2.0 PROJECT DESCRIPTION AND PROJECT SETTING

2.1 PROJECT LOCATION

The project area is located in the southwest central portion of the City of San Marcos, approximately one mile southwest of the City's Town Center, and one mile northwest of California State University, San Marcos. The project area is generally bounded by San Marcos Boulevard and the Creekside Marketplace on the north; Grand Avenue and State Route 78 (SR-78) on the east; the "Valley Verde" mobile home park, Discovery Street, and the generally undeveloped University Business Park area on the south; and Discovery Street on the west. Figure 2.1-1 shows the project area's regional context and vicinity. Figure 2.1-2 shows the boundaries of the project.

2.2 PROJECT SETTING

The area proposed for the Specific Plan is a relatively flat alluvial plain that slopes very gradually from east to west with San Marcos Creek, a perennial stream, running the length of the project area. The creek enters the area at east end from culverts under SR-78 and exits the area under Discovery Road at the west end near San Marcos High School. Site elevations generally rise only 5 to 10 feet above the creek bottom across most of the site. As a result, roughly two-thirds of the area is located within the 100-year floodplain.

The project area currently includes a mixture of low-density commercial, legal non-conforming and non-conforming industrial and residential uses, and undeveloped vacant lands. Approximately 55 percent of the proposed Specific Plan area is vacant or undeveloped. Existing development is generally limited to the northern portion of the area and is oriented primarily to San Marcos Boulevard and secondarily to perpendicular side streets. The southern portion of the area surrounding San Marcos Creek is predominantly undeveloped and vacant.

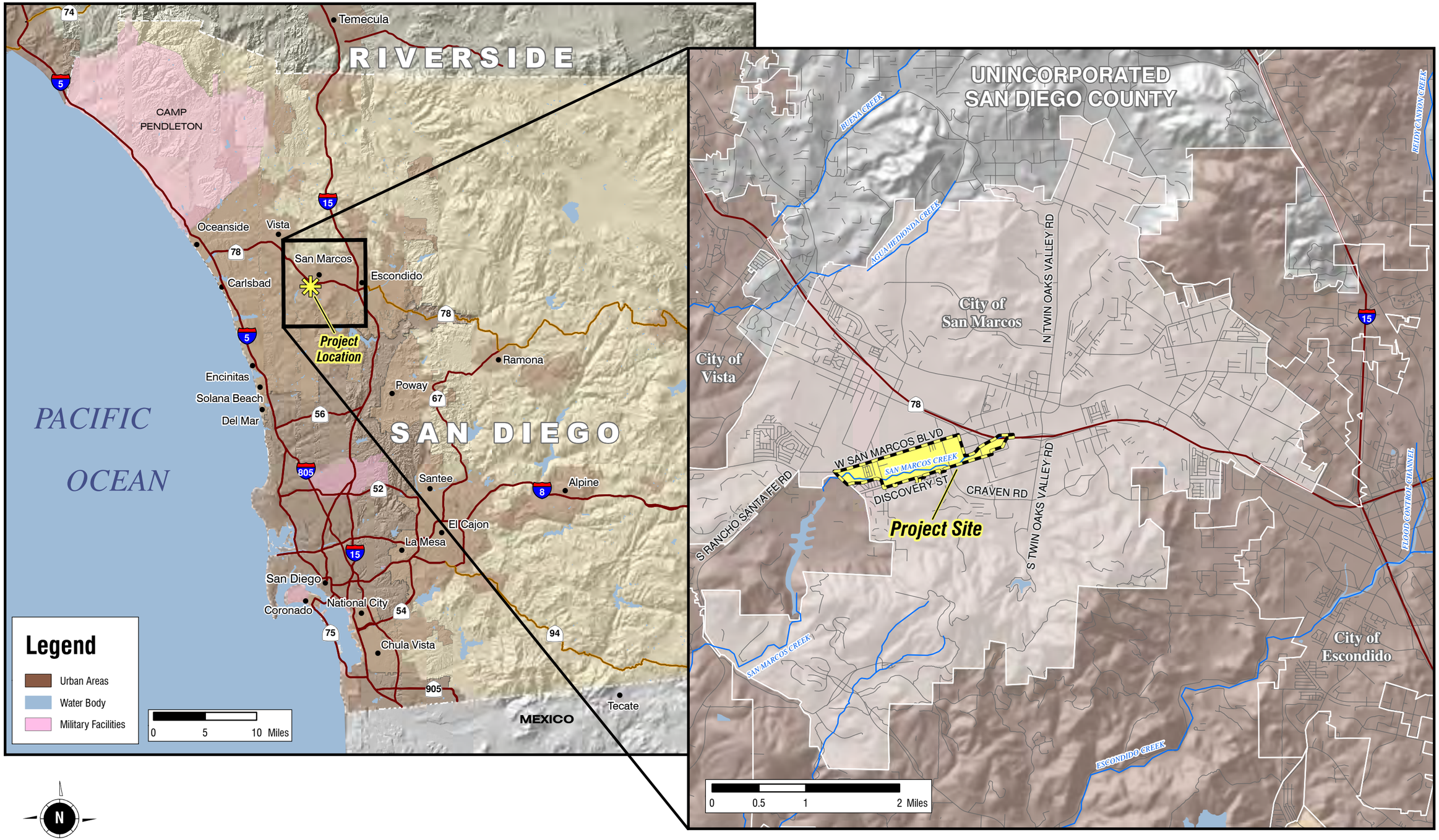
Current uses in adjoining areas include predominantly commercial uses to the north (e.g., Old California Restaurant Row, Edwards Cinema, Frys, etc.) north east (Creekside Marketplace), east of SR-78 an RV Mall, mini storage facility, and predominantly residential uses to the south (Valley Verde Estates, Discovery Hills neighborhood) and west (residences as part of the unincorporated Lake San Marcos community and Lake San Marcos Country Club), and undeveloped portions of the Barham Discovery neighborhood to the southeast.

The proposed project area is accessed via a series of east-west and north-south streets. San Marcos Boulevard and Discovery Street, which bound the site, provide east-west access to the area, while Via Vera Cruz, Bent Avenue/Craven Road, and Grand Avenue provide north-south access. Freeway access is provided from interchanges at San Marcos Boulevard and Las Posas Road with SR-78.

2.3 PROJECT DESCRIPTION AND OBJECTIVES

2.3.1 Project Description

The project includes three primary components: (1) floodway improvements to San Marcos Creek, including hydraulic improvements to SR-78, (2) roadway and infrastructure improvements, and



Source: G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\Regional_Vicinity2.mxd | Last Updated: 02-01-07

Regional & Vicinity Map

FIGURE 2.1-1

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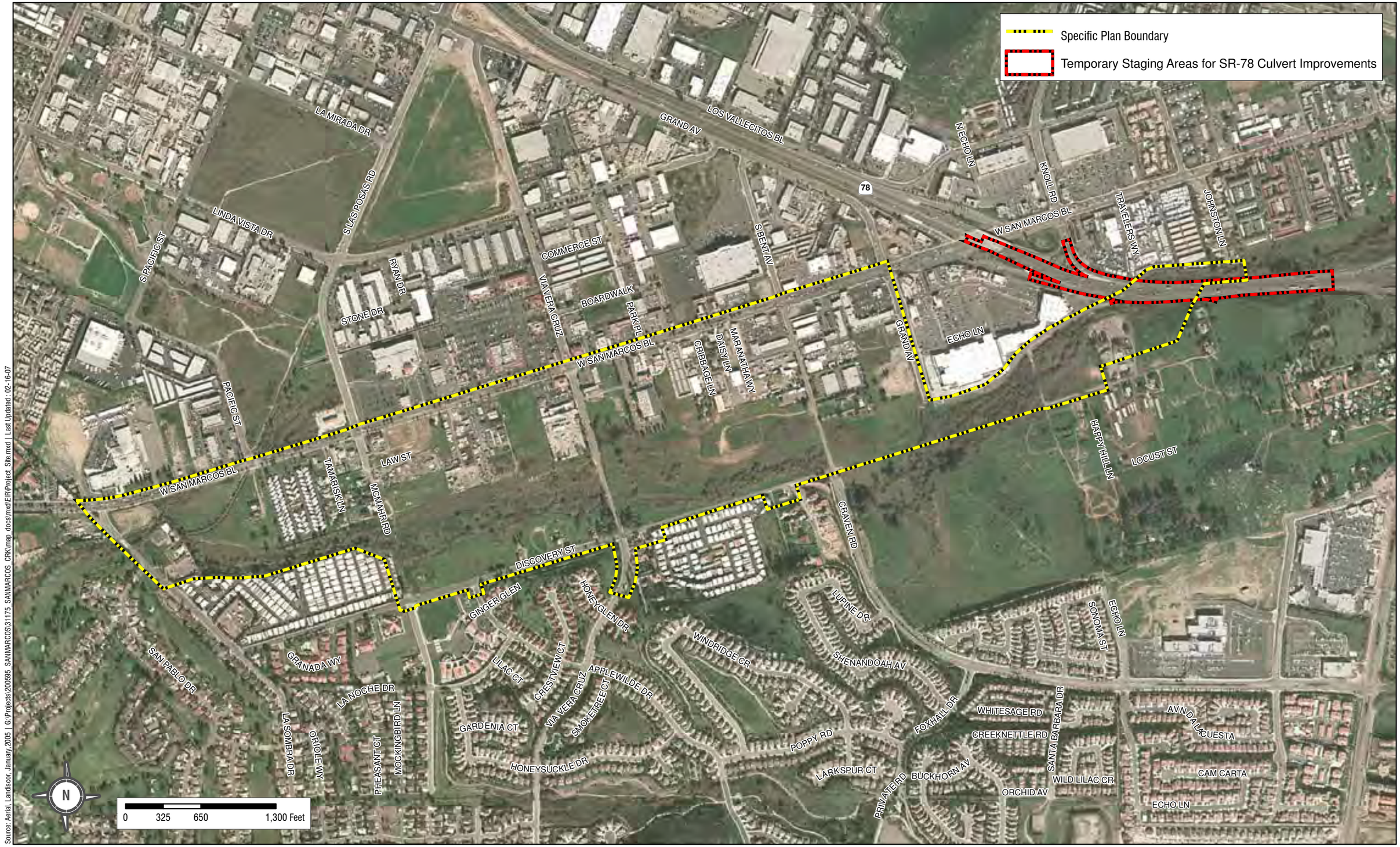

Source: Aerial, Landscor, January 2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\Project_Site.mxd | Last Updated: 02-16-07

Project Site

FIGURE 2.1-2

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(3) implementation of the San Marcos Creek Specific Plan, which would serve as the master plan for the project area as the area builds out.

Each of these components is discussed in detail below. Except in minor respects as noted below, floodway improvements, as well as the roadway and infrastructure improvements are proposed to be developed in the first phase of the project. Implementation of the Specific Plan would occur as a second phase. Project phasing is discussed in more detail in Section 2.3 of the EIR.

Flood Control Improvements

Flood control improvements would occur during the first phase of the project. The intent of the proposed flood control improvements is to provide flood protection for existing streets and existing and future uses in the project area, while maintaining a hydrologic regime that supports sensitive biotic communities along the creek corridor. Since future development within the San Marcos Creek watershed (both in and upstream of the project area) would continue to exacerbate flood potential by adding impervious surfaces that would increase both the rate and volume of stormwater runoff, the proposed flood control improvements have been designed to accommodate a FEMA 100-year storm event and to accommodate projected stormwater runoff at buildout of the City per the City Master Drainage Plan. Similarly, the flood control improvements have been designed to ensure that future development in the Specific Plan area does not increase potential for downstream flooding or harm the biological and aesthetic qualities the community seeks to protect.

Flood control improvements proposed as part of the project would provide the additional capacity needed to contain flood control facilities to contain stormwater run-off associated with 100-year storm events while protecting areas designated for development. Rather than modifying the existing creek channel and impacting existing vegetation and habitat, the improvement strategy is to establish a broad overflow area on either side of the creek channel that is contained by building up adjacent areas with levees, flood walls, and fill. The existing creek channel would continue to carry normal stream flows, while the broader overflow areas within the levees would accommodate storm flows that exceed the capacity of the existing natural creek channel. The overflow areas, which would be dry most of the year, generally would be maintained as natural open space.

The width of the overflow area between the levees ranges from approximately 250 feet to up to 500 feet. At its narrowest point just west of McMahr Road, the area between the levee would be approximately 250 feet. Through the core of the project area, between Bent Avenue and McMahr Road, the flood control corridor maintains a fairly consistent 400- to 500-foot width. The upland portions of the overflow area would be maintained in native vegetation consistent with the landscape's indigenous character and the overflow channels' required conveyance capacity. Public access to the area between the two levees would be prohibited, except for the Discovery Park area between McMahr and Via Vera Cruz south of the creek.

In order to contain peak storm flows, the levees, flood walls and fill would range between 3 and 15 feet in height along the north side of the corridor, and between 10 and 15 feet high along the south side (In the area between McMahr Road and Via Vera Cruz on the south side of the channels, no levee or fill is required). Figure 2.3-1 shows the proposed location of the levees and Figure 2.3-2 shows a cross-section illustrating the flood control concept. The inboard side of the levees (i.e., facing the creek) generally would have a 3:1 slope. However, in an effort to soften the engineered appearance of the levees, the inboard slopes are flattened to 5:1 in some areas, and curves have been

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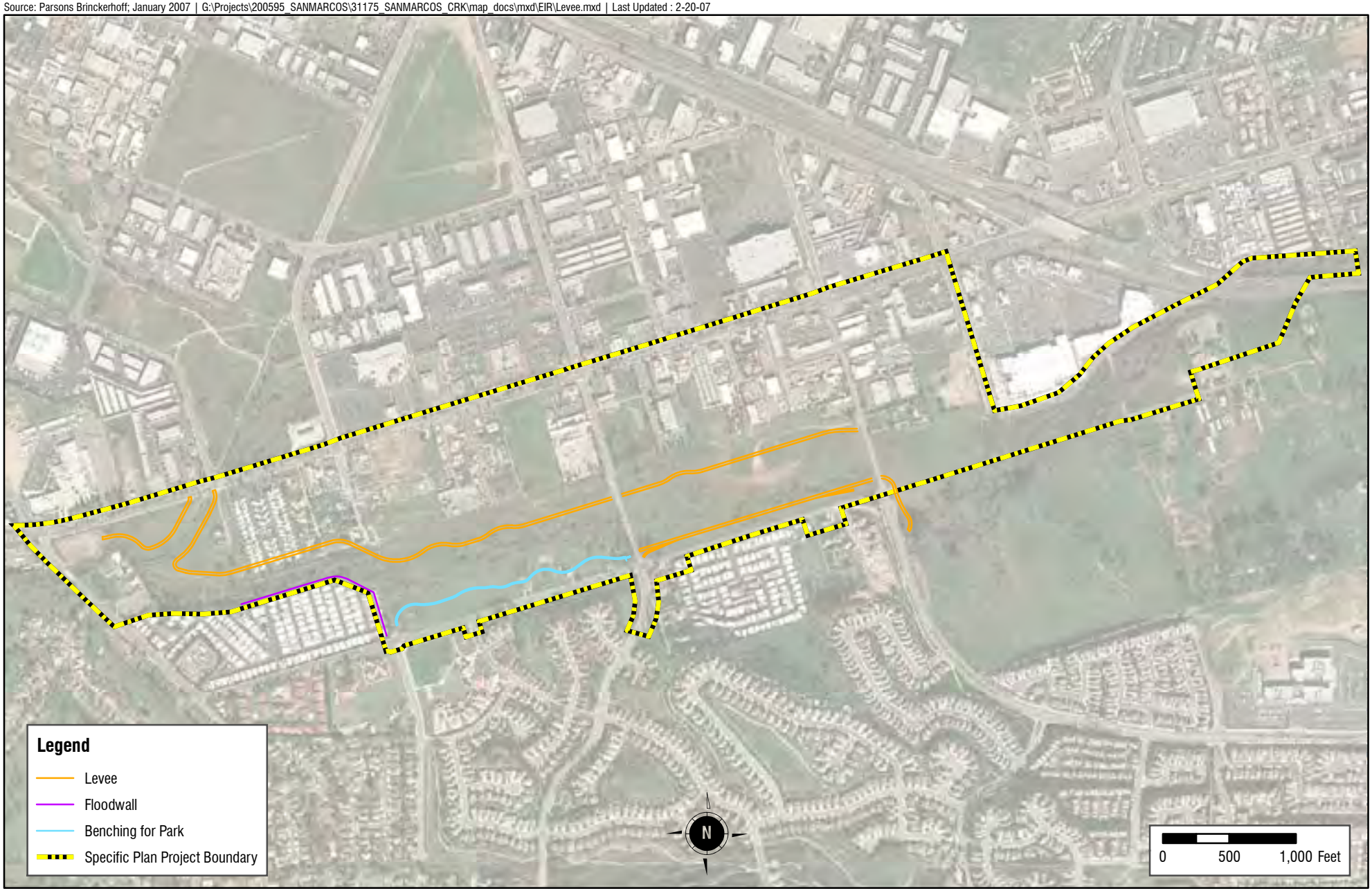

Proposed Levee and Floodwall Improvements

FIGURE 2.3-1

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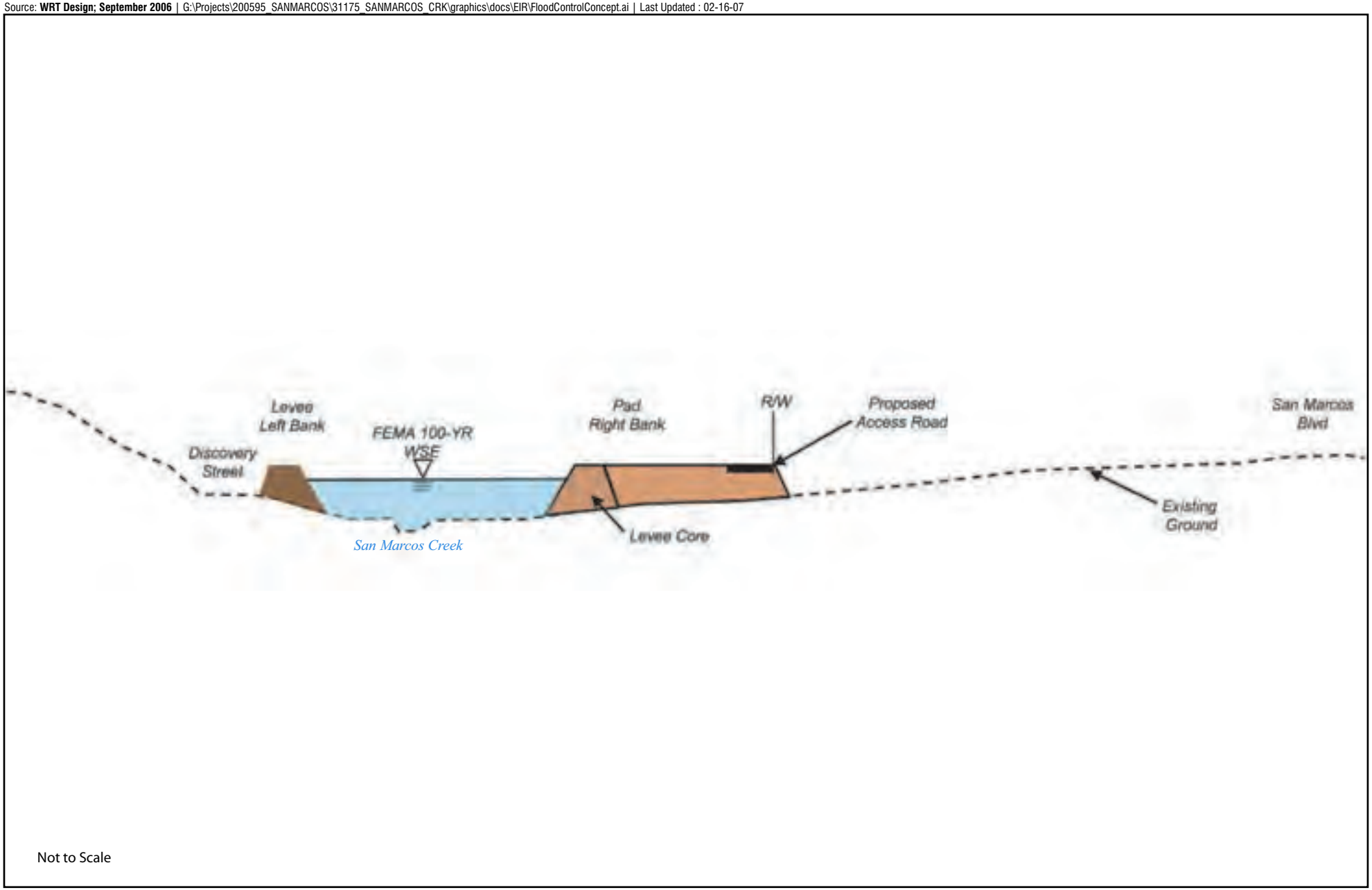
Source: **WRT Design; September 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\FloodControlConcept.ai | Last Updated : 02-16-07



Proposed Flood Control Concept

FIGURE 2.3-2

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added to the levee alignment. The levee slopes also would be planted with native grasses and shrubs compatible with the upland species in the flood control channel to make the banks appear as natural as possible. To avoid having the levee create a wall between the creek open space corridor and future development to the north, fill would be used to raise the land on the north side of the levee to the same elevation as the levee top (Figure 2.3-2).

The floodway improvements include the removal of historic fill material that was illegally placed within the creek area and serves as a hydrologic constraint. This fill is located on the south side of the creek, west of SR-78. Upon removal of the fill, this area would be restored with high-value wetland vegetation.

Another component of the floodway improvement project would address the portion of Las Posas Creek that flows into San Marcos Creek in the northwestern portion of the project site. Within the project site, this portion of Las Posas Creek would be channelized into an open trapezoidal culvert or a box culvert.

SR-78 Hydraulic Capacity Improvements

Another component of the Flood Control Improvement portion of the project includes a new bridge to supplement the capacity of the San Marcos Creek culverts that cross beneath SR-78. The construction of the bridge at SR-78 would occur during the first phase of the project. The existing culverts constrain the creek flow and are the primary cause of the flooding along San Marcos Boulevard during the 100-year storm. The proposed bridge would be approximately 272 feet long and 155 feet wide, accommodating four 12-foot lanes and two 10-foot shoulders in both the westbound and eastbound directions. A bicycle/pedestrian pathway would extend approximately eighteen additional feet and consists of two 7-foot travel lanes, a concrete barrier to separate the pathway from traffic, and an outside concrete railing. The structure would be constructed in one of three ways: (1) six-span cast in place concrete slab, (2) five-span, pre-cast, pre-stressed concrete void slab, or (3) five-span, pre-cast, pre-stressed, concrete box beam.

The bridge structure would be supported on multi-column piers and high cantilever abutments. The high cantilever abutments would be supported on cast-in-drilled hole concrete or driven piles. The front face of the abutment wall would serve as the vertical side walls of the new channel. Concrete aprons would be required on the upstream and downstream sides of the bridge. The piers would consist of cast-in-drilled hole concrete or driven piles and pile extensions. The channel bottom would be lined with concrete; therefore, scouring of soil adjacent to the piers would not be an issue.

Construction of the new bridge would be completed in several stages and would require lane shifts of the traffic. The current number of traffic lanes and freeway access ~~as is current~~ would be maintained during all stages. Except for some pavement overlay for the eastbound traffic lanes, SR-78 would essentially be restored as exists today. The major areas of work to accommodate the traffic staging include pavement overlays, restriping, sign relocations, and some localized widening as previously described. The area of SR-78 affected by the traffic staging extends about 1,500 feet east and west of the San Marcos Creek crossing. Figure 2.3-3 shows the anticipated extent of the traffic staging both east and west of the Creek crossing. Through out the analysis chapters of this EIR (Sections 3.1 through 3.10), the impact analysis for the SR-78 hydraulic improvements are called out separately. This was done to facilitate the use of the EIR by Caltrans for the issuance of the encroachment permit for the above-identified work.

Source: Aerial, Landiscor, January,2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\StagingArea.mxd | Last Updated : 02-22-07

Proposed Staging & Striping Area for SR78 Hydraulic Improvements

FIGURE 2.3-3

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Roadway and Infrastructure Improvements

Consistent with the General Plan, the ~~four~~ three principal north-south streets (~~McMahr,~~Via Vera Cruz, Bent Avenue and Grand Avenue) through the proposed Specific Plan area would be improved to full urban standards and would provide through access between San Marcos Boulevard and Discovery Street. Bridges are proposed over San Marcos Creek at ~~McMahr Road~~ Via Vera Cruz and Grand Avenue. Figure 2.3-4 presents the circulation network.

Discovery Street Improvements

Discovery Street between McMahr Road and Craven Road would be raised in sections to be consistent with flood control elevations on the south side of the street and be improved to urban street standards. The improved roadway would include two 11-foot travel lanes in each direction, a 10-foot center turn lane, two 5-foot bike lanes and an 8-foot parking lane on the north side of the roadway adjacent to the proposed open space. Improvements to Discovery Street would occur as part of either Phase 1 or Phase 2 of the project.

A General Plan Amendment is required to modify the Circulation Element for the segment of Discovery Street between McMahr and Craven. This segment is currently identified as a Major Arterial and would be reclassified as a Secondary Arterial with parking along the north side of the street.

Grand Avenue Improvements

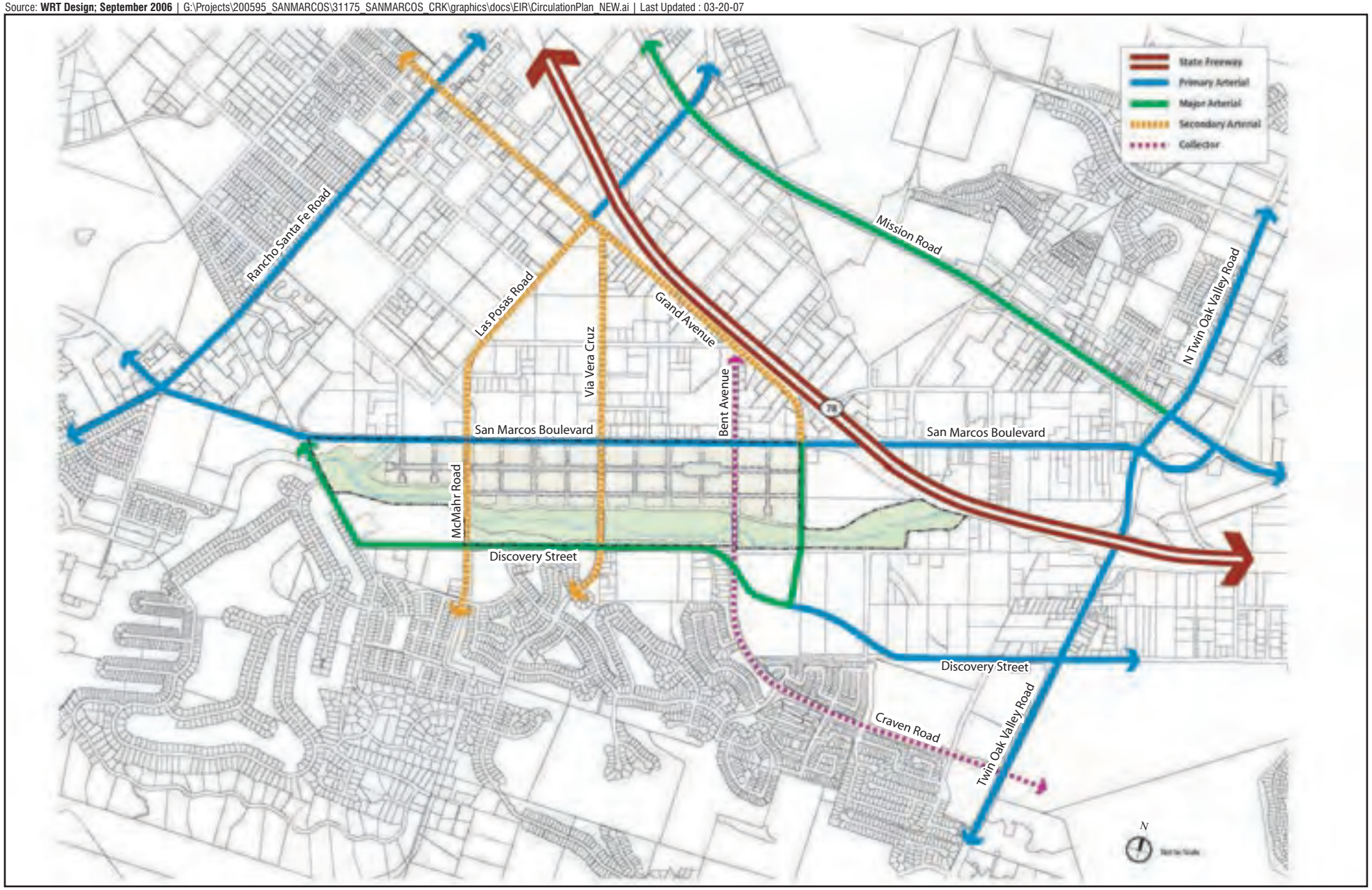
Grand Avenue bridge construction is not proposed as part of the project. The bridge would be constructed when the property to the south of the project develops. The future bridge over the creek would be approximately 500 feet in length and would carry a total of four 11-foot lanes of traffic, two northbound and two southbound, with a constant 5-foot shoulder on the west side and a variable width shoulder on the east side. The west side of the bridge would be designed to accommodate approximately a 9-foot-wide multiuse sidewalk/trail area with ornamental railing, pilasters, lighting, and banners, to enhance and promote a special visual experience for pedestrians and the traveling public. The bridge is proposed to be a cast-in-place pre-stressed concrete box girder.

A General Plan Amendment is required to modify the Circulation Element for the segment of Grand Avenue between the future bridge to Discovery Street. This segment is currently identified as a Major Arterial and would be reclassified as a Secondary Arterial.

McMahr Road Improvements

McMahr Road would be extended through the project site as the extension of Las Posas Road. From San Marcos Boulevard to Creekside Road, McMahr Road would be designed as special four-lane Creekside District arterial with an 84-foot interim right-of-way (ROW) and 98-foot ultimate ROW. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with an 84-foot ROW. Improvements to McMahr Road would occur as part of Phase 1 of the project.

Source: **WRT Design; September 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\CirculationPlan_NEW.ai | Last Updated : 03-20-07



Conceptual Circulation Plan

FIGURE 2.3-4

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A General Plan Amendment is required to modify the Circulation Element for the segment of McMahr between San Marcos Boulevard and Discovery Street. The project will reclassify this segment as a special four-lane Creek District arterial with an 84-foot interim ROW and a 98-foot ultimate ROW. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with an 84-foot ROW. Additionally, the extension of McMahr to cross San Marcos Creek and connect with Discovery Street would be eliminated under the Circulation Element Amendment.

~~McMahr Road would be extended through the project site as the extension of Las Posas Road. From San Marcos Boulevard to Discovery StreetCreekside Road, McMahr Road would be designed as special four-lane Creekside District arterial with 84-foot interim right-of-way and 98-foot ultimate right-of-way. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with 84-foot right of way. Improvements to McMahr Road would occur as part of Phase 1 of the project.~~

~~The proposed McMahr Road bridge would be approximately 350 to 400 feet in length, 84 feet in width and would include four 11-foot-wide travel lanes (two northbound and two southbound), a continuous ten-foot-wide center turn lane, and a 5-foot-wide bicycle lane on each side of the travel way. The bridge would also have a 10-foot-wide sidewalk/multi-use trail along the east side of the travel way with two approximately 8-foot-wide semi-circular creekside pedestrian overlooks (i.e., viewing areas) located at the piers. The multi-use trail would be separated from the roadway with a concrete barrier. The bridge also is intended to include decorative features such as ornamental railing, pilasters, lighting, and banners that would visually enhance the bridge experience for pedestrians and the traveling public. In addition to the multi-use trail on the east side, a five-foot-wide sidewalk also would be constructed along the west side of the bridge.~~

~~Construction of the McMahr Road bridge would require temporary access along both sides of the bridges. For ease of construction and to accommodate existing utilities, a 50-foot-wide construction access and staging zone would be developed along both sides of the bridge. The area below the bridge and the temporary access areas subsequently would be revegetated as part of the project mitigation. McMahr Road improvements would occur as part of Phase 1 of the project.~~

Via Vera Cruz Improvements

Via Vera Cruz, between San Marcos Boulevard and Discovery Street, would be improved to have an 84-foot ROW with four 11-foot travel lanes, a 10-foot left turn pocket or a landscaped median. Additionally, there would be two 5-foot bicycle lanes and 10-foot sidewalks. The improvements to Via Vera Cruz include a bridge that would be approximately 450 feet in length, 84 feet in width and would include four 11-foot wide travel lanes, 5-foot bike lanes and multi-use trails on both sides. The bridge is also intended to include decorative features such as ornamental railing, pilaster, lighting, and banners that would visually enhance the bridge experience for pedestrians and traveling public.

Construction of the Via Vera Cruz bridge would require temporary access along both sides of the bridge. For ease of construction and to accommodate existing utilities, a 50-foot wide construction access and staging zone would be developed along both sides of the bridge. Improvements to Via Vera Cruz would occur as part of Phase 1 of the project.

~~Via Vera Cruz, between San Marcos Boulevard and Discovery Street, would be improved to have an 84-foot right-of-way with four 11-foot travel lanes, a 10-foot left turn pocket or a landscaped median. Additionally, there would be two 5-foot bicycle lanes and 10-foot sidewalks. The improvements to Via Vera Cruz include a bridge that would be approximately 450 feet in length, 84 feet in width and would include four 11-foot wide travel lanes, 5 foot bike lanes and multi-use trails on both sides.n enhanced low-water crossing with additional box culverts supplementing the existing culverts, or Arizona Crossing, at San Marcos Creek. An Arizona Crossing is an at-grade crossing designed to allow flood waters to flow over the roadway. The bridge is also intended to include decorative features such as ornamental railing, pilaster, lighting, and banners that would visually enhance the bridge experience for pedestrians and traveling public.~~

~~Construction of the Via Vera Cruz bridge would require temporary access along both sides of the bridge. For ease of construction and to accommodate existing utilities, a 50-foot wide construction access and staging zone would be developed along both sides of the bridge. The area below the bridge and the temporary access areas subsequently would be vegetated as part of the project mitigation.. Improvements to Via Vera Cruz would occur as part of Phase 1 of the project.~~

Bent Avenue Improvements

Bent Avenue, between San Marcos Boulevard to Discovery Street would be upgraded to urban street standards consistent with their designations in the General Plan Circulation Element. Bent Avenue would be designed as a two-lane Collector with a 68-foot interim and 76-foot ultimate ROW. The improvements to Bent Avenue also include construction of an Arizona Crossing at San Marcos Creek. Bent Avenue improvements would occur as part of Phase 1 of the project.

Pedestrian Bridge

In addition to the roadway improvements across the creek, a 12-foot pedestrian bridge is proposed to enhance pedestrian opportunities within the project area. The pedestrian bridge is proposed ~~mid-way~~ between McMahr Road and Via Vera Cruz, and would be inline with a north-south trending street within the proposed Specific Plan area. The pedestrian bridge would be developed as part of Phase 2 of the project.

Vallecitos Water District Improvements

In 2001, the Vallecitos Water District (VWD) approved replacement of the San Marcos sewer interceptor. A portion of the alignment for the interceptor falls within the project site. To date, VWD has constructed a portion of the sewer interceptor within the project area, though the majority of the project has not been completed. When the alignment approved in 2001 is reviewed in light of the proposed project, it may be beneficial for VWD to modify the alignment of the interceptor and conduct the replacement concurrent with development of the project. Figure 2.3-5 depicts the potential sewer interceptor alignments within the project area. Construction of the VWD alignment would occur during or prior to Phase 1 of the project.

Water Improvements

The project site is within the service area of the VWD. Water line improvements are required to serve the project and include both Phase 1 and Phase 2 improvements. Phase 1 improvements would

include construction of an approximate 12-inch waterline within Creekside Road. Phase 2 improvements would expand the water infrastructure into the proposed Specific Plan Area These water lines would also be approximately 12-inch. Figure 2.3-6 depicts the conceptual water plan.

Sewer Improvements

VWD is also the wastewater provider for the project. Sewer line improvements are required to serve the project and include both Phase 1 and Phase 2 improvements. Phase 1 improvements would include construction of an approximate 8-inch sewer line within Creekside Road. Phase 2 improvements would expand the sewer infrastructure into the Specific Plan area. These sewer lines are expected to be 6 to 8 inches in diameter. Figure 2.3-7 depicts the conceptual sewer plan.

Drainage Improvements

Drainage improvements are proposed as part of the project and include approximately 5,900 feet of a new North Storm Drain System. The North Storm Drain System would begin at the north levee alignment and extend to the confluence of San Marcos Creek and Las Posas Creek. All flows north of San Marcos Creek would be routed through the new storm drain system which would ultimately discharge directly into San Marcos Creek. It should be noted that runoff would pass through bio filter before it is discharged into the storm drain system.

Additionally, a new South Storm Drain System, approximately 4,000 feet in length, would be placed along the length of Discovery Street from Bent Avenue to McMahr Road. The proposed widening of Discovery Street includes existing storm drains and routes them through the new South Storm Drain System. This system would discharge directly into San Marcos Creek near McMahr Road. Figure 2.3-8 depicts the conceptual drainage plan. Drainage improvements are proposed as part of Phase 1 of the project.

Dry Utility Improvements

As part of the project, existing above-ground utility lines along Bent Avenue, Via Vera Cruz, McMahr Road and a portion of Discovery Street would be undergrounded. Interim temporary relocation of the lines would be required while roadway improvements are underway during Phase 1 of the project. This relocation would occur adjacent to the existing alignment, but outside of the road ROW. Ultimately, the lines would be undergrounded.

San Diego County Water Authority Pipeline Encasement

A 108-inch waterline owned by the San Diego County Water Authority (SDCWA) runs through a portion of the project site. During construction activities for the levee and McMahr Road ~~bridge~~, a portion of the SDCWA pipeline would be exposed and encased. ~~This activity would occur within the construction footprint of the McMahr bridge construction~~. ~~Therefore, any biological resources impacts associated with this activity would be considered in the impacts due to McMahr bridge.~~ The encasement would occur as part of Phase 1 of the project. Future development within the Specific Plan area would meet SDCWA requirements for easement maintenance.

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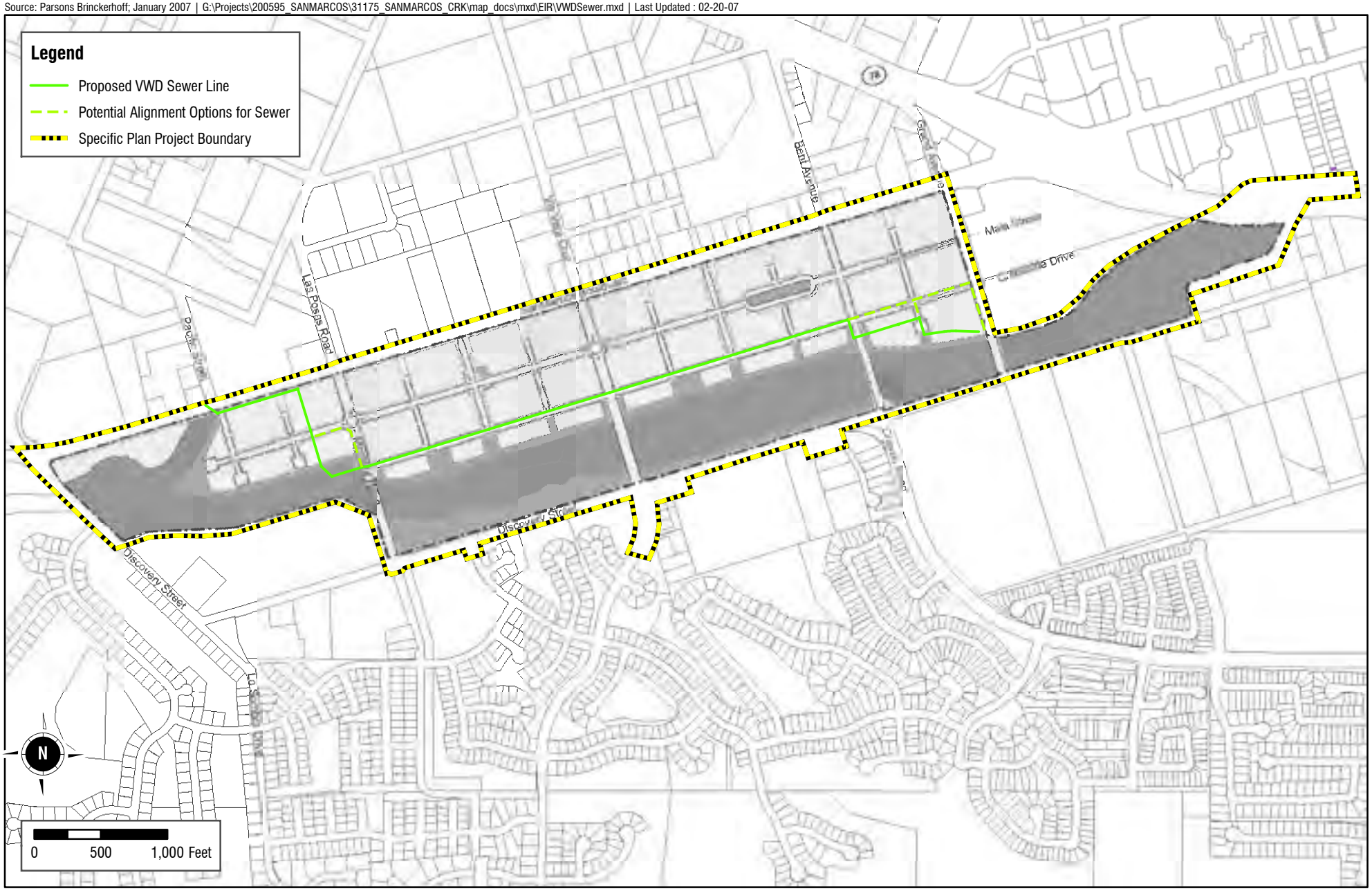

Proposed VWD Sewer Line

FIGURE 2.3-5

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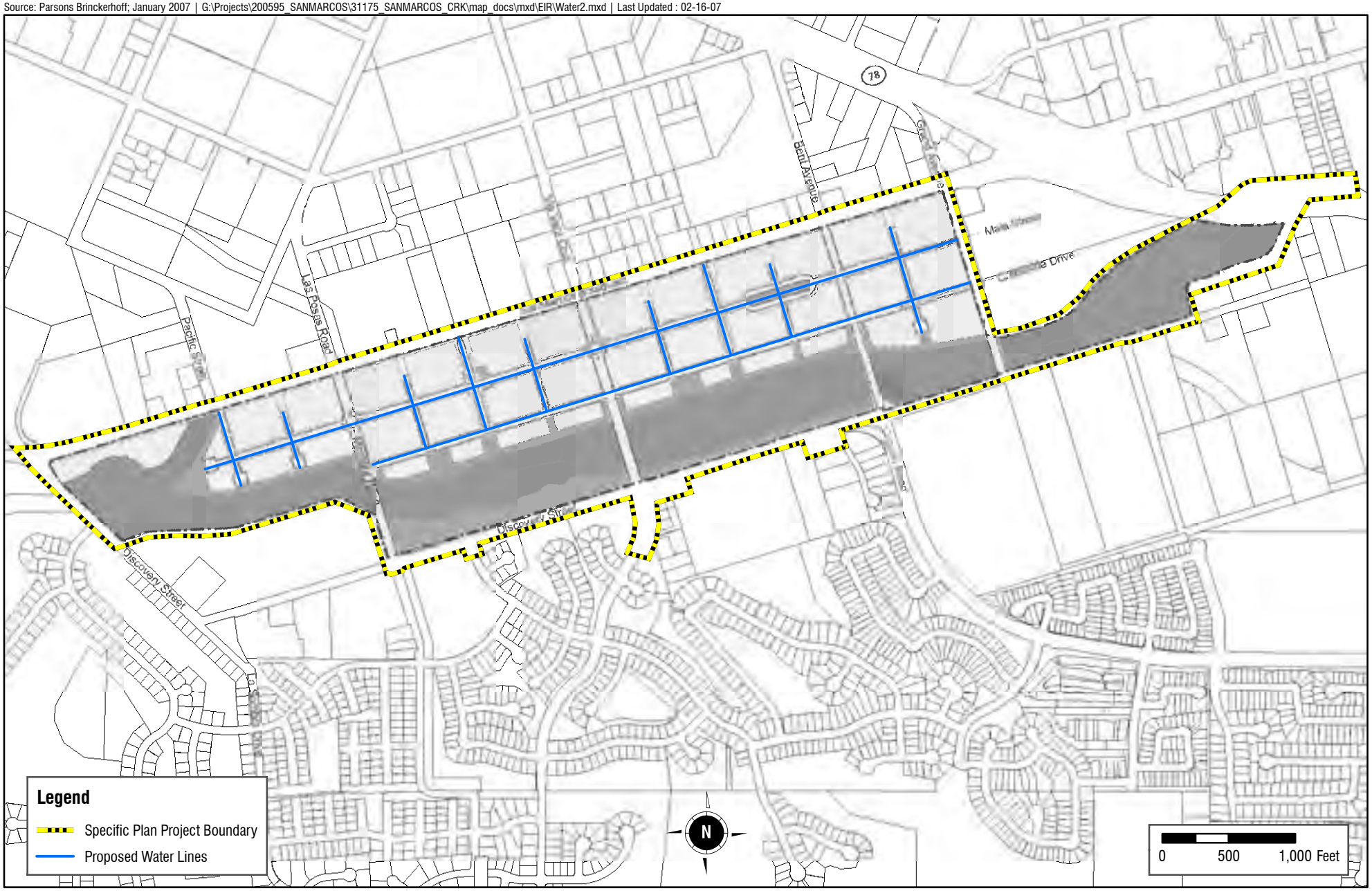

Conceptual Water Plan

FIGURE 2.3-6

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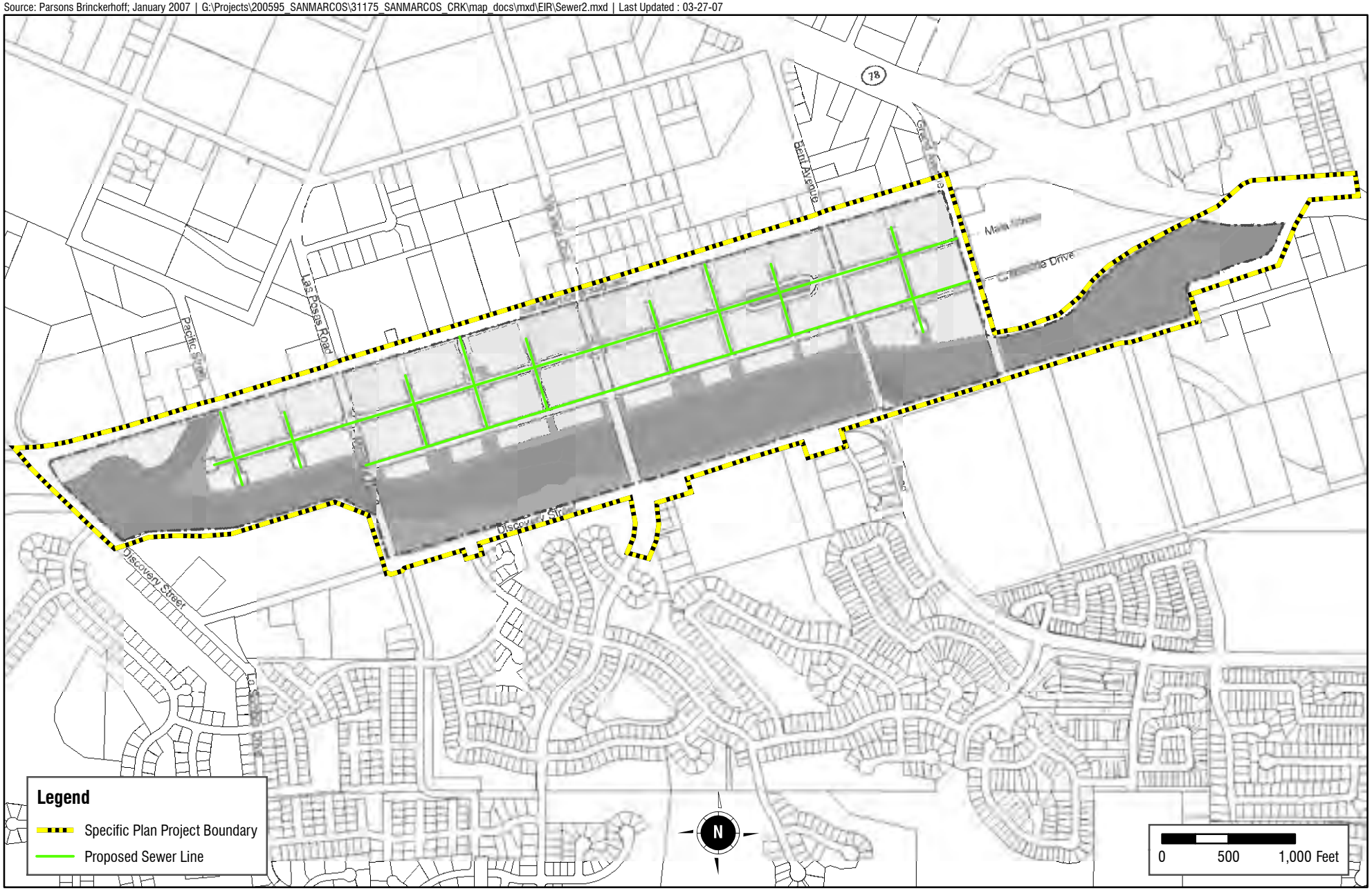

Conceptual Sewer Plan

FIGURE 2.3-7

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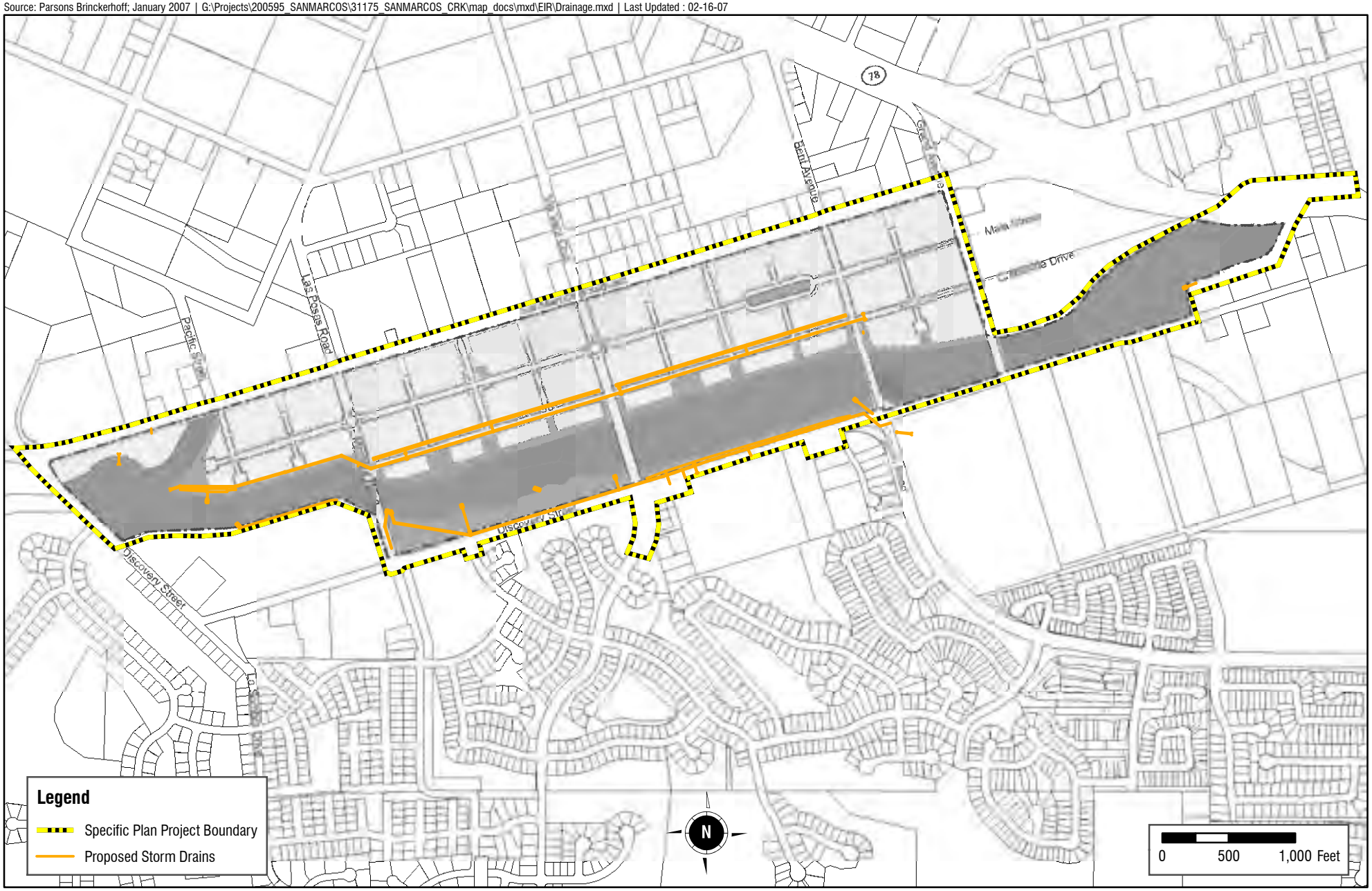
Source: Parsons Brinckerhoff; January 2007 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\Drainage.mxd | Last Updated : 02-16-07



Conceptual Drainage Plan

FIGURE 2.3-8

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San Marcos Creek Specific Plan

Specific Plan Land Uses

The San Marcos Creek Specific Plan area covers approximately 217.3 acres. This includes 81.7 acres proposed as mixed use development, 19.9 acres of park, 77.0 acres of open space, and 38.47 acres of ROW. Figure 2.3-9 depicts the distribution of the land uses.

The 81.7 acres identified as mixed use would be developed with up to 1,265,000 square feet (s.f.) of retail, 589,000 s.f. of office, and up to 2,300 dwelling units. Differing development intensities are proposed throughout the Specific Plan area and are based upon differing Floor Area Ratios (FAR). FAR is the total floor area of a building or structure on a lot divided by the total area of the lot. FARs vary from 1.25:1 to 2.25:1 within the Specific Plan area. Development associated with the Specific Plan would vary in height depending on the location within the Specific Plan. The most dense areas would be a minimum of three stories (35 feet) and could reach up to 80 feet. The remaining areas of the Specific Plan would be a minimum of two stories (25 feet) and could reach up to 65 feet. Figure 2.3-10 shows the areas proposed for mixed use, park and open space areas within the Specific Plan.

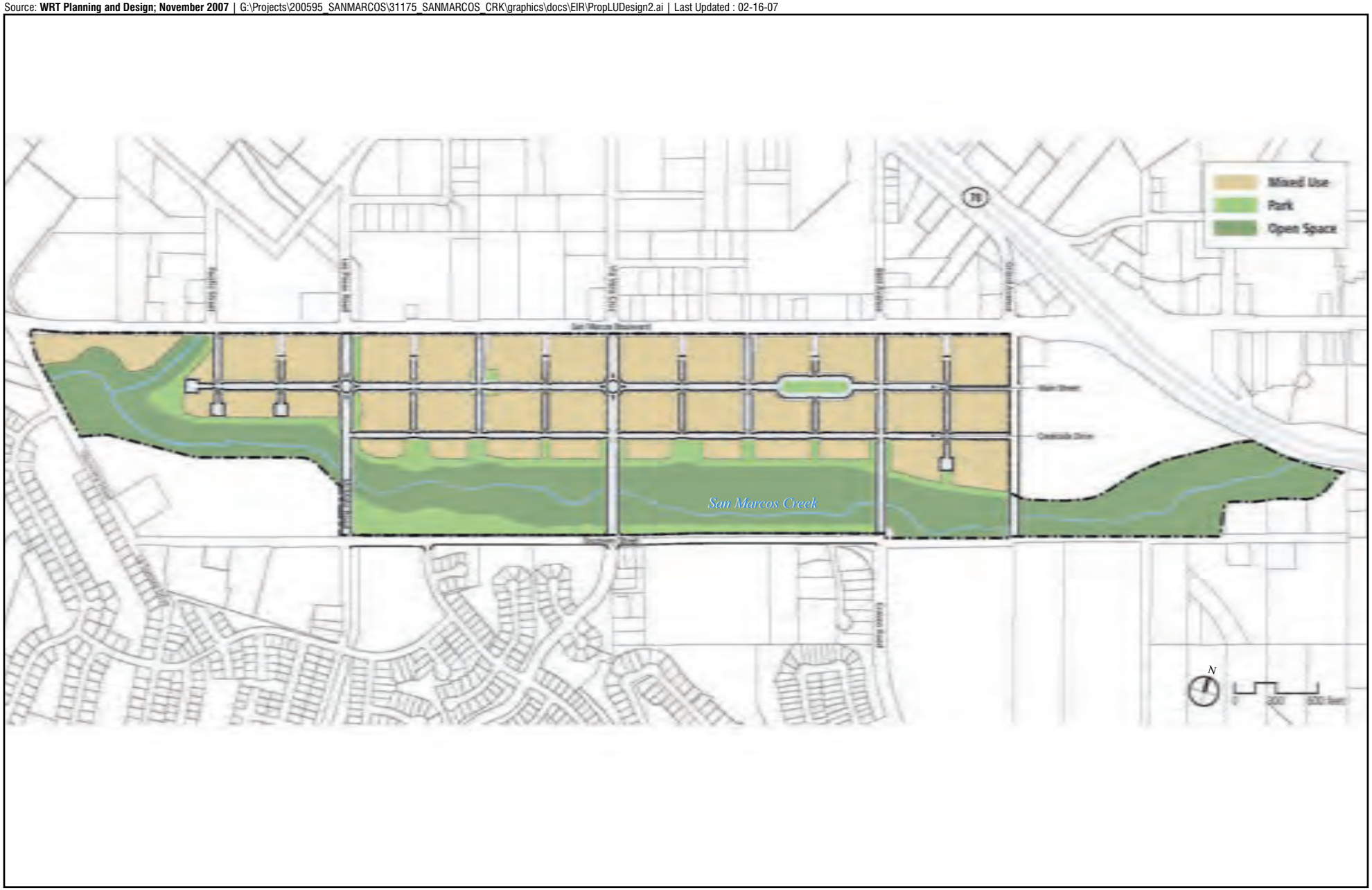
Within the developable portion of the Specific Plan, the development area is envisioned as a series of interconnected neighborhoods with differing land uses and physical characteristics. There are seven districts proposed, as presented in Figure 2.3-11 and Table 2.3-1.

A General Plan Amendment is required to change the existing General Plan land use designations to Specific Plan Area for those areas that are covered by the Specific Plan. Additionally, a Rezone is required to change the existing zoning to Specific Plan Area for the area that corresponds to the area identified in the Specific Plan.

Specific Plan Park and Open Space

The open space concept for the Specific Plan is to establish a comprehensive and integrated system of pedestrian-oriented open space areas that link the various districts of the Specific Plan area. The system has three components: “Open Space,” which consists of natural preserved and restored habitat within the San Marcos Creek corridor; “Parks,” which include a complex of urban parks, plazas and improved parkland adjacent to the creek and “Streetscapes,” which include the pedestrian zones associated with the Specific Plan areas streets and walkways. Figure 2.3-12 depicts the integrated park system.

Source: **WRT Planning and Design; November 2007** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\PropLUDesign2.ai | Last Updated : 02-16-07



Proposed Land Use Designations

FIGURE 2.3-9

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Proposed Floor Area Ratio

FIGURE 2.3-10

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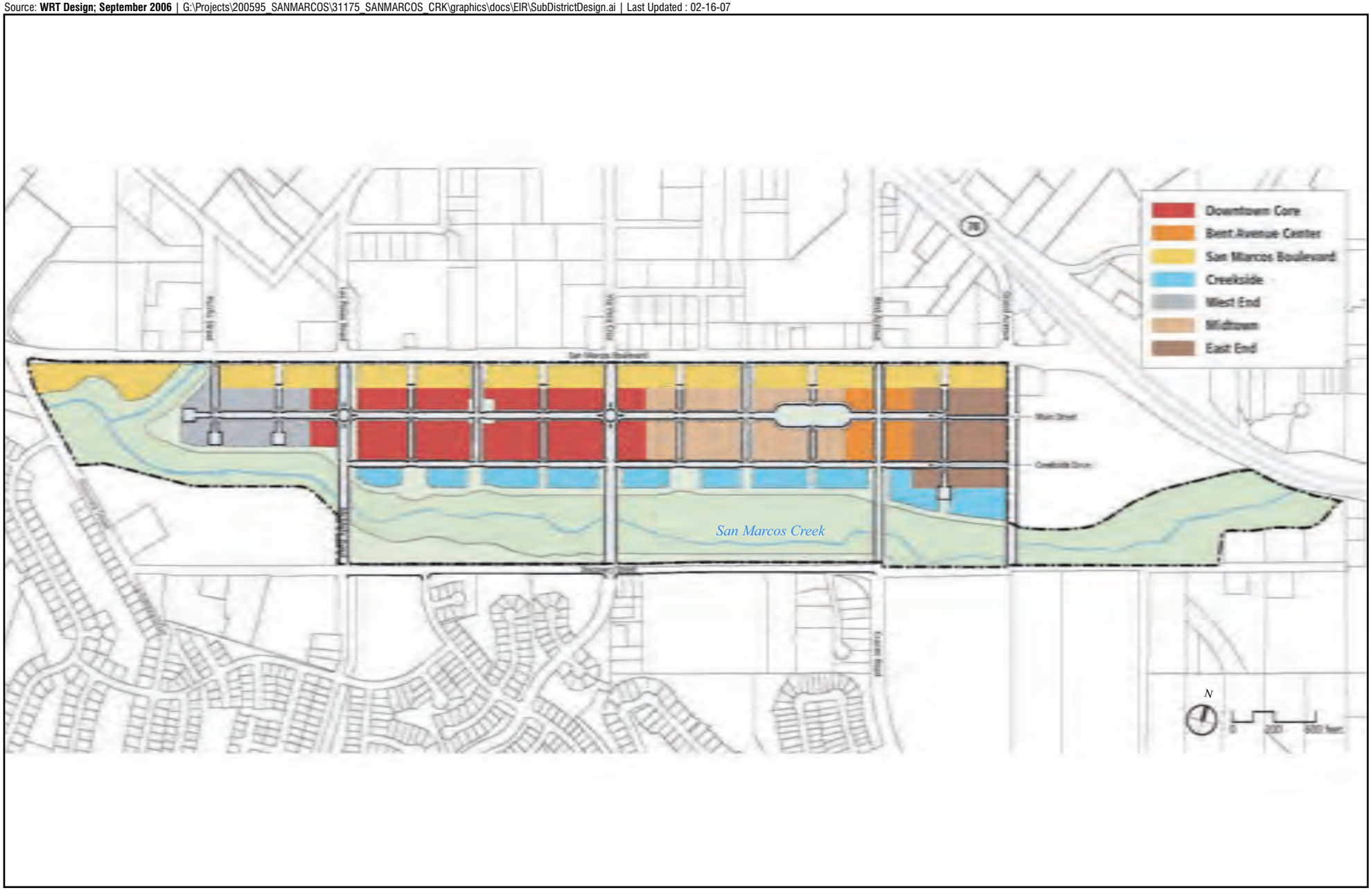
Source: **WRT Design; September 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\SubDistrictDesign.ai | Last Updated : 02-16-07



Sub District Designations

FIGURE 2.3-11

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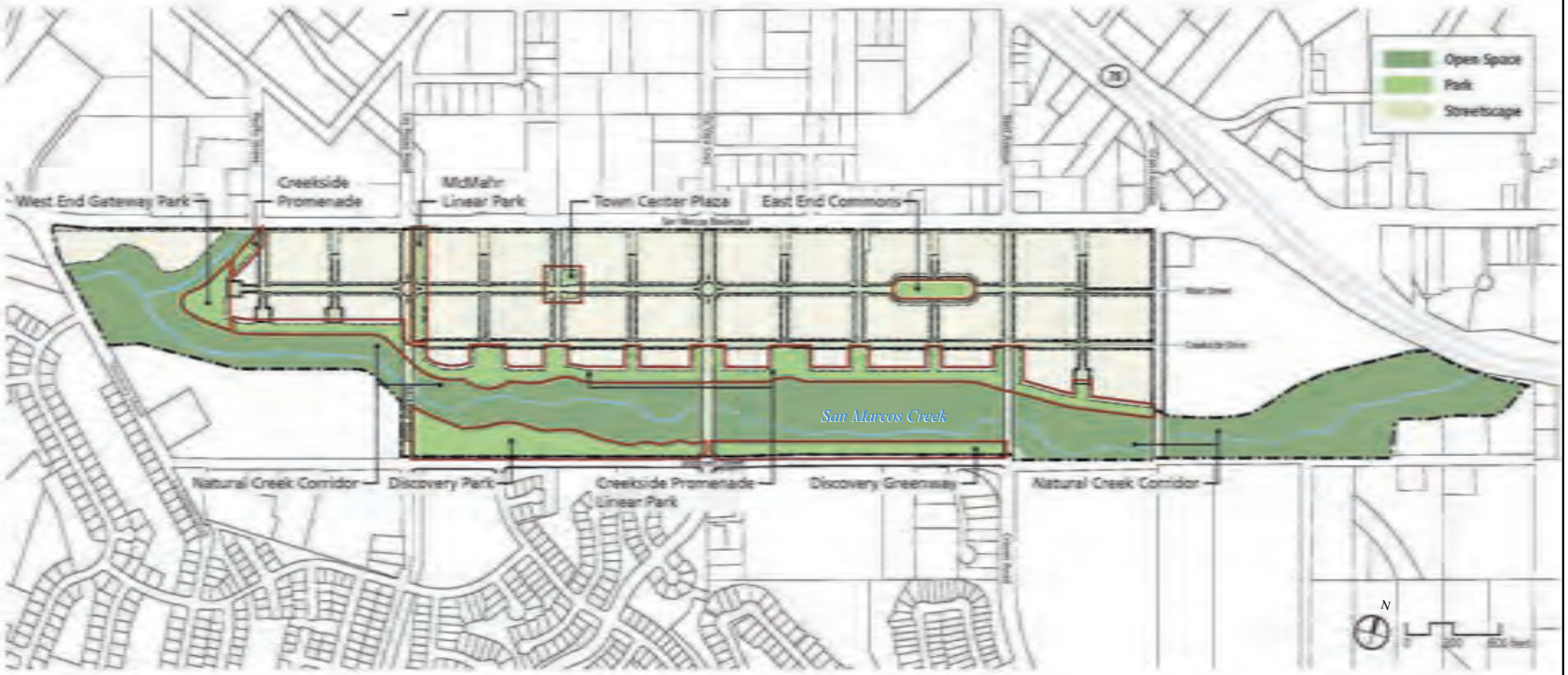

Proposed Park Concept

FIGURE 2.3-12

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Table 2.3-1. Specific Plan Subdistrict Summary

Subdistrict	General Location within Specific Plan	Land Use Concept
San Marcos Boulevard	Northern Boundary of Specific Plan	Transform existing "strip" malls into high-end mixed use. Uses may include retail, office, entertainment, lodging and residential uses, with an emphasis on office and other commercial uses.
Downtown Core	West-central portion of Specific Plan	Identified as the most intense and most urban area of the Specific Plan. Objective is to establish this area as a citywide and regional retail and entertainment destination. Uses may include retail, office, entertainment, lodging, and residential uses, with emphases on retail and entertainment. Residential uses would occupy upper stories.
Creekside	Immediately north of San Marcos Creek.	Provides a transition between the urban development to the north and the creek to the south. Amenities within the area include parks, open space, and a pedestrian promenade. Uses may include a mix of retail, entertainment, lodging and residential, with an emphasis on uses that enhance and benefit from the adjacency to the promenade and creek corridor. Land use emphasis would vary along the length of the corridor.
Bent Avenue	East-central portion of the Specific Plan	This subdistrict would serve as an important gateway into the east end of Specific Plan Area. This subdistrict would serve as a commercial center for the eastern portion of the district. Uses may include retail, office, entertainment, lodging, and residential, but the emphases would be on much less entertainment than in the downtown core district.
Midtown	East-central portion of the Specific Plan	Uses may include retail, office, entertainment and residential, with a high proportion of residential uses, local services and office uses and fewer destination entertainment type uses. Residential uses may occupy ground floors as well as upper floors, except at street corners.
East End	East side of the Specific Plan	Uses may include retail, office, entertainment and residential, with a high proportion of residential uses, local services and office uses and fewer destination entertainment type uses. Residential uses may occupy ground floors as well as upper floors, except at street corners.
West End	West side of the Specific Plan	Uses may include retail, office, entertainment and residential, with a high proportion of residential uses, local services and office uses and fewer destination entertainment type uses. Residential uses may occupy ground floors as well as upper floors, except at street corners.

Note: Please see Figure 2.3-11 for the location of each proposed subdistrict.

Specific Plan Bicycle and Pedestrian Facilities

The project proposes a pedestrian trail system as well as facilities for bicycles. Additionally, the project proposes enhanced transit services. Pedestrian activity within the Specific Plan area would be enhanced through the use of broad, tree-line sidewalks on both sides of all streets within the development area, pedestrian streets or "paseos" that provide off-street pedestrian movement, and the provision of a Class I, multi-use trail within the proposed open space corridor.

Bicycle use within the Specific Plan area would be encouraged through the provision of an inter-connected system of Class II bicycle lanes that connect to existing and planned bicycle facilities on San Marcos Boulevard, Las Posas Road, Discovery Road, McMahr Road, and Craven Road. The

project proposes bicycle lanes on Bent Avenue, Via Vera Cruz, McMahr Road, Discovery Street, Creekside Drive, and the north-south local streets within the Specific Plan area.

Enhanced transit service is also identified within the Specific Plan. Enhanced transit would be accomplished through the provision of a new local shuttle. This shuttle would provide internal circulation within the Specific Plan area and would also loop with connections to other key nearby San Marcos destinations (e.g., employment centers, campuses, and transit stations).

The pedestrian, bicycle and transit improvements that are proposed as part of the Specific Plan are designed to work with the existing network in place in the City as well as work with future alternative transportation opportunities. The provision of bicycle and pedestrian facilities would enhance alternative transportation opportunities not only for future residents of the project area, but also residents in the project vicinity.

Project Design Feature

Certain features of the project design would serve to minimize potential environmental impacts. All project grading would be subject to the typical restrictions and requirements that address erosion and runoff, including the federal Clean Water Act (CWA), National Pollution Discharge Elimination System (NPDES), and preparation of a Stormwater Pollution Prevention Plan (SWPPP). The following best management practices (BMPs) will be implemented during the construction phase:

- A qualified project biologist shall inspect all construction fencing prior to construction and shall monitor construction (grading) activities to avoid unauthorized impacts;
- Prior to construction activities, all wetland areas within or adjacent to construction areas shall be encompassed by orange environmental fencing to protect them from construction;
- Silt fencing or other sediment trapping devices shall be installed and maintained in order to prevent runoff from entering the water systems during construction activities;
- Erosion control shall be adequate to ensure that areas disturbed by the project remain stable and do not erode during rain events;
- Spoil, trash, or any debris shall be removed off-site to an appropriate disposal facility;
- No equipment maintenance shall be conducted within or near any drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow;
- No equipment maintenance shall be conducted near riparian areas where petroleum or ethylene glycol pollutants from the equipment may enter these areas under flow; and
- All construction area limits shall be clearly delineated prior to construction activity with orange construction fencing or silt fencing to ensure that construction activity remains within the defined construction limits. Fencing shall not interfere with wildlife movement.

In addition, the following feature will be implemented as part of project design:

- Install directional lighting (i.e., use of cut-off type fixtures that focus light down and shield surrounding areas) to minimize lighting impacts within the creek;
- Implement landscape controls (i.e., install native landscaping wherever feasible in areas adjacent to preserved habitat);
- Any plants that are defined by the California Native Plant Society as being able to proliferate and aggressively alter or displace indigenous biological communities (CNPS 1996) or any exotic plant species listed in the "Invasive Plant Inventory," published by the California Invasive Plant Council in February 2006, shall be excluded from the project's landscaping design;
- Select, design, and utilize BMPs including source control BMPs (i.e., parking lots, signage, and trash enclosures), treatment control BMPs (i.e., constructed wetlands, filter inserts, bio-swales, and catch basins), and site design BMPs (i.e., landscaping).
- Access controls including the construction of permanent physical barriers (fences/walls and gates) and signage to control the access of unauthorized people, vehicles, and pets into and within designated open space will be required. This would include the construction of boundary fencing and signage, trail fencing and signage, and the placement of appropriate gates at accessible points to provide direct access to creek locations. Design and construction of the physical barriers will be consistent with the San Marcos Specific Plan development theme. Plans for fencing and/or other preventative measures and signage will be submitted to the Wildlife Agencies for approval at least 30 days prior to initiating project impacts.

Land Acquisition

Implementation of some of the project components may require acquisition of land that is privately owned and/or that has been improved with structures, including private residences. This would occur under both Phase 1 and Phase 2 of the project. For information on the age and architectural details of these structures, see Section 3.4, Cultural Resources. Should acquisition be necessary, the City of San Marcos would be required to adhere to applicable federal and state laws regarding acquisition of property, compensation to property owners, and relocation assistance and benefits for persons who may be displaced.

Project Phasing

The project would be constructed in two phases, as detailed in Table 2.3-2. Phase 1 of the project include construction of the floodway improvements, SR-78 Bridge, roadway improvements and infrastructure improvements. Phase 2 of the project includes development of the Specific Plan area, including wet and dry utility improvements to support the future development within the Specific Plan area.

Table 2.3-2. Proposed Project Phasing

Project Phase	Proposed Improvements	Details
Phase 1 (one to five years)	Flood Control Improvements	Levee and Floodwall Construction Remediation Grading to remove illegally-placed fill
	SR-78 Hydraulic Capacity Improvements	Construction of a bridge at SR-78 to provide adequate hydrologic flows.
	Roadway Improvements	Bent Avenue Discovery Avenue (1) Via Vera Cruz ~~McMahr~~ Creekside Road (2) Grand Avenue (3)
	Infrastructure Improvements	Water, Sewer and Dry Utility Improvements within Creekside Road Drainage Improvements VWD Sewer Interceptor SDCWA 108" pipeline encasement
	Biological Mitigation	Habitat Restoration and Enhancement due to Phase 1 improvements.
Phase 2 (up to 20 years)	Specific Plan Roadway Improvements	Construction of the grid streets within the Specific Plan area.
	Specific Plan Infrastructure Improvements	Water, Sewer, and Dry Utility Improvements within the Specific Plan area (exclusive of those improvements carried out as part of Phase 1).
	Specific Plan Development	Buildout of the Specific Plan including construction of parks features, urban trail, pedestrian bridge, and mixed-use areas.

(1) Discovery Avenue improvements would occur during either Phase 1 or Phase 2 of the project.
(2) Creekside Road is a proposed road that would be located north of the Creek atop the northern levee.
(3) Grand Avenue Bridge to be constructed by another project.

Project Construction – Earthwork Activity

Construction of the levee and development pad for the portion of the Specific Plan adjacent to the creek would require the import of approximately 650,000 cubic yards of material. Assuming a truck size of 20 cubic yards, this equates to 32,500 truck trips. Assuming four trucks per hour at seven hours a day for four different staging areas, this equates to approximately 112 truck trips per day. At this rate, import of material would occur over approximately 290 work days.

The second phase of the project includes the grid streets within the Specific Plan area and the residential, commercial and office development associated with the Specific Plan. Construction of the grid streets would occur first, with future residential, commercial, and office development to occur over an estimated 20-year time period.

2.3.2 Project Objectives

- Provide flood control by containing the 100-year flood plain.
- Implement the City's Circulation Element by completing circulation linkages through the project area.

- Protect project area and downstream water quality through biofiltration and management of sediment transport.
- Protect the biological resources in San Marcos Creek through habitat creation and restoration
- Develop a "24-hour" mixed use neighborhood including residential, retail, and office uses.
- Establish a distinct, regionally identifiable "downtown."
- Establish a "walkable," pedestrian-friendly district.
- Ensure that the project is economically viable and can fund supporting public infrastructure.
- Enhance the public experience with San Marcos Creek through passive recreation opportunities.

2.4 INTENDED USES FOR EIR

This EIR is prepared to serve as a project-level EIR for implementation of the floodway improvements and the infrastructure and roadway improvements. This EIR also provides a program-level analysis of the impacts associated with implementation of the Specific Plan. Because specific development projects are not proposed within the Specific Plan area at this time, the EIR provides a program level clearance for this portion of the project. Subsequent environmental review may be required for future development within the Specific Plan area, including project-specific traffic and noise assessment. Other technical studies may be required on a project-by-project basis.

The EIR is to serve as an informational document which would inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe the reasonable alternatives to the project. The public agency shall consider the information in the EIR, along with other information which may be presented to the agency [*CEQA Guidelines* §15121(a)].

This EIR has been prepared in accordance with the City's guidelines for compilation of an EIR and with all criteria, standards, and procedures of the California Environmental Quality Act (CEQA) of 1970 as amended (Public Resources Code §21000 et seq.) and State *CEQA Guidelines* (California Code of Regulations §15000 et seq.). Per §21067 of CEQA and §§15367 and 15050 through 15053 of State *CEQA Guidelines*, the City of San Marcos is the lead agency under whose authority this document has been prepared.

2.4.1 EIR Process

The City prepared an Initial Study of the proposed project and determined that implementation of the proposed project would result in potential impacts to the following issue areas: aesthetics, air quality, biological, cultural resources, hazards and hazardous materials, hydrology and water quality, land use, noise, public services, transportation and traffic, and utilities.

A Notice of Preparation (NOP) for the proposed project, dated December 18, 2006, was prepared and distributed to all Responsible and Trustee Agencies, as well as other agencies and members of the public who may have an interest in the project. The NOP, Initial Study, and comments on the NOP are included in Appendix A.

2.4.2 Responsible and Trustee Agencies

Per §15367 of the State *CEQA Guidelines*, a Lead Agency is defined as "the public agency which has the principal responsibility for carrying out or approving a project". In the case of the proposed project, the Lead Agency is the City of San Marcos. State law requires that all EIRs be reviewed by Trustee and Responsible Agencies. A Trustee Agency is defined in §15386 of the State *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". Per §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."

California Department of Fish and Game (CDFG)

The CDFG has the authority to reach an agreement with an agency or private party proposing to affect intermittent or permanent wetlands habitat, pursuant to Sections 1601-1616 of the State Fish and Game Code. The CDFG generally evaluates information gathered during preparation of the environmental documentation, and attempts to satisfy their permit concerns in these documents. In accordance with its policy of *"no net loss of wetland habitats,"* the Department requires mitigation for all impacts to any wetlands, regardless of acreage.

The California Endangered Species Act (ESA) (California Fish and Game Code §2050, et seq.) generally parallels the main provisions of the Federal ESA and is administered by the CDFG. Its intent is to prohibit "take" and protect state listed endangered and threatened species of fish, wildlife, and plants. Unlike its federal counterpart, CESA also applies the take prohibitions to species petitioned for listing (state candidates).

Regional Water Quality Control Board (RWQCB)

The San Diego RWQCB is one of nine regional boards under the California "State Water Resources Control Board" (SWRCB). Under the direction of the SWRCB, the RWQCB exercises authority under the Federal CWA and correlative state statutes to regulate the discharge of "waste" into waters of the United States within its San Diego region of influence. Regulation in part is through a Section 401 Water Quality Certification. Section 401 Certification is based on a finding that the proposed project Section 404 discharge would comply with all pertinent water quality standards as established by the RWQCB. As part of Section 401 Certification, conditions may be required by the RWQCB to mitigate potential impacts to water quality standards.

California Department of Transportation (Caltrans)

A portion of the project includes the construction of a bridge on SR-78 at San Marcos Creek. This portion of the project would occur within the Caltrans ROW and Caltrans would serve as a responsible agency for the project. An encroachment permit is required from Caltrans for the work that is proposed within the Caltrans ROW. Additionally, buildout of the project area would add vehicular trips to SR-78.

Vallecitos Water District (VWD)

VWD may use this EIR for the approval of the alignment for the portion of the San Marcos Interceptor that falls within the project boundary.

San Diego County Water Authority (SDCWA)

SDCWA may use this EIR for the approval of an encroachment permit for future development within the SDCWA easement along McMahr Road.

2.4.3 Federal Agencies

The following federal agencies would also regulate the project.

United States Fish and Wildlife Service (USFWS)

The USFWS is responsible for enforcing the federal Endangered Species Act (ESA), and reviews and comments on applications for Section 404 CWA permits submitted to the USACE. If the proposed project is determined to have an adverse effect on a species that is federally listed as threatened or endangered, consultation with the USFWS would be required. If the proposed project may result in "take" of a federally listed species, an incidental take permit would be required. "Take" is defined in the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."

United Stated Army Corps of Engineers (USACE)

The USACE has jurisdiction over development pursuant to the CWA, as amended. Projects that include potential dredge or fill impacts to the "waters of the U.S." (including wetlands) are subject to Section 404 of the CWA and require a permit.

United States Environmental Protection Agency (EPA)

The USEPA develops and interprets policy, guidance and environmental criteria used in evaluating Section 404 permit applications. Additionally, the EPA can elevate specific cases. Due to the floodway improvements proposed for the project, the EPA is involved in the review of the project.

Federal Emergency Management Authority (FEMA)

The proposed project would alter the 100-year storm flooding patterns and require review and acceptance by the Federal Emergency Management Agency (FEMA) in order to revise the current floodplain maps of the area. FEMA's review and comment on a project that is proposed within a flood hazard area is referred to as a Conditional Letter of Map Revision (CLOMR). A CLOMR comments on whether the proposed project meets the minimum floodplain management criteria of the National Flood Insurance Program (NFIP) and, if so, what revisions would be made to the community's NFIP map when the project is completed as proposed. FEMA would review and comment and, if appropriate, issue a CLOMR for any proposed project when requested by a

participating community. All requests for CLOMRs must be supported by detailed flood hazard analyses prepared by a qualified professional engineer.

2.5 DISCRETIONARY ACTIONS

The EIR would be used by the San Marcos City Council to provide environmental clearance for the following discretionary actions.

Certification of the EIR

Per §15090 of the State *CEQA Guidelines*, prior to approving a project, the lead agency shall certify that (1) the final EIR has been completed in compliance with CEQA, (2) the final EIR was presented to the decision-making body of the lead agency and that the decision-making body reviewed and considered the information contained in the final EIR prior to approving the project, and (3) the final EIR reflects the lead agency's independent judgment and analysis.

General Plan Amendment – Land Use Element

A General Plan Amendment is required to change the existing General Plan land use designations to Specific Plan Area for those areas that are covered by the Specific Plan.

General Plan Amendment – Circulation Element

A General Plan Amendment is required to modify the Circulation Element for three roadway segments. The segment of Discovery Street between McMahr and Craven is currently identified as a Major Arterial and would be reclassified as a Secondary Arterial with parking along the north side of the street. The segment of Grand Avenue between the future Grand Avenue bridge to Discovery Street is currently identified as a Major Arterial and would be reclassified as a Secondary Arterial. The segment of McMahr between San Marcos Boulevard and Discovery Street is currently identified as a Secondary Arterial. The project will reclassify the portion of McMahr between Main Street and Creekside Road as special four-lane Creek District arterial. Additionally, the extension of McMahr to cross San Marcos Creek and connect with Discovery Street would be eliminated under the Circulation Element Amendment.

Rezone

A Rezone is required to change the existing zoning to Specific Plan Area for the area that corresponds to the area identified in the Specific Plan.

Specific Plan

The San Marcos Creek Specific Plan serves as the master plan which would guide the development and buildout of the area within the Specific Plan boundary. Adoption of the Specific Plan would be a required action for the proposed project.

The EIR would also be used by the following agencies for the issuance of listed permits:

Agency	Discretionary Action
United Stated Army Corps of Engineers	Section 404 Permit
California Department of Fish and Game	Section 1602 Permit
Regional Water Quality Control Board	Section 401 Water Quality Certification
California Department of Transportation	Encroachment Permit
San Diego County Water Authority	Approval of Encroachment Permit
Vallecitos Water District	Approval for Realignment of Interceptor through a portion of the project area.

3.0 ENVIRONMENTAL IMPACT ANALYSIS

3.0.1 INTRODUCTION

This section provides information on existing conditions, evaluates the potential environmental consequences of the proposed project, and recommends mitigation measures for each environmental category. After preparation of the Initial Study (Appendix A), it was concluded that impacts to agricultural resources, mineral resources, paleontological resources, population/housing, and recreation would be less than significant.

However, it was determined that the following issue areas could possibly result in significant impacts: aesthetics, air quality, biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, land use, noise, public services, transportation and traffic, and utilities and services systems. Therefore, this Environmental Impact Report (EIR) evaluates the potential impacts for these issues. The potential for cumulative impacts is also addressed. Each subchapter is organized under the following headings:

- Environmental Setting
- Thresholds of Significance
- Project Impacts
- Mitigation Measures
- Level of Significance After Mitigation

The focus of the environmental analysis in each of the following sections is the proposed actions under the San Marcos Creek Specific Plan and Floodway Improvement Project, as described in Section 2.0, Project Description.

3.1 AESTHETICS AND VISUAL QUALITY

This section of the Environmental Impact Report (EIR) addresses the potential aesthetic impacts from the project. It considers both Phase 1 and Phase 2 of the project. Further, within the environmental setting and impact analysis section of this chapter, the setting and impacts for the State Route 78 (SR-78) hydraulic improvements are summarized separately. This analysis would be used by Caltrans specifically for issuance of an encroachment permit for work within the Caltrans right-of-way.

3.1.1 Environmental Setting

The area proposed for the Specific Plan is a relatively flat alluvial plain that slopes very gradually from east to west with San Marcos Creek, a perennial stream, running the length of the project area. The creek enters the area at the east end from culverts under SR-78 and exits the area under Discovery Road at the west end near San Marcos High School. Site elevations generally rise only 5 to 10 feet above the creek bottom across most of the site. As a result, roughly two-thirds of the area is located within the 100-year floodplain.

The project area currently includes a mixture of low-density commercial, industrial, and residential uses and undeveloped open lands. Approximately 55 percent of the proposed Specific Plan area is vacant or undeveloped. Existing development is generally limited to the northern portion of the area and is oriented primarily to San Marcos Boulevard and secondarily to perpendicular side streets. The southern portion of the area surrounding San Marcos Creek is predominantly undeveloped.

Current uses in adjoining areas include predominantly commercial uses to the north (e.g., Old California Restaurant Row, Edwards Cinema, etc.) and east (Creekside Marketplace), predominantly residential uses to the south (Valley Verde Estates, Discovery Hills neighborhood) and west (Lake San Marcos Country Club), and undeveloped portions of the Barham Discovery neighborhood to the southeast.

State Route 78 View Corridor/General Plan

The proposed project is located in the most south-easterly section of the Business/Industrial District of the City of San Marcos (City) General Plan. The Business/Industrial Community Plan identifies SR-78 as a view corridor. As per the Community Plan, “the SR-78 corridor shall be designated as a special overlay zone to identify and guide development of the land area adjacent to the freeway as a sensitive and highly visible area.” The Community Plan goes on to state, “this overlay should identify specific standards calling for special design treatment to buildings, parking areas, landscaping and signage.”

The Conservation Element of the General Plan identifies the principal visual resources of San Marcos as the vistas of the foothills and mountain ranges from various communities in the City. The General Plan states that secondary and primary ridgelines range from 600 to 1,736 feet. According to Figure D-3 of the Conservation Element, the project site is not located within a primary or secondary ridgeline.

San Marcos General Plan – Conservation Element

The following are applicable goals and policies from the City of San Marcos General Plan, Conservation Element that pertain to aesthetics and visual quality:

- Goal 1: To preserve the natural resources of the planning area, including dominant landforms, plant and animal habitats, and water courses.
- Policy 1: Preserve prominent landforms, such as the Merriam Mountains, San Marcos Mountains, Cerro de las Posas, Mt. Whitney, Double Peak, Franks Peak, Owen Peak, the canyon areas, and the 100-year floodplain, by conservation and management policies.
- Implementing Strategy 1.1: Prepare an implement a Hillside Development Management Program establishing standards for preservation of prominent landforms, including slope/density formulas, erosion and drainage control, and landscaping, and establishing a Hillside Overlay Zone.
- Implementing Strategy 1.2: Require hillside review for all proposed projects within the City's Hillside Review Overlay Zone.
- Implementing Strategy 1.3: Utilize techniques such as transfer of density, PRD, and open space easements to encourage the preservation of significant natural landforms, such as canyon areas and prominent ridgelines.
- Implementing Strategy 1.4: Prohibit the intrusion of highly visible cut and/or fill slopes, building lines and/or road surfaces on hillside areas visible from points within the City. In the Questhaven/La Costa Meadows Community, this strategy shall not apply to SPA-1 if it cannot be feasibly implemented or other standards are included in the then-applicable San Elijo Ranch Specific Plan Guidelines.
- Implementing Strategy 1.5: Require the incorporation of vegetative screening into any development project, except that when existing heavy brush creates a visual screen between new and existing dwelling units, development projects shall be required to clear the brush and replant for fire safety where necessary.
- Implementing Strategy 1.6: Require the irrigation and landscaping of manmade slopes, in order to prevent erosion and to soften the visual appearance of the finished slopes.
- Implementing Strategy 1.7: Encourage low intensity development adjacent to the floodplain to preserve vegetation habitats for wildlife, visual resource, and recreational opportunities, and to protect against flooding.
- Implementing Strategy 1.8: Within the Specific Plan Areas (SPAs) identified in the Community Plans, require specific plans to provide distinct, identifiable open space corridors through ridgelines and the San Marcos Creek floodplain and watershed.
- Implementing Strategy 3.13: Require open space preservation as a condition of project approval to preserve significant natural features.

3.1.2 Thresholds of Significance

According to Appendix G of the State California Environmental Quality Act (CEQA) Guidelines, visual quality and aesthetics impacts are considered potentially significant if the project would:

a. Have a substantial adverse impact on a scenic vista;

b. Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;

c. Substantially degrade the existing visual character or quality of the site and its surroundings; and/or

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

3.1.3 Project Impacts

Phase 1 Project Construction

Phase 1 project construction involves development of the floodway improvements, circulation network improvements and other related infrastructure. Due to the extent of these improvements, construction activities would occur simultaneously through much of the southern half of the project site during Phase 1. Visually, project construction could include staging areas with construction equipment and supplies, portable trailers to serve as temporary office space or storage, as well as some stockpiling of fill material for the levee construction. Due to the short-term nature of the Phase 1 project construction and the distance from sensitive viewers, a less than significant impact due to Phase 1 project construction is identified.

State Route78 Hydraulic Improvements

Construction activities associated with the SR-78 hydraulic improvements could include staging areas with construction equipment and supplies. Due to the short-term nature of the SR-78 hydraulic improvements, as well as the fact that the construction activities would generally occur underneath the SR-78 roadway and out of view, a less than significant impact is identified.

Phase 2 Project Construction

Phase 2 project construction includes build out of the Specific Plan and associated infrastructure to support the Specific Plan. Construction activities are estimated to be spread out over an approximately 20 year time frame, so individual construction activities associated with development are expected to be small and not of a nature that would result in a significant visual impact. Therefore, a less than significant aesthetic impact related to Phase 2 project construction is identified for the project.

Scenic Vistas

As noted in Section 3.1.1, scenic vistas within the City of San Marcos are associated with vistas of primary and secondary ridgelines. The project site is not located within a primary or secondary ridgeline. The greatest visual amenity within the project area is San Marcos Creek, which runs along the southern portion of the project area. Improvements are proposed for the creek to reduce flooding. This would result in the removal of some vegetation; however, mitigation is provided to replace this lost vegetation. Implementation of the project includes preserved natural open space areas, as well as public parks, which would enhance the user's experience of the creek and enhance scenic vistas.

Development associated with the Specific Plan will vary in height depending on the location within the Specific Plan. The most dense areas will be a minimum of three stories (35 feet) and can reach up to 80 feet. The remaining areas of the Specific Plan will be a minimum of two stories (25 feet) and can reach up to 65 feet. Current development north of the project site does not have views to the creek; therefore, the development of the project area would not remove any existing views to the creek corridor. Portions of the Discovery Hills neighborhood located south of the project site have views of the creek, primarily the vegetation associated with the creek. These views would not be impeded, as development associated with the project would be located north of the creek. Therefore, implementation of the project would not result in a loss of scenic vistas and a less than significant impact is identified.

Scenic Resources

State Route 78 is not identified as a Scenic Highway per the Caltrans State Scenic Highways Program. SR-78 passes through the northeastern portion of the project site, though views to the project site are limited due to topography and intervening development. Specifically, the existing Creekside Marketplace on San Marcos Boulevard, adjacent to the SR-78, greatly blocks the view of the project site from east-bound SR-78 traffic. Development of the project would result in the removal of vegetation; including trees (see Section 3.3, Biological Resources). No significant rock outcroppings are know to occur on the site; therefore, no outcroppings would be altered as part of the project. Historic structures are located within the project area (see Section 3.4, Cultural Resources), and these structures are likely to be removed as part of project development; however, these structures are not visible from SR-78. The loss of vegetation and the historical structures is not expected to result in a significant visual impact, as vegetation would be replanted as part of the project mitigation. Further, future development within the Specific Plan area would have to adhere to strict design guidelines, as identified in the Specific Plan. Therefore, a less than significant impact is identified for this issue area.

Visual Character of Site and Surroundings

Proposed urban development associated with the Specific Plan portion of the project would alter the undeveloped visual character of portions of the project site. This alteration would occur through the gradual build out of the Specific Plan with residential, retail and office uses. Development associated with the Specific Plan will vary in height depending on the location within the Specific Plan. The most dense areas will be a minimum of three stories (35 feet) and can reach up to 80 feet. The remaining areas of the Specific Plan will be a minimum of two stories (25 feet) and can reach up to

65 feet. The intensity of the development would result in a substantial change to the visual character of the site. Additionally, some vegetation would be lost within the creek due to the implementation of the floodway improvement portion of the project. It should be noted that revegetation is proposed within the creek to replace habitat that would be temporarily impacted during construction of the floodway and infrastructure improvements. However, the change in visual character would not be characterized as degradation.

Future development within the Specific Plan area would be required to adhere to specific design requirements included in the Specific Plan which would ensure high-quality and aesthetically-pleasing developments. Chapter 6 (Community Design) of the Specific Plan focuses on the visual character of the future development within the Specific Plan area. The design guidelines and development standards contained in that chapter are designed to promote: (1) well-designed buildings that contribute to a sense of quality and permanence; (2) a pattern and scale of development that creates a well-defined, human-scale public environment that incorporates active, pedestrian-oriented street level uses that animate and enliven the public realm; (3) a safe and attractive system of streets, parks and civic spaces; (4) a visually and aesthetically distinctive identity that incorporates water as a thematic element; and (5) a system of public and private parking structures and rear-loaded parking that reduces the visual and spatial prominence of the automobile.

The Community Design chapter of the Specific Plan also identifies specific requirements for the design of buildings, including: massing, facades, building entrances, roof lines, materials and colors, windows, doors, and lighting. Future development would have varied roof lines and facades, which would break up the apparent bulk and scale of the buildings. Additionally, the Specific Plan provides landscaping requirements, including the use of street trees, which would serve to soften the appearance of the buildings and enhance the pedestrian experience. Revegetation is proposed within the creek to replace habitat that would be temporarily impacted during construction of the floodway and infrastructure improvements. Therefore, adherence to the design requirements within the Specific Plan would ensure a visually-pleasing development.

The project would also provide new visual amenities to the project site and surroundings. The park spaces and multi-use trails proposed along the top of the southern levees would provide elevated vantages from which the public can view the creek corridor, the urban area, and the surrounding peaks and ridgelines. The Specific Plan includes a goal (Goal 4.6) of creating an attractive, creek open space corridor that provides scenic views within an open, high-quality park setting. This would be achieved by several policies within the Specific Plan (Policies 4.6-1 through 4.6-3). These policies address habitat enhancement within the creek corridor, creation of vista points and seating at key viewpoints along the creek, and using distinctive design features to serve as visual cues.

Lighting and Glare

The project area is located in a developed portion of the City. Lighting in the project vicinity is associated with roadway lighting along San Marcos Boulevard, Discovery Street and other roadways, as well as focused lighting associated with existing commercial and residential uses in the project area.

Excessive, poorly designed, or unshielded lighting can be detrimental to astronomical observations. Two significant observatories are located in San Diego County. Palomar Observatory is located approximately 21 miles northeast of the proposed project, and Mount Laguna Observatory is located approximately 47 miles southeast of the proposed project.

The lighting and glare analysis considers the lighting impact of the proposed project as a whole. The proposed project would incorporate lighting to the extent necessary for safety and security, and to complement architectural character of future buildings developed within the Specific Plan Area. Additionally, street lighting would be incorporated along the roadways and bridges that are planned for development as part of the project.

Lighting requirements are guided by standards set by the City of San Marcos, which requires downward-directed low-pressure sodium vapor lighting, with the exception of specialized streetscape lighting or architectural detail lighting. These requirements aid in the preservation of dark-sky conditions, which are needed by the local observatories. The proposed project is required to comply with the City's lighting standards, and the location, type, and direction of the lighting would be reviewed during Site Development Review to ensure compliance with City requirements. Additionally, the Specific Plan (Chapter 6) includes specific requirements for building lighting. Per the proposed Specific Plan, over-illumination shall be avoided. Therefore, no significant impacts related to local observatories are noted.

Future structures on the project site are not expected to be a substantial source of glare, as they are not expected to include highly-reflective treatments or finishes. Therefore, the project would not result in a significant aesthetic impact related to glare.

General Plan Consistency

The project's consistency with applicable goals, policies and implementing strategies of the Conservation Element is presented in Table 3.1-1. As shown in Table 3.1-1, the project is consistent with the applicable goals, policies and implementing strategies of the Conservation Element of the General Plan.

3.1.4 Mitigation Measures

No aesthetic impact were identified, therefore, no mitigation is required.

3.1.5 Conclusion

No significant aesthetic impacts related to construction of Phase 1 and 2 of the project were identified for the project. Development associated with the Specific Plan area would result in a less than significant impact to scenic vistas and scenic resources. The project would not result in lighting or glare impacts, as future building would not including highly reflective finishes or excessive lighting. Future project within the Specific Plan would have to go through design review to ensure that they are compatible with the guidelines in the Specific Plan, and to ensure they are visually pleasing. Additionally, landscaping would soften the appearance of the building and revegetation within the creek would enhance the visual quality of the creek corridor. Therefore, the project was determined to have a less than significant aesthetic impact.

Table 3.1-1. Project Consistency with Applicable Aesthetic Goals and Policies (San Marcos General Plan)

Goal, Policy or Implementing Strategy	Project Consistency
Conservation Element	
Goal 1: To preserve the natural resources of the planning area, including dominant landforms, plant and animal habitats, and water courses.	A portion of the project includes the floodway improvements. Overall, the floodway improvements have been designed to keep the creek in a natural form. Implementation of the proposed project would result in the removal of some vegetation along San Marcos Creek; however, mitigation is provided to replace the vegetation. Therefore; the project is consistent with this goal.
Policy 1: Preserve prominent landforms, such as the Merriam Mountains, San Marcos Mountains, Cerro de las Posas, Mt. Whitney, Double Peak, Franks Peak, Owen Peak, the canyon areas, and the 100-year floodplain, by conservation and management policies.	Of the prominent landforms identified in this Policy, the only one that is applicable to the project site is the100-year floodplain. Currently, hydrologic constraints associated with the creek result in periodic flooding of San Marcos Boulevard during large storm events. The project site proposes floodway improvements to redefine the 100-year floodplain and reduce flooding hazards. Implementation of the project would require either temporary or permanent impact to some of the vegetation within the creek. However, habitat restoration and creation would occur within the creek, which would minimize the visual appearance of the impacts. Therefore, the project is consistent with this policy.
Implementing Strategy 1.1: Prepare and implement a Hillside Development Management Program establishing standards for preservation of prominent landforms, including slope/density formulas, erosion and drainage control, and landscaping, and establishing a Hillside Overlay Zone.	The proposed project is located in a relatively flat alluvial plain. Build out of the proposed project would not preclude implementation of a Hillside Development Management program. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 1.2: Require hillside review for all proposed projects within the City's Hillside Review Overlay Zone.	The proposed project is not located in a Hillside Review Overlay Zone and does not require hillside review. Therefore, no inconsistency is identified for this implementing strategy.
Implementing Strategy 1.3: Utilize techniques such as transfer of density, PRD, and open space easements to encourage the preservation of significant natural landforms, such as canyon areas and prominent ridgelines.	The project site does not support any canyons or ridge lines. Therefore, the project does not conflict with this implementing strategy.
Implementing Strategy 1.4: Prohibit the intrusion of highly visible cut and/or fill slopes, building lines and/or road surfaces on hillside areas visible from points within the City. In the Questhaven/La Costa Meadows Community, this strategy shall not apply to SPA-1 if it cannot be feasibly implemented or other standards are included in the then-applicable San Elijo Ranch Specific Plan Guidelines.	The proposed project is not located on a hillside; therefore, this implementing strategy is not applicable.
Implementing Strategy 1.5: Require the incorporation of vegetative screening into any development project, except that when existing heavy brush creates a visual screen between new and existing dwelling units, development projects shall be required to clear the brush and replant for fire safety where necessary.	The Specific Plan identifies a planting palette. Street trees and other vegetation would provide some screening for the proposed buildings. Existing roadway, such as Discovery Street, as well as San Marcos Creek would serve as buffers between the project and adjacent uses. As identified in Section 3.5, Hazards and Hazardous Materials, the project site is classified as a moderate/non-fuel fire risk. A fuel modification zone would not be necessary. Therefore, the project is consistent with this implementing strategy.

Goal, Policy or Implementing Strategy	Project Consistency
Implementing Strategy 1.6: Require the irrigation and landscaping of manmade slopes, in order to prevent erosion and to soften the visual appearance of the finished slopes.	The project site when developed would remain relatively flat, with the exception of the two levees which would provide flood protection. The levees would be landscaped to prevent erosion and enhance the visual appearance of the levees. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 1.7: Encourage low intensity development adjacent to the floodplain to preserve vegetation habitats for wildlife, visual resource, and recreational opportunities, and to protect against flooding.	The proposed project includes redefinition of the 100-year floodplain to ensure development would be located outside of its boundaries. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 1.8: Within the Specific Plan Areas (SPAs) identified in the Community Plans, require specific plans to provide distinct, identifiable open space corridors through ridgelines and the San Marcos Creek floodplain and watershed.	The proposed Specific Plan is not identified in the community plan for the area. However, the project includes preserved natural open space areas as well as public parks. These open space areas would contribute toward open space corridors. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.13: Require open space preservation as a condition of project approval to preserve significant natural features.	The proposed project includes preserved natural open space areas as well as public parks. Therefore, the project is consistent with this implementing strategy.

3.2 AIR QUALITY

This section summarizes the Air Quality Impact Assessment prepared by Giroux & Associates in March 2007. The complete study is included in Appendix B of this Environmental Impact Report (EIR). It should be noted that within the impact analysis section of this chapter, the impacts for the State Route (SR) 78 hydraulic improvements are summarized separately. This analysis would be used by Caltrans specifically for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

3.2.1 Existing Conditions

This section introduces the regulatory framework and meteorology/climate for the project area. The regulatory framework discussion provides the basis for addressing the consistency of the proposed project with air quality standards. The meteorology/climate section presents the current physical setting and pollutant levels in the proximity of the proposed project.

Regulatory Framework

Ambient Air Quality Standards (AAQS)

To gauge the significance of the air quality impacts of the proposed project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards (AAQS). These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. These individuals are called "sensitive receptors." Research has shown, however, that chronic exposure to ozone at levels which just marginally meet clean air standards may nevertheless have adverse health effects. State and federal agencies, therefore, have promulgated more stringent 8-hour ozone standard that better reflect human health response to more chronic exposure.

National AAQS were established in 1971 for six pollutants. States have the option to add other pollutants, require more stringent compliance, or include different exposure periods. Because California had established state AAQS before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there are considerable differences between state and national clean air standards. Those standards currently in effect in California are shown in Table 3.2-1, Ambient Air Quality Standards. Current attainment designations for the San Diego Air Pollution Control District (SDAPCD) are presented in Table 3.2-2.

The entries in Table 3.2-1 include the most recently adopted federal standards for chronic (8-hour) ozone exposure or for ultra-small diameter particulate matter of 2.5 microns or less in diameter (called “$PM_{2.5}$”).

Table 3.2-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards [2]		
		Concentration[3]	Method[4]	Primary[3], [5]	Secondary[3], [6]	Method[7]
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—[8]	Same as Primary Standard	Ultraviolet Photometry
	8 hours	0.07 ppm (137 µg/m³)		0.08 ppm (157 µg/m³)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 ug/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 ug/m³	Gravimetric or Beta Attenuation	15 ug/m³		
Carbon Monoxide (CO)	8 hours	9 ppm (10 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 hour	20 ppm (23 mg/m³)		35 ppm (40 mg/m³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—		
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 hour	0.25 ppm (470 µg/m³)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m³)	—	Spectrophotometry (Parasaniline Method)
	24 hours	0.04 ppm (105 µg/m³)		0.14 ppm (365 µg/m³)	—	
	3 hour	—		—		
	1 hour	0.25 ppm (655 µg/m³)		—	—	—
Lead (Pb) [9]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m³	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per milometer–visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[8]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

(1) California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter-PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
(2) National standards (other than ozone, particulate matter, and those based on annual 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 ppm 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.
(3) Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
(4) Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
(5) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
(6) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
(7) 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.
(8) Prior to November 2006, the federal 1-hour standard for ozone was 0.12 ppm (235 $\mu g/m^3$).
(9) The ARB 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.

Source: California Air Resources Board (CARB) November 10, 2006 (http://www.arb.ca.gov/aqs/aaqs2.pdf)

mg/m^3 = milligrams per cubic meter
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter

Table 3.2-2. SDAPCD Current Attainment Designations

Criteria Pollutant	Federal Designation	State Designation
Ozone (one hour)	Attainment	Non-attainment
Ozone (eight hour)	Non-attainment	(no state standard)
Carbon Monoxide	Attainment	Attainment
PM_{10}	Unclassifiable	Non-attainment
$PM_{2.5}$	Attainment	(to be designated)
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified

Source: San Diego Air Pollution Control District. July 2005. http://www.sdapcd.org/info/facts/attain.pdf

City of San Marcos General Plan – Conservation Element

The Conservation Element of the City of San Marcos General Plan identifies one policy and a number of implementing strategies regarding air quality that are applicable to the proposed project:

- Policy 16: Improve and protect the air quality of the planning area.
- Implementing Strategy 16.1*:* Promote alternative forms of transportation, such as public transit, bicycles, pedestrian walkways, vanpooling, carpooling, and support the development of a light rail transit system.
- Implementing Strategy 16.3: Review proposed projects for potential negative impacts on air quality, and require appropriate mitigation measures.
- Implementing Strategy 17.3: Encourage the development and expansion of public transit facilities.

Consistency with these policies and strategies are discussed in Section 3.2.3.3.

Air Quality Management Planning

Historical violations of national AAQS in the San Diego Air Basin (SDAB), particularly those for ozone in inland foothill areas, required that a plan be developed outlining the pollution controls that were to be undertaken to improve air quality. In San Diego County, the attainment planning process is embodied in a regional air quality management plan developed jointly by SDAPCD and the San Diego Association of Governments (SANDAG). Several plans had been adopted in the late 1970s and early 1980s under the title "Regional Air Quality Strategies" (RAQS).

The California Clean Air Act (Assembly Bill [AB] 2595) mandated that a state clean air plan be developed to address meeting state standards as well as the often less-stringent federal criteria. A basin plan was therefore developed and adopted in 1991 that predicted attainment of all national standards by the end of 1997. This forecast was slightly optimistic, but not far afield from the observed attainment date beginning in 1999. Attainment planning required by AB-2595 continues to use the RAQS acronym.

No current federal 1-hour standards for ozone exist; however, prior to November 2006, the federal 1-hour standard for ozone was 0.12 ppm. A plan to meet the then-current federal 1-hour standard for ozone was developed in 1994 through an update of the 1991 State Plan. This local plan was combined with those from all other California non-attainment areas with serious (or worse) ozone problems to create the California State Implementation Plan (SIP). The SIP was adopted by the Air Resources Board (ARB) in 1994, and forwarded to the U.S. Environmental Protection Agency (EPA) for their approval. After considerable analysis and debate, particularly regarding air-sheds with the worst smog problems, EPA finally approved the SIP in mid-1996.

In current air quality plans, all progress towards attainment, including offsetting the effects of growth, is expected to derive from existing local, state, and federal rules and regulations. Any violations of federal ozone standards in the Year 2000 or beyond are forecast to occur only on days

when transport from the Los Angeles Basin creates substantially elevated baseline levels upon which any local basin impacts would be superimposed.

Attainment of federal clean air standards is presumed to occur if the standard is exceeded on an average of no more than once per year over a three-year period. The criterion was met at all air basin monitoring stations for the former federal ozone standard in 1999-2002. A re-designation request as "attainment" for the one-hour ozone standard was approved by EPA in 2003. The basin officially was re-designated on July 28, 2003. The attainment plan in the SIP was re-designated as a "maintenance plan," but the re-designation itself has little effect on continued air quality improvement efforts. The current designation of the air basin as "non-attainment" for the federal 8-hour ozone standard would require a SIP revision to outline the attainment strategy for meeting the 8-hour standard. The elements of the one-hour ozone maintenance plan would be transferred to create the SIP for the 8-hour standard.

The project relates to the RAQS and/or SIP through the land use and growth assumptions that are incorporated into the air quality planning process. If a proposed project is consistent with the City of San Marcos General Plan, then the project presumably has been anticipated within the regional air quality plan. The proposed project is located in an area zoned for residential/commercial uses based upon the current General Plan. The proposed uses (residential, commercial office, and commercial retail) have been compared to the existing General Plan to determine if the project would increase site-related travel beyond that incorporated into the regional RAQS/SIP. If the trip increase were to cause significance thresholds for vehicular emissions to be exceeded, that impact could be significant because of air quality planning inconsistency. If the increase creates a minimal change in emissions, and if a relocation or change in vehicular emissions patterns from the currently proposed project does not create any unacceptable micro-scale impacts immediately adjacent to the proposed project site, then the project would not have significant air quality impacts. Project consistency with the RAQS is discussed in Section 3.2.3.4.

Global Warming

Global warming and greenhouse gases are an emerging environmental concern being raised on statewide, national, and global levels. Global warming is not an issue that can be adequately addressed on a project-specific level; therefore, discussion of global warming is included in Section 7.0, Cumulative Effects.

Meteorology/Climate

The climate of the San Marcos area is characterized by a repetitive pattern of frequent early morning cloudiness, hazy afternoon sunshine, and clean daytime onshore breezes. Because of the distance to the ocean and intervening terrain, San Marcos has slightly greater fluctuations in temperature than locations closer to the ocean. Limited rainfall occurs in winter, while summers are often completely dry. An average of 10 inches of rain falls each year from November to early April. Atmospheric conditions create a desirable living climate, but limit the ability of the atmosphere to disperse air pollution. As identified in Table 3.2-2, SDAPCD Current Attainment Designations, many air quality standards have reached attainment status in the last decade.

The onshore winds across the coastline diminish quickly when they reach the foothill communities east of San Diego, and the sinking air within the offshore high-pressure system forms a massive temperature inversion that traps all air pollutants near the ground. The resulting horizontal and vertical stagnation, in conjunction with ample sunshine, cause a number of reactive pollutants to undergo photochemical reactions and form smog that degrades visibility and irritates tear ducts and nasal membranes. High smog levels in coastal communities occasionally occur when polluted air from the South Coast (Los Angeles) Air Basin drifts seaward and southward at night, and then blows onshore the next day. Such weather patterns are particularly frustrating because no matter what San Diego County does to achieve clean air, such interbasin transport occasionally causes unhealthy air quality over much of the County.

Baseline Air Quality

Project area air quality can best be characterized from ambient measurements made by SDAPCD, the agency responsible for air quality planning, monitoring, and enforcement in the SDAB. The SDAPCD air quality monitoring station located in Escondido is the closest station to the project area that monitors the full spectrum of air quality. Table 3.2-3 summarizes the last seven years of monitoring data from the Escondido station. Healthful air quality is seen in almost every pollution category. Prior to November 2006, the former 1-hour national ozone standard was exceeded once within the last seven years. The national 8-hour ozone standard was met for the first time in 1999, and was exceeded three times in the last five years (no more than three violations in three years is considered as attainment under federal guidelines). The more stringent State standards for ozone and the State standard for respirable particulates (PM_{10}) were also occasionally exceeded. Ozone, and to some extent particulates, are pollutants whose precursors are generated elsewhere and then carried into the local area by prevailing wind patterns. Levels of carbon monoxide or nitrogen oxides, which are more indicative of local source/receptor relationships, are seen in Table 3.2-3 to be very low in the San Marcos area.

With only one violation of the federal 1-hour ozone standard in five years from 1999-2003 in the entire region, SDAPCD initiated a request for re-designation of the basin as “attainment” for the 1-hour ozone standard, and that request was granted in 2003. The one-hour standard was rescinded in 2005 and replaced by an 8-hour standard. The 8-hour ozone standard is, however, still exceeded frequently at the Alpine air monitoring station. The basin was therefore designated as “non-attainment” for the 8-hour federal standard. However, no major change in the attainment planning process is anticipated. The attainment plan would continue to contain emissions reduction programs to achieve the 8-hour standard now that the 1-hour standard has been met.

Three violations of the federal standard for ultra-fine particulates ($PM_{2.5}$) have been recorded in seven years of reported data. With adoption of a more stringent annual state standard for $PM_{2.5}$, the area would likely be a “non-attainment” area for the state standard for $PM_{2.5}$ when designations are finalized for this pollutant. Similarly, the recent reduction of the federal 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006 would render the project area as non-attainment for the revised $PM_{2.5}$ standard.

Table 3.2-3. Air Quality Monitoring Summary(1)(2)

Pollutant/Standard	1999	2000	2001	2002	2003	2004	2005
Ozone							
1-Hour > 0.09 ppm (S)	1	6	4	2	3	2	1
1-Hour > 0.12 ppm (F)	0	0	1	0	0	0	xx(3)
8- Hour > 0.08 ppm (F)	0	3	1	0	0	2	0
Max 1-Hour Conc. (ppm)	0.104	0.124	0.141	0.100	0.105	0.099	0.095
Carbon Monoxide							
1-Hour > 20. ppm (S)	0	0	0	0	0	0	0
8- Hour > 9. ppm (S,F)	0	0	0	0	1(4)	0	0
Max 1-Hour Conc. (ppm)	9.9	9.3	8.5	8.5	12.7(4)	6.3	5.9
Max 8-Hour Conc. (ppm)	5.3	4.9	5.1	3.9	10.6(4)	3.6	3.1
Nitrogen Dioxide							
1-Hour > 0.25 ppm (S)	0	0	0	0	0	0	o
Max 1-Hour Conc. (ppm)	0.100	0.083	0.088	0.084	0.135	0.080	0.076
Respirable Particulates (PM_{10})							
24-Hour > 50 $\mu g/m^3$ (S)	0/60	2/59	2/60	0/59	5/61	1/59	0/61
24-Hour > 150 $\mu g/m^3$ (F)	0/60	0/59	0/60	0/59	1/61	0/59	0/61
Max. 24-Hour Conc. ($\mu g/m^3$)	50.	63.	72.	50.	179. (4)	58.	42
Ultra-Fine Particulates ($PM_{2.5}$)							
24-Hour > 65 $\mu g/m^3$ (F)	0/255	1/305	0/326	0/315	1/337	1/353	0/306
Max. 24-Hour Conc. ($\mu g/m^3$)	64.3	65.9	60.0	53.6	69.2	67.3	43.1

Source: San Diego Air Pollution Control District, Escondido Monitoring Station, CARB Voyager CD (2005).

Key: (S) = state standard, (F) = federal standard.
ppm = parts per million, μg/m3 = micrograms per cubic meter.

Notes:
(1) Number of days standards were exceeded and maxima for periods indicated.
(2) Entries shown as ratios = samples exceeding standard/samples taken.
(3) Hourly federal standard has been replaced by 8-hour standard.
(4) High reading due to San Diego County wildfires; not considered representative of typical air quality.

3.2.2 Thresholds of Significance

Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* specifies five evaluation criteria, listed below, in identifying potentially significant impacts. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to determine if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality

standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);

- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

For projects that create mainly combustion exhaust whose emissions require complex photochemical reactions to reach their most harmful state, there is no way to measure the impact to establish a "substantial contribution" because individual impacts would be dispersed to immeasurably dilute levels. It is the cumulative impact, however, of thousands of such small individual sources that leads to regionally degraded air quality. Various air pollution control/management agencies have therefore developed guidelines using total project emissions, instead of ambient air quality, as a 'surrogate' for determining regional impact potential.

Pursuant to Section 40002 of the California Health and Safety Code, air emissions from non-mobile sources within San Diego County are regulated by SDAPCD. As part of their air quality permitting process, SDAPCD has established thresholds for the preparation of Air Quality Impact Assessments (AQIA). SDAPCD Rule 20.2, which outlines these thresholds, states that any project which results in an emissions increase which meets or exceeds these thresholds must:

> *"demonstrate through an AQIA...that the project will not (A) cause a violation of a State or national ambient air quality standard anywhere that does not already exceed such standard, nor (B) cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded, nor (C) cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded...nor (D) prevent or interfere with the attainment or maintenance of any State or national ambient air quality standard."*

For projects whose stationary-source emissions fall below these thresholds, no AQIA is typically required, and impacts are presumed to be less than significant. In the absence of formally adopted CEQA significance thresholds for non-stationary (vehicular) sources, SDAPCD staff has suggested that these screening criteria could be used as numeric methods to demonstrate that a project's total emissions (e.g., stationary and fugitive emissions, as well as emissions from non-road mobile sources) would not significantly impact air quality. In the event that emissions exceed these thresholds, additional modeling would be required to demonstrate that the project's air quality impacts are less than significant. Since SDAPCD does not have AQIA thresholds for emissions of volatile organic compounds (VOC), several agencies use the threshold for reactive organic compounds (ROC) from the CEQA Air Quality Handbook for the South Coast Air Basin (SCAB). The screening thresholds are included in Table 3.2-4, Screening-Level Criteria for Air Quality Impacts.

For toxic air contaminants (TAC), the South Coast Air Quality Management District (SCAQMD), in its CEQA Air Quality Handbook, identifies an excess individual cancer risk of one in one million to be a minimal risk. Risk levels of up to ten in one million are considered acceptable if toxics best available control technology (T-BACT) is used. Any individual cancer risk from project-related TACs of less than one in one million would be considered a less than significant risk.

Table 3.2-4. Screening-Level Criteria for Air Quality Impacts

Pollutant	Total Emissions		
	Pounds/Hour	Pounds/Day	Tons/Year
Respirable Particulate Matter (PM_{10})	-	100	15
Oxides of Nitrogen (NO_x)	25	250	40
Oxides of Sulfur (SO_x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Components	-	3.2	0.6
Reactive Organic Compounds (ROCs)(1)	-	75	13.6(2)

Source: San Diego Air Pollution Control District Pollutant Thresholds

Notes: (1) Threshold for ROCs based on the threshold of significance for reactive organic gases from Chapter 6 of the CEQA Air Quality Handbook of the South Coast Air Quality Management District.
(2) 13.6 tons per year threshold based on 55 pounds/day times 365 days/year divided by 2000 pounds/ton.

Emissions of dusts, fumes, mists or odors that annoy any considerable number of reasonable people are considered a nuisance under the California Health & Safety Code. Project-related emissions that create a nuisance would be considered to have a significant air quality impact.

3.2.3 Analysis of Project Impacts

Air quality impacts associated with the proposed project would likely come from two potential sources. The first is related to the project construction, such as impacts related to equipment emissions and grading activities. The second is from mobile source emissions from vehicles traveling to and from the proposed project. Presented below are the analyses and findings for these two subject areas.

3.2.3.1 Project Construction

Construction of the project would occur over two phases. The first phase of the project would include the floodway improvement project, and related infrastructure and roadway improvements. The SR-78 hydraulic improvements would occur under this phase as well. Phase 2 of the project would include buildout of the Specific Plan area. Please see Table 2.3-1 for a detailed description of the project phasing.

Phase 1 Project Construction

Floodway Improvements

Construction activities related to floodway improvements include levee construction and channel improvements to increase hydraulic capacity of San Marcos Creek and prevent flooding. A Four-lane bridge creek crossings would be constructed at McMahr Road across San Marcos Creek. To construct the levees, fill material would be imported. PM_{10} emissions from fugitive dust would be a major component of the floodway improvement portion of the project.

In the absence of definitive data on silt content, soil moisture, wind speeds, etc., the "default" PM_{10} emissions data from the CARB "Area Source Emissions Inventory" were used to calculate daily PM_{10} emissions. A maximum activity day was assumed to move 2,240 cubic yards of fill, requiring 112 daily truck-loads of earth hauling.

Grading and Fill Placement	10.0 lbs/day/acre
Truck Loading/Unloading	0.031 lbs/ton

Daily PM_{10} emissions are estimated as follows:

Levee & Bridge Construction	2 acres x 10 lb/acre	=	20.0 lbs/day
Fill Loading/Dumping/Spreading	2,900 tons x 0.031 lbs/ton	=	89.9 lbs/day
Total			**= 109.9 lbs/day**

PM_{10} emissions related to the floodway improvements would exceed the 100 pound per day significance threshold. Any additional grading work, such as grading for roadway and infrastructure improvements in simultaneous conjunction with the floodway improvements, would further increase daily PM_{10} emissions above the adopted significance threshold even with implementation of all dust control best management practices. This represents a significant impact for construction activities associated with Phase 1 of the project.

Demolition Activities – PM_{10}

Demolition of existing buildings would generate dust as walls are pulled down and concrete foundations are broken up. Buildings would need to be removed during Phase 1 activities in the near-term in order to implement the floodway improvements. The PM_{10} emission factor for demolition activities is stated in the SCAQMD *CEQA Air Quality Handbook* (1993) to be 42 pounds per 100,000 cubic feet of demolition volume. For purposes of analysis, it is presumed that 25,000 cubic feet is the maximum volume of building which would be torn down and hauled away in one day. The PM_{10} dust emissions associated with demolition of 25,000 cubic feet is about 10 pounds, which is well within the threshold guideline of 100 pounds per day. However, when these emissions are considered with the other PM_{10} emissions generated during Phase 1 construction activities, a significant impact is identified. Please see Section 3.5 of the Draft EIR for a discussion of impacts related to asbestos containing materials (ACMs), lead based paint (LBP), or other harmful building materials within their structures.

Nuisance Soiling – PM_{10}

In addition to small dust particles that remain suspended in the air semi-indefinitely, construction also generates many large particles that are easily filtered by human breathing passages, but that settle out rapidly on nearby horizontal surfaces around the construction perimeter. Large-particle emissions thus comprise more of a soiling nuisance rather than any potentially unhealthful air quality impact. With west to east winds, dust soiling potential is likely greatest directly east of any development site. Good control of fine particulates also results in substantial reduction in nuisance potential from larger particulate matter. While dust deposition can be minimized, it often cannot be completely eliminated. In addition, when nuisance soiling is considered with the other PM_{10} emissions generated during Phase 1 construction activities, a significant impact is identified. Mitigation is required to reduce potential impacts to less than significant.

It should be noted that current regulatory philosophy relative to airborne particulates is that PM_{10} is not an adequate predictor of potential health impacts. It has been clearly demonstrated that the health risk lies in much smaller particulate matter with diameters of 2.5 microns or less, called "$PM_{2.5}$." National AAQS for $PM_{2.5}$ were adopted on July 17, 1997, and California adopted its own annual standard on June 20, 2002. Research has shown that mechanical abrasion processes such as clearing or grading of soil contribute little to the area $PM_{2.5}$ burden. Soil dust is more chemically benign than typical urban atmospheric $PM_{2.5}$. The quantity of the $PM_{2.5}$ is low within the fugitive dust generated during grading and construction activities. Project-related construction activities would therefore not adversely impact $PM_{2.5}$ exposure in the San Marcos area, and a less than significant $PM_{2.5}$ impact is identified.

Construction-Related Equipment Emissions

Off-site equipment to extract fill material and load the trucks was assumed to use a rubber-tired dozer and a rubber-tired loader. At the unloading end, the material was assumed to be pushed by a dozer and compacted with a compactor. A water truck would provide dust suppression at both travel ends. A 30-mile round trip distance to obtain clean fill material was assumed. On-road exhaust emissions would derive from the hauling of 112 loads of 20 cubic yards each, or 3,360 truck miles per day. An additional 640 miles of trucking was assumed for building materials for bridge construction.

Peak daily air pollution emissions were calculated by combining emission factors from the SCAQMD construction emissions web site (off-road), and the EMFAC2002 computer model (on-road), and comparing the resulting emissions to the applicable SDAPCD stationary source-based significance thresholds.

Peak off-site[1] daily project related construction emissions, shown in Table 3.2-5, would be below the adopted significance threshold for all pollutants, except PM_{10}. However, on- and off-site combined activities may cause a substantial level of temporary PM_{10} emissions above the adopted significance thresholds as shown in Table 3.2-6 even with the application of all dust control best management practices as identified in Table 3.2-14. NO_x emissions due to floodway improvements combined with other project grading activities may slightly exceed the threshold if a substantial equipment fleet is operating simultaneously. Therefore, a significant impact related to NO_x emissions is identified. Mitigation is required to reduce NO_x emissions; however, emissions will still exceed the threshold.

Toxic Air Contaminants

Multi-family (high-density) residential, commercial office, and commercial retail uses proposed under the San Marcos Creek Specific Plan would create minimal toxic air contaminants (TACs), dusts, fumes, mists, etc. not previously considered. Any impact potential from project implementation thus derives primarily from mobile source emissions. Issues with diesel exhaust as a major source of TAC emissions would occur predominantly during construction. Although the land uses associated with the proposed project may result in a minimal amount of diesel-emitting delivery truck traffic to and from the project site, the TAC emissions would be substantially less when compared to the construction phase. A TAC analysis is conducted during the construction phase as a worst-case scenario.

[1] Off-site emissions result from truck trips generated during project construction.

Table 3.2-5. Maximum Construction-Related Equipment Emissions (Off-site) (Phase 1)

Construction Sources	Emissions (lb/day)				
	CO	NO_x	PM_{10}	SO_x	ROG
Dozers – 6 hours	6.6	17.5	0.7	2.7	1.3
Loader – 4 hours	1.7	4.7	0.3	0.9	0.4
Compactor – 2 hours	1.4	14.0	0.2	0.6	0.4
Water trucks - 10 hours	1.7	0.3	<0.1	<0.1	0.2
Total Equipment	11.4	36.5	1.2	4.2	2.3
Employee Commute – 5,000 mi.	7.0	0.7	<0.1	<0.1	0.7
Fugitive Dust - 2 acres + Fill loading/dumping/spreading	-	-	109.9	-	-
Haul Trucks – 2,250 mi.	89.4	117.8	3.2	-	10.3
Project Total	107.8	155.0	114.3	4.2	13.3
Significance Threshold	550.	250.	100.	250.	55.
Impact?	No	No	Yes	No	No

Source: SCAQMD Web Site (CEQA) for off-road equipment, California ARB MVE17G for on-road sources.
Note: Off-site emissions result from truck trips generated during project construction.

Table 3.2-6. Maximum Construction-Related Equipment Emissions (On- and Off-site) (Phase 1)

Emissions Sources	Emissions (lb/day)				
	CO	NO_x	PM_{10}	SO_x	ROG
On-Site Equipment (9 acres)	21.1	96.5	3.2	6.8	6.5
On-Site Fugitive Dust (9 acres)	---	---	90.0	---	---
On-Site Painting & Coatings	---	---	---	---	--
Off-Site Equipment Exhaust	11.4	36.5	1.2	4.2	2.3
Off-Site Haul & Commute	96.4	118.5	3.2	---	11.0
Off-Site Fugitive Dust	---	---	109.9	---	---
Combined Total	128.9	251.5	207.5	11.0	19.8
Significance Threshold	550.	250.	100.	250.	55.
Impact?	No	Yes	Yes	No	No

Note: Off-site emissions result from truck trips generated during project construction.

Table 3.2-6 shows that combined on- and off-site construction activity sources may generate 7.6 pounds per day of diesel particulate matter (DPM) from on-road trucks and off-road equipment. This includes 3.2 lb/day for on-site equipment, 3.2 lb/day for off-site haul and commute, and 1.2 lb/day for off-site equipment exhaust. The truck exhaust emissions would be dispersed throughout the region with only a fraction of that total released locally during dumping of fill or delivery of construction materials. Import of fill is presumed to last approximately one year. Once the major trucking activity subsides, and as off-road equipment becomes progressively cleaner in

response to statewide emissions reductions during future construction phases, localized exposure risk would diminish.

The excess cancer risk from exposure to construction activity diesel exhaust was calculated for the closest residences to the project site using a dispersion screening computer program called SCREEN3. If the risk screening analysis shows no potential for a significant impact (individual cancer risk exceeding 10 in one million), no detailed health risk assessment (HRA) with more refined computer modeling is necessary.

Daily DPM emissions resulting from construction equipment exhaust were assumed to derive from the following sources:

On-Site Heavy Equipment	3.2 lb/day
Off-Site Heavy Equipment	1.2 lb/day
On-Road Trucks (10% of total)	0.3 lb/day
Total	**4.7 lb/day**

Emissions of 4.7 pounds per day, spread out over the entire project size, for one year of intense filling activity, are calculated as follows:

TAC Emissions Rate	0.21 μg/square meter/second
Peak one-hour TAC exposure (SCREEN3)	9.0 μg/cubic meter
Peak annual TAC exposure (10% of Hourly)	0.9 μg/cubic meter
70-Year lifetime exposure risk (AnnualX0.0003)	270 in a million
Risk from one year of intensive fill (Risk/70)	3.86 in a million

The adopted significance threshold for DPM exposure excess cancer risk is 10 in one million for diesel-fueled equipment. The screening level risk calculation is therefore less than significant. The calculation further does not take into account the recommendation that preference to grading and fill placement contractors be given to those who have operational soot traps on their diesel exhausts, as identified in Table 3.2-14. With this additional measure, the maximum screening level risk would further decrease. Off-site public exposure to diesel exhaust would not create any significant excess cancer risk beyond the 300,000 in one million that is the probability of developing a serious form of cancer in one's lifetime in the United States. Impacts due to TAC are less than significant.

Dirt Tracking/Spill Over

Construction activities are most noticeable in the immediate vicinity of the construction site. There is, however, some potential for "spill-over" into the surrounding community. Spillage may be physical, such as dirt tracked onto public streets or dropped from trucks. Spill-over may also be through congestion effects where detours, lane closures, or construction vehicle competition with non-project peak hour traffic slows traffic beyond the immediate construction site to less pollution-efficient travel speeds. Without adherence to mitigation measures, impacts due to dirt tracking/spill over would be significant.

In summary, during Phase 1 of the project, impacts would be significant for NOx and PM_{10} emissions, as identified in Table 3.2-7.

Table 3.2-7. Total Construction-Related Emissions – Phase 1

Construction Sources	Emissions (lb/day)				
	CO	NO_x	PM_{10}	SO_x	ROG
Floodway Improvements	--	--	109.9	--	--
Demolition Activities	--	--	10	--	--
Equipment Emissions	128.9	251.5	207.5	11.0	19.8
Total	128.9	251.5	327.4	11.0	19.8
Significance Threshold	550	250	100	250	55
Significant Impact?	No	Yes	Yes	No	No

Note: This table represents the combined construction-related emissions as identified in the preceding sections.

SR-78 Hydraulic Improvements

The analysis of construction-related air quality impact for Phase 1 considered the SR-78 hydraulic improvements project. However, to facilitate Caltrans' use of the EIR for issuance of an encroachment permit, a separate discussion is provided below focusing on the SR-78 improvements within the Caltrans ROW.

The SR-78 hydraulic improvements could generate air emissions from construction equipment as well as from minor earthwork activities. Due to the small size of the SR-78 hydraulic improvements area (approximately 3.5 acre), excessive emissions from construction equipment at a significant level is not expected. Additionally, compared to the 110.54 acres that would be impacted during Phase 1, the SR-78 roadway improvements represent approximately three percent of the overall project disturbance area. Even if the 3.5 acres were simultaneously graded at once, the project PM_{10} emission, with use of BACMs would be 50 lbs/day, which is only half of the threshold of 100 lbs/day. Therefore, a less than significant impact due to construction of the SR-78 hydraulic improvements is identified.

Phase 2 Project Construction

Specific Plan Area Grading

Dust is normally the primary concern during construction of new buildings and infrastructure. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Average daily PM_{10} emissions during site grading and other disturbance are stated in the SCAQMD for projects in southern California *CEQA Handbook* to be 26.4 pounds per acre. Enhanced dust control procedures such as continual soil wetting, use of supplemental binders, early paving, etc. can achieve a higher PM_{10} control efficiency. Use of such best available control measures (BACMs) can reduce PM_{10} emissions to around 10.0 pounds per day per acre disturbed.

The proposed Specific Plan project is expected to build out over the course of 20 years. Therefore, the entire site would not be under simultaneous disturbance. Since specific information on projects that would come forward within the Specific Plan area, as well as the grading acreage is unknown, disturbance "footprints" have been calculated and are presented in Table 3.2-8. For an assumed

20-year buildout for the Specific Plan area, the average annual rate of surface disturbance would be approximately 8.6 acres per year, plus any disturbance to stabilize proposed open space areas.

Table 3.2-8. Disturbance Footprints and Dust Control – Phase 2

Disturbance Footprint (acres)	Standard Dust Control (pounds per day)	Enhanced Dust Control (BACM) (pounds per day)
2	53.	20.
5	132.*	50.
6	158.*	60.
7	185.*	70.
9	238.*	90.
10	264.*	100.*
11	290.*	110.*

Note: *Meets or exceeds significance thresholds of 100 pounds per day.

As shown in Table 3.2-8, with usage of required BACMs, daily footprint areas of less than 10 acres may be under simultaneous disturbance each day without exceeding the significance thresholds. In the event that grading operations exceed 10 acres per day during Phase 2 construction activities, significant PM_{10} impacts would occur.

Demolition Activities – PM_{10}

As identified above, demolition of existing buildings would generate dust as walls are pulled down and concrete foundations are broken up. Buildings would be removed within the Specific Plan area as that portion of the project site redevelops. Similar to Phase 1 impacts, it is presumed that 25,000 cubic feet is the maximum volume of building which would be torn down and hauled away in one day. The PM_{10} dust emissions associated with demolition of 25,000 cubic feet is about 10 pounds, which is well below the threshold guideline of 100 pounds per day. However, when these emissions are considered with the other PM_{10} emissions generated during Phase 2 construction activities, a significant impact is identified. Please see Section 3.5 of the Draft EIR for a discussion of impacts related to asbestos containing materials (ACMs), lead based paint (LBP), or other harmful building materials within their structures.

Nuisance Soiling – PM_{10}

Similar to Phase 1 impacts, while dust deposition can be minimized, it often cannot be completely eliminated. In addition, when nuisance soiling is considered with the other PM_{10} emissions generated during Phase 2 construction activities, a significant impact is identified and mitigation is required to reduce potential impacts to less than significant. Project-related construction activities would not adversely impact $PM_{2.5}$ exposure in the San Marcos area; however, as the quantity of the $PM_{2.5}$ is low within the fugitive dust generated during grading and construction activities.

Construction-Related Equipment Emissions

Project construction would also require heavy equipment operations to prepare the ground, excavate for utilities and services, and to construct buildings. The average commercial development in California requires 250,000 brake horsepower hours (BHP-HR) of equipment operations. For purposes of analysis, a 10-and 20-acre parcel were analyzed for heavy equipment operations emissions. For a 10- or 20-acre per year disturbance area and 200 days of construction per individual site, the average daily construction equipment emissions, relative to daily significance thresholds are as follows (pounds/day):

Table 3.2-9. Predicted Construction Equipment Daily Emissions – Phase 2

Pollutant	Daily Emissions		Screening Guidelines (Threshold)	Percent of Threshold		Significant Impact?	
	Assumed 10-Acre Project	Assumed 20-Acre Project		Assumed 10-Acre Project	Assumed 20-Acre Project	Assumed 10-Acre Project	Assumed 20-Acre Project
CO	23.6	47.2	550	4.2	8.6	No	No
ROG	7.2	14.4	55	13.1	26.2	No	No
NO_x	107.2	214.4	250	42.9	85.8	No	No
SO_x	7.6	15.2	250	3.0	6.1	No	No
PM_{10}	3.6	7.2	100	3.6	7.2	No	No

Source: SCAQMD CEQA Handbook (1993); Table A9-3-A 6,250 BHP-HR/day average equipment utilization.

As shown above, daily equipment exhaust emissions for even a 20-acre parcel are all well below significance threshold levels. As with the dust emissions, the non-attainment status of the air basin, plus the possible proximity of adjacent residential uses to individual sites, requires that best available control measures (BACMs) for heavy equipment exhaust be implemented even if significance thresholds are not exceeded. A menu of BACMs is included in Table 3.2-14.

Construction activities use diesel-fueled equipment that emits diesel particulate matter (DPM) in its exhaust. DPM is a known carcinogen. Individual cancer risk at any off-site receptor is calculated by assuming that a person sits continuously outside of their home for the next 70 years while breathing exhaust pollutants. The excess cancer risk from construction activities due to DPM is typically less than significant because: (1) construction activities last only a few months out of the 70-year risk "window;" (2) many people are gone during the daytime when equipment is operating, and do not remain outside their home continuously when they are home; (3) emissions standards for new construction equipment require soot filters that would make the equipment fleet for future major construction activities much cleaner than the current fleet; and (4) construction activities would occur throughout the next two decades, such that the equipment fleet is expected to become progressively cleaner in response to mandates that DPM emissions be substantially reduced over the project build-out timeframe.

DPM exposure could be of concern in the City of San Marcos because residents living near freeways may have double the cancer risk due to DPM than the public at large (a cancer risk of 0.002 near the freeway versus 0.001). Short-term diesel exhaust from phased on-site construction activities, however, would not substantially exacerbate that risk. Any sharply elevated risk would be temporary early during the construction process when as many as 32,500 loads of fill would need to be imported

for floodway improvements. Temporary DPM risk is evaluated above with regard to TAC. Therefore, a less than significant impact is identified for this issue area.

Architectural Coatings

Future buildings located within the Specific Plan area would be subject to finish work, such as exterior painting. The application of architectural coatings would create ROG emissions. The VOC content of APCD-compliant low-VOC paint is about 0.8 pounds per gallon. Since the exact size of the buildings, and the potential phasing of construction, is not known at this time, it cannot be determined what the potential ROG emissions associated with development would be at less than significant levels. The stringency of the significance threshold suggests that ROG emissions may be temporarily exceeded even with the use of all available mitigation as identified in Section 3.2.4 (low-VOC coatings and high transfer efficiency application). Therefore, a potentially significant impact is identified.

Dirt Tracking/Spill Over

As for Phase 1 impacts, there is some potential for "spill-over" into the surrounding community. Such off-site effects are controllable through good housekeeping and proper construction management/scheduling. Management techniques (BACMs) are suggested in the mitigation discussion to reduce potential spill-over impacts resulting from Phase 2 construction.

In summary, impacts for PM_{10} and ROG emissions would be significant during Phase 2 construction, as identified in Table 3.2-10.

Table 3.2-10. Total Construction-Related Emissions – Phase 2 (lbs/day)

Construction Sources	Emissions (lb/day)				
	CO	NO_x	PM_{10}	SO_x	ROG
Specific Plan Area Grading (assuming 10 acres and BACMs)	--	--	100	--	--
Demolition Activities	--	--	10	--	--
Equipment Emissions (assuming 10 acres)	23.6	107.2	3.6	7.6	7.2
Architectural Coatings	--	--	--	--	Unquantified
Total	23.6	107.2	113.6	7.6	7.2*
Significance Threshold	550	250	100	250	55
Impact?	No	No	Yes	No	Yes*

Note: This table represents the combined construction-related emissions identified in the preceding sections.
* A potentially significant impact to ROG is identified as potential ROG emissions associated with development cannot be determined. Construction-related ROG emissions may be greater than 7.2 pounds per day, therefore this is identified as a potentially significant impact.

3.2.3.2 Project Operation

Mobile source emissions from the San Marcos Specific Plan project-related traffic were calculated using the URBEMIS2002 computer model. Data for the existing General Plan and for the proposed project were input into the computer model. In order to determine what emissions impacts might occur from the proposed project, the current General Plan land use emissions were subtracted from the proposed project emissions. The emissions for these scenarios are shown separately by scenario

in Table 3.2-11 and are compared to the recommended significance thresholds. The "area" source emissions (household products, gas, water-heaters, maintenance, etc.) have been separately shown from the mobile source emissions.

Table 3.2-11. Project-Related Vehicular Emissions (pounds/day)

	ROG	NO_x	CO	PM_{10}	SO_x
Scenario A- Existing General Plan					
Area Sources(1)	58.3	10.0	6.6	0.0	0.0
Mobile Sources	157.7	176.3	2,000.4	1,029.0	5.9
Total	216.0	186.3	2,007.0	1,029.0	5.9
Significance Threshold	75	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	288	75	365	1,029	<1.
Scenario B - Proposed Project					
Area Sources(1)	100.4	29.1	14.4	0.1	0.0
Mobile Sources	184.9	197.5	2,247.9	1,153.9	6.6
Total	285.3	226.6	2,262.3	1,154.0	6.6
Significance Threshold	75	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	380	91	411	1,154	<1.
Scenario C (Change Between Scenarios A and B)					
Emissions Increase (Proposed Project Minus Existing General Plan Emissions)					
Area Sources(1)	42.1	19.1	7.8	0.1	0.0
Mobile Sources	27.2	21.2	247.5	124.9	0.7
Total	69.3	40.3	255.3	125	0.7

Note: (1) Household products, landscape maintenance, water heaters, etc. It is possible that potential future stationary sources such as a dry cleaner or gas station could be located on the project site. Should these uses exist, additional air quality analysis would be required.

As shown in Scenario B on Table 3.2-11, buildout of the project would exceed the thresholds for ROG, CO and PM_{10}. This represents a significant air quality impact due to vehicular emissions. These exceedances would also be expected with buildout of the project area in a manner that is consistent with the current designations in the General Plan (as shown in Scenario A).

Scenario C of Table 3.2-11 compares the emissions associated with buildout of the Specific Plan with that of the General Plan for the project area. Buildout of the project would result in greater emissions than those that would occur with buildout of the project area under the General Plan.

It should be noted that the Specific Plan incorporates several features which would enhance and encourage non-vehicular trips. This includes the provision of a pedestrian trail network as well as a system of bicycle lanes. Additionally, a shuttle is proposed within the Specific Plan area that would connect to other central locations within the city, including the SPRINTER station. Transit stops for the North County Transit District bus system would also be located in the project area. The provision

of these features would work to reduce some of the vehicular trips and associated emissions; however, impacts would still be significant.

CO Hot Spot Modeling

While regional mobile source emissions do not have a direct impact on local San Marcos area air quality, the incremental addition of growth-related traffic over a wide area may change micro-scale air quality distributions. To determine whether future traffic changes would create an adverse air quality impact, a micro-scale air quality analysis was performed for the traffic analysis grid around the project area. A Caltrans screening procedure based on the California line source roadway dispersion model CALINE4 was run for three traffic scenarios (Existing Year, Current General Plan, and Proposed Specific Plan) to evaluate any changes due to changes in patterns of anticipated growth.

The model combines the results of the traffic analysis with very restrictive dispersion conditions to generate a worst-case impact assessment. Carbon monoxide (CO) was used as an indicator of any "hot spot" potential because CO, unlike regional pollutants such as ozone, is directly related to source activity immediately adjacent to the receptor (a primary, unreacted pollutant impact). Calculations were made for both AM and PM Peak Hour exposure in the immediate vicinity of roadway intersections where the LOS equaled "D" or worse.

The results of the micro-scale impact analysis are summarized in Table 3.2-12. With current CO background levels of 5.9 ppm (Table 3.2-3, Year 2005) it would take a local contribution of approximately 14.1 ppm to threaten or exceed the one-hour California CO standard of 20 ppm. As shown, the greatest project-related CO increase occurs during the "Existing Year" conditions at the intersection of San Marcos Boulevard/Pacific Avenue (PM Peak Hour). With an increase of +2.0 ppm, CO levels are raised to 7.9 ppm. All other existing condition intersections experience project-related increases of less than 2.0 ppm.

As seen in Table 3.2-12, Proposed Minus Current (Column D), there is no CO emissions increase associated with implementation of the proposed project. Therefore, project-related CO micro-scale impacts are less than significant.

Odors

The project does not propose any uses that would create objectionable odors. Residential, commercial, and office uses are not typically characterized as uses that create an objectionable odor. Therefore, no impact is identified for this issue area.

SR-78 Hydraulic Improvements

Operational emissions due to the SR-78 hydraulic improvements are not expected. The same number of freeway lanes and access would be maintained during and after the SR-78 improvements. Therefore, no increase in emissions due to vehicular trips is identified, and no impact is identified.

Table 3.2-12. Project-Related One-Hour CO Concentrations (ppm)

	Column A	Column B	Column C	Column D
	Existing Year(1)	Current General Plan(1)	Proposed Specific Plan(1)	Proposed Specific Plan Less the Current General Plan
AM Peak Hour Intersection				
San Marcos Boulevard at:				
Pacific Avenue	1.6	-	-	-
Las Posas Road	-	0.4	0.4	0.0
PM Peak Hour Intersection				
San Marcos Boulevard at:				
Rancho Santa Fe	-	0.4	0.4	0.0
Grand Avenue	-	-	0.5	-
Pacific Avenue	2.0	-	-	-
Discovery Street at:				
Via Vera Cruz	0.9	-	-	-

Note: (1) Add 5.9 ppm (background).

3.2.3.3 General Plan Consistency

The project's consistency with the applicable General Plan Goals and Policies is presented in Table 3.2-13. As shown, the project is consistent with the applicable goals, policies and implementing strategies.

3.2.3.4 RAQS Consistency

As identified in Section 3.2.1, the project is related to the RAQS and/or SIP through the land use and growth assumptions that are incorporated into the air quality planning process. While the proposed project is consistent with all applicable General Plan goals and policies, the project is not consistent with the General Plan growth assumptions as a General Plan Amendment is required. In addition, according to Section 3.10, Transportation and Traffic, implementation of the proposed project would result in a net increase of 9,792 daily trips, with 1,177 additional AM peak hour trips and 1,087 additional PM peak hour trips over planned-for General Plan buildout conditions. However, this increase represents only 11 percent additional daily trips. This impact, while incrementally adverse, does not constitute a significant impact and represents a minimal change in projected air emissions. Moreover, implementation of the proposed project includes additional streets in the roadway network, which results in lower traffic volumes for some of the roadway segments and turning movements as the traffic model assumes some traffic would divert onto the new streets. Therefore, implementation of the proposed project would not create any unacceptable micro-scale impacts immediately adjacent to the project site. Impacts are less than significant.

Table 3.2-13. Project Consistency with Applicable Air Quality Goals and Policies (San Marcos General Plan)

Policy or Implementing Strategy	Project Consistency
Policy 16: Improve and protect the air quality of the planning area.	As identified, project buildout would be significant under the existing General Plan designations or with development of the project. However, the project has been designed as a mixed-use development, thereby creating a synergy between land uses, resulting in improved air emissions compared to the equivalent land uses distributed in a traditional pattern. Further, the project includes design features which enhance alternative transportation modes, including bicycle and pedestrian facilities as well as an intracity shuttle. Therefore, implementation of the proposed project would not inhibit the City's protection of the air quality of the planning area. Therefore, the project is consistent with this policy.
Implementing Strategy 16.1: Promote alternative forms of transportation, such as public transit, bicycles, pedestrian walkways, vanpooling, carpooling, and support the development of a light rail transit system.	The project proposes a pedestrian trail system and bicycle facilities as well as an intracity shuttle as part of project design. These alternative transportation facilities would be implemented with the goal of protecting air quality within the project area. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 16.3: Review proposed projects for potential negative impacts on air quality, and require appropriate mitigation measures.	This analysis identifies the potential for the proposed project to impact air quality and provides mitigation measures in Section 3.2.4 to reduce these impacts. The project would implement all BACMs. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 17.3: Encourage the development and expansion of public transit facilities.	The project proposes enhanced transit service to the project area and the greater City through provision of an intracity shuttle. Therefore, the project is consistent with this implementing strategy.

3.2.4 Mitigation Measures

Construction-Related PM_{10} Emissions (Phases 1 and 2)

MM 3.2-1 The total disturbance acreage during demolition or new construction involving surface disturbance (clearing, excavation or grading) shall not exceed 10 acres per day.

MM 3.2-2 In addition to mandatory compliance with SCAQMD Rule 403, surface disturbance shall occur only in conjunction with the use of best available control measures (BACMs), including, but not limited to, those presented in Table 3.2-14, BACM Requirements for Proposed Project.

Table 3.2-14. BACM Requirements for Proposed Project

Construction Activity	Control Measures
Earthmoving	• Conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction. • Cease all active operations when winds exceed 25 miles per hour (MPH).
Disturbed Areas (Active)	• Apply dust suppression to maintain a stabilized surface. Water at least twice per day if there is any evidence of wind-driven fugitive dust. • Increase watering frequency to four times per day if winds exceed 25 MPH.
Inactive Areas (Previously Disturbed)	• Apply water at least once per day. • Increase watering if winds exceed 25 MPH.
Unpaved Roads	• Water all roads and restrict vehicle speeds to 15 MPH. • Stop all vehicular traffic if winds exceed 25 MPH.
Open Storage Piles	• Apply water on a daily basis. • Install temporary coverings, or water at least twice per day if winds exceed 25 MPH.
Trackout Control	• Prevent or remove within an hour any trackout of bulk material onto public paved roadways as a result of off-pavement operations.
Equipment Exhaust	• Give preference to grading contractors who provide exhaust soot filters on the majority of their diesel-fueled off-road equipment. • Require tune-ups for all off-road diesel-fueled equipment operating on-site for more than 90 days to reduce NO_x and smoke emissions from optimum ignition timing.
Paints and Coatings	• Require use of interior flat-stock coatings not to exceed 100 grams of VOC per liter. • Require use of high pressure, low velocity spray equipment to maximize transfer efficiency.

Construction-Related NO_x Emissions (Phase 1)

MM 3.2-3 Maintain equipment in tune as per manufacturers' specifications.

MM 3.2-4 Utilize catalytic converters on gasoline-powered equipment.

MM 3.2-5 The project applicants shall designate an on-site Air Quality Construction Mitigation Manager (AQCMM) who shall be responsible for directing the BACM compliance with mitigation measures for project construction.

MM 3.2-6 All diesel-fueled engines used in the construction of the project shall use ultra-low sulfur diesel fuel, which contains no more than 15 ppm sulfur or alternative fuels (e.g., reformulated fuels, emulsified fuels, compressed natural gas, or power with electrification). Low-sulfur diesel fuel (500 ppm sulfur content) shall be used only if evidence is obtained and maintained from the fuel supplier(s) that ultra-low sulfur diesel fuel is infeasible.

MM 3.2-7 All construction diesel engines that have a rating of 50 horsepower (hp) or more shall meet, at a minimum, the Tier 2 California Emission Standards for Off-road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, Section 2426(b)(1) unless certified by the on-site AQCMM that such an engine is not available for a particular item of equipment. In the event that a Tier 2 engine is not available for

any off-road engine larger than 50 hp, that engine shall be a Tier 1 engine. If a Tier 1 engine is not available for any off-road engine larger than 50 hp, then that engine shall be a 1996 or newer engine. The AQCMM may grant relief from this requirement for an engine if compliance with this requirement is infeasible. All diesel-fueled engines used in the construction of the project shall have clearly visible tags issued by the AQCMM showing that the engine meets this requirement.

MM 3.2-8 Idling time shall be minimized to 5 minutes when construction equipment is not in use, unless more time is required per engine manufacturer's specifications or for safety reasons.

Construction-Related ROG Emissions (Phase 2)

MM 3.2-9 Future development within the Specific Plan area shall use low-VOC paints and efficient transfer systems.

MM 3.2-10 Future architectural coatings shall adhere to the requirements of SDAPCD Rule 67 (Architectural Coatings).

MM 3.2-11 Finish work that includes architectural coatings shall be limited to 25,000 square feet per day. This requirement shall be included as a note on all improvement plans for development within the Specific Plan area.

Vehicular Emissions (NO_x, PM_{10} and ROG) (Phase 2)

In addition to providing alternative transportation facilities on-site which is planned as part of project design, the project shall incorporate the following mitigation measure to reduce operational-related emissions of NO_x, PM_{10}, and ROG:

MM 3.2-12 Prior to issuance of building permits, the applicant shall submit a transportation management plan and provide evidence, to the satisfaction of the City, that indicates compliance with the following measures outlined in the transportation management plan:

- Provide preferential parking for carpool/vanpool vehicles;
- Provide secure and conveniently located bicycle parking and storage for workers and patrons; and
- Provide preferential parking for hybrid and alternative fuel vehicles.

In addition, the following measure shall be included within the transportation management plan with specific criteria and standards to be reviewed and approved by the City:

- Use energy-efficient lighting and process systems, such as low-NO_x water heaters, furnaces, and boiler units.

3.2.5 Conclusion

Construction of both Phase 1 and Phase 2 of the project would result in significant PM_{10} and NO_x emissions. Mitigation measures have been identified to reduce the PM_{10} impact resulting from floodway improvements, demolition activities, Specific Plan area grading, nuisance soiling, and construction-related equipment emissions. These measures include limiting the amount of grading that can occur within a given day and also requiring the use of best available control measures. However, even with implementation of all mitigation measures, project-related construction impacts to PM_{10} emissions are still significant. Similarly, mitigation measures have also been identified for the construction-related NO_x emissions; however, these measures would not reduce the impact to below a level of significance. Therefore, the project will have significant and unavoidable construction impacts.

Future development within the Specific Plan area would require the use of architectural coatings for building finish work. Depending on the amount of painting that occurs at a time, there is a potential for significant ROG impacts. Mitigation measures have been identified to reduce this impact to below a level of significance. Finally, vehicular emissions associated with future project traffic results in significant NO_x, PM_{10}, and ROG impacts. While the project does incorporate pedestrian and bicycle facilities as well as an intra-city shuttle as part of project design to encourage alternative transportation modes in addition to mitigation measures which would reduce operational emissions, emissions would not be reduced to below a level of significance. Therefore, the project results in a significant and unmitigated air quality impact.

3.3 BIOLOGICAL RESOURCES

This section summarizes the Biological Resources Technical Report (2007) prepared by Dudek & Associates. The complete study is included in Appendix C of the Environmental Impact Report (EIR). It should be noted that within the environmental setting and impact analysis section of this chapter, the setting and impacts for the State Route (SR) 78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the EIR for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

3.3.1 Existing Conditions

3.3.1.1 Regulatory Context

The following is a description of federal, state, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

Federal Regulations

The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA prohibits the "take" of endangered or threatened wildlife species. "Take" is defined as harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species, or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Taking can result in civil or criminal penalties.

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

The U.S. Army Corps of Engineers (USACE) regulates discharge of dredged or fill material into Waters of the United States under Section 404 of the Clean Water Act (CWA). "Discharge of fill material" is defined as the addition of fill material into Waters of the U.S., including but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2(f)). In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the United States to obtain a certification that the discharge would comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and

duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 C.F.R. §328.3(b)).

Furthermore, Jurisdictional Waters of the U.S. can be defined as those exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the USACE as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 C.F.R. §328.3(e)).

State Regulations

The State of California enacted the California Endangered Species Act (CESA) in 1984. The CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents to ensure that the state lead agency actions do not jeopardize the existence of listed species. CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify "reasonable and prudent alternatives" to the project consistent with conserving the species.

CDFG may authorize taking of a state-listed endangered or threatened species if an approved habitat management plan or management agreement that avoids compensation for possible jeopardy is implemented.

Plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of "Species of Special Concern" developed by the CDFG. CDFG tracks species in California whose numbers, reproductive success, or habitat may be threatened.

The Natural Communities Conservation Planning (NCCP) Act program takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The program, which began in 1991 under the California Natural Community Conservation Planning Act, is broader in its orientation and objectives than CESA and FESA. CESA and FESA laws are designed to identify and protect individual species that are already listed as threatened or endangered. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. As explained in Section 3.3.1.6 in detail, the project site lies within the proposed San Marcos Subarea Plan of the North County Multiple Habitat Conservation Plan (MHCP).

San Marcos General Plan – Conservation Element

In addition to federal and state regulations, the City of San Marcos General Plan, Conservation Element identifies the following goals, objectives, and policies to provide further protection to biological resources within the City's limits:

- Goal 1: To preserve the natural resources of the planning area, including dominant landforms, plant and animal habitats, and water courses.

- Policy 3: Preserve and enhance significant biological resources for the protection of rare and endangered species and for the maintenance of sensitive habitats.
- Implementing Strategy 3.1: Prior to development approval, require a biological assessment performed by a qualified biologist in sensitive habitat and areas where the rare and endangered species are known or reasonably estimated to be present.
- Implementing Strategy 3.2: Require a biological survey for development proposed near or adjacent to riparian and wetland habitats.
- Implementing Strategy 3.3: Prohibit tree poaching, the needless removal/destruction of mature oaks and sycamores, and the unlawful hunting of wildlife.
- Implementing Strategy 3.5: Require buffers or setbacks to prevent adverse impacts to riparian and wetland habitats.
- Implementing Strategy 3.6: Conserve plant communities by integrating them into the project design where feasible, and/or implement techniques such as transplanting, seed gathering, and reseeding.
- Implementing Strategy 3.7: Preserve sensitive plant species wherever feasible, using transplanting only as a last resort.
- Implementing Strategy 3.8: Integrate large tree stands of oaks, sycamores, willows, and/or cottonwoods into project design, where feasible. Where removal cannot be avoided, mature (36”-48”) specimen trees at a 1:1 ratio shall be provided as part of the final landscape plan.
- Implementing Strategy 3.9: Require new development to preserve and set aside identified, native southern California grassland habitat as a native preserve.
- Implementing Strategy 3.10: Require specific plans for Specific Plan Areas to minimize impacts on biological resources by using methods such as transferring densities and clustering development.
- Implementing Strategy 3.11: Consult the California Department of Fish and Game and the Habitat Conservation Plan (HCP) prior to the development of any areas determined to support populations of black-tailed gnatcatchers. Where feasible, the known habitat of this species shall be preserved. However, in cases where habitat is either highly localized, isolated from other larger blocks of habitat, or marginal as determined by low population densities, off-site mitigation shall be considered. In particular, the assemblage or enhancement of habitat areas shall be considered for greater mitigation effectiveness.
- Implementing Strategy 3.12: Require open space preservation as a condition of project approval where feasible and effective to preserve rare or unique plants and wildlife.
- Implementing Strategy 3.13: Require open space preservation as a condition of project approval to preserve significant natural features.
- Implementing Strategy 3.14: Require open space preservation as a condition of project approval to preserve significant historical and archaeological sites.
- Implementing Strategy 3.15: Require the designation of open space within proposed development projects in sensitive or significant natural areas.

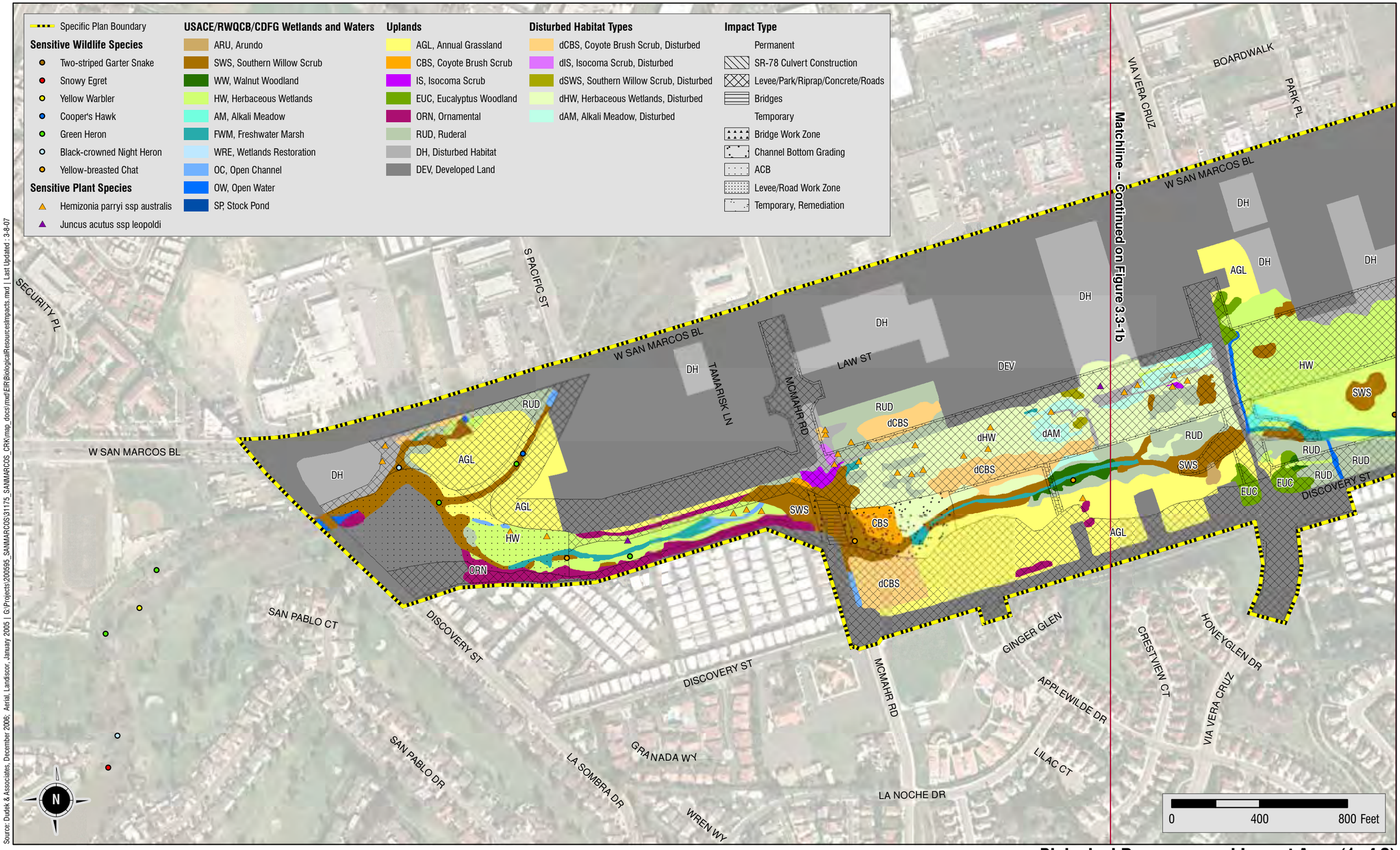
3.3.1.2 Botanical Resources

Twenty-three vegetation communities and land covers were identified within the study area. Table 3.3-1 summarizes the habitat types and land cover in the project area. These habitat types are depicted on Figures 3.3-1a and 3.3-1b.

Table 3.3-1. Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover Type	Acreage
Native Upland Communities/Land Covers	
Coyote Brush Scrub	0.64
Disturbed Coyote Brush Scrub	4.57
Isocoma Scrub	0.28
Disturbed Isocoma Scrub	0.09
Subtotal	*5.58*
Non-Native Upland Communities/Land Covers	
Developed Land	127.56
Annual (Non native) grassland	21.66
Disturbed Habitat	18.62
Eucalyptus Woodland	1.15
Ornamental Landscaping	2.82
~~Ruderal~~ Disturbed Land	24.40
Subtotal	*196.21*
Jurisdictional Native Wetland and Non-Wetland Waters	
Southern Willow Scrub	17.82
Disturbed Southern Willow Scrub	0.14
California Walnut Woodland	0.49
Freshwater Marsh	2.30
Alkali Meadow	2.33
Disturbed Alkali Meadow	1.31
Herbaceous Wetlands	21.12
Disturbed Herbaceous Wetlands	8.70
Stock Pond	0.02
Wetlands Restoration Site	1.80
Open Water	0.32
Open Channel	0.62
Subtotal	*56.97*
Jurisdictional Non-Native Wetlands	
Arundo	0.12
Subtotal	*0.12*
TOTAL	258.88[1]

Note: [1] Total of habitat is greater than the project area as habitat was mapped outside of the project foot print.



Source: Dudek & Associates, December 2006; Aerial, Landscor, January 2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\BiologicalResourcesImpacts.mxd | Last Updated : 3-8-07

Biological Resources and Impact Area (1 of 2)

FIGURE 3.3-1a

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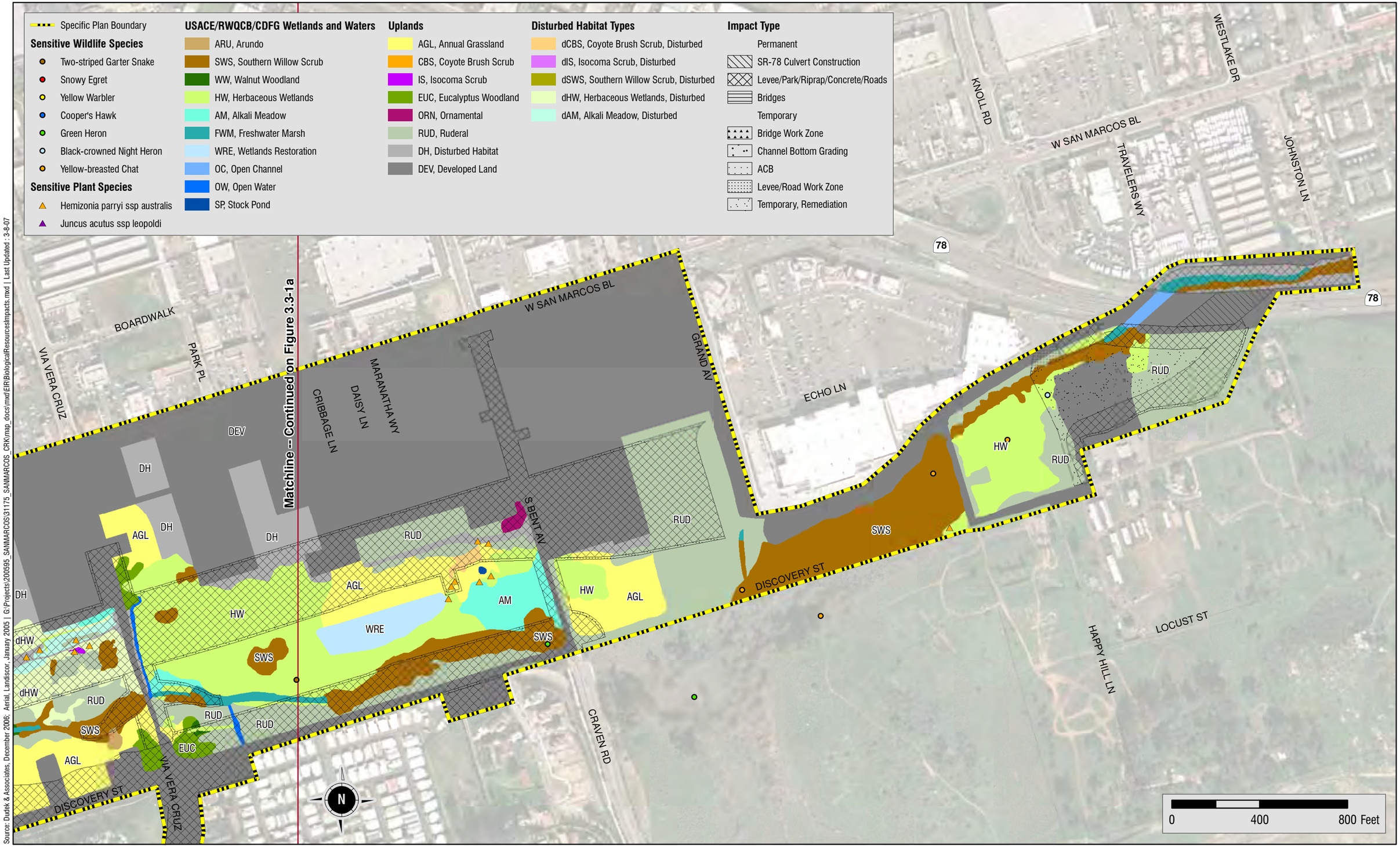

Source: Dudek & Associates, December 2006; Aerial, Landiscor, January 2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\BiologicalResourcesImpacts.mxd | Last Updated : 3-8-07

Biological Resources and Impact Area (2 of 2)

FIGURE 3.3-1b

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Coyote Brush Scrub

Coyote brush scrub, while not formally recognized as a distinct vegetation community by Holland (1986), is a fairly common vegetation community in southern California. It is characterized by nearly monotypic stands of coyote brush and is a sub-association of coastal sage scrub, often representing lesser plant and animal diversity. Because coyote brush is an effective colonizer of disturbed sites, it can often be found in dry to seasonally moist areas, in heavily disturbed upland areas, in flat areas or canyons, and in drainages that receive low seasonal flow or urban runoff.

Within the project area, coyote brush scrub most frequently occurs within the floodplain terraces, close to the channel banks of San Marcos Creek. Dominant species include coyote brush and spreading goldenbush in the sub-shrub to shrub layer with less than 40 percent cover of non-native forbs in the understory including sweet fennel and black mustard. There is 0.64 acre of coyote brush scrub on the project site.

Disturbed coyote brush scrub is similar in species composition to the native, undisturbed coyote brush community but it has 20 to 50 percent cover of native species. Within the project area, disturbed coyote brush scrub is characterized by approximately 40 percent cover of coyote brush and 60 percent cover of non-native grasses and forbs including sweet fennel, black mustard, and yellow star-thistle. There are 4.57 acres of disturbed coyote brush scrub on the project site.

As a sub-community of coastal sage scrub, coyote bush scrub is recognized as a sensitive vegetation community by local, state, and federal resource agencies. As such, impacts to this community are regulated in accordance with local, state, and federal policies and regulations.

Isocoma Scrub

Isocoma scrub, while not formally recognized as a distinct vegetation community by Holland (1986), is a fairly common vegetation association in southern California. It is often typified by spreading goldenbush with scattered native grasses and herbs in the understory.

Within the project area, isocoma scrub is dominated by at least 50 percent cover of spreading goldenbush with an understory comprised of fascicled tarweed with some bare ground (less than 10%) and non-native cover (less than 30 percent) comprised of yellow star-thistle. There is 0.28 acre of isocoma scrub on the project site.

Disturbed isocoma scrub is similar in species composition to the native isocoma scrub community but it supports between 20 to 50 percent cover spreading goldenbush, and over 30 percent cover of non-native grasses and forbs including yellow star-thistle, ripgut brome, and red brome. There is 0.09 acre of disturbed isocoma scrub on the project site.

As a sub-community of coastal sage scrub, isocoma scrub is recognized as a sensitive vegetation community by local, state, and federal resource agencies. As such, impacts to this community are regulated in accordance with local, state, and federal policies and regulations.

Annual (Non-Native) Grassland

Annual (non-native) grassland habitat typically refers to areas with a sparse to dense cover of annual grasses, often associated with showy-flowered annual forbs (Holland 1986). These areas typically occur where the native grassland habitat has been disturbed frequently or intensively by grazing, fire, agriculture, or other practices, resulting in the removal of the native seed source from the soil. Native grasses are often incapable of recovering, causing weedy, introduced annual grasses and forbs to colonize. Dominant species include slender wild oat, bromes, and forbs such as mustards, filaree, and Russian-thistle.

Within the project area, annual (non-native) grassland habitat occurs on the flat floodplain terraces immediately adjacent to San Marcos Creek and supports at least 50 percent cover of annual non-native grasses. Dominant species include slender wild oat, ripgut brome, soft chess, red brome, wild radish, short-podded mustard, and black mustard. There are 21.66 acres of annual (non-native grassland) on the project site.

Southern Willow Scrub

Southern willow scrub is often described by Holland (1986) as a dense, broad-leaved, winter-deciduous riparian thicket dominated by several species of willow, with scattered emergent Fremont's cottonwood and western sycamore. Due to the density of the shrub canopy, the understory is fairly stunted. This community is typically found along intermittent and perennial streams and creeks in southern California.

Within the project area, southern willow scrub is closely associated with San Marcos Creek and forms a dense, well-developed riparian corridor from SR-78 to Lake San Marcos comprised of at least 50 percent cover of native southern willow scrub species. The vegetative structure of this community is fairly well-developed throughout the project area supporting a diverse assemblage of native species in the canopy including arroyo willow, Goodding's black willow, and red willow with a densely vegetated understory comprised of yerba mansa, California mugwort, curly dock, bristly ox-tongue, yellow nutsedge, and cocklebur. There are 17.82 acres of southern willow scrub on the project site, of which 0.61 acres are within the Caltrans SR-78 ROW.

Disturbed southern willow scrub is similar in native species composition to southern willow scrub but it supports between 20 to 50 percent cover of native southern willow scrub species. Within the project area, disturbed southern willow scrub is comprised of arroyo willow with a disturbed understory comprised of bristly ox-tongue, sweet fennel, and curly dock. There is 0.14 acre of disturbed southern willow scrub on the project site.

California Walnut Woodland

California walnut woodland refers to areas supporting an open canopy of California black walnut with a limited understory comprised of native and non-native grasses and herbs (Holland 1986). Although the tree canopy is open, suggesting the development of a well-developed understory, California black walnuts inhibit the growth of nearby plants; therefore, very little vegetation other than introduced species is expected to successfully grow in the understory. Within the project area, California walnut woodland occurs on fine, relatively moist soils immediately adjacent to the channel banks of San Marcos Creek between Via Vera Cruz and McMahr Road. The understory is limited

and supports non-native forbs including wild radish and sweet fennel and native herbs including low-growing rushes. There is 0.49 acre of this habitat on the project site.

Eucalyptus Woodland

While not recognized by Holland (1986) as a distinct vegetation community, eucalyptus woodland is a fairly widespread non-native vegetation community in southern California. It typically consists of monotypic stands of introduced Australian eucalyptus trees. The understory is often either growing poorly or lacking owing to shade and the possible toxic properties of the eucalyptus leaf litter.

Although eucalyptus woodland is of limited value to most native plants and animals, they frequently provide nesting and perching sites for some raptors and, therefore, can be considered sensitive as a resource for those specific species. There are 1.15 acres of eucalyptus woodland on the project site.

Existing Wetlands Restoration Site

This land cover type refers to an existing City-funded wetlands restoration program located just west of Via Vera Cruz and east of McMahr Road comprised of southern willow scrub and mulefat scrub habitat with an herbaceous wetland understory. The wetland restoration site encompasses 1.80 acres.

Arundo

Arundo refers to areas within the project area supporting monotypic stands of giant cane, an invasive and aggressive reed-like grass native to the Mediterranean region that thrives in riparian stream courses in southern California. This species consumes vast amounts of water compared to most native North American riparian vegetation, and encroaches on stream channels, dramatically altering their form, structure, and velocity as well as limiting incoming solar radiation (McGaugh 2006). It is also highly flammable and regenerates quickly following fires, dramatically altering natural fire regimes. For the past 25 years, this species has infested the riparian scrub and forested habitats of southern California via flood-fragmentation and dispersal of vegetative seeds (Bell 2002). Current estimates show there are thousands of acres of arundo along the major coastal drainage systems of southern California including the Santa Ana, Santa Margarita, Ventura, Santa Clara, San Diego, and San Luis Rey rivers. Thus, the removal of arundo from all stream courses provides numerous downstream benefits in terms of native species habitat, wildfire protection, water quantity, and water quality (Bell 2002). There is 0.12 acre of arundo on the project site.

Freshwater Marsh

Freshwater marsh typically occurs in drainages, seeps, and other perennially-moist low places where the water table is close to or at the ground surface (Holland 1986). Dominant species include tall, emergent monocots, such as slender cattail and bulrush, as well as some low-lying herbaceous species, such as curly dock, marsh fleabane, and a variety of hydrophytic grasses and herbs. Within the project area, the freshwater marsh habitat maintains a general width of approximately 15 feet and is associated with the more shallow regions of San Marcos Creek. Dominant species include cattails and Olney's bulrush. There are 2.30 acres of freshwater marsh on the project site, of which 0.53 acre occurs within the Caltrans SR-78 ROW.

Herbaceous Wetlands

Herbaceous wetlands refer to areas within the project area supporting a predominance of low-lying, herbaceous native species. Dominant species include yerba mansa, spearscale, alkali mallow, stinging nettle, and western ragweed. There are 21.12 acres of herbaceous wetland on the project site.

Disturbed herbaceous wetlands refer to areas within the project area supporting between 20 to 50 percent cover of non-native herbaceous species including curly dock, bristly ox-tongue, prickly lettuce, heart-podded hoary cress, and Bermuda grass. Both vegetation communities occur in the flat floodplain terraces of San Marcos Creek from SR-78 to Lake San Marcos. There are 8.70 acres of disturbed herbaceous wetland on the project site.

Alkali Meadow

Holland (1986) describes alkali meadow as a dense to fairly open growth of perennial grasses and sedges with occasional, low growing tufts of up to one meter high. Within the project area, alkali meadow is dominated by Harding grass and salt grass but also includes species such as common plantain, alkali weed, alkali mallow, and spearscale. There are 2.33 acres of alkali meadow on the project site.

Disturbed alkali meadow is similar in species composition to alkali meadow but it supports a predominance of non-native species such as curly dock and bristly ox-tongue. There are 1.31 acres of disturbed alkali meadow on the project site.

Stock Pond

A 0.02-acre manmade stock pond is located within the project area just west of Bent Avenue in upland areas adjacent to San Marcos Creek. It is likely that the stock pond was historically created to provide water to grazing cattle when this region was subjected to grazing practices and agricultural uses. The pond does not appear to be fed by surface water and is isolated from navigable waters of the U.S.

Open Water

Open water typically refers to areas containing pools of standing or flowing freshwater with little to no emergent vegetation. Within the project area, open water refers to open areas of San Marcos Creek, a perennially-flowing stream channel that flows east to west through the project area. Water depths in these areas range from over three feet in the upstream end to less than one foot at the downstream end near the detention basin. There is 0.32 acre of open water on the project site.

Open Channel

Open channel typically refers to areas that have been subjected to increased flow and scour resulting in an open, dry, virtually unvegetated channel. Within the project area, open channel refers to the concrete-lined existing culvert under SR-78 and several unvegetated areas near the southern terminus of the site. There is 0.62 acre of open channel on the project site, of which 0.29 acre is located within the Caltrans SR-78 ROW.

Developed Land

Developed land refers to areas supporting man-made structures including homes, yards, roadways, and other highly modified lands supporting structures associated with dwellings or other permanent structures. Such structures typically support little to no natural vegetation growth and are not considered sensitive. Within the project area, developed land refers to several single-family residences and a trailer park located west of McMahr Road off of San Marcos Boulevard, as well as several roadways traversing the project including: San Marcos Boulevard, Via Vera Cruz, Bent Avenue/Craven Road, McMahr Road, San Pablo Drive, Grand Avenue, Discovery Street, Discovery Lane, and Echo Lane. Developed land is not considered a sensitive land cover. There are 127.56 acres of developed land on the project site. Of the 127.56 acres on the project site, 1.20 acres of developed area are within the Caltrans SR-78 ROW.

Disturbed Habitat

Disturbed habitat refers to areas where persistent mechanical disturbance has resulted in severely limited natural vegetation growth. Disturbed habitat typically includes dirt roads, abandoned pads, and other man-made land covers.

On the project site, disturbed habitat refers to bare dirt roadways and trails scattered throughout the project area from SR-78 to Lake San Marcos. All dirt roadways and trails appear actively used and are well compacted, offering little opportunity for native plant recruitment. Disturbed habitat is not considered a sensitive land cover. There are 18.62 acres of disturbed habitat on the project site, of which 1.20 acres occur within the Caltrans SR-78 ROW.

~~Ruderal~~ Disturbed Land

~~Ruderal~~ Disturbed land refers to areas where the soils have been recently or repeatedly disturbed by grading or compaction resulting in the growth of very few native perennials, and are usually dominated by non-native dicotyledonous species including filaree, black mustard, thistles, doveweed, and others.

Within the project area, ~~ruderal~~ disturbed land is dominated by wild radish, sweet fennel, black mustard, bull thistle, and artichoke thistle. This community is generally not considered sensitive due to the lack of native species and limited function for wildlife. There are 24.40 acres of ~~ruderal~~ disturbed land on the project site, of which 0.01 acre falls within the Caltrans SR-78 ROW.

Ornamental Landscaping

Ornamental landscaping refers to those areas within the project area where ornamental plant species and landscaping have been installed in place of native plantings primarily for aesthetic purposes. Ornamental species present include primarily olive, bottlebrush tree, and oleander. Ornamental landscaping is not considered a sensitive land cover. There are 2.82 acres of ornamental landscaping on the project site.

Sensitive Habitats/Regulated Resources

Sensitive habitats are those that are considered to be unique, support unique vegetation communities or sensitive plant and wildlife species, are of relatively limited distribution, or function as corridors for wildlife movement. Unique vegetation communities include habitats found only in the San Diego region, a local representative of species not generally found in San Diego County, or are outstanding examples of CDFG sensitive plant communities. Regulated biological resources may or may not be considered sensitive, but are regulated under local, state, and/or federal laws.

Within the study area, the following vegetation communities are considered sensitive and/or regulated habitats by local, state, and federal agencies: coyote brush scrub (including disturbed forms); isocoma scrub (including disturbed forms); annual (non-native) grassland; southern willow scrub (including disturbed forms); California walnut woodland; eucalyptus wetland; arundo; freshwater marsh; alkali meadow (including disturbed forms); herbaceous wetlands (including disturbed forms); stock pond; open water; and open channel.

Sensitive habitats or regulated resources within the Caltrans SR-78 ROW include 0.29 acre of open channel, 0.53 acre of freshwater marsh, and 0.61 acre of southern willow scrub.

Sensitive Plant Species

A total of 115 species of vascular plants, 55 native (48 percent) and 60 non-native (52 percent), were recorded within the study area. The project corridor supports a relatively high diversity of plant species due to the open floodplain and the presence of San Marcos Creek. The complete list of plant species identified onsite is provided as Appendix A to the Biological Resources Technical Report.

Sensitive plant species are those that are given special recognition by federal, state, or local conservation agencies and organizations owing to declining, limited, or threatened populations that are the result, in most cases, of habitat reduction.

Previous focused survey efforts (1999) from Lake San Marcos to SR-78 revealed the presence of southern tarplant, a California Native Plant Society (CNPS) List 1B.1 plant species.[1] Eight southern tarplant individuals were originally mapped in the eastern portion of the project area, immediately west of SR-78.

During the 2005 rare plant survey effort, three sensitive plant species were detected within the project area: southern tarplant, southwestern spiny rush (CNPS List 4), and Southern California black walnut (CNPS List 4). Approximately 4,000 southern tarplant individuals were detected within the project area during the 2005 surveys from areas just west of the intersection of Echo Lane and Discovery Lane to the golf course. Six southwestern spiny rush individuals were noted throughout the project area from areas west of Via Vera Cruz to the golf course. Approximately 0.49 acre of California walnut woodland supporting over 100 California black walnut individuals was identified from the intersection of Echo Lane and Discovery Lane west toward the golf course with the greatest concentration of trees located immediately adjacent to the channel banks of San Marcos Creek just

[1] See the legend for Table 3.3-2 for an explanation of CNPS listing designations.

west of Via Vera Cruz. Southern California black walnut and southwestern spiny rush are CNPS List 4.2 species.

In addition to those sensitive species observed during the focused surveys, the following species, while not observed during the 2005 surveys, have a moderate to high potential to occur in the project area: San Diego sagewort (CNPS List 4.2); Orcutt's brodiaea (CNPS List 1B.1); slender-pod jewelflower (a California rare species); Palmer's goldenbush (CNPS List 2.2); San Diego barrel cactus (CNPS List 2.1); decumbent goldenbush (CNPS List 1B.2); San Diego marsh-elder (CNPS List 2.2); little mousetail (CNPS List 3.1); and San Miguel savory (CNPS List 1B.2). Based on a review of the local soils map, soils suitable to support the state- and federally-listed endangered thread-leaved brodiaea (CNPS List 1B.1) and Orcutt's brodiaea (CNPS List 1B.1) have a low potential to occur in the project area.

No sensitive plant species were identified within the Caltrans ROW on the project site (Figure 3.3-1b).

A list of all sensitive plant species that have a potential to occur onsite based on the location of the site and general soils mapping is presented in Table 3.3-2.

3.3.1.3 Jurisdictional Wetland and Non-Wetland Waters of the U.S.

Approximately 57.09 acres of jurisdictional waters of the U.S, including wetlands, occur within the project area. Of this, 1.43 acres are located within the Caltrans SR-78 ROW. These jurisdictional resources, including vegetated wetlands and non-wetland waters of the U.S., are associated directly with San Marcos Creek and are under the joint jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB), and CDFG and include the following: southern willow scrub, California walnut woodland, arundo, freshwater marsh, alkali meadow, herbaceous wetlands, the existing wetlands restoration site, open water, and open channel, including disturbed forms. The stock pond located on the project site is considered an isolated water body and as such is under the sole jurisdiction of RWQCB.

3.3.1.4 Wildlife Resources

The project site supports habitat for number of common upland and wetland species. Cumulatively, 91 species of wildlife were observed during the focused and general wildlife surveys (Appendix B to the Biological Resources Technical Report).

Birds

Sixty bird species were observed during the focused wildlife surveys. Common species observed within the project area include California towhee, mourning dove, rock dove, European starling, house finch, and song sparrow.

Table 3.3-2. Sensitive Plant Species Detected or Potentially Occurring on the Project Site

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Abronia villosa var. *aurita*	Chaparral sand-verbena	None/ None	1B.1	Chaparral, coastal scrub; sandy/ annual herb/ January – August	Low potential to occur within plan area. Suitable habitat generally not present.
Achnatherum diegoense	San Diego County needlegrass	None/ None	4.2	Chaparral, coastal scrub; rocky, often mesic/perennial herb/May-June	Low potential to occur within plan area. Suitable habitat present within plan area but not detected during surveys.
Adolphia californica	California adolphia	None/ None	2.1	Chaparral, coastal scrub, valley and foothill grassland; clay/shrub/ December-May	Low potential to occur within plan area; would have been detected during surveys.
Ambrosia chenopodiifolia	San Diego bur-sage	None/ None	2.1	Coastal scrub/shrub/April-June	Low potential to occur within plan area; would have been detected during surveys.
Ambrosia pumila	San Diego ambrosia	FE/ None	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; often in disturbed areas/perennial herb/May -October	Low potential to occur within plan area; would have been detected during surveys.
Androsace elongata ssp. *Acuta*	California androsace	None/ None	4.2	Chaparral, coastal scrub, cismontane woodland, valley and foothill grassland/annual herb/ March-June	Low potential to occur plan area; would have been detected during surveys.
Artemisia palmeri	San Diego sagewort	None/ None	4.2	Chaparral, coastal scrub, riparian forest and scrub; sandy/shrub/ May-September	Moderate potential to occur within plan area; would have been detected during surveys.
Astragalus deanei	Dean's milk-vetch	None/ None	1B.1	Chaparral, coastal scrub, riparian forest/perennial herb/February-May	Low potential to occur within plan area. Suitable habitat generally not present; not detected during surveys.
Astragalus douglasii var. *perstrictus*	Jacumba milk-vetch	None/ None	1B.2	Chaparral, cismontane woodland, valley and foothill grassland; rocky/ perennial herb/April-June	Low potential to occur within plan area. Suitable habitat generally not present; not detected during surveys.
Atriplex coulteri	Coulter's saltbush	None/ None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/ perennial herb/March-October	Low potential to occur within the plan area. Suitable habitat and soils generally not present; not detected during surveys.
Atriplex pacifica	South Coast saltscale	None/ None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/annual herb/ March-October	Low potential to occur within plan area. Suitable habitat generally not present; not detected during surveys.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Atriplex serrenana var. *davidsonii*	Davidson's saltscale	None/ None	1B.2	Coastal bluff scrub, coastal scrub; alkaline/annual herb/April-October	Low potential to occur within plan area. Suitable habitat and soils generally not present; not detected during surveys.
Berberis nevinii	Nevin's barberry	FE/ SE	1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly/shrub/March-April	Low potential to occur within plan area; would have been detected if present.
Brodiaea filifolia	Thread-leaved brodiaea	FT/ SE	1B.1	Chaparral (openings) coastal scrub, cismontane woodland, playas, valley and foothill grassland, vernal pools; often clay/bulbiferous herb/ March-June	Low potential to occur plan area due to lack of appropriate soils within the plan area.
Brodiaea orcutti	Orcutt's brodiaea	None/ None	1B.1	Closed-cone conifer forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools; mesic, clay, sometimes serpentine/ bulbiferous herb/May-July	Moderate potential to occur within plan area. Although appropriate soils not present within plan area, it was observed on offsite Fenton parcel by Dudek biologists in 2001. Spring 2002 and 2003 surveys by Merkel were negative.
Calandrinia breweri	Brewer's calindrinia	None/ None	4.2	Chaparral, coastal scrub, disturbed sites and burns/annual herb/ March-June	Low potential to occur within plan area; would have been detected if present.
Calindrinia maritima	Seaside calindrinia	None/ None	4.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland; sandy/ annual herb/February-August	Low potential to occur within plan area; would have been detected if present.
Calochortus catalinae	Catalina mariposa lily	None/ None	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/ bulbiferous herb/ February-May	Low potential to occur within plan area; suitable habitat generally not present within plan area. Would have been detected during surveys.
Camissonia lewisii	Lewis's evening primrose	None/ None	3	Coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland; sandy or clay/annual herb/March-June	Low potential to occur within plan area due to lack of appropriate soils; would have been detected during surveys.
Caulanthus simulans	Payson's jewelflower	None/ None	4.2	Chaparral, coastal scrub; sandy and granitic/ annual herb/March-(June)	Low potential to occur within plan area; would have been detected during surveys.
Caulanthus stenocarpus	Slender-pod jewelflower	None/ SR	None	Chaparral, coastal scrub/ annual herb; fire follower/March-May	Moderate potential to occur within plan area; would have been detected if present.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Chorizanthe leptotheca	Peninsular spineflower	None/ None	4.2	Chaparral, coastal scrub, lower montane conifer forest; alluvial fan, granitic/annual herb/May-August	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/ SE	1B.1	Maritime chaparral, closed-cone conifer forest, coastal scrub/annual herb/March-May	Low potential to occur within plan area; would have been detected during surveys.
Chorizanthe polygonoides var. *longispina*	Long-spined spineflower	None/ None	1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland; often clay/ annual herb/ April-July	Low potential to occur within plan area; would have been detected during surveys.
Chorizanthe procumbens	Prostrate spineflower	None/ None	None	Chaparral, coastal scrub, pinyon-juniper woodland, valley and foothill grassland, gabbroic clay and granitic soils/annual herb/April-June	Low potential to occur within plan area; would have been detected during surveys.
Convolvulus simulans	Small-flowered morning-glory	None/ None	4.2	Chaparral (openings), coastal scrub, valley and foothill grassland; clay, serpentinite seeps/annual herb/ March-July	Low potential to occur within plan area due to lack of appropriate soils; would have been detected during surveys.
Cordylanthus orcuttianus	Orcutt's bird's-beak	None/ None	2.1	Coastal scrub/annual herb/March - September	Low potential to occur within plan area; would have been detected during focused surveys.
Coreopsis maritime	Sea dahlia	None/ None	2.2	Coastal bluff scrub, coastal scrub/ perennial herb/March-May	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Corethrogyne filaginifolia var. *incana*	San Diego sand aster	None/ None	1B.1	Chaparral, coastal bluff scrub, coastal scrub/perennial herb/June-September	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/ None	1B.1	Maritime chaparral (openings), coastal bluff scrub, coastal scrub; sandy/ perennial herb/May-September	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Dichondra occidentalis	Western dichondra	None/ None	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland/rhizomatous herb/ March-May	Low potential to occur within plan area; would have been detected during surveys.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Dudleya attenuata ssp. *Orcutti*	Orcutt's dudleya	None/ None	2.1	Coastal bluff scrub, chaparral, coastal scrub; rocky or gravelly/ perennial herb/May-July	Low potential to occur within plan area; would have been detected during surveys.
Dudleya blochmaniae spp. *blochmaniae*	Blochman's dudleya	None/ None	1B.1	Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland, rocky; often clay or serpentinite/ perennial herb/ April-June	Low potential to occur within plan area due to lack of appropriate clay or serpentinite soils; would have been detected during surveys.
Dudleya multicaulis	Many-stemmed dudleya	None/ None	1B.2	Chaparral, coastal scrub, valley and foothill grassland; often clays/ perennial herb/April-July	Low potential to occur within plan area due to lack of appropriate soils; would have been detected during surveys.
Dudleya variegata	Variegated dudleya	None/ None	1B.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools/perennial herb/May-June	Low potential to occur within plan area due to general lack of appropriate habitat and soils; would have been detected during surveys.
Dudleya viscida	Sticky dudleya	None/ None	1B.2	Coastal bluff scrub, chaparral, coastal scrub; rocky/perennial herb/ May-June	Low potential to occur within plan area due to lack of appropriate soils; would have been detected during surveys.
Ericameria palmeri ssp. *Palmeri*	Palmer's goldenbush	None/ None	2.2	Chaparral, coastal scrub/shrub/ July-November	Moderate potential to occur within plan area; would have been detected if present.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/ SE	1B.1	Coastal scrub, valley and foothill grassland, vernal pools, mesic areas/annual-perennial herb/ April-June	Low potential to occur within plan area due to the lack of suitable habitat; would have been detected if present.
Eryngium pendletonensis	Pendleton button-celery	None/ None	1B.1	Coastal bluff scrub, valley and foothill grassland, vernal pools; clay, vernally mesic/perennial herb/ April - June	Low potential to occur within plan area due to lack of appropriate soils. Also, project site is outside the known range for this species.
Euphorbia misera	Cliff spurge	None/ None	2.2	Coastal bluff scrub, coastal scrub; rocky/shrub/December-August	Low potential to occur within plan area to general lack of suitable habitat; would have been detected during surveys.
Ferocactus viridescens	San Diego barrel cactus	None/ None	2.2	Chaparral, coastal scrub, valley and foothill grassland, vernal pools/ shrub/May-June	Low to moderate potential to occur within plan area; would have been detected if present.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Frankenia palmeri	Palmer's frankenia	None/ None	2.1	Coastal dunes, coastal saltwater marsh and swamps, playas/ perennial herb/May-July	Low potential to occur within plan area due to lack of suitable marine-type habitat; would have been detected if present.
Githopsis diffusa ssp. *Filicaulis*	Mission Canyon bluecup	None/ None	3.1	Chaparral (mesic, disturbed areas)/ annual herb/April-June	Low potential to occur within plan area; would have been detected if present.
Grindelia hirsutula var. *hallii*	San Diego gumplant	None/ None	1B.2	Chaparral, lower montane conifer forest, meadows and seeps, valley and foothill grassland/perennial herb/July-October	Low potential to occur within plan area to general lack of suitable habitat; would have been detected during surveys.
Harpagonella palmeri	Palmer's grapplinghook	None/ None	4.2	Chaparral, coastal scrub, valley and foothill grassland; clay/annual herb/ March-May	Low potential to occur within plan area due to lack of suitable soils; would have been detected during surveys.
Hazardia orcutti	Orcutt's hazardia	None/ ST	1B.1	Chaparral, coastal scrub; often clay/ evergreen shrub/August-October	Low potential to occur within plan area due to lack of suitable clay soils; would have been detected during surveys.
Hemizonia parryi spp. *australis*	Southern tarplant	None/ None	1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/ annual herb/ May-November	Approximately 4,140 individuals were detected within the plan area by direct count during 2005 surveys.
Holocarpha virgata ssp. *elongata*	Graceful tarplant	None/ None	4.2	Coastal scrub, cismontane woodland, chaparral (?), valley and foothill grassland/annual herb/ August-November	Low potential to occur within plan area. Appropriate habitat present is mostly disturbed; would have been detected during surveys.
Hordeum intercedens	Vernal barley	None/ None	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools/ annual herb/March-June	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Horkelia cuneata ssp. *Puberula*	Mesa horkelia	None/ None	1B.1	Chaparral, cismontane woodland, coastal scrub; sandy or gravelly/ perennial herb/February - September	Low potential to occur within plan area due to lack of suitable soils; would have been detected during surveys.
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	None/ None	1B.2	Chaparral, coastal scrub (sandy, often disturbed areas) shrub/April-November	Low to moderate potential to occur within plan area; would have been detected if present.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Iva hayesiana	San Diego marsh-elder	None/ None	2.2	Marshes and swamps, playas/ perennial herb/April-September	Moderate potential to occur within plan area, would have been detected during surveys.
Juglans californica var. *californica*	Southern California black walnut	None/ None	4.2	Chaparral, cismontane woodland, coastal scrub; alluvial/ deciduous tree/March-May	Approximately 100 individuals were detected within the plan area during 2005 surveys.
Juncus acutus spp. *Leopoldii*	Southwestern spiny rush	None/ None	4.2	Coastal dunes, meadows and seeps (alkaline), saltwater marsh and swamp/rhizomatous herb/ May-June	Six individuals were detected within the plan area during 2005 surveys.
Lasthenia glabrata ssp. *Coulteri*	Coulter's goldfields	None/ None	1B.1	Saltwater marsh and swamps, playas, vernal pools/annual herb/ February-June	Low potential to occur within plan area due to lack of suitable habitat.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/ None	1B.2	Chaparral, coastal scrub/ annual herb/January-July	Low potential to occur within plan area; would have been detected during surveys.
Lilium humboldtii ssp. *Ocellatum*	Ocellated Humboldt lily	None/ None	4.2	Coastal scrub, chaparral, cismontane woodland, lower montane conifer forest, riparian; openings/bulbiferous herb/ March-July	Low potential to occur within plan area due to lack of suitable habitat; would have been detected during surveys.
Lilium parryi	Lemon lily	None/ None	1B.2	Lower montane conifer forest, meadows and seeps, riparian forest, upper montane conifer forest; mesic/perennial herb/July-August	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Limnanthes gracilis ssp. *Parishii*	Parish's meadowfoam	None/ SE	1B.2	Lower montane coniferous forest, meadows and seeps , vernal pools; vernally mesic/annual herb/April-June	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Lotus nuttallianus	Nuttall's lotus	None/ None	1B.1	Coastal dunes, coastal scrub/ annual herb/March-June	Low potential to occur within plan area due to lack of suitable habitat; would have been detected during surveys.
Machaeranthera juncea	Rush-like bristleweed	None/ None	4.3	Chaparral, coastal scrub/ perennial herb/June-January	Low potential to occur within plan area due to lack of suitable habitat; would have been detected during surveys.
Microseris douglasii var. *platycarpha*	Small-flowered microseris	None/ None	4.2	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pools; clay/annual herb/ March-May	Low potential to occur within the plan area due to lack of suitable soils; would have been detected during surveys.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Monardella hypoleuca ssp. *Lanata*	Felt-leaved monardella	None/ None	1B.2	Chaparral, cismontane woodland/ rhizomatous herb/May-August	Low potential to occur within plan area due to lack of suitable habitat.
Monardella viminea	Willowy monardella	FE/ SE	1B.1	Closed-cone conifer forest, chaparral, coastal scrub, riparian forest, woodland, and scrub/ perennial herb/June-August	Low potential to occur within plan area; would have been detected during surveys.
Mucronea californica	California spineflower	None/ None	4.2	Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland, sandy soils/annual herb/March-August	Low potential to occur within plan area; would have been detected during surveys.
Muilla clevelandii	San Diego goldenstar	None/ None	1B.1	Chaparral, coastal scrub, valley and foothill grassland, vernal pools; clay/ bulbiferous herb/May	Low potential to occur within plan area due to lack of appropriate soils.
Myosurus minimus ssp. *Apus*	Little mousetail	None/ None	3.1	Vernal pools, valley and foothill grassland; alkaline/annual herb/ March-June	Low to moderate potential to occur within plan area; would have been detected during surveys.
Nama stenocarpum	mud nama	None/ None	2.2	Marsh and swamps, lake margins and riverbanks/annual-perennial herb/January-July	Low potential to occur within plan area due to the disturbed context of potential appropriate habitat; would have been detected during surveys.
Navarretia prostrata	Prostrate navarretia	None/ None	1B.1	Coastal scrub, valley and foothill grassland (alkaline), vernal pools; mesic/annual herb/April-July	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Nolina cismontane	Chaparral nolina	None/ None	1B.2	Chaparral, coastal scrub; sandstone or gabbro/ evergreen shrub/ May-July	Low potential to occur within plan area; would have been detected during surveys.
Ophioglossum californicum	California adder's-tongue	None/ None	4.2	Chaparral, valley and foothill grassland, vernal pools (margins); mesic/rhizomatous herb/December-June	Low potential to occur within plan area; would have been detected during surveys.
Opuntia californica var. *californica*	Snake cholla	None/ None	1B.1	Chaparral, coastal scrub/ stem succulent/April-May	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Orobranche parishii ssp. *brachyloba*	Short-lobed broom-rape	None/ None	4.2	Coastal bluff scrub, coastal dunes, coastal scrub; sandy/ perennial herb parasitic/April-October	Low potential to occur within plan area; would have been detected during surveys.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Phacelia stellaris	Brand's phacelia	None/ None	1B.1	Coastal dunes, coastal scrub/ annual herb/March-June	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Quercus dumosa	Nuttall's scrub oak	None/ None	1B.1	Chaparral, coastal scrub, closed-cone coniferous forest; sandy and clay loam/evergreen shrub/ February-March	Low potential to occur within plan area due to lack of suitable soils; would have been detected during surveys.
Quercus engelmannii	Engelmann oak	None/ None	4.2	Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland/deciduous tree/ March-June	Low potential to occur within plan area; would have been detected during surveys.
Rorippa gambellii	Gambel's water cress	FE/ ST	1B.1	Marsh and swamps (freshwater and brackish)/rhizomatous herb/April-September	Low potential to occur within plan area. Appropriate habitats present but are mostly disturbed. Would have been detected during surveys.
Rosa minutifolia	Small-leaved rose	None/ SE	2.1	Chaparral, coastal scrub/ deciduous shrub/January-June	Low potential to occur within plan area; would have been detected during surveys.
Salvia munzii	Munz's sage	None/ None	2.2	Chaparral, coastal scrub/shrub/ February-April	Low potential to occur within plan area; would have been detected during surveys.
Satureja chandleri	San Miguel savory	None/ None	1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland; rocky, gabbroic or metavolcanic/ perennial herb/ March-May	Low to moderate potential to occur within plan area; would have been detected if present.
Scutellaria bolanderi ssp. *austromontana*	Southern skullcap	None/ None	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest (mesic)/ rhizomatous herb/ June-August	Low potential to occur within plan area due to lack of suitable habitat; would have been detected during surveys.
Selaginella cinerascens	Ashy spike-moss	None/ None	None	Chaparral, coastal scrub (in openings)/perennial herb/March	Low potential to occur within plan area due to lack of suitable habitat; would have been detected during surveys.
Senecio aphanactis	Rayless ragwort	None/ None	2.2	Chaparral, cismontane woodland, coastal scrub; alkaline/ annual herb/ January-April	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.

Scientific Name	Common Name	Status Federal/ State	CNPS List	Primary Habitat Associations/ Life Form/ Blooming Period	Status Plan area or Potential to Occur
Tetracoccus dioicus	Parry's tetracoccus	None/ None	1B.2	Chaparral, coastal scrub/deciduous shrub/April-May	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.
Viguiera laciniata	San Diego County viguiera	None/ None	4.2	Chaparral, coastal scrub/shrub/ February-June	Low potential to occur within plan area due to general lack of suitable habitat; would have been detected during surveys.

Legend

FE: Federally-listed as endangered
FT: Federally-listed as threatened
SCE: State candidate for listing as endangered
SE: State-listed as endangered
ST: State-listed as threatened
SR: State rare

CNPS List

1B.1: Plants Rare, Threatened, or Endangered in California and Elsewhere; Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
1B.2: Plants Rare, Threatened, or Endangered in California and Elsewhere; Fairly endangered in California (20-80% occurrences threatened)
2.1: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
2.2: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; Fairly endangered in California (20-80% occurrences threatened)
3: Plants About Which We Need More Information – A Review List
3.1: Plants About Which We Need More Information – A Review List; Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
3.2: Plants About Which We Need More Information – A Review List; Fairly endangered in California (20-80% occurrences threatened)
4.2: Plants of Limited Distribution – A Watch List; Fairly endangered in California (20-80% occurrences threatened)
4.3: Plants of Limited Distribution – A Watch List; Not very endangered in California (<20% of occurrences threatened or no current threats known)

Reptiles and Amphibians

Seven reptile species were observed within the project area including slider, western fence lizard, side-blotched lizard, southern alligator lizard, gopher snake, two-striped garter snake, and rattlesnake.

Three amphibian species were observed during the surveys including western toad, Pacific tree frog, and bullfrog.

Mammals

Seven mammal species were recorded within the project area: Virginia opossum, Botta's pocket gopher, California ground squirrel, brush rabbit, black rat, raccoon, and coyote.

Invertebrates

Fourteen species of butterflies were recorded within the project area: Behr's metalmark, grey hairstreak, anise swallowtail, checkered white, Sara orangetip, morning cloak, funereal duskywing skipper, tiger swallowtail, cabbage butterfly, acmon blue, west coast lady, painted lady, buckeye, and Lorquin's admiral.

Sensitive Wildlife Species

Sensitive wildlife species are those that are given special recognition by federal, state, or local conservation agencies and organizations owing to declining, limited, or threatened populations that are the result, in most cases, of habitat reduction.

According to the CNDDB, a least Bell's vireo occurrence was documented by an individual on July 30, 1997 in San Marcos Creek approximately one-quarter mile from Las Posas Road. Focused surveys were conducted for this species along with the southwestern willow flycatcher in 1999 and 2005 with negative results. In addition, no species designated as threatened or endangered by the United States Fish and Wildlife Service (USFWS) or CDFG were detected during the 1999 and 2005 focused surveys. Results of the 1999 and 2005 focused surveys for arroyo toad were also negative.

Seven sensitive wildlife species were detected within the project area during these surveys including: yellow-breasted chat (a California Special Concern [CSC] species); yellow warbler (a CSC species); green heron (no state or federal listing afforded); black-crowned night heron (a Bureau of Land Management (BLM) species); Cooper's hawk (a CSC species); snowy egret (a United States Bird Conservation (USBC) Watch List species); and two-striped garter snake (a CSC species).

In addition to those sensitive species observed during the focused surveys, the following reptile and amphibian species, while not observed during 2005 surveys, have a moderate to high potential to occur in the project area: western spadefoot (a CSC species); silvery legless lizard (a CSC species); coastal (California) glossy snake (no state or federal listing afforded); Belding's orange-throated whiptail (a CSC species); coastal western whiptail (no state or federal listing afforded); northern red-diamond rattlesnake (a CSC species); San Diego ringneck snake (no state or federal listing afforded); Coronado skink (a CSC species); coast horned lizard (a CSC species); coast patch-nosed snake (a CSC species); granite spiny lizard (no state or federal listing afforded); and south coast garter snake (a CSC species).

The following bird species have a moderate to high potential to occur, but were not detected in the project area: Southern California rufous-crowned sparrow (a CSC species); Swainson's thrush (no state or federal listing afforded); northern harrier (a CSC species); white-tailed kite (a USFWS Migratory Nongame Bird of Management Concern and CDFG Fully Protected Species); California horned lark (a CSC species); loggerhead shrike (a CSC species and USFWS Bird of Conservation Concern); Lincoln's sparrow (no state or federal listing afforded); MacGillivray's warbler (no state or federal listing afforded); osprey (a CSC species); American white pelican (a CSC species); double-crested cormorant (a CSC species); western bluebird (no state or federal listing afforded); tree swallow (no state or federal listing afforded); and Wilson's warbler (no state or federal listing afforded).

The following mammal species have a moderate to high potential to occur in the project area: Dulzura (California) pocket mouse (a CSC species); Northwestern San Diego pocket mouse (a CSC species); Townsend's western big-eared bat (a BLM and CSC species); western mastiff bat (a BLM and CSC species); fringed myotis (a BLM species); long-legged myotis (a Western Bat Working Group High Priority species); and gray fox (no state or federal listing afforded).

No sensitive wildlife species were identified within the Caltrans SR-78 ROW.

A list of sensitive wildlife species that have a potential to occur within the project area based on the location of the site and general vegetation communities found in the area is presented in Table 3.3-3. For each species listed, a determination is made regarding the potential for the species to occur within the project area. Where pertinent, a distinction is made between foraging and breeding habitat available onsite.

3.3.1.5 Wildlife Movement Corridors

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by assuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

The floodplain of San Marcos Creek, in general, was historically grazed and farmed for decades resulting in the growth of low-growing disturbed wetlands and non-native upland habitats. The stretch of San Marcos Creek within the project area is well-developed and well-stratified supporting a diverse assemblage of riparian habitats ranging from low-growing herbaceous wetlands to mature southern willow scrub. Because San Marcos Creek is a perennial aquatic resource supporting a mosaic of riparian habitats, the project area potentially functions as a local wildlife corridor connecting more lake-like habitats to the west (e.g., Lake San Marcos) to densely vegetated riparian areas upstream of SR-78. However, this area has not been designated as a regional wildlife corridor in the City's draft Subarea Plan and it likely does not function as such due to the historic transitional development pattern in proximity to San Marcos Creek.

3.3.1.6 Multiple Habitat Conservation Plan (MHCP)

In San Diego County, several conservation planning efforts have been completed or are currently in progress with the long-term goal of establishing a regional reserve system that will protect native habitat lands and their associated biota. The ultimate goals of these plans are the establishment of biological reserve areas in conformance with the State NCCP Act, and to contribute to the preserve system already established by the approved Multiple Species Conservation Plan (MSCP) in southwestern San Diego County.

Table 3.3-3. Sensitive Wildlife Species Detected or Potentially Occurring in Project Area

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Amphibians				
Bufo californicus	Arroyo toad	FE/CSC	Stream channels for breeding(typically 3rd order); adjacent stream terraces and uplands for foraging and wintering	Potential habitat is present within the plan area; however, 2005 focused surveys were negative.
Spea [=*Scaphiopus*] *hammondi*	Western spadefoot	BLM/ CSC	Most common in grasslands, coastal sage scrub near rain pools or vernal pools; riparian habitats	Moderate potential to occur based on habitat present.
Reptiles				
Anniella pulchra pulchra	Silvery legless lizard	CSC	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats	Moderate potential to occur based on habitat present.
Arizona elegans occidentalis	Coastal (California) glossy snake	None/ None	Grassland, chaparral, coastal sage scrub, woodlands in sandy and rocky substrates	Moderate potential to occur based on habitat present.
Aspidoscelis hyperythra beldingi	Belding's orange-throated whiptail	None/CSC	Coastal sage scrub, chaparral, grassland, juniper and oak woodland	Moderate potential to occur based on habitat present. Was observed at the offsite Fenton parcel.
Aspidoscelis tigris stejnegeri	Coastal western whiptail	None/None	Coastal sage scrub, chaparral	Moderate potential to occur based on habitat present.
Charina [=*Lichanura*] *trivirgata* ssp. *Roseofusca*	Coastal rosy boa	BLM / None	Rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub	Low potential to occur based on habitat present.
Crotalus ruber ruber	Northern red-diamond rattlesnake	None/ CSC	Variety of shrub habitats where there is heavy brush, large rocks, or boulders	Moderate potential to occur based on habitat present.
Diadophis punctatus similis	San Diego ringneck snake	None/ None	Open, rocky areas in moist habitats near intermittent streams: marsh, riparian woodland, sage scrub	Moderate potential to occur based on habitat present.
Emys [=*Clemmys*] *marmorata pallida*	Southwestern pond turtle	BLM/ CSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter	Low potential to occur within plan area. Although some open water is present, in general there is relatively little suitable habitat for this species within the plan area.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Eumeces skiltonianus interparietalis	Coronado skink	BLM/ CSC	Grassland, riparian and oak woodland; found in litter, rotting logs, under flat stones	Moderate potential to occur based on habitat present.
Phrynosoma coronatum (blainvillei population)	Coast horned lizard	None/ CSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest	Moderate potential to occur based on habitat present.
Salvadora hexalepis virgultea	Coast patch-nosed snake	None/CSC	Chaparral, washes, sandy flats, rocky areas	Moderate potential to occur based on habitat present.
Sceloporus orcuttii orcuttii	Granite spiny lizard	None/None	Granite rock outcrops within forest, woodland, chaparral and coastal sage scrub habitats	Moderate potential to occur based on habitat present.
Thamnophis hammondii	Two-striped garter snake	BLM/ CSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Detected within plan area during 2005 surveys.
Thamnophis sirtalis ssp.	South Coast garter snake	None/ CSC	Marshes, meadows, sloughs, ponds, slow-moving water courses	Moderate potential to occur based on habitat present.
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/ CSC	Riparian and oak woodlands, montane canyons	Detected within plan area during 2005 surveys.
Accipiter striatus (nesting)	Sharp-shinned hawk	None/ CSC	Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, Jeffrey pine; winters in lowland woodlands and other habitats	Does not breed on coastal slope in California, but may occur onsite during winter.
Agelaius tricolor (nesting colony)	Tricolored blackbird	BCC, BLM, USBC/ CSC/ A	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture	Low potential to occur within plan area. Although some open water is present, in general there is relatively little suitable habitat for this species within the plan area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/ CSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops	Moderate potential to occur based on habitat present.
Ammodramus savannarum	Grasshopper sparrow	SMC/ None	Open grassland and prairie, especially native grassland with a mix of grasses and forbs	Low to moderate potential to occur within plan area. While suitable annual grassland habitat is present it is periodically subjected to mowing practices.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Amphispiza belli belli	Bell's sage sparrow	BCC, SMC/ CSC	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys	Low potential to occur due to surrounding urbanization.
Aquila chrysaetos (nesting and wintering)	Golden eagle	BCC, BLM/ CSC, P	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	No nesting habitat is present within the vicinity. No potential to nest or winter, low potential to forage.
Ardea herodias	Great blue heron	None/None	Variety of habitats, but primarily wetlands; lakes, rivers, marshes, mudflats, estuaries, saltmarsh, riparian habitats	Detected within plan area during 2005 surveys.
Asio otus (nesting)	Long-eared owl	None/ CSC	Riparian, live oak thickets, other dense stands of trees, edges of coniferous forest	Low potential to occur based on habitats present.
Athene cunicularia (burrow sites)	Burrowing owl	BCC, BLM/ CSC	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	Low potential to occur based on high density of vegetation and habitats present.
Botaurus lentiginosus	American bittern	USBC, SMC/ None	Emergent habitat of freshwater marsh and vegetation borders of ponds and lakes	Low potential to occur based on habitats present.
Buteo lineatus	Red-shouldered hawk	None/ None	Riparian and woodland habitats, eucalyptus	Detected within plan area during surveys.
Buteo regalis (wintering)	Ferruginous hawk	BCC, SMC/ CSC, A	Open, dry country, grasslands, open fields, agriculture	Low potential to occur as a migrant.
Buteo swainsoni (nesting)	Swainson's hawk	BCC, USBC/ ST/ A	Open grassland, shrublands, croplands	Low potential to occur as a migrant.
Butorides virescens	Green heron	None/ None	Lakes, marshes, streams	Detected within plan area during 2005 surveys.
Cathartes aura	Turkey vulture	None/ None	Rangeland, agriculture, grassland; uses cliffs and large trees for roosting, nesting and resting	Detected during surveys within plan area and offsite at Fenton.
Catharus ustulatus	Swainson's thrush	None/ None	Riparian habitat with dense understory and dense shrubs	Moderate potential to occur as a migrant.
Chlidonias niger (nesting colony)	Black tern	None/ CSC	Freshwater lakes, marshes, ponds, coastal lagoons	Low potential to occur in association with Lake San Marcos.
Circus cyaneus (nesting)	Northern harrier	None/ CSC	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	Moderate to high potential to occur based on habitats present. Was observed in grassland habitat on the offsite Fenton parcel.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Coccyzus americanus occidentalis (nesting)	Western yellow-billed cuckoo	FC, BCC, SMC/ SE, CSC	Dense, wide riparian woodlands and forest with well-developed understory.	Low potential to occur due to lack of suitable habitat.
Dendroica petechia brewsteri (nesting)	Yellow warbler	None/CSC	Nests in lowland and foothill riparian woodlands dominated by cottonwoods, alders and willows; winters in a variety of habitats	Detected within plan area during 2005 surveys.
Egretta thula	Snowy egret	USBC/None	Freshwater lakes, marshes, swamps, ponds, coastal lagoons, occasional dry fields	Detected within the plan area during 2005 surveys.
Elanus leucurus (nesting)	White-tailed kite	MNBMC/P	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	High potential to occur within plan area based on suitable habitat present. Was observed in flight on the offsite Fenton parcel.
Empidonax traillii extimus (nesting)	Southwestern willow flycatcher	FE, USBC/ SE/A	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	Suitable habitat is present within the plan area; however, 2005 focused surveys were negative.
Eremophila alpestris actia	California horned lark	None/CSC	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	Low to moderate potential to occur based on habitats present and surrounding urbanization. Was observed at the offsite Fenton parcel.
Falco columbarius (wintering)	Merlin	None/CSC	Nests in open country, open coniferous forest, prairie; winters in open woodlands, grasslands, cultivated fields, marshes, estuaries and sea coasts	Low potential to occur as a winter migrant.
Falco peregrinus anatum	American peregrine falcon	BCC, (FD)/ SE, P	Nests on cliffs, buildings, bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Very low potential to forage onsite; no potential to breed onsite due lack of suitable nest sites.
Icteria virens (nesting)	Yellow-breasted chat	None/CSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush.	Detected within plan area during 2005 surveys.
Ixobrychius exilis (nesting)	Least bittern	None/CSC	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water	Low potential to occur based on habitats present.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Lanius ludovicianus (nesting)	Loggerhead shrike	BCC/CSC	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland	Moderate potential to occur based on habitats present.
Melospiza lincolnii	Lincoln's sparrow	None/None	Nests in wet montane meadows of corn lily, sedges, and low willows; winters in thickets of shrubs, tall forbs interspersed with grassy areas; usually on damp ground or near water	Moderate potential to occur during the winter.
*Numenius americanus (*nesting)	Long-billed curlew	BCC, USBC/ CSC/A	Nests in upland shortgrass prairies and wet meadows in northeast California; winters in coastal estuaries, open grasslands and croplands	Low potential to occur during the winter.
Oporonis tolmiei	MacGillivray's warbler	None/None	Valley foothill riparian, Douglas-fir, redwood, montane riparian and desert riparian habitats; observed in weedy brush, streamside thickets, and desert wash scrub	Moderate potential to occur as a winter migrant.
Pandion haliaetus (nesting)	Osprey	None/CSC	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	Moderate potential to occur over site due to proximity to open water habitats in vicinity, however no breeding or foraging habitat onsite.
Pelecanus erythrorhynchos (nesting colony)	American white pelican	None/CSC	Open water, coastal bays, large inland lakes	Moderate potential to occur in association with Lake San Marcos; no breeding or foraging habitat onsite.
Phalacrocorax auritus (rookery site)	Double-crested cormorant	None/CSC	Lakes, rivers, reservoirs, estuaries, ocean; nests in tall trees, rock ledges on cliffs, rugged slopes	Moderate potential to occur in association with Lake San Marcos; no breeding or foraging habitat onsite.
Picoides pubescens	Downy woodpecker	None/None	Nests in deciduous (often willow) woodlands, oak woodlands, orchards, suburban plantings and occasionally conifers	Detected within plan area during 2005 surveys.
Piranga flava (nesting)	Hepatic tanager	None/CSC	Coniferous forests mixed with oak, pinyon-juniper woodland	Low potential to occur as a winter migrant.
Piranga rubra (nesting)	Summer tanager	None/CSC	Nests in riparian woodland; winter habitats include parks and residential areas	Low potential to occur as a winter migrant.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Plegadis chihi (rookery site)	White-faced ibis	SMC/CSC	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries	Detected flying over site during surveys.
Polioptila caeurulea	Blue-gray gnatcatcher	None/None	Chaparral, brushland	Detected within plan area during 2005 surveys.
Polioptila californica californica	Coastal California gnatcatcher	FT, USBC/ CSC/A	Coastal sage scrub, coastal sage scrub-chaparral mix, coastal sage scrub-grassland ecotone, riparian in late summer	Low potential to occur onsite due to lack of significant patches of suitable habitat
Sialia mexicana	Western bluebird	None/None	Open forests of deciduous, coniferous or mixed trees, savanna, edges of riparian woodland	High potential to occur during winter; no breeding potential.
Tachycineta bicolor	Tree swallow	None/None	Nests in cavity-containing trees or snags near or in water; riparian forest and woodland, lodgepole pine belt; forages over water	High potential to occur based on habitats present.
Vireo bellii pusillus (nesting)	Least Bell's vireo	FE, BCC, USBC/SE/A	Nests in southern willow scrub with dense cover within 1-2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas	Suitable habitat is present within the plan area; however, 2005 focused surveys negative.
Wilsonia pusilla	Wilson's warbler	None/None	Nests in montane meadows and low, dense willow thickets; in migration occurs in chaparral, woodlands and forests with shrubs	High potential to occur based on habitats present.
Mammals				
Antrozous pallidus	Pallid bat	BLM/CSC/ WBWG	Rocky outcrops, cliffs, and crevices with access to open habitats for foraging	Low potential to occur based on habitats present.
Chaetodipus californicus femoralis	Dulzura (California) pocket mouse	None/CSC	Coastal sage scrub, chaparral, riparian-scrub ecotone; more mesic areas	High potential to occur onsite.
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	None/CSC	Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse chaparral; rocky substrates, loams and sandy loams	High potential to occur onsite.
Choeronycteris mexicana	Mexican long-tongued bat	None/CSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings.	Low potential to occur based on habitats present.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Coryorhinus townsendii townsendii	Townsend's western big-eared bat	BLM/CSC/ WBWG	Mesic habitats, gleans from brush or trees or feeds along habitat edges	Moderate potential to occur based on habitats present.
Eumops perotis	Western mastiff bat	BLM/CSC/ WBWG	Roosts in small colonies in cracks and small holes, seeming to prefer man-made structures	Moderate potential to occur based on habitats present.
Lasiurus xanthinus	Western yellow bat	None/None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland.	Low potential to occur based on habitats present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/CSC	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands	Low potential to occur due to surrounding urbanization; would have been detected during surveys if present.
Myotis leibii	Small-footed myotis	None/ None	Caves, old mines, abandoned buildings	Low potential to occur based on habitats present.
Myotis thysanodes	Fringed myotis	BLM/None/ WBWG	Open habitats, early successional stages, streams, lakes, and ponds are foraging areas	Moderate potential to occur based on habitats present.
Myotis volans	Long-legged myotis	None/None/ WBWG	Feeds over open water and over open habitats, using denser woodlands and forests for cover and reproduction	Moderate potential to occur based on habitats present.
Myotis yumanensis	Yuma myotis	BLM/None	Closely tied to open water which is used for foraging; open forests and woodlands are optimal habitat	Low potential to occur based on habitats present.
Neotoma lepida intermedia	San Diego desert woodrat	None/CSC	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Low potential to occur onsite.
Nyctinomops femorosaccus	Pocketed free-tailed bat	None/CSC	Rocky desert areas with high cliffs or rock outcrops	Low potential to occur based on habitats present.
Nyctinomops macrotis	Big free-tailed bat	None/CSC	Rugged, rocky canyons	Low potential to occur based on habitats present.
Odocoileus hemionus	Mule deer	None/ Regulated	Coastal sage scrub, chaparral, riparian, woodlands, forest; often browses in open areas adjacent to cover	Low potential to occur onsite due to surrounding urbanization; would have been detected during surveys if present.

Scientific Name	Common Name	Status Federal/State(1)	Primary Habitat Associations	Status Onsite or Potential to Occur
Onychomys torridus ramona	Southern grasshopper mouse	None/CSC	Grassland, sparse coastal sage scrub	Low potential to occur onsite.
Puma concolor	Mountain lion	None/Regulated	Coastal sage scrub, chaparral, riparian, woodlands, forest; rests in rocky areas, and on cliffs and ledges that provide cover	Very low potential to occur due to surrounding urbanization; very unlikely.
Urocyon cinereoargenteus	Gray fox	None/None	Coastal sage scrub, chaparral, riparian, woodlands, forest	High potential to occur.
Fish				
Gila orcutti	Arroyo chub	None/CSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud	Low potential to occur based on habitats present.

Note: (1) The status of species is based on the CDFG (2004) Special Animals List and the State and Federally Listed Endangered, Rare and Threatened Animals of California (CDFG 2005c).

Federal Designations:

BCC Birds of Conservation Concern (U.S. Fish and Wildlife Service)
BLM Bureau of Land Management Sensitive Species
FC Federal candidate for listing (former Category 1 candidates)
FD Delisted species; monitoring for five years
FE Federally-listed Endangered
FT Federally-listed as Threatened
MNBMC Fish and Wildlife Service Migratory Nongame Birds of Management Concern
SMC USFWS Region 1 Species of Management Concern
USBC U.S. Bird Conservation Watch List

State Designations:

CSC California Special Concern Species
P California Department of Fish and Game Protected and Fully Protected Species
Regulated Species that can be hunted but require obtaining a state license
SE State-listed as Endangered
ST State-listed as Threatened

Other Designations:

A Audubon Watch List
USBS United States Bird Conservation Watch List
WBWG Western Bat Working Group High Priority

The project site lies in the MHCP project area. The MHCP was approved and finalized in 2003 (SANDAG 2003) and it contains guidelines by which development of natural habitat containing sensitive species can be regulated. The City began preparing a draft of the City Subarea Plan of the MHCP in December 1999 and although the draft has not yet been approved by the USFWS and CDFG, the plan is a component of the MHCP and is currently being used as a guide for open space design within the City. The intent of the City's Subarea Plan is to identify a citywide preserve system that meets local and regional biological goals while minimizing fiscal and economic impacts to the City and adverse impacts on private property owners (City of San Marcos 2001). To help achieve this goal, certain areas, known as focused planning areas (FPAs), have been designated with

parcel-level preserve goals which will contribute to achieving local and regional conservation goals while minimizing adverse effects on property rights and property values (City of San Marcos 2001). The Northern FPA encompasses approximately 1,184 gross acres and provides for the conservation of coastal sage scrub-dominated land north of Borden Road, west of Twin Oaks Valley Road, east of Las Posas Road, and south of Buena Creek Road (City of San Marcos 2001). The Southern FPA links Carlsbad to Lake Hodges and encompasses approximately 2,349 gross acres of land centered along the ridgeline of Cerro de las Posas, Double Peak, and Frank's Peak (City of San Marcos 2001). The project area is located within the urbanized core of San Marcos and is not located within either the Northern or Southern FPA.

3.3.2 Thresholds of Significance

As per Appendix G of the *CEQA Guidelines*, the proposed project may have a significant effect on the environment if it has the potential to:

a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS.

c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether or not an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions, but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether or not that impact can be mitigated to a level below significance.

3.3.3 Analysis of Project Impacts

Direct impacts were quantified by overlaying the proposed impact limits on a biological resources map of the project site. The impacts have been broken down by direct permanent impacts associated with the roadway improvements, SR-78 culvert, levee construction, and bridge construction, and direct temporary impacts associated with bridge construction. Temporary impacts were determined through the provision of a 30 foot-wide construction work zone on either side of the proposed McMahr Road bridge footprint and 20 foot-wide construction work zone along the toe of the levee and on either side of Via Vera Cruz. As part of the project, existing above-ground utility lines along Bent Avenue, Via Vera Cruz, McMahr Road, and a portion of Discovery Street would be undergrounded. Interim temporary relocation of the lines would be required while roadway improvements are underway during Phase 1 of the project. This relocation would fall within the footprint of disturbance considered for project construction.

Direct impacts associated with the buildout of the Specific Plan area (Phase 2) are also analyzed. The Specific Plan assumes buildout of the entire Specific Plan area. While no specific development plans within the area are proposed at this time, it is recognized that biological resources within the Specific Plan area would be impacted at a later date due to implementation of the Specific Plan.

Indirect impacts result primarily from adverse "edge effects," and may be short-term in nature, related to construction, or long-term in nature, associated with development in proximity to biological resources within natural open space. For the proposed project, it is assumed that the potential indirect impacts resulting from construction activities include dust, noise, and general human presence that may temporarily disrupt species and habitat vitality and construction-related soil erosion and runoff. Long-term indirect impacts resulting from operation of the proposed project may include noise, lighting, invasion by exotic plant and wildlife species, effects of toxic chemicals (e.g., fertilizers, pesticides, herbicides, and other hazardous materials), urban runoff from developed areas, soil erosion, litter, fire, hydrological changes, increased predation of native species, and an increase in general human presence. However, all project grading will be subject to the typical restrictions (e.g., best management practices [BMPs]) and requirements that address erosion and runoff, including the federal Clean Water Act, National Pollution Discharge Elimination System (NPDES), and preparation of a Stormwater Pollution Prevention Plan (SWPPP). The following BMPs will be implemented to reduce impacts during the construction phase:

- A qualified project biologist shall inspect all construction fencing prior to construction and shall monitor construction (grading) activities to avoid unauthorized impacts;
- Prior to construction activities, all wetland areas within or adjacent to construction areas shall be encompassed by orange environmental fencing to protect them from construction;
- Silt fencing or other sediment trapping devices shall be installed and maintained in order to prevent runoff from entering the water systems during construction activities;
- Erosion control shall be adequate to ensure that areas disturbed by the project remain stable and do not erode during rain events;
- Spoil, trash, or any debris shall be removed off-site to an appropriate disposal facility;

- No equipment maintenance shall be conducted within or near any drainage where petroleum products or other pollutants from the equipment may enter these areas under any flow;
- No equipment maintenance shall be conducted near riparian areas where petroleum or ethylene glycol pollutants from the equipment may enter these areas under flow; and
- All construction area limits shall be clearly delineated prior to construction activity with orange construction fencing or silt fencing to ensure that construction activity remains within the defined construction limits. Fencing shall not interfere with wildlife movement.

In addition, the following feature will be implemented as part of project design:

- Install directional lighting (i.e., use of cut-off type fixtures that focus light down and shield surrounding areas) to minimize lighting impacts within the creek;
- Implement landscape controls (i.e., install native landscaping wherever feasible in areas adjacent to preserved habitat);
- Any plants that are defined by the California Native Plant Society as being able to proliferate and aggressively alter or displace indigenous biological communities (CNPS 1996) or any exotic plant species listed in the "Invasive Plant Inventory", published by the California Invasive Plant Council in February 2006 shall be excluded from the project's landscaping design;
- Imported soils shall be free of seed from invasive species.
- Select, design, and utilize BMPs including source control BMPs (i.e., parking lots, signage, and trash enclosures), treatment control BMPs (i.e., constructed wetlands, filter inserts, bio-swales, and catch basins), and site design BMPs (i.e., landscaping).
- Access controls including the construction of permanent physical barriers (fences/walls and gates) and signage to control the access of unauthorized people, vehicles, and pets into and within designated open space would be required. This would include the construction of boundary fencing and signage, trail fencing and signage, and the placement of appropriate gates at accessible points to provide direct access to creek locations. Design and construction of the physical barriers would be consistent with the San Marcos Specific Plan development theme. Plans for fencing and/or other preventative measures and signage would be submitted to the Wildlife Agencies for approval at least 30 days prior to initiating project impacts.

~~In addition, the following project design features will be implemented as part of project design: install directional lighting (i.e., use of cut-off type fixtures that focus light down and shield surrounding areas) to minimize lighting impacts within the creek; implement landscape controls (i.e., install native landscaping wherever feasible in areas adjacent to preserved habitat); select, design, and utilize BMPs including source control BMPs (i.e., parking lots, signage, and trash enclosures), treatment control BMPs (i.e., constructed wetlands, filter inserts, bio-swales, and catch basins), and site design BMPs (i.e., landscaping). Moreover, the project will comply with policies contained in the Specific Plan which seek to preserve and enhance the creek as natural open space.~~

3.3.3.1 Jurisdictional Wetland and Non-Wetland Waters of the U.S.

Direct Impacts – Phase 1

Direct impacts to jurisdictional waters of the U.S, including wetlands, due to implementation of the project were analyzed by individual project component including construction of the earthen levees, community park, development pad, SR-78 hydraulic improvements, improvements to the Via Vera Cruz crossing, installation of the concrete lining just downstream of SR-78, the McMahr Bridge Crossing, the riprap upstream, and the articulated concrete block matrix downstream. These impacts were calculated and are included in Tables 3.3-4 and 3.3-5. As shown in these tables, the project will result in a permanent impact to 23.38 acres of jurisdictional land and a temporary impact to 7.20 acres. These impacts are potentially significant and require mitigation. Figures 3.3-1a and 3.3-1b illustrate the distribution of biological resources in the project area and the locations where proposed impacts would occur with Phase 1 of the project.

Of the 23.38 acres of impacts to jurisdictional wetlands and non-wetland waters of the U.S., 1.14 acres are within the Caltrans SR-78 ROW. Implementation of the SR-78 hydraulic improvements will impact 0.53 acre of freshwater marsh, 0.59 acre of southern willow scrub, and 0.02 acre of open channel. It should be noted that this acreage is included as part of the Phase 1 impacts that are discussed above.

Direct Impacts – Phase 2

Development under Phase 2 of the project, which includes buildout of the Specific Plan, will also impact jurisdictional wetlands. This includes 0.07 acre of southern willow scrub, 0.55 acre of herbaceous wetlands, and 0.16 acre of disturbed herbaceous wetland. These impacts are also potentially significant and require mitigation. These impacts are included in Table 3.3-6.

Indirect Impacts

As discussed in Section 3.3.3, indirect impacts to sensitive upland and wetland vegetation communities could result primarily from adverse “edge effects,” which occur along the development-preservation interface. During construction activities, edge effects may include dust which could disrupt plant vitality in the short-term or construction-related soil erosion and water runoff. In addition, potential long-term indirect impacts to vegetation could include trampling by humans traveling off-trail, invasion by exotic plants and animals, lighting, noise, exposure to urban pollutants (e.g., fertilizers, pesticides, herbicides, and other hazardous materials), soil erosion, and hydrological changes (e.g., surface and groundwater level and quality). However, as identified, project construction and operation will be subject to BMPs and PDFs to ensure temporary and permanent indirect impacts are less than significant.

Table 3.3-4. Direct Project Impacts to Vegetation Communities and Land Covers (Phase 1)

Vegetation Community/ Land Cover	Existing Acreage	Proposed Project Impacts (acres)		Non-Impact
		Permanent Impact	Temporary Impact	
Native Upland Communities/Land Covers				
Coyote Brush Scrub	0.64	0.06	0.58	0
Disturbed Coyote Brush Scrub	4.57	3.26	0.32	0.99
Isocoma Scrub	0.28	0.28	---	0
Disturbed Isocoma Scrub	0.09	0.05	0.02	0.02
Subtotal	*5.58*	*3.65*	*0.92*	*1.01*
Non-Native Upland Communities/Land Covers				
Developed Land	127.56	30.73	7.39	89.44
Annual (Non native) Grassland	21.66	13.09	1.07	7.50
Disturbed Habitat	18.62	4.52	---	14.10
Eucalyptus Woodland	1.15	0.88	0.06	0.21
Ornamental Landscaping	2.82	1.94	0.43	0.45
~~Ruderal~~ Disturbed Land	24.40	13.88	1.92	8.60
Subtotal	*196.21*	*65.04*	*10.87*	*120.30*
Jurisdictional Native Wetland and Non-Wetland Waters				
Southern Willow Scrub	17.82	6.35	3.34	8.13
Disturbed Southern Willow Scrub	0.14	0.14	---	0
California Walnut Woodland	0.49	0.04	0.02	0.43
Freshwater Marsh	2.30	0.96	0.37	0.97
Alkali Meadow	2.33	0.50	0.06	1.77
Disturbed Alkali Meadow	1.31	1.16	0.02	0.13
Herbaceous Wetlands	21.12	6.83	2.39	11.90
Disturbed Herbaceous Wetlands	8.70	7.00	0.88	0.82
Stock Pond	0.02	---	---	0.02
Wetlands Restoration Site	1.80	---	---	1.80
Open Water	0.32	0.23	0.06	0.03
Open Channel	0.62	0.16	0.05	0.41
Subtotal	*56.97*	*23.37*	*7.19*	*26.41*
Jurisdictional Non-Native Wetlands				
Arundo	0.12	0.01	0.01	0.10
Subtotal	*0.12*	*0.01*	*0.01*	*0.10*
TOTAL	258.88	91.53	19.01	148.34

Table 3.3-5. Impacts to Vegetation Communities and Land Covers by Project Component (Phase 1)

Vegetation Community/Land Cover	Permanent Impacts (acres)					Temporary Impacts (acres)				
	SR-78 Culvert Construction	Levee/ Park	Riprap/ Concrete	Bridges	Roads	Bridge Work Zone	Channel Bottom Grading	ACB[1]	Levee/Road Work Zone	Remediation
Southern willow scrub		4.19	1.13	0.40	0.63	0.27	0.62	1.50	0.39	0.56
Disturbed southern willow scrub		0.14								
Walnut woodland		0.02		0.02					0.02	
Herbaceous wetland		6.60	0.06		0.17			1.46	0.44	0.49
Disturbed herbaceous wetland		6.89			0.11		0.70		0.18	
Freshwater marsh		0.20	0.60	0.01	0.15		0.14	0.17	0.06	
Alkali meadow		0.40			0.10				0.06	
Disturbed alkali meadow		1.16							0.02	
Arundo					0.01				0.01	
Open water		0.19			0.04			0.06		
Open channel		0.09	0.07					0.05		
Subtotal	*0*	*19.88*	*1.86*	*0.43*	*1.17*	*0.27*	*1.46*	*3.24*	*1.17*	*1.05*
Coyote brush scrub		0.06					0.58			
Disturbed coyote brush scrub		3.24		0.02			0.09		0.23	
Isocoma scrub		0.28								
Disturbed isocoma scrub		0.05							0.02	
Eucalyptus woodland		0.80			0.08				0.06	
Annual (non-native) grassland		12.35	0.49	0.03	0.22		0.33	0.38	0.36	
~~Ruderal~~ Disturbed land		13.12	0.58	0.01	0.17			0.10	0.70	1.12
Ornamental landscaping		1.94						0.38	0.05	
Disturbed habitat		3.30	1.19		0.03					
Developed land	0.90	29.24	0.37	0.03	0.19	0.03		2.77	2.77	1.82
Subtotal	*0.90*	*64.38*	*2.63*	*0.09*	*0.69*	*0.03*	*1.00*	*3.63*	*4.19*	*2.94*
TOTAL	0.90	84.26	4.49	0.52	1.86	0.30	2.46	6.87	5.36	3.99

Table 3.3-6. Direct Project Impacts to Vegetation Communities and Land Covers (Phase 2)

Vegetation Community/ Land Cover	Acres Impacted (Permanent)
Jurisdictional Native Wetland and Non-Wetland Waters	
Southern willow scrub	0.07
Herbaceous wetlands	0.55
Disturbed herbaceous wetlands	0.16
Eucalyptus woodland	0.10
Sensitive Habitats	
Disturbed coyote brush scrub	0.74
Disturbed isocoma scrub	0.02
Annual (non-native) grassland	1.49
Other Habitats	
Developed land	82.39
Disturbed habitat	13.80
~~Ruderal~~ Disturbed land	1.71
TOTAL	99.32

3.3.3.2 Sensitive Habitats

Direct impacts to vegetation communities were also analyzed by individual Phase 1 project components including construction of the earthen levees, community park, development pad, McMahr Bridge Crossing, SR-78 culvert, the articulated concrete block matrix downstream, and installation of the concrete lining upstream. These impacts were calculated and are included in Table 3.3-5. Figures 3.3-1a and 3.3-1b illustrate the distribution of biological resources in the project area and the locations where proposed impacts would occur due to Phase 1 improvements. Impacts to vegetation, including sensitive habitats, due to Phase 2 of the project are presented in Table 3.3-6. No impacts to sensitive habitats or regulated resources would occur with implementation of the SR-78 hydraulic improvements.

Coyote Brush Scrub and Isocoma Scrub (Direct Permanent and Direct Temporary Impacts)

Implementation of Phase 1 of the project would result in direct permanent impacts to 0.06 acre of coyote brush scrub; 3.26 acres of disturbed coyote brush scrub; 0.28 acre of isocoma scrub; and 0.05 acre of disturbed isocoma scrub. Direct temporary impacts to 0.58 acre of coyote brush scrub, 0.32 acre of disturbed coyote brush scrub, and 0.02 acre of disturbed isocoma scrub would also occur due to project implementation. None of the Phase 1 impacts to these habitat types would occur within the Caltrans SR-78 ROW. Phase 2 of the project would result in a permanent impact to 0.74 acre of disturbed coyote brush scrub and 0.02 of disturbed isocoma scrub. Combined, Phases 1 and 2 of the project will impact result in to 0.58 acre of coyote brush scrub, 1.06 acres of disturbed coyote brush scrub, and 0.04 acre of disturbed isocoma scrub. These impacts are considered significant and require mitigation.

Annual (Non-Native) Grassland (Direct Permanent and Direct Temporary Impacts)

Implementation of Phase 1 of the project would result in direct permanent impacts to 13.09 acres of annual (non-native) grassland and direct temporary impacts to 1.07 acre within the project area. None of the Phase 1 impacts to this habitat types would occur within the Caltrans SR-78 ROW. Phase 2 of the project would result in a permanent impact to 1.49 acres of annual (non-native) grassland. In total, Phases 1 and 2 of the project will result in 15.65 acres of annual (non-native) grassland.

Annual (non-native) grassland is considered a sensitive habitat by local, state, and federal agencies. Although annual (non-native) grassland provides habitat for a variety of sensitive wildlife species and foraging raptors, impacts to annual (non-native) grassland outside of a Focused Planning Area (FPA) do not require mitigation in accordance with the City's Draft Subarea Plan. The project site is not located within an FPA. Therefore, a less than significant impact is identified for impacts to annual (non-native) grassland. No mitigation is required.

Eucalyptus Woodland (Direct Impacts)

Implementation of Phase 1 of the project would result in direct permanent impacts to 0.88 acre of eucalyptus woodland and direct temporary impacts to 0.06 acre within the project area. None of the Phase 1 impacts to this habitat type would occur within the Caltrans SR-78 ROW. Phase 2 of the project would result in permanent impacts to 0.10 acre of eucalyptus woodland. Combined, Phases 1 and 2 will result in impact to 1.04 acre of eucalyptus woodland. These impacts are considered significant because eucalyptus woodland provides nesting habitat for a variety of raptors which, as a group, are considered sensitive; however, eucalyptus woodland in and of itself it is not considered sensitive by local, state, and federal agencies and therefore impacts to eucalyptus woodland as a vegetation community are not significant. Potential impacts to nesting raptors are discussed in Section 3.3.3.5. No mitigation is required for the loss of eucalyptus woodland.

3.3.3.3 Other Habitats

Developed Land

Phase 1 of the project would result in direct permanent impacts to 30.73 acres and direct temporary impacts to 7.39 acres of developed land. This includes 1.29 acres within the Caltrans SR-78 ROW. Phase 2 of the project would result in permanent direct impacts to 82.39 acres of developed land. The combined impact to developed land due to Phase 1 and 2 would be 120.51 acres. These impacts are not considered significant because this land cover has no biological resource value and it provides very limited to no habitat value for most native species. Also, developed land is not considered sensitive by local, state, and federal agencies and, therefore, impacts to developed land are not significant. No mitigation is required.

Disturbed Habitat

Phase 1 of the project would result in direct permanent impacts to 4.52 acres of disturbed habitat, including 1.13 acres within the Caltrans SR-78 ROW. No direct temporary impacts to disturbed habitat are anticipated to occur. Phase 2 of the project would result in direct permanent impacts

13.80 acres of disturbed habitat. Combined, Phases 1 and 2 will result in impact to 18.14 acre of disturbed habitat. The impact to disturbed habitat is not considered significant because this habitat has little biological resource value and it provides very limited habitat value for most native species. Also, disturbed habitat is not considered sensitive by local, state, and federal agencies and, therefore, impacts to developed land are not significant. No mitigation is required.

~~Ruderal~~ Disturbed Land

Phase 1 of the project would result in direct permanent impacts to 13.88 acres of ~~ruderal~~disturbed land and direct temporary impacts to 1.92 acres. This includes 0.01 acre of impact within the Caltrans SR-78 ROW. Phase 2 of the project would result in permanent impacts to 1.71 acres of ~~ruderal~~disturbed land. Combined, Phases 1 and 2 will result in impact to 17.51 acre of disturbed land. The loss of this habitat is not significant because it is not considered a sensitive vegetation community by local, state, and federal agencies. Therefore, impacts to ~~ruderal~~disturbed land are not significant. No mitigation is required.

Ornamental Landscaping

Phase 1 of the project would result in direct permanent impact to 1.94 acres of ornamental landscaping. Additionally, Phase 1 improvements would result in a direct temporary impact to 0.43 acre of ornamental landscaping. No impacts to ornamental landscaping are identified for Phase 2 of the project. Impacts to ornamental landscaping are not significant because this land cover is not considered a sensitive vegetation community by local, state, and federal agencies. Therefore, impacts to ornamental landscaping are not significant. No mitigation is required.

3.3.3.4 Sensitive Plants

Direct Impacts

Implementation of the proposed project would result in direct impacts to approximately 2,400 southern tarplant individuals and six southwestern spiny rush individuals during Phase 1 project improvements, as shown on Figures 3.3-1a and 3.3-1b. Additionally, buildout of the Specific Plan under Phase 2 of the project would result in impact to approximately 1,600 additional southern tarplant individuals. This represents a significant impact. Impacts to 0.06 acre of California walnut woodland would not impact any southern California black walnut individuals. No direct impact to sensitive plants would occur with implementation of the SR-78 hydraulic improvements.

Indirect Impacts

As identified, BMPs would be implemented to minimize impacts to sensitive plants, including indirect impacts resulting from construction activities. Impacts would be less than significant.

3.3.3.5 Sensitive Wildlife

Direct Impacts

Four CSC species, one BLM species, one USBC Watch List species, and one species considered sensitive by local agencies were detected in the project area: yellow-breasted chat, yellow warbler, green heron, black-crowned night heron, Cooper's hawk, snowy egret, and two-striped garter snake. While these species were detected within the low flow regions of San Marcos Creek, outside of the direct impact area, impacts to these species would be potentially significant and require mitigation. ~~Impacts to sensitive wildlife species will only occur during Phase 1 project improvements.~~ No direct impact to sensitive wildlife species would occur with implementation of the SR-78 hydraulic improvements. Within the Phase 2 portion of the project is coyote scrub and isocoma scrub. These types of habitat have the potential to support gnatcatchers. This species is expected to have a low potential to occur on the project site. However, in the event that gnatcatchers do move into that habitat, any impacts to the gnatcatcher would be considered significant. Therefore, a potentially significant impact to gnatcatchers is identified.

Indirect Impacts

Most of the indirect impacts to vegetation communities and sensitive plants cited above can also affect sensitive wildlife. In addition, wildlife may be indirectly affected in the short-term and long-term by noise and lighting, respectively, which can disrupt normal activities and subject wildlife to higher predation risks.

Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. Therefore, indirect impacts from construction-related noise may occur to sensitive wildlife if construction occurs during the breeding season (i.e., February 15 through August 31 for most bird species; and January 1 through August 31 for raptors). In addition, habitat impacts, particularly to trees, could result in an impact to birds covered under the Migratory Bird Treaty Act if they are nesting during the time of vegetation removal. While BMPs are in place to reduce construction-related indirect impacts, impacts resulting from construction noise would still occur. This represents a potentially significant impact.

Lighting is also a potential long-term indirect impact that may disrupt wildlife activity on a long-term basis. However, project design features would include directional lighting to assist in directing light away from any adjacent native habitat to avoid long-term indirect impacts to sensitive wildlife.

Also, adverse edge effects can cause degradation of habitat quality through the invasion of pest species. This represents a potentially significant impact. However, as identified above, project construction and operation will be subject to BMPs and PDFs to ensure temporary and permanent indirect impacts are less than significant.

3.3.3.6 Wildlife Movement Corridors

San Marcos Creek would be directly affected by the proposed project due to levee construction, roadway improvements, installation of articulated concrete block at the downstream end for hydraulic purposes, and construction of the McMahr Road bridge crossing. The floodplain in areas

west of Bent Avenue has an average width of approximately 500 feet. This area of the floodplain has been, and would continue to be, targeted for wetlands restoration and enhancement, thereby providing additional wildlife habitat and increasing the functionality of this portion of the creek as a local wildlife corridor greater than what exists in the current condition. The onsite revegetation efforts along with existing revegetation efforts in the area would connect and expand existing patches of native habitat and would enhance wildlife habitat use along the riparian corridor by providing increased plant cover and protection. Wildlife diversity and density are expected to increase as a result of the expanded habitat cover. Implementation of the proposed project would not result in permanent direct impacts to the habitat linkage or movement corridor functions of San Marcos Creek. A majority of San Marcos Creek would continue to remain preserved in open space and the linkage would be retained, providing connectivity to existing open space by retaining a vegetated riparian corridor from Lake San Marcos to SR-78.

Therefore, implementation of the proposed project is not expected to preclude the use of onsite and adjacent habitat by wildlife or hinder its suitability as a local habitat linkage and wildlife corridor. There would be no significant impacts to habitat linkages or wildlife corridors within the project area. No mitigation is required.

3.3.3.7 MHCP Consistency

The City's Subarea Plan, while not yet approved, is a component of the MHCP and is currently being used as a guide for open space design within the City. Flood improvement features incorporated within the project design including the construction of earthen levees from Bent Avenue/Craven Road west to the golf course are deemed necessary for the public health, safety, and welfare and as such are deemed consistent with the goals, standards, and policies of the City's Subarea Plan. Therefore, the project as proposed would not conflict with the goals and standards of the City's draft Subarea Plan.

Circulation elements of the proposed project including the improvements to Bent Avenue, Discovery Street, and Via Vera Cruz, as well as the construction of bridge crossings at Grand Avenue (to be developed separately by another party under a separate project) and McMahr Road are necessary improvements to provide emergency access, evacuation roads, and alleviate circulation constraints in the area and as such are deemed consistent with the goals, standards, and policies of the City's Subarea Plan.

3.3.3.8 General Plan Consistency

Table 3.3-7 summarizes the project's consistency with the applicable goals, policies, and implementing strategies of the Conservation Element of the City of San Marcos General Plan.

Table 3.3-7. Project Consistency with Relevant Biological Goals and Policies (San Marcos General Plan)

Goal, Policy or Implementing Strategy	Project Consistency
Goal 1: To preserve the natural resources of the planning area, including dominant landforms, plant and animal habitats, and water courses.	This section identifies potential impacts resulting from implementation of the proposed project and mitigation measures that can reduce these impacts to below a level of significance. Therefore, implementation of the proposed project would not preclude preservation of natural resources of the planning area, and the project is consistent with this goal.
Policy 3: Preserve and enhance significant biological resources for the protection of rare and endangered species and for the maintenance of sensitive habitats	This section identifies potential impacts to rare and endangered species resulting from implementation of the proposed project and mitigation measures that can reduce these impacts to below a level of significance. Therefore, implementation of the proposed project would not preclude preservation of natural resources of the planning area, and the project is consistent with this policy.
Implementing Strategy 3.1: Prior to development approval, require a biological assessment performed by a qualified biologist in sensitive habitat and areas where the rare and endangered species are known or reasonably estimated to be present.	A biological assessment was performed for the proposed project to identify sensitive habitats and areas where rare and endangered species are known to be present. The results of this assessment are summarized in this section. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.2: Require a biological survey for development proposed near or adjacent to riparian and wetland habitats.	As identified, the proposed project site supports a diverse assemblage of riparian and other wetland habitats. A biological resources assessment was performed for the proposed project. The results of this assessment are summarized in this section. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.3: Prohibit tree poaching, the needless removal/destruction of mature oaks and sycamores, and the unlawful hunting of wildlife.	Implementation of the proposed project would comply with all applicable rules and regulations and would not preclude compliance with this strategy.
Implementing Strategy 3.5: Require buffers or setbacks to prevent adverse impacts to riparian and wetland habitats.	The project would result in temporary and permanent impacts to San Marcos Creek due to development of Phase 1 project components. Future development associated with Phase 2 of the project (build out of the Specific Plan) would include a setback to prevent adverse impacts to riparian and wetland habitats. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.6: Conserve plant communities by integrating them into the project design where feasible, and/or implement techniques such as transplanting, seed gathering, and reseeding.	The project includes transplantation for two sensitive plant species that would be impacted on the project site. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.7: Preserve sensitive plant species wherever feasible, using transplanting only as a last resort.	As identified, direct and indirect impacts to sensitive southern tarplant and southwestern spiny rush would occur with implementation of the proposed project; however, mitigation in the form of transplantation is provided to reduce impacts to below a level of significance. Therefore, the project is consistent with this implementing strategy.

Goal, Policy or Implementing Strategy	Project Consistency
Implementing Strategy 3.8: Integrate large tree stands of oaks, sycamores, willows, and/or cottonwoods into project design, where feasible. Where removal cannot be avoided, mature (36"-48") specimen trees at a 1:1 ratio shall be provided as part of the final landscape plan.	No oak, sycamore, willow, and/or cottonwood individuals or stands are located on the proposed project site. Implementation of the proposed project would not prevent removal of these species. Landscaping in the Specific Plan includes oak, sycamore, and cottonwood individuals as recommended species, among others. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.9: Require new development to preserve and set aside identified, native southern California grassland habitat as a native preserve.	Implementation of the proposed project would not impact native southern California grassland habitat. Preservation of this habitat is not required. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.10: Require specific plans for Specific Plan Areas to minimize impacts on biological resources by using methods such as transferring densities and clustering development.	The San Marcos Creek Specific Plan would be developed primarily as a mixed-use development, with a focus on clustered development (floor area ratios range from 1.25:1 to 2.25:1). In addition, 77.0 acres of open space are proposed as part of the proposed project. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.11: Consult the California Department of Fish and Game and the HCP prior to the development of any areas determined to support populations of black-tailed gnatcatchers. Where feasible, the known habitat of this species shall be preserved. However, in cases where habitat is either highly localized, isolated from other larger blocks of habitat, or marginal as determined by low population densities, off-site mitigation shall be considered. In particular, the assemblage or enhancement of habitat areas shall be considered for greater mitigation effectiveness.	The proposed project site is not known to support populations of gnatcatcher. Implementation of the proposed project would not preclude preservation of habitat utilized by this species. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.12: Require open space preservation as a condition of project approval where feasible and effective to preserve rare or unique plants and wildlife.	The project proposes 77.0 acres of open space, including natural and restored habitat, parks, and streetscapes. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.13: Require open space preservation as a condition of project approval to preserve significant natural features.	The project proposes 77.0 acres of open space, including natural and restored habitat, parks, and streetscapes. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.14: Require open space preservation as a condition of project approval to preserve significant historical and archaeological sites.	The project proposes 77.0 acres of open space, including natural and restored habitat, parks, and streetscapes. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 3.15: Require the designation of open space within proposed development projects in sensitive or significant natural areas.	The project proposes 77.0 acres of open space, including natural and restored habitat, parks, and streetscapes. Therefore, the project is consistent with this implementing strategy.

3.3.4 Mitigation Measures

Permanent Impacts to Jurisdictional Wetland and Non-Wetland Waters of the U.S. (Phase 1 of Project)

MM 3.3-1 Permanent impacts to jurisdictional waters of the U.S., including wetlands, totaling 23.38 acres due to Phase 1 improvements, shall be mitigated per the ratios identified in the table below:

Habitat Types	Permanent Impacts (acres)	Mitigation Ratio	Mitigation Acreage	
			Creation	Enhancement
Southern willow scrub	6.35	3:1	6.35	12.70
Disturbed southern willow scrub	0.14	3:1	0.14	0.28
Walnut woodland	0.04	1:1	0.04	---
Freshwater marsh	0.96	1:1	0.96	---
Herbaceous wetlands	6.83	1:1	6.83	---
Disturbed herbaceous wetlands	7.00	1:1	7.00	---
Alkali meadow	0.50	1:1	0.50	---
Disturbed alkali meadow	1.16	1:1	1.16	---
Open water	0.23	1:1	0.23	---
Open channel	0.16	1:1	0.16	---
Arundo	0.01	1:1*	--	0.01
TOTAL	23.38	---	23.37	12.99

Note: Mitigation for impacts to arundo will be mitigated at a 1:1 ratio with a native wetland community that would mimic similar functions of this habitat.

Of the 57.09 acres of jurisdictional waters and wetlands identified within the project area, 33.71 acres would remain preserved as open space and enhanced/restored, where appropriate, as part of the mitigation efforts for this project.

To achieve the appropriate hydraulics for the proposed levee, specific areas of the channel at both the downstream and upstream ends were designated for energy dissipation purposes. In lieu of riprap, a plantable articulated concrete block (ACB) matrix system (i.e., Armorflex or a suitable alternative approved of by the resource agencies) would be installed to allow for onsite revegetation. The mitigation ratios for wetland and non-wetland waters impacts are proposed in accordance with the 1989 federal "no net loss of wetlands" policy, which states that for each acre of wetlands impact, an acre must be restored, enhanced, and/or created thus maintaining and/or increasing the overall wetlands present. Thus, a total of 36.36 acres of wetlands mitigation is proposed to compensate for permanent wetlands impacts to 23.38 acres.

Of the 36.36 acres of proposed mitigation, 23.38 acres would be created both onsite and offsite and the remaining 12.99 acres would be either created and/or enhanced. Approximately 10 acres of wetlands mitigation would occur within the project area, where feasible, and would allow for terracing onsite in order to promote the growth of different types of vegetation and to better imitate

floodplain-like functions. The balance of the mitigation obligation, totaling approximately 26.36 acres, would occur at an off-site location(s). The off-site locations would be reviewed and approved by the City Planning Director. The criteria for the mitigation site includes a preference for a site in the same watershed or in geographic proximity, and replaces the function and value of the wetland lost.

The details of the revegetation program would be described in a conceptual wetlands mitigation and monitoring plan, which would be prepared and submitted to the USACE, RWQCB, and CDFG during the wetlands permitting phase of the project. The conceptual wetlands mitigation and monitoring plan would address all impacts to jurisdictional areas as well as mitigation needed to compensate for those impacts in accordance with resource agency permit requirements. The plan would summarize existing site conditions, discuss the project description and impacts, outline the goals of the revegetation program, detail the planting design, address plant materials sources and lead time, describe installation requirements, irrigation sources, erosion control, maintenance and monitoring requirements, and outline reporting/documentation requirements.

Permanent Impacts to Jurisdictional Wetland and Non-Wetland Waters of the U.S. (Phase 2 of Project)

MM 3.3-2 Permanent impacts to jurisdictional waters of the U.S., including wetlands, totaling 0.78 acres due to Phase 2 development, shall be mitigated per the ratios identified in the table below. This mitigation would be the responsibility of future developers within the Specific Plan Area, if the habitat identified in the table below occurs on their specific project area.

Habitat Types	Permanent Impacts (acres)	Mitigation Ratio	Mitigation Required
Southern willow scrub	0.07	3:1	0.21
Herbaceous wetlands	0.55	1:1	0.55
Disturbed herbaceous wetlands	0.16	1:1	0.16
TOTAL	0.78	---	0.92

Temporary Impacts to Jurisdictional Wetland and Non-Wetland Waters of the U.S. (Phase 1)

MM 3.3-3 Temporary impacts during Phase 1 to vegetated wetlands, totaling 7.20 acres, shall be restored at a 1:1 ratio to pre-construction contours and vegetation types.

MM 3.3-4 A weed eradication program shall also be implemented during the revegetation site preparation procedures and would continue throughout the long-term maintenance period. The mitigation areas, through expansion of the riparian zone, should provide increased benefits to native wildlife by providing additional buffering effects from the adjacent developments, increasing habitat diversity and increasing foraging opportunities, thus increasing the overall habitat function and value of this portion of San Marcos Creek.

Impacts to Sensitive Upland Habitat (Phase 1)

MM 3.3-5 Permanent and temporary impacts to 0.64 acre of coyote brush scrub, 3.58 acres of disturbed coyote brush scrub, 0.28 acre of isocoma scrub, and 0.07 acre of disturbed isocoma scrub due to Phase 1 of the project would be mitigated at a proposed ratio of 1:1 in accordance with the City's draft Subarea Plan. Therefore, a total of 4.57 acres of mitigation is required for impacts to these vegetation communities. This mitigation shall occur through off-site creation, enhancement, and/or preservation of 4.57 acres of coastal sage scrub, or any variant described herein.

Impacts to Sensitive Upland Habitat (Phase 2)

MM 3.3-6 Future development within the Specific Plan area (Phase 2) would result in impact to 0.74 acre of disturbed coyote brush scrub and 0.02 acre of disturbed isocoma scrub. This habitat would be mitigated at a proposed ration of 1:1 in accordance with the City's Draft Subarea Plan. Therefore, a total of 0.76 acres of mitigation is required for impacts to these vegetation communities. This mitigation shall be the responsibility of future developers within the Specific Plan Area, if the habitat identified above occurs on their specific project area.

Impacts to Sensitive Plants – Southern Tarplant (Phase 1)

MM 3.3-7 Impacts to 2,400 southern tarplant due to Phase 1 of the project shall be mitigated through relocation to suitable on- and off-site locations. This would be achieved through a combination of direct transplanting of mature plants, direct seeding, and planting of southern tarplant grown from seeds collected from the project area. Southern tarplant salvage areas shall be flagged for seed collection and individual plant salvaging during the appropriate collection period. Seed shall be collected from populations to be impacted and stored for subsequent seeding efforts at proposed translocation sites. A portion of the seed shall be propagated at a native plant nursery to produce container plants for out-planting at the proposed translocation sites. Each southern tarplant translocation site shall be designed in a location(s) where long-term viability of the populations can be assured (size of translocation site to be based upon original impacts to the existing population, estimated at 2,400 individuals). Soils and solar exposure shall be comparable to the original donor site. The translocated populations shall border native areas or shall be established in context to the native plant revegetation effort, to help avoid invasion of non-native plant species. Proof of habitat acquisition shall be provided to the Planning Director prior to issuance of a grading permit. Additionally, the final restoration plan designed to achieve the above-specified performance measures shall be approved by the Planning Director.

Impacts to Sensitive Plants – Southern Tarplant (Phase 2)

MM 3.3-8 Impact to 1,600 southern tarplant due to future development in the Specific Plan area (Phase 2), shall be mitigated through relocation to suitable on- and off-site locations. This would be achieved through a combination of direct transplanting of mature plants, direct seeding, and planting of southern tarplant grown from seeds collected

from the project area. Southern tarplant salvage areas shall be flagged for seed collection and individual plant salvaging during the appropriate collection period. Seed shall be collected from populations to be impacted and stored for subsequent seeding efforts at proposed translocation sites. A portion of the seed shall be propagated at a native plant nursery to produce container plants for out-planting at the proposed translocation sites. Each southern tarplant translocation site shall be designed in a location(s) where long-term viability of the populations can be assured (size of translocation site to be based upon original impacts to the existing population, estimated at 1,600 individuals). Soils and solar exposure shall be comparable to the original donor site. The translocated populations shall border native areas or shall be established in context to the native plant revegetation effort, to help avoid invasion of non-native plant species. Proof of habitat acquisition shall be provided to the Planning Director prior to issuance of a grading permit.

Impacts to Sensitive Plants- Southwestern Spiny Rush (Phase 1)

MM 3.3-9 Direct impacts to six southwestern spiny rush shall be mitigated through replanting within the project area. A total of six southwestern spiny rush individuals would be planted within the project area within suitable riparian habitat.

Impacts to Sensitive Wildlife (Phases 1 and 2)

MM 3.3-10 To reduce indirect impacts to migratory birds, the City shall retain a qualified biologist to provide biological monitoring while work occurs within San Marcos Creek to assure that sensitive species present within the creek are not directly impacted by the proposed work. Construction would be phased, where feasible, to avoid work during the breeding season (*i.e.*, January through September). If construction activity is to commence during the breeding season (January 1 through September 15), a one-time pre-construction biological survey for nesting bird species must be conducted within the proposed impact area 72 hours prior to construction. This survey is necessary to assure avoidance of impacts to nesting raptors (i.e., Cooper's hawk) and/or birds projected by the federal Migratory Bird Treaty Act. If any active nests are detected, the area would be flagged and mapped on the construction plans along with a minimum of a 25-foot buffer and up to a maximum buffer of 300 feet for raptors, as determined by the project biologist, and would be avoided until the nesting cycle is complete.

MM 3.3-11 Prior to issuance of grading permit, a protocol California coastal gnatcatcher survey shall be required. The survey shall be conducted by a permitted CAGN biologist. If the habitat is found to be occupied by a California gnatcatcher, no clearing or construction shall be allowed during the breeding season (February 15 – August 31). If construction should occur during the breeding season, a 300-foot buffer shall be established between construction activities and any occupied habitat. Protocol survey results shall be submitted to the Planning Director and USFWS for review.

3.3.5 CONCLUSION

Implementation of the proposed project would result in direct and indirect impacts to biological resources during both Phase 1 and Phase 2 of the project. Specifically, the project would result in significant impacts to jurisdictional wetland and non-wetland waters of the U.S. Impacts to these communities would be mitigated to below a level of significance through on- and off-site wetland habitat enhancement and/or restoration. The proposed project would also result in impacts to sensitive habitat including coyote brush and isocoma scrub. Mitigation for these losses would include off-site creation, enhancement, and/or preservation of like habitats. Impacts to sensitive plants including southern tarplant and southwestern spiny rush would be mitigated through on- and off-site relocation efforts and planting of spiny rush individuals within the project area in suitable riparian habitat, respectively. Potential impacts to sensitive wildlife would be mitigated by conducting a one-time pre-construction biological survey for nesting bird species ~~and~~, ~~avoiding~~ avoidance of any active nests, and performance of a protocol gnatcatcher survey.~~.~~ With incorporation of these mitigation measures, impacts to biological resources would be less than significant.

3.4 CULTURAL RESOURCES

This section summarizes the cultural resources technical study, historical buildings evaluation, and the archaeological evaluation of prehistoric site CA-SDI-17423 prepared for the project by ASM Affiliates (~~2007~~2006, 2007a and 2007b). The complete ~~technical~~ reports ~~is~~ are included ~~in~~ as ~~Appendix~~ Appendices D.1, D.2 and D.3 of this Environmental Impact Report (EIR). It should be noted that within this chapter, the impacts for the State Route (SR) 78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the EIR for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

3.4.1 Environmental Setting

Cultural resources are places, structures, or objects that are important for scientific, historic, and/or religious reasons to cultures, communities, groups, or individuals. Cultural resources include historic and prehistoric archaeological sites, architectural remains, engineering structures, and artifacts that provide evidence of past human activity. They also include places, resources, or items of importance in the traditions of societies and religions.

3.4.1.1 Regulatory Setting

Federal, State, and local governments have developed laws and regulations designed to protect significant cultural resources that may be affected by actions that they undertake or regulate. The National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), and the California Environmental Quality Act (CEQA) are the basic federal and state laws governing preservation of historic and archaeological resources of national, regional, State and local significance.

State historic preservation regulations affecting this project include the statutes and guidelines contained in CEQA (Pub. Resources Code, §20183.2, 21084.1; *CEQA Guidelines*, §15064.5). CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. An "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record or manuscript, which is historically or archaeologically significant (Pub. Resources Code, §5020.1). Section 15064.5 of the *CEQA Guidelines* specifies criteria for evaluating the importance of cultural resources, including:

1. The resource is associated with events that have made a contribution to the broad patterns of California history;
2. The resource is associated with the lives of important persons from our past;
3. The resource embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important individual or possesses high artistic values; or
4. The resource has yielded, or may be likely to yield, important information in prehistory or history.

Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office

of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associates and societies be solicited as part of the process of cultural resources inventory. In addition, California law protects Native American burials, skeletal remains and associated grave goods regardless of the antiquity and provides for the sensitive treatment and disposition of those remains.

The State Historic Preservation Office (SHPO) also maintains the California State Register of Historic Resources (CRHR). Properties that are listed on the National Register of Historic Properties (NRHP) are automatically listed on the CRHR, along with State Landmark and Points of Interest. The CRHR can also include properties designated under local ordinances or identified through local historical resource surveys.

San Marcos General Plan – Conservation Element

The Conservation Element of the San Marcos General Plan contains several policies pertaining to the protection of archaeological and cultural resources. The following policies apply to the project: the following guiding principles to preserve historic and cultural resources:

- Goal 3, Policy 5.3: Require either preservation of identified archaeological sites or the professional retrieval and local curation of artifacts prior to the development of a site.
- Goal 3, Policy 6.4: Encourage the preservation of historic structures on their existing site.
- Goal 3, Policy 6.5: Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of preservation or conservation alternatives, including relocation or reconstruction.
- Goal 3, Policy 6.5: Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of preservation or conservation alternatives, including relocation or reconstruction.
- Goal 3, Policy 6.6: Encourage adaptive reuse for historic structures.

3.4.1.2 Archaeological Resources

Native Americans have occupied San Diego County for the past 10,000 years. The period from 10,000 to 1,300 years ago is referred to as the Early Period or the Archaic Period. The San Dieguito community is generally accepted as the first inhabitants of the region, occupying San Diego County as early as 10,000 years ago. The initial occupation, the San Dieguito Complex, is believed to represent a group of people who entered San Diego County from the desert. These people hunted, fished, milled plant foods, and collected and processed shellfish. The occupation from at least 8,300 years ago to roughly 1,300 years ago has also been referred to as the La Jolla Complex and Pauma Complex. Archaeological sites reflecting this occupation are coastal shell habitation sites, inland hunting and milling campsites, and quarry sites. The San Dieguito and the La Jolla/Pauma Complexes are believed to be of the same cultural stock, representing a long period of occupation by one people.

Occupation after 1,300 years ago (Late Period) is well-documented by numerous Kumeyaay/Diegueño and Luiseño habitation sites. Artifacts and cultural patterns reflecting Late

Period occupation include small projectile points, pottery, obsidian from Obsidian Butte, and cremations.

One previously recorded site, SDI-12735, is situated in the northwestern portion of the project site. It was previously evaluated by and determined to be a significant resource pursuant to CEQA (Bissell 1992). Mitigation included archaeological monitoring of controlled destruction since the site was going to be destroyed by channelization of San Marcos Creek and its tributaries for a flood control project. SDI-12735 was located during the pedestrian survey undertaken for the proposed project and approximately 10 chipped stone artifacts were identified within the channelized stream bed. The surface of the site has been completely graded and leveled and no further work is recommended for this site.

Additionally, during the pedestrian survey, another archaeological resource was located. CA-SDI-17423 was found in the far eastern portion of the project area just north of Discovery Lane on a small alluvial ridge that is currently occupied by horses. The site consists of a light to moderate density scatter of metavolcanic and quartz debitage. Approximately 30 artifacts were observed on the surface which was more than 70 percent obscured by thick grass. Disturbance to the surface has been extensive with plowing and excavation modifying the natural ground surface. Boulders have also been displaced across the site surface and rusted metal is scattered across the site. A subsequent archaeological investigation of prehistoric site CA-SDI-17423 was conducted to evaluate the site's eligibility for listing on the CRHR. Shovel test pits were excavated to determine the presence or absence of subsurface cultural materials. Prehistoric artifacts recovered from CA-SDI-17423 included seven retouched flakes, one utilized flake, one modified cobble, one percussing tool, one hand stone, and 493 pieces of debitage. The recovered subsurface deposits were substantially intact. Based on this information, CA-SDI-17423 appears to be eligible for listing in the California Register as it is likely to yield information regarding the little-known Archaic-period Pauma Complex of northern San Diego County.

~~Subsurface cultural deposits at this site are expected to be minimal as basal non-cultural granitic clay can be seen protruding out in certain areas where topsoil has been deflated or removed~~

Native American consultation included a letter dated December 15, 2006, sent to the Native American Heritage Commission (NAHC), requesting a review of the Sacred Lands Inventory, as well as a list of Native American individuals who may have knowledge of cultural resources in the project area. Subsequent letters were sent to potentially affected tribes pursuant to Senate Bill 18 on January 3, 2007. To date, one request for consultation has been received by the City. This request was submitted by the San Luis Rey Band of Mission Indians.

SR-78 Hydraulic Improvements – Archaeological Resources

Based upon the field survey and records search, no archaeological resources were identified within the footprint of the proposed SR-78 hydraulic improvements. Therefore, no impact would occur to archaeological resources due to implementation of the SR-78 hydraulic improvements.

3.4.1.3 Historical Resources

Ten structures were identified within the project site that may qualify as an historic resource during the initial site visit. A preliminary assessment of the buildings was completed. This assessment included photo-documentation and documentation of the structural and architectural features of each building, and a records search to determine the date of construction for each building. This assessment also provided an initial determination if the structure may be eligible for inclusion in the California Registry of Historical Resources (CRHR). Table 3.4-1 summarizes the results of the assessment.

Table 3.4-1. Results of Preliminary Assessment of Eligibility

Address	APN Number	Date	Recommendation
918 Discovery Street	221-051-21-00	1900	Eligible for CRHR
922 Discovery Street	221-051-21-00	1910	No eligible for CRHR based upon additional research.
952 Discovery Street	221-051-21-00	1958	Not eligible; no further work recommended.
988 Discovery Street	221-051-33-00	1959	Not eligible; no further work recommended.
430 Via Vera Cruz	221-051-38-00	1973	Not eligible; no further work recommended.
545 McMahr Road	221-051-58-00	1945/1956	Meets age threshold but of standard design and without distinguishing characteristics. Formal evaluation to CRHR not warranted.
552 McMahr Road	221-041-57-00	1959	Not eligible; no further work recommended.
560 McMahr Road	221-041-18-00	1948	Meets age threshold but of standard design and without distinguishing characteristics. Formal evaluation to CRHR not warranted.
1235 Discovery Street	221-042-18-00	1959	Not eligible; no further work recommended.
1241 W. San Marcos Blvd.	221-041-33-00	1961	Appears to be part of adjacent trailer park. No further work recommended.

Additional analysis was conducted for the structures at 918 and 922 Discovery Street, as well as the structures at 545 and 560 McMahr Road. The information is presented below.

918 Discovery Street and 922 Discovery Street

The house at 918 Discovery Street is a two-story wood-frame house with shiplap siding. The structural features of the house, including the shiplap siding, tall narrow windows and doors, and the gabled dormers, indicate that this is a vernacular Victorian house. County Assessor residential building records provide a date of construction of 1900. A building is shown in this location on the 1901 UGSG 15' map, suggesting that this house has been at this location for over one hundred years. The historical integrity of the exterior of the house is good. The original windows and doors are largely intact, as is the shiplap siding. The house maintains sufficient integrity to convey its original appearance and function.

922 Discovery is a small one-story side-gabled wood frame house. There appear to be three phases of construction in this house: the original end gabled house with board-and-batten siding, the extension

to the west side with shiplap siding and the recent addition to the east of the house. County Assessor's residential building records provide a date of construction of 1910 for the earliest phase of construction of this building. The historical integrity of the house is compromised by later alterations.

The structures at 918 and 922 Discovery Street are located on a single parcel. A chain of title search was conducted. Once property owners were identified, research was conducted at local libraries. This research identified that the parcel was owned by John F. Couts in the late 1880's. John Cout's association with the property was not long lived and he sold his interests to the San Marcos Land Company in 1889. In 1889, the San Marcos Land Company sold the property to Wilhelm Meyer. The Meyer family was associated with the property for over 50 years. It is likely that the property in at 918 Discovery Street was construction after Wilhelm Meyer purchased the land. The property was subleased to William Doran in 1907-08 and a crop mortgage was taken out on the property. In 1907, Doran shot a man to death over a dispute on a business matter. He was eventually acquitted. Doran went on to become a well-known resident and respected figure in the community of San Marcos, and between 1917 and 1919 he was twice elected to the State Assembly. In 1943, the property was sold to Asa and Effie Meador. In 1958 Asa's son constructed a house at 925 Discovery Street. Part of the property was sold to Gerald and Annette Jackson and the remainder of the property was sold to James H. Nichols in 2000.

The structure at 918 Discovery Street is only one of approximately 20-25 buildings remaining in San Marcos that date back to the early decades of the City's history. This structure is recommended as eligible for the California Register under Criterion A for its association with early settlement and ranching in the San Marcos area. The 918 Discovery structure is also recommended as eligible for the California Register under Criterion B for its association with William Doran, a rancher and Assemblyman. As an elected official he represented his district's interests in the State Assembly over two years. The fact that he received 90 to 95 percent of the votes from his district reflects the level of support he had within his district. Finally, this structure is also eligible under Criterion C as a good example of vernacular Victorian architecture as adapted to a farmhouse in San Diego County at the turn of the 20th century.

The structure at 922 Discovery has had major additions, which altered the appearance of the house. Further it no longer retains integrity of design, materials, workmanship, or association. Therefore, it is not recommended as being eligible for the CRHR.

545 and 560 McMahr Road

Two buildings, 545 McMahr and 560 McMahr were constructed in the 1940s and are, therefore, over fifty years old. Building permit records for 545 McMahr provide a date of construction of 1945. However, County Assessor records for the property provide a date of 1956. It appears that the building may have been moved to this location in 1956. Even though 545 McMahr and 560 McMahr are over 50 years old, they are very standard design for the period, are without distinguishing characteristics and, therefore, do not appear eligible to the CRHR. Formal evaluation to the CRHR is not recommended for these resources.

SR-78 Hydraulic Improvements – Historical Resources

Based upon the field survey and records search, no historical resources were identified within the footprint of the proposed SR-78 hydraulic improvements.

Entire Project Site – Paleontological Resources

The project site includes alluvium soils. Alluvium has the potential to support paleontological resources; however it depends on the age and source of alluvium. If it is a recent-in-age alluvium, then it has a low propensity to have fossils. If the alluvium is Pleistocene in origin or older, it may be sensitive. Surface alluvium is usually recent in age.

3.4.2 Thresholds of Significance

The determination of significance is based on the CEQA State Guidelines (Appendix G). Impacts to cultural resources would be significant if the project would:

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Disturb or indirectly destroy a unique palentological resource or site or unique geologic feature; and/or
- Disturb any human remains, including those interred outside of formal cemeteries.

3.4.3 Project Impacts

Archaeological Resources

Development of the project would impact CA-SDI-17423, an archaeological site containing a light to moderate density of scatter of metavolcanic and quartz debitage. ~~While the subsurface cultural deposits at the site are expected to be minimal, additional archaeological testing is required to determine the complete extent of the site. Until additional testing is performed, the site is determined to be~~ –A subsequent archaeological investigation of prehistoric site CA-SDI-17423 was conducted to evaluate the site's eligibility for listing on the CRHR. Based upon the results of that investigation, CA-SDI-17423 appears to be eligible for listing in the California Register as it is likely to yield information regarding the little-known Archaic-period Pauma Complex of northern San Diego County. Due to the requirements of the project design, these archaeological resources cannot be preserved in their present location. Therefore, impacts to this resource would be considered significant.~~are potentially significant~~.

Additionally, grading activities in areas that are currently undeveloped may result in a potentially significant impact to resources that were not discovered during the initial site reconnaissance, due to heavy vegetative cover. This is particularly relevant in areas that have not been developed adjacent to San Marcos Creek. Destruction of unknown archaeological resources represents a potentially significant impact.

Historical Resources

Based upon the analysis completed by the historical resources consultant, only the structure at 918 Discovery Street is eligible for the CRHR. Based upon that eligibility, preservation in place is preferred. Alternatively, adaptive re-use of the building for community purposes may be considered. If it is not possible to preserve or reuse in place, it is recommended that the structure be moved to another site. Based upon the design of the floodway improvement project, and the need to raise up the property where the structure at 918 Discovery is located, preserving in place or adaptive reuse of the building is not feasible. Due to the requirements of the project design, the structure cannot be maintained in its present location. This represents a significant impact.

Human Remains

The cultural resources field survey prepared for the project did not identify any human remains or find any indications that they would be expected to be found on the project site. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be prehistoric, the Coroner would notify the Native American Heritage Commission (NAHC), which would determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 24 hours of notification by the NAHC. The MLD may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Adherence to State Health and Safety Code Section 7050.5 would occur as a matter of course, and would ensure that impacts are less than significant.

Paleontological Resources

Any new ground-disturbing activity has the potential to unearth previously unidentified paleontological resources, particularly in areas underlain by sedimentary formations. The project site includes alluvium soils. Alluvium has the potential to support paleontological resources; however it depends on the age and source of alluvium. If it is a recent-in-age alluvium, then it has a low propensity to have fossils. If the alluvium is Pleistocene in origin or older, it may be sensitive. Surface alluvium is usually recent in age. However, the potential exists for paleontological resources to be located in the alluvium area. This represents a potentially significant impact.

SR-78 Hydraulic Improvements

Based upon the records search and field survey, no impact to archaeological resources, historical resources or human remains is identified for this component of the project. There is a potential for paleontological resources to occur on the project site, including the area identified for the SR-78 hydraulic improvements. This represents a potentially significant impact for paleontological resources.

Consistency with Conservation Element

Consistency with the applicable goals of Conservation Element of the San Marcos General Plan are presented in Table 3.4-2.

Table 3.4-2. Consistency with Applicable Cultural Resources Goals and Policies (San Marcos General Plan)

Goal, Policy or Implementing Strategy	Project Consistency
Goal 3, Policy 5.3: Require either preservation of identified archaeological sites or the professional retrieval and local curation of artifacts prior to the development of a site	While preservation of CA-SDI-17423 is not feasible, m~~M~~itigation has been identified ~~for CA-SDI-17423,~~ which includes ~~a testing program and retrieval/curation if the resource is determined to be significant~~an archaeological data recovery program to preserve and analyze a substantial portion of the site's information value. Therefore, the project is consistent with Goal 3, Policy 5.3 of the Conservation Element.
Goal 3, Policy 6.4: Encourage the preservation of historic structures on their existing site.	Preservation of the structure at 918 Discovery Street is not feasible for the project. Due to the design of the floodway improvements, the area where the structure is located needs to be raised and recontoured. Therefore, preservation of the historic structure is not feasible. Relocation and rehabilitation of the structure is proposed instead.
Goal 3, Policy 6.5: Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of preservation or conservation alternatives, including relocation or reconstruction.	Preservation of the structure at 918 Discovery Street is not feasible (see discussion for Policy 6.4 above). An evaluation of the condition of the structure was completed. Based upon the evaluation, it was determined that relocation and rehabilitation of the residence is feasible. This requirement has been included as mitigation measure MM 3.4-4.
Goal 3, Policy 6.6: Encourage adaptive reuse for historic structures.	Adaptive re-use of the structure at 918 Discovery Street is not feasible for this project. However, the structure will be relocated.

3.4.4 Mitigation Measures

Archaeological Resources

MM 3.4-1 An archaeological data recovery program shall be prepared for CA-SDI-17423 that includes the following: (1) An acceptable data recovery plan stating the specific research goals and questions that are to be addressed if archaeological deposits are to be recovered; (2) postfield artifact processing and analysis; (3) report of findings; and (4) permanent curation of artifacts at a qualified institution in order to preserve and analyze a substantial portion of the site's information value.

Feature recovery shall employ standard archaeological excavation techniques. The data recovery shall be developed and implemented in consultation with interested local Native American groups. A final report on the results of the archaeological recovery shall be submitted to the Planning Director and the Southcoast Information Center. Curation and report submittal shall occur prior release of the grading bond for the project.

~~Prior to issuance of a grading permit for floodway and infrastructure improvements, a testing program shall be prepared for CA-SDI-17423. The testing program shall consist of surface collection and mapping of all cultural materials; excavation of shovel test units to identify site boundaries; and the excavation of a minimum of two 1x1 meter test units to determine whether the site contains a subsurface deposit. If the site is found to be non-eligible for inclusion in the California Register, then no additional mitigation would be necessary.the materials recovered during the testing program would be curated at a qualified institution and no further mitigation would be required. However, if the site is determined to be eligible for inclusion in the California Register, mitigation of impacts in the form of data recovery would be required.~~

MM 3.4-2a All initial grading activities in undeveloped areas bordering San Marcos Creek within the project boundary shall be monitored by a qualified archaeologist. In the event that buried archaeological resources are exposed during project construction, work within 50 feet of the find shall stop until the archaeologist can identify and evaluate the significance of the discovery and develop recommendations for treatment. The archaeologist shall also have the authority to make an informed, final decision to either resume construction or require more extensive investigation. If the discovered cultural resources display the potential to be significant, the archaeologist shall notify the City of San Marcos immediately, and all work shall stop immediately within an expanded 100-foot radius pending resolution of the discovery. Recommendations could include preparation of a treatment plan, which could require recordation, collection and analysis of the discovery; preparation of a technical report; and curation of the collection and supporting documentation at a qualified institution. At the completion of the activity that requires an archaeological monitor, the monitor shall submit a monitoring report including a daily log of all monitoring activity and possible recommendations to the Planning Director.

MM 3.4-2b Prior to the issuance of a grading permit, the project applicant shall enter into a pre-excavation agreement with the San Luis Rey Band of Mission Indians. The pre-excavation agreement shall include the following: (1) a culturally affiliated Native American monitor during initial grading activities; (2) the return of cultural items that may be found during project construction; and (3) proper treatment and reburial of any remains found.

Historical Resources

MM 3.4-3 Prior to relocation of the residence at 918 Discovery Street, an Historic American Building Survey (HABS) shall be conducted. The survey shall be prepared by a qualified historian and shall include large-format black and white photography of the exterior elevations and interior of the house. The survey shall also include a ground plan of the building, additional archive research and preparation of a detailed history of the building and its occupants.

MM 3.4-4 Prior to any surface disturbance activities associated with the floodway improvement project, the residence at 918 Discovery Street shall be relocated to another location

within the City of San Marcos. Upon relocation, the residence shall be rehabilitated. Rehabilitation shall occur in a manner that is consistent with the Secretary of the Interior's Standards for Rehabilitation.

Paleontological Resources

MM 3.4-5 Prior to the issuance of the grading permit for any grading within the project area (including Caltrans ROW), a qualified paleontologist shall review the proposed project area to determine the potential for paleontological resources to be encountered. If there is a potential for paleontological resources to occur, the paleontologist shall identified the area(s) where these resources are expected to be present, and a qualified paleontological monitor shall be retained to monitor the initial cut in any areas that have the potential to contain paleontological resources.

If fossils are discovered during project construction, the paleontologist shall recover them. In most cases, this fossil salvage can be completed in short period of time. However, some fossil specimens may require an extended salvage period. Under this scenario, the paleontologist shall be allowed to temporarily divert or direct grading and excavation to allow for recovery of fossil remains.

3.4.5 Conclusion

Implementation of the project ~~has the potential to significantly~~ will result in a significant impact to CA-SDI-17423, an archaeological site that is eligible for listing in the CRHR ~~contains a light to moderate density scatter of metavolcanic and quartz debitage~~. A mitigation measure requiring data recovery of the site has ~~have~~ been identified that would reduce the impact to below a level of significance. Additionally, project grading has the potential to destroy unidentified archaeological resources that may have been obscured by dense vegetation. A mitigation measure has been included which would require an archaeological and tribal monitor during grading activities adjacent to San Marcos Creek, would reduce this impact to below a level of significance. Future development associated with the project would impact one building, a house located at 918 Discovery Street. This house is eligible for inclusion on the CRHR. Demolition of this house would result in a significant impact. An HABS would be required prior to relocation of the house. The project would relocate the house to another area of San Marcos and subsequent rehabilitation. This would reduce the significant impact identified to the house to below a level of significance. Further mitigation has been identified to reduce potential impact to unknown paleontological resources to below a level of significance. In summary, all impacts to archaeological, historical, and paleontological resources would be mitigated to below a level of significance.

3.5 HAZARDS AND HAZARDOUS MATERIALS

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Hazardous materials include solids, liquids, or gaseous materials that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, could pose a threat to human health or to the environment. These properties are defined in the California Code of Regulations (CCR), Title 22, Sections 66261.20-66261.24. Hazards include the risks associated with potential explosions, fires, or release of hazardous substances in the event of an accident or natural disaster, which may cause or contribute to an increase in mortality or serious illness, or pose substantial harm to human health or the environment. Within typical construction sites, materials that could be considered hazardous include diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, lubricant oils, adhesives, pipeline materials/equipment, human waste, and chemical toilets. A "hazardous waste" is any hazardous material that is discarded, abandoned, or to be recycled. The criteria that render a material hazardous also make a waste hazardous (California Health and Safety Code, Section 25117). Please see Section 3.6, Hydrology and Water Quality, for a discussion of levee design as it relates to a potential safety issue.

It should be noted that within the impact analysis section of this chapter, the impacts for the SR-78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the EIR for issuance of an encroachment permit for work within the Caltrans right-of-way.

3.5.1 Environmental Setting

The area proposed for the Specific Plan is a relatively flat alluvial plain that slopes very gradually from east to west with San Marcos Creek, a perennial stream, running the length of the project area. The creek is culverted and enters the area from the east under SR-78 and exits the area under Discovery Road at the west end near San Marcos High School, approximately ¼ mile west of the project site. Site elevations generally rise only 5 to 10 feet above the creek bottom across most of the site. As a result, roughly two-thirds of the area is located within the 100-year floodplain.

The project area currently includes a mixture of low-density commercial, legal conforming and non-conforming industrial, and residential uses and undeveloped open lands. Approximately 55 percent of the proposed Specific Plan area is vacant or undeveloped. Existing development is generally limited to the northern portion of the area and is oriented primarily to San Marcos Boulevard and secondarily to perpendicular side streets. The southern portion of the area surrounding San Marcos Creek is predominantly undeveloped and vacant.

Airport Proximity

The project site is not located within an airport land use plan, nor is it within two miles of a public airport or in the vicinity of a private airstrip.

Wildland Fire

The project site is located in an urbanized portion of the City and proposed adjacent to areas of existing development. According to the California Department of Forestry, Fire and Resource

Assessment Program, the project site carries both a "moderate" and a "non-fuel" designation for fire risk.

Database Search

A database search was conducted by Environmental Data Resources (EDR) in January 2007. Results of the search are presented in Figure 3.5-1. The database search indicated that several locations within the project area that appear on a state or local database for hazardous materials. Several leaking underground storage tank cases (both historical and current) were identified within the project area, as detailed below:

- Texaco, 615 San Marcos Boulevard (post-remedial action monitoring)
- San Marcos Auto Mall, 755 San Marcos Boulevard (case closed)
- San Marcos Auto Center, 747 San Marcos Boulevard (work plan submitted)
- TLC Carwash, 740 West San Marcos Boulevard (leak being confirmed)
- First National Bank, 885 San Marcos Boulevard (case closed)
- Lloyd Pest Control, 223 Bent Avenue South (case closed)

In three of the six instances, the cases are closed, which means adequate remediation of the site has occurred. In the remaining three instances, the leak is being confirmed or a work plan for the clean up is being prepared. All leaking tanks would be subject to clean up. Assessment and clean up is governed by the Porter Cologne Water Quality Control Act (Water Code) and Chapter 16 (Article 11) of the Underground Storage Tank Regulations.

Some existing businesses within the project area use hazardous materials in their daily operations, or generate hazardous waste materials. These include dental and veterinary practices, auto repair and oil change businesses, and gasoline stations. These businesses are required to comply with state regulations for the handling and disposal of these materials.

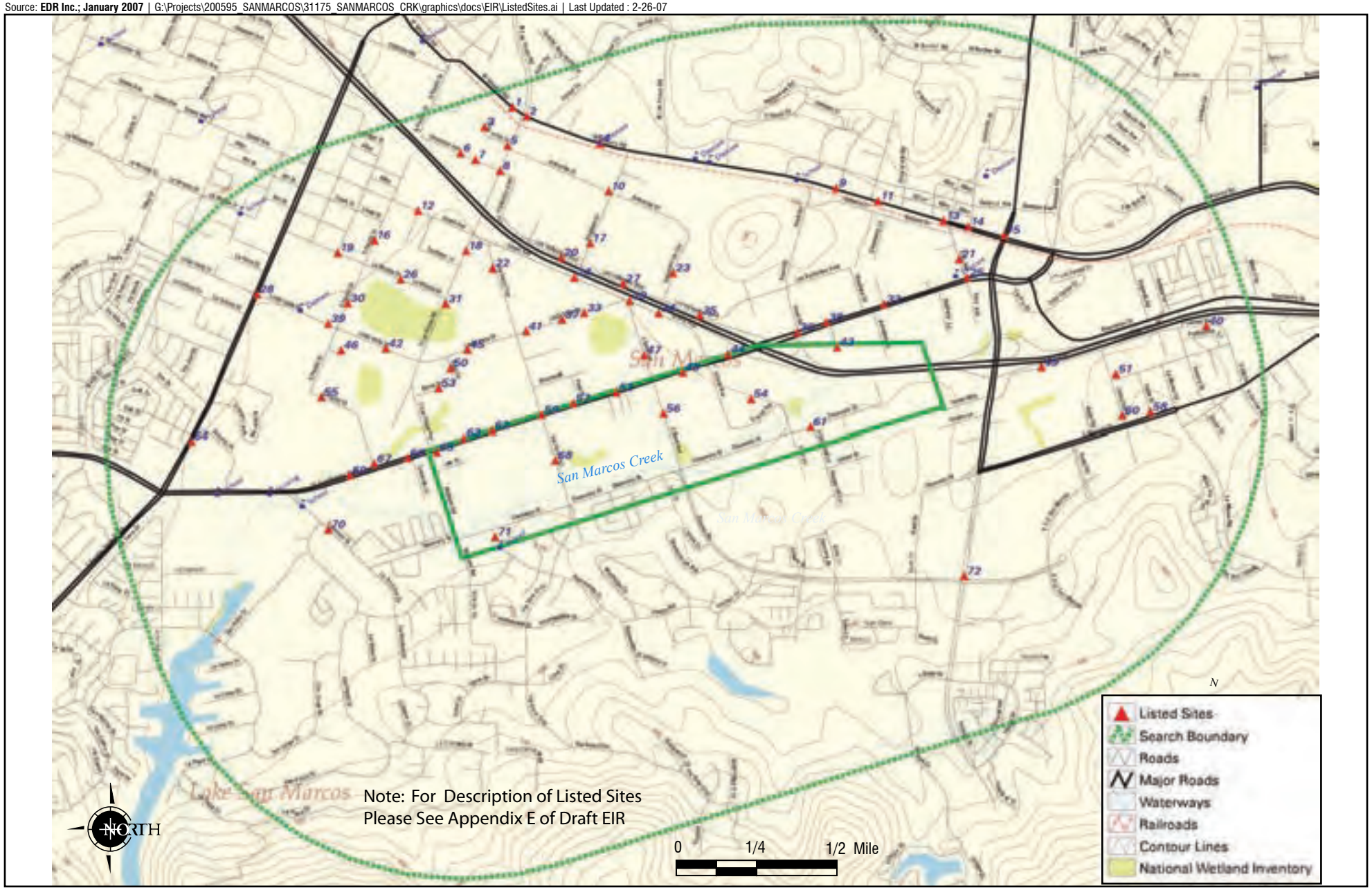
Regulatory Setting

The term hazardous substance refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous by such an agency.

The California Environmental Protection Agency, Department of Toxic Substances Control (Cal-EPA, DTSC) defines hazardous waste, as found in the California Health and Safety Code Section 25141(b), as follows:

> […] its quantity, concentration, or physical, chemical, or infections characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed.

Source: **EDR Inc.; January 2007** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\ListedSites.ai | Last Updated : 2-26-07



Listed Hazardous Sites

FIGURE 3.5-1

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Many agencies regulate hazardous substances. The following discussion contains a summary review of regulatory controls pertaining to hazardous substances, including federal, State, and local laws and ordinances.

Federal Regulations

Federal agencies that regulate hazardous materials include the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials.

- Federal Water Pollution Control
- Clean Air Act
- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Comprehensive Environmental Response, Compensation, and Liability Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act

Prior to August 1992, the principal agency at the federal level regulating the generation, transport and disposal of hazardous waste was the EPA under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the California Department of Toxic Substance Control (DTSC) was authorized to implement the State's hazardous waste management program for the EPA. The federal EPA continues to regulate hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

CERCLA, commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Subsection 101(40) of CERCLA defines "bona fide prospective purchaser" (BFPP) as a person, or tenant of that person, who acquires ownership of a facility after the date of enactment of the Brownfields Amendments, January 11, 2002. A BFPP may be subject to a "windfall lien" under the CERCLA Section 107(r), up to the amount of unrecovered response costs incurred by the United States at a facility for which the owner is not liable as a BFPP, and where the response action increases the fair market value of the facility. As to the amount and duration of any windfall lien, the Brownfields Amendments state that the amount is not to exceed the increase in fair market value attributable to the response action at the time of sale or other disposition of the property. The windfall lien arises at the time response costs at the facility are incurred by the United States, and shall continue until the earlier of satisfaction of the lien by sale or other means, or, notwithstanding any statute of limitations under CERCLA Section 113, recovery of all response costs incurred at the facility.

State Regulations

The Cal-EPA and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

Assembly Bill 387 and Senate Bill 162 provide a comprehensive program to ensure that hazardous material contamination issues are adequately addressed prior to school development. The program involves the preparation of a Phase I Environmental Site Assessment to determine whether a release of a hazardous material has occurred onsite in the past or if there may be a naturally occurring hazardous material present at the site. Based on the information gathered, the Phase I should conclude that either: (1) no recognized environmental conditions were identified, or (2) a Preliminary Endangerment Assessment (PEA) is necessary.

San Marcos General Plan – Safety Element

The following are applicable goals and policies from the City of San Marcos General Plan, Safety Element related to hazards:

- Policy 7: Minimize damage from hazardous materials.
- Implementing Strategy 7.1: Limit and control the manufacture, storage or use of hazardous materials in San Marcos through the development review process and the Hazardous Materials Disclosure regulation.
- Implementing Strategy 7.2: Implement a Household Toxics Disposal Program.
- Implementing Strategy 7.3: Designate routes for the transportation of hazardous materials, in compliance with Federal and State regulations.

San Diego Department of Environmental Health

The San Diego County Department of Environmental Health provides environmental health services to all residents in the County. Among the environmental health programs of the department are the Hazardous Materials Division, which address such issues as solid waste, hazardous wastes, and above-ground and underground storage tanks.

3.5.2 Thresholds of Significance

The project would have a significant impact if it would:

- Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Create a significant hazard to the public or the environment through the routine transport, use of disposal of hazardous materials;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area; and/or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

3.5.3 Project Impacts

Based upon the Initial Study prepared for the project, it was determined that the project would have a less than significant impact on emergency response plans. Therefore, this issue area is not addressed further in the Draft EIR.

Release of Hazardous Materials

Future uses proposed within the project area include residential, commercial and office uses. These types of land uses are not typically characteristic of generating, releasing or using large amounts of hazardous materials. However, depending on the future tenants of the commercial or office uses, such as doctors or dentist, small amounts of medical waste could be generated. Additionally, some of the units may be a live/work loft scenario whereby artists could be working with potentially hazardous materials. These businesses are required to comply with state regulations for the handling and disposal of these materials. Therefore, a less than significant impact is identified for this issue area.

Transport, Use or Disposal of Hazardous Materials

The proposed project would involve the transport of fuels, lubricants, and various other liquids needed for operation of construction equipment at the site and would be transported to the construction site on an as-needed basis by equipment service trucks. In addition, workers would

commute to the project site via private vehicles, and would operate construction vehicles/equipment on both public and private streets. Materials hazardous to humans, wildlife, and sensitive environments would be present during project construction of the buildings. These materials include diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, lubricant oils, adhesives, human waste, and chemical toilets. The potential exists for direct impacts to human health and biological resources from accidental spills of small amounts of hazardous materials from construction equipment during construction of the buildings; however, existing federal and state standards are in place for the handling, storage and transport of these materials. Because compliance with these standards is required through these regulations, no significant impacts are expected due to the transport, use, or disposal of hazardous materials.

Future uses proposed within the project area include residential, commercial and office uses. These types of land uses are not typically characteristic of generating or using large amounts of hazardous materials. Residential uses may use and generate hazardous materials via the use of household cleaning products as well as the generation of universal waste, such as batteries and electronics. Depending on the future tenants of the commercial or office uses, such as doctors or dentists, small amount of medical waste could be generated. Additionally, pesticides, herbicides and fungicides may be used in landscape maintenance. These businesses are required to comply with state regulations for the handling and disposal of these materials. For household-generated hazardous materials, collection points are located in the North County San Diego area to provide proper disposal of these items. Therefore, a less than significant impact is identified for this issue area.

The project would require the import of up to 650,000 cubic yards of fill material. Since this is a long-term project and the actual start date for Phase 1 improvements has not been identified, the ultimate source of the fill material has not been identified. The City would seek a source for clean fill that is as close as possible to the project site to minimize cost. In the event that the fill contained hazardous materials, there is a potential for a significant hazard impact. Mitigation is provided in Section 3.5.4 to address this potential impact.

SR-78 Hydraulic Improvements

Potential hazard impacts associated with the SR-78 hydraulic improvements would be similar to those identified in the discussion above for the transport and use of hazardous materials. Construction activities would require the transport of fuels, lubricants, and various other liquids needed for operation of construction equipment at the site and would be transported to the construction site on an as-needed basis by equipment service trucks. In addition, workers would commute to the project site via private vehicles, and would operate construction vehicles/equipment on both public and private streets. Materials hazardous to humans, wildlife, and sensitive environments would be present during the construction of the SR-78 hydraulic improvements. These materials include diesel fuel, gasoline, equipment fluids, concrete, cleaning solutions and solvents, lubricant oils, adhesives, human waste, and chemical toilets. The potential exists for direct impacts to human health and biological resources from accidental spills of small amounts of hazardous materials from construction equipment during construction of the buildings; however, existing federal and state standards are in place for the handling, storage and transport of these materials. Additionally, project design measures have been incorporated into the project (see Section 2.0) that include prohibition of equipment maintenance and fueling where petroleum or ethyl glycol pollutants from equipment many enter riparian areas. Because compliance with these standards is required through these regulations, and design measures are part of the project, no significant impacts are expected due to

the transport, use, or disposal of hazardous materials as it pertains to the SR-78 hydraulic improvements.

Improvements to SR-78 will require the removal of existing roadway materials. There is a potential for these features to contain asbestos-containing materials and lead based paint. Additionally, the yellow thermoplastic paint stripe and pavement marking may contain aerially deposited lead. Further, there is the potential for creosote to be a component of the guard rails. Therefore, the removal of these materials as part of the hydraulic improvements represents a potentially significant impact.

Underground Storage Tanks

As discussed in Section 3.5.1, a total of six leaking underground storage tanks have been recorded on the project site. In three of the six instances, the cases are closed, which means adequate remediation of the site has occurred. Of the remaining three instances, one tank has been subject to clean up and is undergoing post-remedial monitoring, for the other two tanks, the leaks are being confirmed or a work plan for the clean up is being prepared. All leaking tanks would be subject to clean up. Assessment and clean up is governed by the Water Code and Chapter 16 (Article 11) of the Underground Storage Tank Regulations. In the event that project construction begins before the tanks are cleaned up, there is a potential for a significant impact to occur.

In addition to the leaking underground storage tanks identified on the project site, other listed sites were identified within the project area. There is a potential for these listed sites to create hazardous conditions on the project site. Future development on the project site could encounter hazardous materials. This represents a potentially significant impact.

Some existing businesses within the project area use hazards materials in their daily operations, or generate hazardous waste materials. These include dental and veterinary practices, auto repair and oil change businesses, and gasoline stations. These businesses are required to comply with state regulations for the handling and disposal of these materials. As the project site redevelops per the proposed Specific Plan, these legal non-conforming and non-conforming uses would be eliminated and any potential clean up issues would be addressed at that time pursuant to applicable state and federal requirements.

Asbestos-Containing Materials and Lead-Based Paints

Future buildout of the project vicinity would result in the removal or relocation of older structures that could contain hazardous materials such as asbestos-containing materials (ACM) and lead-based paint (LBP). Asbestos is a strong, incombustible resistant material which was used in many commercial products prior to the 1940s and up until 30 years ago. If inhaled, asbestos fibers can result in serious health problems. Based upon the cultural resources study prepared for the project, there are ten structures within the project footprint that are of an age where ACMs could be an issue. If ACMs are present, removal of the structures would result in a potentially significant impact.

Intact LBP is not considered a hazardous material. However, LBP in poor condition (peeling and cracking) can create potential health hazards for building occupants, especially children. Based upon the cultural resources study prepared for the project, there are four structures within the project footprint that are over 50 years old. Due to the age of the structures, it is likely that LBP was used. If these materials are present, removal of the structures would result in a potentially significant impact.

Public and Private Airports

The project site is not located within an airport land use plan, nor is it within two miles of a public airport or in the vicinity of a private airstrip. Therefore, no impact is identified for this issue area.

Wildland Fire Hazards

The project site is located in an urbanized portion of the City and proposed adjacent to areas of existing development. According to the California Department of Forestry, Fire and Resource Assessment Program, the project site carries both a "moderate" and a "non-fuel" designation for fire risk. The project site is not characterized as being in an urban/wildland interface. The City of San Marcos Fire Department has indicated that current response times to the project site are less than five minutes. Additionally, the project site would be added to a Fire Community Facilities District as individual properties within the Specific Plan area are developed, and would pay the appropriate fees to offset any impacts to fire protection services (M. Ernau 2007). Therefore, a less than significant impact related to wildland fire hazard is identified for the project.

Consistency with General Plan

The project's consistency with the applicable goals and policies of the City's General Plan Safety Element are identified in Table 3.5-1.

Table 3.5-1. Proposed Project Consistency with Applicable Safety Goals (San Marcos General Plan)

Goal, Policy, or Implementing Strategy	Project Consistency
Policy 7: Minimize damage from hazardous materials.	This section identifies potential impacts to hazards and hazardous materials resulting from implementation of the proposed project and mitigation measures that can reduce these impacts to below a level of significance. Therefore, the project is consistent with this goal.
Implementing Strategy 7.1: Limit and control the manufacture, storage or use of hazardous materials in San Marcos through the development review process and the Hazardous Materials Disclosure regulation.	As identified above, the proposed project would involve the transport, storage, and disposal of hazardous materials; however, existing regulations are in place for the handling, storage, and transport of hazards and hazardous materials. Compliance with these standards is required and a less than significant impact is identified. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 7.2: Implement a Household Toxics Disposal Program.	As identified above, residential uses may use and generate hazardous materials via the use of household cleaning products as well as the generation of universal waste, such as batteries and electronics. However, existing regulations are in place for the handling and disposal of these materials. For household-generated hazardous materials, collection points are located in the North County area to provide proper disposal of these items. A less than significant impact is identified and the project is consistent with this implementing strategy.
Implementing Strategy 7.3: Designate routes for the transportation of hazardous materials, in compliance with Federal and State regulations.	See response to Implementing Strategy 7.1. As identified, the proposed project would involve the transport of hazardous materials; however, existing regulations are in place for hazardous material transport. Compliance with these standards is required and a less than significant impact is identified. Therefore, the project is consistent with this implementing strategy.

3.5.4 Mitigation Measures

Transport, Use or Disposal of Hazardous Materials

MM 3.5-1a Fill material for levee construction and earthwork activity shall be free of organic matter, hazardous materials or other unsatisfactory materials. Written verification shall be provided to the City Engineer that the fill is free of hazardous materials prior to the transport of fill material to the project site.

MM 3.5-1b Prior to the issuance of any grading, demolition, or building permits for the project site, a Risk Management Plan (RMP) shall be prepared for the project site. At a minimum, the RMP shall establish soil and groundwater mitigation and control specifications for grading and construction activities at the site, including health and safety provisions for monitoring exposure to construction workers, procedures to be undertaken in the event that previously unreported contamination is discovered, and emergency procedures and responsible personnel. The RMP shall also include procedures for managing soils and groundwater removed from the site to ensure that any excavated soils and/or dewatered groundwater with contaminants are stored, managed, and disposed of in accordance with applicable regulations and permits. The RMP shall also include an Operations and Maintenance Plan component, to ensure that health and safety measures required for future construction and maintenance at the project site shall be enforced in perpetuity. The RMP shall be submitted to the City Fire Department for review and approval.

Underground Storage Tanks

MM 3.5-2 Prior to initiation of any grading, it shall be confirmed that there are no hazardous materials on the project site. In the event that hazards materials are found on the project site, the materials shall be remedied in accordance with all federal and state requirements. Remediation shall be completed prior to construction within the impacted area.

MM 3.5-3 Project construction in areas where leaking underground storage tanks have been identified shall be avoided until proper clean up of the tanks pursuant to adopted state regulations has occurred. All clean up shall occur under a Workplan approved and overseen by the appropriate regulatory agency that has jurisdiction for the clean up. The Workplan shall include a summary of any Phase 1 and Phase II investigations and a summary table of sampling results for which hazardous materials were found.

Asbestos-Containing Materials and Lead-Based Paints (Floodway Improvements and Phase 2)

MM 3.5-4 Prior to demolition of any facilities or relocation of any buildings on the project site, a licensed asbestos inspector shall be retained to determine the presence of asbestos and asbestos containing materials (ACMs) within structures. The inspection shall be consistent with the federal and state occupational exposure standards for asbestos and ACMs. The applicant shall comply with all applicable state and federal abatement policies and procedures for removal of ACMs present on the site.

MM 3.5-5 Prior to demolition of any facilities or relocation of any buildings on the project site, a licensed lead-based paint (LBP) inspector shall be retained to determine the presence of lead-based paint and lead-based paint containing materials (LBPCM) within structures. The inspection shall be consistent with federal and state occupational exposure standards for LBP and LBPCM. The applicant shall comply with state and federal abatement policies and procedures for removal of LBP and LBPCM present on the site.

Asbestos-Containing Materials, Lead-Based Paints and Creosote-Containing Materials (SR-78 Hydraulic Improvements)

MM 3.5-6 Prior to removal of roadway and associated structures for the SR-78 hydraulic improvements, an assessment for hazardous materials (asbestos, lead-based paint and/or creosote) shall be conducted by a licensed inspector. Handling and disposal of asbestos-, lead- and creosote-containing materials (if found), shall be performed by a certified contractor according to Cal-OSAH guidelines, Title 8, Section 1532.1(e)(2)(B) and Section 1529 of the California Code of Regulations, and Federal EPA guidelines. Additionally, if asbestos-, lead-, or creosote-containing materials are discovered, a Health and Safety plan shall be prepared. The Health and Safety Plan shall be submitted to Caltrans prior to construction and shall address the effects to persons working onsite and offsite, use of proper personal protective equipment onsite, handling and disposal measures of yellow paint and yellow thermalplastic paint and strip or pavement markings.

3.5.5 Conclusion

Potential significant hazard impacts were identified for the project related to the potential for hazardous materials in the levee fill material, the presence of leaking underground storage tanks on the project site, and the potential for asbestos-containing materials and lead-based paint. Specifically, existing structures that are proposed for removal may contain asbestos-containing materials and lead-based paint due to their age. Mitigation measure 3.5-1 has been included to ensure that fill material for levee construction and earthwork activity is clean and free of any potential hazardous materials. Mitigation measure MM 3.5-2 would be implemented to ensure that any hazardous materials that are found on the site are remedied in accordance with all federal and state requirements. Mitigation measure MM 3.5-3 has been included to ensure that any leaking underground storage tanks on the project site are cleaned up prior to project construction within those areas where the tanks are located. Implementation of Mitigation Measures MM 3.5-4 ~~and~~through -MM 3.5-6~~5~~ would ensure that potential impacts associated with lead-based paint and asbestos containing materials due to demolition of structures within the Specific Plan area and the SR-78 hydraulic improvement area would be reduced~~e~~ ~~this potential impact~~ to below a level of significance. With incorporation of these mitigation measures, potentially significant impacts would be reduced to below a level of significance.

3.6 HYDROLOGY AND WATER QUALITY

This section summarizes the Draft Hydrologic and Hydraulic Report for San Marcos Creek Improvement (2006) and Sediment Study for San Marcos Creek (2006) prepared by Parsons Brinckerhoff and Chang Consultants, respectively. The complete reports are included as Appendices F.1 and F.2 of the Environmental Impact Report (EIR). It should be noted that within the impact analysis section of this chapter, the impacts for the SR-78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the EIR for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

3.6.1 Environmental Setting

Regulatory Setting

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development floodplains. FEMA also issues Flood Insurance Rate Maps (FIRMs) that identify which land areas are subject to flooding. These maps provide flood information and identify flood hazard zones in the community. The standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1percent-annual exceedance probability (AEP) (i.e., the 100-year flood event).

The National Pollutant Discharge Elimination System (NPDES)

The National Pollutant Discharge Elimination System (NPDES) permit system was established in the federal Clean Water Act (CWA) to regulate municipal and industrial discharges to surface waters of the U.S. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that EPA must consider in setting effluent limits for priority pollutants.

Nonpoint sources are diffuse and originate over a wide area rather than from a definable point. Nonpoint pollution often enters receiving water in the form of surface runoff, but is not conveyed by way of pipelines or discrete conveyances. As defined in the federal regulations, such nonpoint sources are generally exempt from federal NPDES permit program requirements.

However, three types of nonpoint source discharges are controlled by the NPDES program: nonpoint source discharge caused by general construction activities, the general quality of stormwater in municipal stormwater systems, and discharges associated with industrial operations. The 1987 amendments to the CWA directed the federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II addresses all other discharges defined by EPA that are not included in Phase I.

In accordance with NPDES regulations, in order to minimize the potential effects of construction runoff on receiving water quality, the State requires that any construction activity affecting one acre

or more must obtain a General Construction Activity Stormwater Permit. Permit applicants are required to prepare a stormwater pollution prevention plan and implement Best Management Practices (BMPs) to reduce construction effects on receiving water quality by implementing erosion and sediment control measures as well as non-stormwater management measures. Because construction of the Project, through build out, would collectively disturb more than one acre, the project would be subject to permit requirements and will develop and implement project-specific SWPPPs to minimize construction activity impacts.

Examples of typical BMPs ~~completed~~ implemented in stormwater pollution prevention plans include: using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw bales or plastic, to minimize the amount of uncontrolled runoff that could enter drains or surface water.

Regional Water Quality Control Board (RWQCB)

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Board (RWQCB) are responsible for ensuring implementation and compliance with the provisions of the federal CWA and California's Porter-Cologne Water Quality Control Act. The project site is situated within the jurisdiction of the San Diego Region of the RWQCB (Region 9). The San Diego RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction.

Water quality objectives for the Batiquitos Lagoon as well as San Marcos Creek and its tributaries are specified in the Water Quality Control Plan for the San Diego Basin prepared by the RWQCB in compliance with the federal CWA and the Porter-Cologne Act. The Basin Plan establishes water quality objectives, and implementation programs to meet stated objectives and to protect the beneficial uses of water in the Batiquitos Lagoon and San Marcos Creek. Because the City of San Marcos is located within the RWQCB's jurisdiction, all discharges to surface water or groundwater are subject to the Basin Plan requirements.

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that would not attain water quality objectives after implementation of required levels of treatment by point-source dischargers (municipalities and industries), Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of loading that the water body can receive and still be in compliance with water quality objectives. The TMDL can also act as a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. The TMDL prepared by the state must include an allocation of allowable loadings to point and nonpoint sources, with consideration of background loadings and a margin of safety. The TMDL must also include an analysis that shows the linkage between loading reductions and the attainment of water quality objectives. The U.S. EPA must either approve a TMDL prepared by the state or, if it disapproves the state's TMDL, issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

In January 2007, the RWQCB adopted Order 2007-0001, a municipal permit to all of the jurisdictions within San Diego County. This permit and the previous permit (Order 2001-01) have requirements of development projects to minimize or eliminate the impacts of development on water quality. This project is subject to the requirements of the municipal permit as it is implemented via the City's Urban Runoff Management Program. The specific requirements include the selection of appropriate BMPs to avoid, prevent or reduce the pollutant loads info the storm drain system and the receiving waters.

~~In February 2001, the RWQCB issued Order 2001-01, a NPDES permit that regulates stormwater discharges from public drainage systems, referred to as the Municipal Separate Storm Sewer System (MS4) or Stormwater Conveyance System. The Order (NPDES Permit CAS0108758) requires the City to develop and implement a Jurisdictional Urban Run-off Management Plan (JURMP) that identifies and describes the methods that the City would use to eliminate significant pollutants from the City's Stormwater Conveyance System. As part of the Order, the City is required to implement a plan to eliminate pollutant discharges by requiring the implementation of appropriate BMPs at applicable areas. BMPs are activities, practices, procedures, or facilities implemented to avoid, prevent, or reduce pollution of Stormwater Conveyance System and Receiving Waters. In accordance with these requirements, the City has prepared a JURMP, which would apply to this project~~.

San Marcos General Plan – Conservation and Safety Elements

The following City of San Marcos General Plan, Conservation Element goals and policies are applicable to hydrology and water quality:

- Goal 1: To preserve the natural resources of the planning area, including dominant landforms, plant and animal habitats, and water courses.
- Implementing Strategy 1.7: Encourage low intensity development adjacent to the floodplain to preserve vegetation habitats for wildlife, visual resource, and recreational opportunities, and to protect against flooding.
- Implementing Strategy 1.8: Within the Specific Plan Areas (SPAs) identified in the Community Plans, require specific plans to provide distinct, identifiable open space corridors through ridgelines and the San Marcos Creek floodplain and watershed.
- Implementing Strategy 2.3: Control long-term erosion by vegetation replanting and the installation of proper drainage control devices, including the use of siltation basins to reduce runoff into San Marcos Creek.
- Goal 5: To retain open space areas for public safety.
- Implementing Strategy 8.1: Maintain creeks and tributaries in their natural state to the extent possible and promote the use of innovative site design strategies within the floodplain to maintain the natural character of the waterways and maximize the use of water as a design feature.
- Implementing Strategy 8.2: Encourage low intensity development adjacent to the 100-year floodplain which is sensitive to vegetation habitats for wildlife, preserve its visual resource, recreational opportunities, and provide adequate protection against flooding.

- Implementing Strategy 8.3: Promote the design and use of 100-year floodplain and adjacent land for recreation or open space buffers, where feasible, as part of the flood control improvements.
- Policy 12: Preserve watershed areas to maintain the health, safety, and welfare of residents living adjacent to the City's creeks and tributaries, and to protect habitats that are environmentally sensitive and dependent on watershed areas.
- Implementing Strategy 12.1: Any proposed project which would modify the configuration of the waterways and drainage areas shall be required to submit a report of a qualified hydrologist that would analyze the potential effects of the project downstream as well as in the local vicinity, and the flood carrying characteristics of the stream for development proposed within the 100-year floodplain.
- Implementing Strategy 12.2: Require retention of creeks, streambeds and local drainage areas in their natural state where feasible.

The following City of San Marcos General Plan, Safety Element goals and policies are applicable to flooding and flood control:

- Policy 2: Minimize damage from flood hazards.
- Implementing Strategy 2.3: Identify flood hazard areas along San Marcos Creek and its tributaries and apply protective measures where necessary, including the designation of low intensity land uses within the 1 00-year floodplain.
- Implementing Strategy 2.4: Develop a Flood Control Management Program, to ensure that major natural watercourses would be kept clear of debris and refuse that can restrict the flow of water.
- Implementing Strategy 2.5: Require the use of innovative site design strategies within the 100-year floodplain, to minimize flood hazards, maintain the natural character of waterways, and maximize the use of water as a design feature.
- Implementing Strategy 2.6: Require all development proposed within floodplain areas to undergo site plan review, which should ensure that structures are elevated at least one foot above the 100-year flood level.
- Implementing Strategy 2.7: Require all proposed projects which would modify the configuration of any floodway to submit a report, prepared by a qualified hydrologist, analyzing potential effects on down stream and upstream properties and on the flood-carrying characteristics of the stream.
- Implementing Strategy 2.9: Prohibit additions or expansions to existing structures in the 100-year floodplain, unless the applicant can show that the addition or expansion would not increase flood hazards.
- Implementing Strategy 2.10: Prohibit the location of critical emergency uses (hospitals, fire stations, and police stations), public administration buildings, and schools in flood hazard areas.

Water Quality

The project is located within the jurisdiction of the San Diego Regional Water Quality Control Board (RWQCB). The San Diego Region encompasses most of San Diego County, parts of southwestern Riverside County, and southwestern Orange County. The San Diego Region is divided into eleven hydrologic units. The City of San Marcos is located wholly within the Carlsbad Hydrographic Unit, an area of about 210 square miles. Four major waterways, San Marcos Creek, Agua Hedionda Creek, Buena Vista Creek, and Escondido Creek, and a number of tributaries, make up the Carlsbad Hydrographic Unit. In terms of watershed, the tributaries of San Marcos Creek drain the runoff from the Merriam Mountains and the San Marcos Mountains which feed into Twin Oaks Valley. As the creek flows southwesterly, there is runoff from the south facing slopes of Cerro de las Posas, Double Peak, Franks Peak and Mt. Whitney. From their respective watersheds, the San Marcos Creek, Agua Hedionda Creek, Buena Vista Creek and Escondido Creek flow westwardly and empty into the Agua Hedionda Lagoon, Batiquitos Lagoon and San Elijo Lagoon, and then eventually into the Pacific Ocean. San Marcos Creek is the primary tributary into the Batiquitos coastal lagoon, which has been designated as an ecological reserve.

Batiquitos Lagoon is 600 acres in area and extends 2.5 miles inland from the coast. The lagoon is at the mouth of the 55,000-acre San Marcos Creek watershed that includes the cities of Carlsbad, San Marcos and Encinitas. The lagoon had been severely impacted by excessive sedimentation prior to 1994 when a large restoration dredging effort was conducted to enhance tidal circulation.

Water quality is affected by chemical, physical, or biological changes to water as a result of flowing over, and through, developed areas soils or rock material. Issues of concern within the Carlsbad Hydrologic Unit include surface water quality degradation, beach closures, sedimentation, habitat degradation and loss, invasive species and eutrophication (Project Clean Water, 2003).

In accordance with Section 303(d) of the 1972 Clean Water Act, the State Water Resources Control Board has established a list of "impaired water bodies." According to the current 303(d) list, the City has no impaired water bodies. In October 2006, however, in a revised draft of an update of the state's list of impaired waters (Clean Water Act 303(d) list), the State Water Resources Control Board proposed to list San Marcos Creek as impaired for phosphorus, DDE (dichlorodiphenyldichloroethylene), and sediment toxicity. DDE is a chemical similar to DDT (dichloro-diphenyl-trichloroethane), which was a pesticide once use widely to control insects in agriculture and insects that carry disease such as malaria. It was banned in the US in 1972 due to damage to wildlife. DDE has no commercial use. According to the California Coastal Commission, phosphorus, DDE, and sediment toxicity result primarily from urban runoff/storm sewers (CCC 2006).

Carlsbad Watershed Management Plan (CWMP)

The Carlsbad Watershed Management Plan (CWMP) calls for protection, restoration and enhancement of undeveloped open space in the headwaters of the watershed that would provide natural filtering capabilities for water runoff control and water quality improvements. Also, it calls for the purchase or transfer into public ownership or control of as many of the open space and wetland resources as possible. San Marcos Creek is identified within the Carlsbad Watershed Management Plan (CWMP).

The CWMP is the framework for cooperative watershed management of the Carlsbad Hydrologic Unit (CHU) by local governments, agencies, organizations, and other watershed stake holders. It describes the current conditions of the various watersheds within the CHU and a plan of action to protect, enhance and restore the CHU. The CWMP has twelve overarching goals, as listed below.

- Protect Beneficial Water Uses
- Coordinate Watershed Efforts
- Plan at the Watershed Level by Analyze and Implement at the Sub-Watershed Level
- Integrate Various Planning Efforts
- Protect Coastal and Wetland Resources
- Protect and Integrate Bluebelt, Greenbelt, and Brownbelt systems
- Protect Upland Headwaters Openspace
- Coordinate and Organize Data Collection and Analysis
- Test and Evaluate BMPs
- Provide Public Watershed Information
- Model Hydrology for Floodway Protection and Stream Restoration
- Implement a Comprehensive Exotic Species Removal System

Hydrology

Hydrology effects are defined by the volume and velocity of water flowing from the site. Typically when precipitation falls on the land, the water would "sheet flow" (travel in an undefined manner) until it encounters changed conditions, causing the water to flow in a defined drainage course. Naturally, water would flow downhill. When the volume or velocity of water reaches a certain level (depending upon soil conditions), drainage courses become defined.

The proposed project is located within the San Marcos Creek watershed, which is part of the Carlsbad Hydrologic Unit. The land uses in the drainage areas south of the creek consist primarily of medium- to high-density residential development. The land uses in the drainage areas north of the creek consist primarily of industrial, commercial, and retail development. Specifically, the project site is located approximately 0.5 mile upstream from Lake San Marcos.

The FEMA FIRM Community Panels for the project area shows the main branch of San Marcos Creek as Zone AE with Base Flood elevations (100-year water surface elevations). A Zone AE designation identifies areas subject to a one percent or greater annual chance of flooding in any given year. Areas adjacent to Zone AE are either shaded Zone X or Zone X. Shaded Zone X indicates areas of moderate flood hazard from the principal source of flooding in the area and is determined to be between the limits of the one percent annual chance floodplain and the 0.2 percent annual chance floodplain (500-year floodplain). Zone X indicates areas of minimal flood hazard from the principal source of flooding in the area and is determined to be outside of the 0.2 percent annual change floodplain.

North of the San Marcos Creek/SR-78 Split Flow, Zone AO, areas subject to a one percent or greater annual change of shallow flooding in any given year, is shown to its confluence with the Las Posas Creek floodplain downstream of Via Vera Cruz.

Due to the project site being located in a FEMA 100-year flood hazard area, surface street and SR-78 are subject to ~~routinely flooded~~ing flooding and flood regulations. Figure 3.6-1 depicts the existing floodway and flood plain. The floodway represents the channel of San Marcos Creek, as well as parts of the flood plain that are reasonably required to efficiently carry the and discharge the flood water from the creek. The flood plain is the area adjoining the floodway that may be covered by water. It is the intent of the project to bring the 100-year storm flows within the constraints of the improved channel, thereby providing flood protection for existing streets and existing and future uses in the project area.

On-Site Drainage Facilities Description

Existing on site drainage facilities include a series of individual collection systems that collect stormwater and discharge into San Marcos Creek. The newer of these systems include water quality features to reduce or eliminate contaminants prior to discharge into the Creek.

3.6.2 Thresholds of Significance

Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* provides thresholds for determining significant environmental impacts. A project may be deemed to have a significant impact on hydrology/water quality if the project would:

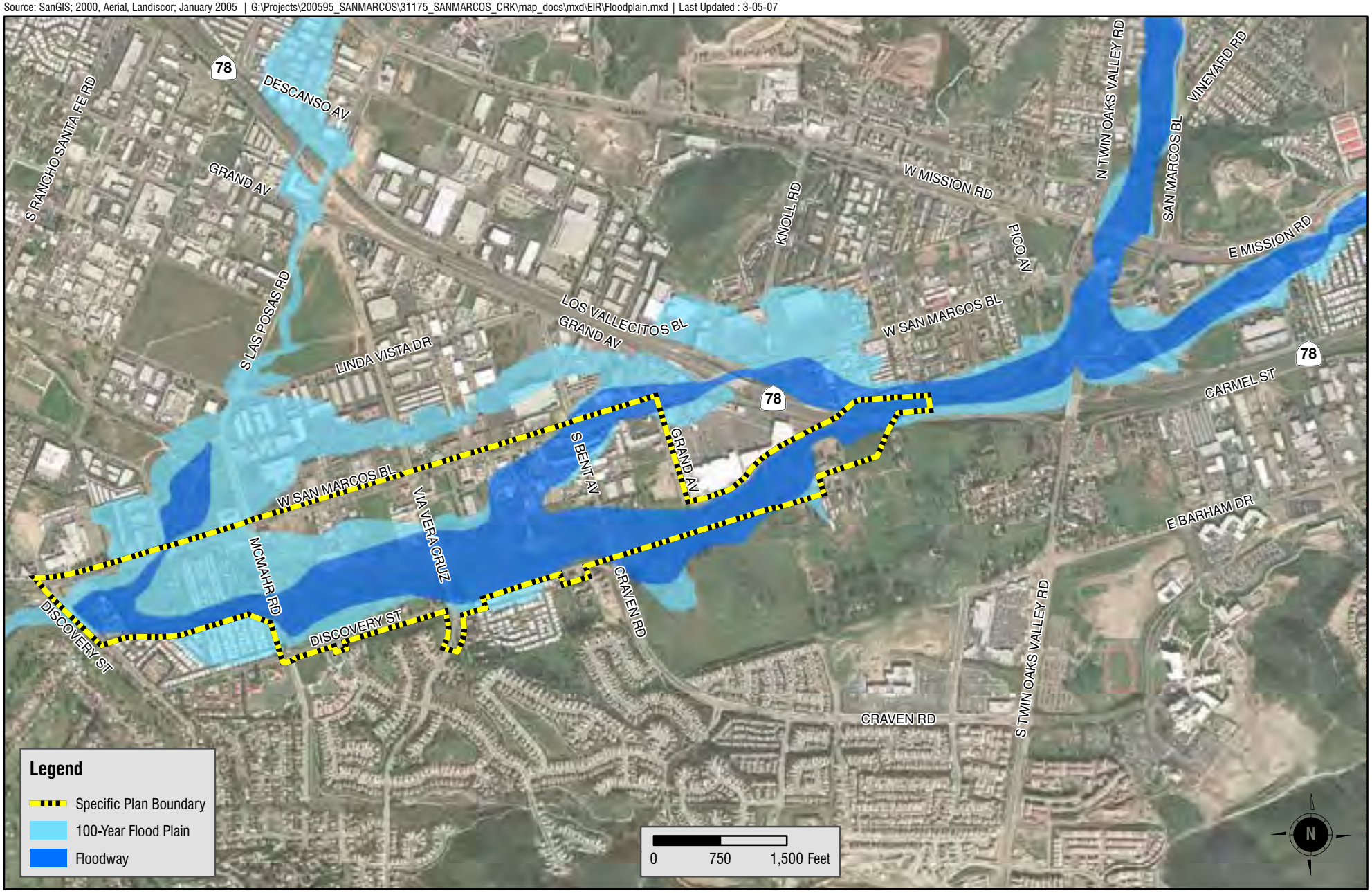
Water Quality

- Violate any federal water quality standards or state waste discharge requirements;
- Otherwise substantially degrade water quality;
- Have a potentially significant environmental impact on surface water quality, to either marine, fresh, or wetland waters;
- Result in significant alteration of receiving water quality during or following construction;
- Result in an increase in pollutant discharges to receiving waters?; or
- Be tributary to environmentally sensitive areas (e.g., MSCP, RARE, Areas of Special Biological Significance, etc.).

Drainage Patterns and Sedimentation

- Substantially alter the existing drainage pattern of the site or area, including 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 (e.g., downstream) or
- Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Source: SanGIS; 2000, Aerial, Landiscor; January 2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\Floodplain.mxd | Last Updated : 3-05-07



Existing Floodway and Flood Plain

FIGURE 3.6-1

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Stormwater Runoff

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- Result in increased impervious surfaces and associated increased runoff.

Flooding and Flood Hazards

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows; or
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Additional threshold pertaining to hydrology and water quality were determined to be less than significant during the Initial Study process. These thresholds are discussed in Section 5.3 of the Draft EIR.

3.6.3 Project Impacts

Water Quality

Phase 1 Project Construction

Construction of Phase 1 of the project has the potential to impact water quality. The project requires the import and placement of approximately 650,000 cubic yards of material for the construction of levees as part of the floodway improvements. Additionally, construction activities related to roadway, utility infrastructure, and SR-78 hydraulic improvements have the potential to impact water quality through increased sedimentation or accidental fuel spills from construction equipment. This represents a potentially significant impact. Best Management Practices (BMPs) have been identified that would be incorporated during construction of the floodway improvements, circulation network, and infrastructure improvement proposed as part of Phase 1. These BMPs are identified in Table 3.6-1. It should be noted that the selection and implementation of BMPs is based upon the best available technology at the time of construction; therefore, the list of BMPS in Table 3.6-1 should be considered preliminary.

SR-78 Hydraulic Improvement Area

Construction activity associated with the SR-78 hydraulic improvements is considered to be part of the Phase 1 project description. As noted above, SR-78 hydraulic improvements have the potential to impact water quality. This represents a potentially significant impact.

Phase 2 Project Construction

Construction activities associated with build out of the Specific Plan area also has the potential to impact water quality. Similar to Phase 1 impacts, this includes increased sedimentation associated with grading activity as well as accidental fuel spills from construction equipment. At this time, it is not known how much grading activity would be required for Phase 2 improvements, as individual development plans are not proposed as this time. However, the potential exists for construction activities associated with Phase 2 to impact water quality. Subsequent review of water quality mitigation would be required as these plans come forward, and this requirement would be included as a mitigation measure for the project.

Table 3.6-1. Temporary BMPs for Phase 1 Project Construction (1)

Proposed BMP	BMP Description
Erosion Bale	A temporary sediment barrier consisting of a row of entrenched and anchored straw, or hay bales.
Silt fence	A temporary vertical barrier of filter fabric attached and supported by posts and entrenched into the ground.
Berm/Diversion	A temporary berm or ridge made of soil (or coarse aggregate), with or without a diversion.
Slope Drain	A flexible or rigid conduit used as a drainage structure on slopes.
Storm Drain Inlet Protection	A barrier across or around a storm drain drop inlet, a curb inlet, or a culvert inlet.
Check Dams	Small dams constructed across a swale or drainage ditch.
Outlet Protection	A structurally lined apron (generally with ripraps, grouted riprap, or concrete) placed at the outlet of pipes or paved channel sections.
Sediment Trap	A small temporary ponding area formed by excavating below grade and/or by constructing an earth embankment.
Sediment Basin	A temporary basin with a controlled outlet. Differs from sediment traps in that it is designed for larger drainage areas and has a controlled release structure. This basin can also be constructed as a combination of embankment and excavation.
Stabilized Construction Entrance	A stabilized layer of aggregate underlined with a geotextile and located where traffic enters or exits the construction site; it is used to reduce the amount of mud tracked onto paved public roads by vehicles or runoff leaving the construction site.
Brush Barrier	A temporary sediment barrier constructed at the perimeter of a disturbed area from the residue materials available from clearing and grubbing the site, and generally covered with a filter fabric; used for the purpose of intercepting and retaining sediment from disturbed areas of limited extent, to prevent sediment from leaving the site.
Sandbag Barrier	Flexible design building blocks made of bags filled with soil material; used to divert stream channels, as barrier walls in sediment basins, and as retaining walls between fill slopes and watercourses during construction.
Waste Disposal	Practices to safely dispose of construction waste resulting from construction activities; select a designated area for waste collection; provide an adequate number of containers with lids or covers; schedule frequent waste collection, and ensure that waste is disposed of at authorized disposal areas.
Protection of trees	Protection of trees from injury during land disturbing and construction activities.

Note: (1) The BMPs represents a menu of possible temporary BMPs that may be used during construction of Phase 1 project components. These measures are subject to change based improved technology other factors that come to light during project construction.

Phase 2 Project Operation

The Specific Plan includes design features which would reduce potential impacts to water quality. These include installation of landscape controls (i.e., install native landscaping wherever feasible in areas adjacent to preserved habitat); select, design, and utilize BMPs including source control BMPs (i.e., trash enclosures), treatment control BMPs (i.e., constructed wetlands, filter inserts, bio-swales, and catch basins), and site design BMPs (i.e., landscaped strips, permeable pavement).

All onsite drainage from the Specific Plan area shall convey runoff through a desiltation system and/or filtering system prior to outlet into the San Marcos Creek and Lake San Marcos, per the requirements of existing regulations. The project is subject to all state and local water quality standards including preparation of a Stormwater Pollution Prevention Plan (SWPPP). As a result, it is anticipated that the project would not violate any water quality standards and impacts would be less than significant.

San Marcos Creek is not listed on the 303(d) list of impaired water bodies, however, the State Water Resources Control Board proposed to list San Marcos Creek as impaired for phosphorus, DDE, and sediment toxicity. Phosphorus, DDE, and sediment toxicity result primarily from urban runoff/storm sewers. The project includes installation of landscape controls (i.e., install native landscaping wherever feasible in areas adjacent to preserved habitat); select, design, and utilize BMPs including source control BMPs (i.e., trash enclosures), treatment control BMPs (i.e., constructed wetlands, filter inserts, bio-swales, and catch basins), and site design BMPs (i.e., landscaped strips, permeable pavement). Further, all onsite drainage from the Specific Plan area shall convey runoff through a desiltation system and/or filtering system prior to outlet into the San Marcos Creek and Lake San Marcos, per the requirements of existing regulations. Therefore, the project would not add to the phosphorus, DDE and sediment toxicity levels in San Marcos Creek.

Drainage Patterns and Sedimentation

One of the project objectives is to bring the 100-year storm flows within the constraints of the improved channel, thereby eliminating the flooding of San Marcos Boulevard and adjacent surface streets, adjacent residences and businesses, and portions of SR-78. The creek improvement portion of the project would include alterations of the creek through construction of a levee and other flood control measures. By design, these features would channelize~~alter~~ the course of the creek.

Existing 100-year flow rates within San Marcos Creek have been established by FEMA. Existing and future flow rates within San Marcos Creek are identified in Table 3.6-2.

Table 3.6-2. San Marcos Creek Hydrologic Information

Location	100-Year Peak Flows	
	Effective FEMA (cfs)	Ultimate Build-Out (cfs)
Upstream of Discovery Street Bridge	14,700	18,050
Upstream of Las Posas Confluence	13,150	14,875
Upstream of McMahr Road	11,787	14,875
300 Feet Downstream of Bent Avenue	9,087	14,875

Source: Federal Emergency Management Agency
Note: cfs= cubic feet per second

As shown in Table 3.6-2, implementation of the proposed project, including the improvements to the floodway, would result in higher peak flow rates. ~~velocities~~ . The proposed channelization would increase the flow velocity and sediment transport along the stream channel; thus leading to increased sedimentation downstream. Preliminary model runs were performed to assess the project's impact on sediment delivery towards Lake San Marcos. Sediment delivery is defined as the cumulative amount of sediment that has been delivered past a certain channel section for a specified period of time. In order to mitigate for the increase in sediment delivery, the project will include design measures described below.

Total sedimentation volumes for existing conditions and those with implementation of the proposed project are shown in Table 3.6-3. As shown in Table 3.6-3, under the existing condition, approximately 463,000 tons of sediment is delivered under the ultimate flood series scenario. This increases to approximately 698,000 tons of sediment with implementation of the project. The ultimate flood series scenario represents a series of events that one may statistically expect over a 100-year time span. This includes one flood exceeding the 100-year event, two floods exceeding the 50-year event, four floods exceeding the 25-year event, and 10 floods exceeding the 10-year event. This scenario ~~also~~ is based on flow rates assuming ~~es~~ build out of the City per the City Master Drainage Plan. As shown in Table 3.6-3, implementation of the project would result in an increase of sediment delivery downstream towards Lake San Marcos under the ultimate flood series condition. Increased sedimentation in a lake has the potential to shorten the lifespan of the lake. Therefore, the increase in sediment transport to Lake San Marcos due to implementation of the project is considered a significant impact. Mitigation measures to reduce this impact are presented in Section 3.6-4 of the EIR.

Table 3.6-3. Total Sediment Deliveries

Stream Location	Total Amount of Sediment Delivery (tons)[1]	
	Existing Conditions	With Proposed Project
Downstream End (Section 20)	463,000	698,000
Discovery Street (Section 50)	452,000	686,000

Source: Sediment Study for San Marcos Creek. Prepared by Chang Consultants, December 2006.
Note: [1] Based on Ultimate Flood Series

SR-78 Hydraulic Improvement Area

The SR-78 hydraulic improvements are a critical component of the overall project. The SR-78 hydraulic improvements, combined with the rest of the floodway improvement project will enhance creek flows, redefine the 100-year floodplain in the project area and also eliminate the flooding that occurs in the project vicinity during large storm events. Therefore, a less than significant impact is identified.

Stormwater Runoff

The portion of the project identified for roadway construction and future construction of mixed-use development would increase the amount of impervious surface compared to the existing condition. This would result in an increase in runoff flow rates and volumes. Moreover, the construction of levees creates a barrier between the natural sheet flow drainage pattern and receiving waters towards the south and southwest. However, the project would construct drainage facilities that are capable of conveying 100-year on-site storm flows to San Marcos Creek without adversely impacting on-site flow rates.

Drainage improvements are proposed as part of Phase 1 of the project and include approximately 5,900 feet of a new North Storm Drain System. The North Storm Drain System would begin at the east end of the north levee alignment and extend to the confluence of San Marcos Creek and Las Posas Creek. Surface runoff would be treated in consistent with requirements by the Regional Water Quality Control Board. Phase 1 BMPs, as identified in Table 3.6-1 would be implemented during construction of this storm drain system.

Additionally, a new South Storm Drain System, approximately 4,000 feet in length, would be placed along the length of Discovery Street from Bent Avenue to McMahr Road. The proposed widening of Discovery Street ensures that all existing storm drains between these streets are routed through the new South Storm Drain System. This system would discharge directly into San Marcos Creek near Mc Mahr Road. Figure 2.3-8 depicts the conceptual drainage plan. Proposed modifications to System E, one of the drainage systems in the project area, include the extension of storm drains to discharge directly into San Marcos Creek. Phase 1 BMPs, as identified in Table 3.6-1 would be implemented during construction of this storm drain system.

The project is not anticipated to increase the pre-project drainage hydrology impacts. The project infrastructure and the future development within the Specific Plan area will incorporate site design BMPs and other detention features to control runoff in a matter that prevents impact to the downstream channel. The City has implemented water quality requirements for all new development which require proposed projects to control peak flow rates and duration so as to not cause downstream erosion. The Specific Plan reiterates these City requirements by identifying policies pertaining to storm water management. The combination of project infrastructure and onsite detention feature from future Specific Plan development would ensure that impacts are less than significant.

Flooding and Flood Hazards

According to FEMA FIRM panels, the main branch of San Marcos Creek and adjacent areas are located within the 100-year flood zone. However, implementation of the floodway improvements portion of the project, would contain the 100-year flood flows within ~~to~~ the creek channel. The project would result in the redefinition of the 100-year flood hazard area such that all proposed development would be outside of the 100-year flood hazard area. Therefore, the project would not place housing within a 100-year flood hazard area as mapped on any flood hazard delineation map. However, in order to ensure that the redefinition of the floodplain has occurred, and development within the Specific Plan area is not within the 100-year flood zone, mitigation would be required as described below.

Implementation of the proposed project would result in the redefinition of the 100-year flood hazard area such that all existing and proposed development would be outside of the 100-year flood hazard area. By design, improvement features would be implemented with the intent to redirect flood flows and redefine the 100-year flood hazard area. The project would add a new bridge to an existing box culvert to direct flows under State Route (SR) 78. This is required as existing flows currently overtop SR-78 and flow down San Marcos Boulevard. Channel armoring downstream would enable increased flow velocity generated by implementation of the proposed project to be adequately handled. Therefore, while the project would place structures within the 100-year flood hazard area which would control ~~impede or redirect~~ flood flows, these structures would contain the 100-year storm flows to minimize on-site and downstream impacts. Impacts would be less than significant.

As identified above, the construction of levees would create a barrier between the natural sheet flow drainage pattern and receiving waters towards the south and southwest. However, the proposed levees have been designed based on the ultimate build-out flow rates which account for future development in the City per the City's Drainage Master Plan. Therefore, the project would construct drainage facilities that are capable of conveying 100-year on-site storm flows to San Marcos Creek without adversely impacting on-site flow rates. A major storm drain system is proposed for the area north of the proposed levee to carry the runoff between San Marcos Creek and San Marcos Boulevard.

Implementation of the proposed project and channelization of San Marcos Creek would result in higher peak flow velocities. The project would construct drainage facilities that are capable of conveying 100-year on-site storm flows to San Marcos Creek. The proposed levee design would be based on the ultimate build-out flow rates identified in Table 3.6-2 and would, therefore, accommodate future conditions in the watershed. As ultimate channelization and levee design would be based on the ultimate build-out flow rates, on-site and downstream flooding is not anticipated to occur. Impacts would be less than significant.

With regard to flooding due to a potential levee breach, the levee shall be designed by a professional engineer who would certify that the flood control facilities, including the levee, meet requirements for stability and safety as set forth by the U.S. Army Corp of Engineers (USACE) and FEMA. Geotechnical and hydraulic studies would be completed during the final design of the levee. FEMA would also review the proposed flood control design as part of the Conditional Letter of Map Revision (CLOMR)[1] process as well as the hydraulic studies to ensure accuracy for the revision of the floodplain. Title 44, Part 65.10 of the Code of Federal Regulations identifies the design criteria by which FEMA would review the levee However, FEMA does not serve as a certifying agency for the levee. Certification of the levee by a professional engineer would be included as a mitigation measure for the project.

General Plan Consistency

Table 3.6-4 summarizes the project's consistency with the applicable Conservation Element and Safety Element policies, goals and implementing strategies. As shown in Table 3.6-4, the project is consistent with the applicant General Plan goals, policies and implementing strategies.

[1] A CLOMR comments on whether the proposed project meets the minimum floodplain management criteria of the National Flood Insurance Program (NFIP) and, if so, what revisions would be made to the community's NFIP map if the project is completed as proposed.

Table 3.6-4. Project Consistency with Applicable Hydrology and Water Quality Policies and Goals (San Marcos General Plan)

Goals and Implementing Strategy	Project Consistency
Goal 1: To preserve the natural resources of the planning area, including dominant landforms, plant and animal habitats, and water courses.	The project would not result in the alteration of any dominant land forms. The project would result in a redefinition of the flood plain; however the creek would generally be maintained in its natural state. Impacts to biological resources would be mitigated through both on-site and off-site habitat creation. Therefore, the project is consistent with this goal.
Implementing Strategy 1.7: Encourage low intensity development adjacent to the floodplain to preserve vegetation habitats for wildlife, visual resource, and recreational opportunities, and to protect against flooding.	The project would result in a redefinition of the floodplain within the project area. Therefore, no development would be proposed within the new 100-year floodplain. Overall, development proposed within the Specific Plan area is dense; however, the density gradually decreases the closer the development gets to the Creek. The wetland within the creek would be enhanced through habitat creation and enhancement efforts at part of the project mitigation. The levee would be vegetated with native vegetation. Additionally, the project provides recreation opportunities through the provision of park space, a creekside multi-use trail as well as pedestrian and bicycle amenities throughout the project area. These amenities would further buffer the creek from the proposed development.
Implementing Strategy 1.8: Within the Specific Plan Areas (SPAs) identified in the Community Plans, require specific plans to provide distinct, identifiable open space corridors through ridgelines and the San Marcos Creek floodplain and watershed.	The San Marcos Creek Specific Plan includes specific design elements which provide distinct, identifiable open space which take advantage of the Creek as an amenity. This includes a multi-use trail along the northern side of the creek as well as several view points to the creek, and a pedestrian bridge across the creek.
Implementing Strategy 2.3: Control long-term erosion by vegetation replanting and the installation of proper drainage control devices, including the use of siltation basins to reduce runoff into San Marcos Creek	The project includes the construction of storm drain facilities. Additionally, future development within the Specific Plan area would incorporate certain design features that would reduce the amount of sediment entering the creek. Features such as landscaping strips, bio swales and other features would minimize the impact. Therefore; the project is consistent with this implementing strategy.
Goal 5: To retain open space areas for public safety.	The project preserves San Marcos Creek as an open space component. Additionally, the project would enhance public safety since flood waters would be contained within the enhanced floodway. Therefore, the project is consistent with this goal.
Implementing Strategy 8.1: Maintain creeks and tributaries in their natural state to the extent possible and promote the use of innovative site design strategies within the floodplain to maintain the natural character of the waterways and maximize the use of water as a design feature	The floodway improvement project would reduce the floodplain of San Marcos Creek. The creek would be maintained in a generally natural state, in that concrete linings or other man-made features would be limited in their use. Upon completion of the floodway improvements, the creek would appear natural in character. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 8.2: Encourage low intensity development adjacent to the 100-year floodplain which is sensitive to vegetation habitats for wildlife, preserve its visual	The project would result in a redefinition of the floodplain within the project area. Therefore, no development would be proposed within the new 100-year floodplain. Overall,

Goals and Implementing Strategy	Project Consistency
resource, recreational opportunities, and provide adequate protection against flooding.	development proposed within the Specific Plan area is dense; however, the density gradually decreases the closer the development gets to the Creek. The wetland within the creek would be enhanced through habitat creation and enhancement efforts at part of the project mitigation. The levee would be vegetated with native vegetation. Additionally, the project provides recreation opportunities through the provision of park space, a creekside multi-use trail as well as pedestrian and bicycle amenities throughout the project area.
Implementing Strategy 8.3: Promote the design and use of 100-year floodplain and adjacent land for recreation or open space buffers, where feasible, as part of the flood control improvements	The project is consistent with the implementing strategy. The floodway improvement project includes a public multi-purpose trail facility which would provide pedestrian and bicycle opportunities. Additionally, the project includes open space and trail.
Policy 12: Preserve watershed areas to maintain the health, safety, and welfare of residents living adjacent to the City's creeks and tributaries, and to protect habitats that are environmentally sensitive and dependent on watershed areas.	The project is consistent with this Policy. A biological resources study was prepared for the project. The project would impact sensitive habitat and sensitive plant species, however, mitigation measures have been provided to reduce all biological impacts to below a level of significance. The floodway improvement project would modify the existing 100-year FEMA floodplain to ensure that future development within the Specific Plan area does not endanger residents due to flood hazards.
Implementing Strategy 12.1: Any proposed project which would modify the configuration of the waterways and drainage areas shall be required to submit a report of a qualified hydrologist that would analyze the potential effects of the project downstream as well as in the local vicinity, and the flood carrying characteristics of the stream for development proposed within the 100-year floodplain.	The project complies with this implementing strategy. A hydrology and hydraulic study has been prepared for the project. With the proposed project, the 100-year floodplain would be redefined. Futher, a sedimentation study was prepared to analyze the impact to the hydraulic changes to the creek of Lake San Marcos, which is located downstream. The analysis concluded that the floodway improvement would result in increased sedimentation in Lake San Marcos. However, mitigation measures are included in the Draft EIR to reduce the impact to below a level of significance.
Implementing Strategy 12.2: Require retention of creeks, streambeds and local drainage areas in their natural state where feasible.	The project would expand the natural area by which the creek can move during a high storm event. Levees and floodwalls would be used to contain the floodwaters during a 100-year storm event, which now flood onto San Marcos Boulevard and sheet flow southerly to San Marcos Creek. Temporary and permanent impacts to creek habitat would be mitigated, and reduce the biological impact to a less than significant level. While man-made features would contain the creek, overall, the creek would have a natural appearance. Therefore, the project is consistent with the implementing strategy.
Safety Element	
Policy 2: Minimize damage from flood hazards.	Upon implementation of the project, existing structures located in the floodplain of San Marcos Creek (within the project area) would no longer be within the floodplain. Future development within the Specific Plan area would be outside of the floodplain. Therefore, no damage from flood hazards are identified for the project, and the project is consistent with this Policy.

Goals and Implementing Strategy	Project Consistency
Implementing Strategy 2.3: Identify flood hazard areas along San Marcos Creek and its tributaries and apply protective measures where necessary, including the designation of low intensity land uses within the 100-year floodplain.	The project would result in the redefinition of the 100-year FEMA floodplain. This would ensure that future development within the Specific Plan area would be outside of the 100-year floodplain. Therefore, the project is consistent with the implementing strategy.
Implementing Strategy 2.4: Develop a Flood Control Management Program, to ensure that major natural watercourses would be kept clear of debris and refuse that can restrict the flow of water.	Periodic maintenance within the floodway improvement area would be required after project construction. This maintenance would be carried out by the City of San Marcos.
Implementing Strategy 2.5: Require the use of innovative site design strategies within the 100-year floodplain, to minimize flood hazards, maintain the natural character of waterways, and maximize the use of water as a design feature.	The project would result in a redefinition of the 100-year flood plain through construction of floodway improvements, including levees and flood walls. Future development within the Specific Plan area would the be outside of the 100-year floodplain. Further, the natural character of the creek would be maintained. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 2.6: Require all development proposed within floodplain areas to undergo site plan review, which should ensure that structures are elevated at least one foot above the 100-year flood level.	Future development within the Specific Plan area would be required to undergo site plan review. Mitigation measures have been identified that future development within the Specific Plan area shall occur after the receipt preparation of a CLOMAR, which would show that the floodplain has been redefined. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 2.7: Require all proposed projects which would modify the configuration of any floodway to submit a report, prepared by a qualified hydrologist, analyzing potential effects on down stream and upstream properties and on the flood-carrying characteristics of the stream.	The project complies with this implementing strategy. A hydrology and hydraulic study has been prepared for the project. The analysis concluded that the floodway improvement would result in increased sedimentation in Lake San Marcos. However, mitigation measures are included in the Draft EIR to reduce the impact to below a level of significance.
Implementing Strategy 2.9: Prohibit additions or expansions to existing structures in the 100-year floodplain, unless the applicant can show that the addition or expansion would not increase flood hazards.	The project complies with this implementing strategy. Implementation of the floodway improvement would result in a redefinition of the 100-year floodplain, and all future development within the Specific Plan Area would be outside of the 100-year FEMA floodplain.
Implementing Strategy 2.10: Prohibit the location of critical emergency uses (hospitals, fire stations, police stations, public administration buildings, and schools in flood hazard areas.	This project complies with this implementing strategy. The project does not propose any critical emergency uses within a flood hazard area. All future development within the Specific Plan Area would be located outside of a flood hazard upon implementation of the floodway improvement plan.

Carlsbad Watershed Management Plan

Table 3.6-5 identifies the 12 objectives of the CWMP and how they relate to the project. As shown in Table 3.6-5, many of the objectives of the CWMP are outside of the scope of the project and need to be taken on by a larger group. Where specific objectives are applicable to the project, no inconsistencies are identified.

Table 3.6-5. Project Consistency with Carlsbad Watershed Management Plan Objectives

CWMP Objective	Project Consistency
Protect Beneficial Water Uses	Beneficial uses for San Marcos Creek include Agricultural Supply, Contact and Non-Contact Recreation, Warm Freshwater Habitat and Wildlife Habitat. The project would not degrade any of the beneficial uses of the creek.
Coordinate Watershed Efforts	The project does not impede the coordination of watershed efforts.
Plan at the Watershed Level by Analyze and Implement at the Sub-Watershed Level	This objective discusses analysis and implementation at the sub-watershed level, which is still a scale much larger than the project. The project does not preclude analysis or implementation at the sub-watershed level.
Integrate Various Planning Efforts	The project does not impede the integration of various planning efforts.
Protect Coastal and Wetland Resources	The project would result in both permanent and temporary impacts to wetland within the project site. All impacts to wetlands would be mitigated to achieve no net loss. Further, the project would restore existing wetland habitat within the project area, thereby increasing the biological function and value of the wetland habitat.
Protect and Integrate Bluebelt, Greenbelt, and Brownbelt systems	The project proposes a multi-purpose trail along San Marcos Creek which could be integrated into a larger greenbelt system within the watershed.
Protect Upland Headwaters Open Space	The project site is not located at the headwaters of San Marcos Creek. The project would not preclude the acquisition or protection of headwaters open space.
Coordinate and Organize Data Collection and Analysis	Coordination and organization of data collection and analysis is something that would need to be conducted on a regional level. This is outside the scope of this project. The project does not impede the realization of this objective.
Test and Evaluate BMPs	Testing and evaluation of BMPs is outside the scope of this project. However, potential BMPs have been identified for the project; however, if more suitable BMPs become available due to technological advances, then the most appropriate BMPs would be used by the project.
Provide Public Watershed Information	There is an opportunity for watershed education to be incorporated into the project through the use of interpretive signage.
Model Hydrology for Floodway Protection and Stream Restoration	Project-specific hydrologic analysis has been prepared. Additionally, a sedimentation analysis has been prepared.
Implement a Comprehensive Exotic Species Removal Program	Implementation of a comprehensive exotic species removal program is outside the scope of the project. The project, would, however, remove invasive arundo species as part of the wetland restoration propose as project mitigation.

3.6.4 Mitigation Measures

Water Quality (Phase 1 and Phase 2 Construction)

MM 3.6-1 Construction activities shall be guided by a project-specific SWPPP. The SWPPP shall include appropriate erosion and sediment control as well as non-stormwater management BMPs. The SWPPPs shall be developed to reduce impacts to water quality during project construction. The SWPPPS shall also contain monitoring programs for discharges from the construction sites for both sediment/turbidity and non-visually detectable particles. At minimum, the SWPPP shall include:
~~The applicant(s) shall prepare an SWPPP designed to reduce potential impacts to surface water quality through the construction period of the project. The SWPPP shall include:~~

- Specific and detailed BMPs, such as those set out in Table 3.6-1, shall be required for the project. At minimum, BMPs shall include practices to minimize the contact of construction materials, equipment, and maintenance supplies (e.g., fuels, lubricants, paints, solvents, adhesives) with stormwater. The SWPPP shall specify properly designed centralized storage areas that keep these materials out of the rain.
- On-site construction personnel shall be educated on the importance of stormwater quality protection. Site supervisors shall conduct regular tailgate meetings to discuss pollution prevention. The frequency of the meetings and required personnel attendance list shall be specified in the SWPPP.
- Watering for dust control shall be performed during the dry season. The potential for erosion is generally increased if grading is performed during the rainy season as disturbed soil can be exposed to rainfall and storm runoff. If grading must be conducted during the rainy season, the primary BMPs selected shall focus on keeping sediment on the site. End-of-pipe sediment control measures (e.g., basins and traps) shall be used only as secondary measures. If hydroseeding is selected as the primary soil stabilization method, then these areas shall be seeded by September 1st using native species only, and irrigated as necessary to ensure that adequate root development has occurred prior to October 1. Entry and egress from the construction site shall be carefully controlled to minimize off-site tracking of sediment. Vehicle and equipment wash-down facilities shall be provided and designed to be accessible and functional during both dry and wet conditions.

Water Quality (Phase 2 Project Operation)

MM 3.6-2 Pursuant to the City's Stormwater Standards Manual, project specific Water Quality Technical Reports (WQTRs) shall be prepared to mitigate water quality impacts each project within the Specific Plan area. For each specific project, the WQTRs shall identify the impacts, pollutants and hydrologic conditions of concern, and select the appropriate BMPs to be designed and implemented to mitigate the water quality

impacts discharging from the project sites to prevent downstream impacts in the receiving waters.

The project shall implementing three types of Best Management Practices (BMPs) for the purposes of minimizing the discharge of pollutants and maintaining the flow events (discharge rates) from the post construction project site. Again, these BMPs are implemented to minimize the impacts from developments on downstream receiving waters that include San Marcos Creek, Lake San Marcos, Batiquitos Lagoon and the Pacific Ocean. The first is the use of Low Impact Development (LID) Site Design BMPs, the second is the use of Source Control BMPs, and lastly, Treatment Control BMPs will be implemented.

The LID Site Design BMPs will include minimizing the direct connections between impervious surfaces and the storm drain systems, use of alternative surfaces instead of impermeable surfaces, and site planning to minimize the impacts of the development. Specific BMPs may include: porous concrete; grassy swales; rooftops draining to landscaped areas; flow through planters, and; infiltration trenches.

The Source Control BMPs will include the enforcement of the City's Jurisdictional Urban Runoff Management Plan and Municipal Code sections that affect existing development including commercial and residential sectors. Additionally, once the development is complete, the site use is regulated based on the activities, e.g., commercial businesses or residential units. The future development will be inspected and the City's program enforced to minimize the discharges of pollutants.

Additionally, the project improvements will include physical Source Control BMPs where applicable. Specific BMPs may include: marking of storm drain inlets; educational kiosks/signage; efficient irrigation systems; enclosed trash storage areas, and; the use of alternative building materials.

The Treatment Control BMPs shall be implemented to treat the 85th percentile flows (i.e., first flush) from the project site. At this time, the proposed treatment system is a media filtration system that is capable of treating the 85th percentile flows from the entire proposed project development area (at the expected discharge rates). The media filtration system has cartridges that are interchangeable to treat the anticipated pollutant types from the project area. If it is determined that the pollutant types coming from the project area are different than currently anticipated, the media cartridges will be adjusted so that they are effective at treating the pollutant types and loads. Other treatment features may include the following: infiltration trenches; vegetated swales; buffers zones, and; inlet filtration as pre-treatment.

~~Future development within the Specific Plan area shall prepare a Water Quality Technical Report (WQTR). The WQTR shall identify the project operation BMPs that shall be used to ensure that future projects do not degrade water quality. The WQTR shall also document how the future project would satisfy the requirements of the City's Stormwater Standards Manual. The WQTR shall be submitted to the City Engineer for review and approval prior to the issuance of a grading permit.~~

Sedimentation

MM 3.6-3a A check dam (i.e., berm) shall be constructed within San Marcos Creek at the Via Vera Cruz crossing to reduce sediment delivery to Lake San Marcos. The check dam shall be constructed on the channel bed across the bridge opening. The check dam will be constructed so that it will not erode during flow events. Natural materials such as rock or man-made materials such as concrete shall be used. If rock is selected, then grout will be needed to secure the rock in place. The grout shall be colored to blend with the natural surrounding. If concrete is used, it shall be colored and textured for a more natural appearance. A weir (or notch) shall be constructed within the check dam to prevent water from ponding upstream of the facility. The check dam shall be designed and constructed to minimize environmental impacts and disturbances to the creek. The Via Vera Cruz check dam shall be constructed within the temporary construction easement for the crossing to the extent possible.

MM 3.6-3b A check dam shall be constructed just upstream of Discovery Street. This check dam shall cause sediment to deposit upstream of Discovery Street and further reduce sediment delivery to Lake San Marcos. The check dam height shall be designed so that it does not adversely impact the upstream water surface elevations including the water surface elevations in Las Posas Creek. The Discovery Street check dam shall be constructed within the existing channel bed armoring to the extent possible.

~~The project applicant shall implement the following mitigation measure to control downstream sedimentation and ensure that sediment delivery does not exceed pre-project levels:~~

- ~~**Armoring of the proposed Via Vera Cruz Road Crossing:** The proposed road crossing with culverts for the Via Vera Cruz crossing is shown in Figure 9 of the Sediment Study (see Appendix E.2 of the Draft EIR). Since the road crossing is slightly above the existing channel bed, it would act as a check dam to induct sediment deposition on its upstream side, thereby reducing sediment flow toward downstream.~~

Development Within a 100-Year Floodplain

MM 3.6-4 Before any specific plan development may be approved by the City of San Marcos within properties currently within the 100-year floodplain, the applicant must demonstrate that a Letter of Map Revision (LOMR) removing the affected parcels from the floodplain or CLOMR has been obtained from the Federal Insurance Administration of FEMA.

Flood Control Facility Design/Levee Safety

MM 3.6-5 The flood control facilities shall be designed by a professional engineer who would certify that the flood control facilities, including the levee, meet requirements for stability and safety as set forth by the USACE. Final geotechnical and hydraulic

studies shall be completed by professional engineers to support the certification of the levee.

3.6.5 Conclusion

The proposed project would incorporate a desiltation and/or filtration system as part of project design that would filter runoff before it enters the public stormwater drainage system. These design features (i.e., detention basins, filters, sizing of pipes, etc.) would convey existing and project runoff flows across the property in drainage systems as approved by the City Engineer. Additionally, the proposed project is required to comply with adopted water quality and waste discharge requirements, including the preparation of an SWPPP. Any potential water quality impacts associated with increased downstream sedimentation would be mitigated through implementation of mitigation measure MM 3.6-1.

The project would be designed to contain the FEMA 100-year and Ultimate Build Out 100-year storm events within the channel improvements such that adjacent properties north and south of the creek would be out of the floodplain and can be successfully redeveloped in accordance with the City's San Marcos Creek Specific Plan. The proposed improvements meet the design criteria/ requirements provided from the entities and are improving the overall neighborhood environment. Proposed project design includes stormwater management improvements that would ensure that the stormwater drainage system would adequately handle the runoff anticipated by the proposed project. Impacts would be less than significant.

With implementation of Mitigation Measures MM 3.6-3a and 3.6-3b, impacts related to downstream sediment delivery would be reduced to below a level of significance, as shown in Table 3.6-6. With the ~~armoring of the Via Vera Cruz road crossing,~~ construction of the two check dams, the sediment delivery would be reduced below the existing conditions for the FEMA 100-year flood, the FEMA flood series, and the ultimate flood series. Implementation of this mitigation measures would cause sediment to deposit upstream of the crossing and thus reduce sediment delivery downstream towards Lake San Marcos. The ~~crossing~~ check dams would act as a "speed bump" that slows down creek flows. ~~The crossing would be hardened for stability and the height was designed using detailed engineering analyses.~~ The analyses simulated a long-term sequence of flows over a 100-year timeframe to develop a solution that would not require routine maintenance. The engineering analyses showed, with incorporation of ~~this~~ these features, that the control measures would decrease sediment delivery to Lake San Marcos in comparison to current conditions. Therefore, implementation of mitigation measure MM 3.6-3a and MM 3.6-3b would reduce the potential sediment transport impact to below a level of significance. It should be noted that the proposed check dams are proposed within an area already considered impacted from a biological resources perspective. Therefore, no additional impact to biological resources would occur with implementation of these mitigation measures.

Table 3.6-6. Total Sediment Deliveries

Stream Location	Total Amount of Sediment Delivery (tons)		
	Existing Conditions	Armoring Via Vera Cruz Road Crossing	Reduction in Sediment Delivery due to Mitigation
Based on FEMA 100-Year Flood[1]			
Downstream End (Section 20)	31,300	17,600	13,700
Discovery Street (Section 50)	31,000	14,100	16,900
Based on 100-Year Flood Series[2]			
Downstream End (Section 20)	366,000	345,000	21,000
Discovery Street (Section 50)	358,000	336,000	22,000
Based on Ultimate Flood Series[3]			
Downstream End (Section 20)	463,000	~~450,000~~ 454,000	~~13,000~~ 9,000
Discovery Street (Section 50)	452,000	~~439,000~~ 444,000	~~13,000~~ 8,000

Source: Sediment Study for San Marcos Creek. Prepared by Chang Consultants, December 2006.

Notes: (1) FEMA 100-Year Flood represents a flood level with a one percent or greater chance of being equaled or exceeded in any given year.

(2) 100-Year Flood Series represents: The ultimate flood series scenario represents a series of events that one may statistically expect over a 100-year times span. This includes one flood exceeding the 100-year event, two floods exceeding the 50-year event, four floods exceeding the 25-year event, and 10 floods exceeding the 10-year event.

(3) Ultimate Flood Series represents: The ultimate flood series scenario represents a series of events that one may statistically expect over a 100-year times span. This includes one flood exceeding the 100-year event, two floods exceeding the 50-year event, four floods exceeding the 25-year event, and 10 floods exceeding the 10-year event. This scenario also assumes buildout of the City per the City Master Drainage Plan.

Implementation of mitigation measure MM 3.6-4, which requires the redefinition of the floodplain prior to construction within the Specific Plan area, would ensure that future occupants and structures within the Specific Plan are would not be subject to flooding during a 100-year storm event. Finally, to ensure the safety of the floodway improvement project, including the levee, implementation of mitigation measure MM 3.6-5 would be required. This mitigation measure requires certification of the levee by a professional engineering. With implementation of mitigation measures MM 3.6-1 through 3.6-5, all hydrology and water quality impacts would be reduced to below a level of significance.

3.7 LAND USE

This section addresses the land use compatibility of the proposed project with existing plans and surrounding development. The land use analysis is twofold. The land use analysis addresses the consistency of the proposed project with the adopted General Plan for the project area, consistency of the proposed project with the Zoning Ordinance as well as consistency with the San Diego Association of Governments (SANDAG) Regional Comprehensive Plan (RCP). Second the land use analysis also addresses the compatibility of the proposed project with the existing land uses in the project vicinity. It should be noted that within the impact analysis section of this chapter, the impacts for the SR-78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the Environmental Impact Report (EIR) for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

3.7.1 Environmental Setting

Existing General Plan and Zoning Designations

Under the San Marcos General Plan, the project site is designated as a combination of commercial, and residential uses. Zoning includes commercial, mobile home, single-family residential, light industrial, public services, and agriculture. With the current General Plan and Zoning designations, the project site could be developed with 107 acres of commercial and up to 1,170 residential condominiums.

Business/Industrial District Plan

The proposed project is located in the most south-easterly section of the Business/Industrial District of the City of San Marcos (City) General Plan. The goal of the Business/Industrial District Plan is to:

> *"Establish the Business/Industrial District as the locale for the Industrial, Retail, and Service Commercial and Office-Professional uses in the City; to provide for adequate and diversified housing to support such activities; and to preserve and enhance the area's natural and open space resources."*

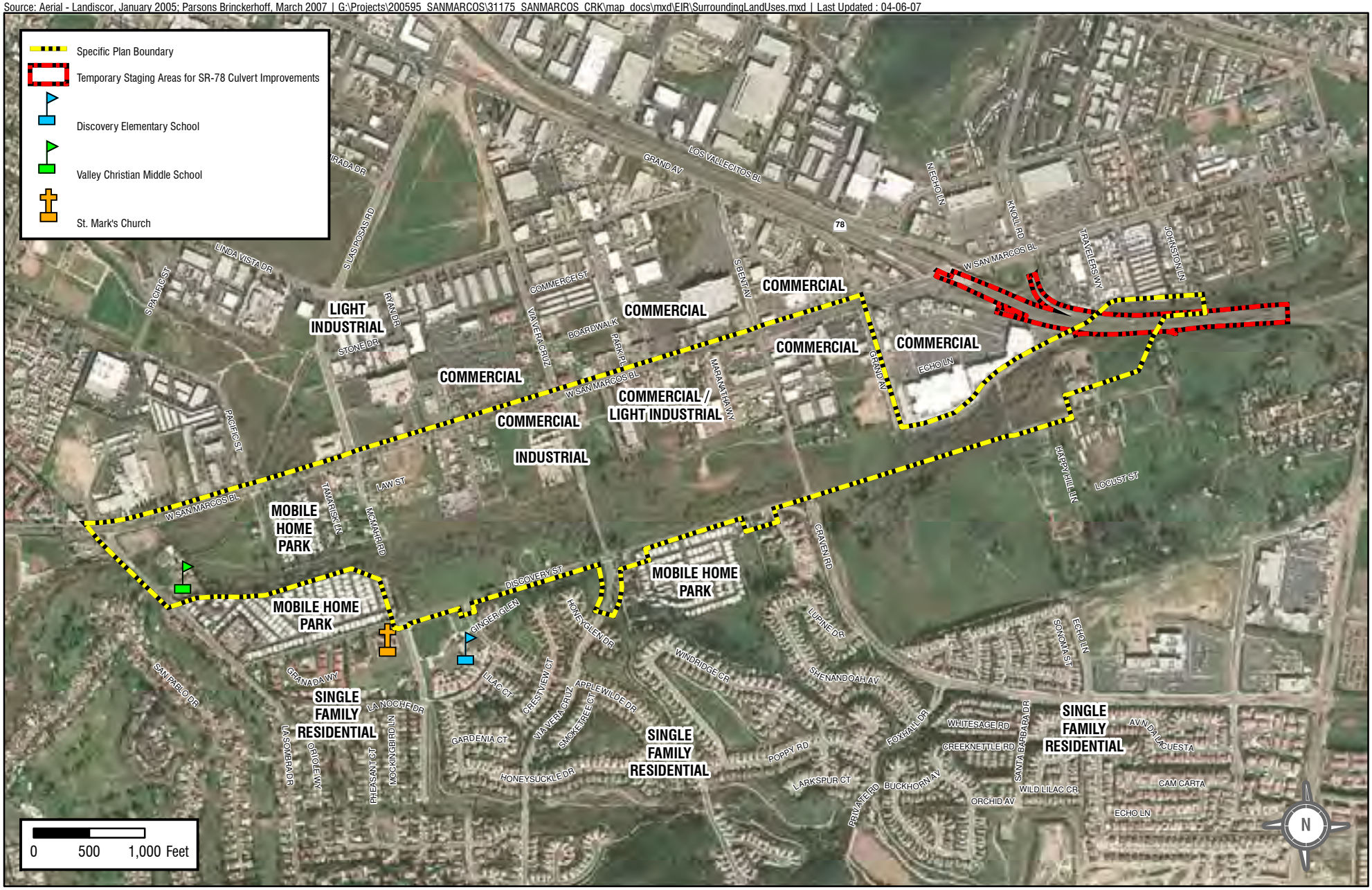
The plan also includes specific objectives and policies for residential and commercial development; however, the plan does not provide specific guidelines with respect to mixed-use projects. Table 3.7-1, Proposed Project Consistency with Applicable Goals of the Community Plan, identifies the residential and commercial goals that are applicable to the proposed project.

Barham/Discovery Community Plan

The proposed project is also immediately adjacent to the Barham/Discovery Community Plan. Discovery Street serves as the division between the southern Business/Industrial Plan and the northern portion of the Barham/Discovery Community Plan. The goal of the Barham/Discovery Community Plan is to:

> *"Establish land uses that will maintain a balanced community by preserving the natural resources of the community while promoting housing, employment, commercial, educational, open space and recreational needs and development of the neighborhood."*

Source: Aerial - Landiscor, January 2005; Parsons Brinckerhoff, March 2007 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\SurroundingLandUses.mxd | Last Updated : 04-06-07



Surrounding Land Uses

FIGURE 3.7-1

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Table 3.7-1. Proposed Project Consistency with Applicable Goals of the Business/Industrial Community Plan[(1)]

Goal	Goal Language	Project Consistency
Community Identity		
A	To encourage the development of an identifiable, distinct, and unique urbanized character in the District Planning Area.	The proposed project is consistent with this goal. The portion of the project site identified for development would be guided by a Specific Plan. The Specific Plan includes several subdistricts, each with its own character and land use emphasis. With this approach, the Specific Plan would encourage development that is of an identifiable, distinct and unique urbanized character.
Residential		
A	To assure that a variety of residential densities and types are available in designated locations with commercial and industrial activities nearby.	The proposed project is consistent with this goal. The project proposes up to 2,300 residential units. The residences are proposed within four cluster areas of the Specific Plan area. Residential product proposed within the Specific Plan area would be attached (town homes, condominiums, urban lofts) and would vary in density based on where they are constructed within the Specific Plan area. Development within the Specific Plan area would be of a mixed-use character and would include both commercial and office uses. Therefore, residences would be located adjacent to commercial and office uses. Industrial uses are not identified as an allowable use within the Specific Plan area, although they are nearby and adjacent to the project site.
A1	Medium and higher density residential housing shall be located and concentrated in specifically designated areas of the District Planning Area.	The proposed project is consistent with this goal. The project site is located along a developed and future transit corridor of San Marcos Boulevard, with close access to SR-78. The project would intensify development along this corridor.
A3	The land area south of the San Marcos Creek corridor shall be developed in a "planned residential" type of development with open space linked through this corridor and providing pedestrian linkage with commercial areas north of the Creek.	The proposed project is consistent with this goal. While the project is not proposing residential development south of San Marcos Creek, which is precluded by the need for flood control facilities, it would facilitate pedestrian movement through the Creek area through a series of roadway improvements and trail networks. The project also includes a series of park and open space areas, including the preservation of San Marcos Creek as a focal point of the open space components of the Specific Plan. The bridges that are proposed across the creek would include a dedicated pedestrian path of travel. This would enhance movement between existing and future development south of the Creek and the existing and future uses north of the Creek. Therefore, the project is consistent with this goal.
B1	Residential developments shall be designed to not exceed more than 85% of allowable density designations.	The proposed project is consistent with this goal. The project currently supports a small amount of residential designation, and the density proposed in those areas would exceed the 85% allowable density designation. However, the project proposes a General Plan Amendment and a Rezone to Specific Plan, as the proposed residential uses on the project site would be developed under a Specific Plan. The plan would detail the acceptable residential density on the project site and address the compatibility with adjacent land use. Therefore, the 85% allowable density cap would no longer be acceptable. Further, there is a need for compact development given the need to implement the floodway improvements.

Goal	Goal Language	Project Consistency
B2	The City shall establish a development monitoring system and program to be able to evaluate the impact of new development on public facilities and services.	The proposed project is consistent with this goal. Policy 3.7.2 of the Specific Plan states that traffic conditions within the Specific Plan area shall be analyzed every three years to assess the need to adjust capacity projections. If the analysis indicates that the proposed development is consuming network capacity faster or slower than projected, the City may adjust the development intensity categories.
Commercial		
A	To ensure a diversified, well-balanced, and viable commercial base by promoting a full range of commercial activities and development within the District Planning Area.	The proposed project is consistent with this goal. The project includes a mix of multifamily residential, commercial, and offices uses that would be connected to existing and future development within the area. The commercial uses would include office, retail and restaurant space that would serve to balance the residential uses proposed by the project.
A1	Community and Neighborhood commercial centers shall be located throughout the District Planning Area.	The proposed project is consistent with this goal. Currently there are commercial uses developed within a portion of the project area. Existing commercial development in the project vicinity includes the Creekside Market Place at Grand Avenue as well as neighborhood commercial adjacent to the project site. While redevelopment is proposed for these areas, commercial and office uses are an integral part of the development plan for the Specific Plan. The Specific Plan includes 81.7 acres of mixed use. The mixed use area would be developed with up to 2,300 residential units and up to 1,265,000 s.f. of commercial uses. Subdistricts are proposed within the Specific Plan development area and include a "downtown core" concept, which would serve as a city-wide and regional retail and entertainment designation (Figure 3.7-3). Other subdistricts within the Specific Plan area would include commercial uses, but in a less intensive level.
A3	Retail commercial uses shall be encouraged to locate within existing shopping centers or in a new center to promote and foster their growth commensurate with the size and type of market (population) area to be served.	The proposed project is consistent with this goal. Currently, there are small retail uses developed within a portion of the project area, particularly along San Marcos Boulevard. The Specific Plan calls for a gradual transition of the current "strip" malls along San Marcos Boulevard to a high-end commercial corridor. In that respect, future retail uses would be located within existing commercial area. Further, the project would have retail uses through most of the project area, with the most intense uses in the "downtown core" subdistrict, with less intense commercial uses as you move away from the "downtown core". Proposed commercial for the project would service future project residents, as well as city-wide and regional consumers.

Note: (1) Only applicable goals are analyzed.

Land uses in the northern portion of the Barham/Discovery Community Plan are largely single-family residences with a few mobile home communities.

Regional Comprehensive Plan

The Regional Comprehensive Plan (RCP) is the long-term planning foundation for integrating land uses, transportation systems, infrastructure needs, and public investment strategies for the San Diego region. The 2006 RCP is built around the Compass Growth Vision and 2% Strategy adopted by the San Diego Association of Governments (SANDAG) in April 2004. The recommendations made within each chapter are comprised of infrastructure and resource activities consistent with the envisioned growth pattern. The RCP features nine chapters; each based on a specific area of planning or resource management. A finance strategy accompanies each chapter, identifying funding opportunities.

Based on shared goals and objectives, the RCP identifies practical ways to connect transportation and land use plans using smart growth principles; uses transportation and land use plans to guide decisions regarding environmental and public facility investments; promotes collaboration and incentives to implement regional goals and objectives; established a context in which to address regional infrastructure financing needs; and actively engages regional neighbors and tribal governments in the planning process. In doing so, the RCP balances regional population, housing, and employment growth with habitat preservation, agriculture, open space, and infrastructure needs.

Multiple Habitat Conservation Program

In San Diego County, several conservation planning efforts have been completed or are currently in progress with the long-term goal of establishing a regional reserve system that will protect native habitat lands and their associated biota. The ultimate goals of these plans are the establishment of biological reserve areas in conformance with the State NCCP Act, and to contribute to the preserve system already established by the approved Multiple Species Conservation Plan (MSCP) in southwestern San Diego County.

The project site lies in the Multiple Habitat Conservation Program (MHCP) project area. The MHCP was approved and finalized in 2003 (SANDAG 2003) and it contains guidelines by which development of natural habitat containing sensitive species can be regulated. The City began preparing a draft of the City Subarea Plan of the MHCP in December 1999 and although the draft has not yet been approved by the USFWS and CDFG, the plan is a component of the MHCP and is currently being used as a guide for open space design within the City. The intent of the City's Subarea Plan is to identify a citywide preserve system that meets local and regional biological goals while minimizing fiscal and economic impacts to the City and adverse impacts on private property owners (City of San Marcos 2001). Please see Section 3.2, Biological Resources, for an analysis of the project's consistency with the MHCP.

Carlsbad Watershed Management Plan (CWMP)

The Carlsbad Watershed Management Plan is the framework for cooperative watershed management of the Carlsbad Hydrologic Unit (CHU) by local governments, agencies, organizations, and other watershed stake holders. It describes the current conditions of the various watersheds within the CHU and a plan of action to protect, enhance and restore the CHU.

The CWMP calls for protection, restoration and enhancement of undeveloped open space in the headwaters of the watershed that would provide natural filtering capabilities for water runoff control and water quality improvements. Also, it calls for the purchase or transfer into public ownership or control of as many of the open space and wetland resources as possible. Please see Section 3.6 of the Draft EIR for an analysis of the project's consistency with the objectives.

Surrounding Land Uses

The project includes developed portions of San Marcos Boulevard, as well as undeveloped areas adjacent to San Marcos Creek. Uses to the north of the project site include commercial and light industrial. Existing uses to the south of the project site include an undeveloped area associated with the proposed University Business Park (Fenton) project, single-family residential and mobile home communities. West and southwest of the project site is the unincorporated community of Lake San Marcos. East of the project area is the Creekside Marketplace shopping center as well as SR-78.

SR-78 Hydraulic Improvements

Implementation of the SR-78 hydraulic improvements would not result in a land use impact. The improvements would not divide an established community, as SR-78 is already an established feature in the project vicinity. This component of the project will increase hydraulic capacity under the bridge. No inconsistencies with applicable plans are identified with this improvement. Therefore, no land use impacts are identified for this component of the project.

3.7.2 Thresholds of Significance

Impacts to land use would be significant if the proposed project would:

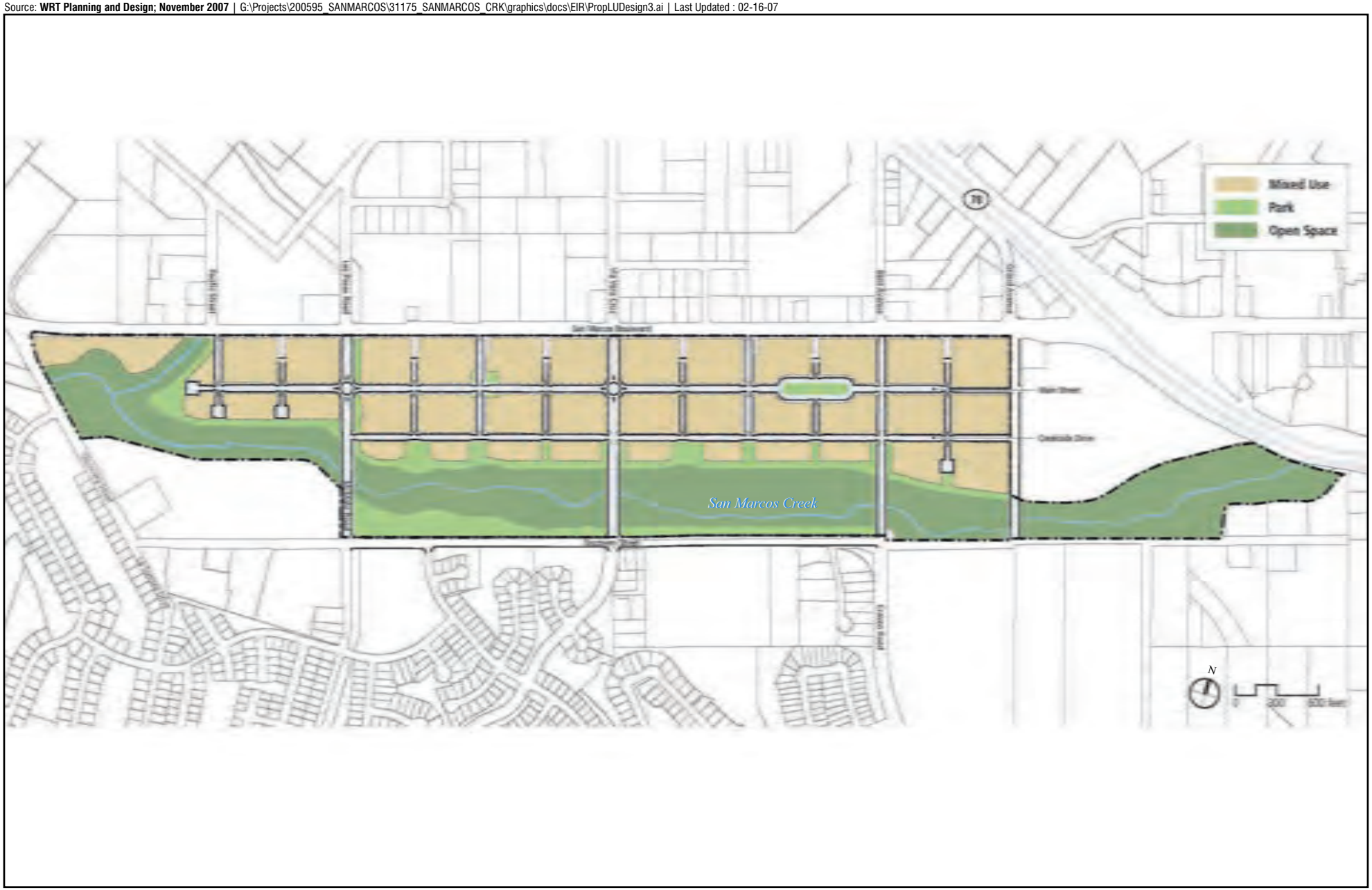
- Divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project;
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

3.7.3 Project Impacts

The project includes implementation of a Specific Plan, which calls for 81.7 acres of mixed use, 19.9 acres of park space, 77.0 acres of open space, and 38.7 acres of road right-of-way (Figure 3.7-2). The mixed use areas include a combination of residential, retail, and office uses. Maximum development for the mixed use areas are provided in the following table:

Land Use	Development Area (square feet)
Retail	1,265,000
Office	589,000
Residential	2,760,000 (2,300 dwelling units)
TOTAL	4,614,000

Source: **WRT Planning and Design; November 2007** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\PropLUDesign3.ai | Last Updated : 02-16-07



Proposed Land Use Designations

FIGURE 3.7-2

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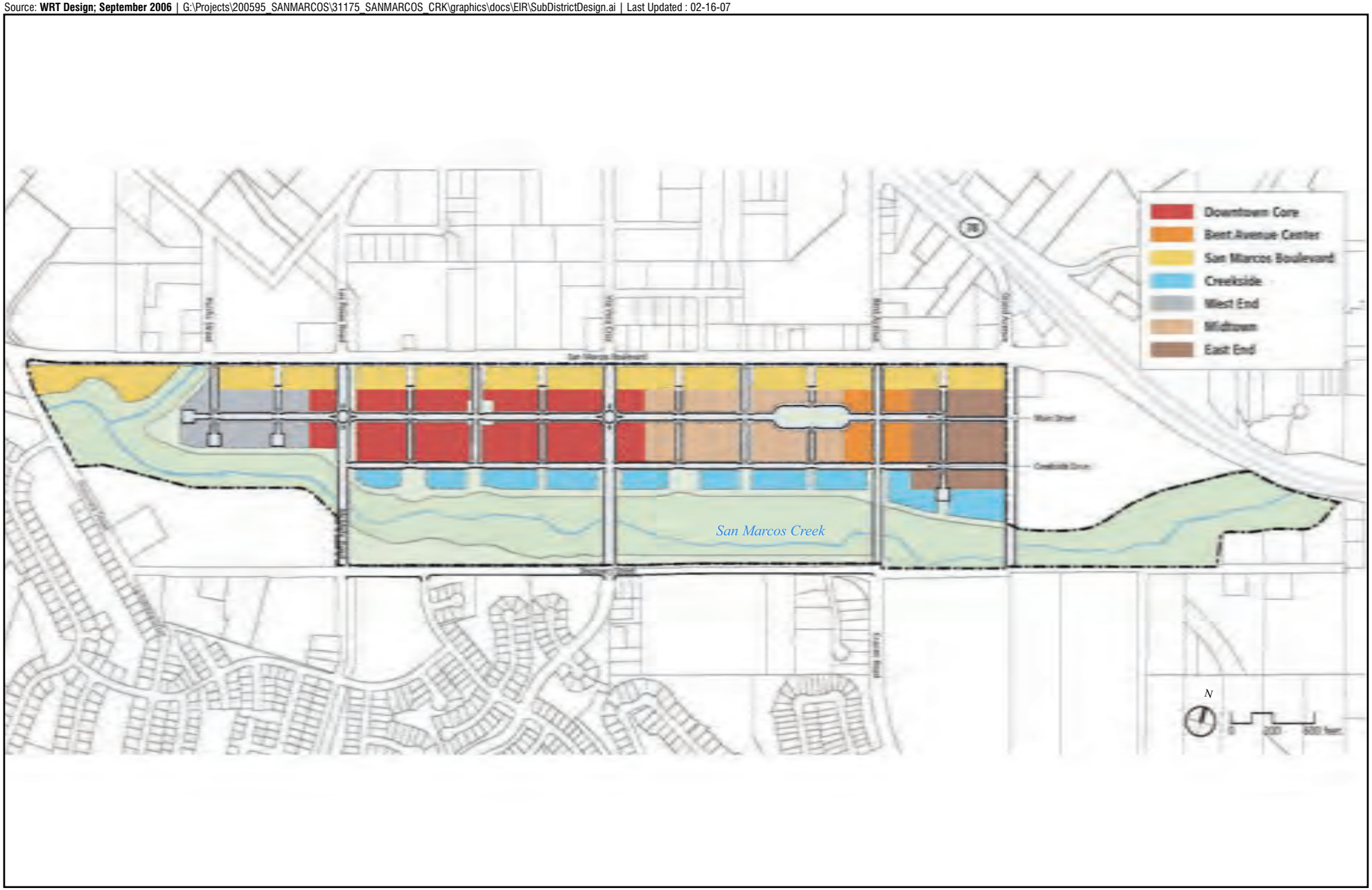
Within the developable portion of the Specific Plan, the development area is envisions as a series of interconnected neighborhoods with differing land use and physical characteristics. There are seven subdistricts proposed, as presented in Table 3.7-2 and Figure 3.7-3.

Table 3.7-2. Specific Plan Subdistrict Summary

Subdistrict	General Location within Specific Plan	Land Use Concept
San Marcos Boulevard	Northern Boundary of Specific Plan	Transform existing "strip" malls into high-end mixed use. Uses may include retail, office, entertainment, lodging and residential uses, with an emphasis on office and other commercial uses.
Downtown Core	West-central portion of Specific Plan	Identified as the most intense and most urban area of the Specific Plan. Objective is to establish this area as a citywide and regional retail and entertainment destination. Uses may include retail, office, entertainment, lodging, and residential uses, with emphases on retail and entertainment. Residential uses would occupy upper stories.
Creekside	Immediately north of San Marcos Creek.	Provides a transition between the urban development to the north and the creek to the south. Amenities within the area include parks, open space, and a pedestrian promenade. Uses may include a mix of retail, entertainment, lodging and residential, with an emphasis on uses that enhance and benefit from the adjacency to the promenade and creek corridor. Land use emphasis would vary along the length of the corridor.
Bent Avenue	East-central portion of the Specific Plan	This subdistrict would serve as an important gateway into the east end of Specific Plan Area. This subdistrict would serve as a commercial center for the eastern portion of the district. Uses may include retail, office, entertainment, lodging, and residential, but the emphases would be on much less entertainment than in the downtown core district.
Midtown	East-central portion of the Specific Plan	Uses may include retail, office, entertainment and residential, with a high proportion of residential uses internal to the subdistrict, local services and office uses and fewer destination entertainment type uses. Residential uses may occupy ground floors as well as upper floors, except at street corners.
East End	East side of the Specific Plan	Uses may include retail, office, entertainment and residential, with a high proportion of residential uses internal to the subdistrict, local services and office uses and fewer destination entertainment type uses. Residential uses may occupy ground floors as well as upper floors, except at street corners.
West End	West side of the Specific Plan	Uses may include retail, office, entertainment and residential, with a high proportion of residential uses internal to the subdistrict, local services and office uses and fewer destination entertainment type uses. Residential uses may occupy ground floors as well as upper floors, except at street corners.

Source: **WRT Design; September 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\SubDistrictDesign.ai | Last Updated : 02-16-07



Sub District Designations

FIGURE 3.7-3

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Differing development intensities are proposed throughout the Specific Plan area and are based upon differing Floor Area Ratios (FAR). FAR is the total floor area of a building or structure on a lot divided by the total area of the lot. FARs vary from 1.25:1 to 2.25:1 within the Specific Plan area. Figure 3.7-4 depicts the proposed FARs within the Specific Plan area. Development associated with the Specific Plan would vary in height depending on the location within the Specific Plan. The most dense areas would be a minimum of three stories (35 feet) and could reach up to 80 feet. The remaining areas of the Specific Plan would be a minimum of two stories (25 feet) and could reach up to 65 feet. Figure 2.3-10 shows the areas proposed for mixed use, park and open space areas within the Specific Plan.

Residential uses are permitted throughout the project site, with the exception of the parcels located along Discovery Street and San Marcos Boulevard. Figure 3.7-5 shows the various distributions of residential uses and where there are certain restrictions on where residences cannot be developed on the ground floor.

Division of an Established Community

Implementation of the project would not result in the division of an established community. Rather, the project would enhance vehicular and pedestrian movement in the project vicinity through a series of roadway improvements, including street extensions, bridge and Arizona crossing constructions and a pedestrian bridge. Currently, access through portions of the project area can become impeded due to flooding conditions to roadways during high water events. Therefore, the project would improve connectivity of existing communities, rather than divide. Therefore, no impact is identified for this issue area.

Consistency with General Plan and Zoning Designations

The proposed project would be inconsistent with some of the existing land use designation and zoning. The project site is designated as a combination of commercial and residential uses. Zoning includes commercial, multi-family residential, with non-conforming industrial, designations. These General Plan and zoning designations would not support the mixed-use land use that is proposed by the project. This represents an inconsistency with an adopted plan and zoning, therefore, represents a significant land use impact.

Additionally, the proposed right-of-way for ~~two~~ three roadway segments is inconsistent with the Circulation Element. The segment of Discovery Street between McMahr and Craven is currently identified as a Major Arterial with 82-feet of roadway and a 102-foot right-or-way (ROW), which allows for a center median and left turn pockets. The project proposes 72-feet of roadway and a 92-foot ROW with no median for this segment. This represents and inconsistency with the Circulation Element and a significant land use impact.

The segment of Grand Avenue between the future Grand Avenue bridge and Discovery Street is currently identified as a Major Arterial with 82-feet of roadway and a 102-foot ROW. The project would reclassify this segment as a Secondary Arterial, which would provide 64-feet of roadway and an 84-foot ROW. This represents an inconsistency with the Circulation Element and a significant land use impact.

Source: **WRT Planning and Design; November 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\HeightsFAR.ai | Last Updated : 02-16-07

Proposed Floor Area Ratio

FIGURE 3.7-4

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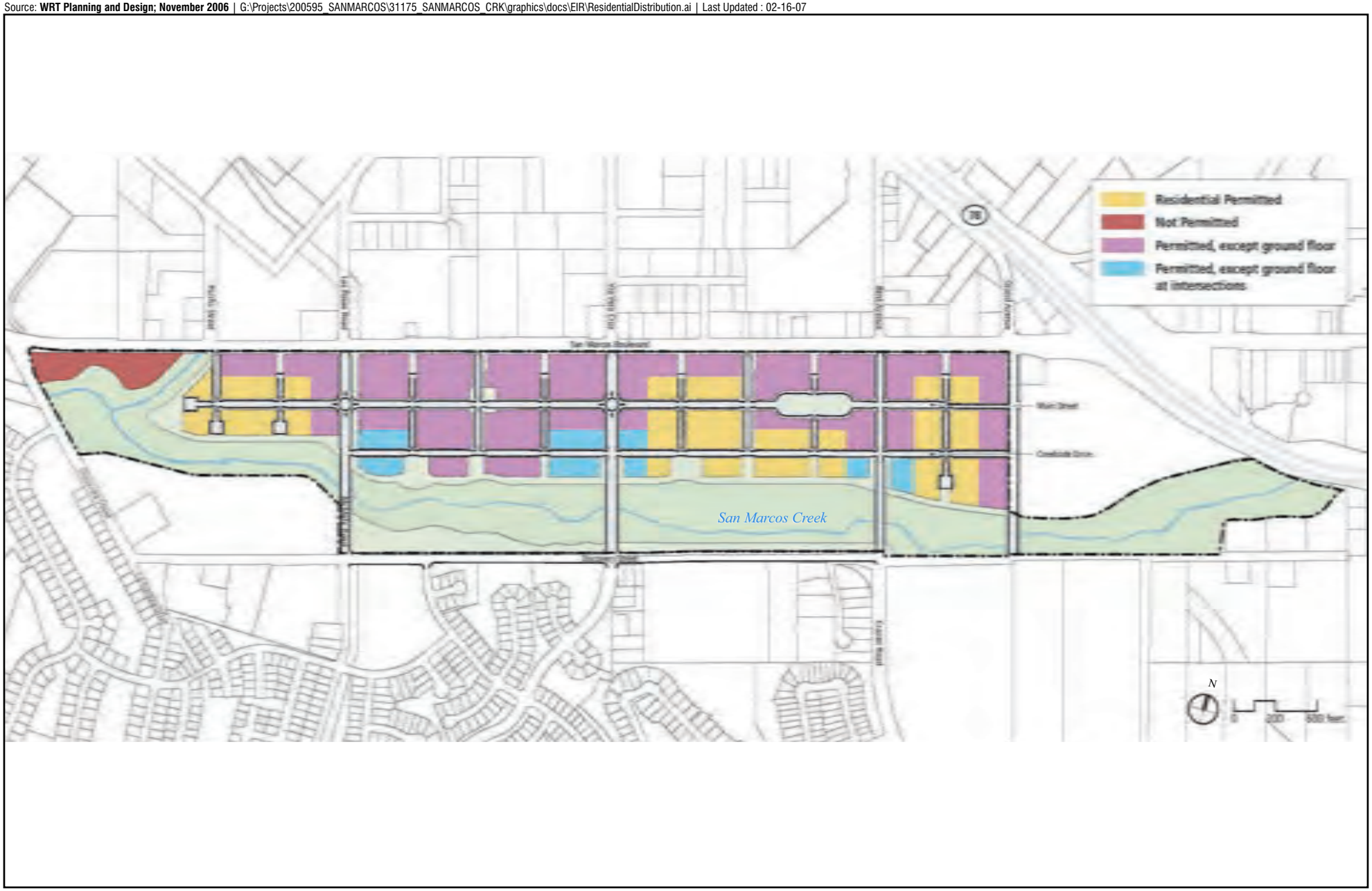
Source: **WRT Planning and Design; November 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\ResidentialDistribution.ai | Last Updated : 02-16-07



Proposed Residential Distribution

FIGURE 3.7-5

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The segment of McMahr between San Marcos Boulevard and Discovery Street is currently identified as a Secondary Arterial. The project will reclassify the portion of McMahr between Main Street and Creekside road as special four-lane Creek District arterial with an 84-foot interim ROW and a 98-foot ultimate ROW. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with an 84-foot ROW. The segment of McMahr between Creekside Drive and Discover Street (across the creek) would be eliminated. This represents an inconsistency with the Circulation Element and a significant land use impact.

The various elements of the San Marcos General Plan contain numerous goals, policies and implementing strategies. Relevant goals, policies and implementing strategies are discussed within the various environmental issue analysis sections of the EIR (Section 3.1 through 3.11). Specifically, Tables 3.1-1, 3.2-13, 3.3-7, 3.4-2, 3.5-1, 3.6-4, 3.8-9, 3.9-3, 3.10-11 and 3.11-4 provide a discussion of the project's consistency with these policies. No consistency issues with the various goals, policies and implementing strategies that were analyzed in the tables referenced above. Therefore, no additional inconsistencies beyond those identified above are noted for the project.

Consistency with Business/Industrial District Plan

Table 3.7-1 identifies the Business/Industrial District goals that are applicable to the proposed project and the consistency of the project with those goals. As shown in Table 3.7-1, the project is consistent with the applicable goals of the Business/Industrial District Community Plan and no land use impact is identified.

Consistency with Barham/Discovery Community Plan

While the proposed project is not specifically in the Barham/Discovery Community Plan, it is adjacent to the plan area. As noted in the existing conditions section, the portions of the Barham/Discovery Community Plan that are closest to the proposed project contain single family residences and mobile home parks. The project is consistent with the primary goal of the Barham/Discovery Community Plan which seeks to "establish land uses that would maintain a balanced community by preserving the natural resources of the community while promoting housing, employment, commercial, educational, open space and recreational needs and development of the neighborhood".

Development of the project would be consistent with this goal as it would preserve and enhance the natural resources within San Marcos Creek. Additionally, it would provide a balance of residential, commercial and office uses. Further, it would provide open space through habitat preservation, and enhance the recreation uses in the community through creek-side promenades and park space. Therefore, the project is consistent with the primary goal of the Barham/Discovery Community Plan.

Consistency with the Regional Comprehensive Plan

The project meets the RCP's planning foundation of integrating land uses, transportation systems, and infrastructure needs. The proposed project is consistent with the goals of the RCP, as it provides a mixed use project adjacent to a regional transportation network (SR-78) and future transit corridors. Additionally, the Specific Plan prepared for the project includes bicycle and pedestrian facilities to offer alternative modes of transportation to residents of the project as well as community members who may frequent or pass through the project area. An intra-city shuttle bus is also proposed as part

of the project to offer another alternative to vehicles. The development proposed by the project integrates several land uses. Specifically, the project proposes residential, retail and office uses. Further, the project meets the RCP goal of locating density adjacent to major freeways, interstates and transit corridors. The Specific Plan area is bordered by San Marcos Boulevard, which has ramps with SR-78 within ¼ mile of the northeastern portion of the development area and it is designated on the Regional Transportation Plan (RTP) as being a transit corridor that ties into the future SPRINTER station at San Marcos Boulevard and Mission Road. . A key recommendation of the RCP is to identify Smart Growth Opportunity Area. These areas represent places where compact, higher density, mixed-use, pedestrian- and transit-oriented development could be developed. The Specific Plan proposed for the project would create a development area that would meet these criteria. In conclusion, the project meets the goals of the RCP.

Compatibility of the Proposed Project with Surrounding Land Uses

The project includes developed portions of San Marcos Boulevard, as well as undeveloped areas adjacent to San Marcos Creek. Uses to the north of the project site include commercial and light industrial. Existing uses to the south of the project site include an undeveloped area associated with the proposed University Business Park (Fenton) project, single-family residential and mobile home communities. West and southwest of the project site is the unincorporated community of Lake San Marcos. East of the project area is the Creekside Marketplace shopping center as well as SR-78.

Future development along San Marcos Boulevard would be within the “San Marcos Boulevard” Subdistrict of the Specific Plan. This portion of the Specific Plan is designed to be a high-end commercial corridor, with an emphasis on office and commercial uses. Residential uses would be allowed within the Subdistrict but would be restricted to the upper stories. These uses would be consistent with the current development along San Marcos Boulevard, which includes commercial and light industrial uses, and no incompatibility is anticipated.

Uses within the southern portion of the Specific Plan would be less intensive, and would serve as a transition from the more intensive uses in the Specific Plan area to the open space associated with San Marcos Creek. The creek, proposed park areas, as well as Discovery Street would serve to buffer the Specific Plan area from single family residences and mobile home residences located south of the project site. Due to inherent buffering, as well as the gradual transition of density from higher to lower moving north to south through the project area, the project is expected to be compatible with existing residential uses to the south of the project site.

West of the Specific Plan area, west of Discovery Street is the Lake San Marcos community. Development within the western part of the Specific Plan includes portions of the “San Marcos Boulevard” subdistrict and the “West End” subdistrict. Commercial uses at the intersection of San Marcos and Discovery Street would be consistent with developed nature of the San Marcos Boulevard corridor and is adjacent to residential uses in the Lake San Marcos community. Within the “West End” subdistrict, the emphasis would be on a higher proportion of residential uses, compared to commercial or office uses. While at a greater density than the residential development in the Lake San Marcos community, residential uses within the “West End” would not be considered incompatible with the residences in the Lake San Marcos community. Additionally, San Marcos Creek and Discovery Street would serve as a buffer between the “West End” subdistrict and the Lake San Marcos community.

The Creekside Market Place project, and newly constructed neighborhood commercial center at Grand Avenue and San Marcos Boulevard, provides the eastern boundary to the Specific Plan area. Uses within the eastern portion of the Specific Plan would be within the "San Marcos Boulevard", "East End," and "Creekside" subdistricts, depending where along the Grand Avenue boundary one is located. No incompatibility issues are expected with the existing uses to the east, as the Creekside Market Place is a commercial center.

In summary, the future development within the Specific Plan area would not be incompatible to with surrounding land uses. The most intense development of the Specific Plan area would be along San Marcos Boulevard, or internal to the project. Less intensity is proposed along the southern, eastern and western boundaries. Additionally, San Marcos Creek and proposed park space within the Specific Plan area would serve as a natural buffer between the proposed development and offsite uses to the south and west. Therefore, a less than significant impact is identified for this issue area.

3.7.4 Mitigation Measures

Inconsistency with General Plan and Zoning Designations Plan

The following mitigation measures would reduce impacts associated with the inconsistencies between the current General Plan and Zoning Designation and the uses proposed by the project.

MM 3.7-1 Prior to project implementation, a General Plan Land Use Element Amendment shall be approved to change the General Plan designations within the portion of the project proposed for development as Specific Plan.

MM 3.7-2 Prior to project implementation, a Rezone shall be approved for the areas identified for developed to Specific Plan.

MM 3.7-3 Prior to project implementation, a General Plan Circulation Element Amendment shall be approved to reclassify the segment of Discovery Street between McMahr and Craven to a modified Secondary Arterial with parking along the north side of the street.

MM 3.7-4 Prior to project implementation, a General Plan Circulation Element Amendment shall be approved to reclassify the segment of Grand Avenue between the future Grand Avenue bridge and Discovery Street to a Secondary Arterial

MM 3.7-5 Prior to project implementation, a General Plan Circulation Element Amendment shall be approved to reclassify to segment of McMahr Road between future Main Street and Creekside Road and to eliminate the segment of McMahr between Creekside Road and Discovery Street.

3.7.5 Conclusion

A significant impact related to an inconsistency between the proposed uses on the project site and the uses currently allowed under the General Plan and Zoning Ordinance was identified. These significant land use impacts would be reduced to below a level of significance through the adoption

of General Plan Amendments, a Rezone, and adoption of the San Marcos Creek Specific Plan. Additionally, an inconsistency between the proposed right-of-way of ~~two~~ three roadway segments was identified. The segment of Discovery Street between McMahr and Craven is currently identified as a Major Arterial and would be constructed as a modified Secondary Arterial. ~~Additionally, the~~The segment of Grand Avenue between the future Grand Avenue bridge and Discovery Street is currently identified as a Major Arterial and would be constructed as a Secondary Arterial. Additionally, the project would reclassify the segment of McMahr between San Marcos segment as a special four-lane Creek District arterial with an 84-foot interim ROW and a 98-foot ultimate ROW. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with an 84-foot ROW. Adoption of a Circulation Element Amendment to change these classifications would eliminate the inconsistency and reduce the impact to below a level of significance.

3.8 NOISE

This section summarizes the noise impact analysis prepared by Giroux & Associates (2007). The complete report is included in Appendix G of this Draft EIR. It should be noted that within the environmental setting and impact analysis section of this chapter, the setting and impacts for the SR-78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the EIR for issuance of an encroachment permit for work within the Caltrans right-of-way.

3.8.1 Environmental Setting

Background

Noise is often called unwanted sound. Sound is generally described in terms of the sound pressure level created by vibrating air molecules. The most common descriptor is the ratio of the ambient sound pressure level to the level detectable by a young person with good auditory acuity. Because this ratio can vary by over one million within the range of human hearing, a logarithmic ratio is used to keep values at an easily manageable level. This logarithmic ratio is called a decibel (dB). Decibels are also typically weighted to most closely approximate the response of the human ear, in a process called A-weighting, referred to as dB(A). Any further references to decibels in this analysis are understood to be A-weighted. Sound levels vary rapidly in an ambient environment. The most common descriptor of time-varying sound is the equivalent level, or L_{eq}, a steady-state sound level that has the same acoustic energy as the average of all the instantaneous variable levels. One hour is the most common averaging period for L_{eq}. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for some planning purposes, an artificial dB(A) increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

Existing Noise Environment

Existing noise levels throughout the proposed project vicinity derive almost exclusively from vehicular sources on adjacent roadways and the nearby SR-78 freeway. Long-term (24-hour) baseline noise measurements were made on-site and near the existing residences adjacent to the proposed project site. Figure 3.8-1 shows the noise monitoring locations for the four sites. These locations, along the southern boundary of the project site, were selected, as they are closest to off-site residential receptors and sensitive biological habitat associated with San Marcos Creek.

Monitoring Site 1 is the on-site mobile home park located at the northeast intersection of Discovery Street and La Sombra Drive. Monitoring Site 2 is at the St. Mark's Roman Catholic Church, at the intersection of Discovery Street and McMahr Road. Monitoring Site 3 is at the single-family homes on Via Vera Cruz, south of Discovery Street. It is important to note that the monitor at Site 3 on Via Vera Cruz experienced contamination/vandalism. Analysis of the monitored values show non-contamination at mid-day, between 2:00 p.m. and 3:00 p.m. Monitoring experience has shown that daytime short-term L_{eq} and weighted 24-hour CNELs are similar with CNEL typically +2 dB higher than mid-afternoon L_{eq}. Therefore, the mid-day value (2:00 p.m. to 3:00 p.m.) L_{eq} at Site 3 has been used, with +2 dB added to represent the CNEL for that monitoring location. Monitoring Site 4 is on-site, at the south end of Grand Avenue. Table 3.8-1 summarizes the noise measurement results from the four long-term monitors.

Source: Giroux & Associates; January 2007, Aerial-Landiscor; January 2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\NoiseMonitoringSite.mxd | Last Updated : 1-31-07

Noise Monitoring Locations

FIGURE 3.8-1

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Table 3.8-1. Noise Monitoring Results(1)

	Monitoring Site #1	Monitoring Site #2	Monitoring Site #3(2)	Monitoring Site #4
Parameter				
Max 1-Hour L_{eq}	70	63	-	63
Time Observed	6-7 a.m.	11-12 Noon	-	8-9 a.m.
2nd-High Hour	69	60	-	59
Time Observed	3-4 p.m.	7-8 a.m.	-	9-10 a.m.
3rd-High Hour	68	58	-	58
Time Observed	4-5 p.m.	8-9 a.m.	-	12-1 p.m.
Min 1-Hour L_{eq}	49	47	-	45
Time Observed	2-3 a.m.	3-4 a.m.	-	1-2 a.m.
1-Second Max (L_{max})	89	93	-	84
1-Second Min (L_{min})	36	42	-	42
24-Hour CNEL	70	59	63*	58

Notes: - =Data partially contaminated by electronic interference.
*=Mid-day Leq (61 dB) + 2 dB = CNEL.
(1) Noise measurements take July 7 and 8, 2005.
(2) Monitoring Site #3 was contaminated/vandalized; therefore, no results are provided.

Existing on-site and surrounding noise levels are below 65 dB CNEL, except at the mobile home park adjacent to Discovery Street at the La Sombra Drive intersection. The noise levels at the mobile home park are 70 dB CNEL and currently exceed the City of San Marcos exterior noise standard of 65 dB CNEL. These higher traffic noise levels along the western perimeter of the project site are indicative of early morning traffic accessing San Marcos Boulevard from the more distant residential subdivisions.

Existing traffic noise levels were also calculated using a Caltrans/FHWA computer model along 26 roadway segments around the project site area that were analyzed in the Traffic Impact Analysis (RBF 2005). Estimates of existing noise levels are presented in Table 3.8-2.

Predicted traffic noise levels along San Marcos Boulevard, at 50 feet from the centerline and adjacent to the project site, range from low- to mid-70 dB CNEL. These levels are in excess of City standards for noise sensitive developments such as residential uses, if the development were located within this noise contour.

The observed values at the mobile home park, along Discovery Street near the La Sombra intersection, are higher than predicted values by +2 dB. The higher CNEL may result from higher-than-normal commuting traffic from 5:30-7:30 a.m. All pre-7:00 a.m. noise events are “penalized” by +10 dB in calculating CNELs. Existing traffic noise levels along San Marcos Boulevard and Discovery Street exceed the City exterior noise standard for any recreational uses in close proximity to either roadway (under line-of-sight conditions). Other analyzed streets currently experience noise levels in the mid- to high-60 dB range. If residential uses are planned for any location with noise levels above 65 dB CNEL, mitigation measures would be required to achieve City of San Marcos exterior and interior noise standards, such as noise barriers. There are no siting constraints for any commercial/ office/retail uses associated with implementation of the proposed project because such uses are not considered noise-sensitive.

Table 3.8-2. Existing Traffic Volumes and Corresponding dB CNEL (50 feet from Centerline)

Roadway Segment	Existing ADT	Existing dB CNEL
San Marcos Boulevard		
Rancho Santa Fe Road to Discovery Street	42,674	74.1
Discovery Street to Pacific Street	39,723	73.8
Pacific Street to Las Posas Road	39,723	73.8
Las Posas Road to Via Vera Cruz	35,391	73.3
Via Vera Cruz to Bent Avenue	43,282	74.2
Bent Avenue to Grand Avenue	52,432	75.0
Grand Avenue to SR-78	61,632	75.7
Discovery Street		
San Marcos Boulevard to La Sombra Drive	11,531	68.5
La Sombra Drive to McMahr	11,673	68.5
McMahr–Via Vera Cruz	11,673	68.5
Via Vera Cruz to Bent Avenue	12,400	68.8
Pacific Street		
Linda Vista Drive to San Marcos Boulevard	1,753	60.3
Las Posas Road		
Linda Vista Drive to San Marcos Boulevard	7,749	66.7
San Marcos Boulevard to Discovery Street	N/A	N/A
Via Vera Cruz		
Linda Vista Drive to San Marcos Boulevard	4,827	64.7
San Marcos Boulevard to Discovery Street	5,244	65.0
Bent Avenue		
Grand Avenue to San Marcos Boulevard	2,753	62.2
San Marcos Boulevard to Discovery Street	4,935	64.8
South of Discovery Street	13,002	69.0
Grand Avenue		
Bent Avenue to San Marcos Boulevard	10,065	67.9
San Marcos Boulevard to Discovery Street	10,988	68.2

Regulatory Setting

The following are applicable goals and policies from the City of San Marcos General Plan, Noise Element:

- Implementing Strategy 1.1: Require berms, embankments, landscaping, sound walls, and other noise reduction techniques as conditions of development approval where necessary to reduce noise to acceptable levels.

- Implementing Strategy 1.3: Establish and maintain truck routes away from noise-sensitive receptors.
- Policy 4: Establish noise standards for noise-sensitive receptors in the City's noise ordinance.
- Implementing Strategy 4.1: Establish 60 dB(A) CNEL as the acceptable outdoor noise exposure level for rural and single family residential areas.
- Implementing Strategy 4.2: Establish 60 dB(A) CNEL as the acceptable outdoor noise exposure level for schools, libraries, churches, hospitals, nursing homes, parks and recreation areas.
- Implementing Strategy 4.3 Establish 65 dB(A) CNEL as the acceptable outdoor noise exposure level for multi-family residential areas.
- Implementing Strategy 4.4: In the event that outdoor acceptable noise exposure levels cannot be reached by various noise attenuation mitigation measures, prohibit indoor noise levels from exceeding 45 dB(A) CNEL.
- Implementing Strategy 4.5. Require the preparation of acoustical studies prior to the approval of projects which may expose noise-sensitive receptors to noise levels exceeding these standards, impose mitigation measures to ensure that the City's noise standards are met, and specify conditions under which higher noise levels may be acceptable.
- Policy 5: Ensure that the construction and future developments would minimize interior and exterior noise levels.
- Implementing Strategy 5.1: Require the use of noise evaluation in environmental impact reports.
- Implementing Strategy 5.3: Establish planning guidelines for noise control for the exterior and interior living space of all new residential developments within noise-impacted areas defined as areas exceeding the standards set forth by Policy 4.
- Policy 6: Utilize land use controls to reduce noise from sources adjacent to residential areas and recreational and community facilities.
- Implementing Strategy 6.1: Utilize noise contour maps to evaluate the effect of development proposals on the noise environment of existing or planned contiguous uses.
- Implementing Strategy 6.2: Where feasible, require a buffer between industrial uses and residential areas, recreational uses, and community facilities.

3.8.2 Thresholds of Significance

According to Appendix G of the State California Environmental Quality Act (CEQA) Guidelines, noise impacts are considered potentially significant if they cause:

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. For multifamily residential (which is the only type of residential proposed by the project), an exterior exposure exceeding 65 dB(A) CNEL is presumed to be in excess of standards

established in the San Marcos General Plan. Additionally, an interior CNEL of 45 dB(A) is mandated for multifamily dwellings and hotel rooms.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

CEQA Guidelines also identify a significance criteria relating to aircraft noise. There are no airports within any reasonable noise impact distance from the project area. Therefore, this issue was not further analyzed in the EIR.

Additionally, the term "substantial increase" is not defined by any responsible agency. The limits of perceptibility by instrumentation (sound meters) or by humans in a laboratory environment is around 1.5 dB(A). Under ambient conditions, people generally do not perceive that noise has clearly changed until there is a 3 dB(A) difference. A threshold of 3 dB(A) is commonly used to define "substantial increase".

Construction noise is governed by ordinance limits on allowable times of equipment operations. Appendix G of the CEQA Guidelines states that if an impact is regulated by a rule or regulation specifically designed to control a given type of impact (such as construction noise), and if the rule meets certain criteria about promulgation and applicability, then compliance with that rule renders the environmental effect as less than significant.

3.8.3 Project Impacts

Project impacts for the project are discussed in terms of construction and operation. Initial construction activities, especially heavy equipment, are a source of noise. Upon completion, project-related traffic would cause an incremental increase in area-wide noise levels throughout the City of San Marcos area. Traffic noise impacts are generally analyzed both to insure that the project would not adversely impact the acoustic environment of the surrounding community, as well as to insure that the project site is not exposed to an unacceptable level of noise resulting from the ambient noise environment acting upon the project.

Construction Impacts

Floodway and Infrastructure Improvements (Phase 1)

The proposed project also includes a number of improvements that are designed to minimize future flooding and also to implement the General Plan Circulation Element. In some instances, this construction would occur close to off-site sensitive land uses (residential), as well as near existing noise-sensitive biological habitats. (Please see section 3.3 of the Draft EIR for a discussion of construction noise as it relates to biological resources.) Construction of the proposed flood control levees and raising the mean elevation of the development above flood stage would require the use of

earth-moving machines and on-road trucks to import dirt from off-site borrow areas. Additionally, construction activities associated with the SR-78 hydraulic improvements would also be a noise source. There are no specific performance standards in the Municipal Code that apply to construction. Such activities are exempt from compliance with numerical noise ordinance standards if the activity occurs during less noise-sensitive hours. The City of San Marcos Noise Ordinance, Section 10.24.020(i) limits construction activities to the hours of 7:00 a.m. to 6:00 p.m., Monday through Fridays, and 8:00 a.m. to 5:00 p.m. on Saturdays. By limiting the hours in which construction can occur, early morning and evening noise nuisance related to construction activities can be reduced. None the less, construction activities may have a significant short-term noise impact.

SR-78 Hydraulic Improvement Area

Construction activities associated with the SR-78 hydraulic improvements are considered as part of the Phase 1 infrastructure improvements discussed above. As identified above, the SR-78 hydraulic improvements would add to the significant, short-term noise impact identified for Phase 1 of the project. However, the SR-78 hydraulic improvements, alone, would not be expected to result in a significant noise impact, as there are no sensitive receptors near the proposed SR-78 hydraulic improvements. Further, existing noise levels associated with the SR-78 traffic would mask any construction-related activity, as the construction would occur within the Caltrans right-of-way.

Specific Plan Area (Phase 2)

Build out of the Specific Plan area is expected to occur over an estimated 20-year period. The exact location or magnitude of any individual construction project within the proposed Specific Plan area is unknown. As stated above, there are no specific performance standards in the Municipal Code that apply to construction. Such activities are exempt from compliance with numerical noise ordinance standards if the activity occurs during less noise-sensitive hours. The City of San Marcos Noise Ordinance, Section 10.24.020(i) limits construction activities to the hours of 7:00 a.m. to 6:00 p.m., Monday through Fridays, and 8:00 a.m. to 5:00 p.m. on Saturdays. By limiting the hours in which construction can occur, early morning and evening noise nuisance related to construction activities can be reduced. As the Specific Plan area builds out, residences established in the early phases of the Specific Plan may be subject to construction noises due to later phases of development. Therefore, there is a potential for significant short-term noise impacts due to buildout of the Specific Plan.

Operation Impacts

Project-Related Vehicular Noise Impacts

Project-related traffic would increase the noise environment of the surrounding community. However, the relationship between traffic volumes and noise is logarithmic. It requires a doubling of traffic volumes to generate a +3 dB noise increase considered significant. The proposed project would not create any doubling of volumes on already busy roadways near the project site.

A substantial worsening of the noise environment related to increases in traffic generated by future development is presumed to exist if noise levels increase by +3.0 dB. The calculated traffic noise (dB CNEL) at a 50-foot reference distance from the roadway centerline is shown in Table 3.8-3. The maximum traffic noise increases along the 26 analyzed roadway segments are summarized in Table 3.8-4.

Table 3.8-3. CNEL in dB at 50 feet from Centerline

Roadway Segment	Existing	Buildout of General Plan Scenario	With Project Scenario
San Marcos Boulevard			
Rancho Santa Fe Road to Discovery Street	74.1	75.1	75.2
Discovery Street to Pacific Street	73.8	74.2	74.1
Pacific Street to Las Posas Road	73.8	74.7	74.6
Las Posas Road to Via Vera Cruz	73.3	72.8	73.6
Via Vera Cruz to Bent Avenue	74.2	73.7	73.7
Bent Avenue to Grand Avenue	75.0	74.0	74.0
Grand Avenue to SR-78	75.7	75.0	75.2
Street "A"			
Las Posas Road toVia Vera Cruz	DNE	DNE	66.7
Via Vera Cruz to Bent Avenue	DNE	DNE	66.8
Street "B"			
Bent Avenue to Grand Avenue	DNE	DNE	65.1
Discovery Street			
San Marcos Boulevard to La Sombra	68.5	70.0	70.6
La Sombra to McMahr	68.5	69.2	69.7
McMahr to Via Vera Cruz	68.5	70.7	70.5
Via Vera Cruz to Bent Avenue	68.8	71.6	71.4
Bent Avenue to Grand Avenue	N/A	70.9	71.4
Grand Avenue to Twins Oaks Valley Road	N/A	73.7	73.7
Pacific Street			
Linda Vista Drive to San Marcos Boulevard	60.3	64.1	64.3
Las Posas Road			
Linda Vista Drive to San Marcos Boulevard	66.7	71.2	71.2
San Marcos Boulevard to Discovery Street	N/A	66.9	62.4
Via Vera Cruz			
Linda Vista Drive to San Marcos Boulevard	64.7	67.6	67.0
San Marcos Boulevard to Discovery Street	65.0	66.5	67.5
Bent Avenue			
Grand Avenue to San Marcos Boulevard	62.2	65.2	65.9
San Marcos Boulevard to Discovery Street	64.8	63.0	69.1
South of Discovery Street	69.0	68.9	69.1
Grand Avenue			
Bent Avenue to San Marcos Boulevard	67.9	71.1	71.2
San Marcos Boulevard to Discovery Avenue	68.2	69.6	68.1

Table 3.8-4. Traffic Noise Increases from Existing Condition

Roadway Segment	General Plan vs. Existing Conditions (dB)	Project vs. General Plan (dB)	Project vs. Existing Conditions (dB)
San Marcos Boulevard			
Rancho Santa Fe Road to Discovery Street	+1.0	+0.1	+1.1
Discovery Street to Pacific Street	+0.4	-0.1	+0.3
Pacific Street to Las Posas Road	+0.9	-0.1	+0.8
Las Posas Road to Via Vera Cruz	-0.5	+0.8	+0.3
Via Vera Cruz to Bent Avenue	-0.5	0.0	-0.5
Bent Avenue to Grand Avenue	-1.0	0.0	-1.0
Grand Avenue to SR-78	-0.7	+0.2	-0.5
Street "A"			
Las Posas Road to Via Vera Cruz	DNE	DNE	DNE
Via Vera Cruz to Bent Avenue	DNE	DNE	DNE
Street "B"			
Bent Avenue to Grand Avenue	DNE	DNE	DNE
Discovery Street			
San Marcos Boulevard to La Sombra	+1.5	+0.6	+2.1
La Sombra to McMahr	+0.7	+0.5	+1.2
McMahr to Via Vera Cruz	+2.2	-0.2	+2.0
Via Vera Cruz to Bent Avenue	+2.8	-0.2	+2.6
Bent Avenue to Grand Avenue	N/A	+0.5	N/A
Grand Avenue to Twins Oaks Valley Road	N/A	0.0	N/A
Pacific Street			
Linda Vista Drive to San Marcos Boulevard	**+3.8**	+0.2	**+4.0**
Las Posas Road			
Linda Vista Drive to San Marcos Boulevard	**+4.5**	0.0	**+4.5**
San Marcos Boulevard to Discovery Street	N/A	-4.5	N/A
Via Vera Cruz			
Linda Vista Drive to San Marcos Boulevard	+2.9	-0.6	+2.3
San Marcos Boulevard to Discovery Street	+1.5	+1.0	+2.5
Bent Avenue			
Grand Avenue to San Marcos Boulevard	**+3.0**	+0.7	**+3.7**
San Marcos Boulevard to Discovery Street	-1.8	**+6.1**	**+4.3**
South of Discovery Street	-0.1	+0.2	+0.1
Grand Avenue			
Bent Avenue to San Marcos Boulevard	**+3.2**	+0.1	**+3.3**
San Marcos Boulevard to Discovery Avenue	+1.4	-1.5	-0.1

Bold =Significant increase (+ 3.0 dB or more).
DNE = Does not exist.

As presented in Table 3.8-4, noise increases of more than 3 dB are identified for five segments with buildout of the project. This includes increase to four off-site segments:

- Las Posas between Linda Vista and San Marcos Boulevard (4.5 dB increase);
- Pacific Street between Linda Vista Drive and San Marcos Boulevard (4.0 dB increase)
- Bent Avenue between Grand Avenue and San Marcos Boulevard (3.7 dB increase)
- Grand Avenue between Bent Avenue and San Marcos Boulevard (3.3 dB increase)

These four off-site segments all border commercial and light industrial uses, and do not border any sensitive receptors. Therefore, because there are no sensitive receptors along this segment, the increase along these three segments, while being noticeable, would not be considered significant, and no off-site impacts related to project-generated vehicular traffic are identified for the project. Further, it should be noted that should the project site be developed under the current General Plan, noise generated from traffic under that scenario would also cause an increase greater than 3 dB.

Increases above 3 dB due to vehicular traffic noise are also identified for one segment that is within the project area. The segment of Bent Avenue between San Marcos Boulevard and Discovery Street would experience a 4.3 dB increase. Current uses along this segment include commercial and light industrial uses, with the exception of a few legal non-conforming single-family residences on Bent, north of San Marcos Creek. The 65 dB contour along Bent Avenue would extend approximately 50 feet from the right-of-way line, and would not impact existing residential use. The closest existing homes are set back approximately 150 to 200 feet from Bent Avenue. Therefore, a less than significant impact is identified to existing residential uses along Bent Avenue.

Traffic noise impacts to the existing residents located along Discovery Street could potentially be affected by increased vehicular traffic generated by the proposed project. Buildout noise levels would be approximately 71 dB CNEL in the absence of noise barriers. However, the increase between current noise levels and those for future buildout is identified to be less than 3 dB. This increase is below the thresholds of significance. Therefore, impacts to existing residences along Discovery Street would be less than significant.

Future Residential Uses

Development of the Specific Plan would result in the construction of up to 2,300 residential units. Residential uses are sensitive receptors. Build-out traffic noise levels and the distances to the 65 dB CNEL contour (mitigation threshold for usable outdoor space) along various project site roadways are presented in Table 3.8-5.

Residential uses are proposed throughout the Specific Plan area, as identified in Figure 3.7-5. While some restrictions are identified indicating where residential uses cannot occur on the ground floor, it is possible that residential uses could be adjacent to one of the segments identified in Table 3.8-5 (with the exception of Discovery Street) and fall within the 65 CNEL contour. Private yards are not expected for the residences, rather, usable outdoor space would be provided by patios and balconies. At this time, detailed development plans for the Specific Plan area are not available. Rather, these plans would come forward as individual parcel developments are proposed. Therefore, depending on the ultimate location of the residential uses, there is a potential for balcony and patio areas to exceed the 65 CNEL contour. This represents a significant impact. Further, interior noise levels are expected to exceed the 45 dB CNEL requirement for these residential units as well. This also represents a significant impact.

Table 3.8-5. Build-Out Traffic Noise Levels Distances to the 65 dB CNEL Contour

Roadway	dB CNEL at 50 feet from Centerline	Distance to 65 CNEL* (feet)
San Marcos Boulevard	74-75	400-500
Discovery Street	70-71	160-200
Bent Avenue	69	125
Grand Avenue	68	100
Via Vera Cruz	68	100
Las Posas Road	62	<50

Note: *=Under direct line of sight and acoustically "hard" (paved) conditions.

Commercial/Residential Interface

Mixed-use developments, such as those proposed by the Specific Plan, can result in potential noise conflicts at the interface between retail commercial development and residential uses. In mixed-use urban-character environments, the source of noise conflict may be more vertical when residential uses are constructed above commercial uses. The project would be required to adhere to all Uniform Building Code (UBC). The UBC includes requirements for sound transmission control (Chapter 12, Section 1208), addressing the requirements for airborne sound insulation and impact sound insulation to separate dwelling units.

Residential uses above restaurants or entertainment venues, or above retail uses with early morning deliveries, trash pick-up, may create noise nuisance conflict situations. At this time, detailed development plans for the Specific Plan area are not available. Rather, these plans would come forward as individual parcel developments are proposed. Typically, such uses with the potential for noise issues require conditional use permits (CUPs) to create special conditions on the proposed use as necessary. While there may be a different expectation of acceptable levels of noise in a vibrant mixed use environment than there might be in an isolated subdivision, there is a potential for a noise impact. Both the juxtaposition of residential and commercial uses (horizontal as well as vertical), and the appropriate noise standard that should be applied within the unique specific plan environment, must be analyzed when development plans are finalized when permits must be approved by City staff.

General Plan Consistency

Table 3.8-9 presents the project consistency with the applicable goals, policies and implementing strategies of the Noise Element of the San Marcos General Plan.

Table 3.8-9. Project Consistency with Applicable Noise Policies and Goals (San Marcos General Plan)

Goal, Policy or Implementing Strategy	Project Consistency
Goal 1, Policy 1, Implementing Strategy 1.1: Require berms, embankments, landscaping, sound walls, and other noise reduction techniques as conditions of development approval where necessary to reduce noise to acceptable levels.	Mitigation measures containing noise reduction techniques are identified in Section 3.8.4 to reduce noise levels to below a level of significance. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 1.3: Establish and maintain truck routes away from noise-sensitive receptors.	Mitigation Measure 3.8-1 identifies equipment warm up and storage areas would be located as far from existing residences as possible. Therefore, the project is consistent with this implementing strategy.
Policy 4: Establish noise standards for noise-sensitive receptors in the City's noise ordinance.	The City of San Marcos noise ordinance has established noise standards for noise-sensitive receptors. Implementation of the proposed project would not hamper attainment of the City's standard. Therefore, the project is consistent with this policy.
Implementing Strategy 4.1: Establish 60 dB(A) CNEL as the acceptable outdoor noise exposure level for rural and single family residential areas.	Rural and single-family residential areas are not proposed as part of the proposed project. Potential impacts to surrounding residential areas would be mitigated to below a level of significance. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 4.2: Establish 60 dB(A) CNEL as the acceptable outdoor noise exposure level for schools, libraries, churches, hospitals, nursing homes, parks and recreation areas.	Schools, libraries, churches, hospitals, and nursing homes are not proposed as part of the proposed project. Potential impacts to on-site parks and recreation areas as well as surrounding areas would be mitigated to below a level of significance. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 4.3: Establish 65 dB(A) CNEL as the acceptable outdoor noise exposure level for multi-family residential areas.	Potential impacts to multi-family residential areas on-site would be mitigated to below 65 dB(A) CNEL. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 4.4: In the event that outdoor acceptable noise exposure levels cannot be reached by various noise attenuation mitigation measures, prohibit indoor noise levels from exceeding 45 dB(A) CNEL.	Mitigation measures are identified to reduce exterior noise levels to below 65 dB(A). In addition, mitigation measures are identified to reduce interior noise levels to below 45 dB(A). Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 4.5: Require the preparation of acoustical studies prior to the approval of projects which may expose noise-sensitive receptors to noise levels exceeding these standards, impose mitigation measures to ensure that the City's noise standards are met, and specify conditions under which higher noise levels may be acceptable	A noise impact analysis was prepared for the proposed project to identify potential impacts and is included as an appendix to this EIR. This section summarizes those impacts and identifies mitigation measures to reduce noise levels to less than significant. Therefore, the project is consistent with this implementing strategy.
Policy 5: Ensure that the construction and future developments would minimize interior and exterior noise levels.	Implementation of the proposed project is anticipated to impact existing noise levels in the project area. Mitigation measures are provided to reduce interior and exterior levels to less than significant. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 5.1: Require the use of noise evaluation in environmental impact reports.	A noise impact analysis was prepared for the proposed project to identify potential impacts and is included as an appendix to this EIR. This section summarizes those impacts and identifies mitigation measures to reduce noise levels to less than significant. Therefore, the project is consistent with this implementing strategy.

Goal, Policy or Implementing Strategy	Project Consistency
Implementing Strategy 5.3: Establish planning guidelines for noise control for the exterior and interior living space of all new residential developments within noise-impacted areas defined as areas exceeding the standards set forth by Policy 4.	Existing noise levels are below 65 dB(A) CNEL with the exception of one roadway segment. Implementation of the proposed project is anticipated to exceed the multi-family exterior noise standard of 65 dB(A) CNEL. Mitigation measures are provided to reduce exterior and interior noise levels to below a level of significance. Therefore, the project is consistent with this implementing strategy.
Policy 6: Utilize land use controls to reduce noise from sources adjacent to residential areas and recreational and community facilities.	Mixed-use developments, such as those proposed by the proposed project, can result in potential noise conflicts at the interface between retail commercial development and residential uses. However, CUPs may be necessary. Further analysis is required before development plans are finalized to ensure impacts are less than significant. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 6.1: Utilize noise contour maps to evaluate the effect of development proposals on the noise environment of existing or planned contiguous uses.	Noise contours were analyzed in the noise report prepared for the proposed project. Results are summarized in this section. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 6.2: Where feasible, require a buffer between industrial uses and residential areas, recreational uses, and community facilities.	No industrial uses are proposed as part of the proposed project. Therefore, there is not a potential for noise compatibility issues and no inconsistencies are identified.

3.8.4 Mitigation Measures

Project Construction (Phase 1 and 2)

MM 3.8-1 A condition on the improvement plans and within construction contracts which require:

- Exterior construction, hauling, or delivery activities shall be scheduled to occur during normal daytime working hours, i.e. 7:00 a.m. and 6:00 p.m., Monday through Friday, and 8:00 a.m. and 5:00 p.m. on Saturday. No construction would occur on Sundays and legal holidays. These criteria shall be included in the improvement plans prior to initiation of construction. Exceptions to allow expanded construction activity hours shall be reviewed on a case-by-case basis as determined by the Planning Director.
- All heavy construction equipment and all stationary noise sources (such as diesel generators) shall be fitted with factory-specified mufflers.
- Truck routes, equipment warm up areas, water tanks, and equipment storage areas shall be located in an area as far away from existing residences, schools and other sensitive receptors, as is feasible.

The condition shall be reviewed and approved by the Development Services prior to the issuance of permits.

MM 3.8-2 The applicant shall prepare and post readily visible informational signs at each entrance of the construction area indicating that the site is a "Noise Controlled Zone" and that person, vehicles, machinery and equipment may be barred from the site for violations of the noise regulations. A Noise Complaint Hotline telephone number shall appear prominently on the sign. The overall sign, including format, size, style and content shall be pre-approved by the City prior to posting.

Future Residential Units Exterior Noise Levels

MM 3.8-3 As development proposals come forward for the Specific Plan area, noise attenuation shall be required to reduce noise levels to acceptable standards. In the event that patios and balconies are determined to occur within the 65 dBA noise contour, noise attenuation would be required to reduce noise levels to 65 dBA CNEL or lower. This may include the use of architectural treatments, barriers, or other noise attenuating measures. The mitigation measures shall provide sound level reductions so that future uses within the Specific Plan area are consistent with the CNEL levels identified in the San Marcos General Plan..

Future Residential Units Interior Noise Levels

MM 3.8-4 Residential uses adjacent to project site roadways shall have dual-paned windows and supplemental ventilation (e.g., air conditioning systems) on their facades facing exterior roads.

MM 3.8-5 Noise-sensitive uses within 500 feet of San Marcos Boulevard shall be shielded by intervening structures, or shall employ upgraded noise mitigation (e.g., premium windows, etc.). The hierarchy of structural noise reduction is as follows, and shall be employed as needed to meet interior noise level of 45 dB.

Exterior to Interior Reduction Desired (dB)	Measure(s) Needed
0-10	None
10-20	Close single-paned windows facing roadway. Provide supplemental ventilation.
20-25	Close standard dual-paned windows. Provide supplemental ventilation.
25-30	Close upgraded dual-paned windows. Provide supplemental ventilation. Baffle vents and line ducts with absorbers.
>30	Custom upgrades (dual layer drywall, triple-paned windows, steel doors, etc.)

Commercial/Residential Interface

MM 3.8-6 As development proposal come forward for the Specific Plan area, a site specific noise study shall be prepared for the development. The noise study shall analyze the impact of co-locating residential and commercial uses on the project site. Mitigation measures shall be identified and incorporated into the Conditional Use Permits, to reduce noise impacts associated with these uses. The mitigation measures shall provide sound level reductions so that future uses within the Specific Plan area are consistent with the CNEL levels identified in the San Marcos General Plan.

3.8.5 Conclusion

Construction activities for the project would adhere to the requirements of the San Marcos Noise Ordinance, Section 10.24.020(i). The Ordinance limits construction activities to the hours of 7:00 a.m. to 6:00 p.m., Monday through Fridays, and 8:00 a.m. to 5:00 p.m. on Saturdays. Adherence to Mitigation Measure 3.8-1 and adherence to the Noise Ordinance would reduce the short term construction impacts to below a level of significance.

Vehicular trips associated with project development would result in a noise increase along five roadway segments. Four of these segments are off-site and located in commercial or light industrial areas and would not impact sensitive receptors. For the one on-site segment that is identified to have a significant increase, existing residential uses are set back far enough from Bent Avenue so that the impact would be less than significant. Future residential uses proposed by the project may be impacted by roadway noise levels from San Marcos Boulevard. Additionally, potential impacts associated with adjacent residential and commercial uses have been identified for the project. Mitigation measures, requiring that future development incorporate measures to reduce noise levels to acceptable ranges would be incorporated as part of the required CUP as specific development plans come forward, have been identified. All mitigation measures identified would be required to be implemented. Incorporation of these mitigation measures would reduce noise impacts to below a level of significance.

3.9 PUBLIC SERVICES

This section addresses the potential impact of the proposed project on public services. Specific public services considered in this analysis include fire protection services, police protection services, schools, libraries, and parks and recreation. It should be noted that within the impact analysis section of this chapter, the impacts for the State Route (SR) 78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the Environmental Impact Report (EIR) for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

This section assumes that the project would develop up to 2,300 dwelling units with an average occupancy 2.96 residents per unit, for a generation of approximately 6,808 residents. This occupancy rate is based upon 2006 population and housing information from the San Diego Association of Governments (SANDAG). However, it should be noted that the actual number of residents per household is expected to be less than that due to the type of residential units proposed. However, for the purposes of the public services analysis, 2.96 residents per unit is assumed.

3.9.1 Environmental Setting

Fire Protection

Fire protection services would be provided by the City of San Marcos Fire Department, which is jointly operated by the City and the San Marcos Fire Protection District. The Department has existing automatic aid fire agreements in place with the cities of Carlsbad, Vista, Escondido, Encinitas, and the Rancho Santa Fe Fire Protection District. The proposed project would be primarily served by Fire Stations One and Two, located at 180 West Mission Road and 1250 South Rancho Santa Fe Road, respectively. The following equipment is available from Fire Station One:

- One Paramedic Engine Company staffed with three personnel;
- One Paramedic Truck Company staffed with three personnel;
- Two Paramedic Ambulances staffed with two personnel each; and
- One Battalion Chief.

The following equipment is available from Fire Station Two:

- One Paramedic Engine Company staffed with three personnel; and
- One Paramedic Ambulance staffed with two personnel.

Additional fire support resources are available at Station Three (404 Woodland Parkway). Additionally, Station Four (204 San Elijo Road) is under construction with an anticipated buildout at the end of 2007/beginning of 2008. Station Four has an interim fire response crew located at San Elijo Park. Station Three and the San Elijo Park team are equipped with one paramedic engine company with three personnel at each station. Current average response times to the project site from Stations One and Two are five minutes (City of San Marcos 2007).

Police Protection

Police services for the proposed project would be provided by the San Diego County Sheriff's Department under contract with the City. The proposed project would be served by the Sheriff's San Marcos Station, located at 182 Santar Place in the northeast quadrant of the City. The Sheriff's San Marcos Station provides law enforcement services to the City, and unincorporated communities surrounding the station including Escondido, Harmony Grove, Elfin Forest, Lake San Marcos, Mountain Meadow, and San Pasqual Valley.

Current staffing at the San Marcos Station includes one Captain, two Lieutenants, 10 Sergeants, five Detectives, 10 Community Oriented Policing and Problem Solving (COPPS) Deputies, 24 patrol deputies, eight traffic deputies, and an additional staff of detectives, community patrol officers, and administrative support staff.

The current goal for response time to a priority call is eight minutes or less. For all other calls, the target is 16 minutes or less. According to the Sheriff's Crime Analysis unit, average response times within the City in 2005 were 8.6 minutes for Priority 1 calls and 11.6 minutes for Priority 2 calls. Priority 3 and 4 (non-emergency) calls had an average response time of 16.8 minutes and 40.6 minutes, respectively.

Schools

The proposed project is located within the service boundaries of the San Marcos Unified School District (SMUSD). The SMUSD is 44 square miles in size and encompasses most of the City of San Marcos and portions of the cities of Vista, Escondido, and Carlsbad, as well as unincorporated areas between these cities. The SMUSD provides kindergarten through 12th grade education in the City of San Marcos and operates nine elementary schools, one K-8 school, two middle schools, two senior high schools, one continuation high school, and one teen parenting center. In October 2004, the District had an enrollment of 15,414 students, with an anticipated increase of 933 students for the 2005/06 school year. By the year 2009/10, the District anticipates an enrollment of approximately 18,856 students (SMUSD 2005).

In February 2005, the SMUSD prepared a "Long-Range Facilities Master Plan – 2004 Update" (LRFMP), the primary goal of which is to interpret existing conditions and projected enrollment and determine how to house all of the District's current and projected enrollment during this period of growth. The LRFMP serves as the District's strategic plan for meeting school facility needs for the next five years and beyond. Existing schools that would serve the proposed project include:

- Discovery Elementary School, 730 Applewilde Drive
- San Elijo Middle School, 1600 Schoolhouse Way
- San Marcos High School, 1615 San Marcos Boulevard

In addition, Mission Hills High School is located at 1 Mission Hills Court, although this facility is not expected to serve the project site. Table 3.9-1, SMUSD Current Enrollment and Capacity, summarizes the current enrollment and planned capacity of the three schools which would service the proposed project.

Table 3.9-1. SMUSD Current Enrollment and Capacity

School	Current Enrollment	Capacity	Available Capacity
Discovery Elementary School	911	683	-228
San Elijo Middle School	1,078	1,280	202
San Marcos High School	1,659	963	-696
TOTAL	3,648	2,926	-722

Libraries

The City is served by the San Diego County Library, San Marcos branch located at 2 Civic Center Drive, approximately two miles from the project site (Figure 3.9-1). The San Marcos branch is 15,000 square feet (s.f.), seats approximately 40 people, contains public access computers, and has a collection of approximately 8,118 materials.

The 2006 population of San Marcos was approximately 76,725 (SANDAG 2006), which equates to 0.2 square feet of library facilities and 0.11 volumes per resident. However, additional library services are available in the County through a cooperation of County libraries, independent city libraries, and the Imperial County Library which collectively form the Serra Library System. This system enables County library card holders to check out library materials from the other Serra member libraries. In addition, community members can purchase a guest borrower card to obtain borrowing privileges at California State University San Marcos campus. Community members can also borrow materials at Palomar College with a valid picture ID and proof of current mailing address.

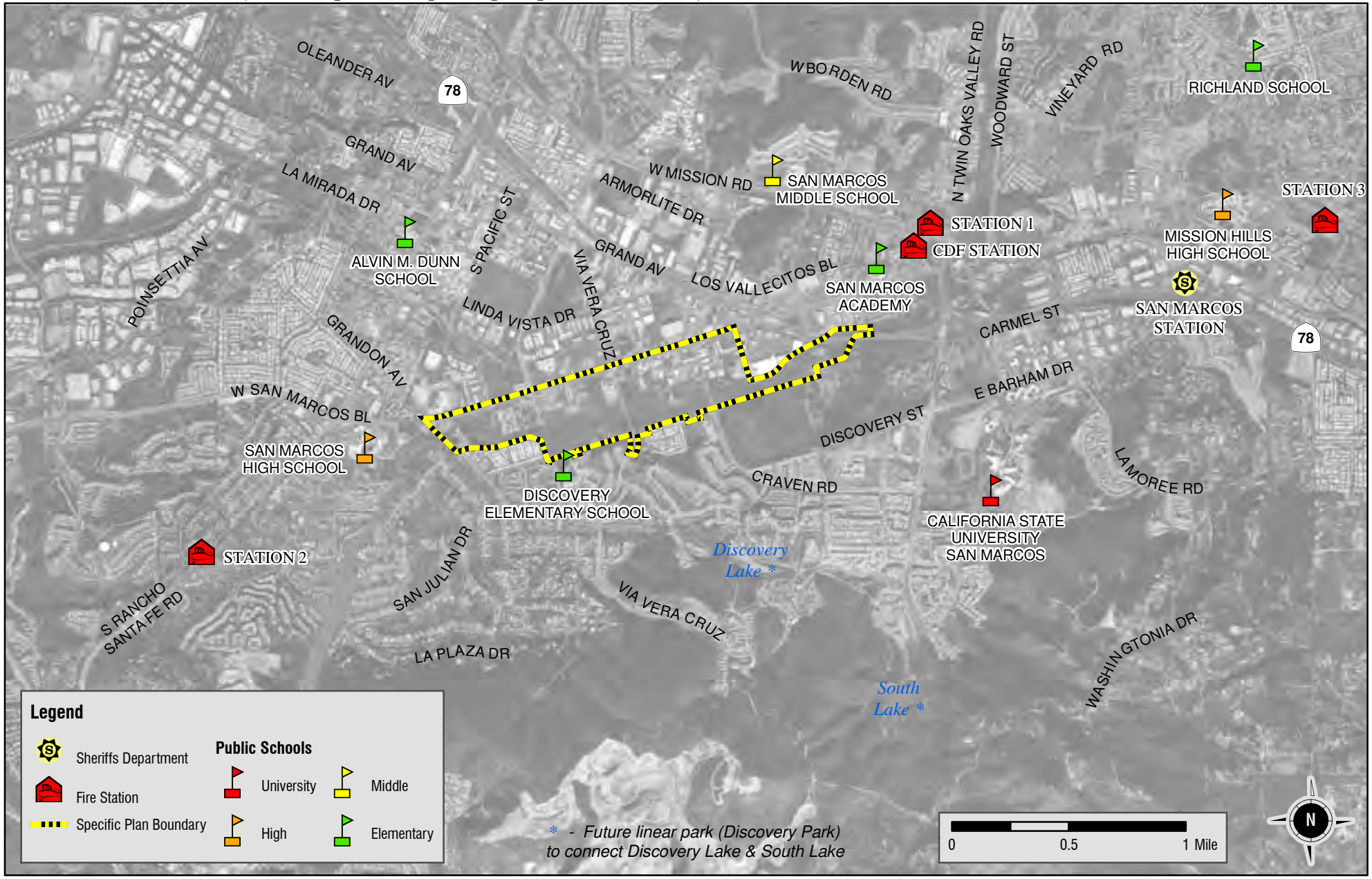
Parks and Recreation

The City's General Plan specifies three different types of park facilities to serve the population: "Neighborhood" parks which typically range from 5 to 20 acres, "Community" parks which range from 20 to 100 acres, and "Regional" parks which are in excess of 100 acres, as well as trail systems which connect major recreation centers. The General Plan determined that a target figure of 5 acres per 1,000 residents for local parks (neighborhood and community parks) was within the City's maintenance potential and was consistent with the dedication requirements already in place under the State Quimby Act.

Based upon communication with the City, at buildout, the City would have a total of 440 acres of parkland, consisting of 425 acres of neighborhood and community parks and 15 acres of usable regional park space associated with the future Double Peak Regional Park. The City currently has 188 acres of developed parkland, consisting of 68 acres of neighborhood parks, 111 acres of community parks, and 9 acres of smaller parks.

The 2006 population of San Marcos was approximately 76,725 (SANDAG 2006), which would require 384 acres of local parkland, based on the General Plan standard of 5 acres of parkland for each 1,000 persons. The current total of local City developed parkland is 188 acres, indicating that the City has a parkland deficit of 196 acres of developed parkland, based on its target of 5 acres per

Source: SanGIS; 2006, Aerial, Landiscor; January 2005 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\PublicServices2.mxd | Last Updated : 2-22-07



Public Services

FIGURE 3.9-1

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1,000 persons. It should be noted that the City has several neighborhood park projects that are either under construction or would be under construction in the next three years. These include the 31-acre Discovery Lake Park Expansion, the 30-acre Hollandia Park, the 19-acre Sunset Park, the 45-acre South Lake Park, and a number of smaller parks. These projects would add an additional 125 acres of park space to the city. At completion, the City will have 313 acres of parkland, thereby reducing the City's deficit to 71 acres.

Park and recreation facilities within one mile of the project site include:

- Mission Neighborhood Park, consisting of 14 acres for active recreation; and
- Bradley Community Park, consisting of 34 acres for active recreation.

Additionally, the project includes park components, which would provide recreational amenities to the future residents of the Specific Plan area.

San Marcos General Plan – Safety and Parks and Recreation Elements

Fire Protection

The following are applicable goals and policies from the City of San Marcos General Plan, Safety Element related to fire protection:

- Policy 3: Minimize damage from fire hazards.
- Implementing Strategy 3.1: Implement Building and Fire Codes and Zoning Regulations that reduce fire spread and hazards, updating to newest codes every three years.
- Implementing Strategy 3.2: Approve proposed developments only upon a showing that there is adequate fire flow and water pressure, 500 GPM to 2,500 GPM, or otherwise fire sprinkler all buildings.
- Implementing Strategy 3.3: Maintain and enforce existing weed abatement ordinance in the wildland areas as well as established open space areas near development of all kind.

Police Protection

The following are applicable goals and policies from the City of San Marcos General Plan, Safety Element related to police protection:

- Policy 4: Minimize damage from criminal activities.
- Implementing Strategy 4.1: Evaluate the cost-effectiveness of establishing a San Marcos Police Department as the City's population increases.
- Implementing Strategy 4.2: Establish the timing and feasibility of constructing a civic center to house a City police department, as well as other public service agencies or users.
- Implementing Strategy 4.3: Encourage citizen participation in the Neighborhood Watch Program.

- Implementing Strategy 4.4: During development review, require the implementation of "defensible space" design features (for example, more than one entrance, adequate lighting, visibility of open space areas for dwellings) where feasible.

Schools

There are no identified applicable goals and policies from the City of San Marcos General Plan related to schools.

Libraries

The following are applicable goals and policies from the City of San Marcos General Plan, Parks and Recreation Element related to libraries:

- Policy 6: Plan for and implement the development of city wide serving and neighborhood community facilities including community centers, a museum, and central library.
- Implementing Strategy 6.4: Identify and develop appropriate facilities to accommodate a central public library for the city.

Parks and Recreation

The following are applicable goals and policies from the City of San Marcos General Plan, Parks and Recreation Element related to libraries:

- Goal 1: Plan for, acquire, develop and maintain a system of local parks and recreation facilities which meet the needs of the residents of San Marcos.
- Goal 1, Policy 1, Implementing Strategy 1.4: Where appropriate, ensure public involvement in parks planning and design to facilitate implementation of a program meeting community needs.
- Goal 2: Plan for, implement and maintain a city-wide network of trails for bicycle, pedestrian and equestrian use.
- Goal 2, Policy 3, Implementing Strategy 3.3: Ensure that development projects in the city comply with the requirements of the trail master plan.
- Goal 5, Policy 11, Implementing Strategy 12.2: Realize the aesthetic and educational potential of the city's environmental resources.
- Goal 5, Policy 11, Implementing Strategy 12.3: With due regard to the sensitivity of riparian vegetation, utilize water courses for the location of trails.
- Goal 5, Policy 12, Implementing Strategy 13.1: Wherever possible, require the use of drought-tolerant plants or native plants for landscaping.

3.9.2 Thresholds of Significance

A significant public services impact would result if the project were to result in significant physical impacts associated with the provision of new or physically altered governmental facilities, or need for new or physically altered governmental facilities, the construction of which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives. Below are set out the applicable service ratios, response times, or other performance objectives for public services within the City.

Fire Protection

A significant impact to emergency response/fire protection services would occur if:

- The proposed project would be located in an area outside the City Fire Department's existing or planned 5-minute emergency response time service area.

Police Protection

A significant impact to police services would occur if:

- The proposed project would result in an increase in the average response time from the County of San Diego San Marcos Station, or an increase in the ratio of police officers to residents above a level acceptable to the Sheriff's Department.

Schools

Impacts to the school district would be considered significant if:

- The projected enrollment from the proposed project exceeds the existing and planned facility capacities as determined by the affected school district.

Libraries

A significant impact to libraries would be identified if the proposed project is determined to result in the following:

- The existing or planned facilities are not adequate to serve the future residents generated by the proposed project.

Parks and Recreation

Impacts to public parks would be considered significant if:

- The proposed project would increase the population within the community plan to a level that would exceed the established goals set by the City's General Plan and Parks Master Plan for park acres per population.

3.9.3 Project Impacts

Fire Protection

As identified above, current average response time to the project area is approximately five minutes. The project, as with any development project, would be required to comply with the requirements of the Fire Department. Specific requirements that are applicable to the proposed project, and would be incorporated, include: (1) the roadways serving this project shall have a minimum improved paved width of 24 feet with an additional 8 feet to each side for parking per City standards that also meet the design criteria of the San Marcos Fire Department; (2) any automatic gates shall have a Knox rapid entry system and emergency vehicle strobe detector; (3) Jones 3775 fire hydrants (two 4 inch and one 2.5 inch outlets) with an adequate water supply shall be installed at locations approved by the San Marcos Fire Department spaced 300 feet apart; (4) all buildings having four stories or more in height, while being 75 feet or less in height and not defined as a high-rise by Section 209 of the California Building Code, shall be designed using the City's Mid-Rise Building Ordinance; (5) the City's Fire Sprinkler Ordinance shall determine which type of occupancies require fire sprinklers; (6) incorporation of special fire protection features may be required for standpipes and fire alarm systems; and (7) preparation of a Fuel Modification Plan consisting of a 150-foot wildland fuel modification from all sides of the structures. In addition, the project would be contained within a preexisting Fire Community Facilities District and shall be required to pay all applicable fees.

The proposed project would increase the demand on City of San Marcos Fire Department resources as a result of the development of residential, commercial, and office/professional uses. As per correspondence from the City of San Marcos Fire Department (2007) the current fire stations are capable of meeting existing service demands; however, the Department has experienced significant increases in emergency and non-emergency responses over the past several years. At the current rate of increase, the need to add additional resources would be required within a two- to three-year period. Resource increases would likely occur with or without development of the proposed project. Assuming an average of 2.96 persons per dwelling unit, a maximum of 3,463 additional residents would be generated by site development under existing General Plan designations. Development of the proposed project would generate an increase in population numbers by a maximum of 6,800 residents. This represents an increase of 3,337 residents above those projected to be generated through development of the project site under existing General Plan designations. Provision of emergency services to mixed-use, mid-rise type buildings requires special response considerations (such as the increased time required to gain access to occupancies located on the upper floors of buildings and in areas where access is limited) which would require additional personnel. Therefore, an enhancement to Fire Department/Emergency Medical Service would be required to serve the proposed project. However, participation of future development in the preexisting Fire Community Facilities District would provide funding for enhancing the Fire Department/Emergency Medical Service and would keep impacts at a less than significant level.

Police Protection

The proposed project would increase the demand on police protection services as a result of the development of mixed use residential and commercial uses as well as office uses. As noted in correspondence from the Sheriff's Department (2006), development of the project would have a measurable effect on police protection services. The desirable law enforcement service level has

been determined to be a 24-hour service package unit consisting of seven patrol deputies, two detectives, one supervisor, and one clerical support staff for each 10,000 resident population. For each population increase of 10,000, approximately one service package must be added to maintain adequate service levels. Under the existing General Plan designations, a maximum of 1,170 units could be provided on the project site. Based on an average of 2.96 persons per dwelling unit, the 1,170 dwelling units would require an additional 0.3 service units to maintain the current service level. Under proposed project conditions, the proposed 2,300 dwelling units would require an additional 0.69 service units to maintain the current service level, representing an increase in demand for 0.39 service units over what would need to be provided under the existing General Plan designations. Any incremental effects of the proposed project would be offset by the City requirement for the payment of fees to CFD 98-01 for police protection. Therefore, impacts to police protection services are determined to be less than significant.

Schools

Table 3.9-2 quantifies the estimated number of students which would be generated by each phase of the development of the Specific Plan, based on the student generation rates identified by SMUSD. The District has different generation rates for single-family and multi-family housing units, as well as different generation rates for the grade level of the school. Only multi-family units are proposed for the project.

Table 3.9-2. Students Generated by Proposed Project

School	Generation Rate	Number of Proposed Dwelling Units	Students Generated	Available Capacity	Remaining Capacity
Students Generated by Proposed Project					
Discovery Elementary School	0.2824	2,300	650	-288	-938
San Elijo Middle School	0.1097	2,300	253	202	-51
San Marcos High School (1)	~~0.1183~~ 0.0910	2,300	~~273~~ 209	-696	~~-969~~ -905
TOTAL STUDENT GENERATION			~~1,176~~ 1,112	-782	~~-1958~~ -1,894

Note: (1) Generation rate from the 2007 SMUSD School Facilities Needs Assessment.

The proposed project would generate a total of ~~1,176~~1,112 students: 650 elementary school students, 253 middle school students, and ~~273~~ 209 high school students. The Specific Plan Area would be built out over several phases, so the impact of these students to the schools servicing the project area would be phased as well.

Based on available capacity at existing school sites that would serve the proposed project, student generation associated with the proposed project would exceed the capacity at Discovery Elementary School and San Marcos High School. Discovery Elementary School is an impacted school, and the addition of students associated with the proposed project would further impact school capacity. Per communication with SMUSD, additions to San Marcos Elementary School is planned to

accommodate approximately 300 additional K-5 students, to be completed in 2009; however, no portion of this capacity should be assumed to be specifically available for students generated by the proposed project. These additional students would need to be accommodated through the addition of classrooms on the campus, such as interim relocatable classrooms. ~~Some students are~~Additionally, some of the additional students generated by the project could be housed in schools outside their attendance area and may be bussed to these schools. In addition, middle school students generated by the proposed project would exceed the existing capacity at San Elijo Middle School. Similarly, with respect to impacts to San Marcos High School, the addition of students associated with the proposed project would further impact school capacity.

However, future developments within the Specific Plan area shall either annex into an existing community facilities district (CFD) or be responsible for payment of Level 2 school fees (currently $4.26 per s.f.) as specified in the District's most recent School Facilities Needs Analysis at the time the building permit is obtained. Therefore, impacts to schools are less than significant.

Libraries

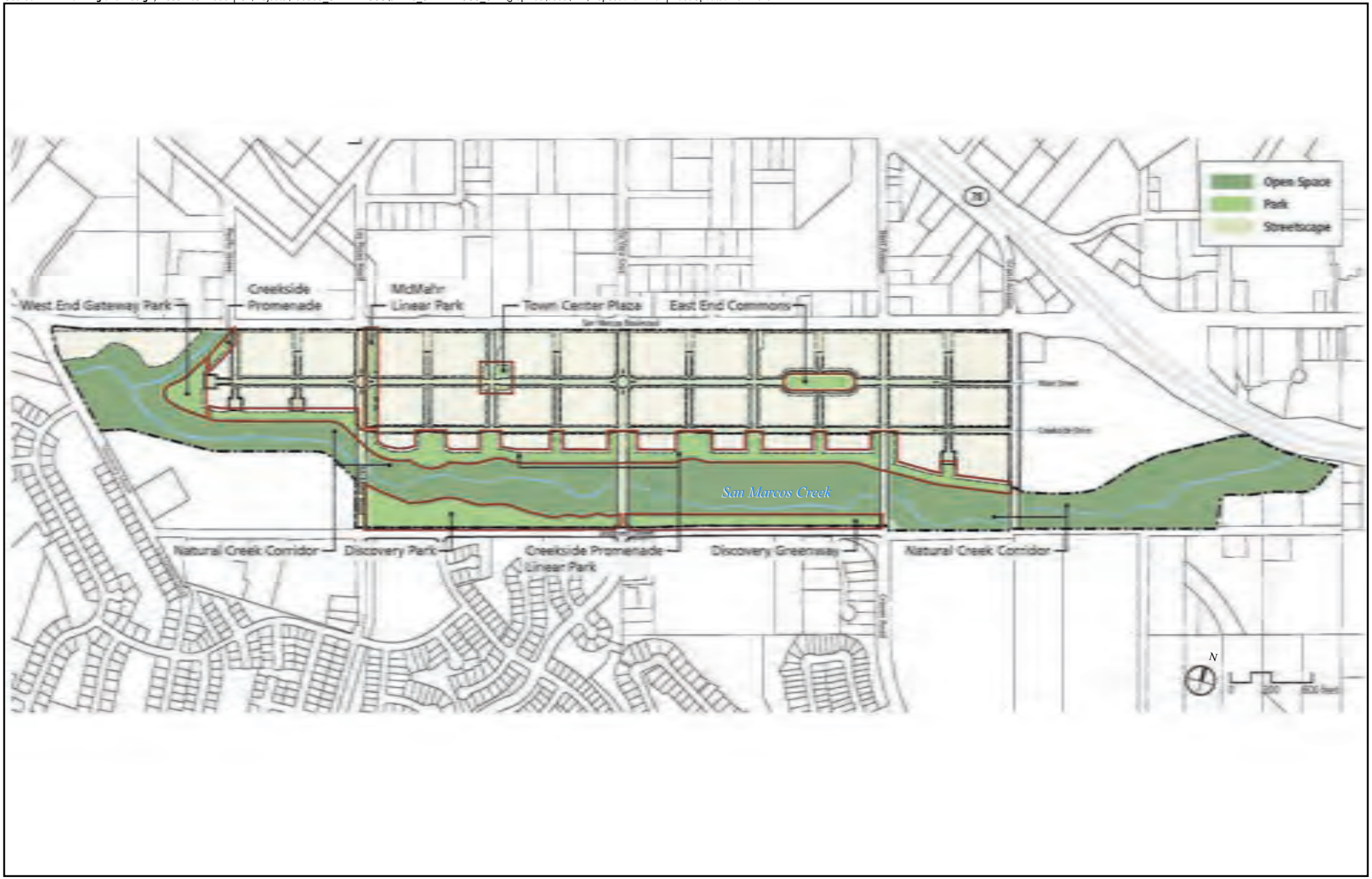
According to communication from the San Diego County Library, existing library capacity within the City of San Marcos does not meet the current population needs (Appendix J). Development of the project would result in an addition of up to 6,808 residents to the City. This would have increase the amount of library services and resources that are required within the community. Compared to the development that could occur under the existing General Plan, the project represents and increase of approximately 3,531. However, additional library services are available in the County through a cooperation of County libraries, independent city libraries, and the Imperial County Library which collectively form the Serra Library System. This system enables County library card holders to check out library materials from the other Serra member libraries. In addition, community members can purchase a guest borrower card to obtain borrowing privileges at California State University San Marcos campus. Community members can also borrow materials at Palomar College with a valid picture ID and proof of current mailing address. These additional library resources are located in the San Marcos community and provide over 200,000 s.f. of additional library space. Therefore, a less than significant impact is identified for this issue area.

Parks and Recreation

Implementation of the proposed project would increase the required number of acres of developed parkland within the City, based on the increased population generated by the proposed project. Development under existing General Plan designations would add an estimated 2,982 residents to the population of the City; thus, requiring approximately 14.91 acres of developed parkland. Development of the proposed project would add an estimated 6,900 residents to the population of the City, thus requiring approximately 34.5 acres of developed parkland. This represents an increased demand of 19.59 acres over the demand generated by buildout under existing General Plan designations.

The project proposes 19.9 acres designated for improved public parkland. This includes two urban parks located internal to the Specific Plan area and a continuous greenway along both the north and south sides of the creek open space corridor (Figure 3.9-2). These greenways would link a series of park spaces that are strategically located to maximize visual connections to and physical access by

Source: **WRT Planning and Design; December 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\ProposedPark2.ai | Last Updated : 02-16-07



Proposed Park Concept

FIGURE 3.9-2

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the public to the natural creek corridor. Additionally, a series of parks, plazas, walking, and bicycle paths would be located atop the new levees. The park and greenways would include facilities such as trails, vista points, seating areas, tot lots, public art, water features, a small amphitheater and interpretive elements.

While the project would provide 19.9 acres of improved parkland, it would fall short of the 34.5 acres that would be required to meet the expected population generation by the project. However, as identified above, the City would have a total of 440 acres of parkland at buildout.

Several neighborhood park projects are either under construction or would be under construction in the next three years and would be located in the project vicinity. In addition, as required by City Ordinance 88-799 (Chapter 20.12, Growth Management, of the San Marcos Municipal Code), future development would be required to contribute to a Public Facility Fee (PFF) payment, which includes a category for parks and recreation. Therefore, impacts to parks and recreation would be less than significant.

General Plan Consistency

Table 3.9-3 identifies the applicable goals, policies and implementing strategies that are applicable to the project. Additionally, Table 3.9-3 includes a discussion of the project's consistency with these goals, policies and strategies. The project is consistent with the General Plan in response to public safety and parks and recreation, therefore; no impact is identified.

State Route 78 (SR-78) Hydraulic Improvement Area

The improvements associated with the bridge construction at SR-78 would not be characterized as generating a need for additional police, fire, school or library services. This portion of the project involves increasing the hydraulic capacity of the culvert at SR-78 as part of the overall floodway improvement project. Therefore, no impact is identified for this issue area.

3.9.4 Mitigation

Impacts to public services are less than significant. No mitigation measures are required.

3.9.5 Conclusion

Development of the proposed project would result in an increase in demand for fire protection, police protection, school services, library facilities, and parks and recreation; however, the increase would not be at a level that would result in a significant impact. Future developments within the Specific Plan area shall either annex into an existing community facilities district (CFD) or be responsible for payment of Level 2 school fees (currently $4.26 per s.f.) as specified in the District's most recent School Facilities Needs Analysis at the time the building permit is obtained. The project would also have to contribute to a PFF payment, which includes a category for parks and recreation. Further, the project is consistent with the applicable goals, policies and implementing strategies of the Safety Element and the Park and Recreation Element of the San Marcos General Plan.

Table 3.9-3. Consistency with Applicable Public Services Policies and Goals (San Marcos General Plan)

Goal, Policy or Implementing Strategy	Project Consistency
Safety Element	
Policy 3: Minimize damage from fire hazards.	The proposed project site is located in an urbanized portion of the City and adjacent to existing development. The California Department of Forestry, Fire, and Resource Assessment Program has designated the project site as moderate/non-fuel fire risk. In addition, the project would participate in the preexisting Fire Communities Facilities District to provide funding for enhancing Fire Department/Emergency Medical Service and keeping impacts at less than significant levels.
Implementing Strategy 3.1: Implement Building and Fire Codes and Zoning Regulations that reduce fire spread and hazards, updating to newest codes every three years.	Implementation of the proposed project would comply with all applicable rules and regulations to reduce fire hazards.
Implementing Strategy 3.2: Approve proposed developments only upon a showing that there is adequate fire flow and water pressure, 500 GPM to 2500 GPM, or otherwise fire sprinkler all buildings.	As future development comes forward, it would be subject to design review, including review by the fire department regarding adequate water pressure. Adequate fire flow and water pressure would be proven prior to project implementation.
Maintain and enforce existing weed abatement ordinance in the wildland areas as well as established open space areas near development of all kind.	As identified, the proposed project site is located in an urbanized portion of the City and adjacent to areas of existing development. The project is designated as having a moderate/non-fuel fire risk. The project site would not abut wildland areas.
Policy 4: Minimize damage from criminal activities.	Damage from criminal activities would be reduced through incorporation of Implementation Strategies 4.1 through 4.4.
Implementing Strategy 4.1: Evaluate the cost-effectiveness of establishing a San Marcos Police Department as the City's population increases.	The proposed project would contribute to existing CFD 98-01 for police protection to maintain adequate service levels. Implementation of the proposed project would not preclude the establishment of a San Marcos Police Department.
Implementing Strategy 4.2: Establish the timing and feasibility of constructing a civic center to house a City police department, as well as other public service agencies or users.	Implementation of the proposed project would not preclude construction of a civic center to house a City police department.
Implementing Strategy 4.3: Encourage citizen participation in the Neighborhood Watch Program.	Implementation of the proposed project would not prohibit participation in a Neighborhood Watch Program. The future residential component of the proposed project would consist of Home Owners Associations with options of participating in neighborhood watch programs.
Implementing Strategy 4.4: During development review, require the implementation of "defensible space" design features (for example, more than one entrance, adequate lighting, and visibility of open space areas for dwellings) where feasible.	As future development comes forward, it would be subject to design review. Defensible space design features would be reviewed at this time.
Policy 6: Plan for and implement the development of city wide serving and neighborhood community facilities including community centers, a museum, and central library.	Implementation of the proposed project would not preclude development of City-wide or neighborhood community facilities. In addition, payment of the Public Facility Finance Fee would contribute funds toward development of facilities such as recreation facilities.

Goal, Policy or Implementing Strategy	Project Consistency
Implementing Strategy 6.4: Identify and develop appropriate facilities to accommodate a central public library for the city.	Implementation of the proposed project would not preclude accommodating a central public library for the City.
Park and Recreation Element	
Goal 1: Plan for, acquire, develop and maintain a system of local parks and recreation facilities which meet the needs of the residents of San Marcos.	The would provide both open space and developed part area. This would provide recreational opportunities for the future residents of the project site, as well as the residents of San Marcos. Therefore, the project is consistent with this goal.
Goal 1, Policy 1, Implementing Strategy 1.4: Where appropriate, ensure public involvement in parks planning and design to facilitate implementation of a program meeting community needs.	The City of San Marcos has engaged the public through the formation of a Task Force. The Task Force has provided input on park and recreation features as well as the design of the project. Therefore, the project is consistent with this implementing strategy.
Goal 2: Plan for, implement and maintain a city-wide network of trails for bicycle, pedestrian and equestrian use.	The project includes the provision of a bicycle and pedestrian facilities, which would enhance bicycle and pedestrian opportunities in the project area. Due to the proposed urban nature of the project, it is not appropriate to provide equestrian trails. Therefore, the project is consistent with the goal.
Goal 2, Policy 3, Implementing Strategy 3.3: Ensure that development projects in the city comply with the requirements of the trail master plan.	The trail master plan identified a trail component within the project area. The project provides a multi-use trail (pedestrian and bicycle) within the project site. Therefore the project is consistent with this implementing strategy.
Goal 5, Policy 11, Implementing Strategy 12.2: Realize the aesthetic and educational potential of the city's environmental resources.	Park areas within the project have been designed to make use of San Marcos Creek as a visual amenity. The project does not preclude the use of interpretive or informational signage as it relates to the Creek as a biological resource. Therefore, the project is consistent with this implementing strategy.
Goal 5, Policy 11, Implementing Strategy 12.3: With due regard to the sensitivity of riparian vegetation, utilize water courses for the location of trails.	Trails are proposed both north of the Creek on top of the levee and south of the street adjacent to Discovery Street. The trails would take advantage of the Creek and a visual amenity and enhance the user's experience. Therefore the project is consistent with this implementing strategy.
Goal 5, Policy 12, Implementing Strategy 13.1: Wherever possible, require the use of drought-tolerant plants or native plants for landscaping.	The Specific Plan identifies a planting palette that includes drought-tolerant and native plants for landscaping. Therefore, the project is consistent with this implementing strategy.

3.10 TRANSPORTATION/TRAFFIC

This section summarizes the traffic analysis and addendum prepared by RBF Consulting (2007a and 2007b). The complete study and addendum ~~is~~ are included in Appendix H and Appendix P of this Environmental Impact Report (EIR). This section of the Draft EIR focuses on those issues that were determined to be potentially significant during the Initial Study process. Therefore, the following items, which were determined to be less than significant during the initial study process, are not analyzed in this section. These include: (1) change in air traffic patterns; (2) increase in hazards due to a design feature; and (3) inadequate emergency access. Please see Section 5 of the Draft EIR for a discussion of the issues that were determined to be less than significant during the Initial Study process.

It should be noted that within the environmental setting and impact analysis section of this chapter, the setting and impacts for the SR-78 hydraulic improvements are summarized separately. This was done to facilitate Caltrans' use of the EIR for issuance of an encroachment permit for work within the Caltrans right-of-way (ROW).

3.10.1 Existing Conditions

Roadway Circulation System

The following is a detailed description of roadways in the study area.

State Route 78 (SR-78) provides regional access to San Marcos as a six-lane major freeway facility, generally oriented in an east-west direction. Regional project access is provided at the Las Posas Road and San Marcos Boulevard interchanges with SR-78.

San Marcos Boulevard is constructed as a four-lane to six-lane arterial and is generally oriented in an east-west direction. San Marcos Boulevard extends eastward from Business Park Drive through the city of San Marcos and terminates at Mission Road. San Marcos Boulevard is classified in the General Plan Circulation Element as a six-lane Prime Arterial.

Discovery Street is constructed as a two-lane collector and is generally oriented in an east-west direction. A continuous two-way left-turn lane is provided between La Sombra Drive and Via Vera Cruz. Discovery Street extends eastward from San Marcos Boulevard and terminates at Bent Avenue-Craven Road. A planned roadway improvement would extend Discovery Street eastward from Bent Avenue-Craven Road to connect with Twin Oaks Valley Road. Discovery Street is classified in the General Plan Circulation Element as a four-lane Major Arterial from San Marcos Boulevard to Grand Avenue, and as a six-lane Prime Arterial from Grand Avenue to Twin Oaks Valley Road.

Pacific Street is constructed as a two-lane collector oriented in a north-south direction, extending south from Grand Avenue to San Marcos Boulevard. Pacific Street is classified in the General Plan Circulation Element as a four-lane Secondary Arterial.

Las Posas Road is constructed as a four-lane arterial oriented in a north-south direction, extending south from Mission Road and terminating a few hundred feet south of San Marcos Boulevard. Las Posas Road is classified in the General Plan Circulation Element as a four-lane Secondary Arterial.

Via Vera Cruz is constructed as a two-lane to four-lane collector oriented in a north-south direction, extending south from Grand Avenue and terminating in a residential area south of Discovery Street. Via Vera Cruz is classified in the General Plan Circulation Element as a four-lane Secondary Arterial.

Bent Avenue is constructed as a two-lane collector, oriented in a north-south direction, extending south from Grand Avenue to Discovery Street. A continuous two-way left-turn lane is provided between Linda Vista Drive and San Marcos Boulevard. Bent Avenue transitions to Craven Road south of Discovery Street. Bent Avenue is classified in the General Plan Circulation Element as a four-lane Secondary Arterial.

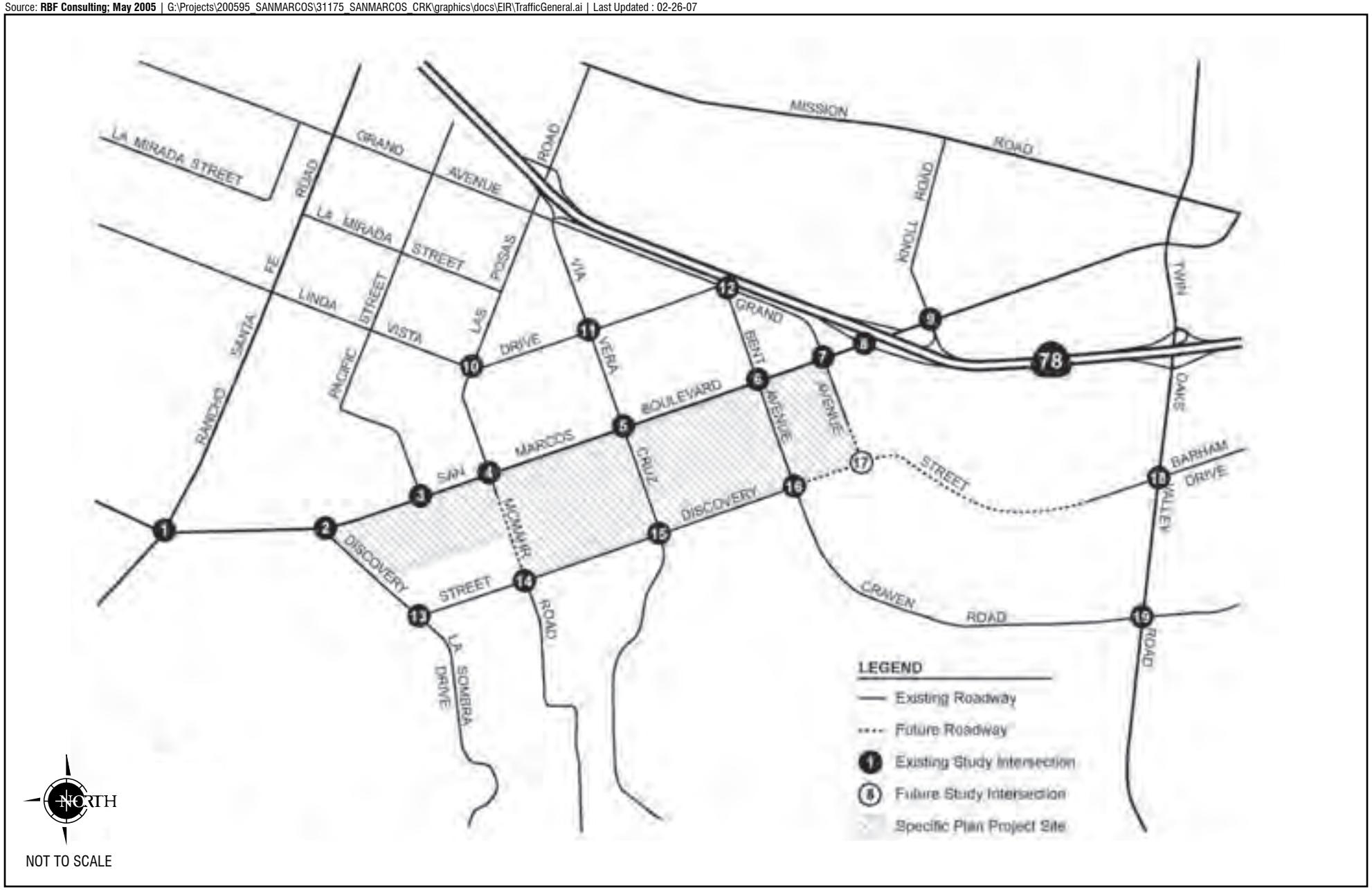
Grand Avenue is constructed as a four-lane arterial oriented in an east-west direction from the San Marcos-Vista city limit to a few hundred yards east of Bent Avenue, where the roadway veers to a north-south orientation and terminates a few hundred yards south of San Marcos Boulevard. Grand Avenue is classified in the General Plan Circulation Element as a four-lane Secondary Arterial north of San Marcos Boulevard, and as a four-lane Major Arterial south of San Marcos Boulevard.

Analysis Methodology

In accordance with the SANTEC/ITE (San Diego Traffic Engineers' Council/Institute of Transportation Engineers) traffic impact study guidelines and City of San Marcos requirements, this study analyzes the followings study scenarios:

- ***Existing Conditions*** – Analysis of existing traffic count volumes, intersection geometry and existing roadway network.
- ***Horizon Year 2030 Conditions With General Plan Land Uses*** – Analysis of Horizon Year 2030 conditions with the General Plan land uses was conducted using the San Diego Association of Governments (SANDAG) Series 10 North San Diego County subarea traffic model. The daily traffic volumes in the SANDAG model reflect the Horizon Year 2030 conditions with the General Plan land uses. SANDAG also calculated the peak hour turning movements from the traffic model. All build-out roadway improvements in the project study area are included in the analysis of Horizon Year 2030 Conditions. Figure 3.10-1 presents the intersections studied for this scenario.
- ***Horizon Year 2030 Conditions With Specific Plan Land Use*** – SANDAG conducted an additional model run in which the General Plan land uses were replaced by the land uses proposed in the San Marcos Creek Specific Plan, from which volumes were derived for the Horizon Year 2030 conditions with the Specific Plan land uses. The Horizon Year 2030 daily and peak hour volumes with the Specific Plan land uses were provided by the SANDAG traffic model. All build-out roadway improvements in the project study area are included in the analysis of Horizon Year 2030 Conditions. Figure 3.10-2 presents the intersections studied for this scenario.

Source: **RBF Consulting; May 2005** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\TrafficGeneral.ai | Last Updated : 02-26-07



Existing and Year 2030 General Plan Land Use Study Intersections

FIGURE 3.10-1

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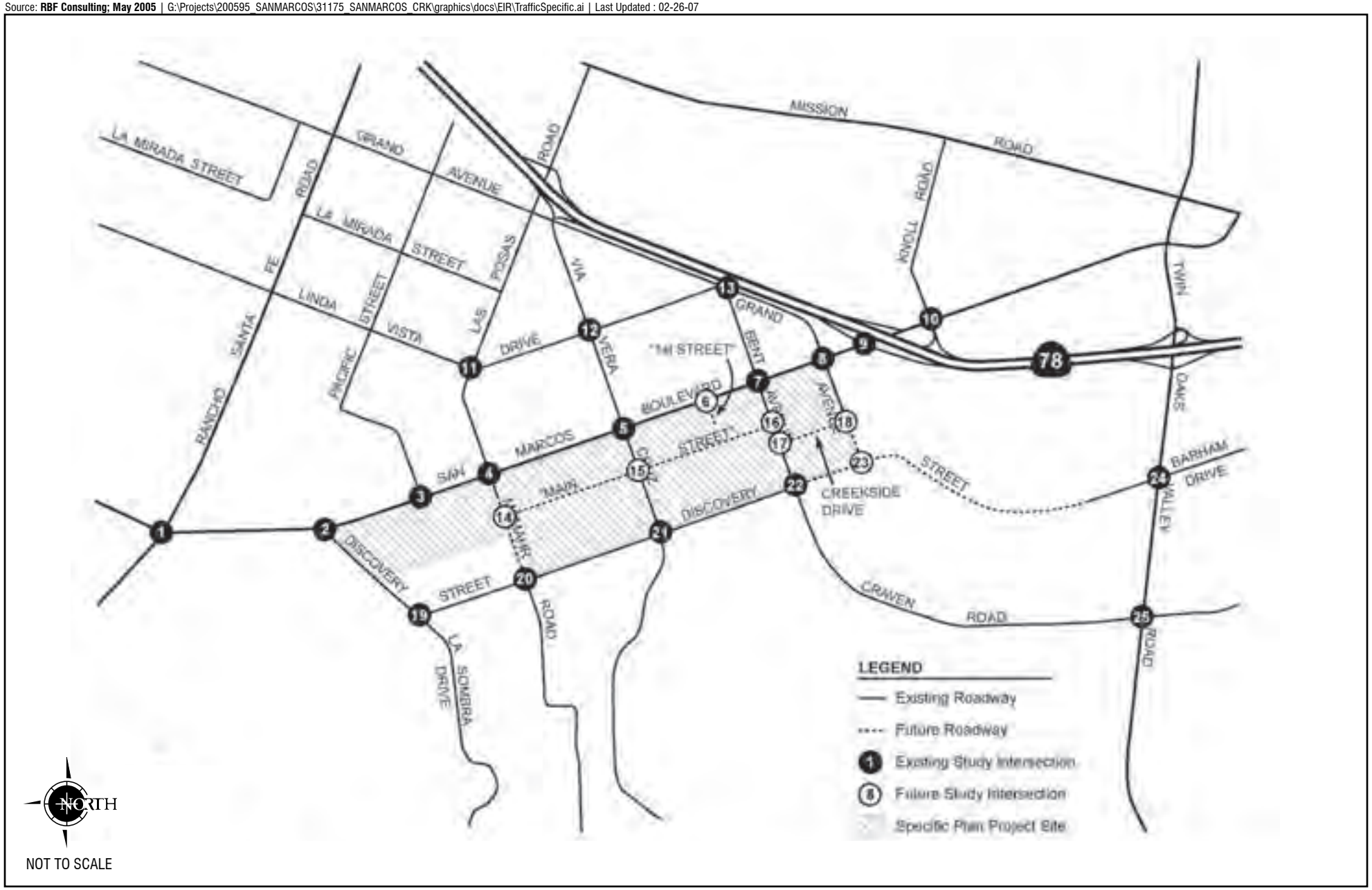
Source: **RBF Consulting; May 2005** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\TrafficSpecific.ai | Last Updated : 02-26-07



Existing and Year 2030 Specific Plan Land Use Study Intersections

FIGURE 3.10-2

HDR
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Due to the uncertainty of project phasing, modeling for the near-term impacts associated with buildout of the Specific Plan was not conducted for the project. It is unknown at what rate the individual development projects within the Specific Plan would come forward. It is also unknown the size and potential trip generation that could occur with the individual projects. Therefore, it is speculative to prepare a near-term traffic analysis. Project-specific traffic impact studies would be required as individual projects come forward. This requirement has been identified as a mitigation measure in this Draft EIR.

Analysis of all intersections and roadway segments in the project study area is based on the guidelines set forth in the City of San Marcos General Plan Circulation Element and the SANTEC/ITE traffic impact study guidelines. As required, the 2000 Highway Capacity Manual (HCM) operation methodology for Signalized and Unsignalized Intersections was used to determine the operating Levels of Service (LOS) of the study intersections. LOS ranges from A through F, as described below:

LOS A	Represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
LOS B	Is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
LOS C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
LOS D	Represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
LOS E	Represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow would cause breakdowns in traffic movement.
LOS F	Is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount that can traverse the point. Queues form behind such locations.

The HCM methodology describes the operation of an intersection using a range of levels of service, based on corresponding delay per vehicle thresholds for signalized and unsignalized intersections shown in Table 3.10-1. The City of San Marcos considers LOS D or better to be acceptable intersection operating conditions during peak traffic periods.

Table 3.10-1. Level of Service & Delay Ranges

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual.

A daily roadway segment analysis was conducted for all study area roadways, in accordance with the City of San Marcos General Plan Circulation Element and SANTEC/ITE guidelines. The roadway segment level of service criteria is included in Table 3.10-2.

Table 3.10-2. Daily Level of Service Thresholds for Roadway Segments

Classification / Lanes	Level of Service				
	A	B	C	D	E
Prime Arterial / 6	25,000	35,000	50,000	55,000	60,000
Major Arterial / 4	15,000	21,000	30,000	35,000	40,000
Secondary Arterial / 4	10,000	14,000	20,000	25,000	30,000
Collector / 2 + TWLTL (1)	5,000	7,000	10,000	13,000	15,000
Collector / 2 (2)	2,500	3,500	5,000	6,500	8,000

Source: SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region 2000.
Notes: (1) TWLTL = Two-Way Left-Turn Lane (center lane).
(2) With fronting commercial or residential property.

In accordance with Caltrans requirements, the following analyses were conducted using the 2000 Highway Capacity Manual and the 2000 Highway Design Manual:

- Intersections
  - 2000 Highway Capacity Manual (HCM) Operations Methodology
  - Caltrans Intersection Lane Volume (ILV) Methodology
- Freeway
  - 2000 Highway Capacity Manual Mainline Analysis
  - 2000 Highway Capacity Manual Weave Section Analysis
  - 2000 Highway Capacity Manual Merge/Diverge Analysis

Caltrans has a target level of service at the transition between LOS C and LOS D for peak hour intersection operations. However, Caltrans recognizes that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. The City of San Marcos considers LOS D or better to be acceptable levels of service for peak hour intersection operations, and for the purposes of this analysis, the transition between LOS D and LOS E is considered the level of service threshold for acceptable peak hour intersection operations.

Caltrans requires freeway ramp intersections to be evaluated using the Intersection Lane Volumes (ILV) methodology for evaluating intersection performance. This methodology considers the signal phasing, critical volumes and intersection capacity. The thresholds for intersection performance are summarized in Table 3.10-3.

Table 3.10-3. ILV Methodology Performance Criteria

Total Critical Volume Through Intersection	Classification	Description
Less than 1,200	Stable Flow	Slight, but considerable delays possible.
1,200 to 1,500	Unstable Flow	Considerable delays expected to occur.
Greater than 1,500	Capacity	Stop and go conditions with severe delay and heavy congestion.

Source: Caltrans Highway Design Manual (HDM), Topic 406, page 400-21.

Freeway mainline segments were analyzed to determine the capacity and level of service during existing and future scenarios using HCM 2000 methodology. This analysis produces the following information:

- Density of passenger cars per mile per lane.
- Mean passenger car speed.
- Volume-to-Capacity (v/c) ratio.

Table 3.10-4 shows the LOS for basic freeway segments as described in the 2000 Highway Capacity Manual. Caltrans staff has indicated that LOS E or better is acceptable for peak hour freeway mainline segment operations.

Table 3.10-4. LOS Criteria for Basic Freeway Segments

LOS	Density (pc/mi/ln) Freeway Mainline Segment
A	0 – 11
B	> 11-18
C	> 18-26
D	> 26-35
E	> 35-45
F	> 45

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, Fourth Edition (Washington D.C., 2000).

Freeway ramp merge/diverge junctions were analyzed for both the a.m. and p.m. peak hour periods using HCM 2000 methodology. Freeway ramp analysis is comprised of both merging (on-ramps) and diverging (off-ramps) lanes. Table 3.10-5 summarizes the LOS thresholds for the freeway ramp analysis. Caltrans staff has indicated that LOS E or better is acceptable for peak hour operations of freeway ramp merge/diverge junctions.

Table 3.10-5. LOS Criteria for Merge and Diverge Areas

LOS	Density (pc/mi/ln)
A	10
B	> 10-20
C	> 20-28
D	> 28-35
E	> 35
F	Demand exceeds Capacity

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, Fourth Edition (Washington D.C., 2000).

Existing Levels of Service

Intersections

To determine the existing operation of the study intersections, intersection movement counts were taken on a typical weekday during the AM (7:00 to 9:00 a.m.) and PM (4:00 to 6:00 p.m.) peak periods.

Table 3.10-~~3~~ 6 summarizes the existing AM and PM peak hour intersection LOS of the study intersections based on the existing peak hour intersection volumes and existing intersection geometry. As shown in Table 3.10-~~3~~6, all study intersections are currently operating at an acceptable LOS (LOS D or better) during the AM and PM peak hours except for the following intersections, which operate at LOS E or F:

- San Marcos Boulevard/Pacific Street (AM and PM Peak Hour)
- Discovery Street/Via Vera Cruz (PM Peak Hour)

Roadway Segments

Daily roadway segment levels of service were calculated based on the capacity of the roadway determined based on classification and ADT volumes. Table 3.10-~~4~~ 7 presents the results of the existing conditions daily roadway segment level of service analysis.

As shown in Table 3.10-~~4~~7, the following roadway segments currently operate at deficient levels of service (LOS E or F):

- San Marcos Boulevard, Rancho Santa Fe Road to Discovery Street
- San Marcos Boulevard, Discovery Street to Pacific Street
- San Marcos Boulevard, Pacific Street to Las Posas Road
- San Marcos Boulevard, Las Posas Road to Via Vera Cruz
- San Marcos Boulevard, Via Vera Cruz to Bent Avenue
- San Marcos Boulevard, Grand Avenue to SR-78
- Discovery Street, Via Vera Cruz to Bent Avenue-Craven Road

Table 3.10-~~3~~6. Existing Peak Hour Intersection Conditions

Study Intersection	AM Delay (sec.)	LOS	PM Delay (sec.)	LOS
San Marcos Boulevard / Rancho Santa Fe Road	28.8	C	31.6	C
San Marcos Boulevard / Discovery Street	15.4	B	9.8	A
San Marcos Boulevard / Pacific Street (1)(2)	40.1	E	90.0	F
San Marcos Boulevard / Las Posas Road	23.2	C	18.5	B
San Marcos Boulevard / Via Vera Cruz	10.7	B	17.1	B
San Marcos Boulevard / Bent Avenue	10.5	B	15.0	B
San Marcos Boulevard / Grand Avenue	11.3	B	18.5	B
San Marcos Boulevard / SR-78 EB On-Ramps	18.1	B	18.5	B
San Marcos Boulevard / SR-78 WB Off-Ramp	32.1	C	30.5	C
Linda Vista Drive / Las Posas Road	23.7	C	23.4	C
Linda Vista Drive / Via Vera Cruz (3)	9.8	A	9.2	A
Bent Avenue / Grand Avenue	5.1	A	10.0	A
Discovery Street / La Sombra Drive (1)(2)	13.1	B	17.1	C
Discovery Street / McMahr Road (1)(2)	13.4	B	15.8	C
Discovery Street / Via Vera Cruz (3)	15.9	C	50.3	F
Discovery Street / Bent Avenue-Craven Road (3)	13.7	B	11.1	B
Twin Oaks Valley Road / Barham Drive	22.2	C	29.5	C
Twin Oaks Valley Road / Craven Road	24.1	C	28.6	C
Las Posas Rd. / SR-78 WB Ramps	20.9	C	25.7	C
Grand Ave. / SR-78 EB Ramps - Via Vera Cruz	26.0	C	36.3	D
San Marcos Blvd. / SR-78 WB Ramps - Knoll Rd.	32.1	C	30.5	C
San Marcos Blvd. / SR-78 EB Ramps	18.1	B	18.5	B

Notes: Deficient intersection operation shown in bold.
(1) Indicated an unsignalized two-way stop-controlled intersection.
(2) The highest approach delay, rather than the average delay, is reported for two-way stop-controlled intersections.
(3) Indicates an unsignalized all-way-stop-controlled intersection.

Table 3.10-74. Existing Daily Roadway Segment Conditions

Roadway	Location	Class (# Lanes)	Daily Capacity	Existing ADT	V/C	LOS
San Marcos Boulevard	Rancho Santa Fe Road to Discovery Street	Major (4)	40,000	42,674	0.993	E
	Discovery Street to Pacific Street	Major (4)	40,000	39,723	0.993	E
	Pacific Street to Las Posas Road	Major (4)	40,000	39,723	0.993	E
	Las Posas Road to Via Vera Cruz	Major (4)	40,000	35,391	0.885	E
	Via Vera Cruz to Bent Avenue	Major (4)	40,000	43,282	1.082	F
	Bent Avenue to Grand Avenue	Prime (6)	60,000	52,432	0.874	D
	Grand Avenue to SR-78	Prime (6)	60,000	61,632	1.027	F
Discovery Street	San Marcos Boulevard to La Sombra Drive	Collector (2)	15,000	11,531	0.769	C
	La Sombra Drive to Via Vera Cruz	Collector (2)*	15,000	11,673	0.778	C
	Via Vera Cruz to Bent Avenue-Craven Road	Collector (2)	8,000	12,400	1.550	F
Pacific Street	Linda Vista Drive to San Marcos Boulevard	Collector (2)	8,000	1,753	0.219	A
Las Posas Road	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	7,749	0.258	A
Via Vera Cruz	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	4,827	0.161	A
	San Marcos Boulevard to Discovery Street	Collector (2)	8,000	5,244	0.656	D
Bent Avenue/ Craven Road	Grand Avenue to San Marcos Boulevard	Collector (2)*	15,000	2,753	0.184	A
	San Marcos Boulevard to Discovery Street	Collector (2)	8,000	4,935	0.617	C
	South of Discovery Street (Craven Road)	Secondary (4)	30,000	13,002	0.433	B
Grand Avenue	Bent Avenue to San Marcos Boulevard	Secondary (4)	30,000	10,065	0.336	B
	South of San Marcos Boulevard	Major (4)	40,000	10,988	0.275	A

Note: Deficient roadway segment operation shown in **bold**.
*Two-lane collector with continuous two-way left-turn lane (TWLTL).

Freeway Ramps

Table 3.7-8a shows that the study ramp intersections currently operate under the ILV capacity of 1,500 vehicles per hour.

Table 3.7-8a. ILV Analysis Summary

Intersection	Existing Conditions			
	AM Peak		PM Peak	
	Flow	Operations	Flow	Operations
Las Posas Rd. / SR-78 WB Ramps	795	Stable	1,062	Stable
Grand Ave. / SR-78 EB Ramps - Via Vera Cruz	1,129	Stable	1,327	Unstable
San Marcos Blvd. / SR-78 WB Ramps - Knoll Rd.	1,288	Unstable	1,379	Unstable
San Marcos Blvd. / SR-78 EB Ramps	1,096	Stable	965	Stable

Existing peak hour ramp volumes on SR-78 were determined based on the volumes used in the HCM and ILV analyses for the study ramp intersections. The existing level of service and density for the ramps analyzed is provided in Table 3.7-8b.

Table 3.7-8b. ILV Analysis Summary

Ramp	Existing Conditions			
	AM Peak		PM Peak	
	LOS	D	LOS	D
Merge Analysis (On-Ramps)				
Las Posas WB On-Ramp	C	25.4	D	30.3
Las Posas EB On-Ramp	D	29.6	D	29.5
San Marcos WB On-Ramp #1	C	27.1	D	30.4
San Marcos WB On-Ramp #2	C	24.7	D	28.2
San Marcos EB On-Ramp	C	25.8	C	24.5
Diverge Analysis (Off-Ramps)				
Las Posas WB Off-Ramp	D	28.4	D	32.2
Las Posas EB Off-Ramp	B	19.4	B	16.2
San Marcos WB Off-Ramp	A	0.2	A	0.9
San Marcos EB Off-Ramp	D	30.0	D	31.7

Freeway Segments

Table 3.7-9 shows the existing operations for the segments of SR 78 between Los Pasos and San Marcos Boulevard. As shown in Table 3.7-9, the analyzed freeway mainline segments operate at acceptable levels of service (LOS E or better) under existing conditions.

Table 3.7-9. State Route 78 Freeway Mainline Segment Operations – Existing Conditions

Segment	From	To	Existing Conditions			
			Volume	LOS	APCS	D
AM Peak Hour						
SR-78 EB	Las Posas On Ramp	San Marcos Off Ramp	4,796	D	64.5	26.6
SR-78 WB	San Marcos On Ramp	Las Posas Off Ramp	4,443	C	64.9	24.5
PM Peak Hour						
SR-78 EB	Las Posas On Ramp	San Marcos Off Ramp	4,499	C	64.9	24.8
SR-78 WB	San Marcos On Ramp	Las Posas Off Ramp	5,146	D	63.5	29.0

APCS – Average Passenger Car Speed (mph)
D – Density, Passenger Cars per Mile per Lane

San Marcos General Plan – Circulation Element

The Circulation Element of the General Plan identifies specific goals, policies and implementing strategies. Those that are applicable to the project are identified below.

Streets and Highways Goals

- Goals 1 and 2, Policy 1, Implementing Strategy 1.1: Requires new development to pay their fair share of planned roadway improvements.
- Goals 1 and 2, Policy 1, Implementing Strategy 1.2: Preserve rights-of-way needs for freeway improvements through dedication and according to Caltrans standards, as adjacent properties develop.
- Goals 1 and 2, Policy 2, Implementing Strategy 2.2: Implement traffic control devises such as center medians and/or left turn pockets where appropriate.
- Goals 1 and 2, Policy 2, Implementing Strategy 2.3: Monitor roadway intersections to determine if Levels of Service are approaching LOS D, and conduct studies of all segments and intersections that have the potential to exceed LOS D to determine feasible mitigation measures which would maintain LOS D or better.
- Goals 1 and 2, Policy 2, Implementing Strategy 2.4: Requires site-specific traffic studies for all major developments which have the potential to exceed LOS D.
- Goals 1 and 2, Policy 2, Implementing Strategy 2.5: Requires developers to implement the mitigation measures identified in site-specific traffic studies.
- Goal 3, Policy 4, Implementing Strategy 4.1: Provide setbacks, landscaping, sound walls, and other methods to protect adjacent land uses from safety, noise and air quality impacts associated with traffic on arterials.

Alternative Transportation Goals

- Goals 1 and 2, Policy 3: Implementing Strategy 3.2: Provide for the location of bus stops at major activity centers.
- Goal 3, Policy 6: Implementing Strategy 6.2: Integrate bicycle lanes or separate bikeways into street projects, wherever feasible.
- Goal 3, Policy 7: Implementing Strategy 7.1: Require improved sidewalks on both sides of all urban roadways, except industrial street less than four lanes in width.
- Goal 3, Policy 8: Implementing Strategy 8.1: Develop a system of trails for equestrian, hiking, jogging and pedestrian use.
- Goal 3, Policy 9: Implementing Strategy 9.1: Separate bicycle, pedestrian and equestrian traffic from vehicular traffic wherever possible.

3.10.2 Thresholds of Significance

Appendix G of the California Environmental Quality Act (CEQA) Guidelines provides thresholds for determining significant environmental impacts. A project may be deemed to have a significant impact on traffic/circulation if the project would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system;
- Exceed individually a level of service standard established by the County Congestion Management Agency for designated roads and highways;
- Conflict with adopted policies, plans or programs supporting alternative transportation; and/or
- Result in inadequate parking capacity.

Policy 2 of the Circulation Element of the City of San Marcos General Plan calls for the phasing of development and roadway improvements so that the LOS does not exceed LOS D on primary routes and at major intersections, except on regional routes for which mitigation to LOS D may be infeasible because of intercity traffic, which may reach LOS E during peak hours. A project is said to significantly impact an intersection if the addition of project trips results in a change of LOS from acceptable to unacceptable (LOS E or F). If an intersection is already operating deficiently (LOS E or F) before the addition of project traffic, then an increase in delay of 2.0 seconds or more results in a significant impact. For roadway segments, a change in the Volume to Capacity Ratio (V/C) of 0.02 or more for deficient segments also results in a significant impact.

A cumulative traffic analysis is included in Section 7 of the Draft EIR.

3.10.3 Project Impacts

As noted in the introduction to this EIR section, the following traffic-related issue areas were determined to be less than significant during the Initial Study process and are not further analyzed in the Draft EIR: (1) change in air traffic patterns; (2) increase in hazards due to a design feature; and (3) inadequate emergency access. Please see Section 5.6 of the Draft EIR for a discussion of the three issues areas that were determined to be less than significant.

Development of the project would include the implementation of the San Marcos Creek Specific Plan. Consistent with the General Plan, the ~~four~~ three principal north-south streets through the proposed Specific Plan area would be improved to full urban street standards and would provide through access between San Marcos Boulevard and Discovery Street. Bridges are proposed over San Marcos Creek at ~~McMahr Road~~Via Vera Cruz and Grand Avenue. Improvements are also proposed to McMahr Road. Additionally, the project incorporates pedestrian trails and sidewalks throughout the project area, as well as a multi-use trail. The provision of these features would enhance non-vehicular access through the project site. An intra-city shuttle is also proposed as part of the project. Further, as a mixed-use project, it is expected that residents of the project would be able to fulfill some of their retail and entertainment needs within the project area, thereby eliminating vehicular trips.

The project also includes a new bridge to supplement the capacity of the San Marcos Creek culverts that cross beneath SR-78. The construction of the bridge at SR-78 would occur during the first phase of the project. This improvement would require an encroachment permit from Caltrans.

Construction Activities

Traffic associated with construction activities includes truck trips associated with the import of fill as well as the trips associated with the delivery of construction materials and equipment, and construction employee vehicles.

Creek improvements associated with construction of the levee are expected to require the import of 650,000 cubic yards of fill material. Assuming a truck size of 20 cubic yards, this equates to 32,500 truck trips. Assuming four trucks per hour at seven hours a day for four different staging areas, this equates to approximately 112 truck trips per day. At this rate, import of material would occur over approximately 290 work days. Assuming a truck equals three passenger cars, the import of levee fill material is expected to add 12 vehicle trips per hour to the local roadway network. It should be noted that the source location for the fill material is not known at this time. To keep costs as low as possible, the City would seek a source that is close to the proposed project, thus reducing the distance that the imported material needs to be carried. Another 200 vehicles per day are assumed for: (1) delivery of additional construction equipment and supplies to support the floodway improvement project, SR-78 hydraulic improvements and roadway/infrastructure improvements and (2) construction crew vehicles. Construction employee vehicle trips are expected to occur in the morning and evening. Therefore, construction activities would result in the addition of up to 312 vehicles during peak hour. The addition of 312 vehicles during peak hour represents an incremental increase to the traffic in the project vicinity. Since the project area already experiences degraded roadway conditions, as detailed in Section 3.10.1, construction traffic could result in a potentially significant short-term impact.

Project Trip Generation

To determine the trips forecast to be generated by the proposed project, April 2002 SANDAG Trip Generation rates were utilized in accordance with the City of San Marcos guidelines. Tables 3.10-10~~5~~ and 3.10-11~~6~~ summarize the project trip generation for the General Plan and Specific Plan land uses. Table 3.10-12 ~~7~~ summarizes the change in traffic generation as a result of using the Specific Plan land uses over the General Plan land uses.

As summarized in Table 3.10-10 ~~5~~, the land uses included in the General Plan are forecast to generate approximately 84,260 trips per day, which includes approximately 4,111 AM peak hour trips and approximately 8,917 PM peak hour trips. Table 3.10-11 ~~6~~ shows that the land uses included in the San Marcos Creek Specific Plan are forecast to generate approximately 98,352 trips per day, which includes approximately 15,288 AM peak hour trips and approximately 10,004 PM peak hour trips.

As shown in Table 3.10-12 ~~7~~, the Specific Plan land uses are forecast to generate a net increase of approximately 14,092 trips per day, which includes a net increase of approximately 1,543 AM peak hour trips and approximately 1,587 PM peak hour trips.

Table 3.10-105. Forecast Trip Generation – Current General Plan Land Uses

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Trip Generation Rates								
Community Commercial		700/acre	4%	60%	40%	10%	50%	50%
Condominiums		8/DU	8%	20%	80%	10%	70%	30%
Forecast Trip Generation								
Community Commercial	107 acres	74,900	2,996	1,798	1,198	7,490	3,745	3,745
Condominiums	1170 DU	9,360	749	150	599	936	655	281
TOTAL PROJECT TRIPS		84,260	3,745	1,948	1,797	8,426	4,400	4,026

Source: SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002).

Table 3.10-116. Forecast Trip Generation – Proposed Specific Plan Land Uses

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Trip Generation Rates (1)								
Mixed-Use Office		18/KSF	14%	90%	10%	13%	20%	80%
Mixed-Use Community Commercial		72/KSF	4%	60%	40%	10%	50%	50%
Mixed-Use Multi-Family Residential		5.4/DU	8%	20%	80%	9%	70%	30%
Forecast Trip Generation								
Mixed-Use Office	512 KSF	9,216	1,290	1,161	129	1,198	240	958
Mixed-Use Community Commercial	1,088 KSF	78,336	3,133	1,880	1,253	7,834	3,917	3,917
Mixed-Use Multi-Family Residential	2,000 DU	10,800	864	173	691	972	680	292
TOTAL PROJECT TRIPS		98,352	5,288	3,214	2,074	10,004	4,837	5,167

Source: SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002).

Notes: (1) SANDAG allows a 10% trip rate reduction for mixed-use developments where residential and commercial are combined.

Table 3.10-127. Net Change in Trip Generation – Proposed Specific Plan Land Uses

Land Use	Daily Trips	AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out
Total GPLU Trips	84,260	3,745	1,948	1,797	8,426	4,400	4,026
Total SPLU Trips	98,352	5,288	3,214	2,074	10,004	4,837	5,167
NET CHANGE SPLU TRIPS	14,092	1,543	1,266	277	1,587	437	1,141

Notes: The table above summarizes the overall increase of traffic in the study area with the Specific Plan land uses.
The SPLU traffic model includes additional streets in the roadway network, which results in lower traffic volumes for some of the roadway segments and turning movements as the traffic model assumes some traffic would divert onto the new streets.

Near-Term Project Impacts – Specific Plan Area

Due to the uncertainty of the buildout of the Specific Plan area, analysis for the near-term impacts associated with buildout of the Specific Plan was not conducted for the project. It is unknown at what rate the individual development projects within the Specific Plan would come forward. It is also unknown the size and potential trip generation that could occur with the individual projects. Analysis for the buildout of the Specific Plan in the Year 2030 has been conducted, and is discussed in the following section.

Given that several segments and intersections within the project vicinity currently operate at a degraded level of services, it is likely that development projects coming forward in the future within the Specific Plan area would exacerbate those impacts unless additional roadway and intersection improvements occur. This represents a potentially significant impact. A mitigation measure has been identified requiring individual projects to prepare a traffic impact analysis and implement mitigation measures to address the interim conditions and allocate the mitigation measures concurrently with the impacts.

It should also be noted that the Specific Plan includes a Policy (3.7.2) stating that traffic conditions within the Specific Plan area shall be analyzed every three years to assess the need to adjust capacity projections. If the analysis indicates that the proposed development is consuming network capacity faster or slower than projected, the City would adjust the development intensity categories.

Horizon Year 2030 Conditions

Horizon Year 2030 volumes were derived from the SANDAG Series 10 North San Diego County subarea traffic model. The volumes in the traffic model reflect the Horizon Year 2030 conditions with the current General Plan land uses. An additional model run was conducted by SANDAG in which the General Plan land uses were replaced by the land uses proposed in the San Marcos Creek Specific Plan, from which volumes were derived for the Horizon Year 2030 conditions with the Specific Plan land uses.

The Year 2030 traffic model assumes the build-out of the City of San Marcos Circulation Element, and includes the improvements identified in Table 3.10-13~~8~~. Some of the improvements noted in Table 3.10-13~~8~~ are proposed as part of the project. These include the improvements to Las Posas Road, Via Vera Cruz and Bent Avenue. This EIR provides project-level analysis of impacts associated with these improvements that would occur as part of the project. The extension of Grand Avenue and some of the improvements to Discovery are proposed as part of the University Business Park project. Those improvements are currently under environmental review. All improvements identified in Table 3.10-13~~8~~ -would be constructed prior to buildout of the Specific Plan area.

Table 3.10-138. Assumed Traffic Improvements for Traffic Analysis

Roadway Segment	Assumed Improvement
San Marcos Boulevard	Improved to a six-lane Prime Arterial between Rancho Santa Fe Road and Bent Avenue.
Discovery Street	Improved to a four-lane Modified Major Arterial between McMahr and Bent Avenue. The City of San Marcos plans to extend Discovery Street from Bent Avenue to Twin Oaks Valley Road. From Bent Avenue to Grand Avenue, Discovery Street would be built as a four-lane Modified Major Arterial, and from Grand Avenue to Twin Oaks Valley Road, Discovery Street would be constructed as a six-lane Prime Arterial. The traffic model also assumes that the intersections of Discovery Street at La Sombra Drive, McMahr Road, Via Vera Cruz, Bent Avenue-Craven Road, and Grand Avenue would be signalized.
Pacific Street	Improved to a four-lane Secondary Arterial, and signalized at the intersection with San Marcos Boulevard.
McMahr Road(1)	McMahr would be constructed as a special four-lane Creek District arterial between San Marcos Boulevard and Main Street. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with an 84-foot ROW. Additionally, the extension of McMahr to cross San Marcos Creek and connect with Discovery Street would be eliminated under the Circulation Element Amendment. ~~McMahr Road would be constructed as a four-lane Secondary Arterial between San Marcos Boulevard and Discovery Street.~~
Via Vera Cruz(1)	Improved to a four-lane Secondary Arterial from Grand Avenue to Discovery Street.
Bent Avenue(1)	Improved to a collector from Grand Avenue to Discovery Street.
Grand Avenue	Extended south to Discovery Street and constructed as a four-lane Modified Major Arterial.

Note: (1) This improvement is proposed as part of the project.

In addition to the roadway improvements listed in Table 3.10-138, the traffic model run for the San Marcos Creek Specific Plan includes a two-way Collector that is proposed to extend from McMahr Road to Bent Avenue. This proposed street is referred to as Main Street. A second two-lane Collector located south of Main Street was also included in the traffic model, which extends from Bent Avenue to Grand Avenue and would be aligned with the currently signalized Creekside Marketplace intersection. This proposed street is referred to as Creekside Drive (Figure 3.10-2).

Since the traffic analysis was conducted for the San Marcos Creek Specific Plan, the proposed on-site circulation has subsequently been modified. The revised concept plan shows that the proposed Main Street would extend from Pacific Street to Grand Avenue, and the proposed Creekside Drive would extend from McMahr Road to Grand Avenue. For the purposes of the Draft EIR, the recent circulation modifications were not included in the traffic analysis, but are recommended as improvements to mitigate the project impacts on Main Street as shown in Section 3.10.4.

Horizon Year 2030 Level of Service Analysis

Intersection Analysis

The results of the peak hour intersection level of service analysis are summarized in Table 3.10-149.

Table 3.10-149. Horizon Year 2030 Peak Hour Intersection Conditions General Plan Land Uses vs. Specific Plan Land Uses

Study Intersection	Year 2030 With GPLU		Year 2030 With SPLU		Change in Delay	
	AM Delay (1) – LOS	PM Delay (1) – LOS	AM Delay (1) – LOS	PM Delay (1) – LOS	AM	PM
San Marcos Blvd. / Rancho Santa Fe Rd.	27.2 – C	47.5 – D	27.4 – C	47.6 – D	0.2	0.1
San Marcos Blvd. / Discovery St.	16.5 – B	16.6 – B	19.2 – B	17.3 – B	2.7	0.7
San Marcos Blvd. / Pacific St.	7.5 – A	13.1 – B	9.5 – A	15.3 – B	2.0	2.2
San Marcos Blvd. / Las Posas Rd.	47.1 – D	30.7 – C	51.7 – D	35.0 – C	4.6	4.3
San Marcos Blvd. / Via Vera Cruz	19.9 – B	21.4 – C	18.6 – B	25.5 – C	-1.3	4.1
San Marcos Blvd. / "1st Street" (2)	–	–	13.3 – B	17.3 – B	–	–
San Marcos Blvd. / Bent Ave.	14.5 – B	22.1 – C	15.7 – B	22.0 – C	1.2	-0.1
San Marcos Blvd. / Grand Ave.	23.3 – C	34.7 – C	23.9 – C	36.5 – D	0.6	1.8
San Marcos Blvd. / SR-78 EB Ramps	20.3 – C	18.3 – B	19.5 – B	18.1 – B	-0.8	-0.2
San Marcos Blvd. / SR-78 WB Off-Ramp	32.1 – C	33.7 – C	32.0 – C	34.8 – C	-0.1	1.1
Linda Vista Dr. / Las Posas Rd.	25.0 – C	28.7 – C	26.1 – C	28.9 – C	1.1	0.2
Linda Vista Dr. / Via Vera Cruz	19.4 – B	19.9 – B	19.9 – B	19.3 – B	0.5	-0.6
Bent Ave. / Grand Ave.	12.6 – B	6.0 – A	12.9 – B	10.7 – B	0.3	4.7
McMahr Road / Main Street (3) (4)	–	–	10.0 – A	12.5 – B	–	–
Via Vera Cruz / Main Street (3) (4)	–	–	13.4 – B	17.4 – C	–	–
Bent Avenue / Main Street (3) (4)	–	–	9.7 – A	24.5 – C	–	–
Bent Avenue / Creekside Drive (4) (5)	–	–	12.5 – B	23.2 – C	–	–
Grand Avenue / Creekside Drive (5)	–	–	4.6 – A	18.0 – B	–	–
Discovery St. / La Sombra Dr.	17.8 – B	13.7 – B	18.4 – B	12.2 – B	0.6	-1.5
Discovery St. / McMahr Rd.	11.9 – B	16.3 – B	10.3 – B	14.1 – B	-1.6	-2.2
Discovery St. / Via Vera Cruz	11.6 – B	16.3 – B	11.5 – B	18.4 – B	-0.1	2.1
Discovery St. / Bent Ave.-Craven Rd.	17.3 – B	23.9 – C	22.8 – C	25.4 – C	5.5	1.5
Discovery St. / Grand Ave.	14.4 – B	15.6 – B	11.2 – B	11.6 – B	-3.2	-4.0
Twin Oaks Valley Rd. / Barham Dr.	26.9 – C	28.5 – C	27.3 – C	29.1 – C	0.4	0.6
Twin Oaks Valley Rd. / Craven Rd.	20.0 – B	26.3 – C	18.1 – B	27.1 – C	-1.9	0.8
Las Posas Rd. / SR-78 WB Ramps	27.4 – C	19.2 – B	26.5 – C	18.7 – B	-0.9	-0.5
Grand Ave. / SR-78 EB Ramps - Via Vera Cruz	34.3 – C	50.6 – D	33.1 – C	47.7 – D	-1.3	-2.9
San Marcos Blvd. / SR-78 WB Ramps - Knoll Rd.	32.0 – C	34.8 – C	32.1 – C	33.7 – C	0.1	-1.1
San Marcos Blvd. / SR-78 EB Ramps	19.5 – B	18.1 – B	20.3 – C	18.3 – B	0.8	0.2

Notes: Deficient intersection operation shown in **bold**.

(1) Seconds of delay per vehicle.

(2) "1st Street" would provide access from San Marcos Boulevard to Specific Plan land uses.

(3) Main Street is a proposed two-lane collector running parallel with San Marcos Boulevard and Discovery Street and extends from McMahr Road to Bent Avenue.

(4) Indicates an unsignalized two-way stop-controlled intersection. The highest approach delay, rather than the average delay, is reported for two-way stop-controlled intersections.

(5) Creekside Drive is a proposed two-lane collector offset to the south from Main Street that extends from Bent Avenue to Grand Avenue.

As shown in Table 3.10-14~~9~~, all of the study intersections are forecast to operate at acceptable levels of service (LOS D or better) under Horizon Year 2030 conditions with implementation of the Specific Plan. Buildout under the General Plan would also result in all intersections operating at an acceptable LOS. Therefore, no Year 2030 intersection impacts are identified for the project. ~~the proposed Specific Plan land uses, all of the study intersections are forecast to operate at acceptable levels of service (LOS D or better).~~

Freeway Ramps

Freeway ramp operations under the Year 2030 condition are presented in Table 3.10-15. A ramp merge and diverge analysis was also conducted for the Year 2030 scenario. The results of this analysis are presented in Table 3.10-16. As shown in Table 3.10-16, all ramps are anticipated to operate at an acceptable level of service (LOS D or above) with implementation of the project (Specific Plan) in the Year 2030 scenario.

Table 3.10-15. Year 2030 ILV Analysis Summary

Intersection	Year 2030 With General Plan Land Use				Year 2030 With Specific Plan			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Flow	Operations	Flow	Operations	Flow	Operations	Flow	Operations
Las Posas Rd./SR-78 WB Ramps	1,345	Unstable	1,157	Stable	1,370	Unstable	1,212	Unstable
Grand Ave./SR-78 EB Ramps - Via Vera Cruz	1,390	Unstable	1,597	Capacity	1,449	Unstable	1,628	Capacity
San Marcos Blvd./SR-78 WB Ramps - Knoll Rd.	1,351	Unstable	1,545	Capacity	1,394	Unstable	1,565	Capacity
San Marcos Blvd./SR-78 EB Ramps	1,227	Unstable	1,170	Stable	1,188	Stable	1,163	Stable

Table 3.10-16. SR 78 Freeway Ramp Level of Service Analysis – Year 2030

Ramp	Year 2030 With Specific Plan Land Uses				Year 2030 With General Plan Land Uses			
	AM Peak		PM Peak		AM Peak		PM Peak	
	LOS	D	LOS	D	LOS	D	LOS	D
Merge Analysis (On Ramps)								
Las Posas WB On-Ramp	C	21.7	C	26.7	C	21.7	C	26.3
Las Posas EB On-Ramp	C	25.0	D	28.3	C	25.0	D	28.2
San Marcos WB On-Ramp #1	D	28.2	D	28.7	D	28.2	D	28.7
San Marcos WB On-Ramp #2	C	25.9	C	27.0	C	25.9	C	27.0
San Marcos EB On-Ramp	C	20.1	C	23.8	C	20.1	C	23.8
Diverge Analysis (Off Ramps)								
Las Posas WB Off-Ramp	C	27.9	D	31.3	C	27.9	D	31.2
Las Posas EB Off-Ramp	B	12.6	B	12.6	B	12.4	B	12.5
San Marcos WB Off-Ramp	A	1.9	A	0.8	A	1.9	A	0.8
San Marcos EB Off-Ramp	C	25.7	D	30.9	C	25.7	D	30.9

Note: Deficient freeway ramp operation indicated in **bold** where applicable.
D – Density, Passenger Cars per Mile per Lane

Roadway Segment Analysis

Table 3.10-17 ~~10~~ presents the results of the Horizon Year 2030 roadway segment level of service analysis. As shown in Table 3.10-17~~10~~, all of the study roadway segments are forecast to operate at acceptable levels of service (LOS D or better) under Horizon Year 2030 conditions with the proposed Specific Plan land uses with the exception of the following roadway segments. These segments are forecast to operate at deficient levels of service (LOS E or worse):

- Main Street, ~~Las Posas Road~~McMahr to Via Vera Cruz
- Main Street, Via Vera Cruz to Bent Avenue

This represents a significant impact.

Freeway Analysis

Table 3.10-18 show the anticipated year 2030 LOS on select freeway segments. As shown in Table 3.10-18, all analyzed segments are anticipated to operate an acceptable level of service with implementation of the proposed project (Specific Plan) in the Year 2030 scenario.

Alternative Transportation

The project proposes a pedestrian trail system as well as facilities for bicycles. Pedestrian activity within the Specific Plan area would be enhanced through the use of broad, tree-line sidewalks on both sides of all streets within the development area, pedestrian streets or "paseos" that provide off-street pedestrian movement, and the provision of a Class I, multi-use trail within the proposed open space corridor. Figure 3.10-3 depicts the proposed pedestrian network.

Bicycle use within the Specific Plan area would be encouraged through the provision of an inter-connected system of Class II bicycle lanes that connect to existing and planned bicycle facilities on San Marcos Boulevard, Las Posas Road, Discovery Road, McMahr Road, and Craven Road. The project proposes bicycle lanes on Bent Avenue, Via Vera Cruz, McMahr Road, Discovery Street, Creekside Drive, and the north-south local streets within the Specific Plan area. Figure 3.10-4 depicts the proposed bicycle network.

Enhanced transit service is also identified within the Specific Plan. Enhanced transit would be accomplished through the provision of a new local shuttle. This shuttle would provide internal circulation within the Specific Plan area and would also loop with connections to other key nearby San Marcos destinations (e.g., employment centers, campuses, and transit stations).

The pedestrian, bicycle and transit improvements that are proposed as part of the Specific Plan are designed to work with the existing network in place in the City as well as work with future alternative transportation opportunities. The provision of bicycle and pedestrian facilities would enhance alternative transportation opportunities not only for future residents of the project area, but also residents in the project vicinity. Therefore, no impact on alternative transportation is identified for the project.

Table 3.10-17~~10~~. Horizon Year 2030 Daily Roadway Segment Conditions General Plan Land Uses vs. Specific Plan Land Uses

Street	Location	Class (# Lanes)	Daily Capacity	Year 2030 GPLU			Year 2030 SPLU			Change in V/C
				ADT	V/C	LOS	ADT	V/C	LOS	
San Marcos Boulevard	Rancho Santa Fe Road to Discovery Street	Prime (6)	60,000	53,800	0.897	D	54,623	0.910	D	0.014
	Discovery Street to Pacific Street	Prime (6)	60,000	43,500	0.725	C	42,608	0.710	C	-0.015
	Pacific Street to Las Posas Road	Prime (6)	60,000	48,300	0.805	C	47,657	0.794	C	-0.011
	Las Posas Road to Via Vera Cruz	Prime (6)	60,000	31,500	0.525	B	37,684	0.628	C	0.103
	Via Vera Cruz to Bent Avenue	Prime (6)	60,000	38,500	0.642	C	38,274	0.638	C	-0.004
	Bent Avenue to Grand Avenue	Prime (6)	60,000	41,500	0.692	C	41,260	0.688	C	-0.004
	Grand Avenue to SR-78	Prime (6)	60,000	51,800	0.863	D	54,763	0.913	D	0.049
Main Street	McMahr Road to Via Vera Cruz	Collector (2)	8,000	–	–	–	7,692	0.961	E	–
	Via Vera Cruz to Bent Avenue	Collector (2)	8,000	–	–	–	7,794	0.974	E	–
Creekside Drive	Bent Avenue to Grand Avenue	Collector (2)	8,000	–	–	–	5,366	0.671	D	–
Discovery Street	San Marcos Boulevard to La Sombra Drive	Secondary (3)	22,500	16,600	0.738	C	18,747	0.833	D	0.095
	La Sombra Drive to McMahr Road	Secondary (3)	22,500	13,600	0.604	C	15,487	0.688	C	0.084
	McMahr Road to Via Vera Cruz	Major (4)	30,000	19,100	0.637	C	18,337	0.611	C	-0.025
	Via Vera Cruz to Bent Avenue	Major (4)	30,000	23,500	0.783	D	22,887	0.763	D	-0.020
	Bent Avenue to Grand Avenue	Major (4)	40,000	20,300	0.508	B	22,712	0.568	C	0.060
	Grand Avenue to Twin Oaks Valley Road	Prime (6)	60,000	38,200	0.637	C	38,963	0.649	C	0.013
Pacific Street	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	4,200	0.140	A	4,442	0.148	A	0.008
Las Posas/McMahr Rd.	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	21,800	0.727	D	21,787	0.726	D	-0.001
	San Marcos Boulevard to Discovery Street	Secondary (4)	30,000	8,000	0.267	A	2,876	0.096	A	-0.171
Via Vera Cruz	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	9,400	0.313	A	8,298	0.277	A	-0.037
	San Marcos Boulevard to Discovery Street	Secondary (4)	30,000	7,300	0.243	A	9,156	0.305	A	0.062
Bent Avenue / Craven Road	Grand Avenue to San Marcos Boulevard	Secondary (4)	30,000	5,500	0.183	A	6,448	0.215	A	0.032
	San Marcos Boulevard to Discovery Street	Secondary (4)	30,000	3,300	0.110	A	13,494	0.450	B	0.340
	South of Discovery Street (Craven Road)	Secondary (4)	30,000	12,900	0.430	B	13,479	0.449	B	0.019
Grand Avenue	Bent Avenue to San Marcos Boulevard	Secondary (4)	30,000	21,300	0.710	D	21,835	0.728	D	0.018
	San Marcos Boulevard to Discovery Street	Major (4)	40,000	15,000	0.375	A	10,656	0.266	A	-0.109

Note: Deficient roadway segment operation shown in **bold**.

Table 3.10-18. Year 2030 Freeway Mainline Segment Level of Service Analysis, State Route 78

Segment	From	To	Year 2030 With General Plan Land Uses				Year 2030 With Specific Plan Land Uses			
			Volume	LOS	APCS	D	Volume	LOS	APCS	D
AM Peak										
SR-78 EB	Las Posas On Ramp	San Marcos Off Ramp	3,841	C	65.0	21.2	3,850	C	65.0	21.2
SR-78 WB	San Marcos On Ramp	Las Posas Off Ramp	4,514	C	64.8	24.9	4,523	C	64.8	25.0
PM Peak										
SR-78 EB	Las Posas On Ramp	San Marcos Off Ramp	4,221	C	65.0	23.3	4,229	C	65.0	23.3
SR-78 WB	San Marcos On Ramp	Las Posas Off Ramp	4,898	D	64.2	27.3	4,906	D	64.2	27.3

Note: Deficient freeway segment operation indicated in **bold** where applicable.
APCS – Average Passenger Car Speed (mph)
D – Density, Passenger Cars per Mile per Lane

Parking

Parking for the project includes a combination of on- and off-street parking. Parking structures would be used to maximize parking space while minimizing parking footprints. Figure 3.10-5 presents the proposed parking strategy for the Specific Plan area. No impacts related to parking are identified for the project.

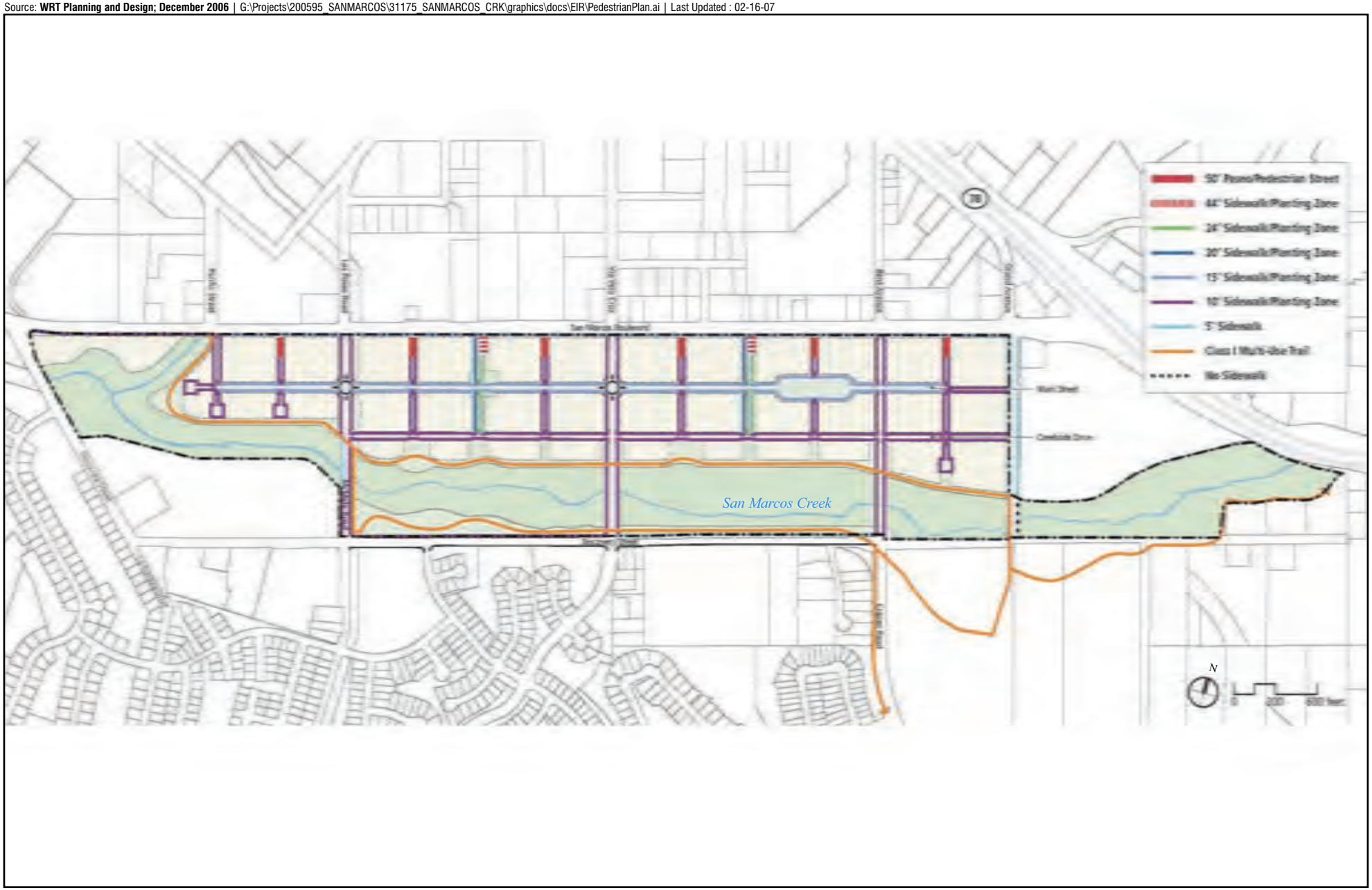
SR-78 Hydraulic Improvements

One component of the project includes a new bridge to supplement the capacity of the San Marcos Creek culverts that cross beneath SR-78. The construction of the bridge at SR-78 would occur during the first phase of the project. This improvement would require an encroachment permit from Caltrans.

Construction of the new bridge would be completed in several stages and would require lane shifts of the traffic. The number of traffic lanes and freeway access as is currently provided would be maintained during all stages. Except for some pavement overlay for the eastbound traffic lanes, SR-78 would essentially be restored as it exists today. The major areas of work to accommodate the traffic staging include pavement overlays, restriping, sign relocations, and some localized widening as previously described. The area of SR-78 affected by the traffic staging extends about 1,500 feet east and west of the San Marcos Creek crossing. Figure 2.3-3 shows the anticipated extent of the traffic staging both east and west of the Creek crossing.

The number of freeway traffic lanes and existing freeway access would be retained during and after the improvements. Therefore, there would not be any disruptions to freeway traffic due to the improvements. Therefore, the SR-78 hydraulic improvements will not have a significant impact on SR-78 traffic.

Source: **WRT Planning and Design; December 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\PedestrianPlan.ai | Last Updated : 02-16-07



Proposed Pedestrian Trails and Sidewalks

FIGURE 3.10-3

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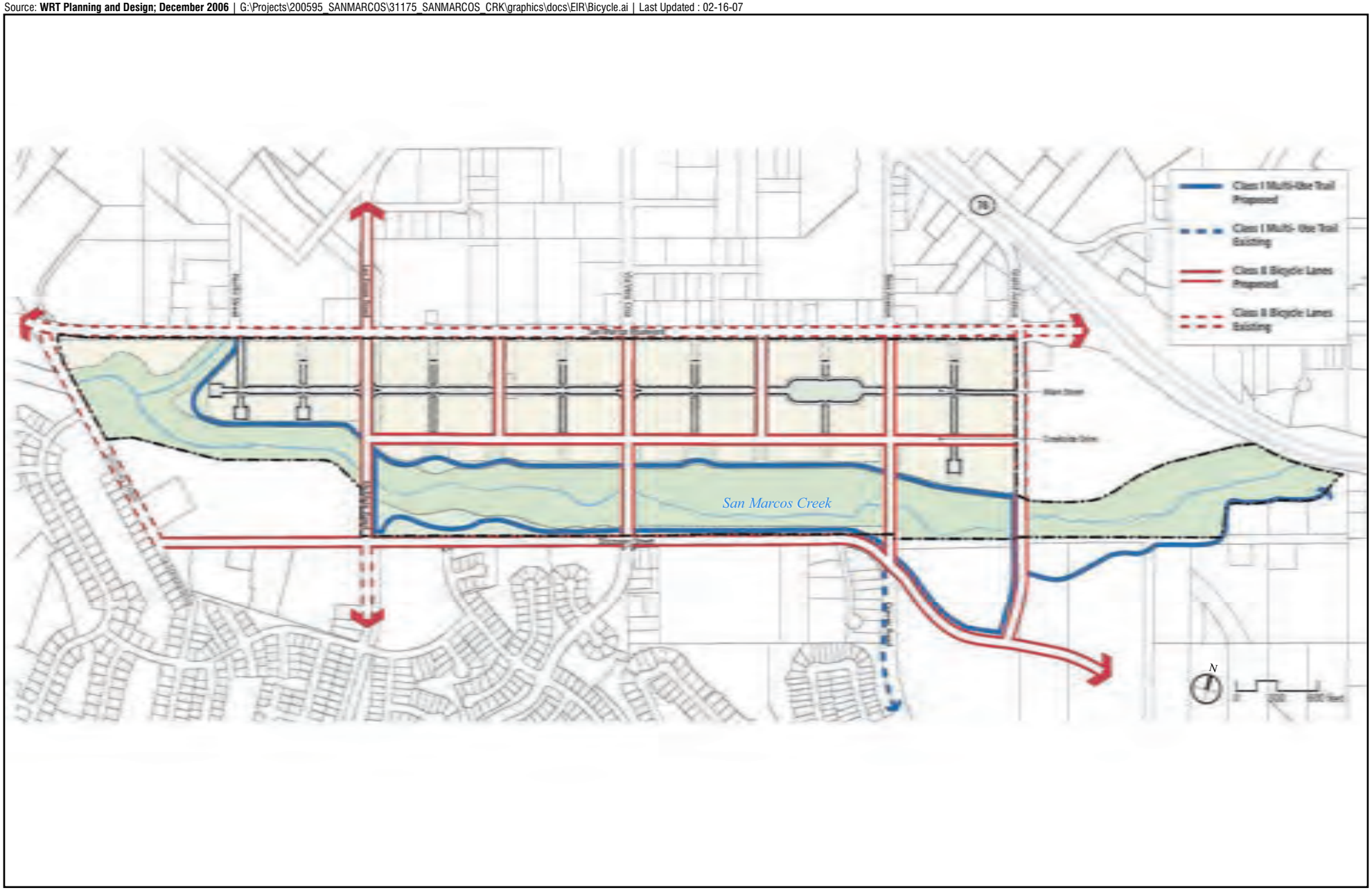
Source: **WRT Planning and Design; December 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\Bicycle.ai | Last Updated : 02-16-07



Proposed Bicycle Lanes and Routes

FIGURE 3.10-4

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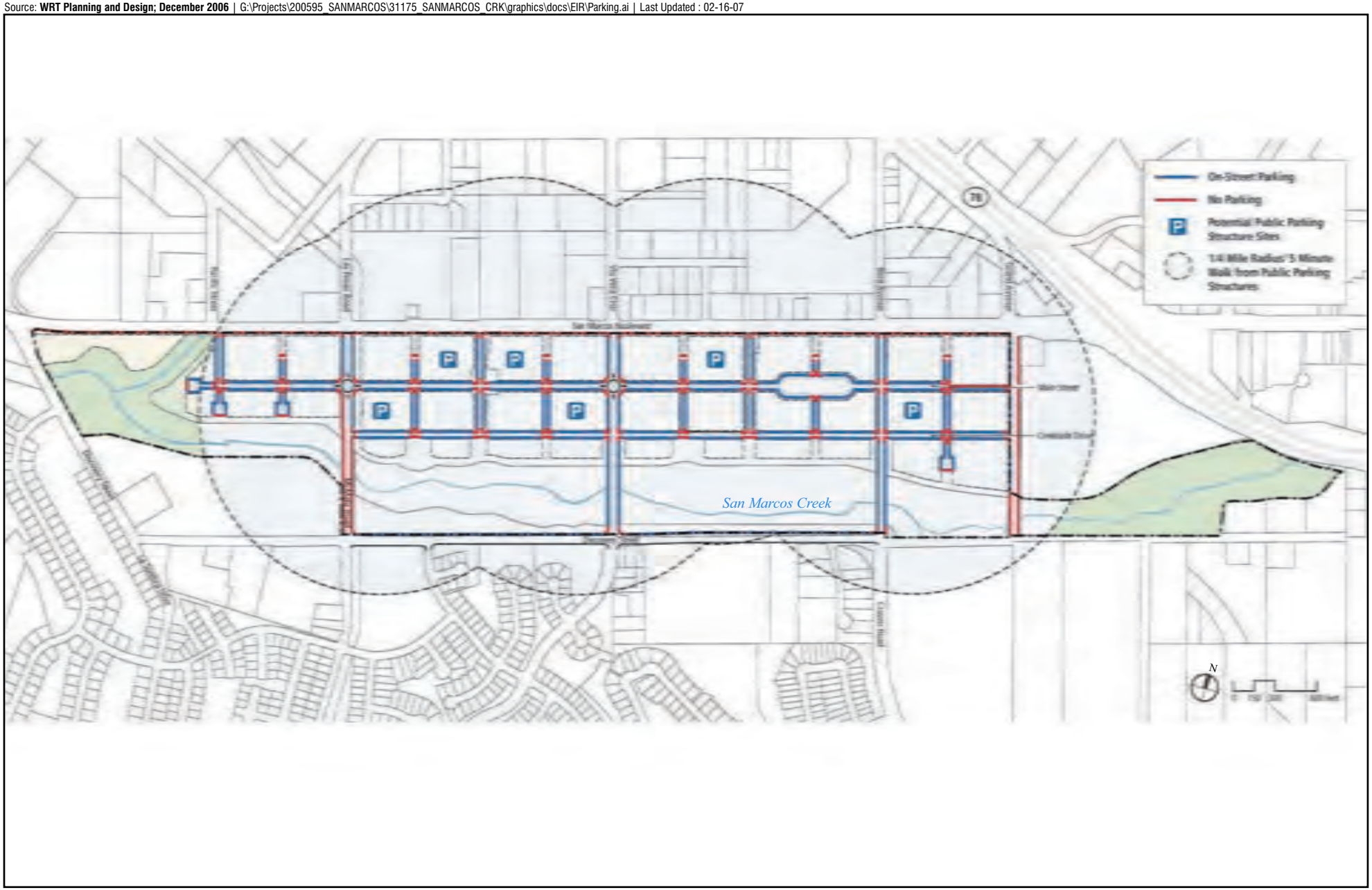
Source: **WRT Planning and Design; December 2006** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\Parking.ai | Last Updated : 02-16-07



Proposed Parking Concept

FIGURE 3.10-5

HDR
ONE COMPANY | *Many Solutions* SM

Consistency with General Plan Circulation Element

Circulation Element

The project proposes a General Plan Amendment to modify the Circulation Element for ~~two~~ three roadway segments.

The segment of Discovery Street between McMahr and Craven is currently identified as a Major Arterial with 82 feet of roadway and a 102-foot ROW, which allows for a center median and left turn pockets. The project would reclassify this segment as a modified Secondary Arterial with parking along the north side of the street, which would provide 72 feet of roadway and a 92-foot ROW with no median (the Secondary Arterial usually has 6 feet of roadway in an 84-foot ROW with no parking). Under the reclassification, parking is allowed on one side of the street. The same number of travel lanes would be provided under the current classification as well as the proposed classification. The modified street would carry fewer vehicles than the Major Arterial, but is sufficient to carry the build-out traffic at an acceptable level of service. Therefore, no circulation impacts are identified due to the proposed reclassification.

The segment of Grand Avenue between the future Grand Avenue bridge and Discovery Street is currently identified as a Major Arterial with 82 feet of roadway and a 102-foot ROW. The project would reclassify this segment as a Secondary Arterial, which would provide 64 feet of roadway and a 84-foot ROW. Under both classifications, parking would be restricted along both sides of the street. The same number of travel lanes would be provided under the current classification as well as the proposed classification. Although this reclassification eliminates the center median, there are no intersections between the bridge and Discovery Street, so the street would function in a similar manner and carry the same number of vehicles. Therefore, no circulation impacts are identified due to the proposed reclassification.

The segment of McMahr between San Marcos Boulevard and Discovery Street is currently identified as a Secondary Arterial. The project will reclassify the portion of McMahr between Main Street and Creekside road as special four-lane Creek District arterial with an 84-foot interim ROW and a 98-foot ultimate ROW. From Main Street to Creekside Road, McMahr would be designed as a two-lane collector with an 84-foot ROW. The segment of McMahr between Creekside Drive and Discover Street (across the creek) would be eliminated.

Table 3.10-19~~11~~ provides an analysis of the project's consistency with the applicable goals, policies and implementing strategies of the Circulation Element of the General Plan. As detailed in Table 3.10-19~~11~~, the project is consistent with all of the applicable Circulation Element goals, policies and implementing strategies.

Table 3.10-19~~11~~. Consistency with Applicable Transportation Goals and Policies (San Marcos General Plan)

Goal, Policy, or Implementing Strategy	Project Consistency
Street and Roadway Goals (1)	
Goals 1 and 2, Policy 1, Implementing Strategy 1.1: Requires new development to pay their fair share of planned roadway improvements	The project is consistent with the implementing strategy. Future developers within the Specific Plan area would be required to pay a portion of the cost of roadway improvements.
Goals 1 and 2, Policy 1, Implementing Strategy 1.2: Preserve rights-of-way needs for freeway improvements through dedication and according to Caltrans standards, as adjacent properties develop.	The project is consistent with the implementing strategy. While the project proposes work within the Caltrans right-of-way as part of the floodway improvements, the project would not reduce or otherwise impact the existing Caltrans right-of-way.
Goals 1 and 2, Policy 2, Implementing Strategy 2.2: Implement traffic control devises such as center medians and/or left turn pockets where appropriate.	The project is consistent with the implementing strategy. The design of the circulation network includes traffic control devises such as turn pockets and medians where appropriate.
Goals 1 and 2, Policy 2, Implementing Strategy 2.3: Monitor roadway intersections to determine if Levels of Service are approaching LOS D, and conduct studies of all segments and intersections that have the potential to exceed LOS D to determine feasible mitigation measures which would maintain LOS D or better.	The project is consistent with the implementing strategy. The Specific Plan includes a provision requiring periodic evaluation of the circulation network to ensure that there is adequate roadway capacity to support additional development.
Goals 1 and 2, Policy 2, Implementing Strategy 2.4: Requires site-specific traffic studies for all major developments which have the potential to exceed LOS D	The project is consistent with the implementing strategy. A traffic impact study has been prepared for the project and is included as an Appendix to this Draft EIR. Additionally, as future development comes forward within the Specific Plan area, development-specific traffic studies would be required.
Goals 1 and 2, Policy 2, Implementing Strategy 2.5: Requires developers to implement the mitigation measures identified in site-specific traffic studies	The project is consistent with the implementing strategy. A traffic impact study has been prepared for the project and is included as an Appendix to this Draft EIR. The project would implement all mitigation measures identified in the traffic report. Please see Section 3. 10.4 of the Draft EIR for a list of project mitigation measures related to transportation/circulation.
Goal 3, Policy 4, Implementing Strategy 4.1: Provide setbacks, landscaping, sound walls, and other methods to protect adjacent land uses from safety, noise and air quality impacts associated with traffic on arterials	The project is consistent with the implementing strategy. Future development within the Specific Plan area would be required to have mechanical ventilation to ensure that noise levels in interior noise spaces are kept at less than significant levels.
Alternative Transportation Goals(1)	
Goals 1 and 2, Policy 3: Implementing Strategy 3.2: Provide for the location of bus stops at major activity centers.	The project is consistent with the implementing strategy. The project would incorporate transit stops. This would enhance alternative transportation options for future residents, employees and residents of the project to have
Goal 3, Policy 6: Implementing Strategy 6.2: Integrate bicycle lanes or separate bikeways into street projects, wherever feasible.	The project is consistent with the implementing strategy. The Specific Plan area includes both a pedestrian and bicycle concept.
Goal 3, Policy 7: Implementing Strategy 7.1: Require improved sidewalks on both sides of all urban roadways, except industrial street less than four lanes in width.	The project is consistent with the implementing strategy. Proposed roadways within the Specific Plan area include improved sidewalks. Additionally, a sidewalk is proposed for the bridge crossings.

Goal, Policy, or Implementing Strategy	Project Consistency
Goal 3, Policy 8: Implementing Strategy 8.1: Develop a system of trails for equestrian, hiking, jogging and pedestrian use.	The project is consistent with the implementing strategy. The project includes a pedestrian network that would be suitable for jogging. Due to the anticipated urban development on the project site, the provision of equestrian trails was not included.
Goal 3, Policy 9: Implementing Strategy 9.1: Separate bicycle, pedestrian and equestrian traffic from vehicular traffic wherever possible.	The project is consistent with the implementing strategy. The project includes sidewalks and a pedestrian promenade to separate pedestrian traffic from vehicular traffic. Dedicated bicycle lanes are included on some of the Specific Plan roadways as well.

Note: (1) Only applicable goals, policies and implementing strategies are analyzed.

3.10.4 Mitigation Measures

Project Construction Traffic

MM 3.10-1 Prior to the issuance of grading permits and infrastructure improvement, the project applicant shall prepare a Construction Management Plan for review and approval by the Planning Director. The Construction Management Plan shall, to the extent feasible, direct traffic away from heavily congested streets during peak hours. The Construction Management Plan shall address the following:

- Control for any street closure, detour, or other disruption to traffic circulation;
- Routes that construction vehicles would utilize to access the site;
- Hours of construction traffic;
- Off-site vehicle staging and parking areas; and
- Posted information for contact in case of emergency or complaint.

Future Specific Plan Development

MM 3.10-2 As future development projects are proposed within the Specific Plan area mitigation measures to reduce project-level impacts to below a level of significance concurrent with impacts would be identified and implemented. Impacts shall be mitigated to a level of service that is consistent with the Circulation Element of the San Marcos General Plan.

Year 2030 Segment Impact (Main Street between ~~Las Posas~~McMahr and Bent)

MM 3.10-3 Extend Creekside Drive west from Bent Avenue to McMahr Road. This improvement shall be funded on a "fair share" basis by future developers within the Specific Plan area.

3.10.5 Conclusion

The proposed San Marcos Creek Specific Plan development is forecast to generate a net change over the General Plan land uses of approximately 9,792 trips per day, with 1,177 trips occurring in the AM peak hour and 1,087 trips occurring in the PM peak hour.

Development of the project would result in the need to import fill material for levee construction as well as other trips associated with construction deliveries and employees. Due to the already degraded roadway conditions in the project vicinity, this additional traffic has the potential to create a significant short-term impact. Mitigation measure MM-3.10-1, which shall be required as a condition of project approval, would require the preparation of a Construction Management Plan. Preparation and implementation of the Construction Management Plan would reduce this potential impact to below a level of significance.

Due to the uncertainty of the buildout of the Specific Plan area, analysis for the near-term impacts associated with buildout of the Specific Plan was not conducted for the project. It is unknown at what rate the individual development projects within the Specific Plan would come forward. It is also unknown the size and potential trip generation that could occur with the individual projects.

Given that several segments and intersections within the project vicinity currently operate at a degraded level of services, it is likely that development projects coming forward in the future within the Specific Plan area would exacerbate those impacts unless additional roadway and intersection improvements occur. This represents a potentially significant impact. A mitigation measure has been identified (MM 3.10-2) requiring individual projects to prepare a traffic impact analysis and implement mitigation measures to address the interim conditions and allocate the mitigation measures concurrently with the impacts.

The results of the Horizon Year 2030 peak hour intersection analysis with the General Plan land uses show that all of the study intersections are forecast to operate at acceptable levels of service (LOS D or better). Under Horizon Year 2030 conditions with the proposed Specific Plan land uses, all of the study intersections are forecast to operate at acceptable levels of service (LOS D or better).

The results of the Horizon Year 2030 daily roadway segment analysis show that all of the study roadway segments are forecast to operate at acceptable levels of service (LOS D or better) with the General Plan land uses. Under Horizon Year 2030 conditions with the proposed Specific Plan land uses, two roadway segments are forecast to operate at deficient levels of service. The segment of Main Street between ~~Las Posas~~McMahr and Via Vera Cruz, as well as the segment of Main between Via Vera Cruz and Bent would have an unacceptable LOS. Implementation of mitigation measure MM 3.10-3, which would extend Creekside Drive west from Bent Avenue to McMahr, would provide additional roadway for travel and alleviate the deficient capacity on the impacted segments. This would provide an LOS D or better for the segments, thus reducing this impact to below a level of significance.

3.11 UTILITIES AND SERVICE SYSTEMS

Utilities and service systems discussed in this section include water, wastewater, and solid waste services. Additionally, the project would require the temporary relocation of utility lines while roadway improvements are underway during Phase 1 of the project. Stormwater and drainage are discussed in Section 3.6 of the EIR.

3.11.1 Existing Conditions

3.11.1.1 Regulatory Context

Existing policies, laws, and regulations that would apply to the proposed project are summarized below.

Water Supply

Federal Regulations

The Federal Clean Water Act (CWA) establishes regulatory requirements for potable water supplies including raw and treated water quality criteria. The City of San Marcos is required to monitor water quality and conform to regulatory requirements of the CWA.

The Federal Safe Drinking Water Act (SDWA), which was enacted in 1974, gives the United States Environmental Protection Agency (EPA) the authority to set standards for contaminants in drinking water supplies. The SDWA was amended in 1986 and amended and reauthorized in 1996. For each of the 83 contaminants listed in the SDWA, the EPA sets a maximum contaminant level or treatment technique for contaminants in drinking water.

State Rules and Regulations

The State Water Resources Control Board (SWRCB) manages all water rights and water quality issues in California under the terms of the Porter-Cologne Water Quality Control Act (1969). The California Department of Health Services (DHS) has been granted primary enforcement responsibility for the SDWA (see above). Title 22 of the California Administrative Code establishes DHS authority and stipulates drinking water quality and monitoring standards. These standards are equal to or more stringent than the federal standards.

Senate Bill (SB) 610, which took effect January 1, 2002, requires specific information about water availability be presented and considered by land use agencies during the processing of certain land use entitlement applications. SB 610 applies to projects that include more than 500 residential units. SB 610 refers to numerous details that must be addressed in the water supply assessment, which are described in portions of the amended Water Code §10910:

> (d)(1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system…under the existing water supply entitlements, water rights, or water service contracts.

> (2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system […] shall be demonstrated by providing information related to all of the following: (A) Written contracts or other proof of entitlement to an identified water supply. (B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system. (C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply. (D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.
>
> (e) If no water has been received in prior years by the public water system […] under the existing water supply entitlements, water rights, or water service contracts, the public water system […] shall also include in its water supply assessment […] an identification of the other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water…

If the water agency relies upon water supplies not then available to it, then the written verification must be based on the following elements, to the extent each is applicable:

> (1) Written contracts or other proof of valid rights to the identified water supply that identify the terms and conditions under which the water will be available to serve the proposed subdivision.
>
> (2) Copies of a capital outlay program for financing the delivery of a sufficient water supply that has been adopted by the applicable governing body.
>
> (3) Securing of applicable federal, state, or local permits for construction of necessary infrastructure associated with supplying a sufficient water supply.
>
> (4) Any necessary regulatory approvals that are required in order to be able to convey or deliver sufficient water supply to the subdivision.

The water agency's written verification must also "include a description, to the extent that data is reasonably available based on published records maintained by federal and state agencies, and public records of local agencies, of the reasonably foreseeable impacts of the proposed subdivision on the availability of water resources for agricultural and industrial uses within the public water system's service area that are not currently receiving water from the public water system but are utilizing the same sources of water."

Water

City of San Marcos General Plan – Conservation Element

In addition to federal and state regulations, the City of San Marcos General Plan Conservation Element identifies the following goals and implementing strategies regarding water supply that are applicable to the proposed project:

- Goal 7: Policy 14: Manage and conserve domestic water resources by minimizing water usage and waste, in order to ensure an adequate water supply for existing and future residents.
- Implementing Strategy 14.1: Require the use of drought-tolerant plants for landscaping and the use of reclaimed water for irrigation where feasible.
- Implementing Strategy 14.2: Require residential, commercial, manufacturing and public projects with common green areas to install automatic irrigation systems.
- Implementing Strategy 14.3: Require drip irrigation where feasible.

Wastewater

City of San Marcos General Plan – Conservation Element

The City of San Marcos General Plan Conservation Element identifies the following goals and implementing strategies regarding wastewater that are applicable to the proposed project:

- Goal 7: Policy 15: Ensure an adequate wastewater system for existing and future development.
- Implementing Strategy 15.1: Phase construction of sewer and storm drainage improvements as a condition of new development to maintain adequate service standards.
- Implementing Strategy 15.2: Approve only those sewage distribution, treatment, and export expansion alternatives which are cost and energy efficient and do not create a health hazard.
- Implementing Strategy 15.3: Require wastewater to be recycled and used for irrigation of open space and recreational and agricultural areas to the maximum extent possible.
- Implementing Strategy 15.4: Cooperate with neighboring jurisdictions in evaluating the costs and benefits of a full range of alternatives for sewer treatment.

Solid Waste

State Rules and Regulations

The Integrated Waste Management Act of 1989 (AB 939) requires each city, county, city and county, and regional agency to develop a source reduction and recycling element of an integrated waste management plan containing specified components. On and after January 1, 2000, the element is required to divert 50 percent of the solid waste subject to the element, except as specified, through source reduction, recycling, and composting activities. It also mandates that all cities and counties in California divert 75 percent of solid waste from landfills by 2010.

Additionally, new legislation signed into law on September 29, 2004 (AB 2176) prohibits local agencies from issuing building permits to a development project unless the development project provides adequate areas for collecting and loading recyclable materials.

3.11.1.2 Existing Resources

Water Service

Vallecitos Water District (VWD) is located in the northwestern part of San Diego County, and situated about 10 miles from the Pacific Ocean, about 30 miles north of San Diego, and about 100 miles south of Los Angeles. It covers a 45-square-mile area including San Marcos, parts of Escondido, Vista, and Carlsbad and the surrounding unincorporated areas. VWD is an independent special district created and governed by five representatives voted into office by the local citizens, and dedicated solely to water, wastewater, and reclamation services. The ~~majority~~entire ~~of the proposed~~ project is located within the ~~District's~~ VWD's water boundary.~~service area.~~

Initially, water deliveries from the San Diego County Water Authority (SDCWA) to VWD were handled through the Buena Colorado Municipal Water District. In 1981, VWD joined the Water Authority. While the District began with just a few thousand customers in 1955, it has grown to over 81,000 today.

VWD currently imports 100 percent of its potable water supply from SDCWA. VWD is a member agency of SDCWA, and SDCWA is a member agency of the Metropolitan Water District (MWD). VWD imports its potable water through the SDCWA aqueduct. To provide some local supply reliability, VWD has exchange agreements with Carlsbad Municipal Water District, Rincon del Diablo Municipal Water District, Olivenhain Municipal Water District, and Vista Irrigation District. VWD reclaims approximately 2 million gallons per day (MGD), which is sold to the City of Carlsbad for landscape irrigation. An expansion of the recycled water program is underway that will result in an increase of total deliveries to 5 MGD. Upon completion of the current expansion of the existing Meadowlark Wastewater Facility, VWD will sell up to 3 MGD of recycled water to the City of Carlsbad and up to 1.5 MGD to the Olivenhain Water District.

In accordance with the California Urban Water Management Planning Act, VWD's Board of Directors adopted an Urban Water Management Plan (UWMP) in 2005 that was subsequently submitted to the California Department of Water Resources. The UWMP includes projected water supplies required to meet future demand through 2030 under normal conditions, single year dry conditions and multi-year dry conditions.

A Water Supply Assessment (WSA) was prepared for the project pursuant to SB 610 (Kennedy/Jenks 2007). The report describes existing and planned water supply and demand. The WSA also documents VWD's ability to meet existing and planned future demands over a 20 year period. According to the WSA, VWD serves a total of about 19,200 active meters and with an annual demand of 17,200 acre feet per year as of January 2007. Existing supply is currently approximately 19,745 acre feet per year under multi-year dry conditions.

Wastewater Service

In addition to providing water services, VWD also provides wastewater and reclamation services. The majority of the project site is within VWD's sewer boundary. VWD has an average daily flow of approximately 7.5 mgd of wastewater. Most of this wastewater travels through an outfall line to the Encina ~~Water Pollution Control Facility~~Wastewater Authority, a regional plant on the coast in

Carlsbad, where the treated water is released into the ocean a half mile off the coast. The Encina ~~Water Pollution Control Facility~~Wastewater Authority, has a treatment capacity of approximately 36 MGD with a solids handling capacity of 38 MGD. VWD currently has a capacity of 7.54 GD at the facility~~mgd~~. The rest of the wastewater generated by VWD is sent to VWD's own Meadowlark Water Reclamation Facility, which has a capacity of approximately 2.25 mgd and produces up to 2 mgd of clean and odorless reclaimed water. Reclaimed water is safe for many uses except drinking. This water is sold to the City of Carlsbad for municipal irrigation and local resort golf courses.

Solid Waste

Solid waste disposal in the City is provided by a private franchise hauler, EDCO Waste and Recycling (EDCO). EDCO handles all residential, commercial, and industrial collections within the City. Waste collected by EDCO is hauled to the Escondido Resource Recovery Transfer Station where it is then transported to the Sycamore Sanitary Landfill in Santee. The Escondido Transfer Station has a daily capacity of 2,500 tons (EDCO 2007). The Sycamore Sanitary Landfill has a daily permitted capacity of 3,965 tons/day of solid waste (CIWMB 2007), with an anticipated closure date of 2031. Currently, daily throughput at the Sycamore Sanitary Landfill is 2,800 tons/day (City of San Diego 2007).

3.11.2 Thresholds of Significance

Water

According to *California Environmental Quality Act (CEQA) Guidelines* Appendix G (XVI), a significant impact on water supply would be identified if the proposed project is determined to result in one of the following:

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements.

Wastewater

According to *CEQA Guidelines* Appendix G (XVI), a significant impact on wastewater utilities would be identified if the proposed project is determined to result in one of the following:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB);
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- ~~Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or~~

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Solid Waste

According to *CEQA Guidelines* Appendix G (XVI), a significant impact to solid waste services would be identified if the proposed project is determined to result in the following:

- The project area is unable to be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.
- Project development does not comply with federal, state, and local statutes and regulations related to solid waste.

3.11.3 Project Impacts

Water Service

Water Infrastructure

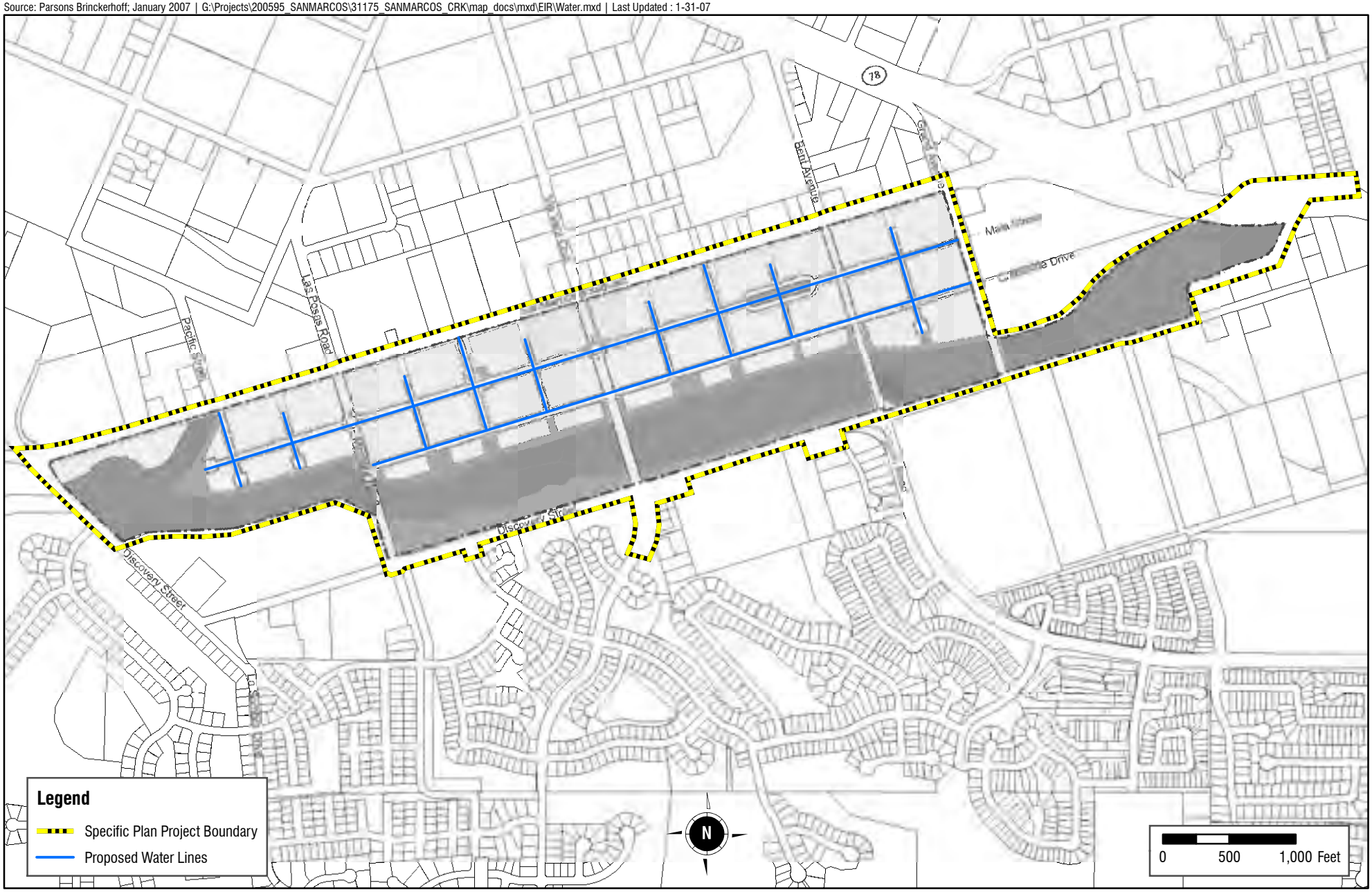
Figure 3.11-1 depicts the location and types of the proposed water system facilities for the proposed project. Domestic water service and fire protection would be supplied by water mains and fire hydrants constructed to VWD standards within the project streets. Water supply would be provided to the development a 12-inch water line under Creekside Road. Laterals proposed under McMahr Road, Via Vera Cruz, and Bent Road would expand the water infrastructure into the proposed mixed-use development area. Water lines and connections would be installed in accordance with the requirements and specifications of the City and VWD to ensure that less than significant impacts would result from the installation of water lines and utility improvements required to ~~serve raw and~~ provide potable water to the proposed project. The location of the water infrastructure improvements (within the project site) to serve the project has been included as part of the overall project footprint which is analyzed in this Environmental Impact Report (EIR). No additional environmental impact associated with this infrastructure is identified. There is a potential that additional off-site water infrastructure may be required to serve the project. However, the extent of these potential off-site improvements is not known at this time. This represents a significant impact.

Water Supply

Phase 2 development of the project, which includes buildout of the Specific Plan, will result in an increase in the need for potable water compared to the current condition. Residential, commercial/office, residential, parks, open space and right-of-way landscaping will increase demand on supplies from VWD.

Table 3.11-1 summarizes the project's expected water demand at buildout. According to the WSA (Appendix H) and as seen in Table 3.11-1, the proposed project is anticipated to have a total water demand of 428,930 gallons per day (494.7 acre feet per year) at buildout. It should be noted that buildout of the Specific Plan is expected to occur over a 20-year period. Due to the uncertainty at the rate of buildout over the next 20 years, interim water demand calculations are not provided.

Source: Parsons Brinckerhoff; January 2007 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\Water.mxd | Last Updated : 1-31-07



Conceptual Water Plan

FIGURE 3.11-1

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Table 3.11-1. Project Water Demands

Land Use Designation	Acres	Units	Water Duty Factor (GPD/ac)	Average Water Demand (GPD)
Retail	29	1,265,000 sf	1,700	49,300
Commercial/Office	13.5	589,000 sf	2,000	27,000
Multi-Family (more than 30 du/ac)	63.4	2,300 du	4,700	297,980
Parks/Golf Courses	20.1	--	1,700	34,170
Open Space	112.3	--	200	22,460
Right-of-Way	53.5	--	200	10,700
TOTAL	270			428,930

Source: Kennedy/Jenks 2007.

Current district-wide demand is approximately 17,200 acre feet per year with a supply of approximately 19,745 acre feet per year under multi-year dry conditions.

The additional project demand of 494.7 acre feet per year (an increase of 2 percent over existing demand) can be accommodated by existing VWD supply. VWD has sufficient water supplies available to meet projected water demands for the proposed project.

Future water demand is also addressed by VWD projections for water usage and supply in the WSA. These projections take into account population growth and changing trends in increased development. According to the WSA, VWD anticipates the district would use 28,781 acre feet annually under normal conditions, 30,652 acre feet annually under single dry year conditions, and 23,739 acre feet annually under multi-year dry conditions by the year 2030.[1] In addition, the WSA projects 22,903 acre feet per year of water supply would be available in 2030 under normal conditions, 24,413 acre feet per year under single dry year conditions, and 23,739 acre feet per year under multi-year dry conditions. Therefore, water supply is adequate under multi-year dry conditions. Conservation savings would make an additional 5,878 acre feet per year available under normal conditions and 6,239 acre feet per year available under single dry year conditions. With incorporation of these conservation savings, VWD would have an adequate water supply to meet future demands.[2]

The acquisition of future water supplies is detailed in the VWD Urban Water Management Plan (2005). This plan details projected supply and demand for water through the year 2030 and indicates that SDCWA anticipates meeting all future demands of member agencies, including VWD, under normal, single and multiple dry year scenarios.

[1] Multi-year dry condition projections are for 2028.

[2] Conservation strategies identified in the VWD 2005 UWMP include water survey programs, residential plumbing retrofits, system water audits, metering with commodity rates, large landscape conservation programs, high-efficiency washing machine rebate program, public information, school education, conservation programs for customers, wholesale agency programs, conservation pricing, provision of a water conservation coordinator and water waste prohibitions.

SDCWA, in its 2004 Annual Water Supply Report, provides information regarding its water supplies, implementation of plans, and programs to meet the future water supply requirements of its member agencies. The report summarizes existing and planned water supplies being developed by SDCWA, imported water supplies from MWD, and identifies a diverse mix of resources to meet the demand generated in addition to potential risks that may constrain available supplies. The report concludes with a discussion on securing reliable sources to handle future demand.

MWD's 2003 Water Supply Report assures availability of future supply for its member agencies, including SDCWA. The purpose of the 2003 report is to document the availability of existing supplies and additional supplies necessary to meet future demands. The report states the approach to evaluating water supplies and demands in consistent with MWD's 2000 Regional Urban Water Management Plan.

In summary, MWD provides documentation on water supply reliability for SDCWA, which in turn assures the availability of future supplies for VWD.

Wastewater Service

Wastewater Infrastructure

Sewer services for the proposed project would also be provided by VWD. Figure 3.11-2 depicts the location of wastewater facilities for the proposed project. The project site is located within the boundaries of the VWD for sewer service and part of Improvement Districts 1, 2, and 6. An 8-inch sewer line is proposed under Creekside Road with 6- to 8-inch laterals proposed under the street grid to expand the sewer infrastructure into the proposed mixed-use development area. ~~(VWD 2006).~~ The location of the wastewater infrastructure improvements (within the project area) to serve the project has been included as part of the overall project footprint which is analyzed in this EIR. No additional environmental impact associated with this infrastructure is identified.

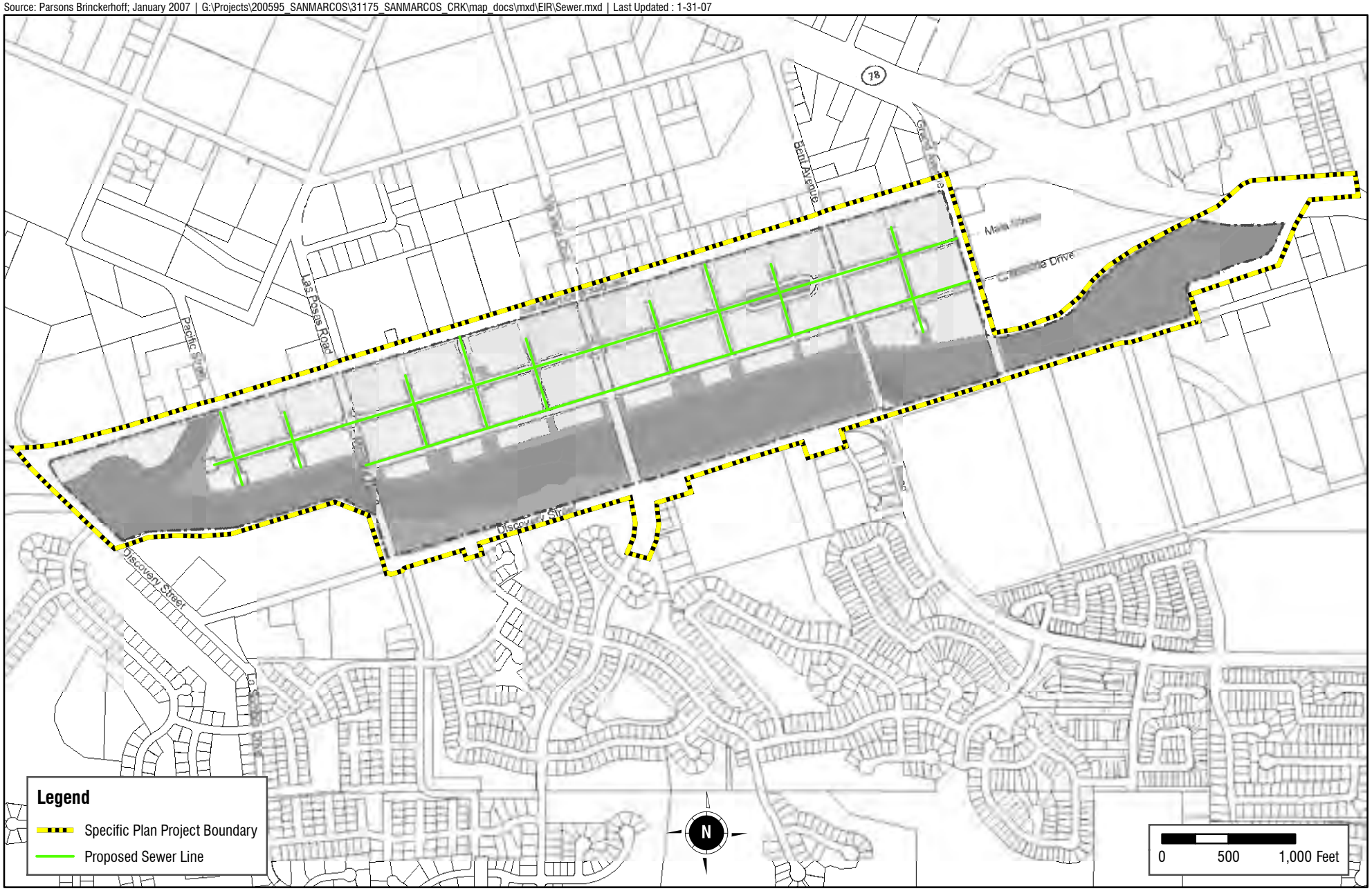
In 2001, the Vallecitos Water District approved replacement of the San Marcos sewer interceptor. A portion of the alignment for the interceptor falls within the proposed project site. To date, VWD has not initiated the interceptor replacement. When the alignment approved in 2001 is reviewed in light of the proposed project, it may be beneficial for VWD to modify the alignment of the interceptor and conduct the replacement concurrent with development of the project. Since the proposed VWD alignment falls within the footprint of disturbance analyzed in the EIR, no additional environmental impact associated with the interceptor alignment is identified.

There is a potential that off-site wastewater infrastructure improvement may be required to serve the project. However, the extent of these potential off-site improvements is not known at this time. This represents a significant impact.

Wastewater Service Demand

Phase 2 development of the project, which includes buildout of the Specific Plan, will result in an increase in the need for wastewater services compared to the current condition. Residential, commercial/office, and residential uses will increase demand for wastewater services from VWD. Buildout of the Specific Plan is expected to occur over a 20-year period.

Source: Parsons Brinckerhoff; January 2007 | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\map_docs\mxd\EIR\Sewer.mxd | Last Updated : 1-31-07



Conceptual Sewer Plan

FIGURE 3.11-2

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As identified above, VWD has an average daily flow of approximately 7.5 mgd of wastewater. VWD has indicated that the project is estimated to generate approximately 600,000 gallons per day (gpd) of wastewater in addition to current flow (~~J. Gumpel~~VWD 2007a). The wastewater generated by the project would need to be accommodated within the future San Marcos interceptor alignment. VWD has indicated that wastewater flows from the project would have a significant impact to the adjacent downstream sewer collection and conveyance system as well as treatment facilities. Upgrades to the existing collection and conveyance systems would be required. This may include the purchase or construction of additional treatment and disposal capacity. In addition, the project would have an impact on the existing Land Outfall and proposed sewer flow equalization projects identified in the VWD 2002 Master Plan (VWD 2007b).~~VWD also indicated that the wastewater generated by the project would also require additional capacity for the land outfall at the Encina treatment plant. VWD has indicated that capacity increase at the Encina treatment plant is planned in the future. However, the wastewater generated by the project would require this upgrade to occur at an earlier date.~~ This represents a significant impact.

Solid Waste

The California Integrated Waste Management Board (CIWMB) provides solid waste generation rates for various types of land uses. Table 3.11-2, Projected Generated Solid Waste, summarizes the projected solid waste to be generated by the proposed project. The proposed project is anticipated to produce 10,455.2 tons/year of waste, or 28.6 tons/day. This does not represent any waste diversion through recycling. According to the CIWMB, the City of San Marcos has a diversion rate of 52 percent overall (CIWMB 2004).[3] Therefore, the actual solid waste going to the landfill is expected to be less than 13.8 tons/day.

Table 3.11-2. Projected Generated Solid Waste

Land Use	Generation Rate	Units/SF* Proposed	Total Volume
Residential	0.46 ton/year/DU	2,300 units	1,058 tons/year
Commercial (Retail)	0.0024 ton/SF/year	1,265,000 SF	3,036 tons/year
Office	0.0108 ton/SF/year	589,000 SF	6,361.2 tons/year
TOTAL			10,455.2 tons/year(1)

Note: (1) Assuming a 52% diversion rate, the project would generation approximately 5,019 tons/year or 13.75 tons/day.
*SF = square feet

The Sycamore Sanitary Landfill has a daily permitted capacity of 3,965 tons/day of solid waste (CIWMB 2007), with an anticipated closure date of 2031. Currently, 2,800 tons/day of waste enter the landfill (City of San Diego 2007). Solid waste generated by the proposed project would be approximately 10,455 tons/year or 28.6 tons/day assuming no diversion. However, as identified above, diversion rates for the City of San Marcos are approximately 52 percent. With consideration of the diversion rate, the project would generate approximately 5,019 tons/year or 13.8 tons/day. This represents approximately 0.3 percent of the daily permitted capacity. Correspondence from EDCO (2007) has indicated that both the Escondido Transfer Station and the Sycamore Sanitary Landfill

[3] The City's diversion rate for 2005 was reported to be 53 percent; however, this rate has yet to be approved by the CIWMB. Rates for 2006 and 2007 have yet to be reported.

have adequate capacity to accommodate waste generated by the project. Therefore, the project will have a less than significant impact on landfill capacity.

Dry Utility Improvements

As part of the project, existing above-ground utility lines along Bent Avenue, Via Vera Cruz, McMahr Road and a portion of Discovery Street would be undergrounded. Interim temporary relocation of the lines would be required while roadway improvements are underway during Phase 1 of the project. This relocation would occur adjacent to the existing alignment, but outside of the road right-of-way. Ultimately, the lines would be undergrounded. The EIR has considered the potential impact associated with the temporary relocation. The temporary construction impacts associated with circulation network improvements at Bent Avenue, Via Vera Cruz, and McMahr Road are considered through the assumption of a 50-foot construction buffer. Interim temporary relocation of the lines would occur within that construction buffer. Therefore, any impacts due to utility relocation are considered in this EIR.

SR-78 Hydraulic Improvement Area

The improvements associated with the bridge construction at SR-78 would not be characterized as generating a need for additional utilities or service systems. This portion of the project involves increasing the hydraulic capacity of the culvert at SR-78 as part of the overall floodway improvement project. Therefore, no impact is identified for this issue area.

3.11.3.1 General Plan Consistency

Table 3.11-3 summarizes the project's consistency with the applicable goals, policies, and implementing strategies of the Conservation Element of the City of San Marcos General Plan. As shown in Table 3.11-3, the project is consistent with the Conservation Element of the City of San Marcos General Plan.

3.11.4 Mitigation Measures

MM 3.11-1 Future development within the Specific Plan (Phase 2) shall not occur until the VWD San Marcos Interceptor project has been completed. Additionally, Water and Sewer Studies shall be prepared to the satisfaction of VWD and shall identify the needed infrastructure needed to support Phase 2 development of the project. Future developers within the Specific Plan area shall be responsible for the payment of fair share fees for the necessary water and sewer infrastructure upgrades. Additional environmental review shall be required for any off-site improvements. Additionally, prior to the issuance of building permits for Phase 2 development, the Water Supply Assessment shall be revised by Vallecitos Water District.
~~as each development project in the Specific Plan area comes forward, project review by VWD shall be required to ensure there is adequate capacity in the VWD infrastructure to accommodate the wastewater generated by these projects. Future project applicants shall participate in a funding mechanism to ensure that adequate infrastructure is in place. The terms of the funding mechanism shall be determined by VWD.~~

Table 3.11-3. Project Consistency with Applicable Utilities and Service System Goals and Policies (City of San Marcos General Plan)

Goal, Policy, or Implementing Strategy	Project Consistency
Goal 7: Policy 14: Manage and conserve domestic water resources by minimizing water usage and waste, in order to ensure an adequate water supply for existing and future residents.	As identified in Section 3.11.3, VWD includes conservation strategies to reduce water usage. In addition, the Specific Plan Community Design chapter indicates that water features should be designed to use minimal amounts of water that will be re-circulated. Further, as a project which proposes multi-family instead of single-family uses, residential landscaping will be greatly minimized, thus reducing water usage. Therefore, the project is consistent with this policy.
Implementing Strategy 14.1: Require the use of drought-tolerant plants for landscaping and the use of reclaimed water for irrigation where feasible.	According to the Specific Plan Community Design chapter, landscaping, which would consist of street trees and accent planting, should be drought-tolerant and require minimal irrigation. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 14.2: Require residential, commercial, manufacturing and public projects with common green areas to install automatic irrigation systems.	Park and landscaping areas within the project will include automatic irrigation systems. Therefore the project is consistent with this implementing strategy.
Implementing Strategy 14.3: Require drip irrigation where feasible.	Park and landscaping areas will use drip irrigation where feasible. Therefore the project is consistent with this implementing strategy.
Goal 7: Policy 15: Ensure an adequate wastewater system for existing and future development.	As identified above, wastewater infrastructure improvements are included as part of the proposed project. Prior to issuance of any building permits for Phase 2 of the project, the City shall coordinate with VWD for the preparation of a Sewer Study. The Sewer Study will identify any additional requirements for the provision of wastewater service. Please see Mitigation Measure MM 3.11.-1. ~~As the provider of wastewater services, it is the responsibility of VWD to ensure that there is an adequate wastewater system for existing and future development. As specific development projects come forward within the Specific Plan area, they would pay applicable fees to VWD. Therefore, the project is consistent with this policy.~~
Implementing Strategy 15.1: Phase construction of sewer and storm drainage improvements as a condition of new development to maintain adequate service standards.	See response to Policy 15, above. Construction of wastewater and drainage infrastructure improvements are included as part of project design. ~~Potential impacts to wastewater service are reduced with incorporation of mitigation measure MM 3.11-1.~~ A project-specific Sewer Study, as noted in Mitigation Measure 3.11-1, will be required prior to issuance of any grading permits for Phase 2 development. Adequate service standards will be maintained. Therefore, the project is consistent with this implementing strategy.
Implementing Strategy 15.2: Approve only those sewage distribution, treatment, and export expansion alternatives which are cost and energy efficient and do not create a health hazard.	The future replacement of the San Marcos sewer interceptor alignment and expansion of capacity at the Encina treatment plant is required prior to buildout of the proposed project. This infrastructure replacement and expansion will undergo separate environmental review by VWD to ensure these actions are consistent with Implementing Strategy 15.2. The expansion of the plant is not part of this project.

Goal, Policy, or Implementing Strategy	Project Consistency
Implementing Strategy 15.3: Require wastewater to be recycled and used for irrigation of open space and recreational and agricultural areas to the maximum extent possible.	Infrastructure is not currently in place in the project vicinity for recycled water. Therefore, it is not possible for recycled water to be used on the project site. ~~However, VWD does reclaim water, which is sells to Carlsbad for use in landscape irrigation. Further, VWD is expanding their reclamation facility to provide more recycled water. The project is not inconsistent with this implementing strategy.~~

3.11.5 Conclusion

Development of the project, particularly buildout of the Specific Plan as part of Phase 2, would result in an incremental increase in the need for water and wastewater services, and solid waste services. The analysis in this chapter concluded that impacts to ~~these service providers~~ solid waste services would be less than significant~~, with the exception of wastewater.~~ Water and wastewater impacts would be potentially significant, as improvements to off-site infrastructure may be required to serve Phase 2 of the project. Mitigation measure MM 3.11-1 requires that water and sewer studies be prepared for Phase 2 of the project. The preparation of these reports would provide the project-level clearance for future development within the Specific Plan area. In the event that these water and sewer studies identify the need for off-site infrastructure improvements, those improvements would need to occur prior to issuance of building permits for Phase 2 projects. Subsequent environmental review would be required for any infrastructure improvements that are not included in this environmental document or other environmental documents. Additionally, prior to issuance of building permits for Phase 2 of the project, the water supply assessment of the project shall be refined to reflect final development within the Specific Plan area. Implementation of mitigation measures MM 3.11-1 will reduce the potential water and wastewater impacts to below a level of significance.

~~The wastewater generated by the project would require upsizing of the San Marcos interceptor by VWD, as well as expansion of the outfall at the Encina treatment plant to occur at an earlier time than anticipated by VWD. Mitigation measure MM 3.11-1, which requires completion of the San Marcos Interceptor by VWD prior to development within the Specific Plan area, as well as further coordination with VWD by future project applicants. Implementation of this mitigation measure would reduce the impact to wastewater services to below a level of significance.~~

4.0 ALTERNATIVES

4.1 INTRODUCTION

Section 15126.6 of the *California Environmental Quality Act (CEQA) Guidelines* states that the Environmental Impact Report (EIR) shall "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The range of alternatives evaluated in an EIR is governed by the "rule of reason" that requires the EIR set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative [Section 15126.6(a) of the *CEQA Guidelines*].

In developing the alternatives to be addressed in this EIR, the potential alternatives were evaluated in terms of their ability to meet the basic objectives of the project, while reducing or avoiding the environmental impacts of the project identified in Section 3.0, Environmental Analysis, of the EIR. As discussed in Section 2.0, Project Description and Project Setting, project objectives are as follows:

- Provide flood control by containing the 100-year flood.
- Implement the City's Circulation Element by completing circulation linkages through the project area.
- Protect project area and downstream water quality through biofiltration and management of sediment transport.
- Protect the biological resources in San Marcos Creek through habitat creation and restoration
- Develop a "24-hour" mixed use neighborhood including residential, retail, and office uses.
- Establish a distinct, regionally identifiable "downtown."
- Establish a "walkable," pedestrian-friendly district.
- Ensure that the project is economically viable and can fund supporting public infrastructure.
- Enhance the public experience with San Marcos Creek through passive recreation opportunities.

Based on the results of the environmental impact analysis contained in Section 3.0, Environmental Analysis, alternatives were identified and evaluated on the basis of their ability to eliminate or substantially reduce significant impacts associated with the following issues:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality

- Land Use
- Noise
- Public Services
- Transportation and Traffic
- Utilities and Service Systems

Based on these parameters, the alternatives analysis discusses the following:

- No Project/No Development (Section 4.1);
- No Project/Existing General Plan Alternative (Section 4.2);
- Via Vera Cruz Bridge Alternative (Section 4.3); and
- Reduced Density Alternative (Section 4.4).

4.2 ALTERNATIVES CONSIDERED BUT REJECTED

The proposed design of the floodway improvement portion of the project represents a number of redesigns to minimize impacts to biological resources. Earlier designs included the placement of up to 9.5 acres of riprap in the creek immediately south of the State Route (SR) 78 culvert (Figure 4.2-1). Later redesign reduced the amount of riprap in the area to 5 acre (Figure 4.2-2). The current project design eliminates all the riprap within that area, thus reducing the amount of the creek that is permanently impacted.

An alternative location for the project was not considered in the EIR, as the floodway improvements are location-specific. Improvements are needed along this specific stretch of creek in order to alleviate flooding on area roadways during large storm events. Therefore, an alternative location for the floodway component of the project was not analyzed.

4.3 EVALUATION OF ALTERNATIVES

4.3.1 No Project/No Development

Under the No Project/No Development alternative, the project site would remain it its existing condition. No further development would occur under either the General Plan or the proposed Specific Plan. Additionally, no floodway or infrastructure improvements would be developed.

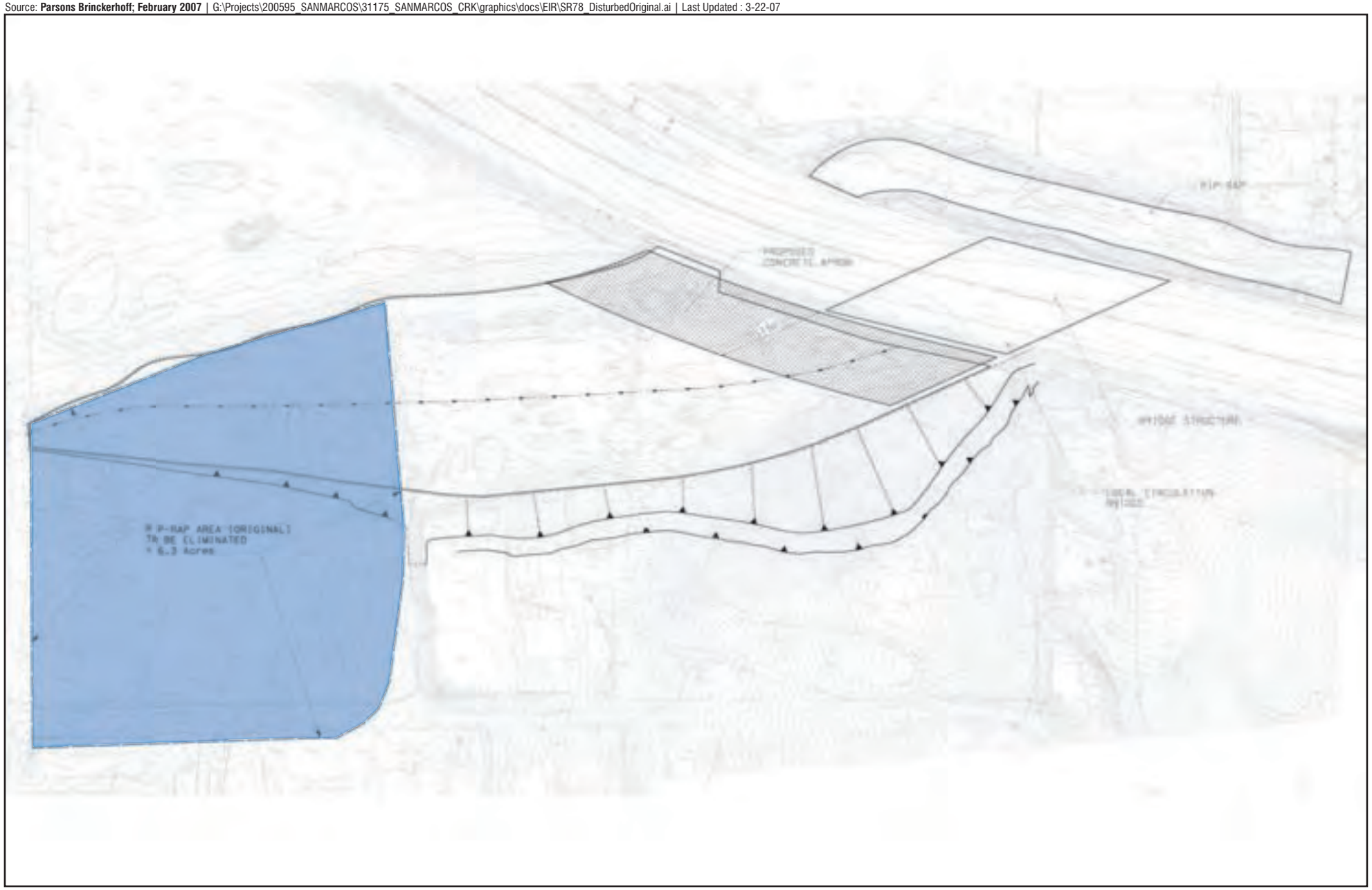
Aesthetics

Under this alternative, the project site would remain in its present conditions, as described in Section 3.1 of the Draft EIR. No changes to the existing visual environment would occur under this alternative.

Air Quality

Under the No Project/No Development Alternative, the project site would remain in its existing condition. Air quality emissions generated by project construction and operational activities would not be created under this alternative. The significant impact emissions related to project construction

Source: **Parsons Brinckerhoff; February 2007** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\SR78_DisturbedOriginal.ai | Last Updated : 3-22-07



Rip Rap Scenario

FIGURE 4.2-1

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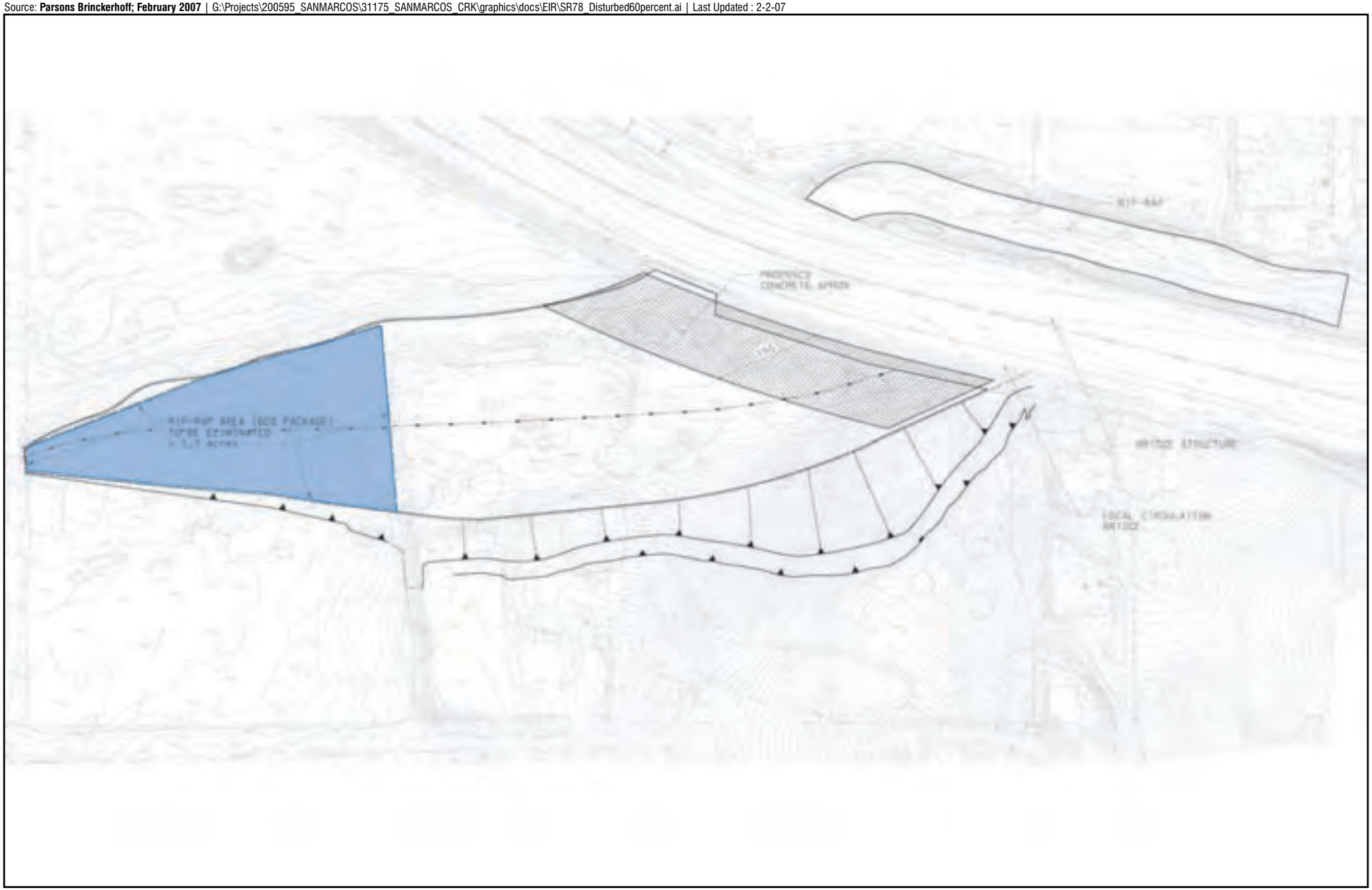
Source: **Parsons Brinckerhoff; February 2007** | G:\Projects\200595_SANMARCOS\31175_SANMARCOS_CRK\graphics\docs\EIR\SR78_Disturbed60percent.ai | Last Updated : 2-2-07



Reduced Rip Rap Scenario

FIGURE 4.2-2

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(respirable particulates [PM_{10}], nitrogen oxides [NO_x], and reactive organic gases [ROG]) would be eliminated. Additionally, the significant and unmitigated air quality impacts related to vehicular emissions (PM_{10}, NO_x and ROG) would also be eliminated under this alternative. Therefore, this alternative would reduce vehicular air emissions, and thereby reduce impacts compared to the project.

Compared to the project, this alternative would not develop infrastructure that would enhance the opportunity for pedestrian, bicycle and other types of alternative transportation.

Biological Resources

Biological resources on the project site would remain in their present condition. This alternative would eliminate all impacts to biological resources identified for the project, as no floodway improvements, infrastructure improvements, or development within the Specific Plan area would occur. Specifically, this alternative would eliminate the impact to wetland habitats, upland habitats, sensitive plant species, as well as indirect biological resource impacts. Compared to the project, this represents a reduction of impacts.

Cultural and Paleontological Resources

Under this alternative, the project site would stay in its existing conditions. CA-SDI-17423, a light to moderate density scatter of metavolcanic and quartz debitage, would not be impacted under this alternative. Additionally, the significant impact related to the removal of the house at 918 Discovery Street would not occur under this alternative. While this alternative does not afford any specific protection to the archaeological and historical resources on the site, it would eliminate the significant impacts associated with CA-SDI-17423 and the structure at 918 Discovery Street. Impacts to cultural resources under this alternative would be less than significant. Compared to the project, this alternative would reduce the impact to cultural resources.

With regard to paleontological resources, this alternative would eliminate the potentially significant impact associated with discovery of unknown paleontological resources. Compared to the project, this represents a reduction in impacts.

Hazards and Hazardous Materials

Under the No Project/No Development alternative the potentially significant hazards impacts identified for the project would be reduced to below a level of significance. These include impacts related to the transport, use or disposal of hazardous materials, underground storage tanks, and the potential for asbestos-containing materials and lead-based paints. Compared to the project, this represents a reduction in impacts.

Hydrology and Water Quality

The No Project/No Development Alternative would keep the project site in its current condition. Under this alternative, the San Marcos Creek floodway would not be improved, and levee and floodwall features would not be constructed. The San Marcos Creek 100-year floodplain would stay in its present condition, as shown in Figure 3.6-1. Under this alternative, the creek would overflow

during 100-year storm events and circulation in the project vicinity would be constrained even under reduced storm events. Therefore, this alternative would not realize the beneficial aspects of the project related to flood control.

Potential impacts to water quality associated with project construction would not occur under this alternative. However, this alternative would not realize the benefit of treatment of project runoff prior to entrance to San Marcos Creek.

Noise

Under the No Project/No Development Alternative, the project site would remain in its existing condition. Noise generated by project construction and operation would not be realized under this alternative. The significant impact related to noise future residential development due to traffic noise from San Marcos Boulevard would be eliminated. Therefore, noise impacts under this alternative would not be significant and would be less than the impact identified for the project.

Public Services

Under the No Project/No Development Alternative, there would not be an increase on the demand of public services. Since future residential, office, and retail uses would not be developed, there would not be an increase in the need for fire protection services, police protection services, library services or school services. Therefore, there would not be an impact to these services. Compared to the project, this represents a reduction in impact. However, it should be noted that this alternative would not receive the benefit of improved circulation flow through the project site due to roadway and floodway improvements. Therefore, enhanced response by emergency services would not be realized.

Land Use

Under this alternative, a General Plan Amendment (Land Use and Circulation Elements) and Rezone would not be required. Compared to the project, this represents a reduction in impacts. However, this alternative would not realize any future development on the project site. This represents a potential conflict with the City's General Plan, as future development is planned within the project area.

Traffic

Under this alternative, no additional traffic would be generated, as no new development would occur. Therefore, the short term construction impacts identified for the project would not occur. Additionally, the significant roadway impact identified for the project would be eliminated. Therefore, compared to the project, this represents an elimination of additional trip generation and a reduction of impacts compared to the project.

It should be noted that under this alternative, the circulation network improvements within the project area would not occur, including the construction of two bridges across San Marcos Creek within the project area. This means that during large storm events where flooding of current roadways occur, circulation within the project site and vicinity would remain constrained.

Utilities and Service Systems

Under the No Project/No Development Alternative, there would not be an increase on the demand of utilities and services. Since future residential, office, and retail uses would not be developed, there would not be an increase in the need for water, wastewater and solid waste services. Compared to the project, this represents a reduction in impact.

Conclusion

Compared to the project, this alternative would reduce the aesthetics, air quality, biological resources, cultural resources, hazards, noise, traffic (as it relates to restricted traffic movement during large storm events) and utility system impact identified for the project. However, this alternative would not realize the hydrology, emergency response, and traffic circulation improvements identified for the project. This impact is related to the fact that the floodway improvements would not be implemented and flooding would occur during large storm events.

This alternative does not meet the majority of the project objectives, as detailed in the Table 4.3-1.

Table 4.3-1. No Project/No Development Alternative Consistency with Project Objectives

Project Objective	Consistency of Alternative
Provide flood control by containing the 100-year flood.	This alternative would not include the development of the floodway improvements. Therefore flood control to contain a 100-year flood would not be provided. Therefore, this alternative does not meet the project objective.
Implement the City's Circulation Element by completing circulation linkages through the project area.	No development would occur under this alternative. Therefore, construction of Circulation Element roadways would not within the project area would not be constructed. Therefore, this alternative does not meet the project objective.
Protect project area and downstream water quality through biofiltration and management of sediment transport.	This alternative would not include any biofiltration systems or management of sediment transport. However, under this alternative, there would not be an increase in water quality degradation, nor would there be an increase in sediment transport. Therefore, this objective is not relevant to this alternative.
Protect the biological resources in San Marcos Creek through habitat creation and restoration	This alternative would not include a habitat creation or restoration component. However, this alternative would also avoid the impact to direct permanent and direct temporary impacts identified for the project.
Develop a "24-hour" mixed use neighborhood including residential, retail, and office uses.	No development would occur under this alternative. Uses within the project area would stay as they currently are. Uses within the project area include residential and retail uses; however, there are currently no office uses within the project footprint. Further, the current development within the project area would not be characterized as a vertical mixed use neighborhood. Therefore, this alternative does not meet the project objective.
Establish a distinct, regionally identifiable "downtown."	No development would occur under this alternative. Therefore, a distinct, regionally identifiable "downtown" would not be developed under this alternative. Therefore, this alternative does not meet the project objective.
Establish a "walkable," pedestrian-friendly district.	No additional development would occur under this alternative. Therefore, the project area would remain in its current condition. It would not be characterized a particularly "walkable" or "pedestrian friendly", as it does not have wide sidewalks or a street grid in place. Therefore, this alternative does not meet the project objective.
Ensure that the project is economically viable and can fund supporting public infrastructure.	Under this alternative, a project would not be developed. Therefore, no supporting infrastructure would be needed. It should be noted that upgrades to existing infrastructure would not occur under this alternative.
Enhance the public experience with San Marcos Creek through passive recreation opportunities.	This alternative would not enhance the public experience with San Marcos Creek. No recreational opportunities would be developed under this alternative. Therefore, this alternative does not meet the project objective.

4.3.2 No Project/Existing General Plan

Under the No Project/Existing General Plan alternative, the project site would be developed in accordance with the current General Plan designations on the project site. This includes 107 acres of commercial and up to 1,170 multi-family residential units. Commercial uses would be developed north of the creek and the multi-family uses would be developed south of the creek, adjacent to Discovery Road. Roadway improvements identified for Bent Avenue, Via Vera Cruz and McMahr Road as part of the proposed project would be developed under this alternative, and in a manner that is consistent with the General Plan Circulation Element. Some floodway improvements would be required under this alternative to bring the development area out of the 100-year floodway.

Aesthetics

Development of the project area per the General Plan would result in a less than significant impact to scenic vistas and scenic resources. Both of these conclusions are similar to those identified for the project. Buildout of the project area in a manner consistent with the General Plan would further urbanize the project area. However, building heights would not be as high under this alternative. Under the proposed project, some buildings could reach up to 80 feet, whereas under the current General Plan the height would be capped at 60 feet for the retail buildings and 35 feet for the multi-family south of the creek. Therefore, development under this alternative would be a smaller scale. It should be noted that development under this alternative would place structures between the creek and Discovery Road, thereby eliminating some views to the creek area from Discovery Road. This alternative would still result in a visual change to the project site and area; however, it would be at a less than significant level.

Further, buildout under the General Plan would not occur under the guidance of a Specific Plan. The Specific Plan prepared for the project includes design guidelines to ensure that the project site is developed in a cohesive manner, both functionally and visually. Buildout under the General Plan may not occur in a cohesive manner without the Specific Plan.

Air Quality

Air quality emissions under this alternative would be less than the project, as trip generation would be reduced by approximately 16 percent (84,260 average daily traffic [ADT] under this alternative compared to 98,352 ADT under the proposed project). Construction emissions under this alternative are expected to be similar to the project, as there would still be a similar footprint of disturbance. Construction of this alternative would result in significant PM_{10} and NO_x emissions. Mitigation measures identified for the project to reduce the PM_{10} impact to below a level of significance would be applicable to this alternative. Construction-related NO_x emissions would require mitigation; however, it is unlikely that the mitigation measures would reduce the impact to below a level of significance.

The use of architectural coatings for building finish work would be less than that used for the project. Depending on the amount of painting that occurs at a time, there is still a potential for significant ROG impacts. Mitigation measures for this ROG impact identified for the project would also be applicable to this alternative and would reduce the potential impact to below a level of significance.

Finally, vehicular emissions associated with traffic from this alternative would result in significant NO_x, PM_{10}, and ROG impacts, as shown in Table 4.3-2. Similar to the project, these impacts would be significant and unmitigable.

Table 4.3-2. No Project/Existing General Plan Alternative Vehicular Emissions

	ROG	NO_x	CO	PM_{10}	SO_x
Area Sources	58.3	10.0	6.6	0.0	0.0
Mobile Sources	157.7	176.3	2,000.4	1,029.0	5.9
Total	216.0	186.3	2,007.0	1,029.0	5.9
Significance Threshold	75	250	550	100	250
Exceeds Threshold?	Yes	No	Yes	Yes	No
Percent of Threshold	288	75	365	1,029	<1

Biological Resources

Under this alternative, the level of biological resources impacts are expected to be greater, as greater modification of the creek bed would need to occur under this alternative. In order to develop the area south of the creek, the area would need to be raised out of the 100-year floodplain. To create suitable depth in a building pad, the creek would need to be shifted northward. This would result in a greater level of impacts to jurisdictional wetlands and non-wetland waters. Mitigation measures, similar to those identified for the project, would be applicable and would reduce the biological resources impacts of this alternative to below a level of significance.

Cultural Resources

Cultural resources impacts would be similar under this alternative as for the project, as the area of disturbance would be the same. This alternative would result in an impact to CA-SDI-17423, a light to moderate density scatter of metavolcanic and quartz debitage. Additionally, the significant impact related to the removal of the house at 918 Discovery Street identified for the project would also be applicable to this alternative, as the area where the house is located would be raised up and developed with multi-family residences. Mitigation for impacts to these resources would be required and would reduce the impact to below a level of significance.

With regard to paleontological resources, this alternative would also have the potential to significantly impact unknown resources. Mitigation proposed for the project would be applicable to this alternative and would reduce the impact to below a level of significance.

Hazards and Hazardous Materials

Potential significant hazard impacts identified for the project would also be occur under this alternative. This includes impacts related to the potential for hazardous materials in the levee fill material, the presence of leaking underground storage tanks on the project site, and the potential for asbestos-containing materials and lead-based paint. Specifically, existing structures that would be removed under this alternative may contain asbestos-containing materials and lead-based paint due to their age. Mitigation measures identified for the project would also be applicable to this alternative

and would ensure that fill material for levee construction and earthwork activity is clean and free of any potential hazardous materials. Further mitigation would be implemented to ensure that any hazardous materials that are found on the site are remedied in accordance with all federal and state requirements. Compared to the project, this alternative would result in a similar level of potential hazard impact. Mitigation identified for the project would also be applicable to this alternative and would reduce the impacts to below a level of significance.

Hydrology and Water Quality

Implementation of this alternative would result in a similar level of impact as identified for the project. It is assumed that similar to the project, this alternative would incorporate a desiltation and/or filtration system as part of project design that would filter runoff before it enters the public storm water drainage system. These design features (i.e., detention basins, filters, sizing of pipes, etc.) would convey existing and project runoff flows across the property in drainage systems as approved by the City Engineer. Additionally, this alternative would be required to comply with adopted water quality and waste discharge requirements, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

Under this alternative, the FEMA 100-year and Ultimate Build-Out 100-year storm events would be contained. Channel improvements would be required so that adjacent properties north and south of the creek would be out of the floodplain and could be successfully redeveloped in accordance with the San Marcos Creek Specific Plan. The design of these floodway improvements would be different than those proposed by the project, as more area would need to be raised out of the floodway to develop the multi-family units.

Similar to the project, this alternative would require the redefinition of the floodplain prior to construction within the Specific Plan area to ensure that future occupants and structures would not be subject to flooding during a 100-year storm event. Finally, to ensure the safety of the floodway improvement project, including the levee, certification of the levee by a professional engineer would be required. This is similar to the mitigation identified for the project.

In summary, this alternative would have a similar level of impact to hydrology and water quality as identified for the project. Mitigation measures identified for the project would also be applicable under this alternative and would reduce the impact to below a level of significance.

Land Use

Under this alternative, the project site would build out in a manner that is consistent with the General Plan and Zoning currently identified for the project area. This includes commercial uses north of the creek and multi-family residential south of the creek adjacent to Discovery Road. Therefore, a General Plan Amendment and Rezone would not be required. Depending on the configuration of Grand Avenue between the future Grand Avenue bridge and Discovery Street as well as the segment of Discovery Street from McMahr Road to Bent Avenue, a General Plan Circulation Element Amendment may still be required.

Noise

Construction activities under this alternative would adhere to the requirements of the San Marcos Noise Ordinance, Section 10.24.020(i). The Ordinance limits construction activities to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays. This would ensure that short term construction impacts are less than significant.

Vehicular trips associated with development of this alternative are expected to result in a similar noise increase along the same five roadway segments, as this alternative would only reduce trips by 16 percent. Four of these segments are off-site and located in commercial or light industrial areas such that impacts to sensitive receptors would not occur. For the one on-site segment that is identified to have a significant noise increase, existing residential uses are set back far enough from Bent Avenue so that the impact would be less than significant.

Under this alternative, the trips would distributed differently, as developed would occur south of the creek on Discovery Street Future residential uses proposed under this alternative may be impacted by roadway noise levels from Discovery Street. Mitigation measures, requiring future noise studies and implementation of site specific measures as part of the required Conditional Use Permit (CUP) as specific development plans come forward, have been identified. All mitigation measures identified in these future studies would be required to be implemented. Incorporation of these measures would ensure that noise impacts from the project are less than significant. Compared to the project, this alternative is expected to result in a similar level of impact with the exception of the project impact identified that relates to noise impacts due to co-locating residential and commercial uses. Since the General Plan does not identify a mixed-use format for the project area, this impact would be eliminated.

Public Services

Development of this alternative would result in an increase in demand for fire protection, police protection, school services, library facilities, and parks and recreation. Table 4.3-3 quantifies the estimated number of students which would be generated under this alternative. As shown, under existing General Plan designations, the project site could generate a maximum of 566 students: 313 elementary school students, 122 middle school students, and 131 high school students. However, the increase would not be at a level that would result in a significant impact. Additionally, the public service need generated under this alternative would be less than that for the project. Future development under this alternative would be required to either annex into an existing community facilities district (CFD) or be responsible for payment of Level 2 school fees ($4.26 per square foot [s.f.]) as specified in the District's most recent School Facilities Needs Analysis at the time the building permit is obtained. Development under this alternative would also have to contribute to a Public Facility Fee (PFF) payment, which includes a category for parks and recreation. In summary, this alternative represents less of a demand on public services compared to the project, and the demand created by this project would be less than significant.

Table 4.3-3. Students Generated Under No Project/Existing General Plan Alternative

School	Generation Rate	Number of Proposed Dwelling Units	Students Generated	Available Capacity	Remaining Capacity
Students Generated under Existing General Plan Designations					
Discovery Elementary School	0.2824	1,107	313	-288	-601
San Elijo Middle School	0.1097	1,107	122	202	80
San Marcos High School	0.1183	1,107	131	-696	-827
TOTAL STUDENT GENERATION			566	-782	-1,348

Traffic

Trip generation under this alternative would be less than the trips generated by the project. As shown in Table 4.3-4, development under this alternative would generate approximately 82,260 ADT, whereas the project would generate approximately 98,352 trips. Therefore, this alternative represents a reduction in trip generation of approximately 16 percent. Impacts identified for the project would also be applicable to this alternative and include a segment impact to Main Street from Las Posas Road to Bent Avenue. It should be noted that some trips may be distributed differently under this alternative. Additionally, if the project site was developed under the current General Plan, a grid network of streets within the project area would not be developed. Therefore, a dispersal of traffic throughout the project area would not occur. Additionally, enhanced opportunities for alternative transportation, including walking and bicycling, would not be realized. Overall, impacts under this alternative would be similar to those identified for the project.

Table 4.3-4. Forecast Trip Generation – Current General Plan Land Uses

Land Use	Intensity	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Trip Generation Rates								
Community Commercial		700/acre	4%	60%	40%	10%	50%	50%
Condominiums		8/DU	8%	20%	80%	10%	70%	30%
Forecast Trip Generation								
Community Commercial	107 acres	74,900	2,996	1,798	1,198	7,490	3,745	3,745
Condominiums	1170 DU	9,360	749	150	599	936	655	281
TOTAL PROJECT TRIPS		84,260	3,745	1,948	1,797	8,426	4,400	4,026

Source: SANDAG (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002).

Utilities and Service Systems

Development under this alternative would result in an increase in the need for water and wastewater services, solid waste services and dry utilities. Compared to the project, this alternative would likely reduce the significant impact associated with wastewater, as less wastewater would be generated.

Further, this alternative would develop in a manner that was anticipated in current Vallecitos Water District (VWD) planning documents. Wastewater generation rates assumed for buildout under the General Plan have been considered in VWD planning efforts; therefore, infrastructure has been adequately planned and sized.

Conclusion

Compared to the project, this alternative would reduce the amount of air emissions, traffic and noise generated by the project, as trip generation would be reduced by 16 percent. However, the reduction in these trips is not enough to eliminate the significant air quality, noise and traffic impacts identified for the project. Under this alternative, traffic would not be distributed as well through the project area, as a grid system of streets would not be developed north of the Creek. There may also be a new noise impact associated with putting multi-family residences adjacent to Discovery Street.. Cultural resources, hazards, and utility system impacts would be similar under this alternative to those identified for the project.

Table 4.3-5 provides a comparison of the No Project/Existing General Plan Alternative with the objectives of the project. As shown in Table 4.3-5, the project meets some, but not all of the objectives of the project.

4.3.3 Via Vera Cruz Bridge Alternative

Under the Via Vera Cruz Bridge Alternative, a bridge would be proposed across San Marcos Creek at Via Vera Cruz. Under the proposed project, an Arizona crossing would be constructed at this location. An Arizona Crossing is an at-grade crossing designed to allow flood waters to flow over the roadway. All other project components under this alternative would be the same as those identified for the project (see Section 2.0). This includes the intensity and type of development within the Specific Plan area and the proposed floodway and infrastructure improvements. This alternative was identified as a means of reducing direct and indirect biological resource impact associated with the Arizona crossing at Via Vera Cruz.

Aesthetics

Similar to the project, aesthetics impacts under this alternative are expected to be less than significant. The only difference under this alternative is that an additional bridge would be constructed over the Creek. This is not expected to result in any additional impacts beyond those identified for the project.

Air Quality

Construction and operation emissions for this alternative would be the same as those identified for the project. Construction of both Phase 1 and Phase 2 of the project would result in significant PM_{10} and NO_x emissions. Mitigation measures identified for the project for PM_{10} impacts would also be applicable to this alternative and would reduce the impact to below a level of significance. These measures include limiting the amount of grading that can occur within a given day and also requiring the use of best available control measures. Mitigation measures have also been identified for the construction-related NO_x emissions; however, these measures would not reduce the impact to below a level of significance.

Table 4.3-5. No Project/Existing General Plan Alternative – Consistency with Project Objectives

Project Objective	Consistency of Alternative
Provide flood control by containing the 100-year flood.	This alternative would include floodway improvements to raise the development areas out of the 100-year floodplain.
Implement the City's Circulation Element by completing circulation linkages through the project area.	This alternative would not preclude implementation of the City's Circulation Element through the project area. Therefore, this alternative meets this project objective. However, it should be noted that this alternative would not build the internal grid network within the project area, thus traffic would not be as dispersed as compared to the project.
Protect project area and downstream water quality through biofiltration and management of sediment transport.	This alternative would include water quality protection mechanisms and mitigation to reduce sediment transport. Therefore, this alternative meets this project objective.
Protect the biological resources in San Marcos Creek through habitat creation and restoration	Habitat creation and restoration would be required under this alternative to mitigate impacts to sensitive habitat. Therefore, this alternative meets this project objective.
Develop a "24-hour" mixed use neighborhood including residential, retail, and office uses.	Under this alternative, development within the project area would include residential and commercial uses, with the uses separated by the creek. There would not be a mixed use component. Therefore, this alternative does not meet this project objective.
Establish a distinct, regionally identifiable "downtown."	Under this alternative, development within the project area would include commercial uses. However, these uses would occur in a more traditional format. It is unlikely that a "distinct, regionally identifiable downtown" would develop under this alternative, as interior grid streets would not be proposed. Therefore; this alternative does not meet this project objective.
Establish a "walkable," pedestrian-friendly district.	Under this alternative, development within the project area would include residential and commercial uses. However, these uses would occur in a more traditional format. Land uses would be separated and there would not be a mixed use component. This type of land use distribution and development does not typically result in a walkable, pedestrian friendly district. Therefore, this alternative does not meet this project objective.
Ensure that the project is economically viable and can fund supporting public infrastructure.	The level of development under the General Plan may have difficulty supporting the infrastructure costs needed for the project. Therefore, this alternative may not meet this project objective.
Enhance the public experience with San Marcos Creek through passive recreation opportunities.	Development under this alternative would not occur under a Specific Plan; therefore, a cohesive plan identifying passive recreation opportunities would not be developed. Therefore, this alternative does not meet this project objective.

Future development under this alternative would require the use of architectural coatings for building finish work. Depending on the amount of painting that occurs at a time, there is a potential for significant ROG impacts. Mitigation measures identified for the project would also be applicable to this alternative, and would reduce the impact to below a level of significance. Finally, vehicular emissions associated with future traffic under this alternative would be similar to the project. These

impacts would include significant NO_x, PM_{10}, and ROG impacts. Pedestrian and bicycle facilities would be developed under this alternative and would encourage alternative transportation modes. This would work to reduce some vehicular emissions, however, not to a level below significance. In summary, this alternative results in similar air emissions as the project and a similar level of impacts.

Biological Resources

Under the Via Vera Cruz alternative, the existing culvert and road crossing of Via Vera Cruz across the creek would be removed and the creek habitat could be restored or enhanced to increase biological value. Further, wildlife movement within the creek corridor would not have one less roadway crossing to contend with. However, the Via Vera Cruz bridge alternative would require the placement of a grade control structure within the creek to provide sediment control. This would result in an impact to biological resources that was not previously identified for the project. Depending on the design and size of the grade control structure, the impacts may balance out due to the creation and enhancement that could occur with making Via Vera Cruz a bridge crossing instead of a low-water crossing. All other impacts identified for the project would be applicable to this alternative, include impacts to upland habitat, sensitive plants and indirect biological impacts. In summary, biological resource impacts under this alternative would be similar to those identified for the project.

Cultural Resources

Cultural resources impacts under this alternative would be similar to those identified for the project. Whether construction a bridge or an Arizona crossing at Via Vera Cruz, potential impacts to cultural resources would occur, this includes potentially significant and mitigable impacts to CA-SDI-17423. CA-SDI-17423 represents an archaeological site that contains a light to moderate density scatter of metavolcanic and quartz debitage. Implementation of mitigation identified for the project would also be applicable to this alternative. Requiring an archaeological monitor during grading activities adjacent to San Marcos Creek would reduce the impact related to unidentified cultural resources to below a level of significance. Additionally, the significant impact related to the removal of the house at 918 Discovery Street identified for the project would also be applicable to this alternative, as the area where the house is located would need to be raised up as part of the floodway improvement project. Mitigation for impacts to these resources would be required and would reduce the impact to below a level of significance. Compared to the project, the Via Vera Cruz alternative would result in a similar level of impact to cultural resources.

Hazards and Hazardous Materials

Potential significant hazard impacts identified for the project would also be applicable to the Via Vera Cruz bridge alternative. This includes impacts related to the potential for hazardous materials in the levee fill material, the presence of leaking underground storage tanks on the project site, and the potential for asbestos-containing materials and lead-based paint. Specifically, existing structures that would be removed under this alternative may contain asbestos-containing materials and lead-based paint due to their age. Mitigation measures identified for the project would also be applicable to this alternative and would ensure that fill material for levee construction and earthwork activity is clean and free of any potential hazardous materials. Further mitigation would be implemented to ensure that any hazardous materials that are found on the site are remedied in accordance with all federal and state requirements. Compared to the project, this alternative would result in a similar level of

potential hazard impact. Mitigation identified for the project would also be applicable to this alternative and would reduce the impacts to below a level of significance.

Hydrology and Water Quality

Implementation of this alternative would result in a similar level of impact as identified for the project. It is assumed that similar to the project, this alternative would incorporate a desiltation and/or filtration system as part of project design that would filter runoff before it enters the public storm water drainage system. These design features (i.e., detention basins, filters, sizing of pipes, etc.) would convey existing and project runoff flows across the property in drainage systems as approved by the City Engineer. Additionally, this alternative would be required to comply with adopted water quality and waste discharge requirements, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

This alternative would also contain the FEMA 100-year and Ultimate Build-Out 100-year storm events within the channel improvements such that adjacent properties north and south of the creek would be out of the floodplain and can be successfully redeveloped in accordance with the City's San Marcos Creek Specific Plan.

Sediment delivery would be increased under this alternative. Mitigation would be required to reduce the impact to below a level of significance. The mitigation measure for this alternative would be different than the one proposed for the project. This alternative would require a grade control structure on the downstream side of Vera Cruz Bridge. A grade control structure installed on its downstream side would also act like a check dam. It would have the same effects of reducing sediment flow towards downstream. This would reduce the impact associated with increased sediment delivery to below a level of significance.

Similar to the project, this alternative would require in development of floodway improvements, including levees, floodwalls and the SR-78 hydraulic improvements. This would result in the redefinition of the floodplain prior to construction within the Specific Plan area to ensure that future occupants and structures would not be subject to flooding during a 100-year storm event. Finally, to ensure the safety of the floodway improvement project, including the levee, certification of the levee by a professional engineer would be required. This is similar to the mitigation identified for the project.

In summary, this alternative would have a similar level of impact to hydrology and water quality as identified for the project. Mitigation measures identified for the project would also be applicable under this alternative, or would be slightly modified, and would reduce the impact so below a level of significance.

Land Use

Development of this alternative would require a General Plan Amendment and Rezone, similar to those required for the project. Therefore, a similar level of impact would occur.

Noise

Construction activities under this alternative would adhere to the requirements of the San Marcos Noise Ordinance, Section 10.24.020(i). The Ordinance limits construction activities to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays. This would ensure that short term construction impacts are less than significant.

Vehicular trips associated with development of this alternative are expected to result in a similar noise increase along the same five roadway segments, as this alternative would result in the same number of trips generated. Four of these segments are off-site and located in commercial or light industrial areas and would not impact sensitive receptors. For the one on-site segment that is identified to have a significant increase, existing residential uses are set back far enough from Bent Avenue so that the impact would be less than significant. Future residential uses proposed under this alternative may be impacted by roadway noise levels from San Marcos Boulevard. Mitigation measures, requiring future noise studies and implementation of site specific measures as part of the required CUP as specific development plans come forward, have been identified. All mitigation measures identified in these future studies would be required to be implemented. Incorporation of these mitigation measures would ensure that noise impacts from the project are less than significant.

Public Services

Public service needs under the Via Vera Cruz Bridge Alternative would be similar to those identified for the project. The same number of residential, retail and office uses would occur. Similar to the project, future development under this alternative would be required to either annex into an existing CFD or be responsible for payment of Level 2 school fees ($4.26 per s.f.) as specified in the District's most recent School Facilities Needs Analysis at the time the building permit is obtained. Development under this alternative would also have to contribute to a PFF payment, which includes a category for parks and recreation. In summary, this alternative would generate a similar level of demand on public services as the project, and the demand created by this project would be less than significant.

Traffic

Traffic impact under the Via Vera Cruz Bridge Alternative would be similar to those identified for the project, as trip generation under this alternative would be similar to the project. The placement of a bridge at the creek crossing for Via Vera Cruz, compared to an Arizona crossing would result in an enhanced traffic flow in the project area during extremely high water conditions, although under the project there will still be access to two bridges and Discovery Street would not be impacted by flooding.

Utilities and Service Systems

Utility and service system needs under the Via Vera Cruz Bridge Alternative would be similar to those identified for the project. A similar number of residential, retail and office uses would occur. Impacts would be less than significant with the payment of fees that are required as part of the development process. Impact to water service and solid waste service would be less than significant. Wastewater impacts under this alternative are similar to those of the project. Mitigation identified for

the project would be applicable to this alternative and would reduce the impact to below a level of significance.

Conclusion

Development of the Via Vera Cruz Bridge Alternative would result in a similar level of impact as the project. Since this alternative would develop with the same intensity as the project, impacts associated with aesthetics, air quality, cultural resources, hazards, land use, noise, traffic, and utilities/services systems would be the same. Biological resources impacts are also expected to be similar as well.

Table 4.3-6 provides a comparison of the Via Vera Cruz Bridge Alternative with the objectives of the project. As shown in Table 4.3-6, the Via Vera Cruz Alternative meets all of the project objectives.

Table 4.3-6. Via Vera Cruz Bridge Alternative Consistency with Project Objectives

Project Objective	Consistency of Alternative
Provide flood control by containing the 100-year flood.	This alternative includes floodway improvements similar to those identified for the project. Therefore, this alternative meets this project objective.
Implement the City's Circulation Element by completing circulation linkages through the project area.	This alternative would develop infrastructure consistent with the City's Circulation Element, thereby completing circulation linkages through the project area.
Protect project area and downstream water quality through biofiltration and management of sediment transport.	This alternative would include water quality protection mechanisms and mitigation to reduce sediment transport. Therefore; this alternative is consistent with this objective.
Protect the biological resources in San Marcos Creek through habitat creation and restoration	Habitat creation and restoration would be required under this alternative to mitigate impacts to sensitive habitat. Therefore; this alternative is consistent with this objective.
Develop a "24-hour" mixed use neighborhood including residential, retail, and office uses.	Under this alternative the Specific Plan would be implemented, thereby creating a "24-hour" mixed use neighborhood including residential, retail, and office uses. Therefore; this alternative is consistent with this objective.
Establish a distinct, regionally identifiable "downtown."	Under this alternative the Specific Plan would be implemented, thereby establishing a distinct, regionally identifiable "downtown." Therefore; the Via Vera Cruz alternative is consistent with this objective.
Establish a "walkable," pedestrian-friendly district.	Under this alternative the Specific Plan would be implemented, thereby establishing a walkable pedestrian-friendly district would be developed. This alternative is consistent with this objective.
Ensure that the project is economically viable and can fund supporting public infrastructure.	This alternative is consistent with this objective, although the cost of the bridge may impact the feasibility of funding the project area infrastructure.
Enhance the public experience with San Marcos Creek through passive recreation opportunities.	Development under this alternative would occur in a manner consistent with the proposed Specific Plan. Therefore, a cohesive plan identifying passive recreation opportunities would be developed. Therefore, this alternative meets this project objective.

4.3.4 Reduced Density Alternative

The Reduced Density Alternative assumes that the Phase 1 improvements would occur as proposed by the project. This includes the floodway improvements, SR-78 hydraulic improvements and roadway improvements. Phase 2 development, which calls for buildout of the Specific Plan, would be reduced by approximately 75 percent. This alternative was designed to reduce some of the air quality and noise impacts to below a level of significance. Assuming a 75 percent reduction in development intensity, this alternative would be developed with approximately 316,000 s.f of retail; 147,000 s.f. of office use; and up to 575 residential units.

Aesthetics

Similar to the project, aesthetics impacts related to construction of this alternative would be less than significant. Development of the project area under the Reduced Density Alternative would result in a less than significant impact to scenic vistas and scenic resources. Both of these conclusions are similar to those identified for the project. Development under the Reduced Density Alternative would further urbanize the project area. Building heights under this alternative are expected to be lower than the project, as the density would be greatly reduced. Therefore, development under this alternative would be a smaller scale. While this alternative would still result in a visual change to the project site and area, however, it would still be characterized as less than significant.

Air Quality

Air quality emissions under this alternative would be less than the project, as trip generation would be reduced by approximately 75 percent (24,588 ADT under this alternative compared to 98,352 ADT under the proposed project). Construction emissions under this alternative may be similar to the project, as there would still be a similar footprint of disturbance. ROG generation related to construction finishing would be less under this alternative, as there would be less surface area of building to be finished. None the less, construction of this alternative would result in significant PM_{10} and NO_x emissions. Mitigation measures identified for the project to reduce the PM_{10} impact to below a level of significance would be applicable to this alternative. Construction-related NO_x emissions would require mitigation; however, it is unlikely that the mitigation measures would reduce the impact to below a level of significance.

Vehicular emissions associated with traffic form this alternative would be reduced by 75 percent, thereby reducing the significant ROG impacts compared to the project. Impacts related to CO and PM_{10} would still be significant under this alternative, as shown in Table 4.3-7. Compared to the project, this represents a reduction in emissions and a reduction in ROG impacts to below a level of significance.

Biological Resources

Under this alternative, the same level of biological resource impacts are expected, as the project footprint would generally be the same. This includes impacts to wetlands, upland habitat, and sensitive plant species as well as indirect biological resource impacts. Mitigation measures, similar to those identified for the project, would be applicable and would reduce the biological resource impacts of this alternative to below a level of significance.

Table 4.3-7. Reduce Density Alternative – Vehicular Air Emissions(1)

	ROG	NO_x	CO	PM_{10}	SO_x
Area Sources(1)	25.1	7.3	3.6	0.1	0.0
Mobile Sources	46.2	98.6	561	288	1.7
Total	71.3	105.9	564.6	288.1	1.7
Significance Threshold	75	250	550	100	250
Exceeds Threshold?	No	No	Yes	Yes	No
Percent of Threshold	95	42	101	288	<1.

Note: (1) Reduced Density vehicular emissions calculations determined by reducing project emissions by 75%.

Cultural Resources

Cultural resources impacts under this alternative would be similar as the project. This alternative would result in an impact to CA-SDI-17423, a light to moderate density scatter of metavolcanic and quartz debitage. Additionally, the significant impact related to the removal of the house at 918 Discovery Street identified for the project would also be applicable to this alternative. These impacts are associated with the proposed floodway improvement portion of the alternative. Even though development intensity within the project area would be less, avoidance of these resources is not possible due to the floodway protection design. Mitigation for impacts to these resources would be required and would reduce the impact to below a level of significance.

With regard to paleontological resources, this alternative would also have the potential to significantly impact unknown paleontological resources. Mitigation proposed for the project would be applicable to this alternative and would reduce the impact to below a level of significance.

Hazards and Hazardous Materials

Potential significant hazard impacts identified for the project would also be applicable to the Reduced Density alternative. This includes impacts related to the potential for hazardous materials in the levee fill material, the presence of leaking underground storage tanks on the project site, and the potential for asbestos-containing materials and lead-based paint. Specifically, existing structures that would be removed under this alternative may contain asbestos-containing materials and lead-based paint due to their age. Mitigation measures identified for the project would also be applicable to this alternative and would ensure that fill material for levee construction and earthwork activity is clean and free of any potential hazardous materials. Further mitigation would be implemented to ensure that any hazardous materials that are found on the site are remedied in accordance with all federal and state requirements. Compared to the project, this alternative would result in a similar level of potential hazard impact. Mitigation identified for the project would also be applicable to this alternative and would reduce the impacts to below a level of significance.

Hydrology and Water Quality

Implementation of this alternative would result in a similar level of impact as identified for the project. It is assumed that similar to the project, this alternative would incorporate a desiltation and/or filtration system as part of project design that would filter runoff before it enters the public storm

water drainage system. These design features (i.e., detention basins, filters, sizing of pipes, etc.) would convey existing and project runoff flows across the property in drainage systems as approved by the City Engineer. Additionally, this alternative would be required to comply with adopted water quality and waste discharge requirements, including the preparation of a Storm Water Pollution Prevention Plan (SWPPP).

This alternative would also contain the FEMA 100-year and Ultimate Build Out 100-year storm events within the channel improvements such that adjacent properties north and south of the creek would be out of the floodplain and can be successfully redeveloped. While it is possible that development at an intensity reduced by 75 percent could bit fit within a footprint that is outside of the current 100-year floodway and floodplain, the floodway improvements are also required to enhance traffic circulation in the project area. During large storm events, there is flooding onto San Marcos Boulevard and other roadways within the project area.

Sediment delivery would be increased under this alternative. Mitigation would be required to reduce the impact to below a level of significance. The measure for this alternative would be similar to the one identified for the project, and would reduce the impact to below a level of significance.

Similar to the project, this alternative would require the redefinition of the floodplain prior to construction within the Specific Plan area to ensure that future occupants and structures would not be subject to flooding during a 100-year storm event. Finally, to ensure the safety of the floodway improvement project, including the levee, certification of the levee by a professional engineer would be required. This is similar to the mitigation identified for the project.

In summary, this alternative would have a similar level of impact to hydrology and water quality as identified for the project. Mitigation measures identified for the project would also be applicable under this alternative, or would be slightly modified, and would reduce the impact so below a level of significance.

Land Use

Development of this alternative would require a General Plan Amendment and Rezone, similar to those required for the project. Implementation of the General Plan Amendment and Rezone would reduce this impact to below a level of significance.

Noise

Construction activities under this alternative would adhere to the requirements of the San Marcos Noise Ordinance, Section 10.24.020(i). The Ordinance limits construction activities to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays. This would ensure that short term construction impacts are less than significant.

Vehicular trips associated with development of this alternative, while less than the project, would result in an increase in noise along the roadway segments within and off of the project site. However, these noise increase would not be at the level generated by the project. Due to this reduction, it is expected that the impacts would be less than significant. Future residential uses proposed under this

alternative may be impacted by roadway noise levels from San Marcos Boulevard. Mitigation measures, requiring future noise studies and implementation of site specific measures as part of the required CUP as specific development plans come forward, have been identified. All mitigation measures identified in these future studies would be required to be implemented. Incorporation of these mitigation measures would ensure that noise impacts from the project are less than significant. Compared to the project, this alternative is expected to result in a similar level of impact with the exception of the project impact identified that relates to noise impacts due to co-locating residential and commercial uses. Since the General Plan does not identify a mixed-use format for the project area, this impact would be eliminated.

Public Services

Development of this alternative would result in an increase in demand for fire protection, police protection, school services, library facilities, and parks and recreation; however, the increase would not be at a level that would result in a significant impact. Additionally, the public service need generated under this alternative would be less than that for the project, as development would be reduced by approximately 75 percent. Future development under this alternative would be required to either annex into an existing CFD or be responsible for payment of Level 2 school fees ($4.26 per s.f.) as specified in the District's most recent School Facilities Needs Analysis at the time the building permit is obtained. Development under this alternative would also have to contribute to a PFF payment, which includes a category for parks and recreation. In summary, this alternative represents less of a demand on public services compared to the project, and the demand created by this project would be less than significant.

Traffic

Development under this alternative would result in a scaled down project. Assuming a 75 percent reduction in development, this alternative would generate approximately 24,588 ADT. Significant roadway impacts for the project would be eliminated under this alternative. Therefore, compared to the project, this alternative represents a reduction in impacts.

Utilities and Service Systems

Development under this alternative would result in a~~n increase~~ reduction in the need for water and wastewater services, solid waste services and dry utilities. Compared to the project, this alternative would likely reduce the significant impact associated with wastewater, as less wastewater would be generated. Further, this alternative would develop in a manner less intensive than what was anticipated in current VWD planning documents. Wastewater generation rates assumed for buildout under the General Plan have been assumed in VWD planning efforts; therefore, infrastructure has been adequately planned and sized.

Conclusion

Compared to the project, this alternative would reduce the amount of air emissions, traffic and noise generated by the project, as trip generation would be reduced by 75 percent. This reduction would reduce some of the significant air impacts for the project, and would reduce all of the noise and traffic impact of the project. Cultural resources, and hazards impacts would be similar under this

alternative as those identified for the project. Wastewater infrastructure impacts identified for the project would be reduced under this alternative.

Table 4.3-8 provides a comparison of the Reduced Density Alternative with the objectives of the project. As shown in Table 4.3-8, the Reduced Density Alternative meets the majority of the project objectives.

Table 4.3-8. No Project/Reduced Density Alternative's Consistency with Project Objectives

Project Objective	Consistency of Alternative
Provide flood control by containing the 100-year flood.	This alternative includes floodway improvements similar to those identified for the project. Therefore, this alternative meets this project objective.
Implement the City's Circulation Element by completing circulation linkages through the project area.	This alternative would develop infrastructure consistent with the City's Circulation Element, thereby completing circulation linkages through the project area. Therefore, this alternative meets this project objective.
Protect project area and downstream water quality through biofiltration and management of sediment transport.	This alternative would include water quality protection mechanisms and mitigation to reduce sediment transport. Therefore, this alternative meets this project objective.
Protect the biological resources in San Marcos Creek through habitat creation and restoration	Habitat creation and restoration would be required under this alternative to mitigate impacts to sensitive habitat. Therefore, this alternative is consistent with this objective.
Develop a "24-hour" mixed use neighborhood including residential, retail, and office uses.	Under this alternative the Specific Plan would be implemented, thereby creating a "24-hour" mixed use neighborhood including residential, retail, and office uses. However, developing the Specific Plan at only 25% of the density proposed by the project would not provide enough density to make a vibrant "24-hour" mixed use neighborhood. Therefore, this alternative does not fully meet this project objective.
Establish a distinct, regionally identifiable "downtown."	Under this alternative the Specific Plan would be implemented. However, developing the Specific Plan at only 25% of the density proposed by the project would not provide enough density to make an established, regionally-identifiable downtown. Therefore, this alternative does not fully meet this project objective.
Establish a "walkable," pedestrian-friendly district.	Under this alternative the Specific Plan would be implemented. Therefore; a walkable pedestrian-friendly district would be developed, and the alternative meets this objective.
Ensure that the project is economically viable and can fund supporting public infrastructure.	Reducing the development by 75% for this alternative may make the alternative economically unviable, particularly if the alternative was to still provide the same level of public infrastructure. This alternative does not meet this project objective.
Enhance the public experience with San Marcos Creek through passive recreation opportunities.	Development under this alternative would occur in a manner consistent with the proposed Specific Plan. Therefore, a cohesive plan identifying passive recreation opportunities would be developed. Therefore, this alternative meets this project objective.

4.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 4.4-1 provides a qualitative comparison of the impacts for each Alternative compared to the proposed project.

As shown in Table 4.4-1, the No Project/No Development Alternative would eliminate almost all of the significant impacts identified for the project. However, the No Development Alternative would not meet any of the project objectives. *CEQA Guidelines* Section 15126.6(e)(2) states that if the No Project alternative is identified as the environmentally superior alternative, then an environmentally superior alternative must be selected among the other alternatives. In this case, the Reduced Density Alternative would be the Environmentally Superior Alternative.

Table 4.4-1. Comparison of Proposed Project and Alternatives

Category	Proposed Project	No Project/ No Development	No Project/ Existing General Plan	Via Vera Cruz Bridge Alternative	Reduced Density Alternative
Aesthetics	Less than Significant	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Air Quality	Significant, Unmitigated	Less than Significant	Significant, Unmitigated	Significant, Unmitigated	Significant, Unmitigated
Biological Resources	Mitigated to below a level of significance	Less than Significant	Mitigated to below a level of significance	Mitigated to below a level of significance	Mitigated to below a level of significance
Cultural Resources	Mitigated to below a level of significance	Less than Significant	Mitigated to below a level of significance	Mitigated to below a level of significance	Mitigated to below a level of significance
Hazards/Hazardous Materials	Mitigated to below a level of significance	Less than Significant	Mitigated to below a level of significance	Mitigated to below a level of significance	Mitigated to below a level of significance
Hydrology/ Water Quality	Mitigated to below a level of significance	Less than Significant (does not afford any relief from flooding during 100-year storm events)	Mitigated to below a level of significance	Mitigated to below a level of significance	Mitigated to below a level of significance
Land Use	Mitigated to below a level of significance	Less than Significant	Less than Significant	Mitigated to below a level of significance	Mitigated to below a level of significance
Noise	Mitigated to below a level of significance	Less than Significant	Mitigated to below a level of significance	Mitigated to below a level of significance	Mitigated to below a level of significance
Public Services	Less than Significant	Less than Significant	Less than Significant	Less than Significant	Less than Significant
Traffic	Mitigated to below a level of significance	Less than Significant (does not afford any relief from traffic interruption due to flooding during 100-year storm events)	Mitigated to below a level of significance	Mitigated to below a level of significance	Less than Significant

Category	Proposed Project	No Project/ No Development	No Project/ Existing General Plan	Via Vera Cruz Bridge Alternative	Reduced Density Alternative
Utilities/Service Systems	Mitigated to below a level of significance	Less than Significant	Mitigated to below a level of significance	Mitigated to below a level of significance	Less than Significant
Meeting the Project Objectives	Meets nine out of nine objectives	Does not meet any of the project objectives.	Meets four of the nine objectives.	Meets nine out of nine objectives	Meets five of the nine objectives, partially meets a 6th objective, and does not meet three objectives.

5.0 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

The City of San Marcos completed an Initial Study for the proposed project in accordance with §15063 of the California Environmental Quality Act (CEQA) Guidelines. The Initial Study, Notice of Preparation (NOP), and comment letters received on the NOP are included in Appendix A of this Environmental Impact Report (EIR). As required by §15128 of the CEQA Guidelines, the following is a discussion of the environmental effects that were considered as a part of the Initial Study but were determined not to be significant, and therefore, are not discussed in detail in the EIR. In some instances, complete environmental issue areas were eliminated during the NOP process, such as agricultural resources and geology/soils. In other instances, some of the specific CEQA thresholds were eliminated during the Initial Study process. For example, this section contains less than significant conclusions for traffic and circulation for some thresholds; however, other thresholds are analyzed fully in Section 3.10 of the EIR.

5.1 AGRICULTURAL RESOURCES

The proposed project site is not located in an area identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. While the site supports a small area of agricultural zoning, the project area is located in an urbanized area of the City where existing agricultural operations are not occurring. The site is located in a developed portion of the City and does not directly or indirectly impact agricultural activities. Therefore, the project would not have a significant direct or indirect impact on agricultural resources.

No Williamson Act Contracts occur on any portions of the project site; therefore, no impact is identified for this issue area.

5.2 GEOLOGY AND SOILS

The project site would be subjected to seismic shaking because of earthquake events on offsite active faults in the region (San Jacinto and Elsinore). However, the project site is not located in an area delineated as an earthquake fault on the most recent Alquist-Priolo Earthquake Fault Zoning Map (California Geologic Survey, 2003). Therefore, the proposed project would not expose people or structures to a significant risk from ground shaking, liquefaction, or landslide. Additionally, in accordance with the City's requirements (Grading Ordinance and Uniform Building Code compliance), all project design must meet accepted standards. Therefore, a less than significant impact is identified due to seismic activity.

The majority of the project proposed for development has been previously graded and does not require substantial grading. The project site would be developed, and the majority of the surfaces would be built upon, paved, or landscaped. Therefore, the substantial loss of topsoil is not an issue with the project.

Fill soils, alluvium, and decomposed granite occur throughout the project site. The majority of the project has been previously graded and does not require substantial grading. Moist to saturated alluvium compressed soils, are found in the floodplains of the San Marcos Creek. The liquefaction potential of the saturated alluvial sediments along the channel is low. Grading of the alluvial solid soils, would be in compliance with the Grading Ordinance and adequate biological buffers would be

designed into the project. All future grading over 50 cubic yards in the project area would require the issuance of a grading permit. The proposed project is not known to be located on a geologic unit or soil that is unstable. Therefore, no impact is identified.

The proposed project is located within a developed area of the City with existing sewer systems. No septic tanks or alternative wastewater disposal systems are proposed as part of the project. Therefore, no impact related to septic systems is identified for the project.

Finally, a preliminary geotechnical investigation was prepared for the levee proposed as part of the creek improvement project (Kleinfelder, 2006). The geotechnical investigation is included in Appendix K of the Draft EIR. The geotechnical investigation included a slope stability analysis through using a computer modeling program (SLOPE/W version 6.16). The program performs automatic searches of different potential failure surfaces of the levee and computes the lowest factor of safety corresponding to a critical failure surface for a particular analysis conditions. The analysis concluded that the levee profiles met the minimum guidelines for rotational failure[1] for the levee slopes under static loading and pseudo-seismic loadings. Therefore, a less than significant impact is identified for this issue area. Please see Section 5.6 of the Draft EIR for a discussion of levee design as it relates to the potential for flooding and safety.

5.3 HYDROLOGY/WATER QUALITY

The following question related to hydrology/water quality was determined to be not significant during the Initial Study. Please see Section 3.6 of the Draft EIR for analysis of other hydrology/water quality issue areas.

Groundwater Quality and Supply

The project does not propose any uses that would impact ground water quality or degrade beneficial uses. All drainage from the future development area would convey runoff through a desiltation system and/or filtering system prior to outlet into the San Marcos Creek and Lake San Marcos, per the requirements of existing regulations. Therefore, the project would not adversely impact groundwater quality or cause or contribute to an exceedance of applicable groundwater receiving water quality objectives or degradation of beneficial uses. Impacts would be less than significant.

The proposed project is located within a developed area of the City and is eligible for water service from the Vallecitos Water District (VWD). The project may use groundwater sources for irrigation and wetland restoration within the Specific Plan area; however, the groundwater would not be used for potable supplies. The majority of the water that would be used by the project would be supplied by VWD. Therefore, the project would not substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, impacts related to groundwater supply would be less than significant.

[1] Rotational failure refers to a failure of the levee which follows a pattern of circular arcs.

Seiche, Tsunami and Mudflow

Seiche is an oscillation of an enclosed or semi-enclosed water body such as a lake due to seismic forces. The project site is not located adjacent to an enclosed water body; therefore no impacts related to due to seiche are identified for the project. Tsunamis are tidal waves that occur in coastal areas. Since the project area is not located in a coastal area, no impacts due to tsunamis would occur. The project site is located in nearly flat terrain, and, therefore, mudflows are also not expected.

5.4 MINERAL RESOURCES

In accordance with classification guidelines established by the State Mining and Geology Board and in compliance with the Surface Mining and Recovery Act of 1975 (SMARA), the State Geologist is required to classify, on the basis solely of geological factors and without regard to existing land use and ownership, the following:

- Areas containing little or no mineral deposits;
- Areas containing significant mineral deposits; or
- Areas containing mineral deposits, the significance of which requires further evaluation.

The State Mining and Geology Board subsequently defined the above categories into Mineral Resource Zones (MRZs). These zones are established based on the presence or absence of significant sand and gravel deposits and crushed rock source areas. The guidelines for establishing the MRZs are presented in Table 5.4-1, MRZ Classifications.

Table 5.4-1. MRZ Classifications

Classification	Presence of Mineral Deposition
MRZ-1	Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that there is little likelihood for their presence.
MRZ-2	Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.
MRZ-3	Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
MRZ-4	Areas where available information is inadequate for assignment to any other MRZ zone.

According to the City's General Plan, the State's Mineral Land Classification Maps identifies the City of San Marcos as unsuitable as a source for construction materials. Therefore, no impact is identified for this issue area.

5.5 POPULATION/HOUSING

Given the nature of the proposed project as an infill mixed use project within an existing commercial/industrial district of the City, the proposed project is not anticipated to induce substantial population growth. Accordingly, it would not result in an impact to population and housing.

Implementation of some of the project components may require acquisition of land that is privately owned and/or that has been improved with structures, including private residences. For information on the age and architectural details of these structures, see Section 3.4, Cultural Resources. Should acquisition be necessary, the City of San Marcos would be required to adhere to applicable federal and state laws regarding acquisition of property, compensation to property owners, and relocation assistance and benefits for persons who may be displaced.

5.6 TRANSPORTATION /TRAFFIC

The following questions related to traffic were determined to be not significant during the Initial Study. Please see Section 3.10 of the Draft EIR for analysis of other transportation/traffic issue areas.

Air Traffic Patterns

The project is not located within the take-off or approach of an airport. The project does not propose any uses that would result in an alteration of air traffic patterns. Therefore, no impact is identified for this issue area.

Design Hazards

The proposed project includes the addition of two east-west collector roadways south of San Marcos Boulevard. The project also proposes several north-south streets that would bisect these segments to create a grid pattern of circulation. Any roads constructed in association with the project would be constructed within City standards and safety specification. Therefore no impact is identified for this issue area.

Inadequate Emergency Access

During construction, a traffic control management plan would be require to maintain emergency access. Access to Echo Lane from Grand Avenue would be maintained during project construction. Post-construction, access would be maintained via San Marcos Boulevard, Discovery Street and from new roadway segments. The provision of additional roadway in the project area would actually serve to enhance the movement of emergency vehicles to the area south of San Marcos Creek. Therefore, no impact is identified for this issue area.

6.0 GROWTH INDUCING IMPACTS

Section 15126.2(d) of the *California Environmental Quality Act (CEQA) Guidelines* requires a discussion of the potential growth-inducing impacts of a project. This discussion addresses how implementation of the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly upon the surrounding environment. Projects can induce growth by removing or reducing barriers to growth, for example extension of infrastructure into an undeveloped area. The *CEQA Guidelines* also state that growth inducement may place increased demands on existing community facilities. Certain growth-inducing impacts may facilitate or exacerbate the effects of other activities, either individually or cumulatively, that could significantly affect the environment. §15126.2(d) concludes that growth in an area must not be assumed to be necessarily beneficial, detrimental, or of little significance to the environment.

Floodway and State Route 78 Hydraulic Capacity Improvements

Floodway improvements identified for the project are designed to contain the 100-year floodplain. These improvements would provide the additional capacity needed to accommodate flood control facilities to contain stormwater run-off associated with 100-year storm events while protecting areas designated for development. Since future development within the San Marcos Creek watershed (both in and upstream of the project area) would continue to exacerbate flood potential by adding impervious surfaces that would increase both the rate and volume of stormwater runoff, the proposed flood control improvements have been designed to accommodate a Federal Emergency Management Agency (FEMA) 100-year storm event and to accommodate projected stormwater runoff at buildout of the city per the City Master Drainage Plan. The floodway improvements have not been designed to allow for "additional" growth beyond that considered in the City Master Drainage Plan. Therefore, the floodway improvements would not be characterized as growth inducing.

Another component of the floodway improvements portion of the project includes a new bridge to supplement the capacity of the San Marcos Creek culverts that cross beneath State Route (SR) 78. The bridge would maintain the existing number of lanes on SR-78 and would not provide additional capacity. Therefore, the SR-78 hydraulic capacity improvements would not be characterized as growth inducing.

Infrastructure Improvements

Infrastructure improvements for the project include circulation network improvements, as well as water, sewer and drainage improvements.

Circulation network improvements associated with the project include extension of McMahr as well as improvements to Bent Avenue and Via Vera Cruz. These infrastructure improvements are provided to better connect the future development within the Specific Plan area with existing use to the south of San Marcos Creek. Additionally, the capacity provided by these roadways is needed, thus they are identified as Circulation Element roadways in the San Marcos General Plan. These circulation network improvements would not be characterized as opening up new areas to development. Therefore, these circulation network improvements are not considered growth inducing.

Water, sewer and drainage improvements have been designed to accommodate existing flows in the areas as well as the additional flows that are anticipated from buildout of the Specific Plan area. They have not been designed to accommodate future flows. The future Vallecitos Water District (VWD) interceptor that is proposed within the project area was already analyzed in a Mitigated Negative Declaration.

Specific Plan

Buildout of the Specific Plan would result in the addition of up to 2,300 residential units, 1,265,000 square feet (s.f.) of commercial uses and 589,000 s.f. of office uses. The project would it is located adjacent to San Marcos Boulevard, and generally surrounded by development. Overall, implementation of the Specific Plan represents an intensification of uses compared to what would be allowed under the current General Plan and Zoning.

Using a rate of 2.96 residents per dwelling unit, the project is anticipated to add approximately 6,800 residents to the City. Given that the City of San Marcos has a population of approximately 76,725 (SANDAG 2006), the addition of 6,800 residents represents an 8.8 percent increase in the City's 2006 population. It should be noted that development within the Specific Plan area is expected to occur over the next 20 years; therefore, the population increase would be spread over that period as well, and would average approximately 340 residents per year. It should be noted that under the current General Plan designations on the project site, the project area could be developed with up to 1,107 residences without implementation of the Specific Plan. Therefore, the actual increase in residences due to the Specific Plan implementation is less. The Specific Plan represents a net increase of 1,193 residential units.

While the project represents an increase in population and an increase in intensity than would be developed under the current General Plan designations, this increase would not be characterized as growth inducing. Therefore, a less than significant impact is identified for this issue area.

7.0 CUMULATIVE EFFECTS

As required by the California Environmental Quality Act (CEQA), this Environmental Impact Report (EIR) analyzes the cumulative impacts of the proposed project. A cumulative impact is defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (§15355 of the *CEQA Guidelines*). Cumulative impacts may result from individual effects of a single project or the effects of several projects that have similar or related impacts. All past, present or probably future project which have impacts that are closely related to the proposed project are analyzed in this section of the EIR, and the impacts associated with the proposed project are analyzed in conjunction with the effects of other past, present, or probable future projects with similar or related impacts.

7.1 RELATED PROJECTS

Table 7.1-1, Cumulative Projects, lists the development projects in the area that are under construction or have been recently completed in the City of San Marcos. The cumulative list of projects is consistent with the *2007 CEQA Guidelines* §15130(b)(1)(A), which states that "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside of the control of the agency" should be included in the analysis of cumulative effects in the EIR.

For some issue areas the cumulative impact analysis take a "plan" approach, and discusses cumulative projects in terms of build out of the City of San Marcos General Plan.

7.1.1 Aesthetics

The cumulative aesthetics analysis considers cumulative projects that are recently constructed or proposed in the vicinity of the project and would be within the same project viewshed. Development of the proposed project, along with other projects recently constructed or proposed in the vicinity (i.e., Creekside Marketplace, Fenton Property, and Kaiser Medical) would change the existing visual character of this portion of the City of San Marcos. Buildout of the cumulative project would change these areas from vacant or semi-rural areas to urban developed areas supporting residential, office, commercial and educational uses. All of these projects are within the City limits and have been considered for development in the General Plan.

Future projects within the City of San Marcos would have to go through design review to ensure they are consistent with the requirements of the zoning ordinance and other applicable design requirements. Additionally some of the cumulative projects (Fenton Property) are proposed to be developed with a Specific Plan. The Specific Plan contains specific design requirements that would ensure a visually pleasing project. Further, the San Marcos General Plan includes goals, policies and implementing strategies, as detailed in Section 3.1.1 of the Draft EIR. Future projects would be required to adhere to these goals, which would minimize aesthetic impacts. So, while the development of the cumulative project results in a gradual change of the project vicinity to an area that is more urban in nature, this impact would be characterized as less than significant.

Table 7.1-1. Cumulative Projects

Project Name	Location	Description	Status
Civic Center Plaza	Twin Oaks Valley/ San Marcos Boulevard	20,000 s.f. retail and LA Fitness	Approved
Barrett American	Barham/La Moore	50 condominium units	Built
Fenton Property (Scripps)	Grand Avenue/Discovery Street	750 residential units, 580,000 s.f. office, 10 acres open space	Proposed
Kaiser Permanente	Craven Road	850,000 s.f. office, 439 bed hospital	160,000 built
University Center	Discovery/Twin Oaks Valley	13 acres	Approved
Hansen Aggregate	Craven	380 residential units	TSM approved
Urban West Strategies	Twin Oaks Valley/Campus	106 residential units, 12,000 s.f. retail	Approved
CSUSM Master Plan	CSUSM Campus	1,200,000 s.f. classroom, library, office built	Approved by State of California
County Office Building	141-145 Carmel	40,000 s.f. office (two 20,000 s.f. buildings)	Built
TSM 655	456 La Moore	3 residential units	Proposed
Sunrise Gardens	Barham Drive	14.36 acres	Proposed
Office Building (Carmel St.)	Carmel Street (between Enterprise and Industrial)	111,970 s.f. office	Under review
Morally Building	Grand/Pacific	23,100 s.f. office	Under construction
Poinsettia Arbor Ranch	Poinsettia/Linda Vista	58 residential units	Under construction
Novi Discovery	Discovery/San Marcos Boulevard	55,000 s.f. commercial, 8-condo office buildings	Proposed
Palomar Station	Los Posas Road/ Armorlite	333 residential units, 53,680 s.f. commercial, 9,800 s.f. office	Proposed
Shahhal - TSM 446	Oleander/Las Flores	5 lot subdivision single-family dwelling units (DUs)	Approved
Sierra Madre Academy	Las Flores/Grand	99-student private K-12 school	Approved
Park Place N.	950 Boardwalk	36,328 s.f. office	Built
Park Place S.	Park Place/Boardwalk	24,816 s.f. office	Proposed
Creekside Marketplace	San Marcos Boulevard/Grand	Approximately 300,000 s.f. of retail	Built
Grand Plaza	Grand Ave/Via Vera Cruz	336,350 s.f. retail, 12,000 s.f. office	Under construction
Sunset Park	South of La Mirada, east of Poinsettia	18.55 acres public park	CIP Approved

Source: City of San Marcos, 2006

7.1.2 Air Quality

Implementation of the proposed project would result in construction-related impacts to PM_{10}, NO_x, and ROG. Operation of the proposed project would also result in impacts to PM_{10}, NO_x, and ROG. While mitigation measures are identified to reduce project-specific impacts, these measures would not reduce all impacts to below a level of significance. The project would result in a significant and unmitigated air quality impact.

Implementation of the proposed project in conjunction with other planned future projects within the City of San Marcos would further exacerbate air quality impacts, as these projects would result in emissions associated with construction activities and operation (e.g., vehicular trips). Construction emissions, however, are not expected to be cumulatively significant, as few, if any of the cumulative projects would be under construction at the same time. Some of the cumulative projects are already constructed, some are currently under construction, and some are under environmental review. Due to the varied timing of the project, significant cumulative air quality impacts are not expected. When emissions from project operation are considered with vehicular emissions associated with other project, a significant cumulative air quality impact is expected. PM_{10}, NO_x, and ROG impacts from the project, along with emissions from the cumulative projects would further exacerbate the air quality of the region, particularly for PM10 and ROG. Current attainment designations for the San Diego Air Pollution Control District (SDAPCD) are as follows:

Criteria Pollutant	Federal Designation	State Designation
Ozone (one hour)	Attainment	*Non-attainment*
Ozone (eight hour)	*Non-attainment*	(no state standard)
Carbon Monoxide	Attainment	Attainment
PM_{10}	Unclassifiable	*Non-attainment*
$PM_{2.5}$	Attainment	(to be designated)
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified

Therefore, when PM_{10}, NO_x and ROG emissions from operation of the project are considered with the future emissions of the cumulative projects, a significant cumulative impact is identified. The project includes mitigation measures to reduce some of the project emissions; however, it would not reduce project-level emissions to below a level of significance. Other development projects are anticipated to implement mitigation measures to reduce air quality impacts as well; however, those measures may not be enough to reduce the impacts to below a level of significance. In summary, when PM_{10}, NO_x and ROG emissions from operation of the project are considered with the future emissions of the cumulative projects, a significant cumulative impact is identified.

Global Warming

Global warming and greenhouse gases are an emerging environmental concern being raised on statewide, national, and global levels. Regional, state, and federal agencies are developing strategies to control pollutant emissions that contribute to global warming, including the recently-adopted California Assembly Bill 32, which requires the California Air Resources Board (CARB) to develop regulations and market mechanisms to ultimately reduce California's greenhouse gas emissions.

As the project would contribute construction- and operation-related emissions and ozone precursors, the potential exists that implementation of the proposed project would incrementally contribute to a significant, cumulatively considerable impact. However, as part of project design, pedestrian and bicycle facilities and an intra-city shuttle are provided to encourage alternative transportation modes with the aim of reducing overall greenhouse gas emissions.

Neither CEQA nor the *CEQA Guidelines* mention or provide any methodology for analysis of greenhouse gases, including CO_2, nor do they provide any significance thresholds. The air quality analysis prepared for the proposed project follows all procedures and requirements of CEQA and the SCAQMD *CEQA Air Quality Handbook*. Therefore, evaluation of any potential global warming effects resulting from the project, including modeling and gauging the impacts associated with an increase of trips or generation of new trips and the effect on global warming, would be entirely speculative as no modeling protocol or significance criteria have been established against which to measure the project's contribution to overall global warming trends.

Other local agencies are reviewing this same issue, and at present, efforts are being undertaken across the state to develop appropriate modeling protocols and significance criteria. As development proposals in Phase 2 of the project come forward, the City will reevaluate whether this type of analysis remains a speculative area of inquiry.

7.1.3 Biological Resources

Implementation of the proposed project would result in direct impacts to wetland, upland habitat, and sensitive plant species, as well as indirect biological resource impacts. All project-specific impacts would be mitigated to below a level of significance through habitat restoration on and off site and though transplantation of sensitive plants.

Cumulative projects identified in Table 7.1-1 as well as build out of the General Plan would result in impacts to sensitive biological resources. Future development within the City of San Marcos would extend urban land uses into vacant areas characterized by natural habitats similar to those impacted by the proposed project. This impact is considered significant; however, the majority of the cumulative projects are located in a developed area or are surrounded by developed land. Due to the fragmented nature of the biological resources that would be impacted by development of the cumulative projects, these resources are of low to moderate value as they do not provide contiguous habitats that would contribute to assembly of the North County Multiple Habitat Conservation Program (MHCP) preserve area.

Moreover, preservation of habitat, revegetation efforts, compliance with appropriate permit conditions as determined by the CEQA process, the California Department of Fish and Game (CDFG), U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and U.S. Fish and Wildlife Service (USFWS). Planning efforts in accordance with the regional biological resource conservation goals of the Multiple Habitat Conservation Program (MHCP) are intended to reduce cumulative biological resource impacts.

Preservation of habitat though individual permitting and CEQA review and planning in accordance with the biological resource conservation goals of the MHCP are intended to mitigate cumulative

biological resource impacts. Therefore, cumulative impacts to biological resources are considered less than significant.

7.1.4 Cultural Resources

Construction of the project, as well as future projects in the City of San Marcos, has the potential to disturb significant archaeological and historical resources. Impacts to cultural resources within the region are generally mitigated at the individual project level through the use of data recovery or avoidance measures required by CEQA. When data recovery is implemented, the recovered materials and associated reports are made available at the local archaeological research institution so information on the resources is maintained. When resources are avoided, they are preserved in place and not impacted. Therefore, the development of the cumulative projects is not expected to result in a cumulatively considerable impact to cultural resources. Implementation of the project would result in a significant impact to one archaeological resource and one historical resource, however, the project will mitigate all impact to below a level of significance. Since all cumulative projects, including the proposed project, that may impact significant cultural resources are required to mitigate the impacts to below a level of significance, as well as the fact that information from these resources would be retained for future research through data recovery and documentation, a less than significant cumulative impact is identified.

Some of the projects on the cumulative list are located in areas that support alluvial soils. Certain types of alluvial soils have the potential to contain paleontological resources. Similar to the project, the presence of these resources is typically unknown until earthwork activities commence for project construction. For the cumulative project that are within sensitive areas for paleontological resources, the expectation is that mitigation measures would be included to require consultation with a paleontologist or a construction monitor to ensure that impacts to this resource to do not occur. Therefore, cumulative impacts to paleontological resources are determined to be less than significant, and the project would not contribute to a cumulatively considerable paleontological impact.

7.1.5 Hazardous Materials

The simultaneous development of the proposed project and related projects would not result in cumulatively significant impacts since all development in the vicinity would be subject to the same local, regional, state, and federal regulations pertaining to hazards and hazardous materials. Compliance with hazardous materials regulations and implementation of mitigation measures for all facilities would reduce cumulative project impacts to less than significant levels. Therefore, no significant cumulative impacts associated with hazardous materials are identified for the proposed project, and no mitigation is necessary.

7.1.6 Hydrology and Water Quality

Stormwater Runoff and Water Quality

Development of the project and other cumulative projects would create more impervious surfaces, thereby increasing the amount of stormwater runoff. However, individual projects are responsible for meeting local and state requirements pertaining to stormwater runoff and detention, therefore cumulative impacts due to stormwater runoff are expected to be less than significant.

Development of the project and other cumulative projects has the potential to impact water quality. These impacts could occur from construction of the project and cumulative projects as well as from and post-construction operations. The cumulative projects will be required to adhere to all local and state requirements pertaining to water quality. Projects are typically required to install desiltation or filtration systems for runoff before it is discharged into the public storm water system of San Marcos Creek. Additionally, all of the cumulative projects are required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and a Water Quality Management Plan (WQMP) to address potential water quality impacts from the proposed development. These plans will identify Best Management Practices (BMPs) to be used for each of the cumulative projects to minimize water quality impacts. Therefore, a cumulative water quality impacts would be less than significant and the project's contribution would also be less than significant.

Sediment Transport

None of the other cumulative projects propose improvements within San Marcos Creek with the exception of the Fenton Property (Scripps). That project proposes to extend Grand Avenue across the creek via a bridge. The Grand Avenue bridge has been designed to span the creek. It would not alter the rate or flow of water within the creek, nor would it increase sediment transport. Therefore, cumulative impacts associated with sediment transport are determined to be less than significant. Impacts related to increased sediment transport due to proposed floodway improvements were identified for the project. Mitigation was identified to reduce this impact to below a level of significance, and the project's cumulative contribution would also be less than significant.

100-Year Flood Plain

Implementation of the project would result in the redefinition of the 100-year flood plain. Each project on the cumulative list was either subject to, or is undergoing, environmental review. Part of that analysis would determine if the project is within the 100-year floodplain and appropriate measures would be incorporated to ensure that future development is not subject to a flooding risk. Therefore, a less than significant impact is identified.

7.1.7 Land Use

The project includes a General Plan Amendment and Rezone to allow for a Specific Plan designation. Under the current General Plan, business park, medical office, community commercial, and condominiums would be constructed. The project proposes similar types of uses, but in a mixed-use format. A land use impact would be considered cumulative if there was a significant amount of land area undergoing General Plan amendments or rezones.

The cumulative projects identified, consist of various types of projects, including commercial (retail and office), and residential, (both multifamily and single family), educational uses and a park. The development within the City of San Marcos and the surrounding jurisdictions in which the cumulative projects are located would not be of a single type of development, but a variety of types and uses. The current and future development of the City of San Marcos would not significantly alter the planned development as detailed in the General Plan. This is apparent through the absence of identified significant cumulative impacts to roadways and intersections, which is a typical indicator of an inconsistency between the land use planning or General Plan and the actual

development that takes place. Therefore, the Proposed Project would not contribute to a significant cumulative land use impact.

7.1.8 Noise

Construction of the project as well as cumulative projects would result in short-term increases in the areas where the projects are located. As shown on Table 7.1-2, some of the cumulative projects have already been constructed, therefore, they would not add to a possible cumulative impact related to construction noise. This is because the impacts from these previously constructed projects are accounted for in the baseline. Other projects are currently under construction and are expected to be completed before construction starts on the proposed project. There is a potential that some of the cumulative projects could be under construction at the same time as the project. However, with the exception of one cumulative project (Scripps Property), none of the cumulative projects are adjacent to the project site. Since noise attenuates with distance, there would not be a cumulative impact. Further, all projects within the City of San Marcos have to adhere to requirements pertaining to hours of construction activity. Therefore, cumulative impacts related to project construction are less than significant.

With regard to cumulative impacts due to project operation, a plan-approach is taken. The General Plan assumes buildout of the entire City in a manner that is consistent with the General Plan. Table 7.1-2 shows the existing Community Noise Equivalent Level (CNEL) in the project vicinity, the expected CNEL with buildout of the General Plan, as well as the expected CNEL with the project.

Typically it takes a 3 decibel (dB) increase for an increase in noise to be perceived. All increases associated with the project, in light of buildout of the General Plan, are below 3 dB with the exception of one segment. The segment of Bent Avenue from Grand Avenue to Discovery would have an approximate 6 dB increase. Current uses along this segment include commercial and light industrial uses, with the exception of a few legal non-conforming single-family residences on Bent, north of San Marcos Creek. The 65 dB contour along Bent Avenue would extend approximately 50 feet from the right-of-way line, and would not impact existing residential use. The closest existing homes are set back approximately 150 to 200 feet from Bent Avenue. Therefore, a less than significant impact is identified for this increase. In summary, cumulative noise impacts would be less than significant.

7.1.9 Public Services

Development of the project, in conjunction with the cumulative projects identified in Table 7.1-1 would result in an increase in demand for police and fire protection services. Additionally, the cumulative projects that include a residential component (i.e., Barrett American and Fenton projects) would result in an increase in demand for library services and school services. Future developments within the City of San Marcos would be required to annex into an existing community facilities district (CFD) or be responsible for payment of Level 2 school fees ($4.26 per square foot [s.f.]) as specified in the District's most recent School Facilities Needs Analysis at the time the building permit is obtained. Cumulative projects would also have to contribute to a Public Facility ~~Finance~~ Fee (PFF) payment, which includes a category for parks and recreation. Since each project provides a payment of fee for impacts, cumulative impacts to public services are determined to be less than significant, and the project would not contribute to a cumulatively considerable public services impact.

Table 7.1-2. CNEL in dB at 50 feet from Centerline

Roadway Segment	Existing	Buildout of General Plan Scenario	With Project Scenario
San Marcos Boulevard			
Rancho Santa Fe Road to Discovery Street	74.1	75.1	75.2
Discovery Street to Pacific Street	73.8	74.2	74.1
Pacific Street to Las Posas Road	73.8	74.7	74.6
Las Posas Road to Via Vera Cruz	73.3	72.8	73.6
Via Vera Cruz to Bent Avenue	74.2	73.7	73.7
Bent Avenue to Grand Avenue	75.0	74.0	74.0
Grand Avenue to SR-78	75.7	75.0	75.2
Street "A"			
Las Posas Road to Via Vera Cruz	DNE	DNE	66.7
Via Vera Cruz to Bent Avenue	DNE	DNE	66.8
Street "B"			
Bent Avenue to Grand Avenue	DNE	DNE	65.1
Discovery Street			
San Marcos Boulevard to La Sombra	68.5	70.0	70.6
La Sombra to McMahr	68.5	69.2	69.7
McMahr to Via Vera Cruz	68.5	70.7	70.5
Via Vera Cruz to Bent Avenue	68.8	71.6	71.4
Bent Avenue to Grand Avenue	N/A	70.9	71.4
Grand Avenue to Twins Oaks Valley Road	N/A	73.7	73.7
Pacific Street			
Linda Vista Drive to San Marcos Boulevard	60.3	64.1	64.3
Las Posas Road			
Linda Vista Drive to San Marcos Boulevard	66.7	71.2	71.2
San Marcos Boulevard to Discovery Street	N/A	66.9	62.4
Via Vera Cruz			
Linda Vista Drive to San Marcos Boulevard	64.7	67.6	67.0
San Marcos Boulevard to Discovery Street	65.0	66.5	67.5
Bent Avenue			
Grand Avenue to San Marcos Boulevard	62.2	65.2	65.9
San Marcos Boulevard to Discovery Street	64.8	63.0	69.1
South of Discovery Street	69.0	68.9	69.1
Grand Avenue			
Bent Avenue to San Marcos Boulevard	67.9	71.1	71.2
San Marcos Boulevard to Discovery Avenue	68.2	69.6	68.1

Note: DNE = does not exist

7.1.10 Traffic and Circulation

To determine cumulative traffic impact, buildout of the General Plan is compared with buildout of the General Plan with implementation of the Specific Plan. As shown in Table 7.1-3, implementation of the project would not result in a significant traffic impact compared to buildout under the General Plan. The future segments of Main Street between McMahr–Via Vera Cruz and Main Street between Via Vera Cruz– Bent Avenue were not assumed in the General Plan (without project) scenario, as they are not currently identified in the planning documents that are used for the San Diego Association of Governments (SANDAG) model run. The Specific Plan would create these segments. Mitigation identified for the project would reduce this impact to below a level of significance. In summary, cumulative traffic impacts would be less than significant.

7.1.11 Utilities and Services Systems

Development of the project, in conjunction with the cumulative projects identified in Table 7.1-1 would increase the need for water and wastewater services, solid waste services and dry utilities. Water and wastewater master planning is within the purview of the Vallecitos Water District (VWD). Based upon communication with ~~J. Gumpel of~~ VWD (2007a), VWD is currently reviewing the anticipated water and wastewater needed of the various development projects proposed within the vicinity of the project.

Within the project area and vicinity, VWD would be constructing the San Marcos Interceptor. This interceptor would carry wastewater from many of the projects in Table 7.1-3. This wastewater generation would require upsizing of the San Marcos Interceptor, as well as expansion of the outfall at the Encina treatment plant to occur at an earlier time than anticipated by VWD. However, the project, as well as future projects would be required to coordinate with VWD for wastewater service and pay applicable fees. Additionally, projects phasing for some of the cumulative projects may be contingent on the completion of the San Marcos Interceptor. So while the cumulative projects increase the demand for wastewater service, payment of fees, timing of construction and ongoing coordination with VWD would ensure that wastewater impacts are less than significant, and the project would not contribute to a cumulatively considerable public services impact.

VWD would also be the provider of potable water for the cumulative projects. The Water Supply Assessment (WSA) prepared for this project (Kennedy/Jenks 2007) indicated that VWD has the ability to meet existing and planned future demands over a 20-year period. Therefore, water supplies are available for the project and other cumulative projects. Therefore, cumulative impacts related to water supply would be less than significant.

Solid waste generated by the project, in conjunction with other cumulative projects would result in an incremental increase in demand on solid waste services and landfill capacity. EDCO would provide waste and recycling collection services to the project as well as the cumulative projects. Currently the Sycamore Landfill has a daily permitted capacity of 3,300 tons/day of solid waste (CIWMB ~~2006~~2007), with an anticipated closure date of 2016. The Prima Deshecha Landfill has a daily permitted capacity of 4,000 tons/day of solid waste (CIWMB ~~2006~~2007), with an anticipated closure date of 2067. Due to remaining landfill capacity, when solid waste generated by the project is considered along with the waste generated by other cumulative projects, a less than significant impact is identified.

Table 7-1-3. Horizon Year 2030 Daily Roadway Segment Conditions General Plan Land Uses vs. Specific Plan Land Uses

Street	Location	Class (# Lanes)	Daily Capacity	Year 2030 GPLU			Year 2030 SPLU			Change in V/C
				ADT	V/C	LOS	ADT	V/C	LOS	
San Marcos Boulevard	Rancho Santa Fe Road to Discovery Street	Prime (6)	60,000	53,800	0.897	D	54,623	0.910	D	0.014
	Discovery Street to Pacific Street	Prime (6)	60,000	43,500	0.725	C	42,608	0.710	C	-0.015
	Pacific Street to Las Posas Road	Prime (6)	60,000	48,300	0.805	C	47,657	0.794	C	-0.011
	Las Posas Road to Via Vera Cruz	Prime (6)	60,000	31,500	0.525	B	37,684	0.628	C	0.103
	Via Vera Cruz to Bent Avenue	Prime (6)	60,000	38,500	0.642	C	38,274	0.638	C	-0.004
	Bent Avenue to Grand Avenue	Prime (6)	60,000	41,500	0.692	C	41,260	0.688	C	-0.004
	Grand Avenue to SR-78	Prime (6)	60,000	51,800	0.863	D	54,763	0.913	D	0.049
Main Street	McMahr Road to Via Vera Cruz	Collector (2)	8,000	–	–	–	7,692	0.961	E	–
	Via Vera Cruz to Bent Avenue	Collector (2)	8,000	–	–	–	7,794	0.974	E	–
Creekside Drive	Bent Avenue to Grand Avenue	Collector (2)	8,000	–	–	–	5,366	0.671	D	–
Discovery Street	San Marcos Boulevard to La Sombra Drive	Secondary (3)	22,500	16,600	0.738	C	18,747	0.833	D	0.095
	La Sombra Drive to McMahr Road	Secondary (3)	22,500	13,600	0.604	C	15,487	0.688	C	0.084
	McMahr Road to Via Vera Cruz	Major (4)	30,000	19,100	0.637	C	18,337	0.611	C	-0.025
	Via Vera Cruz to Bent Avenue	Major (4)	30,000	23,500	0.783	D	22,887	0.763	D	-0.020
	Bent Avenue to Grand Avenue	Major (4)	40,000	20,300	0.508	B	22,712	0.568	C	0.060
	Grand Avenue to Twin Oaks Valley Road	Prime (6)	60,000	38,200	0.637	C	38,963	0.649	C	0.013
Pacific Street	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	4,200	0.140	A	4,442	0.148	A	0.008
Las Posas/McMahr Rd.	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	21,800	0.727	D	21,787	0.726	D	-0.001
	San Marcos Boulevard to Discovery Street	Secondary (4)	30,000	8,000	0.267	A	2,876	0.096	A	-0.171
Via Vera Cruz	Linda Vista Drive to San Marcos Boulevard	Secondary (4)	30,000	9,400	0.313	A	8,298	0.277	A	-0.037
	San Marcos Boulevard to Discovery Street	Secondary (4)	30,000	7,300	0.243	A	9,156	0.305	A	0.062
Bent Avenue / Craven Road	Grand Avenue to San Marcos Boulevard	Secondary (4)	30,000	5,500	0.183	A	6,448	0.215	A	0.032
	San Marcos Boulevard to Discovery Street	Secondary (4)	30,000	3,300	0.110	A	13,494	0.450	B	0.340
	South of Discovery Street (Craven Road)	Secondary (4)	30,000	12,900	0.430	B	13,479	0.449	B	0.019
Grand Avenue	Bent Avenue to San Marcos Boulevard	Secondary (4)	30,000	21,300	0.710	D	21,835	0.728	D	0.018
	San Marcos Boulevard to Discovery Street	Major (4)	40,000	15,000	0.375	A	10,656	0.266	A	-0.109

Note: Deficient roadway segment operation shown in **bold**.

8.0 UNAVOIDABLE SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS

In accordance with *California Environmental Quality Act (CEQA) Guidelines* Section 15126(b), Environmental Impact Reports (EIRs) must include a discussion of significant environmental effects that cannot be avoided if the proposed project is implemented. The impact analysis, as detailed in Section 3.0 of this Draft EIR, concludes that the following impacts would remain significant after mitigation for the proposed project.

8.1 AIR QUALITY (PROJECT- AND CUMULATIVE-LEVEL NO_X, PM_{10} AND ROG)

Implementation of the project would result in significant and unmitigated nitrogen oxides (NO_x), PM_{10} and ROG emissions due to project vehicular emissions. Additionally, the project would also add to a cumulative impact for these pollutants. Mitigation measures have been identified for the project to reduce some of the emissions, however; they would not reduce the project- or cumulative-level impact to below a level of significance.

The project proposes opportunities for alternative transportation which can reduce the amount of vehicular trips and emission. The Specific Plan includes a pedestrian trail system as well as facilities for bicycles. Pedestrian activity within the Specific Plan area would be enhanced through the use of broad, tree-lined sidewalks on both sides of all streets within the development area, pedestrian streets or “paseos” that provide off-street pedestrian movement, and the provision of a Class I, multi-use trail within the proposed open space corridor.

Bicycle use within the Specific Plan area would be encouraged through the provision of an inter-connected system of Class II bicycle lanes that connect to existing and planned bicycle facilities on San Marcos Boulevard, Las Posas Road, Discovery Road, McMahr Road, and Craven Road. The project proposes bicycle lanes on Bent Avenue, Via Vera Cruz, McMahr Road, Discovery Street, Creekside Drive, and the north-south local streets within the Specific Plan area. Figure 3.10-4 depicts the proposed bicycle network.

Enhanced transit service is also identified within the Specific Plan. Enhanced transit would be accomplished through the provision of a new local shuttle. This shuttle would provide internal circulation within the Specific Plan area and would also loop with connections to other key nearby San Marcos destinations (e.g., employment centers, campuses, and transit stations).

Finally, as a mixed-use project, the project will reduce vehicular trips (and associated air emissions) by creating a vibrant and walkable community, whereby residents can fulfill some of their shopping needs within the neighborhood. This decreases the amount of vehicular trips that would be required.

While the Specific Plan includes the feature to enhance the use of alternative transportation modes, vehicular air emissions would still be significant at the project and cumulative level.

8.2 SIGNIFICANT IRREVERSIBLE CHANGES

In accordance with *CEQA Guidelines* Section 15126.2(c), an EIR must identify any significant irreversible environmental changes that would be caused by the proposed project being analyzed. Irreversible environmental changes may include current or future commitments to the use of non-

renewable resources or secondary growth-inducing impacts that commit future generations to similar uses. Growth inducing impacts of the project area discussed in Section 6.0 of the Draft EIR.

Construction and operation of the project would contribute to the incremental depletion of resources, including renewable and non-renewable resources. Resources such as lumber used in building construction, are generally considered renewable resources, and would be replenished over the lifetime of the project. Non-renewable resources, such as natural gas, petroleum products, steel, copper and other materials are typically considered to be in finite supply and would not be replenished over the lifetime of the project.

The demand for all such resources is expected to increase regardless of whether the project is developed. According to the San Diego Association of Governments (SANDAG) (2007), over the next 25 years another one million people would be added to the San Diego region. These increases in population would directly result in the need for more residential units to accommodate the expected growth. SANDAG indicates that approximately 265,000 units would need to be developed. If not consumed by the project, these resources would likely be committed to other projects in the region intended to meet this growth.

9.0 PERSONS AND ORGANIZATIONS CONSULTED AND REFERENCES

9.1 PERSONS AND ORGANIZATIONS CONSULTED

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