifications are implemented impacts remain significant."[4] However, the cumulative assessment of land use impacts in the EIR relies on the SANDAG Regional Comprehensive Plan (RCP). It recognizes that the General Plan objectives and policies meet the planning principles of the RCP. The cumulative analysis concludes that the incremental land use effect of adopting the General Plan is not cumulatively considerable.

The Village Two, Three, and a Portion of Four SPA Plan EIR concludes that a significant and unavoidable impact with respect to the change from vacant land to urban uses would be inconsistent with General Plan policies. No mitigation measures are provided to reduce the

[4] *General Plan EIR, page 183.*

identified significant impacts to a less than significant level. The Village Two, Three, and a Portion of Four SPA Plan EIR concludes that the project would result in significant cumulative impacts.

As discussed in Section 4.1, Land Use, of this Draft EIR, the EUC SPA Plan would be consistent with applicable objectives and policies of the General Plan, the Otay Ranch GDP, and other relevant plans and policies. The EUC SPA Plan would be consistent with the scale and type of development envisioned by the General Plan for the East Planning Area. The EUC SPA Plan would also incorporate a development guide and FBC specific to community character and other land use issues addressed by the General Plan EIR. Although the Village Two, Three, and a Portion of Four SPA Plan EIR identified an inconsistency with General Plan policies, the proposed project would not cumulatively contribute to this land use impact as it was determined to be consistent with all applicable land use policies. Therefore, the project's land use impacts combined with related projects would not be cumulatively significant.

B. Landform/Aesthetics

This evaluation of cumulative landforms and aesthetics impacts incorporates the cumulative impact analysis in the General Plan EIR. The General Plan EIR states that the adoption of the Preferred Plan and all three scenarios would result in substantial changes to landforms and visual quality in currently undeveloped portions of the East Planning Area. Development completed in conformance with the General Plan would result in grading of hillsides representing a visual impact to the area.[5] The General Plan EIR concluded that the conversion of open, rolling hills to developed condition would be cumulatively significant.

The EIR prepared for the Village Two, Three, and a Portion of Four SPA Plan concluded that the SPA Plan would contribute to the change in the visual quality of the region. Cumulative visual impacts related to the change in visual character would result in a significant and unavoidable impact, for which no mitigation measures would be available.

Development of the EUC SPA Plan would change the visual character of the region from agriculture and open space to a dense urban environment. In addition, the Otay Ranch GDP Program EIR states that potential impacts to the Otay Valley Parcel would change the visual character of the proposed project site from agricultural and rural to an urbanized area, and would dramatically alter the appearance of the site as a result of the proposed development. In keeping with the conclusions of the Otay Ranch GDP Program EIR, Section 4.2, Landform Alteration/Aesthetics, of this EIR states that, as the proposed EUC SPA Plan would convert undeveloped, rural land to dense urbanized uses, impacts regarding the change in the existing visual character or quality of the site are considered significant. No feasible mitigation measures would reduce this impact to a less than significant level, as any development of the EUC would impact existing open space. The proposed project and related projects, would

[5] *General Plan EIR, page 208.*

cumulatively contribute to the diminishment of open space. Therefore, the project would have a cumulatively significant aesthetics impact.

C. Transportation

The cumulative analysis incorporates the General Plan EIR by reference. The General Plan EIR traffic analysis was based on regional traffic database and modeling from SANDAG. As such, it included the projected growth for the region. The General Plan EIR concludes that even though mitigation measures exist to reduce traffic-related impacts, the incremental cumulative impacts would remain significant and unmitigable.

The Otay Ranch GDP Program EIR, which concluded that implementation of the GDP would result in significant cumulative impacts on transportation, circulation and access, was incorporated by reference into the EUC SPA Plan traffic analysis. The project's net trips (ADT) would contribute traffic to the surrounding roadway and freeway network, and result in significant and unavoidable cumulative traffic impacts on three freeway segments, including northbound Interstate 805, between Telegraph Canyon Road and Olympic Parkway (2020 and 2030), southbound Interstate 805, between Telegraph Canyon Road and Olympic Parkway (2015, 2020, and 2030) and southbound Interstate 805, between Olympic Parkway and Main Street (2030).

As discussed in Section, 4.3, Transportation, of this EIR, the Traffic Study concluded that the project would contribute incrementally to cumulatively significant impacts to surrounding intersections, roadway segments and freeway segments for various Horizon Year Scenarios analyzed in the Traffic Study.

(1) Intersections

Under the Horizon Year 2010 With Project conditions, the following study intersections would operate at an unacceptable LOS and have cumulative project impacts:

- Intersection #7: Olympic Parkway and Brandywine Avenue (LOS E – P.M. peak-hour);
- Intersection #8: Olympic Parkway and Heritage Road (LOS E – A.M. peak-hour).

Since the project traffic would consist of less than five percent of the entering traffic at the Olympic Parkway/Brandywine Avenue intersection during the p.m. peak-hour, this intersection would be considered a cumulative project impact under Horizon Year 2010 conditions. Since the project traffic would consist of less than five percent of the entering traffic at the Olympic Parkway/Heritage Road intersection during the a.m. peak-hour, this intersection also would be considered a cumulative project impact under Horizon Year 2010 conditions. Implementation of Mitigation Measures 4.3-1 and 4.3-2 would reduce impacts to these intersections to a less than significant level.

(2) Roadway Segments

With implementation of prescribed mitigation measures for intersection impacts, no study area roadway segments would be cumulatively impacted by the project, as all intersections along identified roadway segments would operate at an acceptable LOS.

(3) Freeway Segments

Under the Horizon Years 2015, 2020 and 2030 With Project conditions, the following study area freeway segments would operate at an unacceptable LOS and have cumulative project impacts:

- Northbound Interstate 805, between Telegraph Canyon Road and Olympic Parkway (2020 and 2030);
- Southbound Interstate 805, between Telegraph Canyon Road and Olympic Parkway (2015, 2020, and 2030);
- Southbound Interstate 805, between Olympic Parkway and Main Street (2030).

No specific improvements have been identified to mitigate the project's cumulative impacts along the freeway segments listed above.

The Village Two, Three, and a Portion of Four SPA Plan EIR concluded that cumulative impacts associated with streets would be mitigated to below significance. Similar to the proposed project, cumulative impacts on I-805 would remain significant and unavoidable. Therefore, the proposed project combined with reasonably foreseeable projects would contribute to the significant and avoidable cumulative impacts to this freeway.

D. Air Quality

This evaluation of cumulative impacts on air quality incorporates the cumulative impact analysis in the General Plan EIR by reference. The General Plan EIR states that until such time that the region is in attainment with the Ozone, PM_{10} and $PM_{2.5}$ standards, impacts with respect to applicable air quality plans would be significant and unavoidable. Operational impacts resulting in PM_{10} and $PM_{2.5}$, for which the region is not in conformance, would result in cumulatively considerable net increase in any criteria pollutant.[6] The General Plan EIR, which incorporates the Chula Vista Bayfront Master Plan, the Otay Ranch GDP, and other development and redevelopment areas of the City, also concludes that a significant cumulative impact would result from inconsistency between the proposed General Plan and the RAQS. The only measure to less

[6] *General Plan, page 419*

the effect is an update of the RAQS, which is the responsibility of SANDAG and the San Diego APCD and is outside the jurisdiction of the City.

The Village Two, Three, and a Portion of Four SPA Plan EIR similarly concludes that significant cumulative impacts with respect to attainment and PM_{10} and other emission standards would occur.

The proposed EUC SPA Plan would have significant direct impacts on ambient air quality due to emissions of CO, NOx, VOC, PM_{10} and $PM_{2.5}$ exceeding the City of Chula Vista's significance thresholds. The proposed project combined with the rest of the EUC SPA Plan Area and cumulative projects would result in a cumulatively significant impact, and the project would contribute substantially to that impact.

During construction of the proposed project, emissions of CO, NOx, VOC, PM_{10} and $PM_{2.5}$ would exceed the City of Chula Vista's significance threshold. Mitigation measures have been adopted to reduce pollutant emissions exceeding thresholds. Such mitigation measures include enhanced dust control, proper maintenance of construction engines, and use of electricity from power poles rather than from diesel or gasoline generators. However, emissions of CO, NOx, VOC, PM_{10} and $PM_{2.5}$ would continue to exceed regional significance thresholds and the proposed project would contribute substantially to cumulative air quality impacts.

Operational impacts would be above the City of Chula Vista's significance thresholds for CO, NOx, VOC, PM_{10} and $PM_{2.5}$ during initial project occupation. The main contributor to air emissions associated with project operations would be from vehicle use. As a result, operational emissions would contribute substantially to cumulatively significant impacts.

A health risk assessment was performed to quantify cancer risk above background for residences proposed to be built near SR-125. However, the absence of adopted numeric standards directly related to the increased exposure to TACs resulting from the location of proposed residences in close proximity to highly utilized roadways makes it too speculative to determine significance at the project level. There are currently no standards adopted by federal, State, or regional agencies establishing acceptable levels of cumulative exposure to or health risks from airborne TACs. Consequently, a determination as to the cumulative level of significance related to potential health risks resulting from implementation of the proposed development and related projects is also too speculative at this point in time.

E. Noise

Roadway traffic is the one source of noise that is of primary concern for the cumulative assessment. A cumulative noise impact resulting from approval of the proposed project would occur if noise resulting from the project, when added to noise from other past, present, or foreseeable projects, adversely impacts sensitive receivers. The traffic analysis conducted for the

project includes traffic forecast for the development of the General Plan and regional traffic resulting from development under the Regional Comprehensive Plan (RCP). Forecast future traffic volumes on the circulation element roadways would result in noise levels in excess of the noise standards in the Chula Vista General Plan. The purpose of the analysis here is to determine whether the incremental contribution of the proposed project would be considerable. The basis for that assessment is whether the contribution would result in a noticeable increase in noise to a sensitive receiver, as used in the General Plan EIR. A significant impact would occur to existing receivers where traffic volumes are projected to result in noise level increases of more than 3 dB resulting from both the proposed project and traffic from all other projects forecast in the regional traffic model. The cumulative effects of traffic stem from the addition of project traffic to area roadways that currently produce noise levels in excess of the City's standards. Traffic volumes on circulation assumed the growth in the City as projected in accordance with the General Plan. The General Plan concluded that cumulative traffic impacts throughout the City could exacerbate noise levels to such a magnitude to significantly affect existing land uses. Similarly, the noise analysis conducted for the proposed project indicated that significant cumulative noise impacts would occur to existing receivers adjacent to the EUC SPA Plan area without mitigation.

This cumulative assessment of impacts to noise incorporates by reference the cumulative impact analysis in the General Plan EIR, which includes the Chula Vista Bayfront Master Plan. The General Plan EIR indicated that a significant impact would occur to existing receivers where traffic volumes are projected to result in noise level increases of more than 3 dB. Lessening the noise levels in those areas would require a lot-by-lot review of potential exterior use areas and an evaluation of the exterior-to-interior noise reduction of each building exposed to the increase. That analysis would need to assess the feasibility of reducing noise levels to outdoor use areas, and the interior review would require consideration of the effectiveness of existing windows and doors, the adequacy of existing construction, and the need for retrofit. Furthermore, the General Plan EIR concluded that, since noise retrofitting was infeasible outside of the project area, noise impacts were cumulatively considerable, significant, and not mitigated. This analysis is incorporated by reference.

The Village Two, Three, and a Portion of Four SPA Plan's noise analysis is based on regional cumulative traffic data from SANDAG's regional growth forecasts. Therefore, the noise analysis is inclusive of cumulative effects. The EIR concludes that project-specific mitigation measures reduce noise impacts to below significance and the SPA Plan would not result in significant cumulative noise impacts.

The cumulative project traffic would increase noise levels under existing traffic conditions at the key roadway segments from 3.3 to 7.0 dBA, which would exceed the 3.0 dBA significance threshold. However, the contribution from project-related traffic would only be from 0.4 to 2.4 dBA and would be below the 3.0 dBA significance threshold and less than audible. Therefore, the project contribution to cumulative impacts is considered less than significant. In addition, new development within the Otay Ranch along these roadways would require noise mitigation measures for noise sensitive uses to meet the City's noise standard. Nonetheless, the cumulative

noise increase would exceed the project's 3.0 dBA significance threshold on key roadway segments and would be considered cumulatively significant. The cumulative traffic noise increase at all other roadways would be less than the 3.0 dBA significance threshold, which would be considered less than significant.

F. Cultural Resources

(1) Archaeological and Historic

This cumulative assessment of impacts to archaeological and historic resources incorporates by reference the cumulative impact analysis in the General Plan EIR. The continued pressure to develop or redevelop areas would result in incremental impacts to the historical record in the San Diego region. Regardless of the efforts to avoid impacts to cultural resources, the more that land is converted to developed uses, the greater the potential for impacts to cultural resources. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect was considerable when considered cumulatively. The General Plan EIR concluded that the loss of historic or prehistoric resources from the past, present, and probable future projects in the Southern California/Northern Baja California, Mexico areas would contribute to cumulatively significant impacts to cultural resources.

The Village Two, Three, and a Portion of Four SPA Plan EIR concluded that the loss of cultural resources within the region would continue with development. While mitigation reduced project-specific impacts on cultural resources to below significance, the Village Two, Three and a Portion of Four EIR concluded that cumulative impacts to cultural resources would remain significant and unavoidable.

As discussed in Section 4.6, Cultural Resources, in this Draft EIR, the proposed project would not result in a significant impact on known archaeological resources, but could result in significant impacts to archaeological resources that may be uncovered during project development. While mitigation has been proposed that would reduce project-related impacts to cultural resources to a less than significant level, because the extent of potential cultural resources is unknown at this time, cumulative impacts are concluded to be significant, consistent with the findings in the General Plan EIR and Village Two, Three and a Portion of Four SPA Plan EIR.

(2) Paleontological Resources

This cumulative assessment of impacts to paleontological resources incorporates by reference the cumulative impact analysis in the General Plan EIR. As with archaeological and historic resources, the continued pressure to develop undeveloped areas would result in incremental impacts to the paleontological record in the San Diego region. Regardless of the efforts to avoid impacts to these resources, the more that land is converted to developed uses, the greater the potential for adverse

impacts. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect was considerable when considered cumulatively.

The Village Two, Three, and a Portion of Four SPA Plan EIR states that cumulative buildout would result in an increased probability of disturbance to paleontological resources, causing potentially significant cumulative impacts. However, this EIR also concluded that this is a positive effect of development due to fact that the discoveries of paleontological resources contribute to important scientific information about the natural history in southwestern San Diego County. The cumulative analysis concluded that implementation of project-specific paleontological mitigation measures as prescribed in the Otay Ranch GDP Program EIR for all developments in Otay Ranch would mitigate cumulative impacts to below a level of significance.

As discussed in Section 4.6, Cultural Resources, in this Draft EIR, no paleontological resources have been identified on the surface of the project site or any of the off-site areas. Geological formations underlying project area parcels, however, have been identified as having high sensitivity for paleontological resources. Therefore, the proposed project could result in significant impacts to paleontologically sensitive deposits. Mitigation has been proposed that would reduce project-related impacts to paleontological resources to a less than significant level. Because the extent of potential paleontological resources is unknown at this time, cumulative impacts are concluded to be significant, consistent with the findings in the General Plan EIR. Similar to the conclusion of the Village Two, Three and Portion of Four EIR, these mitigation measures would reduce cumulative paleontological impacts to below significance due to the fact that the discoveries of paleontological resources contribute to important scientific information about the natural history in southwestern San Diego County.

G. Biological Resources

This cumulative assessment of impacts to biological resources incorporates by reference the cumulative impact analysis in the General Plan EIR. Impacts to biological resources in the City of Chula Vista are managed through the Chula Vista MSCP Subarea Plan, which implements the MSCP subregional plan. The Subarea Plan is part of the adopted General Plan, and there are no proposed amendments to the Subarea Plan that would lessen the protection of sensitive biological resources. The Subarea Plan provides comprehensive long-term habitat conservation to address the needs of multiple species and the preservation of natural vegetation communities for lands within the City and sphere of influence boundaries. Any project subject to City approval must conform to the Subarea Plan. The Subarea Plan also contributes significant conservation outside the Chula Vista Subarea within the Chula Vista MSCP Planning Area in the unincorporated County Multi-Habitat Planning Area (MHPA).

The goals of the Chula Vista MSCP Subarea Plan include:[7]

- To conserve Covered Species and their habitats through the conservation of interconnected significant habitat cores and linkages;
- To delineate and assemble a natural habitat Preserve using a variety of techniques, including public acquisition, on- and off-site mitigation, and land use regulations;
- To provide a Preserve Management Program that, together with the federal and state management activities, will be carried out over the long term, further ensuring the conservation of Covered Species;
- To provide necessary funding for a Preserve management program and biological monitoring of the Preserve:
- To reduce or eliminate redundant federal, state, and local natural resource regulatory and environmental review of individual projects by obtaining federal and state Authorizations for 86 species.

In accordance with CEQA guidelines, a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.[8] Because compliance with the MSCP Subarea plan prevents significant impacts to biological resources, the General Plan EIR concluded that there would be significant cumulative impacts to biological resources.

The Subarea Plan addresses cumulative impacts to biological and wetland resources within the City. The Subarea Plan designates a Preserve and provides a regulatory framework for determining impacts on the Preserve and designating mitigation to reduce those impacts. As identified in Section 4.7, Biological Resources, of this report, the proposed project would have temporary direct impacts on the Preserve to install the proposed Salt Creek Sewer Lateral segment and potential indirect effects. These impacts within the Preserve are addressed and mitigated in accordance with the requirements of the MSCP. Because compliance with the MSCP Subarea Plan avoids cumulative impacts on biological resources, and because the proposed project provides measures that meet the obligations of the plan, the project would not have a significant cumulative impact on biological resources.

[7] *City of Chula Vista, City Of Chula Vista MSCP Subarea Plan (February 2003).*

[8] *CEQA Guidelines, Section 15064 h(3).*

H. Agricultural Resources

This evaluation of cumulative impacts on agricultural resources incorporates the cumulative analysis in the General Plan EIR by reference. The General Plan EIR concluded that "there are no prime farmlands or farmlands of statewide importance in the City that would be converted as a result of land use changes."[9] Therefore, it was determined that impacts on agricultural resources would be less than significant.

The Village Two, Three, and a Portion of Four SPA Plan EIR concluded that cumulative development of Otay Ranch and surrounding properties would result in the permanent loss or impairment of lands suitable and historically used for agriculture. It concluded that the SPA Plan would cause a cumulatively significant impact on agricultural resources.

The EUC SPA Plan is within the development scope of the General Plan. Prime farmlands or farmlands of statewide importance do not occur within the General Plan area; however, the project site is identified as Farmland of Local Importance. The Otay Ranch GDP Program EIR identified the incremental and cumulative loss of agricultural lands (Farmland of Local Importance) in the Otay Ranch as a significant impact. As the proposed EUC SPA Plan would result in the loss of Farmland of Local Importance, the EUC SPA Plan EIR has concluded that the proposed project would have a significant impact with respect to agricultural resources. Although the loss of farmland in the EUC would not exceed the significance threshold criteria of the General Plan EIR, the incremental loss of farmland in the EUC site, in combination with other projects would result in a cumulatively significant impact with respect to agricultural resources.

I. Hydrology and Water Quality

This evaluation of cumulative impacts on hydrology and water quality incorporates the cumulative analysis in the General Plan EIR by reference. The General Plan EIR concluded that compliance with General Plan policies EE2.5, which require construction and land development techniques pursuant to applicable SWRCB and RWQCB requirements, including compliance with all federal, state, and regional water quality objectives, and Objectives PFS 1 and 2 would ensure that impacts associated with surface water and ground water and drainage would not be significant. The General Plan concludes that General Plan policies are self-mitigating.[10]

According to the Village Two, Three, and a Portion of Four SPA Plan EIR, that project would be in compliance with existing regional water quality protection programs and City drainage standards. In addition, potential impacts would be reduced to less than significance through the implementation of proposed mitigation measures.

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[9] *Chula Vista General Plan EIR, page 285.*

[10] *Chula Vista General Plan EIR, pages 327-328.*

Construction associated with the proposed EUC SPA Plan EIR would potentially alter the quantity and composition of surface runoff through grading and construction that may include urban pollutants or DDT, which could adversely affect the quality of surface water and groundwater. The proposed project would also require extensive land development and paving that would also substantially change the amount of impervious surface area on the site and, although served by the existing drainage facilities in the EUC's northern and central drainage basins that would adequately accommodate the project's stormwater runoff, the existing downstream facilities serving the southern basin would not be adequate to accommodate increased surface water runoff. Therefore, impacts to the storm water system serving the southern drainage basin are also considered potentially significant. However, applicable state and federal regulatory measures and mitigation measures incorporated into the final design plans (Mitigation Measures 4.9-1 through 4.9-11) would reduce potential cumulative impacts to less than significant levels.

J. Geology and Soils

This evaluation of cumulative impacts on geological hazards and soils incorporates the cumulative impact analysis in the General Plan EIR. The General Plan EIR concluded that adverse geological impacts resulting from development completed in conformance with the Preferred Plan or alternative scenarios would be reduced below a level of significance, since General Plan policies require an engineering analysis to identify potential seismic hazards prior to construction and allow for project-specific design to take into account and avoid seismic hazards.[11] The General Plan EIR, therefore, concluded that geological impacts would be less than significant.

According to the Village Two, Three, and a Portion of Four SPA Plan EIR, geological hazards would be reduced to less than significant levels through the implementation of CBD seismic design parameters and adherence to the recommendations of a required geological and geotechnical evaluation. As geologic and soils impacts are site specific, this EIR concluded that impacts to these resources are not additive with other projects and are therefore not cumulatively significant.

Significant geological impacts could occur within the EUC SPA Plan due to the presence of potentially liquefiable soils on the project site (although the potential is identified as low in the project geotechnical report), grading activities combined with future irrigation and changes in drainage could result in liquefaction, slope instabilities or land sliding within the project area. The potential for soil erosion and/or loss of topsoil is considered a potentially significant during operation and the presence of loose, compressible materials in the southeast portion of the site could become unstable as a result of the project that could cause lateral spreading, collapse, or other geological hazards. Section 4.10, Geology and Soils, of this EIR also determined that the predominately clayey sand and sandy clay materials within the Otay Formation, as well as the onsite colluvium, alluvium, and residuum, have a moderate to high expansion potential. Development of structures on these soils could create substantial risks to life or property if the recommendations of the geotechnical report are not followed. As concluded in this EIR, applicable

[11] *Chula Vista General Plan, page 268.*

building code requirements and mitigation measures (Mitigation Measures 4.10-1 through 4.10-3) would reduce impacts associated with geological hazards to less than significant levels. Although the proposed project and related projects would have potentially significant geological impacts associated with liquefaction requiring mitigation, these projects are geographically removed to the extent that any unmitigated seismically induced ground failure at one site would not necessarily occur at the other. Therefore, any potential geological impacts would not be cumulatively significant.

K. Public Services and Utilities

(1) Fire Services

This evaluation of cumulative impacts on fire services incorporates the cumulative impact analysis in the General Plan EIR by reference. The General Plan EIR states that the policies of the General Plan and existing Fire Station Master Plan, which calls for the City to maintain a set of threshold standards on a quantitative level of fire service and prohibition of projects out of compliance with those standards, would self-mitigate impacts on fire services and ensure that the Fire Department is adequately equipped and staffed.[12] The General Plan EIR concluded that impacts on fire services associated with projected growth would be less than significant.

According to the Village Two, Three, and a Portion of Four SPA Plan EIR impacts on fire services would be reduced to less than significance by compliance with the PFFP which would assure fire services are provided concurrent with need.

Under the proposed EUC SPA Plan, the Growth Management regulations of the CVMC tie the pace of development in the EUC SPA Plan to the provision of public facilities and improvements. The proposed EUC SPA Plan also incorporates a fire station site in the Mixed-Use Civic/Office Core District that would meet the minimum demand of the proposed EUC SPA Plan and surrounding area. Section 4.11.1, Fire Services of this EIR, concludes that potential impacts associated with fire service would be reduced to a less-than-significant level through implementation of Mitigation Measures 4.11.1-1 through 4.11.1-5, which include the payment of fees and adherence to the requirements of the adopted California Fire Code. As the proposed project would not generate demand for fire services in excess of the provisions of the PFFP, and the EIRs for the General Plan and Village Two, Three and Portion of Four SPA identified fire service demand as less than significant, the cumulative impact of the proposed project and the related projects would be less than significant.

[12] *Chula Vista General Plan EIR, page 466.*

(2) Police Services

This evaluation of cumulative impacts on police services incorporates the cumulative impact analysis in the General Plan EIR by reference. The General Plan EIR states that the policies of the General Plan that require that a threshold standard based on a quantitative level of police services and prohibition of projects out of compliance with those standards would self-mitigate impacts on police services.[13] The General Plan EIR, therefore, concluded that cumulative impacts on police services would be less than significant. Similar to fire service, the Village Two, Three, and a Portion of Four SPA Plan EIR concluded that the impact on police services would be reduced to less than significance by compliance with the PFFP which would assure police services are provided concurrent with need.

Under the Growth Management regulations of the CVMC, including the requirement of a PFFP and the demonstration that police services continue to meet the GMOC quality of life threshold standards, tie the pace of development in the EUC to the provision of public facilities and improvements. The CVPD currently does not meet the GMOC thresholds for Priority II calls and, as development of the proposed project would increase demand on police services, including five additional officers, project impacts on police services would be significant. These potential impacts would be reduced to a less-than-significant level through the requirements of Mitigation Measures 4.11.2-1 and 4.11.2-2, which include the payment of PFDIF and continued monitoring of police response times. Since the EUC SPA Plan would provide development funds and a PFFP to support additional police services, the proposed project would not exceed the GMOC threshold for police services. In addition, the General Plan EIR similarly concluded that demand for police services would be adequately met by adherence to GMOC thresholds and funding. Therefore, the proposed EUC SPA Plan combined with the related projects would have a less than significant cumulative impact on police services.

(3) Schools

This evaluation of cumulative impacts on schools incorporates the cumulative impact analysis in the General Plan EIR by reference. As discussed in the General Plan EIR, the provision of schools is the responsibility of the school district when additional demand is warranted. Schools are funded by statutory fees that mitigate the additional demand. Once the statutory fee is imposed, the impact is considered mitigated, since the government code provides that fees constitute full and complete mitigation. Impacts resulting from development completed in conformance with the proposed General Plan are considered to be self-mitigating because policies of the General Plan accommodate projected student population, ensure that school services and facilities are concurrent with need, and are based on a quantitative threshold standard.[14] The Village Two, Three, and a Portion of Four SPA Plan EIR concluded that the provision of land and financing

[13] *Chula Vista General Plan EIR, page 471.*

[14] *Chula Vista General Plan, page 481.*

mechanisms under PFFP requirements, plus the development of a school master plan, would reduce impacts to less than significant.

The Growth Management regulations of the CVMC, including the requirement of a PFFP and the demonstration that schools continue to meet the GMOC quality of life threshold standards, would tie the pace of development in the EUC to the provision of public facilities and improvements. The proposed EUC SPA Plan, which would be adequately served by the proposed EUC SPA Plan elementary school and other middle and high schools in neighboring villages, provides for an approximate five to six-acre elementary school site. With the implementation of Mitigation Measures 4.11.3-1 through 4.11.3-2, regarding the provision of fees and coordination with the CVESD regarding the provision of adequate school services and space, the SPA Plan's impact on schools would be reduced to a less than significant level. As the proposed EUC SPA Plan's demand for school services, with mitigation, would be adequately met, the proposed project would not incrementally increase demand for school services beyond projected capacity. Therefore, in accordance with the conclusion of the General Plan EIR, the proposed EUC SPA Plan and related projects would have a less than significant cumulative impact on school services.

(4) Library Services

This evaluation of cumulative impacts on libraries incorporates the cumulative impact analysis in the General Plan EIR. The General Plan EIR states that current library facilities are insufficient to meet the GMOC threshold. However, impacts resulting from development completed in conformance with the proposed General Plan are considered to be self-mitigating because policies of the General Plan are based on a quantitative threshold standard (GMOC threshold) and require the denial of major development projects if library facilities are inadequate.[15] Therefore, the General Plan EIR concluded that cumulative impacts on libraries would be less than significant. The Village Two, Three, and a Portion of Four SPA Plan EIR concluded that the payment of development impact fees would reduce cumulative impacts on libraries to less than significance.

The Growth Management regulations of the CVMC tie the pace of development in the EUC to the provision of public facilities and improvements. The proposed EUC SPA Plan provides a site in the Mixed Use/Civic/Office Core District for a proposed City library. The proposed library would be adequate to serve the population of the EUC and would help to alleviate the current deficiency in library space in the City, in accordance with GMOC Threshold Standards. With the payment of fees in accordance with the PFDIF Program, impacts on libraries would be reduced to a less than significant level. As the proposed EUC SPA Plan's demand for library services, with mitigation, would be adequately met, the proposed project would not incrementally increase demand for library services beyond capacity. Therefore, the proposed EUC SPA Plan combined with related projects would have a less than significant cumulative impact on library services.

[15] *Chula Vista General Plan, page 488.*

(5) Parks, Recreation, Open Space, and Trails

This evaluation of cumulative impacts on Parks, Recreation, Open Space, and Trails incorporates the cumulative impact analysis in the General Plan EIR by reference. The General Plan EIR states that impacts on parks, recreation, open space, and trails resulting from development completed in conformance with the proposed General Plan are considered to be self-mitigating because policies of the General Plan are based on a quantitative threshold standard (GMOC threshold) that require that new development provide three acres of park land per 1,000 population. According to the General Plan EIR, policies contained in the General Plan ensure that park and recreation facilities would meet City standards and are sufficient to meet increased demand generated by the General Plan. General Plan policies also require the denial of major development projects if park and recreational facilities and services are inadequate. Therefore, the General Plan EIR concluded that cumulative impacts on parks would be less than significant.[16]

The Village Two, Three, and a Portion of Four SPA Plan EIR concluded that cumulative development in the region would place substantial demands on neighborhood, community, and regional parks. While this cumulative impact would be potentially significant, the EIR concluded that the cumulative impacts would be reduced to below a level of significance by the dedication of parkland.

The Growth Management regulations of the CVMC, including the requirement of a PFFP and the demonstration that parks and recreational facilities meet the GMOC quality of life threshold standards (three acres of park land per 1,000 population), tie the pace of development in the EUC to the provision of public facilities and improvements. The proposed EUC SPA Plan provides for parkland and equivalency fees to meet the City's GMOC Threshold for parks. However, a potentially significant impact could result if dedication of parkland and development of new recreation facilities does not coincide with project implementation and project population growth. According to Section 4.11.5, Parks, Recreation, Open Space and Trails of this EIR, the implementation of Mitigation Measures 4.11.5-1 through 4.11.5-4, would reduce park impacts to a less than a significant level. As the EUC SPA Plan's obligation for the provision of parkland, with mitigation, would be adequately met, the proposed project would not incrementally increase demand for parks beyond capacity. Therefore, the proposed project combined with the related projects would have a less than significant cumulative impact on parks, recreational facilities, open space, and trails.

(6) Water Supply

This evaluation of cumulative impacts on water supply and conveyance systems incorporates cumulative impact analysis in the General Plan by reference. The General Plan EIR states that the General Plan would have a significant adverse impact associated with increased demand for water

[16] *General Plan EIR, page 497.*

that would require corresponding improvements to treatment and distribution facilities. In addition, the General Plan EIR states that the inability of the City to state conclusively that sufficient water supplies would be available to individual projects and the higher demand projected under the proposed General Plan compared to water forecasts based on SANDAG population growth forecasts would be potentially significant. According to the General Plan EIR, the implementation of mitigation measures to require CEQA compliance review for subdivisions with 500 or more units with requirements of SB 610 and SB 221 would reduce the impact on water supply. However, the General Plan EIR concluded that there is no assurance that water would be available to adequately serve the projected increase in population. Therefore, the General Plan EIR concluded that water impacts would be significant and unmitigated.

The Village Two, Three, and a Portion of Four SPA Plan EIR concludes that the project's increase in water demand would be consistent with the water demand projected in OWD's UWMP and WRMP and the project-specific WSA&V. However, if potential litigation invalidated available water supplies, a significant and unavoidable impact on water supply could occur.

The proposed EUC SPA Plan would generate a daily demand for 908,381 gallons of potable water, with incorporation of water conservation and BMP efforts, and 63,861 gallons of recycled water. Sufficient potable and recycled water supplies would be available to serve the project from OWD's existing entitlements and resources. Although OWD is not in the position to accurately quantify, with any degree of certainty, possible long-range impacts caused by potential cutbacks on MWD, OWD is confident that supply and demand through the 2030 planning horizon will remain balanced. According to OWD, regional supply agencies possess multiple water management options to compensate for shortfalls under a broad range of conditions and include the integration of alternative sources, storage and conveyance options combined with built in buffers and contingency demand management actions that would result in minimal adverse effect on supplies delivered to OWD, even under critical, multiple dry year conditions. With regard to conveyance systems and fire flow, the ultimate size and materials of structures (conveyance pipes) and the specifications and locations of pipelines are subject to change in final design. Therefore, impacts with regard to water conveyance systems and fire flow are potentially significant. However, implementation of Mitigation Measures 4.11.6-1 through 4.11.6-3 would the project's potentially significant water impacts to a less than significant level. Water pipelines would be finished or installed on-site or off-site in accordance with the PFFP and SAMP. Although the regional water supplier has concluded that water available to service the proposed project would be adequate, impacts associated with water supply and infrastructure are considered cumulatively significant, in accordance with the General Plan EIR.

(7) Wastewater

This evaluation of cumulative impacts on wastewater treatment and conveyance incorporates cumulative impact analysis of the General Plan EIR by reference. Based on recent flow analysis as part of the Wastewater Master Plan, the General Plan EIR states that the City will be generating approximately 26.2 mgd of wastewater at buildout of the adopted General Plan. The City anticipates a future allocated treatment capacity of 20.870 mgd within the Metro system and has

begun discussions with the City of San Diego to identify a mechanism for the provision of additional capacity. The City is also exploring other options such as the construction of a wastewater reclamation facility as an independently owned or joint facility (with a water agency) that would reduce or negate the need for additional capacity rights. The General Plan EIR states that projected future flows at the buildout of the General Plan would exceed the City's current capacity and that additional population will place additional demand on sewer services. However, the General Plan EIR concludes that policies of the General Plan require major development projects to prepare PFFP's to identify facilities and funding mechanisms at the time of need. General Plan policies also provide the City the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with GMOC threshold standards.

The General Plan EIR also concludes that implementation of General Plan policies GM 1.1, 1.5, 1.9 and 1.11 avoid impacts associated with completion of infrastructure. The General Plan EIR further cites CVMC Sections 18.16 and 19.09.050 that require provision of adequate facilities for all discretionary permits, and states that General Plan and CVMC policies would self-mitigate impacts on wastewater facilities to less than significance.[17] The Village Two, Three, and a Portion of Four SPA Plan EIR does not anticipate a potential treatment shortfall or need for possible construction of additional treatment facilities, and did not identify a significant cumulative impact due to the project's wastewater demand.

The proposed EUC SPA Plan would generate a daily rate of 0.852 mgd of wastewater. This generation volume combined with other planned projects would require sewage treatment capacity beyond the City's existing capacity rights and allocated additional treatment capacity. The means by which additional treatment capacity would be acquired is unknown and the development of additional capacity may require the expansion of existing or construction of new treatment facilities. Existing policies require major developments to prepare a PFFP that articulates needed facilities and identifies funding mechanisms as well as provides the authority to withhold discretionary approvals and other measures. Implementation of these policies would therefore avoid significant cumulative impacts associated with treatment capacity. Mitigation measures are also provided to ensure that that the project would not exceed the capacity of any line in the existing wastewater conveyance system by more than 75 percent of pipe capacity for pipes greater than 12 inches in diameter or 50 percent for pipes 12 inches or less in diameter. With monitoring of treatment capacity prior to the approval of building permits, wastewater impacts would not be cumulatively significant.

(8) Solid Waste

This evaluation of cumulative impacts on solid waste disposal incorporates the cumulative impact analysis of the General Plan EIR by reference. The General Plan EIR states that Otay Landfill, which serves the City of Chula Vista, has sufficient capacity to accommodate the projected population at buildout of the General Plan's Preferred Plan or various scenarios. With no additional

[17] *Chula Vista General Plan, pages 529-530.*

recycling programs, the Otay Landfill has adequate capacity for 25 years. As the City has implemented recycling programs, the Otay Landfill is expected to have sufficient capacity at General Plan buildout and no significant impact to waste management services is anticipated.[18] The Village Two, Three, and a Portion of Four SPA Plan EIR recognized that buildout of the southern portion of San Diego County would result in a substantial increase in the generation of solid waste. An Integrated Waste Management Plan was prepared for the Otay Ranch GDP. The EIR concluded that the cumulative impact on integrated waste management would be reduced to below significance by conformance with the Waste Management Plan. Cumulative impacts could also be reduced by providing additional solid waste and recycling facilities, transporting trash outside the region to less impacted areas, and meeting state-mandated recycling goals.

The proposed EUC SPA Plan would generate approximately 22.81 tons of solid waste per day. As the Otay Landfill currently receives approximately 5,004 tons of solid waste per day, and has a permitted capacity of 5,830 tons per day (with an excess capacity of 826 tons), the project would not exceed the landfill's daily permitted capacity. In addition, City policies to reduce the solid waste stream, such as recycling programs, educational programs; source reduction programs; the control of litter and solid waste associated with special events; and collection of household hazards materials anticipate available landfill capacity or other disposal programs for the City into the future. As the proposed project is included in, and consistent with, the General Plan's projected population growth and would be required to comply with the City's waste disposal policies, the project would have a less than significant impact on landfill capacity. With implementation of mitigation measures and waste management plans, the project and related projects would result in less than significant impacts. Consistent with the General Plan EIR, cumulative impacts on solid waste disposal would be less than significant.

L. Hazards/Risk of Upset

This evaluation of cumulative impacts on hazards and risk of upset incorporates the cumulative impact analysis of the General Plan EIR by reference. The General Plan EIR states that development in accordance with the proposed plan would comply with the policies of Objective EE 19, which assure that new development would not be approved if there were a potential for hazardous materials use and transport to affect residents. According to the General Plan EIR, implementation of these policies is assured through accordance with CEQA according to Policy EE 20.2.[19] The General Plan EIR, therefore, concludes that hazards associated with the routine transport, use, disposal, or accidental release of hazardous materials would be less than significant. The Village Two, Three, and a Portion of Four SPA Plan and EIR recognized that the potential risk of adverse health effects associated with the use, transport and storage of hazardous materials and generation of hazardous waste would increase with cumulative buildout of the region. This potential cumulative impact would be reduced to below significance by compliance

[18] *Chula Vista General Plan EIR, page 534.*

[19] *General Plan EIR, page 563.*

with mitigation measures identified in the Otay Ranch GDP Program EIR and adherence to applicable laws and regulations.

Potentially significant impacts with respect to hazards and risk of upset at the EUC SPA Plan site could result from the exposure of construction workers and the public to OCPs occurring in soils in Areas A, B, and C of the EUC. Exposure may result from any OCP-containing soils that would be released or become airborne during excavation, be left uncovered onsite, or exported offsite. In addition, any buildings exceeding 170 feet in height above ground level could pose a hazard with respect to Brown Field. In addition, the hazardous materials may be used during the project's construction and operation phase, including common household chemicals. The implementation of mitigation measures would reduce potential impacts resulting from OCPs in the soil, building heights, and hazardous materials storage and handling to less than significant levels. With the implementation of existing regulations and project mitigation measures, the cumulative development of the proposed EUC SPA Plan with respect to hazards and risk of upset would be less than significant.

M. Housing and Population

This evaluation of cumulative impacts on housing and population incorporates the cumulative impact analysis of the General Plan EIR. The General Plan EIR states that the Preferred Plan and the three scenarios would result in a substantial increase in the Chula Vista population. East of I-805, the potential increase in population would occur in areas not currently developed. Under the General Plan, the City anticipates a population increase of approximately 101,600 new residents between 2004 and 2030. Forecasted growth is based on existing adopted land use designations and zoning, including Specific Plan areas and the GDP. According to the General Plan EIR, because the General Plan would induce growth it would have a significant impact with respect to population growth.[20] No mitigation is available to avoid this effect, and the General Plan EIR concludes that population growth would be significant and unavoidable.

The Chula Vista Bayfront Master Plan and The Village Two, Three, and a Portion of Four SPA Plan Village Two, Three, and a Portion of Four SPA Plan, both of which require an amendment of the General Plan to include either more housing than designated, or the conversion of industrial land to residential uses, include housing in excess of General Plan's estimated residential growth. The Chula Vista Bayfront Master Plan proposes the development of 1,500 residential units in an area not currently designated as residential. However, the EIRs for both projects found no significant population and housing impacts as a result of these increases.

As presented in Section 4.13, Housing and Population, the proposed EUC SPA Plan would be consistent with the General Plan's growth projections based on the Otay Ranch GDP's multi-family housing designation for the EUC SPA Plan of 2,983 units and projected population of 7,696. As the proposed EUC SPA Plan would not exceed the General Plan's population forecast, it would

[20] *Chula Vista General Plan, page 582.*

have a less than significant impact with respect o housing and population. The proposed project would not incrementally increase SANDAG's population forecasts or increase population forecasted in the Chula Vista General Plan. Therefore, the proposed project combined with related projects would not result in a cumulative housing and population impact.

N. Global Climate Change

As documented in Section 4.14, the estimate of the EUC SPA Plan's GHG emissions is conservative. Nevertheless, the project is estimated to represent a net increase of 0.037 percent of 2004 State-wide total emissions at buildout in 2030. Moreover, a sizeable percentage of the operational GHG emissions conservatively associated with the proposed project likely should not be considered new emissions attributable to the project because the future occupants of the project already generate emissions through their current activities. Further, the emissions estimate does not reflect improvements in technology and other reductions in GHG emissions that are likely to occur pursuant to State regulations, such as AB 1493, SB 1368, AB 32, and Executive Order S-3-5, as well as future federal and/or State regulations. The proposed EUC SPA Plan has incorporated design features to reduce the project's potential impact with respect to GHG emissions that are consistent with the goals of AB 32 and the CAT strategies discussed in this EIR.

AB1493 mandates that CARB create GHG emission reduction rules for cars and light trucks. According to the CEC, if AB1493 is reinstated, the reductions in emissions will be equivalent to reducing gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020. When the rules are fully implemented and older cars are replaced with AB1493 compliant vehicles, there will be further reduction in GHGs from trips to and from the proposed project. New power plant emission standards are proposed and anticipated to go into effect as a result of AB 32. These anticipated emission reductions are not taken into account for this project, and future CO_2e emission factors would be reduced when these measures go into effect

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions targets for the state, as well as a process to ensure the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California EPA, was formed. The CAT published its report in March 2006, in which it laid out recommendations and strategies for reducing GHG emissions and reaching the targets established in the executive order.

The proposed project, by implementing GHG reducing project features, results in an estimated increase of only 0.037 percent in 2004 State-wide emissions and supports of the State's goals related to the reduction of greenhouse gases. Thus, the project would not result in a cumulatively significant impact.

6.0 GROWTH INDUCING IMPACTS

Under CEQA Guidelines Section 15126.2(d), a project is defined as growth inducing when it directly or indirectly:

- Fosters economic growth, population growth, or the construction of additional housing in the surrounding environment;
- Removes obstacles to population growth;
- Taxes existing public facilities and services; and/or
- Encourages or facilitates other activities that could significantly affect the environments, either individually or cumulatively.

Growth inducement is generally dependent on the presence or lack of existing utilities and municipal or public services. The provision of services and utilities in a non-serviced area can induce growth between newly serviced areas and the community from which the facilities are obtained. In addition, growth inducement can also be defined as growth that makes it more feasible to increase the density of development in surrounding areas.

The City of Chula Vista Growth Management Plan calls for directing growth in and around the City in an orderly fashion, to avoid "leapfrog" development, to protect and preserve the City's amenities, and to guide growth in a general west to east direction. The Chula Vista General Plan and the Otay Ranch GDP include the proposed 2,983 residential units and 3.487 million square feet of non-residential floor area in their growth forecasts. Both the General Plan Update EIR (05-01) and the Otay Ranch GDP Program EIR (90-01) address the development of the proposed EUC SPA Plan area.

The project site and surrounding area are zoned for future urban growth under the GDP. The proposed EUC SPA Plan area is surrounded on three sides by existing development, including Village Seven to the west, the Otay Town Center to the north and Village Eleven to the east. Other Otay Ranch Villages in the project vicinity have been developed, or are undergoing development, including Villages One, Two, Three, Five, and Six. Villages Eight (to the southwest of the EUC), Nine (directly to the south of the EUC), and Ten (a future university site to the southeast of the EUC), and the portion of the EUC not located within the proposed SPA Plan area are currently undeveloped and vacant. However, these sites are designated for future urban development under the GDP. Thus, the extension of urban land use and infrastructure to the EUC are part of an orderly progression of growth and services, as anticipated by the Otay Ranch GDP and General Plan and consistent with the requirements of the Growth Management Plan.

The proposed EUC SPA Plan would generate direct and indirect population growth and employment opportunities through the construction of housing and non-residential floor area. In addition, the SPA Plan incorporates infrastructure improvements, both within the EUC and in the regional sewer system (Poggi Canyon Trunk Sewer and Salt Creek Interceptor Sewer). Additionally, the placement of soil in the off-site portion of the EUC under either grading option would facilitate the construction of the future extensions of Streets A, B and C to the south, the offsite portion of Street M, and the construction of Hunte Parkway.. Residential and non-residential uses within the proposed EUC SPA Plan area and the extension of local utility lines associated with the proposed EUC SPA Plan, however, are not expected to induce growth that is not already anticipated by the Otay Ranch GDP and Chula Vista General Plan for the East Planning Area.

The sewage generated by the proposed project and the additional flows from other projects currently under consideration could result in the City exceeding its allocated treatment capacity rights. The City is working on a variety of alternatives that would provide additional capacity to serve the proposed project. The development of additional capacity may require the expansion of existing or construction of new treatment facilities. The acquisition of additional treatment capacity from METRO is intended to serve only the proposed EUC SPA Plan and, therefore, would not induce growth not already anticipated under the Otay Ranch GDP. If additional treatment capacity to serve the proposed EUC SPA Plan is developed by the City in the form of a new treatment facility, it may induce growth throughout the City of Chula Vista, however much of the City is already developed and any future growth would be required to be consistent with the City's adopted General Plan.

7.0 MANDATORY CEQA SECTIONS
7.1 EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on Appendix G of the CEQA Guidelines, which provides a checklist questionnaire by which potential environmental effects can be identified, the NOP determined that the proposed project would not result in significant environmental impacts in the following issue areas: Geology and Soils (septic tanks or alternative wastewater disposal systems), Hydrology and Water Quality (dam or levee failure, inundation by seiche, tsunami or mudflow), Mineral Resources, Noise (airports), and Transportation and Circulation (emergency access, design hazards, and parking capacity). Because the above issues have been determined to not be significant, they are not addressed in the environmental analysis of the EIR (Section 4.0). A short summary of each issue that was found not to be significant is provided below.

A. Geology and Soils

The project would not involve the use of septic tanks or alternative wastewater disposal systems. Thus, no impact relating to soil failure from septic tanks or alternative wastewater disposal systems would occur.

B. Hydrology and Water Quality

No dams or levees are present on or adjacent to the project site. The Otay Reservoir dam is approximately 1.9_mile east of the EUC. The EUC is at a higher elevation than the lake and is separated from the lake by the Otay River Valley (Otay Valley Regional Park). In the event of a dam failure, water from the lake would flow south and west in the Otay River Valley. As such, the site is not within the inundation area of the flood waters from the lake. Therefore, flooding resulting from a dam or levee failure would not occur.

The elevation of the project site, as well as distance from the coast, precludes damage by tsunamis (seismically induced waves) or seiches (standing waves). Earthquake induced flooding of the Otay Reservoir is not likely to affect the SPA Plan area given its elevation above the high waterline of the reservoir and intervening topography.

C. Mineral Resources

Mineral resources of economic value on the Otay Ranch have included sand, gravel, crushed rock (collectively known as construction aggregate), and bentonitic clay. These mineral resources are important to the construction industry. The project site is not designated as a locally important mineral resource site in the City of Chula Vista, and these mineral resources do not occur within

the SPA Plan area in sufficient quantities to be considered a valuable source. As such, project implementation would not result in significant impacts to mineral resources.

D. Noise

Brown Field is located approximately 2.5 miles to the southwest of the EUC. Project construction or operation would not expose people to excessive airport related noise levels. Therefore, no impacts would occur in this regard.

E. Traffic

No hazards due to a design feature (e.g., sharp curves or dangerous intersections) are anticipated to occur with implementation of the proposed project. As part of the design review process, site access and circulation for each future project within the EUC would be reviewed by the City of Chula Vista's Public Works and Engineering Departments to ensure that the project does not substantially increase hazards due to a design feature. Project implementation would provide roadways within the project site and connecting to the surrounding roads. Such roadways would be designed and constructed per City Code and standards for adequate emergency access. In addition, construction activities including staging would occur in accordance with City requirements, which would ensure that adequate emergency access would be provided during construction of the project. Thus, the project would not result in impacts related to hazards due to a design feature. Parking for all future development would be provided in accordance with applicable City regulations and in accordance with the EUC SPA.

Environmental issues determined to be potentially significant in the NOP were analyzed in this EIR. As discussed in Section 4.0, the following environmental issues were found not to be significant: Land Use, Solid Waste, and Housing and Population. Section 4.0 also determined that potentially significant impacts associated with Landforms/Aesthetics, Transportation, Air Quality, Noise, Biological Resources, Cultural and Paleontological Resources, Agricultural Resources, Hydrology and Water Quality, Geology and Soils, Fire Services, Police Services, Schools, Libraries, Parks/Recreation/Open Space/Trails, Water, Wastewater, Hazards/Risk of Upset, and Global Climate Change would be reduced to less than significant with the implementation of required mitigation measures.

7.2 SIGNIFICANT UNAVOIDABLE IMPACTS

A. Significant Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. Following is a summary of the impacts associated with the EUC SPA Plan that were identified in Section 4.0 as significant and unavoidable.

(1) Landform Alteration/Aesthetics

With implementation of the requirements and guidelines in the SPA Plan, including the Form Based Code, the project would consist of a dense, high quality urban development. Mitigation measures would reduce impacts to less than significant with respect to construction along the project's 89-foot frontage on Hunte Parkway, which is a designated Scenic Roadway. Furthermore, as projects are proposed in the proposed EUC SPA Plan, they would be required to go through the Design Review process to ensure consistency with the design standards and guidelines set for the in the Form Based Code. However, given the fact that the EUC site would convert open agricultural land to dense urbanized uses, impacts regarding the change in the project site's existing open visual character would be significant and unavoidable.

(2) Transportation

As discussed in Section 4.3, Transportation and Circulation, the addition of project traffic to some I-805 freeway segments under several of the study scenarios would result in a level of service (LOS) of LOS E or worse. All freeway segments along I-805 would operate at LOS D or better during the A.M. peak-hour until the Year 2020 and during the P.M. peak-hour until the Year 2015. However, no specific improvements have been identified to mitigate the project's cumulative impacts along the freeway segments listed below in the 2015, 2020, and 2030 scenarios.

- Northbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (2020 and 2030 (Overpass and Interchange) – Cumulative)
- Southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway (2015, 2020, and 2030 (Overpass and Interchange) – Cumulative)
- Southbound Interstate 805 from Olympic Parkway to Main Street (2030 (Overpass and Interchange) – Cumulative)

Thus, impacts to these freeway segments would remain significant and unavoidable.

(3) Air Quality

Significant and unavoidable impacts to regional and local air quality would result from the construction and operation of the proposed project. The development of the EUC SPA Plan would exceed temporary short-term daily and annual regional emission significance thresholds for $PM_{10,}$ $PM_{2.5}$, VOC, NOx and CO during construction activities even with incorporation of mitigation measures. Further, project operations would cause an exceedance of long-term daily and annual regional emission significance thresholds for $PM_{10,}$ $PM_{2.5}$, VOC, NOx and CO, even with incorporation of mitigation measures.

(4) Agricultural Resources

The incremental and cumulative loss of agricultural lands (Farmland of Local Importance) is an irreversible result of converting the site to urban uses. No mitigation measures are available to reduce this impact to below a level of significance. This incremental loss is concluded to be significant and unavoidable.

B. Reasons Why The Project Is Being Proposed, Notwithstanding Significant Unavoidable Impacts

In addition to identification of the project's significant unavoidable impacts, Section 15126.2(b) of the CEQA Guidelines requires the EIR to describe the reasons why the project is being proposed, notwithstanding these impacts. Reasons for the proposed project are described in detail in Section 2.0, Project Description of this EIR, subsection 3.4, Statement of Project Objectives. The project would implement the goals, objectives, and policies of the Chula Vista General Plan and the Otay Ranch General Development Plan. It would fulfill long-range City plans for an Eastern Urban Center intended to create a "heart of Otay Ranch" to serve as the region's commercial, financial, residential, professional, entertainment, and cultural center. The proposed project would also create significant and needed new employment opportunities for the City and region. The project would integrate smart growth planning principles to combat the negative effects of urban sprawl by providing a sustainable, mixed-use environment, supporting transit, and facilitating pedestrian movement while reducing automobile dependency. In addition, the EUC would integrate varying, but complementary, land uses to provide a mixed-use environment with strong pedestrian connections between uses and adjacent areas such as the University Area to the south and the Otay Ranch Town Center to the north.

Alternatives that may avoid the proposed project's significant and unavoidable impacts are considered in Section 8.0, Alternatives. Among those alternatives, no feasible alternative was identified that would reduce any of the significant unavoidable impacts of the proposed project to a less than significant level.

7.3 SIGNIFICANT IRREVERSIBLE CHANGES

CEQA Guidelines Section 15126.2(c) indicates that:

> "[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified."

Implementation of the proposed project would necessarily consume limited, slowly renewable and non-renewable resources. This consumption would occur during the construction phase of the project and would continue throughout its operational lifetime. The proposed project would require a commitment of resources that would include: (1) building materials; (2) fuel and operational materials/resources; and (3) the transportation of goods and people to and from the project site. Construction of the project would require the consumption of resources that are not renewable or which may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment.

The resources that would be committed during operation of the project would include water for drinking and bathing, and fossil fuels for electricity, natural gas, and transportation. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the project, and the existing, finite supplies of these natural resources would be incrementally reduced. However, it is noted here that electricity, natural gas, and water would be available to meet the demand of the project. Additionally, the proposed SPA Plan includes a Sustainability Element that incorporates "Smart Growth" principles, Leadership in Energy and Environmental Design (LEED) practices and other features that go beyond compliance with Title 24, Part 6 of the California Code of Regulations, in providing conservation practices that limit the amount of energy consumed by the project. As indicated in Section 4.14, Global Climate Change, the project's design and features would reduce vehicle miles traveled by 35 percent, and greenhouse gas emissions associated with transportation, electricity and natural gas by 32 percent compared to business as usual.

The project would involve the limited use of potentially hazardous materials typical of residential, office and commercial uses, including cleaning solvents, fertilizers and/or pesticides for landscaping. These materials would be contained, stored, and used on-site in accordance with manufacturers' instructions, applicable standards and regulations. In addition, demolition activities would comply with regulatory requirements to ensure that asbestos and lead-based paints are not released into the environment. Compliance with regulations would serve to protect against a significant and irreversible environmental change that could result from the accidental release of hazardous materials.

The project site has historically been used for agricultural uses. Development on the site would contribute to the incremental and cumulative loss of agricultural lands (Farmland of Local Importance). This would be an irreversible result of converting the site to urban uses. However, this site has been envisioned as part of the Otay Ranch GDP to serve as a high density, mixed-use regional urban center, serving regional commercial, financial, residential, professional, entertainment, and cultural needs.

In summary, construction and operation of the project would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would limit the availability of these particular resources for future generations or for other uses during the life of the project. However, continued use of such resources would be of a relatively small scale and would be consistent with regional and local growth forecasts in the area. The loss of such resources would not be highly accelerated when compared to existing conditions. Therefore, although irretrievable commitment of resources would result from the project, such changes would be considered less than significant.

8.0 ALTERNATIVES
8.1 INTRODUCTION

CEQA requires that an EIR describe a reasonable range of alternatives to the project, or to the location of the project that could feasibly avoid or lessen significant environmental impacts while substantially attaining the basic objectives of the project. An EIR should also evaluate the comparative merits of the alternatives. This chapter sets forth potential alternatives to the proposed project and evaluates them, as required by CEQA.

Key provisions of the CEQA Guidelines (Section 15126.6) pertaining to the alternatives analysis are summarized below.

- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

- The no project alternative shall be evaluated along with its impact. The no project analysis shall discuss the existing conditions at the time the notice of preparation is published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.

- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.

- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of alternatives discussed in an EIR is governed by the "rule of reason," mentioned above, that requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project.

The range of feasible alternatives is selected and discussed in a manner to foster meaningful public participation and informed decision-making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in CEQA

Section 15126.6(f)(1)) are site suitability, economic viability, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site. An EIR need not consider an alternative if its effects cannot be reasonably identified, its implementation is remote or speculative, or if it would not achieve the basic project objectives.

8.2 PROJECT OBJECTIVES

As discussed in Chapter 3.0, Project Description, the proposed EUC SPA Plan consists of an approximately 207-acre portion of the 237-acre Otay Ranch EUC. In accordance with the Otay Ranch GDP, the EUC SPA Plan would allow development of up to 2,983 multi-family residential units and up to 3,487,000 square feet of non-commercial floor area in a variety of commercial, mixed-use and urban residential products. The proposed EUC SPA Plan would incorporate a civic center, fire station, public library, and 15.36 acres of public parks, jogging path, office plaza, and promenades. Reinvested in lieu fee of on- and off-site locations would provide an equivalent of 23.36 acres of parkland. Consistent with the CEQA Guidelines, this section of the Draft EIR provides the list of objectives the Applicant seeks to achieve. These include the following:

- Implement the goals, objectives, and policies of the Chula Vista General Plan and particularly the Otay Ranch General Development Plan.
- Implement Chula Vista's Growth Management Program to ensure that public facilities are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements.
- Foster development patterns which promote orderly growth and prevent urban sprawl.
- Maintain and enhance a sense of community identity within the City of Chula Vista and surrounding neighborhoods of Otay Ranch.
- Establish unique urban standards for administration, streets, parking, parks, lighting, on-site signing, setbacks, heights, and other development requirements to achieve an urban place that sets itself apart from surrounding suburban villages.
- Establish a high density, mixed-use regional urban center which also reserves a public transit right-of-way (ROW or easement), and transit stops for extension of the San Diego regional public transit system to reduce reliance on the automobile to access uses within the center and destinations served by the transit system.
- Promote synergistic uses both within the urban center and between uses in adjacent development areas to balance activities, services and facilities.
- Contribute to the unique Otay Ranch image and identity which differentiates Otay Ranch from other communities.
- Implement development consistent with the provisions of the Otay Ranch resource conservation and management plans.
- Establish a flexible and responsive land use and facility plan which assures project viability in consideration of existing and future economic cycles.

8.3 SELECTED ALTERNATIVES

The alternatives identified below, with the exception of the mandatory No Project Alternative, are selected by the City of Chula Vista due to their potential to meet the basic objectives of the proposed EUC SPA Plan, and to lessen or avoid significant environmental effects resulting from implementation of the proposed EUC SPA Plan. As discussed in Section 4.0, the proposed EUC SPA Plan would result in significant but mitigable impacts to landform/aesthetics, traffic, air quality, noise, biology, cultural and paleontological resources, hydrology and water quality, geology, hazards, sewer and water, fire and police protection, schools, libraries and parks. The proposed SPA Plan would result in significant and unavoidable impacts to landform/aesthetics (with respect to loss of open, undeveloped land), air quality (with respect to exceedance of short-and long-term thresholds), traffic (with respect to cumulative impact on certain I-805 freeway segments), and agriculture (with respect to the incremental and cumulative loss of agricultural lands (Farmland of Local Importance)).

The alternatives discussed in an EIR are governed by the "rule of reason," mentioned above, that requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project.

The alternatives analyzed in this EIR are summarized as follows:

- Alternative 1: No Project Alternative;
- Alternative 2: Reduced Density Alternative;
- Alternative 3: Adjusted Land Use Mix Alternative.

8.4 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

An EIR must briefly describe the rationale for selection and rejection of alternatives. The lead agency may make an initial determination as to which alternatives are feasible and therefore merit in depth consideration, and which are infeasible. Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, need not be considered (CEQA Guidelines, Section 15126.6(f)(3)). This section identifies alternatives considered by the Lead Agency, but rejected as infeasible, and provides a brief explanation of the reasons for their exclusion. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects (CEQA Guidelines, Section 15126.6(c)).

An alternative to avoid the off-site construction of the Salt Creek Interceptor facility was eliminated from further consideration. Although this alternative would reduce the need for mitigation measures relative to biological and cultural resources associated with the off-site improvement, it would not meaningfully reduce any of the project's long-term operational impacts. Furthermore, this alternative would require a portion of the proposed EUC to sewer to the south of the project site through Village Nine and the University site and ultimately with a connection to the future Rock Mountain Road sewer. No sewer connection to the south exists at this time.

An alternative to develop the proposed EUC SPA Plan at an alternative location was also eliminated from further consideration. This alternative would conflict with the vision for the project set forth in the Otay Ranch GDP and reflected in the Chula Vista General Plan, which among other things located the project at a geographically central, high point of the Otay Ranch and adjacent to SR-125. If the proposed project were relocated to another site in the region, the Otay Ranch would not have its major urban center that would be integrally linked to the Otay Town Center to the north and the future University development to the south. Lastly, if the EUC were relocated, many of the significant and unavoidable impacts associated with the proposed development of 2,983 residential units and 3.487 square feet of non-residential floor area would likely be transferred to the alternative location but not reduced or avoided.

8.5 ALTERNATIVES TO THE PROPOSED PROJECT

A. Alternative 1: No Project Alternative

CEQA Guidelines Section 15126.6 (e)(3)(B) states that the No Project alternative is "a circumstance under which a project does not proceed" and may be considered the environmental effects of the property remaining in its existing state. Alternative 1, the "No Project Alternative" assumes that no SPA Plan would be developed within the EUC and that the Project Site would remain unchanged. Accordingly, this alternative would be equivalent to the conditions discussed under existing conditions for each category analyzed in this Draft EIR.

(1) Land Use

Under the No Project alternative, no SPA Plan would be developed within the Applicant's portion of the EUC. The EUC, intended to be the "heart of Otay Ranch," would not occur as envisioned in the Otay Ranch GDP. The project site would remain partially disturbed and either in agricultural use or would remain fallow. This alternative would not meet the General Plan and GDP objectives that call for the EUC to function as the high-density, mixed use downtown and regional heart of the Otay Ranch Subarea and East Planning Area. In the absence of a SPA Plan, no residential, commercial, or industrial development could occur on the project site in the current Planned Community (P-C) zone, as defined in Chapter 19.48 of the CVMC. As the No Project Alternative would not achieve the applicable objectives and policies of the adopted General Plan and GDP, and would not meet the intention of the current zoning designation, this alternative would result in a significant impact related to conformance with existing plans and policies for the site.

(2) Landform Alteration/Aesthetics

The No Project Alternative would maintain the open and partially natural character of the project site. The gently sloping topography (with weedy vegetation, brush, and peripheral cut and fill slopes) that would be changed by the proposed project's dense urbanized character would be maintained. The No Project Alternative would not require new cut and fill slopes and, therefore, would not result in any new exposed slopes. This alternative would not impact the onsite 0.5-acre of steep slopes, and as the offsite SSA would not be necessary, there would be no impact to the offsite 5.8 acres of steep slopes.

The No Project Alternative would not generate any new sources of light and glare, including signage, street signs and ambient lighting from development. The No Project Alternative would not place any development along an 89-foot portion of Hunte Parkway, a designated scenic roadway or cause a change in existing scenic vistas from this future scenic roadway alignment and other areas within and surrounding the EUC. As potential landform and aesthetic impacts associated

with the proposed project, including the unavoidable impacts related to the permanent change in open space character, would be avoided, the No Project Alternative would have less impact than the proposed project.

(3) Transportation

Under the No Project alternative, no traffic or new vehicle trips would be generated, and no on-site or off-site roadways would be required. The No Project alternative would avoid the proposed project's potentially significant direct and cumulative intersection impacts under all build-out scenarios. The No Project Alternative would avoid the proposed project's significant and unavoidable cumulative impacts on freeway segments. The No Project Alternative would avoid the proposed project's potentially significant impacts at project boundary intersections (Hunte Parkway/Eastlake Parkway, and Hunte Parkway/Street A). As traffic impacts associated with the proposed project would be avoided, the No Project Alternative would have less impact on transportation than the proposed project.

(4) Air Quality

The No Project Alternative would not require grading or development that would generate construction or operation air quality impacts that would, otherwise occur under the proposed project. The No Project Alternative would avoid the proposed project's significant and unavoidable construction-period emissions of PM_{10}, $PM_{2.5}$, CO, NOX, and VOC that would exceed daily significance thresholds; significant operational emissions of CO, NOx, PM_{10}, $PM_{2.5}$ and VOC; and cumulative impacts associated with PM_{10} and $PM_{2.5}$ emissions. As construction and operational air emissions associated with the proposed project would be avoided, the alternative would have less air quality impacts than the proposed project.

(5) Noise

The No Project Alternative would not involve grading or development that would result in a temporary or periodic increase in ambient noise levels or expose persons to a permanent increase in noise levels that would otherwise occur under the proposed project. The No Project Alternative would avoid the proposed project's potentially significant construction-period noise levels on noise sensitive receptors within 200 feet of any future construction site. The No Project Alternative would also avoid the proposed project's potentially significant operation-period impacts (an increase of 3.0 dBa) associated with projected traffic on Birch Road, from on-site stationary sources (equipment), and from outdoor activities from parks or any existing or future school site. As the noise impacts associated with the proposed project would be entirely avoided, the No Project Alternative would have less noise impacts than the proposed project.

(6) Cultural Resources

The No Project Alternative would not require site clearing, grading, or excavation activities, which have the potential to adversely affect the significance of unknown archaeological resources, paleontological resources, or disturb human remains, as would potentially occur under the proposed project. As the cultural and paleontological resources impacts associated with the proposed project would be entirely avoided, the No Project Alternative would have less impact on cultural and paleontological resources than the proposed project.

(7) Biological Resources

The No Project Alternative would not involve site clearing, grading, or excavation activities, therefore biological impacts associated with the on- and off-site components of the project, including impacts to sensitive wildlife species and plant communities, jurisdictional areas and nesting birds, would be avoided. With this alternative, the off-site SCSL Improvement and the SSA would not be necessary. Therefore, the potentially significant biological impacts specifically associated with these off-site project components would be entirely avoided. Since no development would occur, no land would be conveyed to the Otay Ranch Preserve in accordance with the MSCP. As all biological impacts associated with the proposed project would be avoided, the No Project Alternative would have less direct impact than the proposed project. However, the loss of additional land that would have been conveyed to the Otay Ranch Preserve as contemplated in the Otay Ranch Resource Management Plan would not be in conformance with the RMP, and therefore would make this alternative have an additional biological impact.

(8) Agriculture

The No Project Alternative would not involve grading and development of the approximately 207-acre project site and stockpiling of soils within the adjacent approximately 88.1-acre property (Grading Option 1), both of which are designated Farmland of Local Importance. Thus, the No Project Alternative would avoid the proposed project's significant and unavoidable impact associated with the incremental and cumulative loss of farmland. The No Project Alternative would also avoid the proposed project's potentially significant impacts (such as exposure to noise, odors, agricultural chemicals) associated with interfacing the EUC SPA Plan's future urban uses with interim agricultural uses. As the impacts to agricultural resources associated with the proposed project would be avoided, the No Project Alternative would have less impact on agricultural resources than the proposed project.

(9) Hydrology and Water Quality

The No Project Alternative would not involve grading or potential degradation of water quality because of erosion from exposed soils. The No Project Alternative would not introduce human occupation, land uses, or vehicles that have the potential to introduce pollutants during operation and potentially impact surface and ground water quality. In addition, the No Project Alternative

would not require the development of streets and other impermeable surfaces that would increase surface water runoff and cause potentially significant off-site erosion to downstream facilities. Compared to the proposed project, the No Project Alternative would have no impact associated with increased surface runoff. However, the No Project Alternative would not implement a program to bury existing soil contaminants that have a potential to impact water quality, or provide a SWPPP to address drainage and impacts from existing stockpiled soils (undocumented fill, construction material, and construction debris) entering downstream waters. Overall, as impacts associated with drainage and water quality from an urban development would be avoided, the No Project Alternative would result in less drainage and water quality impacts than the proposed project. However, contaminated soils would remain on-site. Therefore, the quality of runoff from these areas would be the same as occurs under the existing condition.

(10) Geology and Soils

The No Project Alternative would not involve the development of habitable structures in an area possibly susceptible to liquefaction, slope instability, and expansive soils; or result in erosion as a result of grading, that would, otherwise, potentially occur under the proposed project. The No Project Alternative would entirely avoid the proposed project's potentially significant impact with respect to development in a potentially unstable area or erosion as a result of grading and would avoid the need for mitigation. Contaminated soils would remain on-site. As potential geologic and soils impacts associated with the proposed project would be avoided, the No Project Alternative would have less impact than the proposed project with respect to geology and soils.

(11) Public Services

(a) Fire Services

The No Project Alternative would not generate the project-specific increase in demand for fire services. This alternative would not require compliance with the fire flow requirements of the 2007 California Fire Code as a result of the development of a new urban center and high-rise buildings that would, otherwise, occur under the proposed project. Furthermore, this alternative would not provide a fire station site that would be available to serve Otay Ranch and the broader community in accordance with the approved Fire Master Plan. As the No Project Alternative would entirely avoid the proposed project's contribution to the increased demand for fire services, and the fire flow requirements, this alternative would have less direct impact on fire services than the proposed project. However, the loss of a fire station site would be an additional impact of this alternative.

(b) Police Services

The No Project Alternative would not increase demand for police services or potentially exacerbate existing inadequate response times to Priority II calls (GMOC response time thresholds) as a result of increased population that would, otherwise, occur under the proposed project. As the No Project

Alternative would entirely avoid the proposed project's potentially significant impacts on police services, this alternative would have less impact on police services than the proposed project.

(c) Schools

The No Project Alternative would not increase demand on schools as a result of increased population that would, otherwise, occur under the proposed project. This alternative would not provide a site for an elementary school that would be available to serve Otay Ranch and the broader community. As the No Project Alternative would entirely avoid the proposed project's contribution to the demand on schools, this alternative would have less impact on schools than the proposed project. However, the loss of an elementary school site would be an additional impact of this alternative.

(d) Library Services

The No Project Alternative would not increase demand on libraries as a result of increased population that would, otherwise, occur under the proposed project. This alternative would not provide a library site that would be available to serve Otay Ranch and the broader community as by the adopted Library Master Plan. As the No Project Alternative would entirely avoid the proposed project's contribution to the demand for library services, it would have less of an impact on library services than the proposed project. However, loss of a library facility that is needed to serve the region would be an additional impact of this alternative.

(e) Parks, Recreation, Open Space, and Trails

The No Project Alternative would not increase demand for parks and recreational facilities, open space, or trails, as a result of increased population that would, otherwise, occur under the proposed project. The No Project Alternative would not provide the trail connection (Village Greenway) between Village 7 and Village 11 in the City's greenbelt system, nor would it would convey 1.188 acres of habitat per one acre of development to the Otay Ranch Preserve in compliance with the MSCP and Otay Ranch RMP. Although the No Project Alternative would entirely avoid the proposed project's demand for services and facilities associated with parks, recreation, open space, and trails, the loss of the trail connection and land dedicated to open space in the Otay Ranch Preserve that would serve the Otay Ranch community and the region is an additional impact with respect to parks than the proposed project.

(f) Water

The No Project Alternative would not increase demand for water supply as a result of increased population, commercial and office uses, fire flow, landscaping, parks, and other open space areas that would, otherwise, occur under the proposed project. As the No Project Alternative would entirely avoid demand on local and regional water supplies, the No Project Alternative would have less impact than the proposed project on water supply.

(g) Wastewater

The No Project Alternative would not generate wastewater and would not increase demand for wastewater infrastructure and treatment as a result of increased population that would otherwise occur under the proposed project. The No Project Alternative would avoid the proposed project's contribution to the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. This alternative would not contribute to the wastewater flows in the Poggi Canyon Trunk Sewer Reach P265/P270 and the Salt Creek Sewer Lateral facility. As the No Project Alternative would not require additional capacity from METRO or other sources and would avoid the need to improve off-site pipelines, the No Project Alternative would have less impact on wastewater treatment and conveyance than the proposed project.

(h) Solid Waste

The No Project Alternative would not increase demand for solid waste disposal that would otherwise occur with the proposed project. As the No Project Alternative would generate no demand for solid waste disposal, it would have less impact on solid waste treatment and disposal than the proposed project.

(12) Hazards/Risk of Upset

The No Project Alternative would not locate residential population or expose workers during site grading to soils in Areas A, B, and C, in which levels of OCPs above the residential PRGs occur, or place any tall buildings (that may exceed 170 feet) within 2.5 miles of Brown Field that would otherwise occur under the proposed project. This alternative would not require the remediation of these soils and as such, the soils would remain as they are currently. This alternative would not result in uses that could use or store potentially hazardous materials. Although the No Project Alternative would avoid the proposed project's potentially significant impacts specific to grading in areas where there are contaminated soils, tall buildings and use of hazardous materials, it would not incorporate a program of remediation that would bury existing contaminated soils.

(13) Housing and Population

The No Project Alternative would not develop residential units to meet the City's anticipated housing demand under the General Plan Housing Element. Further, this alternative would be inconsistent with the Otay Ranch GDP that anticipates residential development in the EUC. Unlike the proposed project, the No Project Alternative would not provide affordable housing or employment opportunities. As the No Project Alternative would not provide housing to address regional and demand forecasted by SANDAG, Chula Vista General Plan and the Otay Ranch GDP, this alternative would result in a greater impact than the proposed project

(14) Global Climate Change

The No Project Alternative would not increase emissions associated with the proposed development, off-site energy generators or vehicle use. The No Project Alternative would avoid the proposed project's demand for water, energy, and fuel and therefore would have less impact on global climate change than the proposed project.

(15) Conclusion and Relationship to Project Objectives

The No Project Alternative would not achieve any of the project objectives listed above. The No Project Alternative would not implement the Otay Ranch GDP, remediate OCP's exceeding residential PRGs in on-site soils, provide a SWPPP for existing soil and debris stockpiles, or address the need for a regional library and fire station. Therefore, it would have a greater impact with respect to land use plans than the proposed project. The No Project Alternatives would also not provide a site for a school or convey permanent open space as contemplated in the MSCP and RMP. However, the No Project Alternative would eliminate the proposed project's significant and unavoidable impacts associated with air quality, the permanent change in the open character of the site, and loss of Farmland of Local Importance. While this alternative would eliminate the project's contribution to the significant unavoidable impact on certain segments of I-805, this impact is regional in nature. Therefore, the significant cumulative impacts on three sections of I-805 would remain. The proposed project's potentially significant impacts on Landform Alteration/Aesthetics, Noise, Cultural Resources, Biological Resources, Hydrology, Geology, Fire Services, Police Services, Schools, Libraries, Parks, Water, Wastewater, Solid Waste, Housing and Population would be entirely avoided. However, as noted previously, additional impacts associated with fire, libraries, and schools would result from this alternative.

B. Alternative 2: Reduced Density Alternative

The Reduced Density Alternative ("Alternative 2") would reduce overall development by 25 percent, resulting in a total 2,237 residential units and 2.62 million square feet of non-residential floor area. This alternative assumes that the library and fire station would be respectively reduced commensurate with reduced demand. The Greenway Trail would be developed as under the proposed EUC SPA Plan. In addition, an approximately 6-acre school site would be provided as under the proposed project. However, parkland and in lieu fees would be proportionately reduced by 25 percent for a total of 11.72 acres of parkland and in lieu fees equivalent to 5.8 acres, for a total equivalent to 17.5 acres. With reduced density, Alternative 2 also assumes that the EUC would have an overall, lower building profile than anticipated under the Otay Ranch GDP.

(1) Land Use

The 25 percent reduction in residential and non-residential uses under Alternative 2 may not be consistent with the General Plan, which calls for the EUC to function as the high-density, mixed use downtown and regional heart of the Otay Ranch Subarea and East Planning Area (General Plan

Objective LUT 64). Alternative 2 would provide 2.62 million square feet of non-residential floor area and 2,237 residential units, which would not be consistent with the land use mix of approximately 3.5 million square feet of non-commercial floor area and 2,983 multi-family units set forth under the Otay Ranch GDP. As such, in contrast to the proposed project, this alternative would be inconsistent with these planning documents and would require a General Plan Amendment and GDP Amendment. As this alternative would result in a lower density development than proposed under the GDP, it also may not provide the level of regional services anticipated by the applicable land use plans. As with the proposed project, internal and adjacent land use compatibility would not be significant due to conformance requirements in the FBC. Because this alternative would be inconsistent with the General Plan and GDP, it would have an impact on land use compatibility with existing plans and polices, which would be more of an impact that the proposed project.

(2) Landform Alteration/Aesthetics

Alternative 2 anticipates that development would occur throughout the EUC site and, therefore, would require the same scale of land preparation as under the proposed EUC SPA Plan. As with the proposed project, development of the project site under Alternative 2 would change the undeveloped, open character of the site to one of urbanized uses. As any urban development of the project site would result in the loss of the project site's open visual character, Alternative 2 would result in the same significant, unavoidable impact on open space as under the proposed project. However, as under the proposed project, aesthetics and landform impacts such as exposed slopes and other alterations during grading, panoramic views from the project site, and ambient light levels and glare would be less than significant. Similar to the proposed project, potential view impacts along an 89-foot segment of Hunte Parkway (a scenic roadway) would be reduced to less than significant through the same mitigation measure as required of the project. With respect to visual character, Alternative 2 would result in a lower profile development that would not fulfill to the same degree the objectives of the Otay Ranch GDP, which envision a high-rise environment and high activity associated with an urban character street front of mixed uses. This alternative would not result in significantly different impacts related to landform and aesthetics than the proposed project.

(3) Transportation

Alternative 2 would reduce overall development and respective traffic by 25 percent. The reduction in the scale of development would reduce traffic impacts at the Birch Road/ Magdalena Avenue intersection thereby eliminating the need for mitigation at this intersection. Alternative 2 would require the same need for on-site and off-site roadways as under the proposed project and, with the exception of the cited intersection, would implement the same mitigation measures as the proposed project, where indicated. Therefore, as with the proposed project, all impacts on study area intersections and roadway segments would be reduced to less than significant under the Horizon Year 2030 scenario. Assuming the same mitigation measures as the proposed project, mitigation measures would also reduce impacts to less than significant with respect to consistency with the PFFP (including the PFFP and on-site street thresholds). Alternative 2 would have

incrementally less impact on roadway segments, intersections and freeways than the proposed project. However, Alternative 2 would not avoid the project's significant and unavoidable cumulative impacts along three freeway segments, including: (1) northbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway, (2) southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway, and (3) southbound Interstate 805 from Olympic Parkway to Main Street.

(4) Air Quality

Alternative 2 would involve the same amount of mass grading as the proposed project and involve the same intensity of activity during any construction phase due to the concurrent use of equipment in any single phase. Thus, Alternative 2 would result in similar construction-period impacts, although the duration of construction activity would be incrementally less due to the 25 percent reduction in overall development. Although construction duration would be shortened, Alternative 2 would not eliminate the project's significant and unavoidable daily construction-period emissions of PM_{10}, $PM_{2.5}$, CO, NOX, and VOC that would exceed daily significance thresholds, or, cumulative impacts associated with PM_{10} and $PM_{2.5}$ during the most intensive construction periods. However, the duration of construction would be incrementally reduced so that overall emissions would be less than under the proposed project. In addition, Alternative 2 would generate 25 percent less traffic and have less overall development so that operation-period regional emissions would be incrementally reduced. However, the potential 25 percent reduction in mobile and stationary operational emissions associated with Alternative 2 would not be sufficient to reduce emissions to below threshold levels for CO, NOx, PM_{10}, $PM_{2.5}$ and VOC, since project emissions are four to five times the threshold standards. As with the proposed project, Alternative 2 would apply operations-period mitigation measures. These mitigation measures, however, would not reduce emissions to less than significant levels. Although Alternative 2 would generate the same significant and unavoidable construction period air quality impacts, it would have incrementally less (although still significant and unavoidable) operation-period air quality impact than the proposed project.

(5) Noise

Alternative 2 would involve the same amount of mass grading as the proposed project, and the same intensity of activity during any construction phase due to the concurrent use of equipment in any single construction phase. Therefore, Alternative 2 would result in similar construction-period noise impacts, although the duration of construction activity would be incrementally less due the 25 percent reduction in overall development. Significant construction noise impacts on future noise sensitive receptors, including residential uses, library, elementary school, possible daycare facilities, neighborhood parks, playgrounds, and athletics fields, located within 200 feet of grading activities or building construction occurring over a period of more than twenty years would be incrementally reduced compared to the proposed project. In addition, mobile noise increases during project operation due to traffic would be reduced by approximately 25 percent. Increases in mobile noise sources would be reduced to less than significant through the implementation of the same mitigation measures implemented by the proposed project. However, Alternative 2 would

have incrementally less impact than the proposed project with respect to stationary and mobile noise sources.

(6) Cultural Resources

Alternative 2 would be developed over the same land area as the proposed project and, as such, would require similar site clearing and grading. These activities would have similar potential impacts on unknown archaeological resources and paleontological resources, and the same potential to disturb human remains as under the proposed project. Alternative 2 would require the same mitigation measures as the proposed project and, therefore, impacts would be reduced to a less than significant level. Overall, impacts on cultural resources would be similar to those of the proposed project.

(7) Biological Resources

Alternative 2 would involve the same site clearing and grading activities, which have similar on-and off-site impacts to sensitive wildlife species and plant communities, jurisdictional areas and nesting birds as the proposed project. As with the proposed project, Alternative 2 would mitigate potentially significant impacts on the northern harrier, the burrowing owl, and other nesting birds to less than significant. Alternative 2 would also involve the off-site construction of the Salt Creek Interceptor connection, which would have a potentially significant impact on approximately 0.16 acres of Coastal Sage Scrub, which would be reduced to less than significant through mitigation. In addition, Alternative 2 would implement the proposed project's SWPPP that would address drainage from existing soil stockpiles with respect to downstream habitat. Alternative 2 would require the conveyance of 1.188 acres of habitat per one acre of developed land to the Otay Ranch RMP Preserve in accordance with the MSCP. Alternative 2 would provide the same mitigation measures as the proposed project to reduce impacts to less than significant levels. Therefore, Alternative 2 would have the same impact with respect to biological resources as the proposed project.

(8) Agriculture

Alternative 2 would require the same grading and development of the approximately 207-acre project site as the proposed project. The off-site SSA would still be required. As these areas are designated as Farmland of Local Importance, Alternative 2 would have the same significant and unavoidable impact associated with the incremental and cumulative loss of farmland as the proposed project. Alternative 2 would also experience the same potentially significant impacts, including exposure to noise, odors, agricultural chemicals associated with interfacing urban uses with interim agricultural uses. As with the proposed project, Alternative 2's potentially significant agricultural impacts associated with interim interfacing of urban and agricultural uses would be reduced to less than significant levels through mitigation measures, including an Agricultural Plan. Therefore, Alternative 2 would have the same impact on agricultural resources as under the proposed project.

(9) Hydrology and Water Quality

Alternative 2 would require mass grading and potential degradation of water quality as a result of erosion of exposed soils. Alternative 2 would introduce human occupation, land uses, or vehicles that have the potential to introduce pollutants during operation and potentially impact surface and ground water quality. In addition, Alternative 2 would require the development of streets and other impermeable surfaces that would increase surface water runoff and cause potentially significant off-site erosion to downstream facilities. As with the proposed project, Alternative 2's potentially significant impact with respect to water quality standards and drainage (erosion/flooding), and runoff water would be reduced to less than significant through the enforcement of existing state and federal regulatory standards and proposed mitigation measures. Also, as with the proposed project, Alternative 2 would implement a program to bury existing soil contaminants or provide a SWPPP to address drainage from existing stockpiled soils (undocumented fill, construction material, and construction debris). Although Alternative 2 would provide the same mitigation as the proposed project to reduce impacts to less than significant levels, it would have incrementally less impact with regard to operational contaminants in surface runoff associated with vehicles and human occupancy. Therefore, Alternative 2 would have incrementally less impact with respect to hydrology and water quality than the proposed project.

(10) Geology and Soils

Alternative 2 would involve the development of 25 percent fewer habitable structures in an area possibly susceptible to liquefaction, slope instability, expansive soils, and erosion as a result of grading than under the proposed project. Similar to the proposed project, contaminated soils in Areas A, B and C would need to be remediated during grading. As with the proposed project, Alternative 2's potentially significant impact with respect to geologically hazardous conditions would be reduced to less than significant through adherence to the recommendations of a geological investigation. Alternative 2 would have a similar impact to the proposed project with respect to geologic hazard and would provide the same mitigation as the proposed project to reduce impacts associated with geologic hazards to a less than significant level. However, as Alternative 2 would reduce overall development by 25 percent, fewer occupants would be exposed to potential geologic hazards. Therefore, Alternative 2 would have incrementally less impact than the proposed project with respect to geology and soils.

(11) Public Services

(a) Fire Services

Alternative 2 would incorporate a fire station and generate up to 2,237 residential units. Based on 2.58 persons per household, this alternative would generate a population of up to 5,771 residents, which represents a 25 percent decrease in population compared to the proposed project. As with the proposed project, Alternative 2 would mitigate potentially significant impacts on fire services through the payment of Public Facilities Development Impact Fees and provision of a site for the

fire station, compliance with code-required fire flow at building plan review, and the continued monitoring of response times by the City. As with the proposed project, impacts on fire and emergency medical services would be reduced to less than significant through proposed mitigation measures. Although Alternative 2 would provide the same mitigation measures as the proposed project, it would generate less demand and result in less impact on fire services than the proposed project.

(b) Police Services

Alternative 2 would result in an approximate 25 percent decrease in population compared to the proposed project, which would reduce the project-related demand for police services. As with the proposed project, potentially significant impacts on police services would be reduced to less than significant levels through mitigation measures. These measures would include payment of public facilities impact fees, monitoring of the CVPD response times to Priority I and Priority II service calls, and the CVPD review of building and site plans to ensure the incorporation of CPTED features and other recommendations of the CVPD, including controlled access points to parking lots and buildings; and, maximizing the visibility along building fronts and in parking structures. Although Alternative 2 would provide the same mitigation measures as the proposed project, it would generate less demand and result in less impact on police services than the proposed project.

(c) Schools

Alternative 2 would generate a population of up to 5,771 residents, with 25 percent fewer students than the proposed project. As with the proposed project, Alternative 2 would include an approximately 6-acre site for an elementary school. Middle and high schools in neighboring villages would provide services for higher-grade levels. Alternative 2 would mitigate potentially significant impacts on schools through the payment of required school mitigation fees or through a recorded agreement to help finance the needed facilities and services for the Chula Vista Elementary School District (CVESD) and the Sweetwater Union High School District. However, as Alternative 2 would generate incrementally less demand for school services, it would have less impact on schools than the proposed project.

(d) Library Services

Alternative 2 would generate a population up to 5,771 residents, which would increase demand for library services. As with the proposed project, Alternative 2 would incorporate a site for a City library. As with the proposed project, Alternative 2 would mitigate potentially significant impacts on library services to less than significant through payment of Public Facility Development Impact Fees according to fees and phasing approved in the Public Facilities Financing Plan, at the time of building permit issuance and provision of a site for the library. However, as Alternative 2 would generate incrementally less demand for library services, it would have less impact on libraries than the proposed project.

(e) Parks, Recreation, Open Space, and Trails

Alternative 2 would generate an approximate population of up to 5,771 residents (based on 2.58 persons per household under the GDP) or 5,839 residents (based 2.61 persons per household in accordance with CVMC Chapter 17.10). This increase would generate a demand for park services at a rate of 3 acres per 1,000 population, or 17.5 acres of parkland pursuant to the requirements of the CVMC. As with the proposed project, Alternative 2 would provide a link in the Citywide Greenway Trail, and 11.72 acres of parkland and public open space, including parks, office plaza, jogging path, promenades; and in lieu fees equivalent to 5.78 acres of parkland, for a total parks and equivalency of 17.5 acres. As with proposed project, potentially significant impacts resulting in the shortfall between the provided parkland acreage and required parkland acreage of 17.5 acres would be reduced to less than significant through the provision of a Park Agreement to identify the project's parkland acreage and in lieu fee obligations, the timing of and method of delivery of parkland acreage and payment of in lieu fees. The delivery of parkland and payment of in lieu fees and recreation facility development impact fees would be provided in accordance with the fees and phasing approved in a PFFP. As Alternative 2 would provide parkland and in lieu fees proportionate to the population, it would have the same impact as the proposed project with respect to parks.

(f) Water

Alternative 2 would comprise up to 2,237 residential units, 2.62 million square feet of non-residential floor area, and landscaped open space and parks. Compared to the proposed project, the average daily demand for water would be reduced by 25 percent to approximately 681,286 gallons of potable water. Assuming irrigated open space is equivalent to the proposed project, Alternative 2 would also require approximately 47,896 gallons per day of recycled water. Sufficient potable and recycled water supplies would be available to serve Alternative 2 from OWD's existing entitlements and resources. However, as with the proposed project, Alternative 2 would incorporate mitigation measures, including provision of service availability letters from the appropriate water district prior to approval of all final maps to ensure that water supply would be adequate. Alternative 2 would also incorporate a Water Conservation Plan and provide a SAMP for all on- and off-site water pipeline construction. Water facility improvements would be financed or installed on-site in accordance with the fees and phasing in the approved PFFP and SAMP. However, as Alternative 2 would provide fewer residential units and non-residential floor area, it would have less impact on water supply and services than the proposed project.

(g) Wastewater

Alternative 2 would comprise up to 2,237 residential units and 2.62 million square feet of non-residential floor area that would generate a daily rate of approximately 0.64 mgd of wastewater. Although 25 percent less intensive than the proposed project, similar to the proposed project, this alternative would contribute to the increased demand on city-wide treatment capacity. However, as Alternative 2 would generate incrementally less population growth, it would have less impact on wastewater services than the proposed project. Under Alternative 2, as under the proposed

project, as the City's sewage generation approaches its capacity rights, the City of Chula Vista would take appropriate steps to obtain additional capacity to meet build out of the City's General Plan. Existing policies require major developments to prepare a PFFP that articulates needed facilities and identifies funding mechanisms, as well as providing the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with threshold standards. Implementation of these policies would, therefore, avoid impacts associated with treatment capacity. Alternative 2 would also include improvements to off-site sewer facilities, including the SCSL Improvement and PCSI. Overall, Alternative 2 would have less impact on wastewater than the proposed project.

(h) Solid Waste

Alternative 2 would comprise up to 2,237 residential units and 2.62 million square feet of non-residential floor area, which would generate approximately 17.10 tons of solid waste per day. This represents a 25 percent reduction in the proposed project's solid waste demand. Alternative 2 would require solid waste disposal provided by the Otay Landfill. Based on current generation rates, the Otay Landfill is expected to be in operation until 2028. As the projected buildout of Alternative 2 would be 2030, the alternative could exceed the anticipated lifetime of the landfill. However, Alternative 2 would have incrementally less impact on landfill capacity. As with the proposed project, this impact would be reduced with implementation of mitigation measures and City policies to reduce the solid waste stream, citywide and to provide for future solid waste disposal needs. Although mitigation measures and City policies would reduce impacts to a less than significant level, Alternative 2 would have an incrementally less impact on solid waste due to the relative decrease in development. Therefore, Alternative 2 would have less impact on solid waste services than the proposed project.

(12) Hazards/Risk of Upset

Alternative 2 would generate the same use of hazardous construction and household materials as the proposed project, locate a residential population to an area in which existing soils contain levels of OCPs above residential PRGs, and potentially expose workers to particulates from these soils. The project site is also located within 2.5 miles of an airport and is located within a designated High Hazard fire area. Alternative 2 would have the incrementally less risk due to buildings over 170 feet in height in an airport flight path, due to its reduced development scale. Mitigation measures, including site remediation for soils containing OCPs, informed disposal of hazardous materials through the implementation of a site remediation program, coordination of any high-rise development with the FAA, and brush clearance would address hazardous conditions. Both the proposed project and Alternative 2 would mitigate impacts to a less than significant level. However, since Alternative 2 would expose fewer residents to potential fire hazards and would be less likely to build structures more than 170 feet in height, Alternative 2 would have less impact with respect to hazards.

(13) Housing and Population

Alternative 2 would provide up to 2,237 residential units, which would generate a future population of up to 5,771 residents. This growth would be approximately 25 percent less than the Otay Ranch GDP's multi-family housing designation and anticipated population growth for the EUC. Projected population would also be less than the Chula Vista General Plan growth projections, which include the GDP's projections. Therefore, with respect to the GDP's anticipated population growth, Alternative 2 would not be consistent with growth projections. Furthermore, the reduced density is inconsistent with Chula Vista's compliance requirements to provide suitable adequate land zoned for higher density housing identified in the State-certified Housing Element of the General Plan. Alternative 2 would provide 10 percent of total units for low- and moderate-income households, with at least half of those (5 percent of the total) designated for low-income households. Under this ratio, and including the units to be transferred to the EUC per the existing recorded agreement, Alternative 2 would provide 302 low- and moderate-income units, of which 152 would be designated for low-income and 150 for moderate-income households. The proposed project would provide 376 affordable units, including 189 low-income units and 187 moderate-income units. Since the affordable housing obligation is a fixed percentage of proposed housing units, no net impact or benefit from Alternative 2 would occur. However, as Alternative 2 would not exceed the GDP, General Plan, or SANDAG estimated future population growth, it would have less impact than the proposed project with respect to population.

(14) Global Climate Change

Alternative 2 would meet the requirements of the California Global Warming Solutions Act of 2006 and implement GHG-reducing project features in the same manner as the proposed project. However, due to the 25 percent decrease in total development and ADT compared to the proposed project, energy and water demand would be less under this alternative. Like the proposed project, Alternative 2 would incorporate GHG reducing project features and, therefore, support the State's goals related to the reduction of greenhouse gases. Although both the proposed project and Alternative 2 would have less than significant impacts with respect global climate change, Alternative 2 would have incrementally less impact since it would have a lower energy and water requirement and corresponding reduction in emissions and resources.

(15) Conclusion and Relationship to Project Objectives

Alternative 2 would not implement the goals, objectives, and policies of the Chula Vista General Plan and the Otay Ranch General Development Plan to the same extent as the proposed project since, due to a 25 percent reduction in intensity which would reduce the urban character of the project. Alternative 2 would implement Chula Vista's Growth Management Program through the provision of development fees and other requirements to ensure that public facilities are provided in a timely manner and financed by the parties creating the demand for, and benefiting from, the improvements. The development of a SPA plan under Alternative 2 would foster development patterns that promote orderly growth and prevent urban sprawl. Alternative 2 would serve the surrounding neighborhoods and enhance a sense of community identity, although it may not create

the same level of urban development envisioned for the Otay Ranch Master Plan. Alternative 2 would comply with unique urban standards for administration, streets, parking, parks, lighting, on-site signage, setbacks, heights, and other development requirements to achieve a place that sets itself apart from surrounding suburban villages.

Alternative 2 would create a lower density, mixed-use urban center with a public transit right-of-way (ROW or easement) and transit stops. Due to a considerably reduced scale, there would be a reduced potential ridership and use of transit as compared to the proposed project. Alternative 2 would promote synergistic uses both within the urban center and between uses in adjacent development areas to balance activities, services and facilities by providing a range of public facilities and regional and neighborhood commerce. However, this would not be achieved to the same extent as under the proposed project due to the reduce scale of development. Alternative 2 would provide 2,237 residential units and 2.62 million square feet of non-residential uses and a similar range of amenities as under the proposed project. However, it would not be as characteristically high-rise or contribute to the unique Otay Ranch image to the same extent as the proposed project. Alternative 2 would be consistent with the provisions of the Otay Ranch resource conservation and management plans.

Alternative 2 would reduce daily and peak hour traffic by 25 percent and avoid impacts at four intersections, prior to mitigation. However, Alternative 2 would not avoid the project's cumulative significant and unavoidable impact on three sections of the I-805 freeway. In addition, Alternative 2 would have the same significant and unavoidable aesthetic impact as the project regarding the change from open space to a dense urban environment. Alternative 2 would not avoid the proposed project's significant and unavoidable impacts associated with construction and operation emissions and loss of Farmland of Local Importance. Alternative 2 would incrementally reduce impacts compared to the proposed project with respect to noise, biological resources, hydrology, geology, hazards fire services, police services, schools, parks, water, wastewater, solid waste, and population, and global warming due to the 25 percent reduction in population. However, Alternative 2 would have less benefit with respect to the provision of low- and moderate-income housing and compliance with applicable General Plan and GDP policies. Although Alternative 2 would have incrementally less impact on the environment than the proposed project, it would not avoid any of the proposed project's significant and unavoidable impacts.

C. Alternative 3: Adjusted Land Use Mix Alternative

Alternative 3 would change the project's mix of land uses, including a 62.5 percent increase in residential units and a 53.5 percent decrease in total non-residential floor area. As presented in Table 8-1, *Comparison of Alternative 3 with the Proposed EUC SPA Plan*, on page 8-22, Alternative 3 would provide 1,620,000 square feet of non-residential uses, 100,000 square feet of school uses, and 4,850 residential units. Other changes from the EUC SPA Plan would be a 40 percent reduction in hotel rooms, the addition of a future school containing 100,000 square feet of floor area (included in the non-residential floor area total). Alternative 3 would also provide 20.37 acres of parkland and seven parks, compared to the proposed project, which would provide 15.63 acres of parkland and six parks. Although Alternative 3 would provide 30

Table 8-1

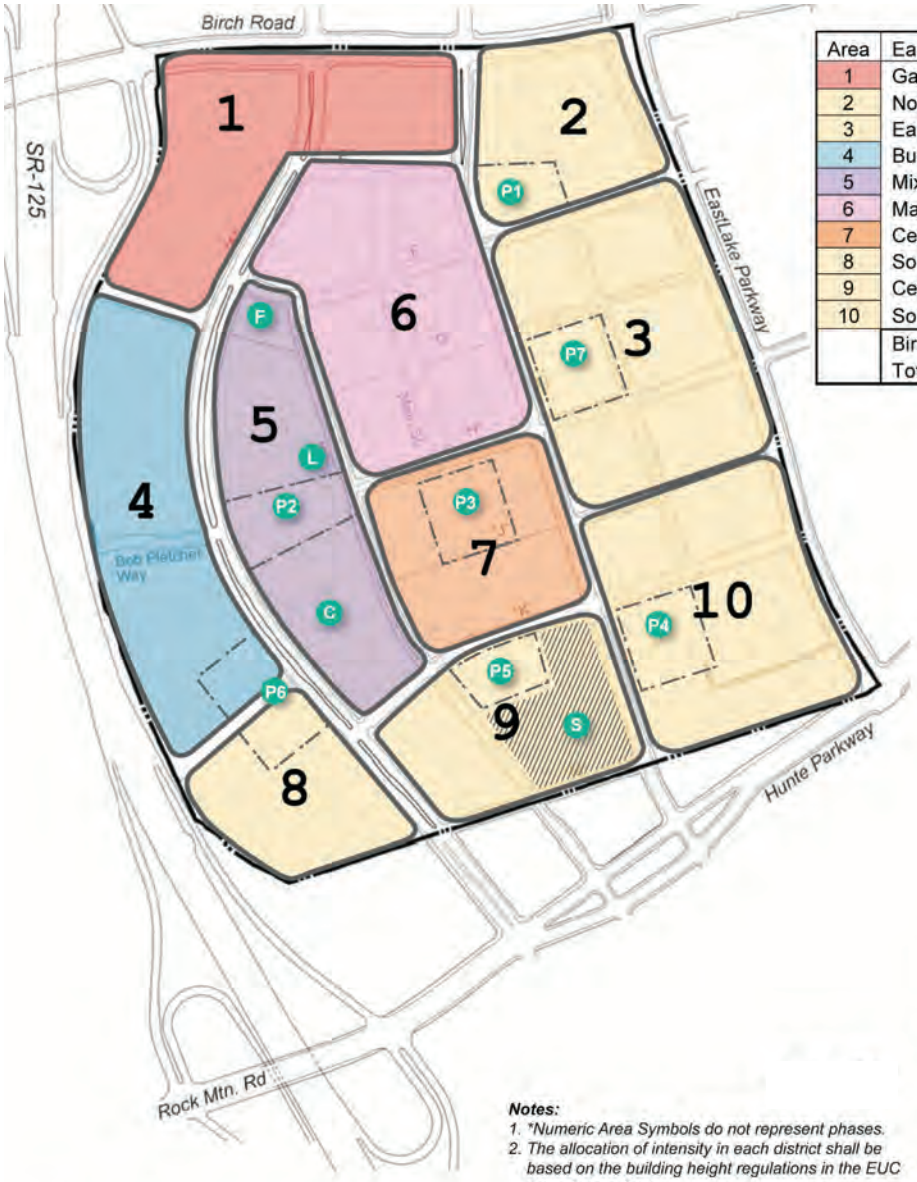
Comparison of Alternative 3 with the Proposed EUC SPA Plan

Alternative 3 Land Use	Square Feet	EUC SPA Plan Land Use	Square Feet	Alternative 3 Difference
Non-Residential		Non-Residential		
Hotel	150,000 (150 rooms)	Hotel	250 rooms	100 fewer rooms (40% decrease)
Retail Center	250,000			
Community Retail	90,000			
Neighborhood Retail	12,000			
High Rise Commercial/Office	693,000	2,007,000	2,007,000	same
Civic/Public Facilities	160,000	160,000	160,000	same
Fitness Center	90,000			
Central Recreation Center	75,000			
Other		Including hotel and retail	1,320,000	
Subtotal	*1,520,000*		*3,487,000*	*1,967,000 sf less retail and hotel floor area (56% decrease)*
Elementary School (800 Students)	100,000 (a 6-acre school site would be provided)		Proposes 6-acre school site; 100, 000 SF assumed in non-residential SF.	same
Total	**1,620,000**		**3,487,000**	**1,867,000 sf less (53.5% decrease)**
Residential Units	4,850	2,983		1,867 more units (62.5% increase)
Parkland	20.37 acres		15.63 acres	4.74 more acres (30% increase)

percent more parkland than the proposed project, as residential uses would increase 62.5 percent, parkland obligation would respectively increase. High Rise Commercial/Office floor area and civic/public facilities would be the same as under the proposed project, and the reduction in non-residential floor area would be primarily made with respect to regional and local retail uses. The Site Utilization Plan for Alternative 3 is presented in Figure 8-1*, Adjusted Land Use Mix Alternative*, on page 8-23.

(1) Land Use

Alternative 3 would decrease non-residential floor area by 53.5 percent, and increase residential development by 38 percent. Non-residential floor area for high-rise commercial/ offices and civic/public facilities would be the same as under the proposed project. Therefore,



Area	Eastern Urban Center Districts	Acres
1	Gateway Mixed Use Commercial District	22.7
2	Northeastern Neighborhood District	13.2
3	Eastern Neighborhood District	26.3
4	Business District	25.4
5	Mixed Use Civic/Office/Residential	23.3
6	Main Street District	28.2
7	Central Neighborhood District	12.5
8	Southwestern Neighborhood District	13.4
9	Central Southern Neighborhood District	16.1
10	Southeastern Neighborhood District	25.5
	Birch Road & East Lake Parkway ROW	8
	Total	214.6

Eastern Urban Center Parks	Acres
Park 1	1.97
Park 2	3.00
Park 3	3.00
Park 4	3.00
Park 5	1.56
Park 6	4.84
Park 7	3.00
Total Acreage	20.37

Notes:
*1. *Numeric Area Symbols do not represent phases.*
2. The allocation of intensity in each district shall be based on the building height regulations in the EUC Form Based Code.

Potential Public Components

- P Park
- C CPF Site
- L Library
- F Fire Station
- S Potential Elementary School*

Note: *District 10 may also be an alternative for the Elementary School Site.*

Area	Eastern Urban Center Districts	Non-residential Sq. Ft. (*000's*) Permitted			Residential Dwelling Units Permitted		
		Low	Target	High	Low	Target	High
1	Gateway Mixed Use Commercial District		400			50	
2	Northeastern Neighborhood District		2			550	
3	Eastern Neighborhood District		3			650	
4	Business District		538			200	
5	Mixed Use Civic/Office/Residential		410			700	
6	Main Street District		160			800	
7	Central Neighborhood District		2			550	
8	Southwestern Neighborhood District		2			400	
9	Central Southern Neighborhood District		100			300	
10	Southeastern Neighborhood District		3			650	
	Maximum, not to exceed, totals		1620			4850	

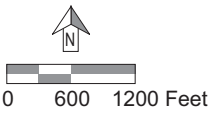


Figure 8-1
Alternative 3
Adjusted Land Use Mix Alternative

Source: Cinti Land Planning, 2009.

the decrease in non-residential floor area would apply primarily to hotel and retail uses. The reduction in hotel and retail uses and corresponding increase in residential uses also indicates a more suburban character that may not be consistent with the General Plan. Internal and adjacent land use compatibility would not be significant due to the performance standards provided in the FBC. The General Plan calls for the Eastern Urban Center to function as the high-density, mixed use downtown and regional heart of the Otay Ranch Subarea and East Planning Area (General Plan Objective LUT 64). Alternative 3 would not be consistent with the land use mix of approximately 3.5 million square feet of non-commercial floor area and 2,983 multi-family units set forth under the Otay Ranch GDP. As such, in contrast to the proposed project, this alternative would be inconsistent with these planning documents and would require a General Plan Amendment and GDP Amendment.

Alternative 3 would not integrate commercial and residential uses to support a 24-hour environment to the same extent as the proposed project; meet GDP policies to provide for neighborhood, regional, and specialty shopping; or provide employment opportunities to the same extent as the proposed project. Therefore, as Alternative 3 would not comply with key land use policies of the General Plan and GDP, it would have a greater land use impact than the proposed project.

(2) Landform Alteration/Aesthetics

Alternative 3 would require development throughout the EUC site and, therefore, would require the same scale of land preparation as under the proposed EUC SPA Plan. As with the proposed EUC SPA plan, development of the project site under Alternative 3 would change the undeveloped, open character of the site to one of high-density urban uses. As any urban development in the currently undeveloped open area would result in the loss of the project site's open visual character, Alternative 3 would have the same significant, unavoidable impact regarding the change from the open space character of the site to dense urban development. However, as under the proposed project, aesthetics and landform impacts such as exposed slopes and other alterations during grading; panoramic views from the project site, and ambient light levels and glare would be less than significant. Similar to the proposed project, potential view impacts along an 89-foot segment of Hunte Parkway (a scenic roadway) would be reduced to less than significant through the same mitigation measure required of the proposed project. With respect to visual character, Alternative 3 would have less potential to meet the objectives of the Otay Ranch GDP, which envisions a greater mix of residential and commercial land uses and a vibrant pedestrian environment associated with first floor and street-front retail development. Although Alternative 3 would have the same aesthetic impact as the proposed project with respect to the loss of the area's open character, it would not fulfill GDP policies related to mixed-use urban form to the same degree as the proposed project.

(3) Transportation

Traffic generated under Alternative 3 is presented in Table 8-2, *Comparison of Alternative 3 Vehicle Trips with the Proposed EUC SPA Plan Trips,* on page 8-25. As shown in Table 8-2,

Table 8-2

Comparison of Alternative 3 Vehicle Trips with the Proposed EUC SPA Plan Trips

	Total ADT (w/out trip credits)	Total ADT (with trip & transit credits)	Total A.M. Trips (w/out trip credits)	Total A.M. Trips (with trip & transit credits)	Total P.M. Trips (w/out trip credits	Total P.M. Trips (with trip & transit credits)
EUC SPA Plan	124,148	80,369	9,507	7,416	13,431	9,569
Alternative 3	72,051	54,943	5,636	4,727	9,470	5,596
Difference	-52,097	-25,426	-3,871	-2,689	-3,961	-3,973

Alternative 3 would generate 52,097 fewer trips than the proposed project. There would be a corresponding reduction in A.M. and P.M. trips. Alternative 3 would require the same need for on-site and off-site roadways as under the proposed project and would implement the same mitigation measures as the proposed project, where indicated. Therefore, as with the proposed project, all impacts on study area intersections and roadway segments would be reduced to less than significant under the Horizon Year 2030 scenario. Assuming the same mitigation measures as the proposed project, mitigation measures would also reduce impacts to less than significant with respect to consistency with the PFFP (on-site street thresholds). Alternative 3 would not avoid the project's significant and unavoidable cumulative impacts along three freeway segments, including: (1) northbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway, (2) southbound Interstate 805 from Telegraph Canyon Road to Olympic Parkway, and (3) southbound Interstate 805 from Olympic Parkway to Main Street.

(4) Air Quality

Alternative 3 would require the same degree of site preparation and grading as the proposed project, since the site would be entirely developed and mass graded. Thus, Alternative 3 would result in similar construction-period air quality impacts due to the grading and/or concurrent use of equipment during a construction activity. Alternative 3 would have the same significant and unavoidable construction air quality impact as the project. As the project's operations emissions are four to five times the threshold standards, Alternative 3 would not eliminate the project's significant and unavoidable operation air quality impacts, although it would result in a 14 percent reduction in mobile emissions. Alternative 3 would likely result in higher residential densities throughout the site than the proposed project. In addition, there is a potential for greater TAC exposure, as more residential units would be located within 500 feet of SR-125. While there is a potential for TAC exposure to more residents than under the proposed project, as with the project, TAC impacts would be less than significant. Alternative 3 would provide the same mitigation measures as the proposed project, which would reduce air quality impacts, although not to less than significant levels. Although Alternative 3 would generate significant and unavoidable emissions, it would have incrementally less impact with respect to operation period air emissions than the proposed project primarily due to the reduction in vehicular trips.

(5) Noise

Alternative 3 would involve the same amount and extent of mass grading as the proposed project and involve the same intensity of activity during any construction phase due to the concurrent use of equipment in any single phase. Thus, Alternative 3 would result in similar construction-period noise impacts. Significant construction noise impacts on future noise sensitive receptors would include residential uses, library, elementary school, possible daycare facilities, neighborhood parks, playgrounds, and athletics fields located within 200 feet of grading activities or building construction. As with the proposed project, these impacts would occur over a period of more than twenty years. Operation noise increases due to traffic would be incrementally reduced, due to the 14 percent reduction in ADT and the 10 to14 percent in peak hour traffic. However, due to higher residential densities than the proposed project, Alternative 3 could locate more residences within 500 feet of a freeway, which would expose more residents to high noise levels. However, Alternative 3 would provide the same mitigation measures as the proposed project, which would reduce noise impacts to a less than significant level. Overall, Alternative 3 would have similar construction impacts, less impact with respect to operation noise, and greater impact with respect to exposure of residents to a high noise environment.

(6) Cultural Resources

Alternative 3 would be developed over the same land area as the proposed project and, as such, would require the same site clearing, grading, and excavation activities. These activities would have similar potential impacts on unknown archaeological and paleontological resources, and similar potential to disturb human remains as the proposed project. Alternative 3 would require the same mitigation measures as the proposed project to reduce impacts to a less than significant level. Therefore, impacts on cultural resources would be similar those of the proposed project.

(7) Biological Resources

Alternative 3 would involve the same site clearing, grading and excavation activities, which have the same on-and off-site impacts to sensitive wildlife species and plant communities, jurisdictional areas and nesting birds as the proposed project. As with the proposed project, Alternative 3 would mitigate potentially significant impacts on the northern harrier, the burrowing owl, and other nesting birds to less than significant. Alternative 3 would also involve the off-site construction of the SCSL Improvement, which would have a potentially significant impact on approximately 0.16 acres of Coastal Sage Scrub. As with the proposed project, this would be reduced to less than significant through mitigation. In addition, Alternative 3 would implement the same SWPPP as the proposed project that would address drainage from existing soil stockpiles into downstream habitat. Alternative 3 would convey 1.188 acres of habitat per one acre of developed land to the Otay Ranch RMP Preserve in accordance with the MSCP. Alternative 3 would have the same impacts on biological resources as the proposed project and would reduce impacts to less than significant levels by implementing the same mitigation measures as the proposed project.

(8) Agriculture

Alternative 3 would require the grading and development of the approximately 207-acre project site as the proposed project. The off-site SSA would still be required with this alternative. As these areas are designated as Farmland of Local Importance, Alternative 3 would have the same significant and unavoidable impact associated with loss of Farmland of Local Importance as the proposed project. Alternative 3 would also experience the same potentially significant impacts, including exposure to noise, odors, and agricultural chemicals associated with interfacing urban and interim agricultural uses. As with the proposed project, Alternative 3's potentially significant agricultural impacts associated with the interim interfacing of urban and agricultural uses would be reduced to less than significant levels through mitigation measures, including an Agricultural Plan. Thus, Alternative 3 would have the same impact as the project with respect to agricultural resources.

(9) Hydrology and Water Quality

Alternative 3 would require mass grading and potential degradation of water quality as a result of erosion of exposed soils. Alternative 3 would introduce human occupation, land uses, and vehicles that have the potential to introduce pollutants during operation and potentially impact surface and ground water quality. In addition, Alternative 3 would require the development of streets and other impermeable surfaces that would increase surface water runoff and cause potentially significant off-site erosion to downstream facilities. As with the proposed project, Alternative 3's potentially significant impact with respect to water quality standards and drainage (erosion/flooding), and runoff water would be reduced to less than significant through the enforcement of existing state and federal regulatory standards and proposed mitigation measures. Also, like the proposed project, Alternative 3 would implement a program to bury existing soil contaminants and provide a SWPPP to address drainage from existing stockpiled soils (undocumented fill, construction material, and construction debris). Although Alternative 3 would provide the same mitigation as the proposed project to reduce impacts to less than significant levels, due to fewer vehicle trips, it would incrementally reduce the potential for vehicle contaminants in surface water runoff during operation. Therefore, Alternative 3 would have incrementally less impact with respect to hydrology and water quality than the proposed project.

(10) Geology and Soils

Alternative 3 would involve the development of 62.5 percent more residential structures in an area possibly susceptible to liquefaction, slope instability, expansive soils, and erosion as a result of grading than under the proposed project. Similar to the proposed project, contaminated soils in Areas A, B and C would need to be remediated during grading. As with the proposed project, Alternative 3's potentially significant impact with respect to geologically hazardous conditions would be reduced to less than significant through adherence to the recommendations of a geological investigation. Alternative 3 would provide the same mitigations measures as the proposed project to reduce impacts associated with geologic hazards to a less than significant level. However, as Alternative 3 would increase residential occupation of the project site, more occupants would be

exposed to potential geologic hazards. Therefore, Alternative 3 would have incrementally greater potential for impacts than the proposed project with respect to geology and soils.

(11) Public Services

(a) Fire Services

Alternative 3 would provide 4,850 residential units and, based on an occupancy factor of 2.58 persons per household, this alternative would generate a population increase of 12,513 residents. Since the proposed project projects a residential population of 7,696 residents, Alternative 3 would increase projected population by approximately 62.5 percent. Alternative 3 would also decrease non-residential floor area by approximately 53.5 percent. Although population is only one factor in determining service demand, as the residential population increase is far greater than the corresponding reduction in non-residential uses, this alternative would substantially increase demand for fire and emergency services compared to the proposed project. As with the proposed project, Alternative 3 would incorporate a fire station site. In addition, Alternative 3 would provide PFDIF fees and comply with code-required fire flow at building plan review, and the continued monitoring of response times by the City. As with the proposed project, impacts on fire and emergency medical services would be reduced to less than significant through proposed mitigation measures. Although both Alternative 3 and the project would reduce demand on fire services to less than significant levels, Alternative 3 would have a greater net demand and impact on fire and emergency services.

(b) Police Services

Alternative 3 represents a 62.5 percent increase in residential uses, compared to the proposed project. Alternative 3 also decreases non-residential floor area by approximately 53.5 percent. Although projected population increase is only one factor in determining police services, as the projected increase in residential population demand is far greater than the respective reduction in non-residential floor area, this alternative would increase demand for police services compared to the proposed project. As with the proposed project, Alternative 3 would reduce potentially significant impacts on police services to less than significant through mitigation measures, including the payment of PFDIF fees, monitoring of the CVPD responses to emergency calls, and CVPD review of building and site plans to ensure the incorporation of CPTED features and other recommendations of the CVPD, including controlled access points to parking lots and buildings; and maximizing the visibility along building fronts and in parking structures. Although both Alternative 3 and the project would reduce demand on police services to less than significant levels, Alternative 3 would have a greater net demand and impact on police services.

(c) Schools

As with the proposed project, Alternative 3 would include a 5- to 6-acre site for an elementary school and, development of an approximately 100,000 SF elementary school with a student

capacity of 800. As this alternative would increase the EUC SPA Plan's projected residential population by approximately 62.5 percent, it would have a corresponding percentage increase in students. The proposed project is expected to generate 624 elementary students, 188 middle school students, and 283 high school students. Alternative 3 is expected to generate 1,022 elementary school students, 305 middle school students, and 460 high school students. The projected elementary student population would exceed the capacity of the proposed school, as well as increase demand on neighboring existing and proposed middle and high schools. Since Alternative 3 would exceed the planned capacity of the future elementary school, it would have a significant and unavoidable impact on schools and have a greater impact on schools than the proposed project.

(d) Library Services

The projected population under Alternative 3 would generate a demand for 6,256.5 square feet of library space based on a projected population of 12,513 residents (1,000 sf/500 pop). As with the proposed project, Alternative 3 would incorporate a library site. The Library Master Plan anticipates an approximately 30,000 SF library would be included in the EUC. A 9,712 square-foot shortfall in library floor area exists in the area. The forecasted demand for library space under this alternative, combined with the existing library deficit, would not exceed the library floor area proposed by the project. In addition, Alternative 3 would mitigate impacts on library services to less than significant through payment of PFDIF fees. Although both the proposed project and Alternative 3 would reduce impacts to a less than significant level, Alternative 3 would have an incrementally greater impact on library services due to the relative increase in population.

(e) Parks, Recreation, Open Space, and Trails

Alternative 3 would provide 4,850 residential units and generate a population of 12,513 (based on 2.58 persons per household under the GDP) or 12,659 residents (based 2.61 persons per household in accordance with CVMC Chapter 17.10). This increase would generate a demand for park services at a rate of 3 acres per 1,000 population, or 37.9 acres of parkland pursuant to the requirements of the CVMC. Alternative 3 would provide seven parks and 20.37 acres of parkland, resulting in a shortfall of 17.53 acres. As with the proposed project, Alternative 3 would provide a link in the Citywide Greenway Trail, office plaza, jogging path, and promenades; and public open space. Potentially significant impacts resulting in the shortfall between the provided parkland acreage and required parkland acreage of 37.9 acres would be reduced to less than significant through in lieu fees equivalent to 17.53 acres. The delivery of parkland and payment of in lieu fees and recreation facility development impact fees would be provided in accordance with the fees and phasing approved in a PFFP and a Park Agreement. Although both the proposed project and Alternative 3 would reduce impacts to a less than significant level, Alternative 3 would have an incrementally greater impact on park services due to the relative increase in population.

(f) Water

Compared to the proposed project, which would result in a demand of approximately 0.91million gpd, Alternative 3 would result in a water demand of approximately 1.54 million gpd. The higher demand for water is due to the significant increase in residential units under Alternative 3. MWD and SDCWA, providers to OWD, rely on the SANDAG regional growth forecast in calculating regional water demands for their service areas. Although projected population growth is only one factor in determining water demand, the water demand increase associated with this alternative would exceed OWD projected demand, primarily due to the population increase. OWD would need to conduct another Water Service and Availability Study to confirm that additional demand can be accommodated. Although Alternative 3 would incorporate the same mitigation measures as the proposed project, it would have a greater impact on water due to the relative increase in population and the inconsistency with the demand projections in the Otay Water District's Urban Water Master Plan.

(g) Wastewater

Alternative 3 would result in a sewer demand of 1.09 million gallons per day, compared to the proposed project, which would result in a demand of 0.85 million gallons per day. Similar to the proposed project, this alternative would contribute to the increased demand on citywide treatment capacity. Under Alternative 3, as under the proposed project, as the City's sewage generation approaches its capacity rights, the City of Chula Vista will take appropriate steps to obtain additional capacity to meet build out of the City's General Plan. Existing policies require major developments to prepare a PFFP that articulates needed facilities and identifies funding mechanisms as well as providing the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with threshold standards. Implementation of these policies would therefore avoid impacts associated with treatment capacity. Alternative 3 would include improvements to off-site sewer facilities, similar to the proposed project. Although both the proposed project and Alternative 3 would reduce impacts to a less than significant level through implementation of the same mitigation measures, Alternative 3 would have an incrementally greater impact on wastewater due to the relative increase in population.

(h) Solid Waste

This alternative would generate approximately 16.83 tons/day (8.1 tons/day of solid waste for non-residential uses and 8.73 tons/day for multi-family uses). This is compared to the proposed project, which would generate 22.805 tons/day. Therefore, this alternative is estimate to generate less solid waste than the proposed project. As with the proposed project, Alternative 3 would dispose of solid waste at the Otay Landfill. Based on current generation rates, the Otay Landfill is expected to be in operation until 2028. As the projected buildout year of Alternative 3 would be similar to the proposed project (2030), Alternative 3 could exceed the anticipated lifetime of the landfill. Solid waste impacts generated by both the proposed project and Alternative 3 would be reduced with implementation of mitigation measures and City policies to reduce the city-wide solid waste stream

and to provide for future solid waste disposal needs. Overall, this alternative would generate less solid waste and, therefore, would have less impact with respect to landfill capacity. .

(12) Hazards/Risk of Upset

Alternative 3 would generate the same use of hazardous construction and household materials as the proposed project, and bring a residential population to an area in which existing soils contain high levels of OCPs. The project site is also located within 2.5 miles of an airport and is located within a designated High Hazard fire area. Alternative 3 would have the same level of risk due to high-rise development (buildings higher than 170 feet) in an airport flight path, since includes 62.5 percent more high density residential units than the proposed project and would still have the potential to include high rise commercial/office floor area, although less floor area than under the proposed project. Mitigation measures, including site remediation for soils containing OCPs, informed disposal of hazardous materials through the implementation of a site remediation program, coordination of any high-rise development with the FAA, and brush clearance would address any hazardous conditions. Both the proposed project and Alternative 3 would mitigate impacts to a less than significant level. However, since Alternative 3 would expose more residents to potential fire hazards or other risks, this alternative would have a greater impact with respect to hazards.

(13) Housing and Population

Alternative 3 would provide 4,850 residential units and, based on an occupancy factor of 2.58 persons per household, this alternative would generate a population of 12,513 residents. Since the proposed project estimates a residential population of 7,696, Alternative 3 would increase projected population by approximately 62.5 percent. This growth would exceed the Otay Ranch GDP's multi-family housing designation and anticipated population growth by 62.5 percent. Projected population would also exceed the Chula Vista General Plan growth projections, which include the GDP's projections. Alternative 3 would provide10 percent of total units for low- and moderate-income households, with at least half of those (5 percent) designated for low-income households. Under this ratio, and including the 78 units transferred to the EUC per the recorded agreement, Alternative 3 would provide 563 low- and moderate-income units, of which 283 would be designated for low-income and 280 for moderate-income households. The proposed project would provide 376 affordable units, including 189 low-income units and 187 moderate-income units. Since the affordable housing obligation is a fixed percentage of proposed housing units, no net impact or benefit from Alternative 3 would occur. However, as Alternative 3 would greatly exceed the GDP, General Plan, and SANDAG estimated population growth, it would have greater impact than the proposed project with respect to population.

(14) Global Climate Change

Alternative 3 would meet the requirements of the California Global Warming Solutions Act of 2006 and implement GHG-reducing project features in the same manner as the proposed project. Due

to the 62.5 increase in residential density and 53.5 decrease in non-residential floor area compared to the proposed project, net development would be greater than under the proposed project. However, as this alternative is more residential than the proposed project, it would generate fewer vehicle trips. It is anticipated, nonetheless, that net energy and water demand would be greater under this alternative due to high household demand. Therefore, Alternative 3 would result in a greater impact with respect to residential source GHG emissions. Like the proposed project, Alternative 3 would incorporate GHG reducing project features and, therefore, support the State's goals related to the reduction of greenhouse gases. Both the proposed project and Alternative 3 are expected to have less than significant impacts with respect global climate change. Alternative 3 and the proposed project would have a similar impact with respect to global climate change, due to the balance between reduced ADTs and increased residential uses.

(15) Conclusion and Relationship to Project Objectives

Alternative 3 would be not be consistent with the project's objectives to foster development patterns which promote orderly growth and prevent urban sprawl, as it would exceed GDP residential growth objectives and not meet the objectives of the General Plan and GDP to create a mixed-use downtown center to serve the East Planning area to the same extent as the proposed project. However, implementation of Chula Vista's Growth Management Program would ensure that public facilities are provided in a timely manner and financed by the parties creating the demand and benefiting from, the improvements. Alternative 3 would provide transit and would implement development consistent with the provisions of the Otay Ranch resource conservation and management plans. However, the reduction in retail floor area and large residential component would be less in keeping with the objective to establish a flexible and responsive land use mix which assures project viability in consideration of existing and future economic cycles, since Alternative 3 is dominantly residential. Due to the change in the balance of residential and non-residential uses, Alternative 3 would not implement the goals, objectives, and policies of the Chula Vista General Plan and the Otay Ranch General Development Plan to achieve an mixed-use urban place that sets itself apart from surrounding suburban villages, or contribute to the unique Otay Ranch image and identity of Otay Ranch to the same extent as the proposed project.

Alternative 3 would reduce daily trips by approximately 31.6 percent, would incrementally reduce the potential for vehicle contaminants in surface water runoff, and would provide more low- and moderate-income housing than the project. However, Alternative 3 would have the same significant and unavoidable impact as the project regarding the change in the open space character of the project site to dense urban use, and would not avoid the project's significant and unavoidable impacts associated with construction and operation air emissions and permanent loss of Farmland of Local Importance; or, cumulatively significant and unavoidable impacts on three sections of the I-805 freeway. In addition, unlike the proposed project, Alternative 3 would have a significant and unavoidable impact on schools. Alternative 3 would have incrementally greater impacts on geology, fire, police, library, water, wastewater, solid waste, and population.

D. Environmentally Superior Alternative

The No Project Alternative would be the environmentally superior alternative, as it would entirely avoid the proposed project's significant and unavoidable impacts associated with the change in the open space character of the project site, air quality, loss of agricultural lands, and cumulative impacts on the I-805. However, as the No Project Alternative is determined to be environmentally superior, another environmentally superior alternative must be identified among the remaining alternatives. Thus, Alternative 2 is identified as the environmentally superior alternative as it would incrementally reduce traffic, mobile and stationary operational air emissions, operational noise, water quality, exposure to geologic hazards, demand for fire and emergency services, police services, schools, libraries, water supply, wastewater, solid waste services, and impacts affecting global climate change. However, as with Alternative 3, this alternative would not avoid any of the project's significant and unavoidable impacts associated with the change in the open space character of the project site; construction and operation emissions, and loss of Farmland of Local Importance. Table 8-3, *Comparison of Alternatives and Proposed EUC SPA Plan,* on page 8-34 provides a generalized summary comparison of the proposed project and the three project alternatives.

Table 8-3

Comparison of Alternatives and Proposed EUC SPA Plan

Environmental Issue	Proposed Project	No Project/No Development Alternative	25 percent Reduced Density Alternative 2	Adjusted Land Use Mix Alternative 3
Land Use				
Implementation of the General Plan, Otay Ranch GDP and other land use plans	Less than Significant	Greater	Greater	Greater
Provision of Village Greenway trail connection.	Less than Significant	Greater	Equal	Equal
Landform Alteration/Aesthetics				
Change in open space character	Significant and Unavoidable	Less	Equal	Equal
Views of graded slopes	Less than Significant with Mitigation	Less	Equal	Equal
Panoramic views of the mountains, Otay River Valley, and other resources	Less than Significant	Less	Equal	Equal
Scenic Highway views	Less than Significant with Mitigation	Less	Equal	Equal
Urban Form	Less than Significant	Less	Greater	Greater
Light and Glare	Less than Significant	Less	Less	Equal
Transportation				
Impact on study area intersections and streets	Less than Significant with Mitigation	Less	Less	Less
Consistency with the PFFP	Less than Significant with Mitigation	Less	Less	Less
BRT service through the EUC	Less than Significant with Mitigation	Less	Equal	Equal

Table 8-3 (Continued)

COMPARISON OF ALTERNATIVES AND PROPOSED EUC SPA PLAN

Environmental Issue	Proposed Project	No Project/No Development Alternative	25 percent Reduced Density Alternative 2	Adjusted Land Use Mix Alternative 3
Impact on three segments of the I-805 freeway	Significant and Unavoidable	Less	Less (however, significant and unavoidable impacts remain)	Less (however, significant and unavoidable impacts remain)
Air Quality				
Construction-period emissions of PM_{10}, $PM_{2.5}$, CO, NOX, and VOC exceeding daily significance thresholds.	Significant and Unavoidable	Less	Less (however, significant and unavoidable impacts remain)	Equal
Operational emissions of CO, NOx, PM_{10}, $PM_{2.5}$ and VOC; and cumulative impacts associated with PM_{10} and $PM_{2.5}$.	Significant and Unavoidable	Less	Less (however, significant and unavoidable impacts remain)	Less (however, significant and unavoidable impacts remain)
Consistency with CARB recommendation to set back residential uses a distance of 500 feet from a freeway.	Less than Significant	Less	Equal	Greater
Noise				
Construction Noise	Less than Significant with Mitigation	Less	Less	Equal
Operational Noise	Less than Significant with Mitigation	Less	Less	Less
Exposure of residents to freeway noise	Less than Significant with Mitigation	Less	Less	Greater

Table 8-3 (Continued)

COMPARISON OF ALTERNATIVES AND PROPOSED EUC SPA PLAN

Environmental Issue	Proposed Project	No Project/No Development Alternative	25 percent Reduced Density Alternative 2	Adjusted Land Use Mix Alternative 3
Cultural Resources				
Impact on archaeological and paleontological resources, or disturbance of human remains	Less than Significant with Mitigation	Less	Equal	Equal
Biological Resources				
Impact on nesting birds, including the northern harrier and burrowing owl; and on approximately 0.16 acres of Coastal Sage Scrub	Less than Significant with Mitigation	Less	Equal	Equal
Conveyance of land within the Otay Ranch RMP Preserve at a ratio of 1.188 acres for each acre of development area, as defined in the RMP	Less than Significant with Mitigation	N/A	Equal	Equal
Agricultural Resources				
Impact on designated Farmland of Local Importance.	Significant and Unavoidable	Less	Equal	Equal
Impacts associated with interfacing agricultural activities and urban uses	Less than Significant with Mitigation	Less	Equal	Equal
Hydrology and Water Quality				
Impact on surface water runoff and ground water	Less than Significant with Mitigation	Equal	Equal	Equal

Table 8-3 (Continued)

COMPARISON OF ALTERNATIVES AND PROPOSED EUC SPA PLAN

Environmental Issue	Proposed Project	No Project/No Development Alternative	25 percent Reduced Density Alternative 2	Adjusted Land Use Mix Alternative 3
Impact on water quality	Less than Significant with Mitigation	Equal	Less	Less
Geology and Soils				
Exposure to geologic hazards	Less than Significant with Mitigation	Less	Less	Greater
Public Services				
Fire services demand	Less than Significant with Mitigation	Less (however, potentially new impact with lack of fire station)	Less	Greater
Police services demand	Less than Significant with Mitigation	Less	Less	Greater
School services demand	Less than Significant with Mitigation	Less (however, potentially new impact with lack of school site)	Less	Greater (and significant and unavoidable)
Library services demand	Less than Significant with Mitigation	Less (however, potentially new impact with lack of library site)	Less	Greater
Parks, recreation, and open space services	Less than Significant with Mitigation	Less	Less	Greater
Water services	Less than Significant with Mitigation	Less	Less	Greater
Wastewater services	Less than Significant with Mitigation	Less	Less	Greater
Solid waste services	Less than Significant with Mitigation	Less	Less	Greater

Table 8-3 (Continued)

COMPARISON OF ALTERNATIVES AND PROPOSED EUC SPA PLAN

Environmental Issue	Proposed Project	No Project/No Development Alternative	25 percent Reduced Density Alternative 2	Adjusted Land Use Mix Alternative 3
Hazards/Risk of Upset				
Exposure to OCPs above residential PRGs	Less than Significant with Mitigation	Less	Less	Equal
Exposure of tall buildings to air hazard	Less than Significant with Mitigation	Less	Less	Equal
Housing and Population				
Increase in housing and population with respect to Otay Ranch, General Plan, and SANDAG predictions	Less than Significant	Less	Less	Greater
Global Climate Change				
Construction emissions incorporating best management practices	Less than Significant	Less	Equal	Equal
Reduction of GHGF emissions by 20 percent	Less than Significant	Less	Less	Equal
Consistency with California Global Warming Solutions Act	Less than Significant	Less	Less	Equal
Exposure to potential effects of warming identified in the Global Warming Solutions Act	Less than Significant	Less	Less	Equal

9.0 LEAD AGENCY/PROJECT APPLICANT, PREPARERS, AND REFERENCES

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9.2 REFERENCES

Anson, Sally, Facilities Planning Department, Chula Vista Elementary School District, Electronic correspondence, March 13, 2008.

Beranek and Ver, Noise and Vibration Control Engineering, Principles and Applications, p. 652, 1992.

California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, April 2005.

California Air Resources Board, Draft Updated California Greenhouse Gas Emissions Estimates: Summary Table, 2007.

California Department of Conservation, Farmland Mapping and Monitoring Program – Important Farmland (FMMP) – Metadata (October 2004). http://www.consrv.ca.gov/DLRP/fmmp/index.htm. website accessed August 10, 2007.

California Department of Fish and Game (CDFG). RareFind. California Natural Diversity Database Search for the Otay Mesa quad. 2007.

California Department of Fish and Game (CDFG). Special Vascular Plants, Bryophytes, and Lichens List. California Natural Diversity Database. Quarterly publication. 69 pp. January 2008.

California Department of Fish and Game (CDFG). Special Animals. California Natural Diversity Database. 60 pp. February 2008.

California Department of Fish and Game (CDFG) State and Federally Listed Endangered and Threatened Animals of California. California Natural Diversity Database. 12 pp. February 2008.

California Department of Fish and Game (CDFG). State and Federally Listed Endangered, Threatened, and Rare Plants of California. California Natural Diversity Database. http://www.dfg.ca.gov/bdb/pdfs/TEPlants.pdf, website accessed January, 2008.

California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, 2006.

California Environmental Protection Agency, California Office of Environmental Health Hazard Assessment, Use of California Human Health Screening Levels in Evaluation of Contaminated Properties, January 2005.

California Integrated Waste Management Board, website: http:// www.ciwmb.ca.gov.

California Native Plant Society (CNPS). Nine quad search of the Online Inventory of Rare and Endangered Plants for the Otay Mesa quad. 2007.

City of Chula Vista "Appendix B - Table 1, Development and Redevelopment Projects Storm Water Standards Requirements Manual", December 9, 2002.

City of Chula Vista, Air Quality Improvement Plan Guidelines.

City of Chula Vista. City of Chula Vista Multiple Species Habitat Conservation Plan Subarea Plan. February 2003.

City of Chula Vista Growth Management Oversight Commission 2007 Annual Report, http://www.ci.chula-vista.ca.us/city_Services/Development_Services/Planning_Building/Boards_Commissions/documents/Vol-1_complete.pdf, website accessed March 18, 2008.

City of Chula Vista Public Library Master Plan, http://www.chulavistalibrary.com/PDFs/01_Facilities_master_plan_exec_summ.pdf, website accessed March 18, 2008.

City of Chula Vista Fire Department website, About CVFD, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/About_CVFD/Default.asp, accessed March 7, 2008.

City of Chula Vista, Growth Management Oversight Commission 2007 Annual Report, http://www.ci.chula-vista.ca.us/city_Services/Development_Services/Planning_Building/Boards_Commissions/documents/Vol-1_complete.pdf, website accessed March 10, 2008.

City of Chula Vista, Department of Engineering, Wastewater Master Plan, May 2005.

Chula Vista Elementary School District, District Overview, http://www.cvesd.org/district/default.aspx, website accessed March 10, 2008.

City of Chula Vista Fire Department website, Station Locations and Apparatus, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/Stations/Default.asp, website accessed March 7, 2008.

City of Chula Vista Fire Department website, Station Locations and Apparatus, http://www.chulavistaca.gov/City_Services/Public_Safety/Fire_Department/Stations/Default.asp, accessed March 20, 2008.

City of Chula Vista, General Plan Vision 2020 (Update).2005.

City of Chula Vista, Greenbelt Master Plan, September 16, 2003.

City of Chula Vista, MSCP Subarea Plan, February 2003.

City of Chula Vista, Chula Vista Public Library Strategic Plan 2002-2006, http://www.chulavistalibrary.com/PDFs/01_Planning_Strategic_Plan.pdf, website accessed March 18, 2008.

Coast 2 Coast Environmental, Inc., Phase I Environmental Site Assessment, page 27 November 30, 2006.

Costa, Stephen L. and Zischke, Michael H., Practice Under the California Environmental Quality Act, Continuing Education of the Bar, Chapter 12, Section 12.36, p. 496.4, January 2002.

County of San Diego, Guidelines for Determining Significance and Report Format and Content Requirements, Noise, March 2007.

Eastern Urban Center Sectional Planning Area (SPA) Plan, April 2009.

EUC Specific Plan Area, Urban Parks, Recreation, Open Space & Trails Plan, Table 3.

Geotechnics Incorporated, Geotechnical Investigation March 1, 2007.

Geocon Consultants Inc., Organochlorine Pesticide Assessment and Soil Reuse Plan, June 5, 2007, revised October 4, 2007.

Gipson, Justin, Fire Marshall, Chula Vista Fire Department, Electronic correspondence, March 20, 2008.

Intergovernmental Panel on Climate Change: Summary for Policymakers. In: Climate Change 2007: Mitigation. Contribution of Working Group III to the Fourth Assessment, 2007.

Intergovernmental Panel on Climate Change: Second Assessment Report (SAR) 1996.

Kimley-Horn and Associates, Inc., Traffic Impact Analysis, Chula Vista Eastern Urban Center (EUC), February 2008.

Metropolitan Water District of Southern California, Water Surplus and Drought Management Plan, June 21, 2007.

Otay Ranch General Development Plan (GDP)/Subregional Plan, Exhibit 18a, Overall Project Summary Table, Amended December 2004, reprinted September 2005.

Otay Ranch Eastern Urban Center (EUC) SPA Non-Renewable Energy Conservation Plan.

Otay Water District, Water Supply Assessment and Verification Report, July 2007.

PBS&J, Eastern Urban Center Technical Sewer Study, January 2008.

Miller, Phillip, Brown Field Airport Manager, Letter to City of Chula Vista, April 23, 2007.

Moore, Neil, Otay Landfill, Telephone conversation, March 20, 2007.

Recon, Air Quality Report for the Otay Ranch Villages Two and Three, Planning Areas 18B, and a Portion of Village Four Sectional Planning Area (SPA) Plan, December 19, 2005.

Reinhart, Roderick, Assistant Library Director, City of Chula Vista Public Library, Electronic correspondence, March 13, 2008.

South Coast Wildlands Project. Missing Linkages: Restoring Connectivity to the California Landscape. Conference proceedings. San Diego, California. 2000.

Sweetwater Union High School District, About the Sweetwater Union High School District, http://www.suhsd.k12.ca.us/students_parents_aboutthedistrict.asp, website accessed March 10, 2008.

Transportation Research Board, Highway Capacity Manual (HCM), 2000.

United Nations Framework Convention on Climate Change, National GHG Inventory Data for the Period 1990-2004 and Status of Reporting, 2006.

URS Corporation, Biological Impact Assessment for OLC Parcek C/EUC Soils Stockpiling Project, November 29, 2007.

USEPA, Inventory of US GHG Emissions and Sinks: 1990-2005, Chapter 2: Trends in GHG Emissions, 2007.

U.S. Fish and Wildlife Service (USFWS). Birds of Conservation Concern, Division of Migratory Bird Management, Arlington, Virginia. 99 pp. 2002. available at: http://migratorybirds.fws.gov/reports/bcc2002.pdf.

U.S. Green Building Council. LEED for Neighborhood Development Rating System, Pilot Version, 2007.