City of Riverside Public Works Department
Engineering Division

Notice of Intent to Adopt a Mitigated Negative Declaration

TO:	Interested Agencies and Individuals
LEAD AGENCY AND CONTACT PERSON:	**City of Riverside Public Works Department** **Lonny Young** Engineering Division 3900 Main Street Riverside, California 92501 Telephone: 951.826.5294 Fax: 951.826.2046 Email: lyoung@riversideca.gov
SUBJECT:	**Notice of Intent to Adopt a Mitigated Negative Declaration for the Tequesquite Arroyo Trunk Sewer Replacement Project**
COMMENT PERIOD:	April 16, 2009 to May 15, 2009
CITY COUNCIL MEETING:	The City intends to consider the proposed Project and the Mitigated Negative Declaration at a regularly scheduled City Council meeting. The date of the City Council meeting has not been determined; however, appropriate public notice will be provided regarding the meeting time.

Pursuant to the California Environmental Quality Act (CEQA), the City of Riverside Public Works Department (City) has prepared an Environmental Initial Study and Draft Mitigated Negative Declaration for the Tequesquite Arroyo Trunk Sewer Replacement (Project). The Environmental Initial Study and Draft Mitigated Negative Declaration reflect the independent judgment of the City.

The proposed Project consists of the construction of approximately 4.4 miles of new trunk sewer to replace an existing aged and under capacity pipeline. The new trunk sewer will be constructed within existing City right-of-way and within proposed sewer easements. A combination of open trench and trenchless excavation construction will be used to install the new trunk sewer along the project alignment. Construction materials will typically comprise 36-inch diameter vitrified clay pipe and 48-

inch diameter steel carrier pipes in some trenchless excavations. The project will also comprise the installation of a number of manholes and junction boxes along the new trunk sewer alignment.

The Environmental Initial Study describes the proposed Project and its location and assesses the potential impacts. This environmental review concludes that the proposed Project, with implementation of mitigation measures, would not have a significant effect on the environment. Further, the Project site has not been identified on any hazardous waste list as identified in Government Code §65962.5.

This Notice of Intent is being sent to responsible and trustee agencies and interested parties as part of the public review process required pursuant to CEQA (§21092 of the Public Resources Code) and the State *CEQA Guidelines* (Section 15072). Due to the time limits mandated by State law, written comments must be received by May 15, 2009. When submitting written comments to the City, please provide the name and telephone number of a contact person.

The City intends to consider the proposed Project and the Mitigated Negative Declaration at a regularly scheduled City Council meeting. The date of the City Council meeting has not been determined; however, appropriate public notice will be provided regarding the meeting time.

SB

Siobhan Foster, Public Works Director

4/16/09

Date

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: Tequesquite Arroyo Trunk Sewer Upgrade

Lead Agency: City of Riverside | Contact Person: Lonny Young, P.E.
Mailing Address: 3900 Main Street, Public Works - Engineering Dept. | Phone: (951) 826-5294
City: Riverside | Zip: 92522 | County: Riverside

Project Location: County: Riverside | City/Nearest Community: Riverside
Cross Streets: Brockton Ave, Magnolia Ave, Olivewood Ave, Victoria Ave, Sedgewick Ave | Zip Code: 92501..
Longitude/Latitude (degrees, minutes and seconds): 33 ° 58 ' 29.7 " N / 117 ° 22 ' 59 " W | Total Acres: 4.4
Assessor's Parcel No.: Multiple | Section: 36, 26.. | Twp.: 2S | Range: 5W | Base: SBBM
Within 2 Miles: State Hwy #: 91, 60 | Waterways: Santa Ana River, Riverside Canal, Tequesquite Arroyo
Airports: Flabob | Railways: Union Pacific | Schools: Riverside Comm College

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☑ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other:
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other:

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☑ Other:

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☑ Other: Trunk Sewer Replacement

Project Issues Discussed in Document:

☑ Aesthetic/Visual
☑ Agricultural Land
☑ Air Quality
☑ Archeological/Historical
☑ Biological Resources
☐ Coastal Zone
☐ Drainage/Absorption
☑ Economic/Jobs
☐ Fiscal
☐ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☑ Geologic/Seismic
☐ Minerals
☑ Noise
☐ Population/Housing Balance
☑ Public Services/Facilities
☑ Recreation/Parks
☑ Schools/Universities
☐ Septic Systems
☑ Sewer Capacity
☐ Soil Erosion/Compaction/Grading
☐ Solid Waste
☑ Toxic/Hazardous
☑ Traffic/Circulation
☐ Vegetation
☑ Water Quality
☐ Water Supply/Groundwater
☑ Wetland/Riparian
☑ Growth Inducement
☑ Land Use
☐ Cumulative Effects
☐ Other:

Present Land Use/Zoning/General Plan Designation:

Street right-of-way, residential, community college, park/PF, CG, DSP-HC, R-3-1500, I, etc./PR, PF, Downtown Specific Plan, etc.

Project Description: *(please use a separate page if necessary)*

The project will involve the installation of approximately 4.4 miles of new trunk sewer to replace an existing aged and under capacity pipeline. The new trunk sewer will be constructed within existing City right-of-way and within proposed sewer easements. A combination of open trench and trenchless excavation construction will be used to install the new trunk sewer along the project alignment. Construction materials will typically comprise 36-inch diameter vitrified clay pipe and 48-inch steel carrier pipes in some trenchless excavations. The project will also comprise the installation of a number of manholes and junction boxes along the new trunk sewer alignment.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X".
If you have already sent your document to the agency please denote that with an "S".

___	Air Resources Board	___	Office of Emergency Services
___	Boating & Waterways, Department of	___	Office of Historic Preservation
___	California Highway Patrol	___	Office of Public School Construction
___	Caltrans District # 8	___	Parks & Recreation, Department of
___	Caltrans Division of Aeronautics	___	Pesticide Regulation, Department of
___	Caltrans Planning	___	Public Utilities Commission
___	Central Valley Flood Protection Board	___	Regional WQCB # 8
___	Coachella Valley Mtns. Conservancy	___	Resources Agency
___	Coastal Commission	___	S.F. Bay Conservation & Development Comm.
___	Colorado River Board	___	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
___	Conservation, Department of	___	San Joaquin River Conservancy
___	Corrections, Department of	___	Santa Monica Mtns. Conservancy
___	Delta Protection Commission	___	State Lands Commission
___	Education, Department of	___	SWRCB: Clean Water Grants
___	Energy Commission	___	SWRCB: Water Quality
___	Fish & Game Region # 6	___	SWRCB: Water Rights
___	Food & Agriculture, Department of	___	Tahoe Regional Planning Agency
___	Forestry and Fire Protection, Department of	___	Toxic Substances Control, Department of
___	General Services, Department of	___	Water Resources, Department of
___	Health Services, Department of		
___	Housing & Community Development	___	Other: U.S. Army COE, Los Angeles District
___	Integrated Waste Management Board	___	Other:
___	Native American Heritage Commission		

Local Public Review Period (to be filled in by lead agency)

Starting Date April 16, 2009 Ending Date May 15, 2009

Lead Agency (Complete if applicable):

Consulting Firm: David Evans and Associates, Inc.
Address: 110 West A Street, Suite 1700
City/State/Zip: San Diego, CA 92101
Contact: Michael D'Alessandro
Phone: (619) 400-0613

Applicant: City of Riverside
Address: 3900 Main Street
City/State/Zip: Riverside, CA 92522
Phone: (951) 826-5294

DB

Signature of Lead Agency Representative: _____ **Date:** 4/16/09

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

Public Works – Engineering Department

Tequesquite Arroyo Trunk Sewer Upgrade

Draft Initial Study / Mitigated Negative Declaration

WARD:

1. **Case Number:** **EPW-09-002**

2. **Project Title:** Tequesquite Arroyo Trunk Sewer Upgrade

3. **Lead Agency:** City of Riverside
Public Works – Engineering Department
Planning Division
3900 Main Street, 3rd Floor
Riverside, CA 92522

4. **Contact Person:** Lonny Young, P.E.
Phone Number: (951) 826-5348

5. **Project Location:**

Located in the northern portion of the City, the project site extends along an approximately 4.4 mile alignment running southeast from Tequesquite Avenue, near the Santa Ana River to just west of Chicago Avenue. The project alignment begins along Tequesquite Avenue near the Santa Ana River, traverses east through athletic and parking facilities on the Riverside City College (RCC) campus, runs south within Saunders Street and Brooks Street through single-family residences, then east under the State Route 91 (SR-91)/ Union Pacific rail corridor and through the Tequesquite Arroyo and the Victoria Club golf course to its terminus just west of Chicago Avenue.

6. **Project Applicant/Project Sponsor's Name and Address:** City of Riverside

7. **General Plan Designation:**

The Land Use Policy Map within the General Plan 2025 (GP 2025) identifies multiple land use designations within the project alignment. At the western extent, in the vicinity of Tequesquite / Brockton Avenue, the alignment is a mix of Private Recreation, Medium Density Residential, and Public Facilities/Institutional uses. Centrally, in the vicinity of Magnolia Avenue, RCC and SR-91, the alignment contains General Plan land uses designated for Public Facilities, Industrial uses, High Density Residential, and Open Space / Natural Resources. Portions of both previous segments are incorporated within the Downtown Specific Plan area. East of the SR-91 / Union Pacific rail corridor the alignment contains Industrial, Open Space / Natural Resources, and Medium Density Residential uses. The eastern segment of the alignment, east of Victoria Avenue, is designated Private Recreation, with a small area of Hillside Residential development located to the north.

Sanitary sewer and related facilities are permissible within each of these General Plan land use designations as uses customarily incidental to permitted uses; therefore no general plan amendments will be required to implement the project.

8. **Zoning:**

Zoning designations for the project corridor include Residential, Commercial / Industrial, Downtown Specific Plans, and Other zones. At the western extent, in the vicinity of Tequesquite / Brockton Avenue, the project alignment is a mix of residential, commercial, and institutional uses zoned PF (Public Facilities), R-1-7000 (Single-family Residential), R-3-1500 (Multi-family Residential), Office, and DSP-HC (Downtown Specific Plans). Centrally, in the vicinity of Magnolia Avenue, RCC and SR-91, the alignment contains zoning designated PF, DSP-HC and DSP-PPO (Downtown Specific Plans), R-3-1500, and R-1-7000. East of the SR-91 / Union Pacific rail corridor to Victoria Avenue, the alignment is zoned I (General Industrial), BMP (Business and Manufacturing Park, and PF. The eastern segment of the alignment, east of Victoria Avenue, is designated PF with a small area zoned RC (Residential Conservation) located to the north.

Sanitary sewer and related facilities are permissible within each of these zoning designations as uses customarily incidental to permitted uses; therefore no zone changes will be required to implement the project.

9. **Description of Project:**

Physical Characteristics

The project site extends approximately 4.4 miles southeast from the western end of Tequesquite Avenue, west of Elderwood Court, to an area just west of Chicago Avenue, within the Victoria Club golf course (see *Proposed Site Plan*). The project will involve the installation of approximately 4 miles of new trunk sewer main along the project alignment to replace an existing aged and under capacity pipeline. The new trunk sewer main will be constructed within existing City right-of-way for a large portion of its length. The City plans to obtain new easements for sections of the alignment that will be constructed through non-City property. The project will connect to both the upstream and downstream ends of a recently installed 1,600 linear foot portion of 36-inch diameter trunk sewer main. The approximately 1,600 foot section of 36 inch sewer main between Palm Avenue and Brockton Avenue along Tequesquite Avenue is sized for future capacity as identified in the 2002 Tequesquite Sewer Study.

The project alignment commences in the south-west at an existing siphon vault on Tequesquite Avenue, west of the intersection with Elderwood Court. At this location, approximately 1,000 feet of the new trunk sewer main would be installed within the right-of-way of Tequesquite Avenue, thereby connecting to the existing 36 inch sewer main at the intersection of Tequesquite Avenue and Palm Avenue, where it will terminate. Installation of the new trunk sewer main will then re-commence at the south-eastern corner of Tequesquite Avenue and Brockton Avenue, where it will be constructed south-easterly along the existing roadway for 400 feet before entering the grounds of the RCC.

Within RCC the new trunk sewer main will be constructed within the existing right-of-way that follows an internal roadway before passing under the northern edge of one of the college's baseball fields. Trenchless excavation will then be used to install the new trunk main beneath a second baseball field and Magnolia Avenue to connect with RCC property to the east. The new sewer main will continue south-easterly for approximately 0.33 miles through the college grounds, along existing internal roadways and parking areas, before turning south-west to follow Saunders Street and east through Student Parking Lot "P", exiting RCC at Olivewood Avenue.

The new trunk main will pass below-grade across Olivewood Avenue into Brooks Street just east of the intersection and continue south along the Brooks Street road right-of-way for approximately 450 feet before turning east towards SR-91. Trenchless excavation will be used to install the new trunk sewer main beneath SR-91 and the Union Pacific railway line to connect to private property to the east. East of the rail corridor, the new trunk sewer main turns south for 0.3 miles then turns towards Victoria Avenue, approximately 0.4 miles to the east. This section of the alignment will be constructed primarily within private property in an existing sewer right-of-way. The new trunk sewer main will make a stream crossing at two locations within this section. East of Victoria Avenue, the project alignment continues into the Victoria Club property.

Within the property boundary of the Victoria Club golf course, the existing sewer right-of-way closely follows the bed of the Tequesquite Arroyo stream channel. To avoid the potential for adverse environmental impact, the proposed new trunk sewer line will deviate from the existing right-of-way and traverse the northern boundary of the golf course site. Where feasible, the new trunk sewer main will be constructed along or beneath existing cart pathways and/or trenchless excavation techniques will be used to minimize disruption to playing areas. At the eastern extent of the project, the new trunk sewer main will re-connect with the existing sewer main in the vicinity of Queen Street and Chicago Avenue.

A combination of open trench and trenchless excavation construction will be used to install the new trunk sewer main along the project alignment. Construction materials will typically comprise 36-inch diameter vitrified clay pipe and 48-inch steel carrier pipes in some trenchless excavations. In critical areas such as potable water line and stream crossings, epoxy lined ductile iron pipe may also be used. Being a gravity driven system, final construction depth will be determined by the required hydraulic gradient, however, typical pipe depths of between 4 feet and 10 feet are expected.

While open trench excavation is the preferred construction method, trenchless excavation will be necessary in several sections along the project alignment. Generally, trenchless excavation will be comprised of the excavation of two pits, one thrust pit (typically 15 to 20 ft wide x 30-40 ft long and to a depth approximately 2 ft below the pipe invert) and one receiving pit (5-7 ft wide x 10 ft long and to a depth approximately 2 ft below the pipe invert). The horizontal distance between the pits will be dependant upon final project design and site conditions, however, drives as long as 1,000 feet could be possible if the soil conditions allow. During operations, techniques will be used to drive lengths of 48-inch steel casing pipe between the two pits. The casing pipe will house and protect the smaller trunk sewer main which will be installed internally. The project will also comprise the installation of a number of manholes and junction boxes along the new trunk sewer alignment (the base is cast-in-place while the concrete rings are pre-cast).

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Proposed Site Plan source: Arroyo Engineering

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Construction Characteristics

Project construction is expected to commence around summer/fall 2009 and the expected construction period is from 8 to 12 months. Work will commence at the south-western project extent along Tequesquite Avenue and continue easterly on a segment by segment basis. Construction programming and site specific objectives may necessitate simultaneous construction of some sections as trenchless excavation and open trench operations run independently, however, this type of construction phasing may not be necessary.

A number of possible staging area locations have been identified along the proposed project alignment for utilization by the contractor to store construction equipment and materials as necessary throughout the life of the project. Staging areas will not be located in environmentally sensitive locations or in areas where control of off-site impacts cannot be adequately managed. Possible staging areas include portions of:

- Tequesquite Park south of Tequesquite Avenue in the vicinity of San Andreas Drive (City owned),
- The southwest corner of the Riverside Community Hospital parking area adjacent to Brockton Avenue (easement),
- Student Parking Lot "V" on the Riverside Community College Campus (easement),
- Staff/Student Parking Lot "G" on the Riverside Community College Campus (easement),
- An open field east of the railway line and west/southwest approximately 700 feet from Woodbine Street (easement), and
- Victoria Club approximately 500 feet southwest of the intersection of Prince Albert Drive and Ottawa Avenue (easement).

Operational Characteristics

Construction of the new trunk sewer main will replace an existing aged and under capacity pipeline identified by the City of Riverside Public Works department. For the duration of the construction operation, the existing line will remain in service.

Depending upon operational circumstances, sewer flows within the existing trunk sewer main may be diverted to completed segments of the new trunk sewer main, once complete. This action will likely occur as operational conditions allow, and only on completion of all planned construction and testing activities along the segment. Once the entire new trunk main is operational, it is the intention of the City to decommission the existing trunk sewer main.

West of the SR-91 / Union Pacific rail corridor, segments of the existing trunk sewer main will be abandoned in place. This may involve flushing the residual from the trunk sewer main and then filling the abandoned trunk sewer main with annular material and sealing the line at junction locations. Manhole shafts would be removed to 3 feet below existing grade, with the bases broken in place; and the void filled with an annular material. Native soils would be used to backfill the remaining void to the ground surface. Manhole rings and lids would also be removed at this time.

To the east of the freeway/rail corridor, the existing trunk sewer main is primarily contained within, or adjacent to, the bed of the Tequesquite Arroyo. Decommissioning of the existing sewer main along this segment will involve either abandonment in place, using the technique previously described, or removal of the existing pipe work from the stream bed and restoration of the disturbed areas. As currently planned, abandonment in place is the preferred alternative as it is considered to be the most cost-effective and efficient. However, the final decision for the appropriate abandonment technique will be contingent upon the outcome of future discussions between the City of Riverside and State and Federal agencies responsible for the management of natural resources at that location. For the purposes of this Initial Study, the potential impacts of both techniques are considered.

10. **Existing Land Use and Setting**

Located in the northern portion of the City, the project site extends along an approximately 4.4 mile alignment running southeast from Tequesquite Avenue to just west of Chicago Avenue. The project alignment generally follows the Tequesquite Arroyo, an east to west topographical drainage feature leading to the Santa Ana River (see *Vicinity Map*). While altered through development along much of the western portion of the alignment, the arroyo remains in a semi-natural condition east of the SR-91 / Union Pacific rail corridor. The topography of the project site and surrounding areas is highly modified for urban development. Slopes in the surrounding area are typically moderate, trending southwest toward the arroyo and the Santa Ana River. Scattered hills are present locally and a number of larger peaks are present to the west (Pachappa Hill, 1185ft) and northwest (Mt. Rubidoux, 1399ft).

Elevation in the project area ranges from 760 to 860 feet above mean seal level (AMSL). In general, the project site, in vicinity to the RCC campus, Brooks Street residences, and the Victoria Club, sits at a lower elevation than the surrounding areas.

The proposed project is located in the western portion of Riverside County in the City of Riverside. The City of Riverside is the most populated city in the Inland Empire. The City of Riverside comprises approximately 78.1 square miles of land within the western portion of Riverside County (see *Regional Map*). East of the City of Riverside is the City of Moreno Valley. West of the City of Riverside are the incorporated cities of Norco and Corona. Unincorporated Riverside County borders the City of Riverside on the north and south.

The City contains a diverse mix of existing land uses. Urban land uses (residential, commercial, office, and industrial) are concentrated in the north of the city, in the vicinity of the SR-91, SR-60, and I-215 freeway corridors. Most of the City's moderate density residential development is north and west of the 91 Freeway. Land south and east of Victoria Avenue is predominantly characterized by rural or semi-rural land uses (agricultural, open space, and residential uses). Lake Mathews, the City's network of arroyos, and its hillsides and

Regional Map source:

DAVID EVANS AND ASSOCIATES INC.

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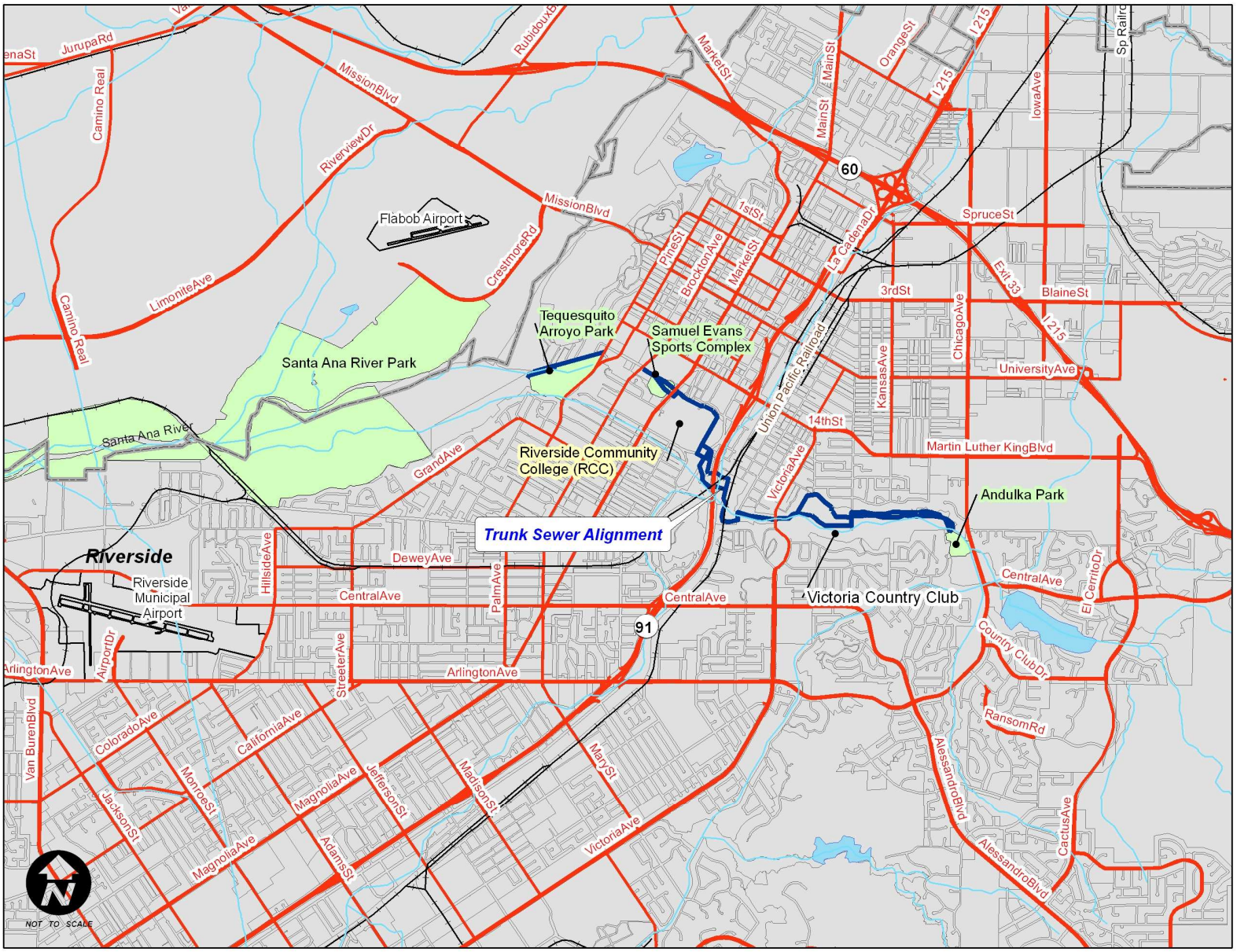

Vicinity Map source:

DAVID EVANS AND ASSOCIATES INC.

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ridgelines are the predominant features of the southeastern areas. The University of California at Riverside straddles a section of the I-215 in the northeast and the Santa Ana River forms most of the city's northern border.

The City of Riverside's unique landscape supports a rich diversity of biological resources, including a number of sensitive species. There are 11 major plant communities within the City planning area and the region is host to a wide variety of unique plant and animal species. The project site is partially within the Cities of Riverside/Norco Area Plan, Subunit 1: Santa Ana River-South, of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP). The project site is also within the Western Riverside Stephen's Kangaroo Rat (SKR) fee area.

The project area is located within the eastern section of the South Coast Air Basin (SCAB). This basin is a 6,600-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

11. **Surrounding land uses and setting: Briefly describe the project's surroundings:**

Surrounding land uses at the western end of the project site include Tequesquite Park and the Santa Ana River Wildlife Area, medium density residential neighborhoods, and commercial/business uses. Land uses adjacent to the central section of the project site consist of public facilities that include the Sam Evans Sports Complex and the RCC campus, as well as high density residential development. East of SR-91 and the Union Pacific rail line, adjacent land uses include some industrial uses, the Tequesquite Arroyo natural open space area and the Victoria Club. Low and medium density residential neighborhoods surround the Victoria Club to the south and north, respectively.

Adjacent Existing Land Use/General Plan Land Use Designation:

North: Private Recreation (PR), Medium High Density Residential (MHDR), Public Facilities/Institutional (PF), Downtown Specific Plan (DSP), Industrial (I), Open Space/Natural Resources (OS), and Hillside Residential (HR)
East: Medium Density Residential (MDR), Industrial (I), and Public Facilities/Institutional (PF)
South: Low Density Residential (LDR), Medium Density Residential (MDR), Public Facilities Institutional (PF), Hillside Residential (HR), Private Recreation (PR), and Public Park (P)
West: Private Recreation (PR), Medium High Density Residential (MHDR), Public Facilities/Institutional (PF), High Density Residential (HDR), Open Space/Natural Resources (OS), and Hillside Residential (HR)

Adjacent zoning:
North: R-3-1500, DSP-HC, R-1-700, DSP-PPO, I, PF, RC, and R-1-13000
East: PF, CG, DSP-HC, R-3-1500, I, R-1-7000, R-1-13000, R-1-8500
South: PF, O, CG, R-1-7000, R-3-1500, RC, and R-1-13000
West: PF, O, CG, R-3-1500, RC, and R-3-3000

12. **Other Public Agencies whose Approval is Required (e.g., permits, financial approval, or participation agreement.):**

- Approval of an Encroachment Permit for construction and temporary access within the rail right-of-way from Union Pacific.
- Approval of an Encroachment Permit for construction and temporary access within the SR-91 right-of-way from CALTRANS.
- General Construction Activity Storm Water Runoff Permit from the Santa Ana Regional Water Quality Control Board, as required under National Pollutant Discharge Elimination System (NPDES).
- Approval of a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers under the Federal Clean Water Act for disturbance within jurisdictional waters.

- Approval of a Section 401 Water Quality Certification from the Santa Ana Regional Water Quality Control Board under the Federal Clean Water Act for disturbance within jurisdictional waters.
- Approval of a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Game under the Fish and Game Code for disturbance within jurisdictional waters.

13. **Other Environmental Reviews Referenced in this Review:**

a. General Plan 2025
b. GP 2025 FPEIR

14. **Technical Studies Prepared for this Report**

a. Cultural Resources Survey prepared by SWCA Consultants, December 2007
b. Biological Assessment, Jurisdictional Wetland Delineation, and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Service, Inc., September 2007
c. Limited Environmental Investigation prepared by C.H.J Incorporated, February 2009
d. URBEMIS Air Quality Analysis, Revised February 2009

15. **Acronyms**

AQMP -	Air Quality Management Plan
CEQA -	California Environmental Quality Act
EMWD -	Eastern Municipal Water District
EOP -	Emergency Operations Plan
FEMA -	Federal Emergency Management Agency
FPEIR -	GP 2025 Final Programmatic Environmental Impact Report
GIS -	Geographic Information System
GP 2025 -	General Plan 2025
LHMP -	Local Hazard Mitigation Plan
MARB/MIP -	March Air Reserve Base/March Inland Port
MJPA-JLUS -	March Joint Powers Authority - Joint Land Use Study
MM -	Mitigation Measure
MSHCP -	Multiple-Species Habitat Conservation Plan
NCCP -	Natural Communities Conservation Plan
OEM -	Office of Emergency Services
RCALUCP -	Riverside County Airport Land Use Compatibility Plan
RCC -	Riverside City College
RCP -	Regional Comprehensive Plan
RMC -	Riverside Municipal Code
RPU -	Riverside Public Utilities
RTP -	Regional Transportation Plan
RUSD -	Riverside Unified School District
SCAB -	South Coast Air Basin
SCAG -	Southern California Association of Governments
SCAQMD -	South Coast Air Quality Management District
SKR-HCP -	Stephens' Kangaroo Rat - Habitat Conservation Plan
SR-91	State Route 91
SWPPP -	Storm Water Pollution Prevention Plan
USGS -	United States Geologic Survey
UWIG -	Urban/Wildlife Interface Guidelines (UWIG)
WMWD -	Western Municipal Water District
WQMP -	Water Quality Management Plan

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)
On the basis of this initial evaluation which reflects the independent judgment of the City of Riverside, it is recommended that:

The City of Riverside finds that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

The City of Riverside finds that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☒

The City of Riverside finds that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

The City of Riverside finds that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

The City of Riverside finds that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

DS Signature _____ Date 4/16/09

Printed Name & Title _____ For City of Riverside

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EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. **Earlier Analysis Used.** Identify and state where they are available for review.

   b. **Impacts Adequately Addressed.** Identify which effects from the above checklist were with in the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. **Mitigation Measures.** For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measure which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) The explanation of each issue should identify:

   a. the significance criteria or threshold, if any, used to evaluate each question; and

   b. the mitigation measure identified, if any, to reduce the impact to less than significance.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
1. **AESTHETICS.** Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

No Impact. Within the City of Riverside and the project area, scenic vistas are typically provided by available areas of open space including the Santa Ana river floodplain, prominent high-relief geographic features, canyons and arroyos. These visual resources, when framed by the surrounding San Bernardino, Santa Ana, and San Jacinto Mountains provide an extensive visual landscape from most areas of the City. Nearly every neighborhood in Riverside features some areas of local hills, from southern Arlanza to Hawarden Ridge. These create vistas from many of Riverside's neighborhoods, its local streets and even residents' back yards.

The GP 2025 designates several scenic and special boulevards within the City that meet local criteria for designation as scenic routes. Both Magnolia Avenue and Victoria Avenue are included within this designation. A section of Victoria Avenue is recorded in the National Register of Historic Places, though not in the immediate vicinity of the proposed project corridor. The City has defined the Arlington Heights Neighborhood as Riverside's greenbelt. Public parts of the greenbelt include the California Citrus State Historic Park and Victoria Avenue. Other portions of the greenbelt consist largely of private lands protected by Proposition R and Measure C, currently in use as citrus groves, plant nurseries and very-low-density residential development. No officially designated State scenic highways or any eligible State scenic highways traverse the City or the project alignment.

The City recognizes the importance of its many natural features, including canyons, hills and arroyos, as is reflected within the current and proposed General Plan documents. Relevant to the proposed project, work with the City's arroyos is controlled by a number of General Plan policies, as well as the Riverside Municipal Code.

The proposed project involves the construction of approximately 4 miles of new trunk sewer main along a 4.4-mile alignment in north-central Riverside. With the exception of mobile plant and machinery used during the construction phases of the project, all works proposed will occur below the existing ground surface as open trench and trenchless technologies are used to install the replacement trunk sewer main. Potential impacts to the two designated scenic and special boulevards (Magnolia and Victoria Avenues) will be avoided through the use of trenchless construction techniques to pass the proposed trunk sewer main beneath the existing road surface of

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Victoria Avenue and under Victoria Bridge without disturbance.

Construction activities within the semi-natural sections of the Tequesquite Arroyo, east of the SR-91 / Union Pacific rail corridor, will not alter the physical characteristics of the landform or cause conditions where alterations are likely to occur in the future. Depending upon final design, alternative techniques may be used to decommission sections of the existing sewer main presently located in the streambed within this section of the Tequesquite Arroyo. Abandonment in-place, using techniques described previously in this document, is the least invasive procedure and no impacts to the visual quality of the natural stream are anticipated using this technique. If, however, there is a requirement to remove the old pipe work from the streambed, it will be necessary for all work to be carried out in accordance with an approved restoration plan, thereby ensuring less than significant impacts to the visual quality of the stream bed. Impacts to the streambed are discussed in greater detail in the Biological Resources section of this Initial Study.

The proposed construction activities within the project alignment would not result in physical structures that would block the views of the surrounding hills and ridgelines, nor would the project affect an existing scenic vista or resource presently open to the public. The visual character of the alignment would not change and no visual impacts would occur. Compliance with existing or proposed General Plan policies and City ordinances, codes and regulations will ensure that potential impacts to scenic vistas is less than significant.

(Source: General Plan 2025, GP 2025 FPEIR Figure 5.1-1 – Scenic and Special Boulevards and Parkways, Table 5.1-A – Scenic and Special Boulevards, and Table 5.1-B – Scenic Parkways)

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

Less than Significant Impact. No officially designated State scenic highways or any eligible State scenic highways traverse the City or its Sphere of Influence. The closest scenic asset to the project corridor is Interstate 15 (I-15), an eligible state scenic highway located to the west in Riverside County.

The City of Riverside places a high value on its scenic, cultural and historic resources. Riverside's natural features provide a dramatic and varied topographic setting for the community. Scenic resources enhance the visual character of Riverside and provide distinguishing characteristics. The hillsides and ridgelines above Riverside offer scenic benefits to the community. They serve as landmarks and offer a sense of direction or orientation as people move around the City.

The GP 2025 identifies a large number of existing and proposed, park, parkway, hillside and natural area scenic resources within the City. These resources include the Santa Ana riverbed and floodplain, major hills and canyon areas, local hills, arroyos, wildlife corridors, man-made canals, greenbelt areas, constructed parklands and parkways/boulevards. The project alignment is located within the vicinity of a number of these existing / proposed resources.

At its western extent, the project alignment is located adjacent to the eastern margin of the Santa Ana River floodplain. Mt. Rubidoux is also located immediately north of the project corridor at this location. Further to the east, the project alignment crosses designated parkway areas along Magnolia Avenue and Victoria Avenue. The Riverside canal will also be traversed by the proposed trunk sewer main within the vicinity of the SR-91 / Union Pacific rail corridor. Finally, the project alignment includes a significant portion of the Tequesquite Arroyo east of SR-91 and will be constructed through the Victoria Club golf course and ending at Andulka Park at its eastern extent. Victoria Hill is located immediately south of the project alignment near the SR-91 / Union Pacific rail crossing.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The Historic Preservation Element of the Riverside General Plan was updated in 2003 and identifies a wide variety of significant historic resources within the City. As of 2004, the City had recorded 110 City Landmarks, more than 1,000 Structures of Merit, 10 Historic Districts, 4 Neighborhood Conservation Areas, and 20 National Register of Historic Places properties. The Cultural Resource Survey completed for the proposal found that while the project has the potential to significantly impact the quality of recorded historic resources located within proximity to the proposed project alignment, none of those resources are identified as historic buildings. Thus no impact on these resources is expected to occur.

Based upon information reviewed for this Initial Study, visual inspection, and information available from the City of Riverside, the proposed alignment does not contain significant trees or rock outcroppings. Thus, no impact on these resources is expected to occur.

The proposed project involves the construction of approximately 4 miles of new trunk sewer main along a 4.4-mile alignment, passing through, or nearby to, a number of the scenic resources previously identified. All works proposed will occur below the existing ground surface as open trench and trenchless construction techniques are used to install the replacement trunk sewer main. The proposed trunk sewer main will be constructed primarily within existing City right-of-ways (roadway and easement) that have been previously disturbed by construction activity. No impacts to existing or proposed scenic resources located within the vicinity of the project alignment are expected.

(Source: General Plan 2025 and GP 2025 FPEIR Figure 5.1-1 – Scenic and Special Boulevards and Parkways, Table 5.1-A – Scenic and Special Boulevards, and Table 5.1-B – Scenic Parkways, and the Cultural Resources Survey prepared in December 2007 by SWCA Environmental Consultants)

c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. Surrounding land uses at the western end of the project site include Tequesquite Park and the Santa Ana River corridor, medium density residential neighborhoods, and commercial/business uses. Land uses adjacent to the central section of the project site consist of public facilities that include the Sam Evans Sports Complex and the RCC campus, as well as high density residential development. East of the SR-91 / Union Pacific rail corridor, adjacent land uses include some industrial uses, the Tequesquite Arroyo natural open space area and the Victoria Club. Low and medium density residential neighborhoods surround the Victoria Club to the south and north, respectively.

The proposed project would involve the construction of approximately 4 miles of new trunk sewer main along this alignment. The improvements would be below grade and primarily confined to existing City right-of-way and, once complete, would not change the visual quality of adjacent land uses.

During the construction period, views of operational work areas and staging locations containing construction materials and equipment would be visible to vehicle traffic along major roadways in the vicinity of the project alignment, along with passers-by and adjacent residents. Potential staging locations have been identified as follows:

- Tequesquite Park south of Tequesquite Avenue in the vicinity of San Andreas Drive (City owned),
- The southwest corner of the Riverside Community Hospital parking area adjacent to Brockton Avenue (easement),
- Student Parking Lot "V" on the Riverside Community College Campus (easement),
- Staff/Student Parking Lot "G" on the Riverside Community College Campus (easement),

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- An open field east of the railway line and west/southwest approximately 700 feet from Woodbine Street (easement), and
- Victoria Club approximately 500 feet southwest of the intersection of Prince Albert Drive and Ottawa Avenue (easement).

The location of staging areas and construction activities would constitute a change in visual quality associated with the project, particularly in the vicinity of Tequesquite Park. Although this change would be short-term, and would not substantially degrade the existing visual character or quality of the area, care should be taken to ensure staging locations are appropriate and equipment is stored so as to minimize visibility by the public. Implementation of measures within the Construction Impact Management Plan (discussed in greater detail in the Traffic analysis section of this document) in accordance with Mitigation Measure Traffic 1, would ensure visual impacts are mitigated to less than significant levels.

Visual impacts would be less than significant with implementation of mitigation measures. Given that the entire project will be located below grade, the proposed project is not expected to substantially degrade the existing visual character or quality of the project area once construction is complete.

(Source: General Plan 2025, GP 2025 FPEIR, and GP 2025 Zoning Code)

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

Less than Significant Impact with Mitigation. Substantial sources of light and glare currently exist along the project alignment. Sources include adjacent residential, commercial and industrial land uses which contribute light and glare through interior and exterior lighting, street lighting at road crossings, security lighting, and vehicle lights on and adjacent to area roadways. The sporting fields located on the RCC campus are also a significant contributor to area light loads. At the western and eastern extents of the project alignment, in the vicinity of Tequesquite Avenue and the Victoria Club golf course respectively, ambient lighting is greatly reduced. However, lighting from surrounding residential land uses, although reduced, remains visible at these locations.

Construction of the Tequesquite Arroyo Trunk Sewer upgrade does not include installation of lighting fixtures which could create new sources of permanent light or glare on surrounding residences. Construction periods will likely also be limited; per the standard requirements of the City's Noise Code, to the hours of 7am to 7pm weekdays and 8am to 5pm Saturdays. This would limit the amount of construction lighting, if construction lighting is used during permitted construction hours, visible to residences on Olivewood Avenue, Brooks Street, and Boxwood Place. Since the proposed project does not include provisions for new lighting, no new sources of substantial light or glare would be created. Impacts from construction lighting to residences on Olivewood Avenue, Brooks Street, and Boxwood Place, could occur. Although most construction activities would be limited to daylight hours when additional construction lighting is not required, care should be given to direct construction lighting away from existing residences along the proposed project alignment. Provisions for construction lighting guidelines shall be outlined in the Construction Impact Management Plan. With implementation of lighting provisions within a Construction Impact Management Plan, significant impacts associated with lighting and glare would be reduced to less than significant levels. Long-term impacts from light and glare would not occur.

(Source: Site Survey and Noise Code)

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
2. **AGRICULTURE RESOURCES:**				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

No Impact. According to FMMP Important Farmland Maps, the majority of the project site is located on designated Urban and Built-up Land with a majority of the surrounding land also characterized as Urban and Built-up Land. No conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use would occur with implementation of the project. Also, no agricultural operations are located in the vicinity of Tequesquite Avenue, where construction is proposed within and alongside the road right-of-way. No impact is expected.

(Source: General Plan 2025 Figure OS-2 – Agricultural Suitability, GP 2025 FPEIR Figure 5.2-1 - Designated Farmland, Figure 5.2-7 Proposed General Plan Land Use Designations Permitting Agricultural Uses with Designated Farmland, Figure 5.2-4 – Proposed Zones Permitting Agricultural Uses, and Appendix I – Designated Farmland Table)

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No Impact. The Williamson Act is California state legislation that allows the creation of agricultural preserves. The City of Riverside participates in the Williamson Act and allows owners of agricultural land to pay property taxes based on the agricultural production of their properties, rather than the current market value. This Act serves to encourage the continued agricultural use of lands in the state within these designated agricultural preserves.

According to the General Plan 2025, the proposed project alignment is not located in an existing Agricultural Preserve and is not under a Williamson Act Contract. The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impact is expected.

(Source: General Plan 2025 Figure OS-3 - Williamson Act Preserves, GP 2025 FPEIR Figure 5.2-4 – Proposed Zones Permitting Agricultural Uses, and Figure 5.2-2 - Williamson Act Preserves, and GP 2025 Zoning)

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒

No Impact. The Tequesquite Arroyo Trunk Sewer Upgrade would replace an existing aged and under capacity sewer pipeline. Construction would entail installation of the new trunk sewer main and abandonment or removal of the existing line. Considering the non-agricultural land uses that surround the project site, it is unlikely that the project would act as a catalyst for converting farmland to non-agricultural uses. Agricultural resources in the City of Riverside are located south and west of the proposed project alignment and would not be affected through implementation of the proposed project. No impact is

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

expected.

(Source: , GP 2025 FPEIR Figure 5.2-1 - Designated Farmland, Figure 5.2-2 – Williamson Act Preserves, Appendix I – Designated Farmland Table, and Proposition R and Measure C)

3. **AIR QUALITY.**				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

No Impact. The Air Quality Management Plan (AQMP) for the South Coast Air Basin (SCAB) has underlying plans for mobility, infrastructure development, population, housing, employment and land use, and provides the benchmark by which individual development project consistency with air quality planning objectives would be judged. Development projects relate to the air quality planning process through the growth forecasts that were used as inputs into the regional transportation model. If a proposed development is consistent with the growth forecasts, and if all available emissions reduction strategies are implemented as effectively as possible on a project-specific basis, then the air quality impacts on a regional basis should be considered less than significant.

An infrastructure improvement project, such as the proposed *Tequesquite Arroyo Trunk Sewer Upgrade*, is not directly related to the air quality planning process because the project does not involve new development. Conformity with adopted plans, forecasts, and programs relative to population, housing, employment and land use is the primary measuring device by which impact significance of planned growth is determined. If a given project incorporates applicable direct source and transportation control measures, and if the scope and phasing of a project is consistent with adopted forecasts as shown in SCAG's Regional Comprehensive Plan and Guide (RCP), then the regional air quality impact of the development project is not considered significant. Construction of the proposed trunk sewer main does not involve an increase in population, housing, or employment and does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing infrastructure projects.

Construction of the proposed trunk sewer main is not subject to specific SCAQMD regulations, although compliance with SCAQMD regulations for fugitive dust emissions, construction equipment, and asphalt paving would be required during the construction phase of the project. The project would not conflict and is not inconsistent with the AQMP of the SCAQMD. The project would incorporate measures to reduce short-term construction emissions, in accordance with SCAQMD regulations and therefore the project would have no significant adverse impacts on regional air quality. The proposed trunk sewer upgrade project would not conflict or obstruct implementation of the AQMP.

(Source: GP 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, and South Coast Air Quality Management District's 2003 Air Quality Management Plan)

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. The City of Riverside is located within a portion of the SCAB designated as a non-attainment area for ozone, PM_{10} and $PM_{2.5}$ under State standards, and as a non-

attainment area for ozone, PM_{10}, and $PM_{2.5}$ under Federal standards.

The SCAQMD has also established thresholds of significance for various air quality pollutants. These are:

Pollutant	Construction (lbs/day)	Operations (lbs/day)
ROG	75	55
NO_x	100	55
CO	550	550
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
Source: SCAQMD Air Quality Significance Thresholds CEQA Air Quality Handbook, October 2006 Rev.		

Projects that exceed these thresholds are considered to have a significant impact on air quality.

Operation of the proposed trunk sewer main would not lead to an increase in the emission of pollutants for which the basin is currently in non-attainment or exceed existing operational thresholds. An operational sewer main is not typically regarded as a generator of air quality contaminants. However, construction of the proposed trunk sewer main upgrade would generate emissions that may temporarily affect regional air quality by contributing additional levels of O_3, $PM_{2.5}$, and PM_{10}. These pollutants would not surpass SCAQMD significance thresholds for construction as indicated in Table 2, *Estimated Construction Emissions*. However, these pollutants would result in an increase of criteria pollutants for which the project region is non-attainment under federal and state ambient air quality standards.

The use of construction equipment for the installation of the trunk sewer main upgrade would lead to short-term emissions, which could add to local air pollution levels. Heavy equipment may be expected to operate during excavation, installation, and finishing operations and may include excavators, backhoes, rollers, cranes, trucks, and/or hydraulic lifts. Operation and application of these machines could temporarily increase air pollutant levels in the vicinity of the site through emissions from exhaust systems. In addition, emissions from delivery and haul trucks, construction crew vehicles, small plant, and other off-site vehicle trips would add to short term and localized increases in pollutant levels. Construction activities also generate evaporative emissions of volatile organic compounds (VOC) from solvents, asphalt, and other coatings.

To estimate construction emissions, the latest SCAQMD URBEMIS 2007 model was used, version 9.2.4. It was assumed that one bore/drill rig, one excavator, one truck, one loader, one dozer, and one trencher would be utilized to prepare the site for installation of the new trunk sewer main. During installation, one concrete industrial saw and one forklift would accompany the equipment used to prepare the site. During the final stages of construction, pavers, rollers, concrete and surface equipment would replace the on-site equipment during the paving stages. Construction estimates assume a worse case scenario of trenching a 25 foot wide strip along the entire four mile length of the project alignment. Furthermore, an estimated 6,800 feet of paved roadway is expected to be disturbed along that four mile length. Again, assuming a worst-case estimate of a 25 foot wide strip along that length, approximately 3.9 acres of local streets may be repaved as they may be disturbed during installation of the new line. Estimates of construction emissions are provided in Table 2, *Estimated Construction Emissions*. The worst-case scenario utilizing the equipment during preparation (excavation) and paving stages are used in the emission calculations below.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

TABLE 2
ESTIMATED CONSTRUCTION EMISSIONS (LBS/DAY)

Excavation/Paving	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Totals (lbs/day, unmitigated)	7.25	61.02	30.07	0.01	62.28	14.20
Totals (lbs/day, mitigated)	7.25	51.89	30.07	0.01	15.43	4.41
SCAQMD Threshold	**55**	**100**	**550**	**150**	**150**	**55**

*Assumes continued use during 8-hour workday.
Source: URBEMIS 2007 and SCAQMD Air Quality Significance Thresholds (rev. July 2008)

Based upon the above estimates, construction equipment emissions would not exceed SCAQMD thresholds. However, construction equipment activities would result in an increase of criteria pollutants, including PM_{10} and $PM_{2.5}$, for which the project region is non-attainment under federal and state ambient air quality standards.

In order to ensure the project does not substantially contribute pollutants for which the region is in non-attainment, the following mitigation measures for construction emission impacts are recommended.

Recommended Mitigation

To reduce air quality impacts associated with construction activities to below a level of significance, the following mitigation measures shall be implemented for dust control and to reduce fugitive dust emissions:

Air 1: To mitigate for potential adverse impacts resulting from construction activities, development projects must abide by the SCAQMD's Rule 403 concerning Best Management Practices for construction sites in order to reduce emissions during the construction phase. The following measures shall be required when applicable:

- **Sweep streets at the end of the day if visible soil material is carried onto adjacent paved public roads;**
- **Wash off trucks and other equipment leaving the site;**
- **Replace ground cover in disturbed areas immediately after construction;**
- **Keep disturbed/loose soil moist at all times;**
- **Suspend all grading activities when wind speeds exceed 25 miles per hour;**
- **Enforce a 15 mile per hour speed limit on unpaved portions of the construction site.**

Air 2: To reduce construction related particulate matter air quality impacts of City projects the following measures shall be required when applicable:

- **The generation of dust shall be controlled as required by the AQMD;**
- **Grading activities shall cease during periods of high winds (greater than 25 mph);**
- **Trucks hauling soil, dirt or other emissive materials shall have their loads covered with a tarp or other protective cover as determined by the City Engineer; and**

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

- **The contractor shall prepare and maintain a traffic control plan, prepared, stamped and signed by either a licensed Traffic Engineer or a Civil Engineer. The preparation of the plan shall be in accordance with Chapter 5 of the latest edition of the Caltrans Traffic Manual and the State Standard Specifications. The plan shall be submitted for approval, by the engineer, at the preconstruction meeting. Work shall not commence without an approved traffic control plan.**

Incorporation of the recommended mitigation measures during the construction and operation phases of the project will ensure that no air quality standards are violated and no significant contributions to an existing or projected air quality violation occurs. This impact is considered less than significant with mitigation and no further analysis is mandated.

(Source: GP 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2003 AQMP , and URBEMIS 2007 Model)

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. Construction equipment emissions would be generated during the construction of the project. Construction of the proposed trunk sewer main upgrade would generate emissions that may temporarily affect regional air quality by contributing additional levels of O_3, $PM_{2.5}$, and PM_{10}. This impact would be considered short-term in nature. No long-term operational emissions would be expected from the proposed trunk sewer main. Therefore, the project's contribution to cumulative impacts would be negligible and temporary and are expected to be less than significant. Construction impacts would also be reduced by the implementation of mitigation measures, including dust control and construction-related emission control measures, as outlined in Mitigation Measures Air 1 through Air 2. Any cumulative increase in air pollutants or ozone levels in the project area would be less than significant.

(Source: GP 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2003 Air Quality Management Plan, and URBEMIS 2007 Model)

d. Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐

Less than Significant with Mitigation. Land uses which are considered sensitive air quality receptors include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities.

Non-residential receptors located along the proposed trunk sewer main alignment include Grant Elementary School (0.26-miles north), Central Middle School (0.27-miles south), RCC (project traverses through campus), Saint Francis School (0.36-miles north-east), Carden School (0.47-miles south-west), Our Lady of Guadalupe Academy (0.29-miles north), Alcott Elementary School (0.6-miles south), and Emerson Elementary School (0.17-miles north-east). Other sensitive land uses in the project vicinity would include numerous health care facilities located in the Health Care District planning area near Brockton Avenue, Magnolia Avenue, and 14th Street and sporting facilities located within the grounds of the RCC. Except for the RCC, all of these identified receptors are substantially buffered by surrounding land uses and none are less than 900ft from the proposed project alignment.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Varying density residential areas are also found in proximity to the majority of the proposed trunk sewer main alignment, with the exception of the segment contained within the RCC area and isolated commercial and industrial zones. These residential areas would be considered sensitive receptors and could be exposed to construction related air quality emissions.

Given the distance from nearby sensitive receptors, construction emissions could expose sensitive receptors to pollutant concentrations. However, as noted, construction emissions would not exceed allowable SCAQMD thresholds for pollutant criteria. Further, construction activities and associated emissions would be short-term. Provided this, and incorporating Mitigation Measures Air 1 through Air 2 into construction activities, exposure of sensitive receptors to substantial pollutant concentrations is not probable. Implementation of applicable mitigation measures would reduce exposure of sensitive receptors, including adjacent residential areas and the RCC, to less than significant levels of pollutant concentrations. This impact is considered less than significant with mitigation and no additional analysis is required.

(Source: GP 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2003 Air Quality Management Plan, URBEMIS 2007 Model)

e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact. Land uses that typically generate objectionable odors include landfills, wastewater treatment plants, waste recycling facilities, food processing plants, chemical plants, composting facilities, refineries, dairies, fiber glass molding, and farming and livestock areas. By its nature, the proposed trunk sewer main will transfer materials with the potential to create objectionable odors throughout the project alignment. However, because gravity sewers serving residential neighborhoods typically flow at a low velocity (about 2 feet per second), they will generally produce low levels of gasses and odors; but will not generally emit such odors throughout the community. In most situations, odors are generally isolated to pumping stations, at which control measures can be installed. There are no pumping stations proposed as part of the project.

During construction asphalt odors may be noticeable from asphalt paving operations and there may be localized instances when the characteristic diesel exhaust odor is noticeable from construction equipment, but such transitory exposure is a brief nuisance and would not threaten regional air quality standards. Thus, adverse impact in terms of objectionable odors during construction is considered less than significant.

(Source: GP 2025 FPEIR Table 5.3-B SCAQMD CEQA Regional Significance Thresholds, South Coast Air Quality Management District's 2003 Air Quality Management Plan, URBEMIS 2007 Model)

4. **BIOLOGICAL RESOURCES.** Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. A Biological Resource Assessment was prepared for the

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

proposed project alignment to identify and record the existing biological resources within the project area and to analyze the potential impacts on sensitive biological resources. The project is located within the boundaries of the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP). Therefore, a habitat assessment for 13 listed plant families was also performed.

Based on the findings of these resource assessments, no special status, rare, threatened, or endangered species of plants or animals (other than nesting migratory birds) were detected during the field assessments, or are expected to occur within the proposed project alignment. The resource assessment found that the very limited riparian habitat present on the project site could support the Least Bell's Vireo (Vireo bellii pusillus) and Southwestern Willow Flycatcher (Empidonax traillii extimus) as an occasional migration stopover site, but would be inadequate as nesting habitat due to the presence of non-native species and structural deficiencies of available nesting substrate. The Arroyo Chub is a small fish found in slow-moving and backwater streams of coastal southern California. The species is listed as endangered under the Federal Endangered Species Act administered by the U.S. Fish and Wildlife Service (USFWS). The field assessment found that required habitat for the species is not found within the project boundaries and the species is not expected within the project alignment.

The habitat assessments for sensitive animal species associated with riparian/riverine areas and for other sensitive species, did not detect any of these species, and determined that potentially appropriate habitat for them does not occur within or adjacent to the relevant parts of the proposed project alignment.

An area of potential Burrowing Owl habitat was identified at Tequesquite Park, along the western extent of the project alignment. The Burrowing Owl was listed as a California Species of Special Concern in 1979; it is protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, but has no special protection under the federal and California endangered species acts. Burrowing Owl habitat typically consists of annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, or trees and shrubs if the canopy covers less than 30% of the ground surface. Burrows are the essential component of Burrowing Owl habitat; both natural and artificial burrows provide protection, shelter, and nests for the species. The Burrowing Owl typically uses burrows made by fossorial mammals, such as the California Ground Squirrel (Spermophilus beecheyi) and American Badger (Taxidea taxus), but may also use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

A condition of the MSHCP is that all project sites containing burrows or suitable habitat, whether owls are found or not, require pre-construction surveys that shall be conducted within 30 days prior to ground disturbance to avoid direct take of Burrowing Owls. To ensure potential impacts to the burrowing owl remain less than significant, Mitigation Measure Bio 1, provided below, is recommended.

The project alignment was also found to contain trees that could be used by other nesting migratory bird species protected under the federal Migratory Bird Treaty Act and the CF&G Code. Species listed within the MBT Act that could potentially utilize the project alignment include the Black-crowned Night Heron, Cooper’s Hawk, Double-crested Cormorant, Downy Woodpecker, Least Bell’s Vireo, Loggerhead Shrike, Osprey, Peregrine Falcon, Southwestern Willow Flycatcher, Tree Swallow, Yellow-billed Cuckoo, White-faced Ibis, White-tailed Kite, Yellow-breasted Chat, and Yellow Warbler. If clearing or construction takes place during the spring/summer months (1 February through 31 August), nesting birds may be impacted by direct impacts to nesting sites or indirectly by noise, causing abandonment of nesting sites. Implementation of Mitigation Measure Bio 2 will ensure that potential impacts to migratory birds are reduced to less than significant levels.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The project is within the adopted Stephen's Kangaroo Rat Habitat Conservation Plan (SKR-HCP) Fee area. Therefore, the project is likely required to pay appropriate fees for the mitigation of regional impacts to this species. Currently, projects within the SKR-HCP fee area are required to pay a per-acre mitigation fee. However, given that the project would create only a temporarily disturbance to limited areas of Tequesquite Park, certain exemptions may be applicable to the project, thereby exempting the project from mitigation payment. Section 10(f) of Riverside County Ordinance No. 663 outlines certain types of development that shall not be required to pay the mitigation fee including: "*the construction of public utility transmission facilities where ground surface disturbance is minimal or where substantially all of the disturbed ground surface can be restored to its original condition as may be determined by the Planning Director*".

Provided that certain exemptions to mitigation payment are allowed within the SKR-HCP fee area, the project may exempt from mitigation payment. However, at this point, in order that the City comply with applicable requirements of the SKR-HCP, the project is required to pay mitigation fees required by the SKR conservation plan unless the project is otherwise considered exempt from this requirement by the Planning Director in accordance with Section 10(f). This requirement is recorded in Mitigation Measure Bio 3 below.

The GP 2025 FPEIR also contains a number of policies aimed at protecting and enhancing the biological resources of the City and its surrounds. Continued observance and adherence to the pertinent policies and implementation of the recommended mitigation measures will ensure the impacts of the project on sensitive species remains less than significant.

General Plan Policies

Policy OS-5.2: Continue to participate in the MSHCP Program and ensure all projects comply with applicable requirements including collection of mitigation fees.

Policy OS-5.3: Continue to participate in the SKR-HCP including collection of mitigation fees.

Recommended Mitigation

The following mitigation is recommended to reduce impacts to protected species to less than significant levels.

Bio 1: A 30 day pre-construction survey for the Burrowing Owl is recommended prior to the commencement of construction activities along Tequesquite Avenue, in the vicinity of Tequesquite Park. The survey will take the form of a Burrowing Owl Survey Step II, Part A: Focused Burrow Survey, in accordance with the California Burrowing Owl Consortium 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines. If necessary, a Part B: Focused Burrowing Owl Survey may also be required.

Bio 2: If construction during the nesting season (February to August) is necessary, pre-construction surveys shall be conducted prior to any clearing, grubbing or ground disturbance activities by a qualified person. The pre-construction surveys shall be conducted no more than 7 days prior to the initiation of construction during the early part of the breeding season. During this survey, the biologist shall inspect all trees and other potential nesting sites within the limits of construction and the area within 250 feet of the limits of construction. If an active nest is found, a qualified person

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

would determine the extent of the construction-free buffer zone (typically 250 feet for raptors, variable for other species) to establish around the nest and shall conspicuously flag off the buffer area around the nest. The construction crew shall be instructed to avoid any activities in this zone until the bird nest is no longer occupied, per a subsequent survey by the qualified person.

Bio 3: **The entire project alignment falls within the boundaries of the Western Riverside County MSHCP and SKR-HCP. Therefore, the project will be required to pay fees for development activity as assessed under the SKR-HCP and the Western Riverside County MSHCP Mitigation Fee Program, unless it is otherwise determined that the project is exempt in accordance with Section 10(f) of Riverside County Ordinance No. 663 Establishing the Riverside County SKR-HCP Plan Fee Assessment Area and Setting Mitigation Fees, and Section 16(c) of Riverside County Ordinance No. 810. 2 Establishing the Western Riverside County MSHCP Mitigation Fee.**

Based on research and the biological assessment prepared for the project, implementation of the recommended mitigation measures will reduce impacts to protected species to less than significant levels.

(Source: Western Riverside County MSHCP, GP 2025 FPEIR Figure 5.4-4 - MSHCP Criteria Cells, Figure 5.4-3 - SKR Core Reserves and Other HCP, Figure 5.4-2 – MSHCP Area Plans, Figure 5.4-4, MSHCP Criteria Cells and Subunit Areas, and Figure 5.4-5 MSHCP Cores and Linkages, Figure 5.4-6, MSHCP Narrow Endemic Plant Species Survey Area, Figure 5.4-7, MSHCP Criteria Area Species Survey Area, and Figure 5.4-8, MSHCP Burrowing Owl Survey Area and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)

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 California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. The proposed alignment is within the Tequesquite Arroyo, mapped as an intermittent stream carrying flows westerly and then northwesterly to the Santa Ana River. The majority of the eastern half of the drainage runs through the golf links of the Victoria Club. Near the western terminus, the alignment is bordered by Tequesquite Park. The channel of Tequesquite Arroyo sustains a second-order stream throughout the reach associated with the project. The channel has been channelized using various methods, such as gabions and concrete, and in some areas is underground, such as at Saunders Street and along Tequesquite Avenue near the western end of the project.

A short reach of the Tequesquite Arroyo, between the SR-91/Union Pacific rail corridor and the Victoria Club golf course, remains somewhat intact and supports disturbed native riparian habitat, with native tree species, including Arroyo Willow (Salix lasiolepis), Goodding's Black Willow (S. gooddingii), Fremont Cottonwood (Populus fremontii), and Western Sycamore (Platanus racemosa). The remnant riparian woodland areas exist as a narrow band adjacent to the streambed, with adjacent uplands almost completely cleared of vegetative cover and currently characterized by bare ground. The woodland vegetation of the channel has been significantly impacted by the growth of several non-native tree and herbaceous species. These include Mexican Fan Palm (Washingtonia robusta), Eucalyptus (Eucalyptus camaldulensis), Evergreen Ash (Fraxinus uhdei), Tree of Heaven (Ailanthus altissima), and Castor-bean (Ricinus communis).

According to the Biological Assessment and Jurisdictional Wetland Analysis performed for the proposed project, construction of the proposed trunk sewer main will not have a substantial adverse impact on the

biological integrity of this potentially sensitive section of the arroyo. At present, the existing sewer main is constructed within, or immediately adjacent to, the existing streambed. However, construction of the proposed new trunk sewer main will occur to the north of the existing sewer alignment, well away from the riparian corridor, to ensure that impacts to remnant riparian habitat are avoided. If it is decided that the existing sewer main shall be removed from the arroyo, a habitat restoration plan will be required to reduce impacts to the riparian habitat.

The City of Riverside General Plan and Grading Code (Title 17) also prescribe a number of policies and standards for development activity within the Tequesquite Arroyo. Continued observance and adherence to the pertinent policies and standards, and implementation of the recommended mitigation measure will ensure the impacts of the project on riparian habitats and sensitive natural communities remain less than significant.

Western Riverside County MSHCP

The project alignment is also subject to the MSHCP's guidelines pertaining to the Urban/Wildlands Interface (UWIG) for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators. The habitat assessments for sensitive plant species specified in the MSHCP as associated with riparian/riverine areas, and other sensitive plant species, did not detect any of these species, and determined that appropriate habitat for any of them does not occur on the site.

A small portion of the project alignment, within or adjacent to APN #'s: 217-092-005 and 217-130- 016, lies within an MSHCP criteria area (Cities of Riverside/Norco Area Plan, Subunit 1: Santa Ana River - South, in Criteria Cell #443). The Subunit plan identifies a number of Biological Issues and Considerations to be addressed in reviewing projects in this Subunit. The plan states that:

"Conservation within Criteria Cell #443 will contribute to assembly of Existing Core A (vegetation), and will focus on Riversidean Alluvial Fan Sage Scrub, Riparian Scrub, Woodland, and Forest habitat along the Santa Ana River. Areas conserved within Criteria Cell #443 will be connected to existing conserved wetland habitat along the Santa Ana River in Criteria Cell #534 to the southwest. Conservation within Criteria Cell #433 will be approximately 5% of the Cell, focusing in the western portion of the Cell."

The proposed project is consistent with MSHCP goals and would not prevent or interfere with the assembly of Existing Core A because it has no impact on the existing riparian habitat along the Santa Ana River. A consistency analysis for compliance with the Biological Issues and Considerations associated with the Subunit plan is provided in the Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared for the project. No part of the project is within an area described for conservation under the MSHCP. To ensure adequate protection of this potentially sensitive resource, Mitigation Measures Bio 4 to Bio 5, provided below, are recommended and should be incorporated into contractor documents.

General Plan Policies

Policy LU-5.1: Minimize public and private development in and in close proximity to any of the City's arroyos.

Policy OS-5.1: Preserve significant habitat and environmentally sensitive areas, including hillsides, rock outcroppings, creeks, streams, view sheds and arroyos through application of the RC Zone standards and the Hillside/Arroyo standards of the City's Grading Code.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Policy OS-6.3: Preserve the integrity of the arroyos of Riverside and riparian habitat areas through the preservation of native plants.

Recommended Mitigation

Bio 4: Urban/Wildlife Interface Guidelines (UWIG) are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. Where applicable, all UWIG Guidelines shall be required, including:

- **Barriers as suggested by the MSHCP/UWIG analysis shall be placed on the west side of the construction zone along Tequesquite Avenue to discourage intrusion into the adjacent conservation area.**
- **Night lighting during construction activities for the project shall be directed away from the MSHCP Conservation Area; ambient lighting in the MSHCP Area shall not be increased.**
- **Noise Generating activities associated with project construction and maintenance shall be minimized so that wildlife within the MSHCP Conservation Area at the west end of the project is not subject to levels that would exceed residential noise standards.**
- **Measures shall be incorporated that ensure that potentially toxic substances do not enter the MSHCP Conservation Area.**

Bio 5: If after completion of the proposed project the existing sewer main is to be removed from the arroyo, all disturbed areas within and surrounding the streambed must be restored in accordance with a restoration plan prepared by a qualified party and be completed as a condition of approval for the project.

Implementation of General Plan policies and the recommended mitigation will ensure the potential impacts of the project remain less than significant.

(Source: GP 2025 FPEIR, MSHCP Section 6.1.2 - Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)

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?	☐	☐	☒	☐

Less than Significant Impact. The Jurisdictional Wetland analysis completed for the proposed project alignment found that the existing surface drainages of the Tequesquite Arroyo exhibit soil, hydrology and vegetation parameters sufficient for classification as jurisdictional (including wetland) waters as defined by the U.S. Army Corps of Engineers (ACOE), the California Department of Fish and Game (DFG), and the Santa Ana Regional Water Quality Control Board (RWQCB).

The Tequesquite Arroyo is considered a non-navigable tributary of a Traditional Navigable Water (the Santa Ana River). The ACOE and Environmental Protection Agency Instructional Guidebook indicates that there is a Significant Nexus with the Santa Ana River by virtue of the presence of the Arroyo Chub (*Gilia orcutti*), listed as Endangered by the Service, and the presence of wetland along portions of the tributary.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

The presence of the bed, bank and riparian vegetation constitute the limit of the CF&G jurisdictional channel. The associated riparian vegetation present on the site provides a wider jurisdictional area based on the extent of the canopy growth. The CFG jurisdictional area exceeds the Corps jurisdictional area on the project site due to the greater extent of the woodland canopy.

Federally permitted activities within the delineated boundaries of the jurisdictional waters of the U.S. require State certification from the RWQCB. Therefore any activities proposed within the defined drainage of the Tequesquite Arroyo also fall under the jurisdiction of the Santa Ana RWQCB.

In all, the construction of the proposed new trunk sewer main has the potential to impact approximately 800 square feet (0.0184 acre) of ACOE jurisdictional waters and 1,200 square feet of DFG jurisdictional area. This estimate assumes a 15-foot wide construction zone at each identified stream crossing site, with the high water mark was used to determine the extent of the drainage width and the proposed construction width of 20 feet used to determine the extent of the impact.

To avoid potential impacts to jurisdictional water and drainage areas along the project alignment, trenchless excavation techniques will be used at all stream/drainage crossing locations. As previously described in this document, the actual technique used will be dependent upon site conditions and specific sewer design requirements. However, generally, the proposed new trunk sewer main will be installed from a lateral location well outside of the jurisdictional area and at a depth sufficient to avoid potential impacts. The use of this preferential construction technique at identified sensitive locations will ensure that the project does not substantially affect wetland resources.

As currently planned, decommissioning of the existing (old) sewer main may involve either abandonment in place or removal of the existing pipe work from the stream bed and restoration of the disturbed areas. Regardless, both techniques will involve activity within limited sections of the previously described jurisdictional waters. As such, permits for those activities will be required from responsible State and Federal agencies.

Section 404

The ACOE has regulatory authority over the discharge of dredged or fill material into waters of the United States under Section 404 of the Federal Clean Water Act (CWA). In most cases the ACOE will permit the activity under the Nationwide Permit program.

Section 401

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act. Jurisdiction of the RWQCB extends to all waters of the State and to all waters of the United States, including wetlands. Section 401 of the CWA gives the RWQCB the authority to regulate, through 401 Certification; any proposed federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under CWA Section 404.

Section 1601

The State of California regulates activities in rivers, streams, and lakes pursuant to Sections 1600-1607 of the Fish and Game Code. These sections discuss the process by which an individual, government agency, or public utility must notify the CDFG prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake..." Following such notification, the CDFG must inform the individual, agency, or utility of the existence of any fish and wildlife

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

resource that may be substantially adversely affected by the activity. The CDFG must also include a proposal for measures to protect fish and wildlife resources. This proposal is called a "Streambed Alteration Agreement" (a Section 1601 Agreement for public agencies and utilities, and a Section 1603 Agreement for private party activities).

Decommissioning of the existing sewer main will require the previously described regulatory permits as a standard condition of development and, as such, no additional mitigation recommendations are necessary.

Response: ***(Source: GP 2025 FPEIR, City of Riverside GIS/CADME USGS Quad Map Layer, and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)***

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?	☐	☐	☐	☒

No Impact. Wildlife corridors link areas of suitable habitat that are otherwise separated by areas of non suitable habitat such as rugged terrain, changes in vegetation, or human disturbance. Wildlife corridors are essential to the regional ecology of a species because they provide avenues of genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities. Fragmentation of open space areas by urbanization creates “islands” of wildlife habitat that are more or less isolated from each other.

Riparian corridors serve as important migratory corridors between major open space areas in the City of Riverside. The Santa Ana River is an example of a protected migratory corridor preferred by native wildlife, permanently set aside as open space by the County of Riverside Parks Department within its jurisdiction. The City’s canyons and southern hillsides also provide valuable migratory corridors for wildlife.

The proposed project alignment lies in an urban-dominated setting with very limited areas of uncompromised native habitat. With the possible exception of Tequesquite Park, at the western end of the project alignment, and areas further west, connectivity to open or semi-open habitats away from the alignment are nonexistent. Patches of managed green spaces characteristic of residential areas, including college campuses, are found all along the proposed project area, and combined with neighborhood landscaping provide habitat for common urban bird species. Small patches of vacant ruderal land also exist but do little more than provide space for invasive plant species.

Freeway and railway rights-of-way divide the central part of the project alignment roughly in half. These are constructed on berms elevated above existing natural land surfaces and provide barriers to wildlife movement. The Tequesquite Arroyo exists as a degraded riparian woodland east of the SR91/Union Pacific rail corridor and extends to the west end of the Victoria Club golf links. Much of the drainage here has been cleared, and invasive species are well established among native willows (Salix spp.), thus degrading its value for wildlife, in particular for medium-sized mammals and most avian species.

Construction of the proposed Tequesquite Arroyo Trunk Sewer main would not alter the existing level of habitat connectivity within the project alignment. All works proposed will be constructed at or below the existing ground surface in areas previously disturbed for infrastructure development and set aside as rights-of-way for that purpose. Major impediments to wildlife movement, such as the SR91/Union Pacific rail corridor and urban roadways, will remain in place with the project. Proposed construction activities will not impede the flow of water within the Tequesquite Arroyo and no impact to migratory fish species is

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
anticipated. ***(Source: MSHCP, and GP 2025 FPEIR Figure 5.4-5 - MSHCP Cores and Linkages, and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)***				
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐

Less than Significant Impact. The City of Riverside prides itself, among other things, on an extensive heritage of tree planting and tree preservation initiatives. Tree-lined streets provide not only a shady canopy but also serve as important visual elements: along landscaped parkways, rows of trees designate the route and demarcate the line between the public and private realms. Street trees add immeasurably to the definition and character of many of the City's neighborhoods. The City's Urban Forest Tree Policy Manual provides guidelines for the preservation and protection of the City of Riverside's tree heritage.

The construction of the proposed new trunk sewer main along predominantly existing right-of-way in the City will not directly impact on the City's tree stock or conflict with the intent or objectives of the Urban Forest Tree Policy or City Municipal Code. The identified construction alignment will avoid damage to existing trees, including those within the Victoria Club golf course, where trenchless excavation techniques will be used to transfer the new sewer main beneath existing groves.

The arroyos of Riverside are naturally occurring ephemeral drainages created over thousands of years as seasonal rains eroded the hills. Natural runoff in addition to that from agriculture and development has created a year-round supply of water, and riparian plants flourish. The arroyos and other open space areas support an abundance of wildlife species and plant communities. The arroyos also provide corridors which wildlife use to migrate between habitat areas.

Title 17 of the Riverside Municipal Code (Grading Code) sets forth rules and regulations intended to further implement the goals and objectives of the General Plan. Among other things, the Grading Code regulates hillside and arroyo grading in a manner which minimizes the adverse effects of grading on natural landforms, soil erosion, dust control, water runoff and construction equipment emissions. The required review of hillside/arroyo grading includes regulations to ensure that significant natural characteristics such as land form, vegetation, wildlife communities, scenic qualities, and open space can substantially be maintained; to preserve unique and significant geologic; biologic and hydrologic features of public value.

The proposed trunk sewer main would be constructed partially within areas of the Tequesquite Arroyo identified for specific regulation and protection under the City's Grading Code. Construction of the proposed trunk sewer main at these locations will require compliance with the requirements of the Grading Code, thereby ensuring that potential impacts to the resource are less than significant.

(Source: GP 2025 FPEIR, RMC Section 16.72.040 establishing the Western Riverside County MSHCP mitigation fee, RMC Section 16.40.040 establishing a Threatened and Endangered Species fees, and City of Riverside Tree Policy Manual, and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)

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?	☐	☐	☐	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Less than Significant Impact with Mitigation. Riverside County has adopted the MSHCP for Western Riverside County. A Biological Resources Assessment has been completed in compliance with the requirements of the MSHCP. As noted, an area of potential Burrowing Owl habitat was identified along the western extent of the project alignment at Tequesquite Park. A condition of the MSHCP is that all project sites containing burrows or suitable habitat, whether owls were found or not, require pre-construction surveys that shall be conducted within 30 days prior to ground disturbance to avoid direct take of Burrowing Owls. To ensure potential impacts to the burrowing owl remain less than significant, Mitigation Measure Bio 1, provided above, is recommended.

A small portion of the project alignment, within or adjacent to APN #'s: 217-092-005 and 217-130- 016, was found to lie within an MSHCP criteria area (Cities of Riverside/Norco Area Plan, Subunit 1: Santa Ana River - South, in Criteria Cell #443). The Subunit plan identifies a number of Biological Issues and Considerations to be addressed in reviewing projects in this Subunit. The proposed project is consistent with MSHCP goals and would not prevent or interfere with the assembly of Existing Core A because it has no impact on the existing riparian habitat along the Santa Ana River. A consistency analysis for compliance with the Biological Issues and Considerations associated with the Subunit plan is provided in the Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared for the project. No part of the project is within an area described for conservation under the MSHCP. To ensure adequate protection of this potentially sensitive resource, Mitigation Measure Bio 1, provided above, is recommended. Implementation of the recommended mitigation will ensure the potential impacts of the project remain less than significant.

The project alignment was also found to contain trees that could be used by other nesting migratory bird species protected under the federal Migratory Bird Treaty Act and the CF&G Code. If clearing or construction takes place during the spring/summer months (1 February through 31 August), nesting birds may be impacted by direct impacts to nesting sites or indirectly by noise, causing abandonment of nesting sites. Implementation of Mitigation Measure Bio 2 will ensure that potential impacts to migratory birds are reduced to less than significant levels.

Also, because the project is within the adopted Stephen's Kangaroo Rat (SKR) Habitat Conservation Fee area, the project is required to pay appropriate fees for the mitigation of regional impacts to this species. This requirement is recorded in Mitigation Measure Bio 3.

The proposed construction of the Tequesquite Arroyo trunk sewer main will not conflict with the provisions of any adopted or approved conservation plans. Implementation of the recommended mitigation measures will ensure that the project remains in compliance with specific plan objectives and the impacts of the proposal remain less than significant.

(Source: Western Riverside County Multi-Species Habitat Conservation Plan, Stephens' Kangaroo Rat Habitat Conservation Plan and Lake Mathews Multiple Species Habitat Conservation Plan & Natural Community Conservation Act (Lake Mathews Plan), and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)

5. **CULTURAL RESOURCES.** Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☒	☐	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Less than Significant Impact with Mitigation. The proposed project involves the construction of approximately 4 miles of new trunk sewer main along a 4.4-mile alignment, crossing (over/under), or nearby to, a number of the recorded historic resources previously identified. All works proposed will occur below the existing ground surface as open trench and trenchless construction techniques are used to install the replacement trunk sewer main. The proposed trunk sewer main will be constructed primarily within existing City right-of-ways (roadway and easement) that have been previously disturbed by construction activity.

The Cultural Resource Survey completed for the proposal found that the project has the potential to significantly impact the quality of recorded historic resources located within proximity to the proposed project alignment. The survey report outlines a number of mitigation measures recommended to ensure that potential project impacts are avoided or reduced. A summary of the potentially impacted resources, along with recommended mitigation measures, is provided here.

CA-RIV-4495H (Upper Riverside Canal)
A segment of this historic canal is located within a portion of the project alignment that, for private property access reasons, was not surveyed. As a result, the resource has not been formally updated or re-evaluated. CA-RIV-4495H has been previously determined eligible for the NRHP and is listed in the CRHR. Any project-related impacts to this resource would be considered potentially significant. Avoidance of this resource is recommended. If the resource cannot be avoided altogether through trenchless construction techniques, or reengineering, potential project-related impacts can be reduced to less than significant through the implementation of the recommended mitigation measures.

CA-RIV-4791H (Lower Riverside Canal)
This resource has been previously identified as ineligible for the National Register, California Register, or other local designation, and is therefore not considered significant under CEQA and as such, impacts to this resource would not be considered significant. However, in consideration of other proposed activities along the proposed project alignment, and the potential availability of suitable construction technologies, where feasible, avoidance of this resource may be appropriate.

P-33-9772 (Victoria Avenue Bridge)
This resource is on the National Register of Historic Places and is a City of Riverside Cultural Historical Resources Board Landmark. Any project-related impacts to this resource would be considered significant. Avoidance of the Victoria Avenue Bridge and its associated structures (footings, abutments etc) is recommended. If the Victoria Avenue Bridge will be impacted by the proposed project, additional mitigation measures will be required.

CA-RIV-3284 (Riverside Chinatown Archaeological Site)
Project construction activities near the National Register-listed Riverside Chinatown archaeological site (CA-RIV-3284) could potentially result in adverse negative impacts to this resource. The southeastern portion of this site near Brockton and Tequesquite Avenues is known to have intact, subsurface structures. However, it is also known that these structures are covered by at least 10-feet of fill. For this reason, it is recommended that any trenching or ground-disturbing procedures within 300-feet of the corner of Brockton and Tequesquite Avenues be monitored for cultural resources under the direction of a qualified archaeologist. In the event that cultural resources are exposed during construction, the monitor must be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. If the discovery proves significant under CEQA, additional work such as testing or data recovery may be warranted.

Historic resources, such as those identified are afforded varying levels of protection under Federal (National

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Historic Preservation Act) and State (California Register of Historic Resources) regulations, as well as local protection under the City of Riverside Municipal Code (Title 20) and Historic Design Guidelines. General Plan 2025 contains a number of policies aimed at protecting and enhancing the cultural and historic resources of the City and its surrounds. Continued observance and adherence to the pertinent policies and implementation of the recommended mitigation measures will ensure the impacts of the project on historic resources remains less than significant.

General Plan Policies

Policy HP-1.1: **The City shall promote the preservation of cultural resources to ensure that citizens of Riverside have the opportunity to understand and appreciate the City's unique heritage.**

Policy HP-1.2: **The City shall assume its direct responsibility for historic preservation by protecting and maintaining it's publicly owned cultural resources. Such resources may include, but are not limited to, buildings, monuments, landscapes, and right-of-way improvements, such as retaining walls, granite curbs, entry monuments, light standards, street trees, and the scoring, dimensions, and patterns of sidewalks, driveways, curbs and gutters.**

Policy LU-4.6: **Ensure protection of prehistoric resources through consultations with the Native American Heritage Commission pursuant to Government Code §65352.3 and as required by the California Environmental Quality Act.**

Recommended Mitigation

Cultural 1: **A formal cultural resources survey is recommended where the project alignment meets the Upper Riverside Canal (CA-RIV-4495H) to update this resource on the State of California Department of Parks and Recreation (DPR) 523 database and to assess the condition of the resource and the potential of the project to cause significant impacts to the canal. If necessary, additional mitigation may be required.**

Cultural 2: **Safety fencing will be installed prior to the commencement of project activity in the vicinity of Victoria Avenue Bridge (P-33-9772) to protect the bridge (including footings) from construction impacts. Also, a Contractor briefing shall be held prior to the start of construction activities to alert construction personnel of the significance of the bridge.**

Cultural 3: **Trenching or ground-disturbing activities within 300-feet of the corner of Brockton and Tequesquite Avenues will be monitored for cultural resources (CA-RIV-3284) under the direction of a qualified archaeologist. In the event that cultural resources are exposed during construction, the monitor will be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities may continue in other areas.**

(Source: GP 2025 FPEIR Table 5.5-A Historical Districts and Neighborhood Conservation Areas & Appendix D, Title 20 of the Riverside Municipal Code, and Cultural Resources Study prepared by SWCA Environmental Consultants in December 2007)

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Cause a substantial adverse change in the significance of an archeological resource pursuant to § 15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation. Based on the results of the field survey, records search, and Native American consultation, implementation of the proposed project does not appear to have the potential to impact known archaeological resources. However, Native American consultation indicates that the project alignment may possess a high likelihood for buried cultural materials or unknown archaeological resources. Therefore, it is recommended that Native American monitoring of all ground-disturbing construction activities are included as mitigation for this project.

The proposed sewer alignment is located within a culturally sensitive area with many historic buildings; however, very few archaeological sites have been recorded in the vicinity. As a result, spot-check archaeological monitoring is recommended for portions of the project alignment outside of those areas previous recorded. This recommendation is based on the highly disturbed nature of the project alignment and the absence of observed archeological resources. In the event that cultural resources are exposed during construction, the monitor would be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. If the discovery proves significant under CEQA, additional work such as testing or data recovery may be warranted.

Cultural and Archaeological resources are afforded varying levels of protection under Federal (National Historic Preservation Act) and State (California Register of Historic Resources, Health and Safety Code and Public Resources Code) regulations, as well as local protection under the City of Riverside Municipal Code (Title 20). General Plan 2025 contains a number of policies aimed at protecting the archaeological resources of the City and its surrounds. Continued observance and adherence to the pertinent policies and implementation of the recommended mitigation measures will ensure the impacts of the project on historic resources remains less than significant.

General Plan Policies

Policy HP-1.1: The City shall promote the preservation of cultural resources to ensure that citizens of Riverside have the opportunity to understand and appreciate the City's unique heritage.

Policy HP-1.3: The City shall protect sites of archaeological and paleontological significance and ensure compliance with the Federal Native American Graves Protection and Repatriation Act in its planning and project review process.

Policy LU-4.6: Ensure protection of prehistoric resources through consultations with the Native American Heritage Commission pursuant to Government Code §65352.3 and as required by the California Environmental Quality Act.

Recommended Mitigation

Cultural 4: Spot-check archaeological monitoring (up to 8 hours per week) is recommended for portions of the project alignment where cultural resources have not previously been recorded. In the event that cultural resources are exposed during construction, the monitor will be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities may continue in other areas.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Cultural 5: **Implementation of the project shall include Native American monitoring of all project-related ground-disturbing activities by a nominated member of the Soboba Band of Luiseño Indians. In the absence of a Native American monitor, should any previously unknown cultural or archaeological resources be identified during construction, a qualified archeologist shall be notified immediately to evaluate the significance of the identified resource and provide recommendations for treatment.**

If significant resources are found, then a mitigation plan shall be developed, in accordance with Section 21083.2 of CEQA and Section 15064.5 of the CEQA Guidelines, to ensure mitigation below a level of significance. Mitigation shall include photograph, recordation, collection, and archival of collected materials. In the event that significant cultural resources are encountered that cannot be mitigated, avoidance shall be required.

Cultural 6: **Copies of the final Cultural Resources Survey report will be provided to the Soboba Band of Luiseño Indians and the Ramona Band of Cahuilla Indians for reference purposes.**

(Source: GP 2025 FPEIR Figure 5.5-1 - Archaeological Sensitivity and Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity, Appendix D – Cultural Resources Study, and Cultural Resources Study prepared by SWCA Environmental Consultants in December 2007)

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

No Impact. As previously discussed in this section, a number of unique paleontological resources have been recorded within the City of Riverside planning area. The historic resource known as "Campbell's Sand Pit" included fossils of Ice Age mammals among the sands of the Santa Ana River. Unfortunately, surface features of this resource no longer exist as the area has been developed with urban land uses. The area south of Mockingbird Canyon Reservoir is the only other portion of the Riverside planning area considered as a place of paleontological importance.

The proposed trunk sewer main will be constructed primarily within existing City right-of-ways (roadway and easement) that have been previously disturbed by construction activity. All works proposed will occur below the existing ground surface as open trench and trenchless construction techniques are used to install the replacement trunk sewer main. The Cultural Resource Survey prepared for the project did not identify the actual or recorded presence of any unique paleontological features within the project alignment. Thus, the potential for finding in-situ paleontological resources within the existing right-of-way is considered low.

The proposed project alignment will pass in the vicinity of, and within a number of important, but not necessarily unique geological features including Mt. Rubidoux, Arlington Mountain, and the Tequesquite Arroyo. However, the short duration and limited extent of the project will have no impact on the status of these resources.

General Plan 2025 has a number of policies in place to protect unique paleontological resources and geologic features within the City of Riverside. Such resources are also protected under other Federal and State regulations pertaining to historic resources (including paleontological sites). Continued observance and adherence to the pertinent City policies will ensure the project will have no impact on unique paleontological resources or geologic features.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

General Plan Policies

Policy HP-1.3: The City shall protect sites of archaeological and paleontological significance and ensure compliance with the Federal Native American Graves Protection and Repatriation Act in its planning and project review process.

Policy OS-5.1: Preserve significant habitat and environmentally sensitive areas, including hillsides, rock outcroppings, creeks, streams, view sheds and arroyos through application of the RC Zone standards and the Hillside/Arroyo standards of the City's Grading Code.

(Source: General Plan 2025 Policy HP-1.3, Title 17 Riverside Municipal Code, and Cultural Resources Study prepared by SWCA Environmental Consultants in December 2007)

d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Less than Significant Impact. There are no known cemeteries on or within the immediate vicinity of the proposed new trunk sewer main alignment. The proposed trunk sewer main will be constructed primarily within existing City right-of-ways (roadway and easement) that have been previously disturbed by construction activity. There are four existing cemeteries in the City of Riverside planning area and they are designated as cemeteries and maintained as such, therefore, construction of the proposed project will not affect any human remains in these cemeteries.

Numerous archaeological studies within the City's Planning Area have revealed the presence of Native American human remains. Although most have been associated with former residential village locations, isolated burials and cremations have also been found in many locations. The discovery of human remains is always a possibility; State of California Health and Safety Code Section 7050.5 covers these findings. This code section 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 human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Adherence to State code requirements during the construction phase of the project will ensure that potential impacts to human remains are less than significant.

(Source: GP 2025 FPEIR Figure 5.5-1 - Archaeological Sensitivity and Figure 5.5-2 - Prehistoric Cultural Resources Sensitivity, California Health and Safety Code, and Cultural Resources Study prepared by SWCA Environmental Consultants in December 2007)

6. **GEOLOGY AND SOILS.** Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on	☐	☐	☒	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				

Less than Significant Impact. The project area is located in a seismically active region, near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional fault systems such as the San Andreas, San Jacinto and Elsinore fault zones. These faults systems produce up to approximately 55 millimeters per year of slip between the plates.

The proposed alignment for the Tequesquite Arroyo trunk sewer main is located well outside of an identified Alquist-Priolo Earthquake Fault Zone. Therefore, the proposed trunk sewer main would not be constructed across, or in the immediate vicinity of, an active fault system and due to the distance from the nearest identified fault (San Jacinto), the risk associated with surface rupture is considered less than significant.

Because the proposed project would not involve the construction of building features in a recognized fault zone, the risk of loss, injury, or death involving rupture of the nearby faults would remain less than significant.

(Source: GP 2025 FPEIR Figure 5.6-2 - Faults and Fault Zones)

ii. Strong seismic ground shaking?	☐	☐	☒	☐

Less than Significant Impact. The proposed Tequesquite Arroyo trunk sewer main would be exposed to groundshaking hazards associated with earthquake events in the region. Seismic shaking is the geological hazard that has the greatest potential to severely impact the project alignment, given that the area is located near several significant faults that have the potential to cause moderate to large earthquakes. Geotechnical analysis completed for General Plan 2025 indicates that the Riverside planning area could experience ground acceleration greater than 35 to 43 percent. These hazards are no different than those at other areas of the region where similar City infrastructure exists.

While there is some risk that the proposed trunk sewer main could be impacted by seismic groundshaking it is not expected that such occurrences will result in substantial impacts to the public or the environment. The proposed trunk sewer main will be constructed below grade and will not pose a risk from falling structures or objects during the construction or operational phase of the project. All construction will conform to the City of Riverside and California Building Codes to account for seismic hazards. Therefore, construction of the proposed trunk sewer main would not result in an increased risk to the public or the environment as a result of strong seismic ground shaking and the impact is considered less than significant.

(Source: GP 2025 FPEIR Appendix E – Geotechnical Report, and California Geological Survey Note 49)

iii. Seismic-related ground failure, including liquefication?				

Less than Significant Impact. Liquefaction is a process by which water-saturated materials (including soil and sediment) lose strength and may fail during strong ground shaking. Liquefaction is defined as "the transformation of a granular material from a solid state into a liquefied state as a consequence of increased pore-water pressure." Liquefaction commonly occurs in earthquake-prone areas underlain by young, loose, alluvium soils where the groundwater table is less than 50 feet below the ground surface.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Liquefaction-induced ground failure can involve a complex interaction among seismic, geologic, soil, topographic, and groundwater factors. Failures can include ground fissures, sand boils, ground settlement, loss of bearing strength, buoyancy effects, ground oscillation, flow failure and lateral spread. These, in turn, can have effects on surface and subsurface structures, with the severity dependent upon the type and magnitude of failure and the relative location of the structures. Liquefaction hazards are particularly significant along watercourses, a significant concern in the City given its proximity to the Santa Ana River and its numerous arroyos.

Areas of "Very High' or "High" susceptibility to liquefaction have been identified adjacent to the Santa Ana River, in the vicinity of Tequesquite Avenue, at the western extent of the project alignment. The remainder of the project, east of Olivewood Avenue, would be constructed within the alluvium of the Tequesquite Arroyo, an area identified as having moderate liquefaction potential in both the City and County General Plans.

While acknowledging the potential risk for seismic-related ground failure hazards, including liquefaction, associated with the proposed construction of the new trunk sewer main, these risks are addressed in the Safety Element of General Plan 2025. The proposed General Plan 2025 and its associated Implementation Plan include a number of policies to mitigate such risks and continued observance and adherence to these policies will ensure an adequate level of risk protection for the project. The impact is therefore considered less than significant.

General Plan Policies

Policy PS-1.1: Ensure that all new development in the City abides by the most recently adopted City and State seismic and geotechnical requirements.

Policy PS-9.7: Identify actions to reduce the severity and probability of hazardous occurrences.

Policy PS-9.8: Reduce the risk to the community from hazards related to geologic conditions, seismic activity, flooding and structural and wildland fires by requiring feasible mitigation of such impacts on discretionary development projects.

Response: ***(Source: GP 2025 FPEIR Figure 5.6-2 - Faults and Fault Zones, and Figure 5.6-3 - Generalized Liquefaction Zones and Appendix E – Geotechnical Report)***

iv. Landslides?	☐	☐	☒	☐

Less than Significant Impact. Landslides typically occur in areas of steep slopes where strong ground shaking, or other environmental conditions, worsen existing slope stability and cause mass movement of the slope material.

Slope analysis mapping provided for General Plan 2025 indicates that the proposed new trunk sewer main will constructed through areas of low slope (typically < 5%). Along the western segments of the project, these areas consist of extensively engineered areas alongside existing roadways at Tequesquite Avenue, within RCC, Olivewood Avenue, and Brooks Street. East of the SR91/Union Pacific rail corridor, the proposed new trunk sewer main will follow the base of the Tequesquite Arroyo, where the majority of local gradients are similarly low. In the vicinity of the Victoria Avenue Bridge and at other isolated locations

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

within the arroyo, east of the freeway corridor, slopes greater than 10% are present.

While acknowledging the potential risk for land slide hazards associated with the proposed construction of the new trunk sewer main, these risks are addressed in the Safety Element of General Plan 2025. As stated in the previous section, policies identified in General Plan 2025 specifically address these risks and continued observance and adherence to these policies will ensure an adequate level of risk protection for the project.

(Source: GP 2025 FPEIR Figure 5.6-1 – Areas Underlain by Steep Slope, Subdivision Code, and Grading Code)

b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less than Significant Impact. Topsoil is the uppermost layer of soil, usually the top six to eight inches. It has the highest concentration of organic matter and microorganisms, and is where most biological soil activity occurs. If not properly managed, substantial amounts of construction project erosion and loss of topsoil can occur during development activity.

As previously described, the majority of the proposed project alignment is relatively flat and is expected to remain in this condition after construction of the Tequesquite Arroyo Trunk Sewer main. The soils along the alignment typically range from fine sandy loams, to loams and coarse alluvium at some locations. Grading and excavation activities may lead to localized erosion, as wind and water carry loose soils away from the construction area. Excavation and grading activities could lead to the erosion of soils into nearby areas, including the City's storm drain system and natural waterways.

All individual construction project activities greater than one acre in size are subject to the State's General Permit for Construction Activities as administered by the California Regional Water Quality Control Board (RWQCB). To comply with the standard permit requirements, Best Management Practices (BMPs) would be incorporated into a Storm Water Pollution Prevention Plan (SWPPP) for the project to limit the extent of eroded materials from construction areas. Further, the City's Grading Code (Title 17) also requires implementation of BMPs and other measures designed to minimize soil erosion.

Also, the Air Quality analysis section of this document identifies a number of recommended mitigation measures to reduce fugitive dust emissions from proposed construction areas. Implementation of these mitigation measures during the project construction period will substantially reduce on-site dust generation and potential off-site export.

Compliance with the policies contained in the City's General Plan, Subdivision Code, and Grading Code along with conditional requirements as set forth by the relevant State agencies will ensure that construction of the proposed new trunk sewer main will not substantially increase soil erosion or the loss of topsoil.

(Source: GP 2025 FPEIR Figure 5.6-1 – Areas Underlain by Steep Slope, Table 5.6-B – Soil Types, Subdivision Code, Grading Code, and NPDES)

c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Less than Significant Impact. The General Plans of both the City and County of Riverside do not identify the presence of a particular geologic unit or soil type in the vicinity of the project alignment that is shown to be unstable or potentially unstable. The geotechnical study completed for General Plan 2025 found that

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

because of the topography and the nature of the geologic formations present in the City, overall the nonseismic "geologic" hazards are less severe than would be expected in cities with extensive steep hillside terrain. Bedrock landslides and mudslides are not a significant factor and large-scale subsidence due to fluid withdrawal is also not reported in the area. Issues relating to the potential for liquefaction and landslide hazards are addressed previously in this section.

Along a large proportion of its length, the proposed new trunk sewer main would be constructed through areas of the City previously developed for infrastructure purposes. In these areas, there is no known incidence of landslide, lateral spreading, subsidence, or collapse on or near the project alignment. To the east of the SR91/Union Pacific rail corridor, construction will occur within alluvial sediments of the valley floor of the Tequesquite Arroyo. Although the potential for differential settlement or instability within these alluvial profiles is not specifically known, it is assumed that the potential risks associated with the proposed construction in this location are no greater than those that presently exist. The existing sewer main, for which this project is being constructed as a replacement, is constructed through identical bed material and there is no record that the in-ground infrastructure has been impacted by, or caused, geological instability.

While acknowledging the potential risk for geological instability along the proposed project alignment, these risks are addressed in the Safety Element of General Plan 2025. As stated in the previous section, policies identified in General Plan 2025 specifically address these risks and continued observance and adherence to these policies will ensure an adequate level of risk protection for the project.

(Source: GP 2025 FPEIR Figure 5.6-1 - Areas Underlain by Steep Slope, Figure 5.6-3 - Generalized Liquefaction Zones, Table 5.6-B – Soil Types, and Appendix E – Geotechnical Report)

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒

No Impact. The proposed Tequesquite Arroyo Trunk Sewer main would be constructed through areas containing Chino, Grangefield, Hanford, and Temescal soil series. These soils are not identified in either the City or County General Plans as having significant shrink-swell potential or as soils where significant shrink-swell hazards exist.

The risks associated with development on potentially expansive soils are addressed in GP 2025. Policies identified in the GP 2025 specifically address these risks and continued observance and adherence to these policies will ensure an adequate level of risk protection for the project. Therefore, no impact is expected.

(Source: GP 2025 FPEIR Figure 5.6-4 – Soils, Table 5.6-B – Soil Types, Figure 5.6-5 – Soils with High Shrink-Swell Potential, Appendix E – Geotechnical Report, and Table 18-1-B of the Uniform Building Code 1994)

e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

No Impact. The proposed project involves the installation of a new trunk sewer main along an existing sewer right-of-way alignment. The project does not propose the use of septic tanks or the construction of an alternative wastewater disposal system. No impact is expected.

(Source: GP 2025 FPEIR Figure 5.6-4 – Soils, Table 5.6-B – Soil Types)

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
7. **HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact. The proposed trunk sewer upgrade project involves replacing approximately 4-miles of existing and under-capacity sewer line with a new trunk sewer main. During construction, some hazardous materials may be transported to and from the project site; however, this impact would be considered short-term and less than significant with adherence to standard construction BMPs. Some examples of hazardous materials handling during construction include fueling and servicing construction equipment on site and the transport of fuels, lubricating fluids, and solvents. The amounts and use of these hazardous materials would be limited, and the transport, storage, use, and disposal of these materials would be subject to federal, state, and local health safety requirements. Policies within the Public Safety Element of the GP 2025 FPEIR also address these issues. As the sewer main would not routinely utilize or generate hazardous materials or wastes, long-term hazards to the public resulting from the routine transport, use, or disposal of hazardous waste would be considered less than significant.

(Source: General Plan 2025 Public Safety Element, GP 2025 FPEIR, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code Riverside Fire Department EOP, 2002 http://intranet/Portal/uploads/Riv%20City%20EOP%20complete.pdf and Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1 http://intranet/Portal/uploads/Part_1_Riverside_County_LHMP.pdf Part 2 http://intranet/Portal/uploads/Part_2_Riverside_LHMP_Jurisdictions.pdf, OEM's Strategic Plan http://intranet/Portal/uploads/RV%20OEM%20Strategic%20Plan.pdf, and Limited Environmental Investigation prepared by C.H.J Incorporated on February 2, 2009)

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. The proposed project would not create a hazard through upset or accident conditions involving hazardous materials. The Riverside Public Works Department follows procedures for addressing accidental spills and leaks in the sewer infrastructure and these procedures would help reduce the severity of accidental hazardous materials events resulting from upset or accident conditions to less than significant levels.

The environmental site assessment prepared for the project searched applicable databases for facilities or occurrences of hazardous materials release within a 1/8-mile corridor of the proposed sewer alignment. Based on the results of the database search, five facilities/properties were identified within the 1/8-mile search area. Two records had no indication of any release and are considered to have no potential impact on the project. One record is located downgradient from the west end of the alignment and is considered to have no potential impact. One drycleaner at 4644 Pine Street was listed with known contamination. However, due to the distance from the alignment and relative hydraulic position of the facility, any soil or groundwater contamination that may exist at the drycleaner facility is considered to have a low potential to impact construction of the project.

One historical UST (Underground Storage Tank) was identified adjacent to the project alignment; however,

this address was not identified as a leaking UST and the potential for contamination in the construction area due to possible releases from the UST is considered to be low.

One LUST (Leaking Underground Storage Tank) record was found for a site between 1,000 and ½-mile from the proposed sewer alignment. However, due to the extended distance from the subject site alignment, soil contamination at the identified LUST site is not expected to impact, or be impacted, from proposed construction activities.

Based on the results of the Limited Environmental Investigation, any residual pesticides that may have been present in soils in agricultural areas west of SR-91 are not expected to remain in surficial soils due to subsequent urban development. Although no significant contamination concerns were identified during the field visit, there is a very low potential for residual pesticides to remain in surficial soils in private property east of SR-91. There is no additional investigation of this area at this time, however, mitigation is required, if discolored soils, soils with an unusual odor, or landfilled materials are encountered during trenching or other excavation.

Recommended Mitigation

Hazard 1: **At such times that the private properties generally located between the railroad tracks and Victoria Avenue are accessible, a field assessment of the alignment in this area should be conducted for any evidence of surficial contamination. If contamination is found, remediation shall be undertaken in compliance with state and Federal guidelines.**

Hazard 2: **If discolored soils, soils with an unusual odor, or landfilled materials are encountered during trenching, or other excavation, a qualified firm should be contacted and work should be discontinued in that particular area until an evaluation of the soils can be made. If contamination is found, remediation shall be undertaken in compliance with state and Federal guidelines.**

Implementation of recommended mitigation measures would reduce impacts from the release of hazardous materials to less than significant levels.

(Source: General Plan 2025 Public Safety Element, GP 2025 FPEIR Table 5.7-D - CalARP RMP Facilities in the Project Area, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code, City of Riverside's EOP, 2002 http://intranet/Portal/uploads/Riv%20City%20EOP%20complete.pdf and Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1 http://intranet/Portal/uploads/Part_1_Riverside_County_LHMP.pdf Part 2 http://intranet/Portal/uploads/Part_2_Riverside_LHMP_Jurisdictions.pdf, OEM's Strategic Plan http://intranet/Portal/uploads/RV%20OEM%20Strategic%20Plan.pdf and Limited Environmental Investigation prepared by C.H.J Incorporated on February 2, 2009)

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. The nearest schools to the project area include Riverside Community College (RCC), Grant Elementary School, and the Riverside Central Middle School, all of which are located within ¼ mile of the proposed project area. Construction emissions would likely be released during installation of the proposed sewer main; however adherence to construction BMPs

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

would reduce these impacts to less than significant levels. During construction, some hazardous materials may be transported to and from the project site; however, this impact would be considered short-term and less than significant.

According to the Limited Environmental Investigation prepared for the project, County Department of Environmental Health (DEH) documents indicated four USTs formerly on the RCC campus. The only UST known or suspected of being near the project alignment is a 1,000-gallon gasoline UST within the Maintenance and Operation yard, which was removed in 1990. Soil sampling results were negative for hydrocarbons; therefore, there is no indication that residual soil contamination will be encountered during the construction operations to place the trunk sewer main in this area. To ensure hazardous emissions or hazardous materials handling impacts remain at less than significant levels, Mitigation Measure Hazard 3 is recommended during excavation activities in the location of the RCC maintenance yard.

Recommended Mitigation

Hazard 3: **Due to the proximity of the alignment to historic USTs in two locations (at the intersection of Palm and Tequesquite Avenue and adjacent to RCC maintenance yard), additional caution should be applied during excavation for detection of hydrocarbon odor or discoloration of soils. If contamination is found, remediation shall be undertaken in compliance with state and Federal guidelines.**

Since operation of the project would not utilize or generate hazardous materials or wastes as defined, and since use of hazardous materials during construction would occur in accordance with existing regulations, significant impacts would not accompany implementation of the proposed project.

(Source: General Plan 2025 Public Safety and Education Elements, GP 2025 FPEIR Table 5.7-D - CalARP RMP Facilities in the Project Area, Figure 5.13-2 – RUSD Boundaries, Table 5.13-D RUSD Schools, Figure 5.13-3 AUSD Boundaries, Table 5.13-E AUSD Schools, Figure 5.13-4 – Other School District Boundaries, California Health and Safety Code, Title 49 of the Code of Federal Regulations, California Building Code and Limited Environmental Investigation prepared by C.H.J Incorporated on February 2, 2009)

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☒	☐	☐

Less than Significant Impact with Mitigation Incorporated. The proposed project would not be located on a hazardous waste site as defined such that a significant hazard to the public or environment would be created. According to the Limited Environmental Investigation, implementation of the mitigation measures noted above would ensure impacts from historic USTs in vicinity to the proposed project would remain less than significant. No other facilities have been identified which would create a significant hazard to the public. Therefore, the impact would be considered less than significant with mitigation.

(Source: GP 2025 FPEIR Figure 5.7-1 – Hazardous Waste Sites, Tables 5.7-A – CERCLIS Facility Information, www.epa.gov/enviro/html/cerclis/cerclis_query.html, Figure 5.7-B – Regulated Facilities in TRI Information www.epa.gov/tri/, 5.7-C – DTSC EnviroStor Database Listed Sites, www.envirostor.dtsc.ca.gov/public, and Limited Environmental Investigation prepared by C.H.J Incorporated on February 2, 2009)

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in	☐	☐	☐	☒

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
the project area?				

No Impact. The proposed project is not located within an existing or proposed airport land use plan or within two miles of a public airport. The closest public use airport is Riverside Municipal Airport, located approximately 2.75 miles to the nearest section of the project alignment. Due to the location of the nearest public airport and since the project would construct only sewer sub-grade infrastructure improvements, the project would not result in a greater safety hazard for people residing or working in the project area above that which presently exists. No impact is expected.

(Source: GP 2025 FPEIR Figure 5.7-2 -Airport Safety and Compatibility Zones, RCALUCP, and Draft MJPA JLUS)

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐

Less than Significant Impact. The closest private airport is Flabob Airport, located more than 1-mile northwest from the project alignment. According to the GP 2025 FPEIR, the western-most extent of the proposed project along Tequesquite Avenue may lie within the Flabob Airport Safety Zone, designated "Other Airport Environs". However, since the "Other Airport Environs" Zone is outside the primary hazard zone and is also located outside the extended approach/departure zone, the safety hazard for construction workers at the project site would be considered negligible. The majority of the project site along Tequesquite Avenue has also been developed with a few residences located immediately adjacent to the Tequesquite Avenue right-of-way and the proposed project alignment. Therefore, considering the location and scope of the project at the periphery of the "Other Airport Environs" Zone, the project would not result in a significant safety hazard for people residing or working in the project area.

(Source: GP 2025 FPEIR and Google Earth Pro)

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. The proposed trunk sewer replacement project would likely create temporary construction traffic in the vicinity of the project area. While this could slow emergency vehicles responding to emergencies in the area, access to all parcels on and surrounding the project site would be maintained for emergency access during the construction period. This impact would be considered short-term and would not be significant; thus, emergency response and evacuation would be less than significantly impacted. Implementation of Mitigation Measure Traffic 1 would also ensure that impacts to emergency response and evacuation are reduced to less than significant levels.

(Source: GP 2025 FPEIR, City of Riverside's EOP, 2002 http://intranet/Portal/uploads/Riv%20City%20EOP%20complete.pdf and Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1 http://intranet/Portal/uploads/Part_1_Riverside_County_LHMP.pdf Part 2 http://intranet/Portal/uploads/Part_2_Riverside_LHMP_Jurisdictions.pdf, and OEM's Strategic Plan http://intranet/Portal/uploads/RV%20OEM%20Strategic%20Plan.pdf)

h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

No Impact. Construction of the proposed new trunk sewer main would occur within an urbanized area of the City of Riverside where the risk of loss, injury, or death involving wildland fires is not present. The project would also not create a wildland fire hazard. No risk of loss or injury involving wildland fires is expected from the proposed project.

Response: ***(Source: GP 2025 FPEIR Figure 5.7-3 – Fire Hazard Areas, City of Riverside's EOP, 2002 http://intranet/Portal/uploads/Riv%20City%20EOP%20complete.pdf, Riverside Operational Area – Multi-Jurisdictional LHMP, 2004 Part 1 http://intranet/Portal/uploads/Part_1_Riverside_County_LHMP.pdf Part 2 http://intranet/Portal/uploads/Part_2_Riverside_LHMP_Jurisdictions.pdf) and OEM's Strategic Plan http://intranet/Portal/uploads/RV%20OEM%20Strategic%20Plan.pdf)***

8. **HYDROLOGY AND WATER QUALITY.** Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒

No Impact. All individual construction project activities greater than one acre in size are subject to the State's General Permit for Construction Activities as administered by the California Regional Water Quality Control Board (RWQCB). To comply with the standard permit requirements, Best Management Practices (BMPs) would be incorporated into a Storm Water Pollution Prevention Plan (SWPPP) for the project to limit the extent of eroded materials from construction areas. Further, the City's Grading Code (Title 17) also requires implementation of BMPs and other measures designed to minimize soil erosion.

The proposed trunk sewer replacement would not generate wastewater as no residential, commercial, industrial, or other sewage-generating uses are proposed as part of the project. The new trunk sewer proposes to replace an existing under capacity line and would not impact the wastewater treatment requirements of the Santa Ana RWQCB.

Because the proposed project does not generate wastewater, and would not impact or violate any water quality standards or discharge requirements, no impact is expected.

(Source: GP 2025 FPEIR Table 5.8-A -Beneficial Uses Receiving Waters, www.waterboards.ca.gov/santaana/)

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒

No Impact. The use of the proposed trunk sewer replacement would not generate demand for additional water supplies. The demand for water for short-term construction would be limited and would not substantially interfere with groundwater recharge. Therefore, the project would not impact the underground aquifer, lower the groundwater table, or reduce groundwater supplies.

Because the proposed project does not generate demand for additional water supplies, and would not impact or interfere with groundwater recharge, lower the groundwater table, or reduce groundwater supplies, no impact is expected.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(Source: GP 2025 FPEIR)				
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

Less than Significant Impact. The proposed trunk sewer replacement would not involve substantial amounts of grading or alter existing drainage patterns. Existing drainage courses would remain intact along with existing patterns of erosion. If the existing (old) trunk sewer main is removed from the streambed of the arroyo, the disturbed area would be restored to pre-impact conditions. Earth moving activities related to construction would also be minimal. Thus, erosion or siltation impacts are expected to be less than significant.

(Source: GP 2025 FPEIR)

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐

Less than Significant Impact. The proposed trunk sewer replacement would not involve substantial amounts of grading or alter existing drainage patterns. Existing drainage courses would remain intact along with existing patterns of surface runoff. No new areas of impervious surface would be created by the proposed project. Earth moving activities related to construction would be minimal. Thus, flooding impacts are expected to be less than significant.

(Source: GP 2025 FPEIR)

e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐

Less than Significant Impact. The proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The proposed sewer upgrade would affect an approximately 4.4-mile corridor extending from Tequesquite Avenue on the west to just west of Chicago Avenue. New impervious surfaces, such as buildings and parking lots, can increase runoff rates through impeding infiltration of rainfall and increasing overland flow velocities. However, no increase in impervious surfaces above what presently exists would occur with implementation of the sewer replacement. Construction contractors would comply with NPDES regulations and prepare a SWPPP. Runoff is not expected to exceed the capacity of the existing drainage system therefore the impact is considered less than significant.

(Source: GP 2025 FPEIR)

f. Otherwise substantially degrade water quality?	☐	☐	☒	☐

Less than Significant Impact. The construction or use of the proposed sewer upgrade would not generate pollutants or wastewater which may degrade water quality. The City would be implementing best

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
management practices for stormwater pollution control, in accordance with the NPDES. Thus, the project does not have the potential to degrade water quality. Impacts would be less than significant. ***(Source: GP 2025 FPEIR)***				
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
No Impact. Substantial portions of the proposed sewer alignment are located within a 100-year flood hazard area, as the alignment follows the Tequesquite Arroyo. However, no residential units are proposed as part of the proposed trunk sewer replacement project. Therefore, since the project would not place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Floor Insurance Rate Map (or other flood hazard delineation), no impact is expected. ***(Source: GP 2025 FPEIR Figure 5.8-2 - Flood Hazard Areas, and FEMA Flood Hazard Maps)***				
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
No Impact. Substantial portions of the proposed sewer alignment are located within a 100-year flood hazard area, as the alignment follows the Tequesquite Arroyo. However, no structures are proposed as part of the project, which could impede or redirect flood flows. Since no aboveground buildings or structures are proposed as part of the proposed trunk sewer replacement project, no impediment or redirection of existing flows would occur with implementation of the project. No impact to flood flows is reasonably expected. ***(Source: GP 2025 FPEIR Figure 5.8-2 - Flood Hazard Areas, and FEMA Flood Hazard Maps)***				
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
Less than Significant Impact. Substantial portions of the proposed sewer alignment are located within a 100-year flood hazard area, as the alignment follows the Tequesquite Arroyo. Also, the project area is located downstream of the Sycamore Canyon Dam. Along the length of the proposed sewer alignment, the project area is within 37 to 80 minutes away from dam failure to arrival of "first water." Most of the annual rainfall in the region occurs in the winter. Flooding in the City of Riverside could result from intense storms or as the result of dam failure. The dam is owned by Riverside County Flood Control and Water Conservation District, and dam safety and routine inspection of Sycamore Canyon Dams falls under the jurisdiction of the State Department of Water Resources Division of Safety of Dams. Inundation of the proposed trunk sewer replacement would be no greater than the risk currently experienced by existing infrastructure located within the inundation area. Construction personnel would be required to be within the dam inundation area during project construction, however their exposure would be temporary and minimal. Therefore, there would be a less than significant risk of loss, injury, or death involving flooding, as a result of the failure of a levee or dam. ***(Source: GP 2025 FPEIR Figure 5.8-2 - Flood Hazard Areas and FEMA Flood Hazard Maps)***				
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐
Less than Significant Impact. The project area is located inland and would not be subject to tsunami				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

hazards. In addition, there are no large open bodies of water near the proposed trunk sewer replacement, which may lead to seiche hazards. Mudflows associated with erosion and fire damage may occur in the Tequesquite Arroyo. The arroyos of the City will be protected and preserved in their natural state to the fullest extent possible, as stated in Policies LU-5.1 through 5.5 in GP 2025. Portions of the Arroyo are also subject to Title 17 of the City Municipal Code which regulates hillside and arroyo grading to minimize the adverse effects of grading on natural landforms, soil erosion, dust control, water runoff and construction equipment emissions. Risks associated with mudflows to the proposed trunk sewer replacement would be no greater than the risk to existing infrastructure.

If construction personnel are required to be within the arroyo during construction operations, they may be subject to mud flow risks. However, their exposure to mud flow risks would be temporary and minimal and would not constitute a significant impact. City policies and regulations are in place to minimize risks associated with mudflows, which will not be increased through implementation of the proposed project. Therefore, there would be a less than significant risk associated with inundation by seiche, tsunami, or mudflow as a result of the proposed project.

(Source: GP 2025 FPEIR)

9. **LAND USE AND PLANNING:** Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒

No Impact. The new trunk sewer main will be constructed within existing City right-of-way for a large portion of its length. The City plans to obtain new easements for sections of the alignment that will be constructed through non-City property (east of SR91). However, no changes of land use would occur on these sections. At the eastern end of the alignment at the Victoria Club golf course, the proposed new trunk sewer line will deviate from the existing right-of-way and traverse the northern boundary of the golf course site. Where feasible, the new trunk sewer main will be constructed along or beneath existing cart pathways and/or trenchless excavation techniques will be used to minimize disruption to playing areas. The project would not further divide the community, as the project would be constructed along or near existing physical divisions like city streets and the Tequesquite Arroyo.

Because the proposed project would be largely constructed within existing City owned right-of-way, and no land use changes would occur as a result of the project, there would be no impact associated with physically dividing the established community.

(Source: General Plan 2025 Land Use and Urban Desig n Element, Downtown Specific Plan, and project site plan)

b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

No Impact. The project would not affect planned or existing land use designations or zoning districts along the project alignment because no change in development or land use designations are proposed as part of the project. The proposed new trunk sewer main would occur largely within existing road right-of-ways. The City plans to obtain new easements for sections of the alignment that will be constructed through non-City property. Sanitary sewer and related facilities are permissible within each of the zoning designations,

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

specific plan areas, and general plan land use designations that the proposed trunk sewer passes through. No conflict with current or present applicable land use plans, policies, or regulations would occur with the project.

(Source: City of Riverside Downtown Specific Plan, General Plan 2025 Land Use and Urban Design Element Figure LU-10 - Land Use Policy Map, Table LU-4 – Planned Land Uses, California Water Code Sections 10910-10915, South Coast Air Quality Management Plan, RCA LUCP, GP 2025 FPEIR Figure 5.9-9, Redevelopment Areas, Specific Plans, GP 2025 Zoning Code, Subdivision Code, Noise Code, and Citywide Design, Sign Guidelines and FEMA Flood Hazard Maps)

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. Riverside County has adopted the Multiple Species Habitat Conservation Plan (MSHCP) for Western Riverside County. A Biological Resources Assessment has been completed in compliance with the requirements of the MSHCP. As discussed in the Biological Resources section of this Initial Study, an area of potential Burrowing Owl habitat was identified along the western extent of the project alignment at Tequesquite Park, where construction and staging activities could disturb potential habitat. As a condition of the MSHCP, all project sites containing burrows or suitable habitat, whether owls were found or not, require pre-construction surveys that shall be conducted within 30 days prior to ground disturbance to avoid direct take of Burrowing Owls. To ensure potential impacts to the burrowing owl remain less than significant, Mitigation Measure Bio 1 provided above, is recommended.

A small portion of the project alignment, within or adjacent to APN #'s: 217-092-005 and 217-130- 016, was found to lie within an MSHCP criteria area (Cities of Riverside/Norco Area Plan, Subunit 1: Santa Ana River - South, in Criteria Cell #443). The Subunit plan identifies a number of Biological Issues and Considerations to be addressed in reviewing projects in this Subunit. The proposed project is consistent with MSHCP goals and would not prevent or interfere with the assembly of Existing Core A because it has no impact on the existing riparian habitat along the Santa Ana River. A consistency analysis for compliance with the Biological Issues and Considerations associated with the Subunit plan is provided in the Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared for the project. No part of the project is within an area described for conservation under the MSHCP. To ensure adequate protection of this potentially sensitive resource, Mitigation Measure Bio 1, provided above, is recommended. Implementation of the recommended mitigation will ensure the potential impacts of the project remain less than significant.

The project alignment was also found to contain trees that could be used by other nesting migratory bird species protected under the federal Migratory Bird Treaty Act and the CF&G Code. If clearing or construction takes place during the spring/summer months (1 February through 31 August), nesting birds may be impacted by direct impacts to nesting sites or indirectly by noise, causing abandonment of nesting sites. Implementation of Mitigation Measure Bio 2 will ensure that potential impacts to migratory birds are reduced to less than significant levels.

Also, because the project is within the adopted Stephen's Kangaroo Rat (SKR) Habitat Conservation Fee area, the project is required to pay appropriate fees for the mitigation of regional impacts to this species. This requirement is recorded in Mitigation Measure Bio 3 and discussed in greater detail in the Biological Resources section of this report.

The proposed construction of the Tequesquite Arroyo trunk sewer main will not conflict with the provisions of any adopted or approved conservation plans. Implementation of the recommended mitigation measures

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

will ensure that the project remains in compliance with specific plan objectives and the impacts of the proposal remain less than significant.

(Source: Western Riverside County MSHCP, SKR-HCP, and Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007)

10. **MINERAL RESOURCES.** Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact. The project area is not located within or adjacent to an area identified as having significant aggregate, oil, or mineral resources. The entire project would occur within the urban framework of the City of Riverside and would not interfere with any current of future mining activities. No impact to regionally valuable mineral resources would occur as a result of the proposed project.

(Source: GP 2025 FPEIR Figure 5.10-1, Mineral Resources)

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Less than Significant Impact. The project area is not located within or adjacent to a locally important mineral resource site. As indicated in Mineral Resources section of the GP 2025 FPEIR, areas containing marginal deposits of feldspar, silica, limestone and other rock products are scattered throughout the City of Riverside. Based on the location of the existing sewer line and proposed trunk sewer line, the project would not interfere with these areas, the closest of which is located .5 mile north of Tequesquite Avenue. Construction materials including sand and gravel that might be utilized for the proposed project are not expected to represent a significant amount of aggregate resources, when compared to available resources and the cumulative demand for these resources by construction activities in the region. Thus, the project would not create a significant demand for mineral resources nor significantly impact a mineral resource recovery site.

Response: ***(Source: GP 2025 FPEIR Figure 5.10-1, Mineral Resources)***

11. **NOISE.** Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less than Significant Impact. According to General Plan 2025 Program and General Plan 2025 Program EIR, ambient noise in the project area is generated primarily by traffic on major arterial roadways and traffic on the SR-91. The railroad line that traverses the city is another source of ambient noise in the project area.

The City of Riverside sets forth outdoor and indoor noise limits for various land use districts within the city. Title 7 of the Riverside Municipal Code establishes noise performance criteria to protect noise-sensitive uses against

significant noise exposure. "Noise-sensitive land uses" includes residences, schools, hospitals, churches, performing arts facilities and hotels and motels. The Riverside Municipal Code limits noise levels from construction activities to the maximum permitted exterior noise level for the affected land use. Exterior ("outdoor") sound level and interior ("indoor") sound level limits are provided below as they appear in Title 7 of the Riverside Municipal Code.

Noise Level Limits		
Exterior Noise Standards		
Land Use Category	*Time Period*	*Noise Level*
Residential	Night (10PM to 7AM) Day (7AM to 10PM)	45 dBA 55 dBA
Office/commercial	Anytime	65 dBA
Industrial	Anytime	70 dBA
Community Support	Anytime	60 dBA
Public Recreation Facility	Anytime	65 dBA
Interior Noise Standard*		
Land Use Category	*Time Period*	*Noise Level*
Residential	Night (10PM to 7AM) Day (7AM to 10PM)	35 dBA 45 dBA
School	7 AM to 10 PM (while school is in session)	45 dBA
Hospital	Anytime	45 dBA

*The interior noise standard for various land use districts shall apply, unless otherwise specifically indicated, within structures located in designated zones with windows opened or closed as is typical of the season.
Source: Title 7 Riverside Municipal Code

Noise impacts associated with installation of the trunk sewer line would be associated with construction activities. In the vicinity of Tequesquite Avenue, nearby homes and commercial uses would potentially be subject to temporary construction noise in excess of established city standards. East of Brockton Avenue, within the Sam Evans Sports Complex, construction activities would also likely create noise impacts above the 65 dBA standard set for public recreation facilities.

Construction noise associated with installation and removal of the trunk sewer line would be tied to the use of pneumatic and boring equipment, heavy construction vehicles, transport of materials to and from the site, and loading/unloading of materials from trucks. Considering the location of the proposed alignment east of Brockton Avenue, short-term construction noise impacts would also be expected at Riverside Community College facilities and in the residential area east of Olivewood Avenue (south of Ramona Drive). To some degree, construction activity in the vicinity of SR-91 would be masked by traffic noise emanating from the freeway.

East of SR-91, the proposed trunk sewer alignment traverses through an industrial area and the Tequesquite Arroyo and Victoria Club. Due to the presence of undeveloped land between the proposed sewer alignment and residences north of the golf course, some construction noise would be diminished over distance. However, since construction crews would be accessing the area, and construction could occur within 100 feet of some residences, significant impacts could occur. Additionally, noise levels would likely exceed the exterior noise standard set for public recreation facilities within the Victoria Club.

Noise standards would very likely be exceeded in vicinity to the proposed project alignment on RCC and nearby residences during construction operations. Although this would constitute a significant impact under CEQA

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

Guidelines, Section 7.35.020 of the Riverside Noise Code provides exemptions from the noise code for certain activities such as those proposed in the project. According to Section 7.35.020, the following activities proposed during construction of the trunk sewer main shall be exempt from the provisions of Title 7:

E. Right-Of-Way Construction. The provisions of this Title shall not apply to any work performed in the City right-of-ways when, in the opinion of the Public Works Director or his designee, such work will create traffic congestion and/or hazardous or unsafe conditions.

F. Public Health, Welfare and Safety Activities. The provisions of this Title shall not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.

Construction noise impacts would occur on a short-term and temporary basis and may impact nearby noise sensitive land uses. Temporary construction noise impacts would vary in noise level according to the type of construction equipment and the distance between the source and the receiver. Presumably, the proposed project would be exempt from city noise regulations in accordance with Section 7; however, mitigation would be necessary to reduce impacts considered significant under CEQA Guidelines, to less than significant levels.

Recommended Mitigation

Noise 1: **During construction, discretionary scheduling of the noisiest construction activities should be undertaken. At a minimum, this should include:**

- **Coordinating with RCC on construction operations, and to the extent possible, undertake construction on campus during non-school hours only; and**
- **Reduce noise impacts to residential uses by locating staging areas as far away from existing residences as possible or reducing construction hours near sensitive receptors.**

Implementation of Mitigation Measure Noise 1, and adherence to City noise standards, regulations and BMPs, will reduce short-term noise impacts to less than significant levels.

(Source: GP 2025 FPEIR Figures 5.11-6, 7, and 8, Table 5.11-F - Existing and Future Noise Contour Comparison, Table 5.11-I, Existing and Future Noise Contour Comparison, Appendix G - Noise Existing Conditions Report, and Riverside Municipal Code- Title 7 Table 5.11-E - Interior and Exterior Noise Standards)

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

Less than Significant Impact. Construction of the proposed trunk sewer main would result in temporary noise impacts associated with the use of jack and pneumatic hammers, heavy construction equipment, hauling of materials to and from the site, and loading/unloading of materials. Although construction noise impacts may temporarily impact surrounding land uses, permanent excessive groundborne vibration or groundborne noise levels would not be created by the proposed project. Adherence to City noise standards and regulations would reduce noise impacts to less than significant levels.

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(Source: GP 2025 FPEIR Figure 5.11-4, 2003 Railway Noise, Table 5.11-G -Vibration Source Levels For Construction Equipment, and Appendix G - Noise Existing Conditions Report)				
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
No Impact. As indicated above, the removal and installation of the trunk sewer line would result in temporary construction noise impacts. Upon completion of the project, sound levels in the project area would return to levels experienced prior to start of the project. No permanent increase in ambient noise levels would occur. ***(Source: GP 2025 FPEIR Figure 5.11 Noise)***				
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
Less than Significant Impact. The proposed project would replace an existing sewer main with a larger trunk sewer main. Construction of the project would result in a temporary increase in ambient noise levels during the construction period, although the location of the noise generation would be transient as construction moves along the proposed project alignment. On completion of construction, ambient noise levels would return to their former levels. Therefore, the project would generate a less than significant increase in ambient noise levels above those levels experience without the project. ***(Source: GP 2025 FPEIR Table 5.11-J - Construction Equipment Noise Levels, Appendix G - Noise Existing Conditions Report)***				
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
Less than Significant Impact. The project area is situated more than two miles east of the Riverside Municipal Airport. The project area is not located within an airport land use plan and would be located outside the affected Riverside Airport noise area, according to the GP 2025 FPEIR. Therefore, the project would not expose people residing in the project area to excessive noise levels associated with aircraft operations. ***(Source: GP 2025 FPEIR Figures 5.11-9 – Riverside and Flabob Airport Noise Contours, 5.11- 10 – March ARB Noise Contours, Table 5.11-D, Noise/Land Use Noise Compatibility Criteria, RCLUCP, MJPA JLUS, MARB AICUZ)***				
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
Less than Significant Impact. The most westerly segment of the proposed trunk sewer project area lies approximately 1 mile southeast of Flabob Airport, which is located just west of the City of Riverside across the Santa Ana River. According to the Section 5.11 of the GP 2025 FPEIR, the entire project area would be				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

located outside the affected Flabob Airport noise area. Therefore, the project would not expose people residing or working in the project area to excessive noise levels from aircraft operations. The impact is expected to be less than significant.

(Source: GP 2025 FPEIR)

12. **POPULATION AND HOUSING.** Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐

Less than Significant Impact. The proposed trunk sewer upgrade would not directly induce population growth, as no homes or businesses are proposed as part of the project. Construction activities would be temporary and short-term and not lead to a demand for permanent housing, goods, or services in the area. The project would replace an aging sewer line and build a new pipeline to accommodate greater sewer flows. Thus, the project could accommodate growth in the project area.

According to growth estimates, the City's population will reach 367,489 residents by 2030. Therefore, substantial population growth in the City has been anticipated. Moreover, although the project would accommodate future growth in the area, it would only be considered a preliminary step toward growth since future development in the area is subject to future city council decisions, land use regulations and ordinances established to regulate growth; goals and objectives of General Plan 2025, and market conditions.

The project is consistent with plans to accommodate anticipated population growth in the area; thus, no unforeseen exceedances of population projections are expected with the project. Growth-inducing impacts, if any, associated with the proposed project are expected to be less than significant.

(Source: General Plan 2025 and GP 2025 FPEIR Table 5.12-A - SCAG Population and Households Forecast, Table 5.12-B - General Plan Population and Employment Projections–2025, Table 5.12-C – 2025 General Plan and SCAG Comparisons, Table 5.12-D - General Plan Housing Projections 2025, and SCAG's RCP & RTP)

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. No housing units are located within the proposed construction area and no housing units would be demolished as part of the project. The project would not displace housing nor result in the need to construct replacement housing. No impact is expected.

(Source: General Plan 2025 and GP 2025 FPEIR)

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact. The proposed project would not result in the displacement of people. Certain recreational facilities will be forced to close or modify operation during construction of the proposed project; however the existing and proposed sewer lines are located in areas utilized for non-residential purposes. No households are currently present on the site, and no persons would be displaced by the proposed project. No impact is

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
expected. ***(Source: General Plan 2025 and GP 2025 FPEIR)***				
13. **PUBLIC SERVICES.**				
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?	☐	☐	☒	☐

Less than Significant Impact. The City of Riverside Fire Department (RFD) provides fire protection services and emergency response for all private, institutional and public facilities within the City. Three RFD fire stations are located in vicinity to the proposed project alignment. The closest fire station to the proposed project is Fire Station #1 located downtown at 3420 Mission Inn Avenue, approximately .75-mile from the proposed project area. The next closest stations, Fire Station #3 and Fire Station #4, are located at 6395 Riverside Avenue and 3510 Cranford Avenue, respectively. Both of these stations are located within 1.25 miles of the proposed project. According to the GP 2025, the RFD's goal is to maintain a maximum 5-minute emergency response time to all areas of the City.

Replacing an under capacity sewer line would not create a demand for fire protection service. During excavation and installation of the new trunk line, traffic flow may slow down and could impede emergency response. Portions of Saunders Street, Brooks Street, and Boxwood Place, roadways which would be excavated to install the new trunk sewer line would be kept open and no closures or detours are proposed for major north/south or east/west roadways such as Magnolia Avenue or 14th Street during construction. Access to all parcels located along the project area would be available at all times. As standard practice, the Fire Department and other service agencies would be informed of the infrastructure construction schedule. This would allow emergency vehicles to use alternate routes as necessary. Impacts on fire protection services would be less than significant.

(Source: GP 2025 FPEIR Table 5.13-B - Fire Station Locations, Table 5.13-C – Riverside Fire Department Statistics)

b. Police protection?	☐	☐	☒	☐

Less than Significant Impact. Police protection services in the City of Riverside are provided by the Riverside Police Department (RPD), which operates from four major facilities in the City. Police Headquarters are located at 4102 Orange Street in the City of Riverside, approximately 0.5-mile northeast of the proposed project area. Uniformed patrol and traffic services are commanded from the Field Operations Division located at 8181 Lincoln Avenue, approximately 3.5 miles southwest of the project area. As of November 2004, the RPD employed 356 sworn officers and 212 civilian personnel. Although the RPD does not use a formula for number of officers per capita, City of Riverside Police try to provide minimum response times of seven minutes on all Priority 1 calls and twelve minutes on all Priority 2 (non-life threatening) calls.

The proposed project would not create demand for police protection or law enforcement service. During

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

construction, traffic flow near the project area may slow police response. However, as mentioned, no closures or detours are proposed for major north/south or east/west roadways such as Magnolia Avenue during construction and all parcels located along the project area would remain accessible. As standard practice, the Sheriff's Department and other service agencies would be informed of the infrastructure improvements construction schedule. This would allow emergency vehicles to plan alternate routes as necessary. Impacts on police protection services would be less than significant.

(Source: GP 2025 FPEIR Figure 5.13-1 - Policing Centers)

c. Schools?	☐	☐	☐	☒

No Impact. The project area is within the service boundaries of the Riverside Unified School District (RUSD). The RUSD is the fourteenth largest school district in California with 43 schools that include 28 elementary schools, 6 middle schools, and 5 high schools.

Improving the overburdened sewer infrastructure would not generate demand for school services. Some disruption to parking and recreation facilities may occur at RCC; however, this impact would be short term and no impact to any service ratios or service objectives would occur with implementation of the proposed project.

(Source: GP 2025 FPEIR Figure 5.13-2 - RUSD Boundaries, Table 5.13-D – RUSD)

d. Parks?	☐	☐	☒	☐

Less Than Significant Impact. The City of Riverside owns/maintains 52 public parks and additional open space areas comprising more than 2,300 acres. Additional park and recreation facilities are provided by state and county agencies, and through local joint-use agreements. Section 5.14 of the GP 2025 FPEIR, provides more detailed information on parks, recreational opportunities, and facilities in the area. The City of Riverside has established a service standard of 3.0 acres of park and recreation facilities per 1,000 residents.

With regard to the project, the proposed sewer line replacement would not generate a demand for parks and recreational services. At the western end of the project area, a portion of the trunk sewer line may be constructed on the fringes of Tequesquite Park, which is a 43.64 acre undeveloped city-wide/special use park. A possible staging area for construction was also identified at Tequesquite Park, south of Tequesquite Avenue in the vicinity of San Andreas Drive. Construction and staging operations on park grounds would create a temporary impact to on-site conditions. Currently, Tequesquite Park is undeveloped and no park amenities are provided. Therefore, implementation of the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered park facilities. This impact is considered less than significant.

(Source: General Plan 2025, Parks Master Plan 2003, GP 2025 FPEIR Section 5.14)

e. Other public facilities?	☐	☐	☐	☒

No Impact. Library services in the City of Riverside are currently provided at 6 branch locations. The City of Riverside Main Library is located at 3581 Mission Inn Avenue, less than 1-mile from the proposed project area. According to the GP 2025, all library locations strive to serve all residents within a three mile travel radius.

The proposed project would not affect library facilities or impact medical services and facilities. The

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

replacement trunk sewer line would not require or create demand for community centers or these services and facilities.

(Source: GP 2025 FPEIR Figure 5.13-5 - Library Facilities, Figure 5.13-6 – Community Centers, Table 5.3-F – Riverside Community Centers)

14. **RECREATION.**				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Less than Significant Impact. The City of Riverside owns/maintains 52 public parks and additional open space areas comprising more than 2,300 acres. Additional park and recreation facilities are provided by state and county agencies and through local joint-use agreements. Non-city owned parks maintained by the county and state include the Box Springs Mountain Reserve Park, Santa Ana River Wildlife Area, and the California Citrus State Historic Park. Joint-use agreements are established with non-city owned sports complexes, golf courses, and hobbyist parks so that public use is allowed use of the site in exchange for maintenance service performed by the City. The City of Riverside park system categorizes parks as local, regional/reserve parks or signature parks, based on the size, location, and amenities provided.

The project would not increase the use of existing parks or other facilities such that substantial physical deterioration would occur. As noted in the project description, to avoid the potential for adverse environmental and physical impact at Victoria Club golf course, the proposed new sewer pipeline will deviate from the existing right-of-way and traverse the northern boundary of the golf course site. Where feasible, the new trunk sewer main will also be constructed along or beneath existing cart pathways and/or trenchless excavation techniques will be used to minimize disruption to playing areas. The City of Riverside Public Works Department is engaged in active negotiations with the Victoria Club management to ensure minimal disruption to the operation of the facility. Therefore, the potential impact to the club's operation is considered less than significant.

At the western end of the project area, a portion of the trunk sewer line may be constructed on the fringes of Tequesquite Park. A possible staging area at Tequesquite Park, south of Tequesquite Avenue in the vicinity of San Andreas Drive may also be used. Since no amenities are currently provided at Tequesquite Park, and the park will be returned to pre-construction conditions once construction is complete, impacts to the park would be temporary and less than significant.

As noted in the project description, trenchless excavation will also be used to install the new trunk sewer line underneath the sports fields at Sam Evans Sports Complex. In this manner, disruption to normal activities to recreational facilities at this location would be avoided. Overall, the project would not cause an increase in the use of existing neighborhood parks, regional parks, or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

(Source: General Plan 2025, GP 2025 FPEIR Table 5.14-A – Park and Recreation Facility Types, Table 5.14-B – Parks Inventory and Acreage Summary, Table 5.14-C – Park and Recreation Facilities Funded in the Riverside Renaissance Initiative, Figure 5.14 – Parks and Recreation Facilities, Figure 5.14-2 – Trails Map, Table 5.14-D – Inventory of Existing Community Centers, Riverside Municipal Code Chapter 16.60 - Local Park Development Fees, Parks and Recreation Final Master Plan 2003)

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which	☐	☐	☐	☒

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
might have an adverse physical effect on the environment?				

No Impact. The project proposes to replace an existing aged and under capacity sewer pipeline. No recreational facilities are proposed for construction or expansion as part of the project. No impact would occur.

(Source: GP 2025 FPEIR, Parks Master Plan 2003, Trails Master Plan, Bicycle Master Plan and Project Plans)

15. **TRANSPORTATION/TRAFFIC.** Would the project:				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. The proposed sewer improvement would replace an under capacity sewer line with a larger line. No long-term increase in either the number of vehicle trips, volume, or congestion at intersections would occur with implementation of the proposed project. Short-term impacts to circulation may occur during construction within City right-of-way on Tequesquite Avenue, Saunders Street, Terracina Drive, City College Drive, Olivewood Avenue, Boxwood Place and Brooks Street.

Recommended Mitigation

To reduce short-term but significant traffic impacts from construction within City ROW, a Construction Impact Management Plan shall be prepared and subject to review and approval by the Department of Public Works and Planning Division to ensure that the Plan has been designed in accordance with this mitigation measure. This review shall occur prior to commencement of any construction staging for the project.

Traffic 1: The City shall prepare a Construction Impact Management Plan which, at a minimum, shall be designed to:

- **Prevent material traffic impacts on the surrounding roadway network;**
- **Minimize parking impacts to public parking, RCC parking capacity, and access to private parking to the greatest extent possible;**
- **Prevent substantial truck traffic through residential neighborhoods;**
- **Detour public bus routes operating in the construction area;**
- **Notify the Fire and Police Departments of the roadway construction schedule to allow emergency vehicles to use alternate routes for emergency response;**
- **Ensure the necessary Encroachment Permits are received from Caltrans and the Union Pacific Railroad; and**
- **Coordinate construction activities with the RCC to minimize construction impacts during hours when class is in session. Scheduling of trenching and all other construction operations during non-school hours may be necessary.**

The following ongoing requirements throughout construction duration shall also be address:

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
• **Information regarding the projects construction activities that may disrupt normal pedestrian and traffic flow and the measures to address these disruptions;** • **Construction work hours;** • **Truck traffic;** • **Appropriate locations for materials and equipment storage to minimize visibility to the public; and** • **Provisions of off-street parking for construction workers, which may include the use of a remote location with shuttle transport to the site, if determined necessary by the City of Riverside.** During construction, the new trunk sewer line would be installed within existing paved roadways and parking areas. In general, these locations include Tequesquite Avenue, Magnolia Avenue, within Parking Lot "L" and "P" of the Riverside Community College Campus, Saunders Street, Terracina Drive, Olivewood Avenue, Brooks Street, Victoria Avenue, and Sedgewick Avenue. During construction, short-term impacts can be expected along more heavily traveled local streets including Tequesquite Avenue, Brockton Avenue, Olivewood Avenue, and Sedgewick Avenue. Since jack and bore will be used to tunnel under Magnolia and Victoria Avenue, significant impacts to these roadways are not expected. Overall, no long term impacts are expected as no additional vehicle trips, volume or congestion would be created by the proposed project. ***(Source: GP 2025 FPEIR Table)***				
b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
Less than Significant Impact. According to the GP 2025, Magnolia Avenue is a designated CMP principal arterial within the Riverside County Congestion Management Plan (CMP). Since the Magnolia Avenue right-of-way is elevated approximately 25 feet higher than the RCC athletic field to the west, and city college facilities to the east, the new trunk sewer line would be bored horizontally underneath Magnolia Avenue, from one side of the roadway to the other. Trenchless excavation would not disturb Magnolia Avenue and thus, would prevent any interference to traffic flows. As noted, the proposed project would not create additional vehicle trips. Thus, the proposed project would only create short-term impacts due to delays and detours without substantially altering long-term LOS standards on Magnolia Avenue. No adverse impacts are expected. ***(Source: GP 2025 FPEIR Table 5.15-H - Existing and Typical Density Scenario Intersection Levels of Service, Appendix H - Circulation Element Traffic Study and Traffic Study Appendix)***				
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
No Impact. The nearest airport is Flabob Airport, located approximately 1-mile west of the Santa Ana River. The proposed project would improve sewer infrastructure in the City of Riverside and not impact air traffic patterns or air travel safety. The project would also not generate demand for air travel or increase use of the nearby airports. Thus, no impact on air traffic patterns would occur with the project. ***(Source: RCALUCP and MJPA JLUS for MARB/MIP, MARB A ICUZ and Riverside Airport Master Plan 1999)***				
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible	☐	☒	☐	☐

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
uses (e.g., farm equipment)?				

Less than Significant Impact with Mitigation. The proposed sewer infrastructure improvements could create short-term construction traffic and delays. Implementation of Mitigation Measure Traffic 1 would reduce traffic hazards associated with construction activities to less than significant levels. No design change in the existing roadway network is proposed as part of the project. Therefore, no increase in hazards resulting from a design feature would occur. The impact is expected to be less than significant with mitigation.

(Source: Project Site Plans)

e. Result in inadequate emergency access?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. It is likely that local roadways would remain open to thru traffic during the construction period. While traffic slowing may occur during construction, access to parcels along the roadway would be available at all times; thus, emergency response and evacuation would be maintained. Implementation of Mitigation Measure Traffic 1 would also ensure that emergency access is maintained during construction activities. Notification of the Fire and Police Departments of the roadway construction schedule would allow emergency vehicles to use alternate routes for emergency response. After construction, infrastructure improvements would not inhibit emergency vehicle access to properties in the surrounding area. Impacts would therefore be short-term and less than significant with mitigation.

(Source: Project Site Plans)

f. Result in inadequate parking capacity?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. The proposed project may temporarily interfere with parking at Student Parking Lot "L" and "P" within the RCC campus, as well as on public streets where the new trunk sewer is proposed. Although inadequate parking capacity may result during construction activities, no long-term impact on parking capacity is expected to occur in the city or on campus. The project proposes to improve the City's sewer infrastructure; no net loss or addition of parking spaces is proposed. To ensure that short-term impacts to parking capacity remain less than significant at RCC, coordination shall occur prior to the commencement of construction on campus in accordance with Mitigation Measure Traffic 1.

(Source: Parking Site Plans and Chapter 19.580 of the Zoning Code)

g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☒	☐	☐

Less than Significant Impact with Mitigation. The Riverside Transit Agency (RTA) provides public transit services in Riverside County and the City of Riverside. RTA Routes 1, 12, 13, 14, and 15 operate in the vicinity of the project site and travel along Brockton Avenue, Magnolia Avenue, and Olivewood Avenue near Riverside Community College. Since detours and/or construction traffic delays are likely to accompany construction related activities, RTA routes in this area may be impacted on a short-term basis. As standard practice, RTA would be notified of the construction so Routes 1, 12, 13, 14, and 15 can be rerouted if needed. Permanent changes to the roadway network are not proposed; therefore, long-term changes to public bus routes or bus ridership would not be anticipated.

Public railway service is provided from the City of Riverside to downtown Los Angeles by Metrolink via the Union Pacific Railroad line which runs alongside the SR-91. Since trenchless excavation will be used to install

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact

the new trunk sewer main beneath the SR-91 and the Union Pacific Railway line, no impact to railway service would be expected.

According to the GP 2025 FPEIR, an Existing Class 2 Bikeway runs north-south along Magnolia Avenue through the proposed project. An Existing Class 1 Bikeway also runs east-west from Palm Avenue into Riverside Community College along Tequesquite Avenue. Considering the proposed project would use trenchless excavation to install the new trunk sewer line beneath Magnolia Avenue, it is likely the Class 2 Bikeway on Magnolia Avenue would not be significantly impacted by the project. With regard to the Class 1 Bikeway located along Tequesquite Avenue, the proposed trunk sewer line will likely only impact the eastern most section of this Bikeway where installation of the trunk sewer recommences at the southeastern corner of Tequesquite Avenue and Brockton Avenue and continues into the RCC campus.

Since open trenching would be utilized to install the trunk sewer main from the southeastern corner of Tequesquite Avenue and Brockton Avenue into the RCC Campus, short-term impacts might accompany construction at this location. Due to the proximity of this Class 1 Bikeway to the RCC Campus, this bikeway is potentially used by persons commuting back and forth to RCC. Therefore, implementation of Mitigation Measure Traffic 1 would help reduce short-term impacts to the bikeway. After implementation of the recommended mitigation, the proposed project would have a less than significant and short-term impact to adopted policies, plans, or programs supporting alternative transportation.

(Source: GP 2025 FPEIR, General Plan 2025 Land Use and Urban Design Elements, Bicycle Master Plan, School Safety Program – Walk Safe! – Drive Safe!)

16. **UTILITIES AND SYSTEM SERVICES.** Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐

Less than Significant Impact. The proposed trunk sewer replacement would not generate wastewater. Rather, the project proposes to replace an existing under capacity line. This would have a less than significant impact related to the wastewater treatment requirements of the Santa Ana RWQCB.

(Sources: Project Site Plans)

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐

Less than Significant Impact. The proposed project involves the installation of approximately 4 miles of new trunk sewer main to replace an existing aged and under capacity pipeline. The proposal does not represent an intention by the City of Riverside to increase the capacity of the sewer infrastructure at this location above that which it is already expected to provide. Construction of the proposed new trunk sewer main will meet current design criteria. The proposed project is not expected to result in demand requirements for additional treatment capacity or expansion of existing facilities above what is presently proposed, to meet new demand.

(Source: GP 2025 FPEIR Table 5.16-E - RPU Projected Domestic Water Supply (ac-ft/yr), Table 5.16-F - RPU Projected Water Demand, Table 5.16-G - General Plan Projected Water Demand for RPU Including Water Reliability for 2025, Table 5.16-H - Current and Projected Domestic Water Supply (acre-ft/year) WMWD, Table

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.16-I - Current and Projected Water Use WMWD, Table 5.16-J - General Plan Projected Water Demand for WMWD Including Water Reliability 2025, Table 5.16-K - Estimated Future Wastewater Generation for the City of Riverside's Sewer Service Area & Table 5.16-L - Estimated Future Wastewater Generation for the Planning Area Served by WMWD, Figure 5.16-4 - Water Facilities and Figure 5.16-6 - Sewer Infrastructure)				
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒

No Impact. The Riverside County Flood Control and Water Conservation District (RCFCWCD) maintains regional stormwater drainage facilities in the project area. The District's boundaries cover approximately 2,700 square-miles in the western portion of Riverside County. The District is responsible for providing regional flood protection in all of Riverside County and local flood protection in the unincorporated areas of Riverside County. The proposed trunk sewer line replacement would not require construction of new storm water drainage facilities or expansion of existing facilities. No drainage facilities would be constructed; therefore, no impact is expected.

(Source: GP 2025 FPEIR Figure 5.16-2 - Drainage Facilities)

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

Less than Significant Impact. The proposed trunk sewer line installation would require water during construction for cleaning, dust control, and other construction related activities. This demand would be relatively minor and short–term. The improved sewer infrastructure would not require water or generate a demand for additional water resources or entitlements. Impacts are expected to be less than significant.

(Source: GP 2025 FPEIR Figure 5.16-3, Water Service Areas, Figure 5.16-4 - Water Facilities, Table 5.16-E – RPU Projected Domestic Water Supply (AC-FT/YR, Table 5.16-F – Projected Water Demand, Table 5.16-G – General Plan Projected Water Demand for RPU including Water Reliability for 2025, Table 5.16-H – Current and Projected Domestic Water Supply (acre-ft/year) WMWD Table 5.16-I Current and Projected Water Use WMWD, and Table 5.16-J – General Plan Projected Water Demand for WMWD Including Water Reliability 2025, EMWD Master Plan, WMWD Master Plan, and Highgrove Water District Master Plan)

e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

Less Than Significant Impact. The sewer trunk upgrade replaces an old and under capacity sewer line rather than generate wastewater or sewage. According to the City's General Plan, the Riverside Regional Water Quality Treatment Plant is proposing to expand capacity by 12.2 MGD to meet future demand. This expansion is necessary to accommodate anticipated growth in the region expected to occur independent of the proposed project.

Response: ***(Source: GP 2025 FPEIR Figure 5.16-5 - Sewer Service Areas and Figure 5.16-6 -Sewer Infrastructure)***

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐

Less than Significant Impact. The City of Riverside Public Works Department provides waste collection and

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
disposal services to the project area. Wastes within the City are hauled to one of three landfills in Western Riverside County, which are operated by the Riverside County Waste Management Department. These include the Lamb Canyon Landfill, El Sobrante Landfill, and Badlands Landfill. The Badlands Sanitary Landfill, located at 31125 Ironwood Avenue in the City of Moreno Valley, is the nearest landfill to the project area. This landfill is located approximately 14 miles to the east. The landfill covers approximately 246 acres, of which 150 acres are used for waste disposal. The landfill has a maximum daily permitted capacity of 4,000 tons. According to the EIR for General Plan 2025, the landfill had a remaining capacity of approximately 9.3 million tons. The landfill is projected to serve the region until 2016. Implementation of the proposed project may generate construction debris that would require disposal at the Badlands Landfill. There is existing capacity at the Badlands Landfill to handle the disposal of construction wastes from the project. No long-term demand for solid waste collection and disposal is expected with the trunk sewer upgrade. The long-term use of the sewer infrastructure would not require solid waste collection and disposal services. Impacts would be less than significant. ***(Source: GP 2025 FPEIR Table 5.16-A - Existing Landfills and Table 5.16-, and California Waste Management Website)***				
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
Less than Significant Impact. Solid wastes generated by the proposed project would be minimal since no building structures would be demolished. Any existing sewer infrastructure or paving material removed as part of the project could be recycled if feasible or disposed of at the Badlands Sanitary Landfill. Any hazardous wastes would be disposed of in accordance with existing regulations. Implementation of the sewer infrastructure improvements would not conflict with federal, state, or city solid waste regulations. Long-term use of the trunk sewer pipeline would not generate solid wastes; therefore, impacts would be less than significant. ***(Source: GP 2025 FPEIR Table 5.16-A - Existing Landfills and Table 5.16-, and California Waste Management Website)***				
17. **MANDATORY FINDINGS OF SIGNIFICANCE.**				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or an endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
Less Than Significant Impact with Mitigation: There is sensitive habitat along the project alignment and the proposed upgrade project has the potential to adversely affect these resources. However, mitigation measures incorporated into the project would reduce potential adverse impacts to less than significant levels. With mitigation, the project will not reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or reduce the number or restrict the range of a rare or endangered plant or animal.				

ISSUES (AND SUPPORTING INFORMATION SOURCES):	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
The proposed project has the potential to significantly impact recorded historic resources located within proximity to the proposed project alignment. Mitigation has been provided to prevent adverse impacts on these cultural resources and ensure that the project would not impact important examples of the major periods of California history or prehistory. ***(Source: GP 2025 FPEIR, Section 5.4 - Biological Resources and Section 5.5 – Cultural Resources, Biological Assessment, Jurisdictional Wetland Delineation and MSHCP Consistency Analysis prepared by Pacific Southwest Biological Services, Inc on September 20, 2007, and Cultural Resources Study prepared by SWCA Environmental Consultants in December 2007)***				
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
Less than Significant Impact: The proposed project would not have environmental impacts, which are individually limited but cumulatively considerable, when considering planned or proposed developments in the area. The proposed sewer improvements would improve existing capacity rather than directly lead to development in the project area beyond what is expected in the City's General Plan. The proposed project would not cumulatively lead to significant adverse impacts, when added to proposed, planned or anticipated development in the area. ***(Source: GP 2025 FPEIR Section 6 – Long-Term Effects/ Cumulative Impacts)***				
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐
Less than Significant Impact with Mitigation: The proposed project would not have environmental impacts, which may have adverse effects on humans, either directly or indirectly, with implementation of the recommended mitigation measures. The project may create short-term air quality impacts during construction and potential impacts to biological resources and cultural resources. The project may also create temporary impacts to traffic movement and site-specific parking capacity. However, implementation of the recommended mitigation measures would avoid significant adverse impacts or reduce the identified impacts to insignificant levels. The City of Riverside has determined that the proposed project would not have significant adverse impacts on the environment with the implementation of the recommended mitigation measures; thus, no additional environmental analysis is warranted. The City of Riverside would consider adoption of a Mitigated Negative Declaration for the proposed Tequesquite Arroyo Trunk Sewer Upgrade, with the incorporation of the recommended mitigation measures. ***(Source: GP 2025 FPEIR Section 5 – Environmental Impact Analysis)***				

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

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MITIGATION MONITORING AND REPORTING PROGRAM

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/ Reporting Method
Air Quality	**MM Air 1**: To mitigate potential adverse impacts resulting from construction activities, development projects must abide by the SCAQMD's Rule 403 concerning Best Management Practices for construction sites to reduce emissions during the construction phase. The following measures shall be required when applicable: • Sweep streets at the end of the day if visible soil material is carried onto adjacent paved public roads; • Wash off trucks and other equipment leaving the site; • Replace ground cover in disturbed areas immediately after construction; • Keep disturbed/loose soil moist at all times; • Suspend all grading activities when wind speeds exceed 25 miles per hour; • Enforce a 15 mile per hour speed limit on unpaved portions of the construction site.	Issuance of grading plans.	Public Works Department	Construction Inspection.
Air Quality	**MM Air 2:** To reduce construction related particulate matter air quality impacts of City projects the following measures shall be required when applicable: 1. the generation of dust shall be controlled as required by the AQMD; 2. grading activities shall cease during periods of high winds (greater than 25 mph); 3. trucks hauling soil, dirt or other emissive materials shall have their loads covered with a tarp or other protective cover as determined by the City Engineer; and 4. the contractor shall prepare and maintain a traffic control plan, prepared, stamped and signed by either a licensed Traffic Engineer or a Civil Engineer. The preparation of the plan shall be in accordance with Chapter 5 of the latest edition of the Caltrans Traffic Manual and the State Standard Specifications. The plan shall be submitted for approval, by the engineer, at the preconstruction meeting. Work shall not commence without an approved traffic control plan.	Prior to issuance of individual grading and/or building permit. The plan for traffic control shall be submitted with the grading and/or building plans.	Public Works Department	Construction Inspection.
Biological Resources	**MM Bio 1:** A 30 day pre-construction survey for the Burrowing Owl is recommended prior to the commencement of construction activities along Tequesquite Avenue, in the vicinity of Tequesquite Park. The survey will take the form of a Burrowing Owl Survey Step II, Part A: Focused Burrow Survey, in accordance with the California Burrowing Owl Consortium 1993 Burrowing Owl Survey Protocol and Mitigation Guidelines. If necessary, a Part B: Focused	Prior to the start of construction.	Planning Division Public Works Department	Construction Inspection.

[1] All agencies are City of Riverside Departments/Divisions unless otherwise noted.

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/ Reporting Method
	Burrowing Owl Survey may also be required.			
Biological Resources	**MM Bio 2:** If construction during the nesting season (February to August) is necessary, pre-construction surveys shall be conducted prior to any clearing, grubbing or ground disturbance activities by a qualified person. The pre-construction surveys shall be conducted no more than 7 days prior to the initiation of construction during the early part of the breeding season. During this survey, the biologist shall inspect all trees and other potential nesting sites within the limits of construction and the area within 250 feet of the limits of construction. If an active nest is found, a qualified person would determine the extent of the construction-free buffer zone (typically 250 feet for raptors, variable for other species) to establish around the nest and shall conspicuously flag off the buffer area around the nest. The construction crew shall be instructed to avoid any activities in this zone until the bird nest is no longer occupied, per a subsequent survey by the qualified person.	Prior to the start of construction.	Planning Division Public Works Department	Construction Inspection.
Biological Resources	**MM Bio 3:** The entire project alignment falls within the boundaries of the Western Riverside County MSHCP and SKR-HCP. Therefore, the project will be required to pay fees for development activity as assessed under the SKR-HCP and the Western Riverside County MSHCP Mitigation Fee Program, unless it is otherwise determined that the project is exempt in accordance with Section 10(f) of Riverside County Ordinance No. 663 Establishing the Riverside County SKR-HCP Plan Fee Assessment Area and Setting Mitigation Fees, and Section 16(c) of Riverside County Ordinance No. 810. 2 Establishing the Western Riverside County MSHCP Mitigation Fee.	Prior to the issuance of a demolition, grading and/or building permit	Planning Division Public Works Department	Fee Payment.
Biological Resources	**MM Bio 4:** Urban/Wildlife Interface Guidelines (UWIG) are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area. Where applicable, all UWIG Guidelines shall be required, including: • Barriers suggested by the MSHCP/UWIG analysis shall be placed on the west side of the construction zone along Tequesquite Avenue to discourage intrusion into the adjacent conservation area. • Night lighting during construction activities for the project shall be directed away from the MSHCP Conservation Area; ambient lighting in the MSHCP Area shall not be increased. • Noise generating activities associated with project construction and maintenance shall be minimized so that wildlife within the MSHCP Conservation Area at the west end of the project is not subject to levels that would exceed residential noise standards. • Measures shall be incorporated that ensure that	During construction	Public Works Department	Construction Inspection.

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/ Reporting Method
	potentially toxic substances do not enter the MSHCP Conservation Area.			
Biological Resources	**MM Bio 5:** If after completion of the proposed project the existing sewer main is to be removed from the arroyo, all disturbed areas within and surrounding the streambed must be restored in accordance with a restoration plan prepared by a qualified party and be completed as a condition of approval for the project.	Prior to the issuance of a demolition, grading and/or building permit and during construction.	Public Works Department	Plan check and through construction inspection.
Cultural Resources	**MM Cultural 1:** A formal cultural resources survey is recommended where the project alignment meets the Upper Riverside Canal (CA-RIV-4495H) to update this resource on the State of California Department of Parks and Recreation (DPR) 523 database and to assess the condition of the resource and the potential of the project to cause significant impacts to the canal. If necessary, additional mitigation may be required.	Site-Specific Environmental Review and/or prior to the issuance of a demolition, grading and/or building permit.	Planning Division Public Works Department	Compliance with Project Conditions of Approval.
Cultural Resources	**MM Cultural 2:** Safety fencing will be installed prior to the commencement of project activity in the vicinity of Victoria Avenue Bridge (P-33-9772) to protect the bridge (including footings) from construction impacts. Also, a Contractor briefing shall be held prior to the start of construction activities to alert construction personnel of the significance of the bridge.	Site-Specific Environmental Review and/or prior to the issuance of a demolition and/or grading permit.	Planning Division Public Works Department	Compliance with Project Conditions of Approval.
Cultural Resources	**MM Cultural 3:** Trenching or ground-disturbing activities within 300-feet of the corner of Brockton and Tequesquite Avenues will be monitored for cultural resources (CA-RIV-3284) under the direction of a qualified archaeologist. In the event that cultural resources are exposed during construction, the monitor will be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities may continue in other areas.	During construction.	Public Works Department	Compliance with Project Conditions of Approval.
Cultural Resources	**MM Cultural 4:** Spot-check archaeological monitoring (up to 8 hours per week) is recommended for portions of the project alignment where cultural resources have not previously been recorded. In the event that cultural resources are exposed during construction, the monitor will be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities may continue in other areas.	During construction.	Public Works Department	Compliance with Project Conditions of Approval.
Cultural	**MM Cultural 5:** Implementation of the project shall	During	Public Works	Compliance

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/ Reporting Method
Resources	include Native American monitoring of all project-related ground-disturbing activities by a nominated member of the Soboba Band of Luiseño Indians. In the absence of a Native American monitor, should any previously unknown cultural or archaeological resources be identified during construction, a qualified archeologist shall be notified immediately to evaluate the significance of the identified resource and provide recommendations for treatment. If significant resources are found, then a mitigation plan shall be developed, in accordance with Section 21083.2 of CEQA and Section 15064.5 of the CEQA Guidelines, to ensure mitigation below a level of significance. Mitigation shall include photograph, recordation, collection, and archival of collected materials. In the event that significant cultural resources are encountered that cannot be mitigated, avoidance shall be required.	construction.	Department	with Project Conditions of Approval.
Cultural Resources	**MM Cultural 6:** Copies of the final Cultural Resources Survey report will be provided to the Soboba Band of Luiseño Indians and the Ramona Band of Cahuilla Indians for reference purposes.	After project completion	Planning Division Public Works Department	Compliance with Project Conditions of Approval.
Hazards and Hazardous Materials	**MM Hazard 1:** At such times that the private properties generally located between the railroad tracks and Victoria Avenue are accessible, a field assessment of the alignment in this area should be conducted for any evidence of surficial contamination. If contamination is found, remediation shall be undertaken in compliance with state and Federal guidelines.	Prior to the issuance of a demolition, grading and/or building permit and during construction.	Planning Division Public Works Department County of Riverside Environmental Health Department	Compliance with Project Conditions of Approval.
Hazards and Hazardous Materials	**MM Hazard 2:** If discolored soils, soils with an unusual odor, or landfilled materials are encountered during trenching, or other excavation, a qualified firm should be contacted and work should be discontinued in that particular area until an evaluation of the soils can be made.	During construction.	Public Works Department County of Riverside Environmental Health Department	Construction Inspection.
Hazards and Hazardous Materials	**MM Hazard 3:** Due to the proximity of the alignment to historic USTs in two locations (at the intersection of Palm and Tequesquite Avenue and adjacent to RCC maintenance yard), additional caution should be applied during excavation for detection of hydrocarbon odor or discoloration of soils. If contamination is found, remediation shall be undertaken in compliance with state and Federal guidelines.	During construction.	Public Works County of Riverside Environmental Health Department	Construction Inspection

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/ Reporting Method
Noise	**MM Noise 1:** During construction, discretionary scheduling of the noisiest construction activities should be undertaken. At a minimum, this should include: • Coordinating with RCC on construction operations, and to the extent possible, undertake construction on campus during non-school hours only. • Reduce noise impacts to residential uses by locating staging areas as far away from existing residences as possible or reducing construction hours near sensitive receptors.	Prior to the issuance of grading/ and or building permits. During construction.	Planning Division Public Works Department	Compliance with Project Conditions of Approval. Construction Inspection.
Transportation	To reduce short-term but significant traffic impacts from construction within City ROW, a Construction Impact Management Plan shall be prepared and subject to review and approval by the Department of Public Works and Planning Division to ensure that the Plan has been designed in accordance with this mitigation measure. This review shall occur prior to commencement of any construction staging for the project. **MM Traffic 1:** The City shall prepare a Construction Impact Management Plan which, at a minimum, shall be designed to: • Prevent material traffic impacts on the surrounding roadway network; • Minimize parking impacts to public parking, RCC parking capacity, and access to private parking to the greatest extent possible; • Prevent substantial truck traffic through residential neighborhoods; • Detour public bus routes operating in the construction area; • Notify the Fire and Police Departments of the roadway construction schedule to allow emergency vehicles to use alternate routes for emergency response; • Ensure the necessary Encroachment Permits are received from Caltrans and the Union Pacific Railroad; and • Coordinate construction activities with the RCC to minimize construction impacts during hours when class is in session. Scheduling of trenching and all other construction operations during non-school hours may be necessary. The following ongoing requirements throughout construction duration shall also be address: • Information regarding the projects construction activities that may disrupt normal pedestrian and	The Construction Impact Management Plan shall be approved prior to the issuance of grading/ and or building permits. During Construction.	Planning Division Public Works Department California Department of Transportation Union Pacific Railroad	Compliance with Project Conditions of Approval. Issuance of Caltrans Encroachment permit Issuance of Union Pacific Railroad Encroachment Permit Construction Inspection.

Impact Category	Mitigation Measures	Implementation Timing	Responsible Monitoring Party[1]	Monitoring/ Reporting Method
	traffic flow and the measures to address these disruptions; • Construction work hours; • Truck traffic; • Appropriate locations for materials and equipment storage to minimize visibility to the public; and Provisions of off-street parking for construction workers, which may include the use of a remote location with shuttle transport to the site, if determined necessary by the City of Riverside.			

TEQUESQUITE ARROYO TRUNK SEWER

BIOLOGICAL ASSESSMENT
JURISDICTIONAL WETLAND DELINEATION
AND
MSHCP CONSISTENCY ANALYSIS

APN No's: See Attachment 1

Prepared for

City of Riverside

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PSBS #U872

20 September 2007

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R. Mitchel Beauchamp, M. Sc., President

TEQUESQUITE ARROYO TRUNK SEWER

BIOLOGICAL ASSESSMENT
JURISDICTIONAL WETLAND DELINEATION
AND
MSHCP CONSISTENCY ANALYSIS

20 September 2007

INTRODUCTION AND SUMMARY

Pacific Southwest Biological Services, Inc., (Pacific Southwest) performed a biological assessment and jurisdictional wetland delineation on the approximately four-mile reach of the proposed alignment for the Tequesquite Arroyo Trunk Sewer in the City of Riverside. The survey included habitat assessments for the Least Bell's Vireo, Southwestern Willow Flycatcher, and Burrowing Owl. This report summarizes issues related to biological resources, wetlands-related jurisdictional issues, and consistency of the proposed design with the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP).

The site is partially within the Cities of Riverside/Norco Area Plan, Subunit 1: Santa Ana River-South, of the MSHCP. A portion of the site is within Criteria Cell #443. Conservation within Criteria Cell #443, as described in the MSHCP Volume 1 Section 3.3.17 Cities of Riverside/Norco Area Plan, will contribute to assembly of Existing Core A, which consists of the Prado Basin and Santa Ana River. The site is within the Western Riverside Stephens' Kangaroo Rat (SKR) fee area.

The survey revealed four vegetation type/habitat communities on the project site: Disturbed Habitat, Urban/Developed, Diegan Coastal Sage Scrub, and Southern Cottonwood-Willow Riparian Forest.

The site is subject to the MSHCP's guidelines pertaining to the Urban/Wildlands Interface (UWIG) for the management of edge factors such as lighting, urban runoff, toxics, and domestic predators.

The habitat assessments for sensitive plant species specified in the MSHCP as associated with riparian/riverine areas, and other sensitive plant species, did not detect any of these species, and determined that appropriate habitat for any of them does not occur on the site.

The habitat assessments for sensitive animal species associated with riparian/riverine areas and for other sensitive species, did not detect any of these species, and determined that potentially appropriate habitat for them does not occur within or adjacent to the parts of the proposed project alignment. No sensitive animal species were observed during the field assessments or during the course of the Burrowing Owl habitat assessment.

The drainage of Tequesquite Arroyo that runs through the site is jurisdictional under the California Fish and Game Code (CFGC) and the U. S. Army Corps of Engineers (Corps) regulations. The project proponents have designed the project to avoid impacts to jurisdictional areas.

PROJECT DESCRIPTION

PHYSICAL CHARACTERISTICS

The project site extends approximately 4.4 miles southeast from the western end of Tequesquite Avenue, west of Elderwood Court, to an area just west of Chicago Avenue, within the Victoria Club golf course. The project will involve the installation of approximately 4 miles of new trunk sewer main along the project alignment to replace an existing aged and under-capacity pipeline. The new trunk sewer main will be constructed within existing City rights-of-way for a large portion of its length. The City plans to obtain new easements for sections of the alignment that will be constructed through non-City property. The project will connect to both the upstream and downstream ends of a recently installed 1,600 linear foot portion of 36-inch diameter trunk sewer main. The approximately 1,600 foot section of 36-inch sewer main between Palm Avenue and Brockton Avenue along Tequesquite Avenue is sized for future capacity as identified in the 2002 Tequesquite Sewer Study.

The project alignment commences in the southwest at an existing siphon vault on Tequesquite Avenue, west of the intersection with Elderwood Court. At this location, approximately 1,000 feet of the new trunk sewer main would be installed within, and parallel to, the right-of-way of Tequesquite Avenue, thereby connecting to the existing 36-inch sewer main at the intersection of Tequesquite Avenue and Palm Avenue, where it will terminate. Installation of the new trunk sewer main will then re-commence at the southeastern corner of Tequesquite Avenue and Brockton Avenue, where it will be constructed southeasterly along the existing roadway for 400 feet before entering the grounds of the Riverside Community College (RCC).

Within the RCC, the new trunk sewer main will be constructed within the existing right-of-way that follows an internal roadway before passing under the northern edge of one of the college's baseball fields. Trenchless excavation will then be used to install the new trunk main beneath a second baseball field and Magnolia Avenue to connect with RCC property to the east. The new sewer main will continue southeasterly for approximately 0.33 miles through the college grounds, along existing internal roadways and parking areas, before turning southwest to follow Saunders Street and east through Student Parking Lot "P", exiting RCC at Olivewood Avenue.

The new trunk main will pass below grade across Olivewood Avenue into Brooks Street just east of the intersection and continue south along the Brooks Street road right-of-way for approximately 450 feet before turning east towards SR-91. Trenchless excavation will be used to install the new trunk sewer main beneath SR-91 and the BNSF/Union Pacific railway line to connect to private property to the east. East of the rail corridor, the new trunk sewer main turns south for 0.3 miles, and then turns towards Victoria Avenue approximately 0.4 miles to the east. This section of the alignment will be constructed primarily within private property in an existing

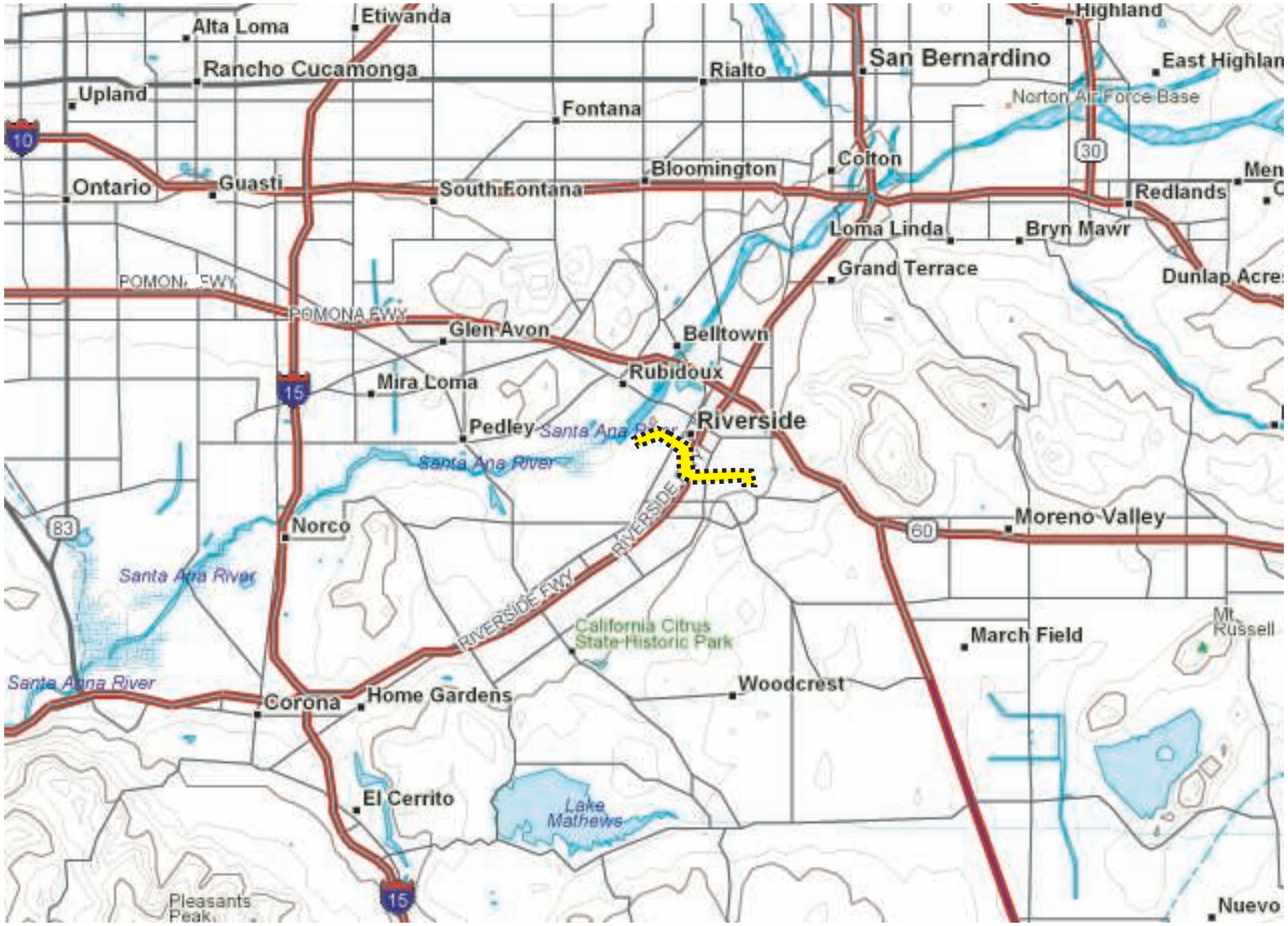


Figure 1. Project Vicinity, Tequesquite Arroyo Trunk - Proposed Sewer and Existing Utilities, Riverside County, CA

Survey Area

N

Not to Scale

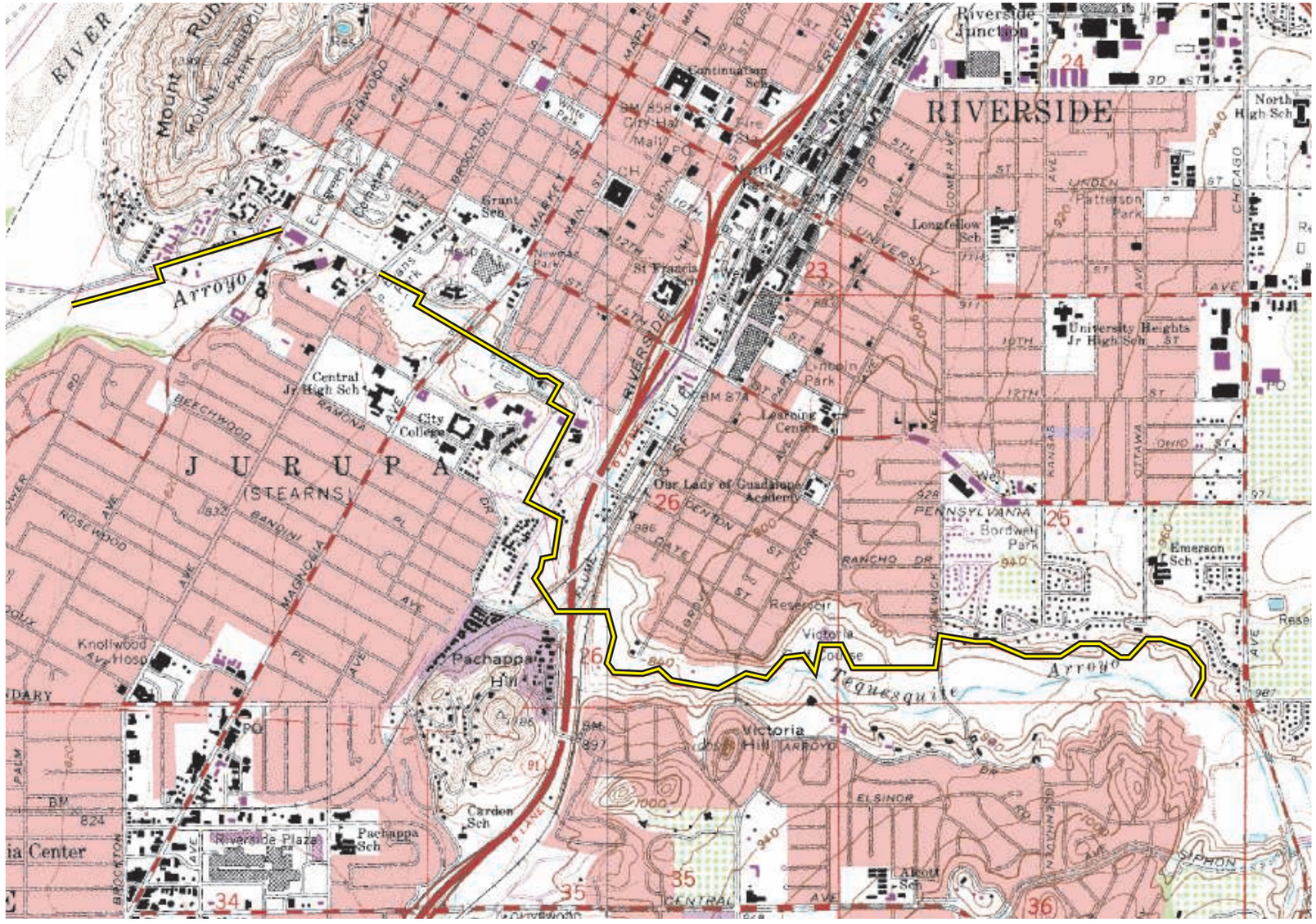


Figure 2. Project Location, Tequesquite Arroyo Trunk Sewer, City of Riverside
USGS 7.5' Riverside West & East, CA Quadrangles

N

1" = 1,600'

sewer right-of-way. The new trunk sewer main will make a stream crossing at two locations within this section. East of Victoria Avenue, the project alignment continues into the Victoria Club property.

Within the property boundary of the Victoria Club golf course, the existing sewer right-of-way closely follows the bed of the Tequesquite Arroyo stream channel. To avoid the potential for adverse environmental impact, the proposed new trunk sewer line will deviate from the existing right-of-way and traverse the northern boundary of the golf course site. Where feasible, the new trunk sewer main will be constructed along or beneath existing cart pathways, and/or trenchless excavation techniques will be used to minimize disruption to playing areas. At the eastern extent of the project, the new trunk sewer main will re-connect with the existing sewer main in the vicinity of Queen Street and Chicago Avenue.

A combination of open trench and trenchless excavation construction will be used to install the new trunk sewer main along the project alignment. Construction materials will typically comprise 36-inch diameter vitrified clay pipe and 48-inch steel carrier pipes in some trenchless excavations. In critical areas such as potable water line and stream crossings, epoxy-lined ductile iron pipe may also be used. Being a gravity-driven system, final construction depth will be determined by the required hydraulic gradient; however, typical pipe depths of between 4 feet and 10 feet are expected.

While open trench excavation is the preferred construction method, trenchless excavation will be necessary in several sections along the project alignment. Generally, trenchless excavation will be used in the excavation of two pits, one thrust or "jacking" pit (typically 15-20 feet wide x 30-40 feet long and to a depth approximately 2 feet below the pipe invert) and one receiving pit (5-7 feet wide x 10 feet long and to a depth approximately 2 feet below the pipe invert). The horizontal distance between the pits will be dependent upon final project design and site conditions; however, drives as long as 1,000 feet could be possible if the soil conditions allow. During operations, a hydraulic ram will be used to drive lengths of 48-inch steel casing pipe between the two pits. The casing pipe will house and protect the smaller trunk sewer main, which will be installed internally. The project will also include the installation of a number of manholes and junction boxes along the new trunk sewer alignment. These structures may be installed as pre-cast units or cast-in-place.

CONSTRUCTION CHARACTERISTICS

Project construction is expected to commence around summer 2008, and the expected construction period is from 8 to 12 months. Work will commence at the southwestern project extent along Tequesquite Avenue and continue easterly on a segment by segment basis. Construction programming and site specific objectives may necessitate simultaneous construction of some sections as trenchless excavation and open trench operations run independently; however, this type of construction phasing may not be necessary.

A number of possible staging area locations have been identified along the proposed project alignment for utilization by the contractor to store construction equipment and materials as necessary throughout the life of the project. Staging areas will not be located in

environmentally sensitive locations or in areas where control of off-site impacts cannot be adequately managed. Possible staging areas include portions of:

- Tequesquite Park south of Tequesquite Avenue in the vicinity of San Andreas Drive (City-owned),
- The southwest corner of the Riverside Community Hospital parking area adjacent to Brockton Avenue (easement),
- Student Parking Lot "V" on the Riverside City College Campus (easement),
- Staff/Student Parking Lot "G" on the Riverside City College Campus (easement),
- An open field east of the railway line and west/southwest approximately 700 feet from Woodbine Street (easement), and
- Victoria Country Club approximately 500 feet southwest of the intersection of Prince Albert Drive and Ottawa Avenue (easement).

OPERATIONAL CHARACTERISTICS

Construction of the new trunk sewer main will replace an existing aged and under-capacity pipeline identified by the City of Riverside Public Works department. For the duration of the construction operation, the existing line will remain in service.

Depending upon operational circumstances, sewer flows within the existing trunk sewer main may be diverted to completed segments of the new trunk sewer main, once complete. This action will likely occur as operational conditions allow, and only on completion of all planned construction and testing activities along the segment. Once the entire new trunk main is operational, it is the intention of the City to decommission the existing trunk sewer main.

West of the SR-91/rail corridor, segments of the existing trunk sewer main will be abandoned in place. This may involve flushing the residual from the trunk sewer main and then filling the abandoned trunk sewer main with annular material and sealing the line at junction locations. Manhole shafts would be removed to 3 feet below existing grade, with the bases broken in place; and the void filled with annular material. Native soils would be used to backfill the remaining void to the ground surface. Manhole rings and lids would also be removed at this time.

To the east of the freeway/rail corridor, the existing trunk sewer main is primarily contained within, or adjacent to, the bed of the Tequesquite Arroyo stream channel. Decommissioning of the existing sewer main along this segment will involve either abandonment in place, using the technique previously described, or removal of the existing pipe work from the stream bed and restoration of the disturbed areas. The final decision for the appropriate abandonment technique will be contingent upon the outcome of future discussions between the City of Riverside and State and Federal agencies responsible for the management of natural resources at that location. For the purposes of this Initial Study, the potential impacts of both techniques are considered.

METHODS

GENERAL METHODS

Prior to the field surveys, a search was made of the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) for the U. S. Geological Survey 7.5' Riverside East and Riverside West, California quadrangles; the covered species list for the MSHCP was also reviewed for sensitive species potentially occurring on the property. This search revealed several federally- or state-listed species that occur on or in the vicinity of the property. Also reviewed was a report of a prior assessment of a nearby property (Pacific Southwest 2005).

Pacific Southwest biologists R. Mitchel Beauchamp, Claude G. Edwards, and Geoffrey L. Rogers visited the site according to the following schedule. An investigation of the proposed trunk sewer alignment through Tequesquite Arroyo between Chicago Avenue and the terminus of Tequesquite Avenue near the Santa Ana River was made 21 July 2007 by R. Mitchel Beauchamp, Certified Wetland Delineator (#1697), in company with field assistants, F. Arturo Ibarra and Bryan S. Aguirre.

Table 1. Survey Schedule and Conditions

DATE	PERSONNEL	TIME	CONDITIONS	SURVEY TYPE
16 July 07	Edwards	1000-1445	Temperature 75-90°F, skies clear, winds calm	Habitat assessment, zoology
16 July 07	Rogers	0920-1320	Temperature 75-90°F, skies clear, winds calm	Habitat assessment, zoology
21 July 07	Beauchamp	not recorded	not recorded	Wetland delineation, botany

RESULTS

LOCATION AND SURROUNDING LAND USES

The property is located in the City of Riverside in western Riverside County, California (Figures 1 and 2). The map location is within the southern portions of Sections 25 and 26, Township 2 South, Range 5 West, and in unsectioned lands of the Jurupa Land Grant, of the San Bernardino Base and Meridian; U. S. Geological Survey 7.5' Riverside East and Riverside West, California, quadrangles (approximate midpoint UTM [NAD 27]: 11-S: 465,000mE; 3,758,500mN) (Lat. 32° 52' 25.8"N; Long. 89° 13' 58.2"W; APN 910-100-006). Access to the eastern half of the proposed alignment from U. S. Interstate Highway 215 (Moreno Valley Freeway) is south on Chicago Avenue, then west on Pennsylvania Avenue and 14th Street, and south on Victoria Avenue.

The proposed alignment is within Tequesquite Arroyo, mapped as an intermittent stream carrying flows westerly and then northwesterly to the Santa Ana River. The majority of the eastern half of the drainage runs through the golf links of the Victoria Club. Near the western terminus the alignment is bordered by Tequesquite Park. This drainage is flanked by Urban/Development for its entire length.

Table 2. Site Rainfall Record Preceding Survey

Month	Precipitation in inches	Normal precipitation for Month
June 2006	0.01	0.10
July 2006	Trace	0.03
August 2006	0	0.17
September 2006	Trace	0.24
October 2006	Trace	0.31
November 2006	0.05	0.74
December 2006	0.64	1.11
January 2007	0.24	2.32
February 2007	0.37	2.31
March 2007	0.13	2.11
April 2007	0.54	0.58
May 2007	Trace	0.20
June 1-21 2007	0	0.10
Total	**1.98**	**10.32**

Source: weatherunderground.com
Station: Riverside Municipal Airport, approximately three miles southwest of survey area

Rainfall for the twelve months preceding the survey (see Site Rainfall Record) was substantially less than normal, although this did not bias the biological assessment or habitat assessments for sensitive flora.

PHYSICAL CHARACTERISTICS OF THE PROJECT SITE

Elevation ranges from a high of approximately 940 feet above mean sea level near the eastern end to a low of approximately 850 feet at the western end. East of the BNSF/Union Pacific/Metrolink tracks, surface water flows into the east end of the Victoria Club golf links, where it is channelized, and then through a narrow riparian area in Tequesquite Arroyo before disappearing at the southern terminus of Park Avenue. A small lake exists on the golf links south of High Street. Surface water was visible in the channel at the western end of the project area at the time of the survey.

GEOLOGY AND SOILS

Soils mapped for the site are mapped as Chino silt loam, drained, saline-alkali, Grangeville loamy fine sand, drained, 0-5% slopes, Hanford coarse sandy loam, 2-8% slopes, and Terrace escarpments (Knecht 1971). Geologic strata are mapped as Quaternary recent alluvium and Pleistocene non-marine (Rogers 1965).

BIOLOGICAL RESOURCES

Botanical Resources: Vegetation Communities

Four vegetation type/habitat communities occur on the property (Figure 3). Descriptions of the communities and the Holland (1986) vegetation Element Code Numbers (#) follow.

Urban/Developed Land (#12000)

The grounds of the Victoria Club, occupying generally the eastern half of the project alignment area, are developed as a golf course. The great majority of the proposed alignment in the western half of the survey area runs through residential neighborhoods with homes and

apartments, connecting surface roads, a cement drainage channel, the grounds of Riverside Community College, its parking lots, athletic fields, and buildings. In the western half of the proposed alignment [segment], there are no native habitat areas, no riparian woodland, and no coastal sage scrub.

Southern Cottonwood-Willow Riparian Forest (#61330)

A short reach of Tequesquite Arroyo supports a somewhat disturbed native riparian habitat in the vicinity of the Victoria Avenue bridge, with native tree species, including Arroyo Willow (*Salix lasiolepis*), Goodding's Black Willow (*S. gooddingii*), Fremont Cottonwood (*Populus fremontii*), and Western Sycamore (*Platanus racemosa*).

Diegan Coastal Sage Scrub (#32500)

A small area of Diegan Coastal Sage Scrub exists on the east-facing slope below the BNSF/Union Pacific/Metrolink tracks, west of the southern terminus of Park Avenue. Very sparse stands of Flat-top Buckwheat (*Eriogonum fasciculatum*) and California Sagebrush (*Artemisia californica*) exist here, but the community is limited by urban development to the north and south. Due to its sparse nature and isolation, the community is not expected to host typical coastal sage scrub faunal species, such as the Coastal California Gnatcatcher.

Non-native Grassland (#42200)

Tequesquite Park, adjacent to the western end of the proposed alignment, consists of an unimproved open space park, along with roadside trees, and patches of herbaceous plants and grasses, some growing to six feet in height, with extensive areas of bare dirt that have been recently disked. Vegetation in this park is classified as Non-native Grassland, based on the open nature of the vegetation dominated by non-native grasses and forbs.

Botanical Resources: Sensitive Plant Species

Habitat assessments for the 13 plant species listed in Appendix 1 were performed, as required by the MSHCP. Appendix 1 lists these plants, their typical habitat requirements, probability for occurrence on the project site, and conservation status, including those evaluated in the MSHCP. None of the species in Appendix 1 were observed during the surveys. Based on the field assessments and a review of Appendix 1, no other sensitive plants or vegetation community, aside from Southern Cottonwood-Willow Riparian Forest, are expected on the site. This issue is further discussed below under Conservation Issues.

Zoological Resources

General Wildlife Habitat

The proposed project alignments lie in an urban-dominated setting with very limited areas of uncompromised native habitat. With the possible exception of Tequesquite Park at the western end of the project alignment, and areas further west, connectivity to open or semi-open habitats away from the alignments are nonexistent. Patches of managed green spaces characteristic of residential areas, including college campuses, are found all along the proposed route, and combined with neighborhood landscaping provide habitat for common urban bird species. Small patches of vacant ruderal land also exist but do little more than provide space for invasive plant species. Freeway and railway rights-of-way divide the central part of the

alignment roughly in half. These are constructed on berms elevated above existing natural land surfaces and provide barriers to wildlife movement.

Tequesquite Arroyo exists as a degraded riparian woodland west of State Route 91 and the BNSF/Union Pacific/Metrolink tracks, and extends to the west end of the Victoria Club golf links. Much of the drainage here has been cleared, and invasive species are well established among native willows (*Salix* spp.), thus degrading its value for wildlife, in particular for medium-sized mammals and most avian species. The Victoria Club golf links at the east end of the proposed alignments provide an eclectic mix of habitat for wildlife. Golf course landscapes typically contain modestly diverse habitats, ranging from ponds to streams, wetlands to grasslands, and savanna-type woodlands. This variety of habitats provides limited but unique opportunities for wildlife.

Special-status/Sensitive Animal Species

No special status, rare, threatened, or endangered species of plants or animals (other than nesting migratory birds) were detected during the field assessments, or are expected to occur on the site. The very limited riparian habitat present on the project site could support the Least Bell's Vireo (*Vireo bellii pusillus*) and Southwestern Willow Flycatcher (*Empidonax traillii extimus*) as an occasional migration stopover site, but would be inadequate as nesting habitat due to the presence of non-native species and structural deficiencies of available nesting substrate. The site contains trees that could be used by other nesting migratory bird species protected under the federal Migratory Bird Treaty Act and the CFG.

WETLAND/JURISDICTIONAL ISSUES

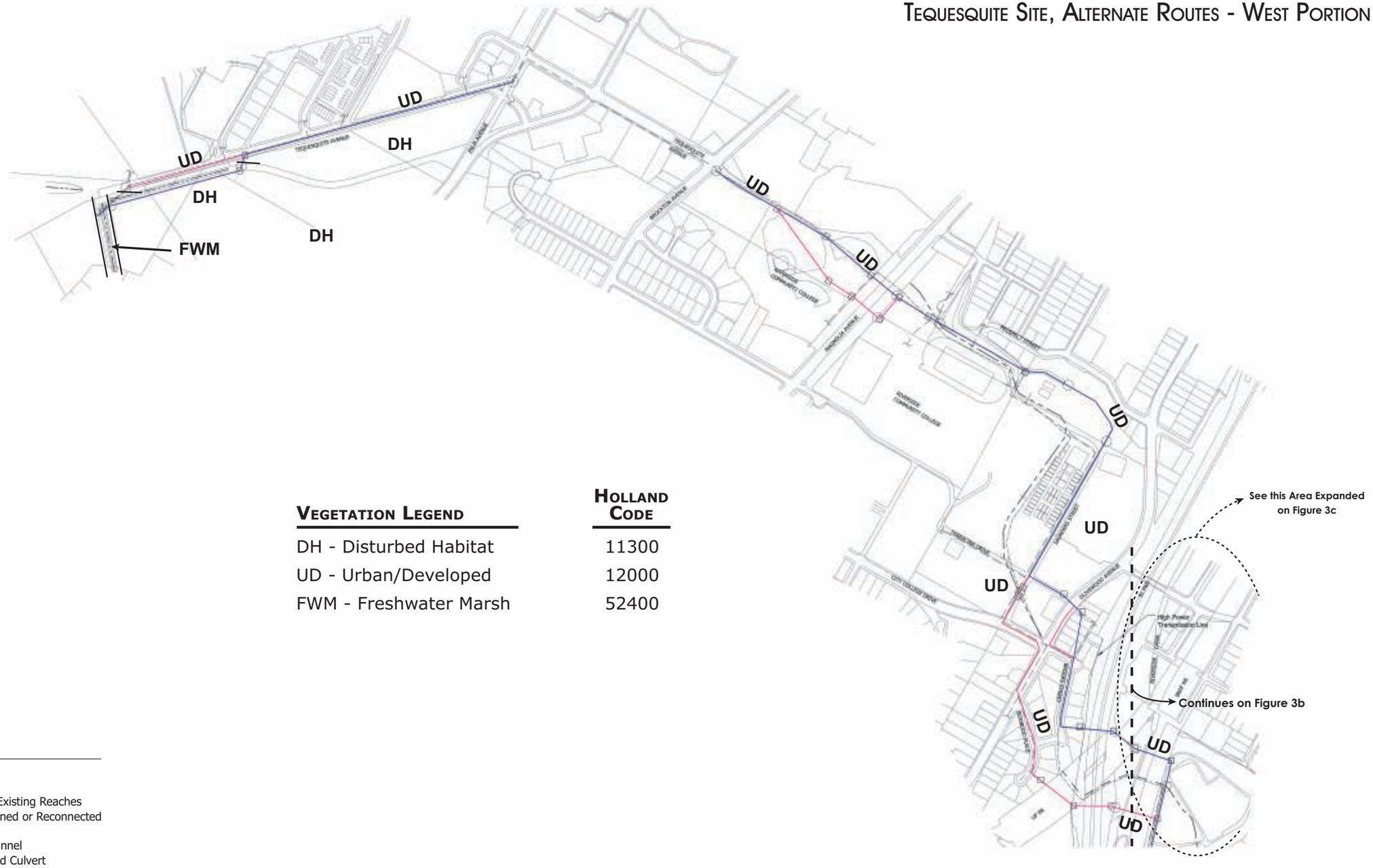
Both of the two alternative alignments, each approximately four miles in length, run through an east-to- west trending canyon system in the southern portion of the City of Riverside.

Elevational range of the alignments is 905-740 feet above mean sea level. The watershed of the drainage, including that of the upstream Sycamore Creek, is approximately 9,000 acres. Based on the Soil Survey of Western Riverside Area, California for the USGS 7.5' Riverside West and Riverside East, California quadrangles, soils are mapped as Chino silt loam, drained saline-alkaline (Cf), Grangeville loamy fine sand, drained 0-5% slopes (GoB), Hanford coarse sandy loam, 2-8% slopes (HcC), Hanford coarse sandy loam, 8-15% slopes, eroded (HcD2) and Terrace Escarpments (TeG) from decomposition and resorting by alluvial action of granodiorite outcrops and alluvial and colluvial sediments within the watershed. All along the proposed alignment, the area is disturbed by prior development for residential, recreational, agricultural, educational, and commercial uses.

Vegetation of the watershed area is predominantly Urban/Disturbed, with Southern Cottonwood-Willow Riparian Forest in a few sites along the drainage channel, particularly downstream of the Victoria Avenue Bridge. The uplands in this area have been almost completely cleared of vegetative cover and are currently characterized by bare ground.

Figure 3A. Vegetation & Sensitive Resources
Tequesquite Site, Alternate Routes - West Portion

Scale
1" = 900'



Vegetation Legend	Holland Code
DH - Disturbed Habitat	11300
UD - Urban/Developed	12000
FWM - Freshwater Marsh	52400

Legend
- Alignment Route 1
- Alignment Route 2
- New Connection to Existing Reaches
- Sewer to be Abandoned or Reconnected
- Existing Sewer
- Stream or Open Channel
- Freeway and Railroad Culvert

Figure 3B. Vegetation & Sensitive Resources
Tequesquite Site, Alternate Routes - East Portion

Scale
1" = 900'

Vegetation Legend	Holland Code
EUC - Eucalyptus Woodland	11100
DH - Disturbed Habitat	11300
UD - Urban/Developed	12000
MFS - Mule-Fat Scrub	63310

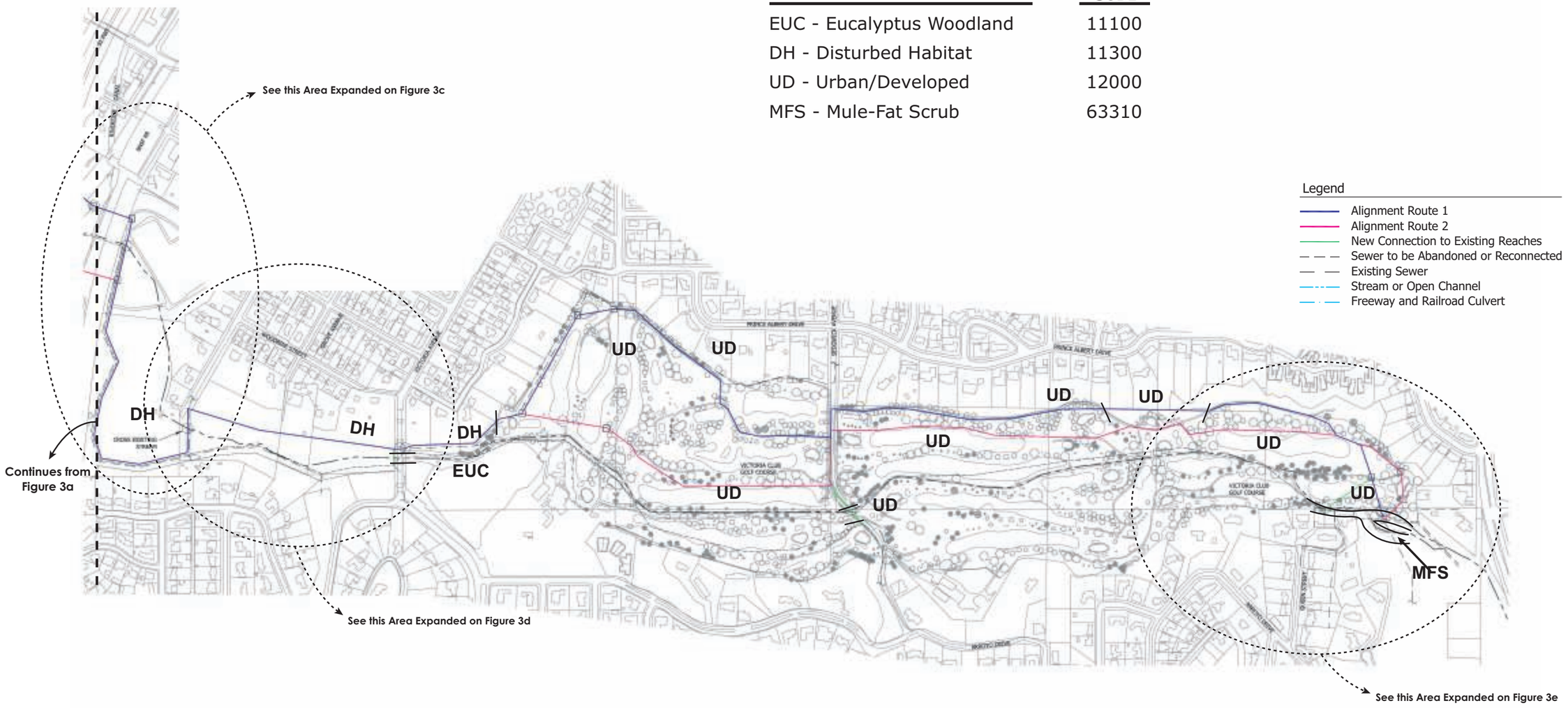
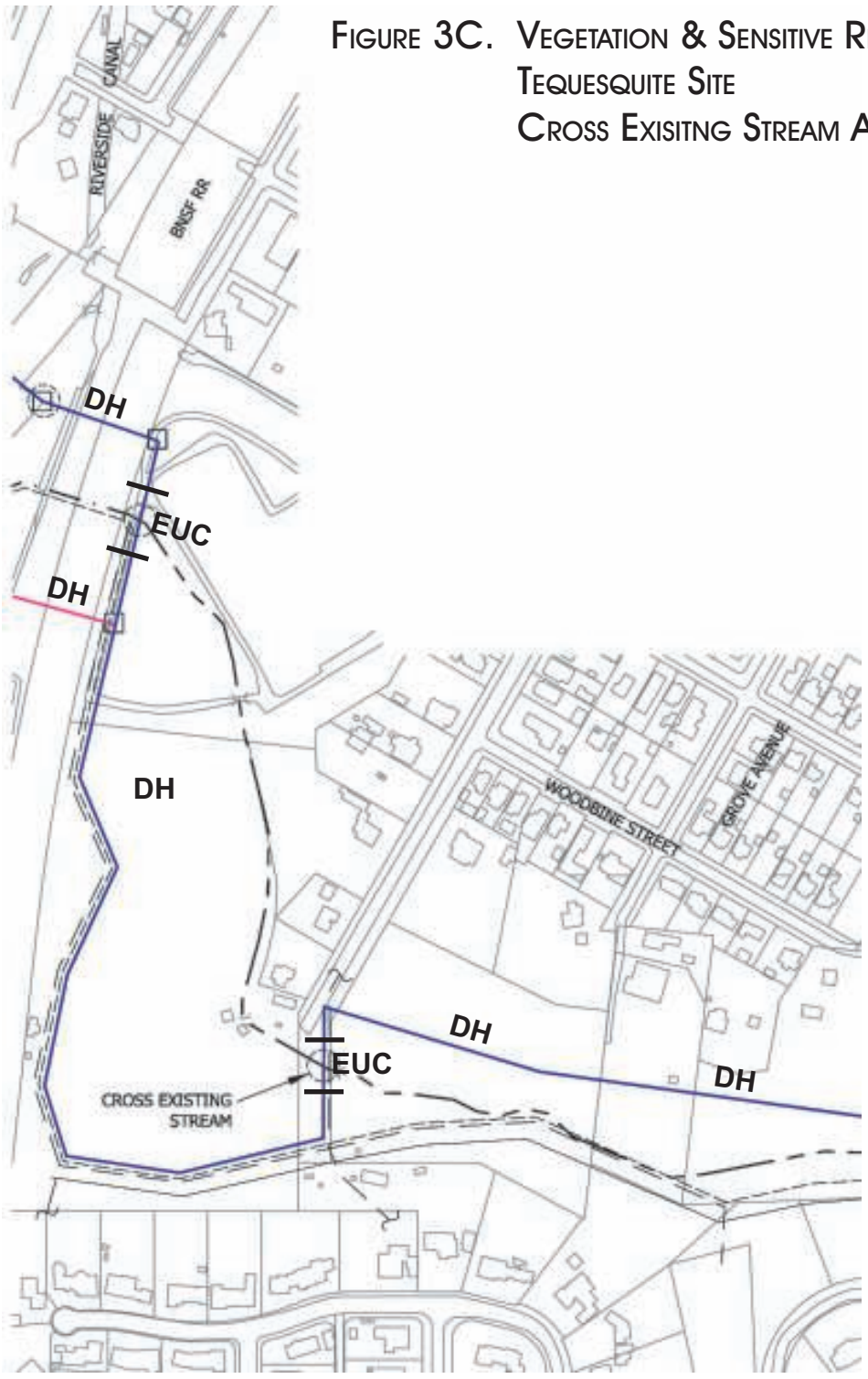


Figure 3C. Vegetation & Sensitive Resources
Tequesquite Site
Cross Exisitng Stream Area Expanded

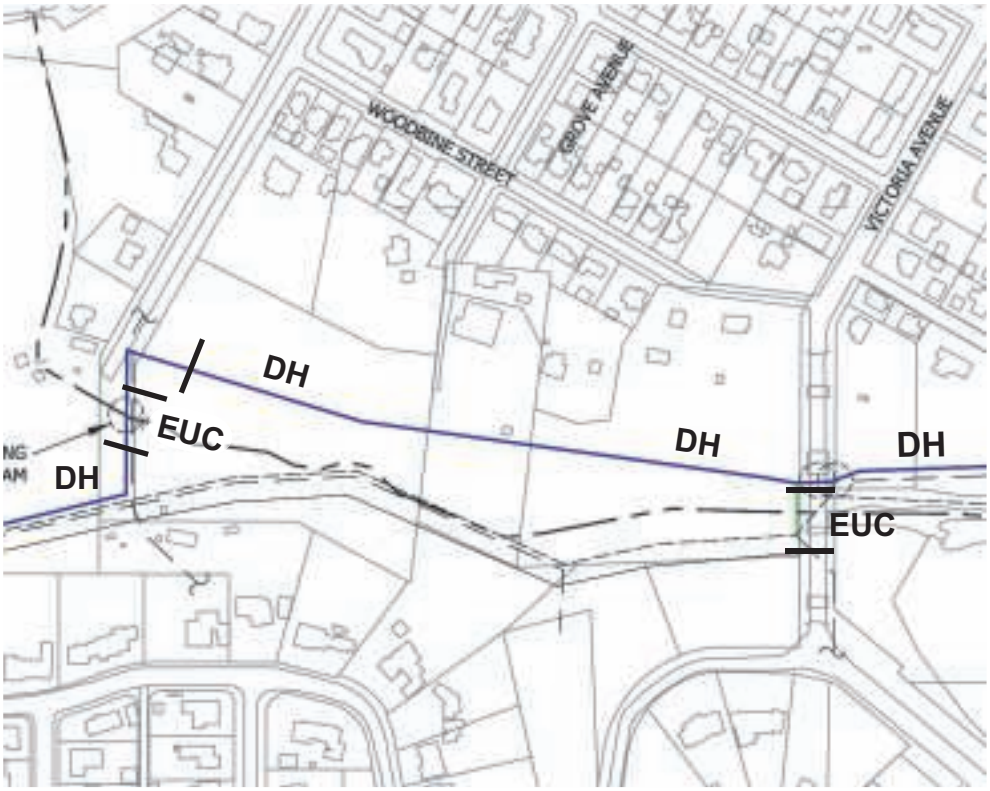


Vegetation Legend	Holland Code
EUC - Eucalyptus Woodland	11100
DH - Disturbed Habitat	11300

N

Scale
1" = 500'

Figure 3D. Vegetation & Sensitive Resources
Tequesquite Site
Victoria Avenue Bridge Area Expanded

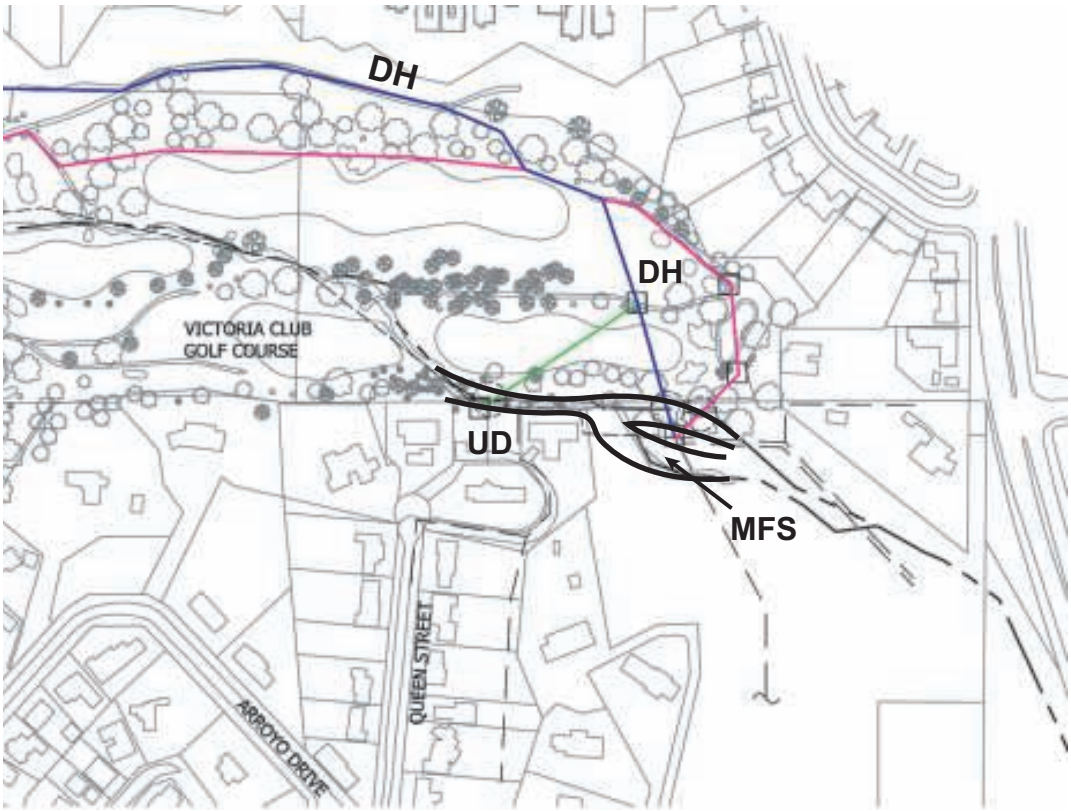


Vegetation Legend	Holland Code
EUC - Eucalyptus Woodland	11100
DH - Disturbed Habitat	11300

N

Scale
1" = 500'

Figure 3E. Vegetation & Sensitive Resources
Tequesquite Site
Victoria Club Golf Course Area Expanded



Vegetation Legend	Holland Code
DH - Disturbed Habitat	11300
UD - Urban/Developed	12000
MFS - Mule-Fat Scrub	63310

N

Scale
1" = 500'

The woodland vegetation of the channel has been significantly impacted by the growth of several non-native tree and herbaceous species. These are Mexican Fan Palm (*Washingtonia robusta*), Eucalyptus (*Eucalyptus camaldulensis*), Evergreen Ash (*Fraxinus uhdei*), Tree of Heaven (*Ailanthus altissima*), and Castor-bean (*Ricinus communis*). A list of plants observed along the alignment is given in Appendix 1.

The channel of Tequesquite Arroyo sustains a second-order stream throughout the reach associated with the project. The channel has been channelized using various methods, such as gabions and concrete, and in some areas is underground, such as at Saunders Street and along Tequesquite Avenue near the western end of the project. Upstream of the project site, the drainage of Sycamore Canyon is impounded at Canyon Crest Country Club so that storm flows are attenuated. A flow volume of approximately 20 gallons per minute was observed at the eastern end of the project site; at the western end at Tequesquite Avenue the flow was approximately five gallons per minute. The effect of evapotranspiration through the Victoria Club grounds would largely explain the drop in rate of flow.

JURISDICTIONAL DRAINAGE DELINEATION

Summary of Regulations

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The U. S. Army Corps of Engineers (Corps) regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. The California Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. The California Department of Fish and Game (CDFG) regulates activities under the Fish and Game Code (CFG) Sections 1600 and 1607.

U. S. Army Corps of Engineers

The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The term "waters of the United States" includes (1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide; (2) wetlands; (3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of water mentioned above; (5) all tributaries of waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to the waters mentioned above. Under this definition, and in the absence of wetlands, the limits of Corps's jurisdiction in non tidal waters extend to the ordinary high water mark (OHWM), which is defined as "...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Wetlands, a subset of jurisdictional waters, 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." The Corps has developed a methodology for determining the boundaries of jurisdictional wetlands that is published in the document known as the 1987 Manual (Environmental Laboratory 1987). The methodology set forth in the manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland according to Corps criteria, an area must exhibit at least minimal characteristics within all three of these parameters.

California Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act. Jurisdiction of the RWQCB extends to all waters of the State and to all waters of the United States, including wetlands.

Section 401 of the CWA gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under CWA Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards. The Santa Ana Region RWQCB has jurisdiction over the project site.

California Department of Fish and Game

The State of California regulates activities in rivers, streams, and lakes pursuant to Sections 1600-1607 of the Fish and Game Code (CFG). These sections discuss the process by which an individual, government agency, or public utility must notify the CDFG prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake..." Following such notification, the CDFG must inform the individual, agency, or utility of the existence of any fish and wildlife resource that may be substantially adversely affected by the activity. The CDFG must also include a proposal for measures to protect fish and wildlife resources. This proposal is called a "Streambed Alteration Agreement" (a Section 1601 Agreement for public agencies and utilities, and a Section 1603 Agreement for private party activities).

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the Corps. While they closely resemble the limits described by Corps regulations, they exclude isolated wetlands (those not associated with a stream, river, or lake, such as isolated vernal pools) and include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFG takes jurisdiction to the bank of the stream or to the outer limit of the adjacent riparian vegetation, whichever is greater. However, the Fish and Game Commission has provided the definition of the jurisdictional extent of the Section 1600 regulations as an Appendix to the Fish and Game Code. This definition follows that of the U. S. Fish and Wildlife Service (Service) and requires only one of the three Corps criteria.

The issue of the canopy along this drainage is problematic in that most of the trees and non-native, exotic species have escaped from the landscaped yards along the watershed. Only in the vicinity of the Victoria Avenue bridge is there any semblance of native vegetation and a Willow canopy.

Activities Requiring Permits

Any development proposal that involves impacting the drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the Corps, RWQCB, and CDFG, before any development could commence on the project site. Both permanent and temporary impacts are regulated and would trigger the need for permits. Processing of the Section 401 permit and Section 1602 agreement can occur concurrently with the Corps permit process and can utilize the same information and analysis. The Corps will not issue its authorization until RWQCB completes the Section 401 Water Quality Waiver or Certification. Applications to both the CDFG and RWQCB require submittal of a valid California Environmental Quality Act (CEQA) document along with the application.

Methodology

A determination of the presence of CFG Streambed and wetlands and waters of the U. S. at those areas where an intersection of the channel and the proposed alignments might occur was made using soil, vegetation, and hydrology indicators.

Local Site Conditions

The drainage system on the project site had flowing water in the eastern reach of the channel at the time of the July survey. The drainage is indicated on the USGS 7.5' Riverside West and Riverside East, California quadrangles as an intermittent, blue-line stream. Such a mapping convention, however, has no relevance as far as delineation of jurisdiction is concerned. No standard criteria exist for such a designation.

Under the recent Rapanos Supreme Court decision ["Rapanos" or Rapanos v. United States and Carabell v. United States, 126 S. Ct. 2208 (2006)], the Tequesquite Arroyo is considered a non-navigable tributary of a Traditional Navigable Water (the Santa Ana River). Under Rapanos, the Corps and Environmental Protection Agency Instructional Guidebook indicates that there is a Significant Nexus with the Santa Ana River by virtue of the presence of the Arroyo Chub (*Gilia orcutti*), listed as Endangered by the Service, and the presence of wetland along portions of the tributary, and, therefore the drainage is jurisdictional. The several underground portions of the channel do not produce an Isolated Waters condition for the drainage that would otherwise preclude Corps jurisdiction.

Soils

The National Resources Conservation Service classifies the soils of California in the *National Hydric Soils List by State* (2007). Chino silt loam, Grangeville loamy fine sand, Hanford coarse sandy loam, and Terrace Escarpments along the alignments are not classified as hydric soils by the National Resources Conservation Service. However, examination of the soils in the field, especially following rainfall episodes, may reveal saturation, an indication of hydric soils, in the drainage. None of the previously cited soils are classified as wetland soils. The

hydric soils criterion is met on the site, however, within the main channel in the golf course area due to the presence of saturated moisture conditions as result of sustained water flows from excessive irrigation of the adjacent urban environment.

Hydrology

Bed and bank features occurring along the drainage indicate that storm flow hydrology exists. The hydrology criterion is met on those portions of the channel not channelized or underground.

Vegetation

A detailed examination of vegetation throughout the channel was made to determine the presence of hydrophytic species. Dominant taxa observed in the vicinity of the Victoria Avenue bridge and along the southeastern corner of the golf course are hydrophytic species: Black Willow (*Salix gooddingii*) (obl = obligate wetland, indicating >99% occurrence in wetlands), Arroyo Willow (*Salix lasiolepis*) (facw = facultative wetland, indicating 67-99% occurrence in wetlands), Fremont Cottonwood (*Populus fremontii*) (facw), Giant Reed (*Arundo donax*) (facw), and Western Sycamore (*Platanus racemosa*) (facw). The presence of these indicates that the vegetation in the drainage satisfies the vegetation aspect of the Corps definition of wetlands, in that more than 50% of the dominant species are "obl", "facw", or "fac = facultative", indicating 34-66% occurrence in wetlands. The cover of these taxa represents a predominance of the plant cover. The hydrophytic vegetation criterion is met on the project site.

Definition of Jurisdictional Delineation

The Corps and the EPA jointly define wetlands as: Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (33 CRF §328.3(b)). Wetlands have the following general diagnostic environmental characteristics:

Soils: Soils are present and have been classified as hydric, or they possess characteristics that are associated with reducing soil conditions.

Hydrology: The area is inundated either permanently or periodically at mean water depths of 6.6 feet or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

Vegetation: The prevalent vegetation consists of macrophytes that are typically adapted to areas having hydrologic and soil conditions. Hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, reproduce, and/or persist in anaerobic soil conditions.

Wetland Waters of the U. S. Delineation

As previously noted, in order to be considered a wetland, an area must exhibit all three of the wetland parameters identified above per the evaluation criteria in the Manual. The determination was made that all of the parameters are present in the drainage. The conclusion

can be drawn that jurisdictional wetlands under Corps regulations are present on the main north-south channel on the project site (Figure 3).

CFG (1602) Jurisdictional Delineation

The presence of the bed and bank and riparian vegetation constitute the limit of the CFG jurisdictional channel. The associated riparian vegetation present on the site provides a wider jurisdictional area based on the extent of the canopy growth. The CFG jurisdictional area exceeds the Corps jurisdictional area on the project site due to the greater extent of the woodland canopy.

MULTIPLE SPECIES HABITAT CONSERVATION PLAN ISSUES - PLAN AREA CRITERIA AND CONSISTENCY ANALYSIS

The MSHCP was adopted by the Riverside County Board of Supervisors 17 June 2003, subsequently adopted by the City of Riverside, and adopted and finalized by the wildlife agencies 22 June 2004. All areas encompassed by the MSHCP are divided into area plans. Subunit plans are located within certain portions of each area plan. A Subunit plan has conservation goals that are further specified through enumerated Criteria Cells. A Criteria Cell is a unit within the Criteria Area, generally 160 acres in size.

A small portion of the project, within or adjacent to APN #'s: 217-092-005 and 217-130-016, lies in the Cities of Riverside/Norco Area Plan, Subunit 1: Santa Ana River - South, in Criteria Cell #443. Subunit 1: Santa Ana River - South identifies a number of Biological Issues and Considerations to be addressed in reviewing projects in this Subunit. Conservation within Criteria Cell #443 will contribute to assembly of Existing Core A, and will focus on Riversidean Alluvial Fan Sage Scrub, Riparian Scrub, Woodland, and Forest habitat along the Santa Ana River. Areas conserved within Criteria Cell #443 will be connected to existing conserved wetland habitat along the Santa Ana River in Criteria Cell #534 to the southwest. Conservation within Criteria Cell #433 will be approximately 5% of the Cell, focusing in the western portion of the Cell. The project is consistent with MSHCP goals and would not prevent or interfere with the assembly of Existing Core A because it has no impact on the existing riparian habitat along the Santa Ana River, as shown in the following consistency analysis.

The MSHCP requires that, if the property is within a Criteria Area/Cell and falls within an area described for conservation, any proposed project must avoid all riparian/riverine areas. A small portion of the property is within Criteria Cell #443. **No part of the proposed project area is within an area described for conservation.** The criteria for Criteria Cell #433 are quoted below:

- **Cell #443 - Conservation within this Cell will contribute to assembly of Existing Core A.**
    - *Conservation within this Cell will focus on Riversidean Alluvial Fan Sage Scrub, Riparian Scrub, Woodland, and Forest habitat along the Santa Ana River.*
        - These habitats within Cell #443 are off-site to the northwest.
    - *Areas conserved within this Cell will be connected to existing conserved wetland habitat along the Santa Ana River in Cell #534 to the southwest.*

        - There are areas available for conservation within Cell #443, off-site to the northwest, which would be connected to riparian and upland habitat in Cell #534 to the southwest.

    - *Conservation within this Cell will be approximately 5% of the Cell, focusing in the western portion of the Cell.*
        - Areas available for conservation within Cell #443, in the western portion, off-site to the northwest, include Southern Cottonwood-Willow Riparian Forest, and appear large enough, from examination of aerial photographs electronically, to exceed the 5% goal (eight acres).

The project's specific consistency with the Biological Issues and Considerations identified in the Cities of Riverside and Norco Area Plan, Subunit 1: Santa Ana River - South, is addressed below.

- **Conserve existing wetlands along the Santa Ana River**
    - The project conserves the existing wetlands along the Santa Ana River. There are no impacts to these wetlands.

- **Conserve Alluvial Fan Sage Scrub associated with the Santa Ana River to support key populations of the Santa Ana River Woollystar**
    - The project conserves Alluvial Fan Sage Scrub associated with the Santa Ana River to support key populations of the Santa Ana River Woollystar. There are no impacts to Alluvial Fan Sage Scrub associated with the Santa Ana River.

- **Conserve Habitat for Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-billed Cuckoo along the Santa Ana River.**
    - The project conserves Habitat for Least Bell's Vireo, Southwestern Willow Flycatcher, and Western Yellow-billed Cuckoo along the Santa Ana River. There are no impacts to habitat along the Santa Ana River for these species.

- **Provide for and maintain a continuous Linkage along the Santa Ana River from the eastern boundary of the Cities of Riverside/Norco to Prado Basin to the west.**
    - The project provides for and maintains this continuous Linkage by avoiding it: the project does not interfere with its provision and maintenance.

- **Conserve foraging and breeding Habitats occurring in Grasslands adjacent to the Santa Ana River to support sensitive bird species such as the Burrowing Owl and Loggerhead Shrike.**
    - The project would impact a small amount, approximately 0.45 acre, of Grasslands in Tequesquite Park, west of Palm Avenue, at the west end of the area surveyed in Cell #443, but the great majority of Grasslands in Cell #443 are conserved, providing foraging and breeding habitat for the Burrowing Owl and Loggerhead Shrike.

- **Maintain Core and Linkage Habitat for Bobcat.**
    - The project would maintain core and linkage habitat for the Bobcat by not impacting such. There is no core or linkage habitat for the Bobcat on the project alignment or area of impact.

- **Maintain Core Area for the Western Pond Turtle.**
    - The project would maintain core and linkage habitat for the Southern Pacific (Western) Pond Turtle by not impacting such. There is no core area or habitat for the Southern Pacific (Western) Pond Turtle on the project alignment or area of impact.

Maintain Habitat for the Arroyo Chub and Santa Ana Sucker

- The project would maintain habitat for the Arroyo Chub and Santa Ana Sucker by not impacting such. There is no habitat for either species on the project alignment or area of impact.

Section 6.1.4 Urban/Wildlife Interface Guidelines (UWIG)

UWIG Guidelines are intended to address indirect effects associated with locating development in proximity to the MSHCP Conservation Area, where applicable.

Drainage

Construction and maintenance measures, including those required through the National Pollutant Discharge Elimination System (NPDES), and shall be incorporated to ensure that the quantity and quality of runoff discharged to the MSHCP Conservation Area is not altered in an adverse way when compared with existing conditions. Runoff from the project is routed through a water quality treatment marsh area in the western edge of the project.

Toxics

Measures shall be incorporated that ensure that potentially toxic substances do not enter the MSHCP Conservation Area.

Lighting

Night lighting during construction activities for the project shall be directed away from the MSHCP Conservation Area; ambient lighting in the MSHCP Conservation Area shall not be increased.

Noise

Noise generating activities associated with project construction and maintenance shall be minimized so that wildlife within the MSHCP Conservation Area at the west end of the project area is not subject to levels that would exceed residential noise standards.

Invasives

Landscape plans associated with project construction and maintenance shall consider the invasive, non-native plant species listed in the MSHCP Implementation Structure documents, and shall require revisions to avoid the use of such species adjacent to the MSHCP Conservation Area.

Barriers

Barriers between the construction zone in the vicinity of Tequesquite Park and the MSHCP Conservation shall be installed during construction to minimize unauthorized public access, domestic animal predation, illegal trespass, or dumping in the MSHCP Conservation Area.

Grading/Land Development

Manufactured slopes associated with proposed site development shall extend into the 100-foot setback of the MSHCP Conservation Area but not into the canopy area.

Sensitive Plants

The MSHCP identifies only one Planning Species for Subunit 1: Santa Ana River - South, in which Cell #443 is located:

Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*)

This perennial herb occurs on a small portion of the Santa Ana River. Historically known to extend along 60 river miles in Orange, Riverside and San Bernardino Counties, plants now occupy only about 18 linear miles of river floodplain along the Santa Ana River mainstem, City Creek, and Plunge Creek. The species prefers sandy soils but is not expected to occur within project boundaries within Cell #443.

Sensitive Wildlife

The MSHCP identifies 20 Planning Species for Subunit 1: Santa Ana River - South, in which Cell #443 is located. Each of these is discussed individually.

Arroyo Chub (*Gila orcutti*)

This small fish is found in slow-moving and backwater streams of coastal southern California. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Santa Ana Sucker (*Catostomus santaanae*)

This small fish is endemic to several coastal southern California rivers including the Santa Ana River. Habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Southern Pacific (Western) Pond Turtle (*Actinemys marmorata pallida*)

This species requires more or less permanently ponded or slow-moving water for its life history. Although a very limited amount of potentially suitable habitat for this species occurs on the Victoria Club grounds, it is highly unlikely that it occurs here naturally because of the surrounding urban development that has been in place for decades.

Black-Crowned Night Heron (*Nycticorax nycticorax*)

This species spends most of the day roosting in trees near wetland areas and then leaves at dusk to forage on a wide variety of items in these wetlands. Roosting is frequently communal and accumulations of droppings and feathers serve to indicate presence of birds in unseen roosts.

Required habitat is not found within project boundaries within Cell #443 and the species is not expected to regularly occur there.

Burrowing Owl (*Athene cunicularia*)

The Burrowing Owl was listed as a California Species of Special Concern in 1979; it is protected under the federal Migratory Bird Treaty Act and California Fish and Game Code, but has no special protection under the federal and California endangered species acts.

Burrowing Owl habitat typically consists of annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, or trees and shrubs if the canopy covers less than 30% of the ground surface. Burrows are the essential component of Burrowing Owl habitat; both natural and artificial burrows provide protection, shelter, and nests for the Burrowing Owl. The Burrowing Owl typically uses burrows made by fossorial mammals, such as the California Ground Squirrel (*Spermophilus beecheyi*) and American Badger (*Taxidea taxus*), but may also use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (Lincer and Steenhof 1997). Potential habitat for this species occurs in the vicinity of Tequesquite Park.

Cooper's Hawk (*Accipiter cooperii*)

This species requires wooded areas or forest; primarily of Coast Live Oak (*Quercus agrifolia*), but has increased recently in planted urban woodlands. There were no individuals detected within project boundaries within Cell #443, although the species may occasionally use park-like habitats such as found in the golf course and community college grounds.

Double-crested Cormorant (*Phalacrocorax auritus*)

This species is piscivorous and roosts in proximity to large bodies of water. Required habitat is not found within project boundaries within Cell #443 and the species is not expected to occur in the vicinity of the project alignment.

Downy Woodpecker (*Picoides pubescens*)

This species prefers dense willow scrub and forest, frequently with Western Sycamore (*Platanus racemosa*) or other trees containing cavities or open snags necessary for nesting. Required habitat is not found within project boundaries within Cell #443 and the species is not expected to occur in the vicinity of the project alignment.

Least Bell's Vireo (*Vireo bellii pusillus*)

This species typically requires dense willow scrub for nesting. Typical nesting habitat is comprised of dense young willows (*Salix* spp.), or Mule-fat (*Baccharis salicifolia*), with low branches and minimal openings. Required habitat is not found within project boundaries within Cell #443 and the species is not expected to occur in the project alignment.

Loggerhead Shrike (*Lanius ludovicianus*)

This species is a resident of sparsely vegetated to open habitats. A few taller shrubs or trees are required for nesting and fences are frequently used for periods of extended perching. Open habitat meeting these requirements occurs at the western end of the survey area in Cell #443, but this bird was not observed during the surveys.

Osprey (*Pandion haliaetus*)

This species is generally piscivorous and nests near large bodies of water. It builds large nests that require considerable support. Required habitat is not found within project boundaries within Cell #443 and the species is not expected.

Peregrine Falcon (*Falco peregrinus anatum*)

This species frequently adapts to urban settings and nests on high building ledges, but these nests are generally within a short distance of large wetland areas or bodies of water. Away from urban areas, nests are situated on high cliffs but still generally near lakes, rivers, or other bodies of water. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

This species requires multi-layered, willow scrub and forest. Typical nesting habitat is comprised of dense willows with occasional openings to facilitate aerial foraging, although the species has nested in Tamarisk (*Tamarix* spp.) scrub. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Tree Swallow (*Tachycineta bicolor*)

This species utilizes woodland and forests generally near larger areas of water. Proximity to vegetation and water provides optimal conditions for aerial foraging on insects. Trees containing cavities or open snags are necessary for nesting. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Yellow-billed Cuckoo (*Coccyzus americanus*)

This species utilizes mature riparian forests. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

White-faced Ibis (*Plegadis chihi*)

This species nests in freshwater marshes and forages in shallow water and wet grass. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

White-tailed Kite (*Elanus leucurus*)

This species utilizes woodlands or forests with bordering grasslands. Trees provide nesting habitat and grasslands foraging habitat. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Yellow-breasted Chat (*Icteria virens*)

This species utilizes dense willow scrub and is frequently found in areas occupied by Least Bell's Vireo. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Yellow Warbler (*Dendroica petechia*)

This species utilizes mature riparian forests and willow scrub. Required habitat is not found within project boundaries within Cell #443 and the species is not expected within the project alignment.

Bobcat (*Lynx rufus*)

This species typically requires considerable cover and substantial amounts of native habitats. Because of the generally highly urbanized nature of the proposed alignments, it unlikely to occur on the proposed route.

Other Riparian/Riverine Wildlife Species

The site contains Riparian/Riverine habitat as defined by the MSHCP (see discussion above regarding vegetation types on the site); however, the site does not contain clayey soils, surface depressions, or vernal pools that would support vernal pool crustacean species, including Fairy Shrimp.

MSHCP CONSISTENCY CONCLUSION

The project is consistent with MSHCP goals and would not prevent or interfere with the assembly of Existing Core A because it has no impact on the existing riparian habitat along the Santa Ana River

ANTICIPATED PROJECT IMPACTS

1. Habitat/Vegetation Community Impacts

Urban/Developed Land: The construction zone is presumed to be four miles (21,120 feet) in length through Urban/Developed habitat, with a construction zone width of 15 feet for the entire distance, resulting in impacts to approximately 7.27 acres. No mitigation measures are recommended.

Southern Cottonwood-Willow Riparian Forest: There would be no impacts to the limited amount of Southern Cottonwood-Willow riparian Forest that occurs in the vicinity of the Victoria Avenue Bridge. No mitigation measures are recommended

Non-native Grassland: During construction, impacts would occur to approximately 0.45 acre of highly disturbed Non-native Grassland in Tequesquite Park west of Palm Avenue. Because of the highly disturbed nature of the grassland of Tequesquite Park, and it is disked on a regular basis, and because of the short duration of impacts during construction, no mitigation is required for such impacts. However, see the recommended measure to reduce potential indirect effects to Non-native Grassland during construction activities.

2. Special Status Species Impacts

Nesting Migratory Birds: There would be no impacts to special status species. However, there habitats within the project's area of impact that could support nesting migratory birds that are protected under the Migratory Bird Treaty Act of 1918 and the California

Fish and Game Code. If clearing or construction takes place during the spring/summer months (1 February through 31 August), nesting birds may be impacted by direct impacts to nesting sites or indirectly by noise, causing abandonment of nesting sites. See the recommended mitigation measure.

Burrowing Owl: A condition of the MSHCP is that all project sites containing burrows or suitable habitat (based on Step I/Habitat Assessment) whether owls were found or not, require pre-construction surveys that shall be conducted within 30 days prior to ground disturbance to avoid direct take of Burrowing Owls (MSHCP Species-Specific Objective 6). See the recommended mitigation measure required by the MSHCP.

Stephens' Kangaroo Rat: Because the project is within the adopted SKR Habitat Conservation Fee area, the project is required to pay appropriate fees for the mitigation of regional impacts to this species. See the recommended mitigation measure required by the SKR HCP.

3. Jurisdictional Impacts

Table 3 below summarizes the extent of the jurisdictional drainage areas and the anticipated impact from the project, assuming a 15-foot wide construction zone at each identified crossing site. Generally, the high water mark was used to determine the extent of the drainage width and the proposed construction impact width of 20 feet was used to determine the extent of the impact. Directional boring or micro-tunneling would avoid most of these impacts.

Table 3. Jurisdictional Areas and Potential Impacts (Area in Square Feet)

Jurisdiction	**Crossing**						
	A** East End Victoria Club	B** East End Private Residence	C** Sedgwick Avenue	D** Victoria Avenue Bridge	E** Park Avenue	F** Nursery	G** Saunders Street
Wetland Waters	200	200	200	200*	0	0	0
Non-wetland Waters	0	0	0	0	200	200	0
CFG Channel	200	200	200	200	200	200	0

***** Construction access ******indicates location on Figure 3

Implementation of the pipeline installed at the crossings would result in impacts to approximately 800 square feet (0.0184 acre) of Corps or 1,200 square feet (0.0275 acre) of CFG jurisdiction (see Table 3). Activity in the area of the Victoria Avenue Bridge would parallel the northern side of the channel. Noise and light from construction could impact wildlife use of the area during the brief construction period.

RECOMMENDED MITIGATION MEASURES

1. Non-native Grassland: Barriers as suggested by the MSHCP/UWIG analysis should be placed on the west side of the construction zone in this area to discourage intrusion into the adjacent conservation area.

2. Special Status Species: Nesting/Migratory Birds: The project should be conditioned to require a pre-construction survey of the proposed project area for nesting birds, if construction occurs from 1 February through 31 August. Any active nests located would be flagged and that area protected from impacts until the birds have fledged. A nesting raptor (hawks, eagles and owls) survey may be required if brushing, clearing, and/or grading is proposed within 500 feet of potential raptor nesting habitat during the raptor nesting season, defined as occurring during the period 1 January – 1 June.

3. Special Status Species: Burrowing Owl: A pre-construction survey for the Burrowing Owl is recommended. A Burrowing Owl Survey Step II, Part A: Focused Burrow Survey and Part B: Focused Burrowing Owl Survey may be required.

4. Stephens' Kangaroo Rat: Fees assessed for development activity under the Riverside County Stephens' Kangaroo Rat Habitat Conservation Plan and the Western Riverside County MSHCP Mitigation Fee Program apply to the proposed project.

5. Jurisdictional Areas: The California Fish and Game Code requires any impacts to any intermittent drainage with a prominent bed and bank to be addressed in a Streambed Alteration Agreement. Thus, a Section 1602 agreement application would be required if the project impacts the on-site drainages (not apparent on current design).

   The Regional Water Quality Control Board (RWQCB) would require 401 certification for the drainage. The drainage is also characterized as Wetland Waters of the U.S. by the U.S. Army Corps of Engineers and would require a 404 permit application, if impacted by fill. Micro-tunneling that will be done under the railroad embankment can also be used throughout the project wherever channel crossings with jurisdictional habitat occur. Such a methodology would preclude the need for any 1600 agreement or 404 / 401 permits and reduce direct impacts to zero.

   A buffer, both physical and distance, as well as training for construction crews is to be implemented to minimize impacts in this sensitive, and highly visible area. A buffer can be established on the outer edge of the feature. Excavated soils should be deposited on the north side of the trench. A distance of 30 feet would appear to be adequate for such a buffer in this area due to the quality of the habitat and the short duration of the disturbance.

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APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED – TEQUESQUITE ARROYO

DICOTYLEDONS

Anacardiaceae - Sumac Family
* *Schinus molle* L. Peruvian Pepper Tree
* *Schinus terebinthifolius* Raddi Brazilian Pepper Tree

Asteraceae - Sunflower Family
Ambrosia psilostachya DC. Western Ragweed
Baccharis salicifolia (R.& P.) Pers. Mule Fat
Baccharis sarothroides Gray Broom Baccharis
* *Centaurea melitensis* L. Tocalote
* *Lactuca serriola* L. Wild Lettuce
* *Picris echioides* L. Bristly Ox-tongue
* *Silybum marianum* (L.) Gaertn. Milk-thistle

Brassicaceae - Mustard Family
* *Hirschfeldia incana* (L.) Lagr.-Fossat Short-pod Mustard
* *Raphanus sativus* L. Radish
* *Sisymbrium altissimum* L. Tumble Mustard

Chenopodiaceae - Goosefoot Family
* *Chenopodium murale* L. Nettle-leaf Goosefoot

Euphorbiaceae - Spurge Family
* *Ricinus communis* L. Castor-bean

Fagaceae - Oak Family
Quercus agrifolia Nee var. *agrifolia* Coast Live Oak

Geraniaceae - Geranium Family
* *Erodium cicutarium* (L.) L'Hér. Red-stem Filaree
* *Erodium moschatum* (L.) L'Hér. White-stem Filaree

Malvaceae - Mallow Family
* *Malva parviflora* L. Cheeseweed, Little Mallow

Myrtaceae - Myrtle Family
* *Eucalyptus camaldulensis* Dehnhardt Murray Red Gum

Oleaceae - Olive Family
* *Fraxinus uhdei* (Weng.) Lingelsh. Evergreen Ash
* *Olea europaea* L. Mission Olive

Onagraceae - Evening-Primrose Family
Oenothera elata Kunth ssp. *hirsutissima* (Wats.) Dietrich Great Marsh Evening Primrose

Platanaceae - Sycamore Family
Platanus racemosa Nutt. Western Sycamore

Polygonaceae - Buckwheat Family
* *Rumex crispus* L. Curly Dock
Rumex hymenosepalus Torr. Wild-rhubarb

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED – TEQUESQUITE ARROYO

Salicaceae - Willow Family
Populus fremontii Wats. ssp. *fremontii* Fremont Cottonwood
Salix gooddingii Ball Goodding's Black Willow
Salix lasiolepis Benth. Arroyo Willow

Saururaceae - Lizard-tail Family
Anemopsis californica Hook. Yerba Mansa

Solanaceae - Nightshade Family
Datura wrightii Regel Western Jimsonweed
Lycium andersonii Gray Waterjacket
* *Nicotiana glauca* Grah. Tree Tobacco

Urticaceae - Nettle Family
* *Urtica urens* L. Dwarf Nettle

MONOCOTYLEDONS

Arecaceae - Palm Family
* *Phoenix canariensis* Chaub. Canary Island Date Palm
* *Washingtonia robusta* Wendle. Mexican Fan Palm, Thread Palm

Poaceae - Grass Family
* *Arundo donax* L. Giant Reed
* *Avena barbata* Link Slender Wild Oat
* *Bromus diandrus* Roth Ripgut Grass
* *Bromus madritensis* L. ssp. *rubens* (L.) Husnot Red Brome
* *Cynodon dactylon* (L.) Pers. Bermuda Grass
* *Hordeum murinum* ssp. *leporinum* (Link) Arcang. Hare Barley
Leptochloa uninervia (Presl.) Hitch. & Chase Dense-flower Sprangle-top
* *Lolium perenne* L. Perennial Ryegrass
* *Paspalum dilatatum* Poir. Dallis Grass
* *Piptatherum miliaceum* (L.) Cosson Smilo Grass
* *Polypogon monspeliensis* (L.) Desf. Annual Beard Grass
* *Sorghum halepense* (L.) Pers. Johnsongrass
* *Stenotaphrum secundatum* (Walter) Kuntze St. Augustine Grass

* - Denotes non-native plant taxa

APPENDIX 2. ANIMALS OBSERVED OR DETECTED – TEQUESQUITE ARROYO

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Ardeidae (Herons)	
Great Blue Heron	*Ardea herodias*
Accipitridae (Hawks, Eagles, Harriers, Kites)	
Red-tailed Hawk	*Buteo jamaicensis*
Charadriidae (Plovers)	
Killdeer	*Charadrius vociferus*
Columbidae (Pigeons and Doves)	
Rock Pigeon	*Columba livia*
Mourning Dove	*Zenaida macroura*
Strigidae (Typical Owls)	
Great Horned Owl (pellets)	*Bubo virginianus*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Hummingbird	*Selasphorus* sp.
Picidae (Woodpeckers)	
Acorn Woodpecker	*Melanerpes formicivorus*
Nuttall's Woodpecker	*Picoides nuttallii*
Tyrannidae (Tyrant Flycatchers)	
Black Phoebe	*Sayornis nigricans*
Cassin's Kingbird	*Tyrannus vociferans*
Western Kingbird	*Tyrannus verticalis*
Corvidae (Jays, Crows, Ravens, Magpies)	
Western Scrub-Jay	*Aphelocoma californica*
Common Raven	*Corvus corax*
Hirundinidae (Swallows)	
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*
Barn Swallow	*Hirundo rustica*
Cliff Swallow	*Petrochelidon pyrrhonota*
Aegithalidae (Bushtits)	
Bushtit	*Psaltriparus minimus*
Troglodytidae (Wrens)	
Bewick's Wren	*Thryomanes bewickii*
Turdidae (Thrushes)	
Western Bluebird	*Sialia mexicana*
American Robin	*Turdus migratorius*

APPENDIX 2. ANIMALS OBSERVED OR DETECTED – TEQUESQUITE ARROYO (CONTINUED)

Sturnidae (Starlings)	
European Starling	*Sturnus vulgaris*
Emberizidae (Towhees, Sparrows)	
California Towhee	*Pipilo crissalis*
Song Sparrow	Melospiza melodia
Icteridae (Blackbirds, Meadowlarks, Orioles)	
Brown-headed Cowbird	*Molothrus ater*
Hooded Oriole	*Icterus cucullatus*
Bullock's Oriole	*Icterus bullockii*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*
Passeridae (Old World Sparrows)	
House Sparrow	*Passer domesticus*

Assessors Parcel Number List

NO.	APN	OWNER
1	217-300-015	Riverside Healthcare System
2	217-080-017; 217-080-021; 219-036-001; 219-036-008; 217-122-002; 219-080-001; 219-101-002; 219-163-001	Riverside Jr. College District
3	217-080-019; 217-080-014; 219-182-004	City of Riverside
4	219-181-007	Bobo Kenneth
5	219-181-008	Gomez Ernesto & Torres Yolanda
6	219-181-009	Barr Cary & Marie
7	219-181-010	Irone Anthony & Munni
8	219-182-003	Union Pacific RR
9	219-182-010; 219-182-014	AT & SF RR
10	219-292-010	Grano Virginia Mae
11	219-191-002	Lepe Rodolfo & Sandra
12	219-191-010	Crowther Wanda G. Trust
13	219-192-001	Lee Daryl & Hung Marie
14	219-192-002	Covarrubias Felipe De Jesus & Ramona
15	219-192-003	Marquez Ruben
16	219-152-016	Stevens Lance & Jeanine
17	219-152-015	McCammack David & Wendy
18	219-210-001; 221-280-001; 221-280-002; 221-300-006; 221-300-008; 223-110-026; 222-020-019; 222-030-001	Victoria Club

CULTURAL RESOURCES SURVEY FOR THE TEQUESQUITE ARROYO TRUNK SEWER PROJECT, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA

Prepared for

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USGS 7.5-Minute Quadrangles
Riverside East, CA 1967, Photorevised 1980
Riverside West, CA 1967, Photorevised 1980

SWCA Project No. 12947-191

SWCA Cultural Resources Report Database No. 2007-586

December 2007

Keywords: Cultural resources survey; City of Riverside; Upper Riverside Canal; Lower Riverside Canal; Victoria Avenue Bridge; historic Chinatown archaeological site

MANAGEMENT SUMMARY/ABSTRACT

Purpose and Scope: David Evans and Associates contracted SWCA Environmental Consultants to provide cultural resources services in support of the Tequesquite Arroyo Trunk Sewer Project, City of Riverside, Riverside County, California. The project would replace two segments of sewer line over a 4.4-mile linear area, primarily within Tequesquite Arroyo. SWCA's cultural study entailed a records and literature search, initial Native American consultation, and an intensive pedestrian survey of the project area for archaeological and historic architectural resources.

Dates of Investigation: The California Historical Resources Information System records search and the California Native American Heritage Commission consultation letters were initiated on May 31, 2007. The Eastern Information Center conducted the records search on June 6, 2007, and results of the Sacred Lands File search and list of Native American contacts received from the Native American Heritage Commission on June 4, 2007. SWCA staff conducted the intensive pedestrian survey on July 19, 2005, with an additional 1,250 feet or so surveyed on September 24, 2007. An additional 1,250 feet of the project alignment was not surveyed as part of this investigation because access was restricted to this area.

Findings of the Investigation: Eight prior cultural resource studies have been conducted within 0.5 mile of the project alignment, two of which included portions of the project area and one of which was adjacent to it. The records and literature search indicated that 44 previously recorded cultural resources are located within 0.5 mile of the project alignment. Three historic structures cross the project alignment, two of which are on the National Register of Historic Places and California Register of Historical Resources: the Upper Riverside Canal, and Victoria Avenue Bridge. The third is the Lower Riverside Canal, which crosses the project alignment but is ineligible for the National Register, California Register, or other local designation. Access to this part of the project alignment was restricted, and SWCA was unable to inspect this resource. The historic Chinatown Archaeological site, is immediately adjacent to the project alignment, and is on the National Register of Historic Places and the California Register of Historical Resources. The Sacred Lands File search revealed that no Native American cultural resources are known in the project area; however, the Native American consultation resulted in responses by the Soboba Band of Luiseño Indians and the Ramona Band of Cahuilla Indians. Neither band had specific information about the presence of sacred lands or cultural resources within the project area. SWCA's archaeological survey did not identify any cultural resources other than the previously mentioned historic structures.

Investigation Constraints: The intensive survey of the project alignment was constrained by modern disturbances including the construction of a concrete channel, off-road vehicle activity, and dumping of sediment and modern building material and refuse. Much of the alignment is covered by paved roads, and in the southeastern portion a golf course. An approximate 1,250 foot of the project alignment was not surveyed due to restricted access.

Recommendations: Based on the results of the survey and records search, the Project has the potential to impact four previously recorded cultural resources. First, it is recommended that the Upper Riverside Canal should be avoided by tunneling under it or reengineering the project alignment; however; if this is not feasible, the cultural resources survey should be completed in this area, should include an update to the State of California Department of Parks and Recreation (DPR) 523 forms, and should include formal recordation and evaluation of this resource on Historic American Buildings Survey/Historic American Engineering forms. Second, the Victoria Avenue Bridge, which crosses over the proposed project alignment, should be avoided. Measures to avoid impacts to the bridge may include safety fencing to protect the bridge (including footings) from construction impacts, and alerting construction personnel of the significance of the bridge and how to avoid potential impacts. Third, the Lower Riverside Canal is not considered significant under CEQA and impacts to this resource would not be significant; no additional measures or study are recommended for this structure. Fourth, though the historic Chinatown

archaeological site is located outside but adjacent to the project alignment, a previously undocumented part of the site could be buried. Any trenching or ground-disturbing procedures within 300 feet of the corner of Brockton and Tequesquite Avenues should be monitored for cultural resources under the direction of a qualified archaeologist. Generally, SWCA recommends intermittent monitoring for cultural resources during ground-disturbing construction activities by a trained archaeologist.

The Soboba Band of Luiseño Indians requested that a Cultural Resources Monitor(s) be present during any ground disturbing proceedings. Due to the lack of known prehistoric archaeological sites in the project alignment, the lack of known sacred sites, and negative survey results for prehistoric archaeological sites or isolated artifacts, SWCA recommends that the presence of a Native American monitor is unnecessary for this project. In the event that prehistoric cultural resources are encountered during construction, SWCA recommends that the concerned Native American groups be contacted at that time.

Disposition of Data: This report will be filed with the Eastern Information Center at the University of California, Riverside, at SWCA Environmental Consultants, and with David Evans and Associates. All field notes, photographs, and records related to the current study are on file at SWCA's South Pasadena, California office.

Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location. This document contains sensitive information regarding the nature and location of archaeological sites which should not be disclosed to the general public or unauthorized persons.

Information regarding the location, character, or ownership of a cultural resource is exempt from the Freedom of Information Act pursuant to 16 UCC 470w-3 (National Historic Preservation Act) and 16 USC Section 470(h)(h) (Archaeological Resources Protection Act).

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INTRODUCTION

Contracting Data: David Evans and Associates (DEA) retained SWCA Environmental Consultants to conduct a cultural resources survey for the proposed 4.4-mile upgrade of the Tequesquite Arroyo Trunk Sewer in the City of Riverside, Riverside County, California. This document reports on the methods and results of the cultural resources survey for this project.

Purpose: This study was completed under the provisions of California Environmental Quality Act (CEQA). Public Resources Code Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA served as the basic guidelines for the cultural resources study (Governor's Office of Planning and Research 1998). Public Resources Code Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the California Register of Historical Resources (CRHR). The CRHR maintains a listing of the state's historical resources and indicates which properties are to be protected from substantial adverse change (Office of Archaeology and Historic Preservation 1997).

Section 15064.5(a)(3)(A–D) in the revised CEQA guidelines (Governor's Office of Planning and Research 1998) indicates that a resource is *historically significant* if it meets at least one of the following criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
B. Is associated with the lives of persons important in our past;
C. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
D. Has yielded, or may be likely to yield, information important in prehistory or history.

The format used in this report follows the *Archaeological Resource Management Reports: Recommended Contents and Format* (Office of Historic Preservation 1990).

Undertaking: The proposed sewer trunk replacement involves the installation of approximately 4.4 miles of new trunk sewer along two discontinuous segments of the existing sewer alignment. An intensive pedestrian survey was undertaken to identify potential negative impacts to cultural resources. Cultural resources include archaeological and historical objects, sites and districts, historic buildings and structures, cultural landscapes, and sites and resources of concern to local Native American and other ethnic groups. Cultural resources may be found on the ground surface or buried beneath the surface.

Project Limits: Figure 1 shows the project location within the City of Riverside on the U.S. Geologic Survey (USGS) 7.5-Minute Riverside East, CA, and Riverside West, CA, quadrangles. The project alignment extends approximately 4.4 miles southeast from Tequesquite Avenue to just west of Chicago Avenue, within the Victoria Club golf course. The new trunk sewer line will be constructed within an existing City right-of-way for a large portion of its length. The City plans to obtain new easements for sections of the alignment that will be constructed through non-City property. A portion of the existing sewer line—approximately 1,600 feet between Palm Avenue and Brockton Avenue—will not be replaced as part of the project because it has sufficient capacity to remain in service and is not included in the project scope.

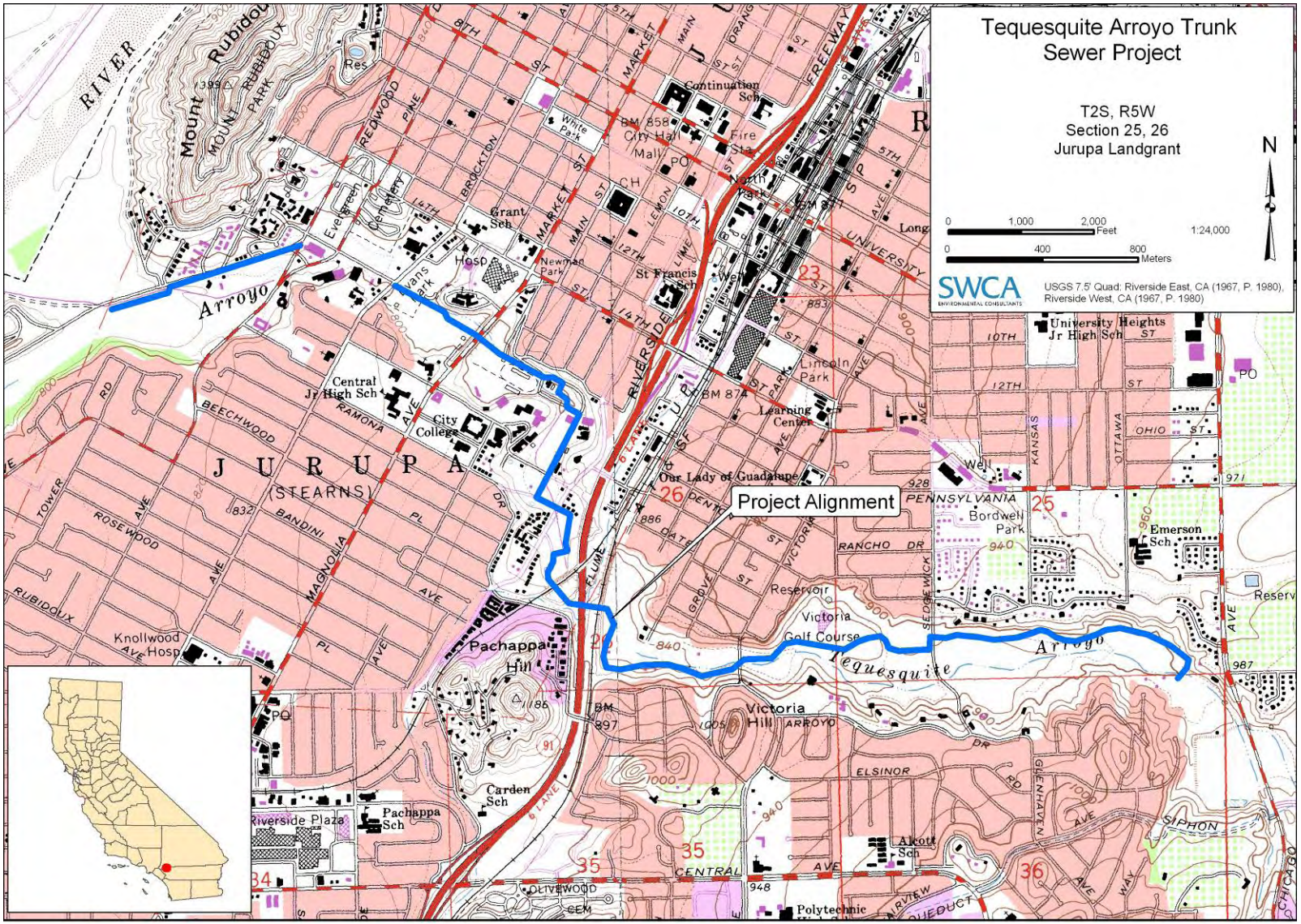

Figure 1. Project Location Map

The project alignment commences in the south-west at an existing siphon vault on Tequesquite Avenue, west of the intersection with Gregory Road. At this location approximately 1,000 feet of the new trunk sewer line will be installed to the south of the Riverside County Flood Control Channel before jogging north to the road right-of-way. It then parallels the existing sewer line for 0.35 mile to the junction of Palm Avenue where it terminates. Installation of the new trunk sewer then recommence at the southeastern corner of Tequesquite Avenue and Brockton Avenue, where it will be constructed south-easterly along the existing roadway for 400 feet before entering Riverside Community College (RCC).

Within RCC the new trunk sewer line follows the existing right-of-way along an internal roadway before it crosses one of the college's baseball fields. Micro-tunneling will be used to install the new trunk line beneath Magnolia Avenue to connect with RCC property to the east. The new sewer line continues south-easterly for approximately 0.33 mile through the college grounds, along existing internal roadways and parking areas, before turning southwest at Saunders Street and Terracina Drive and exiting RCC at Olivewood Avenue.

The new trunk line will be installed across Olivewood Avenue, pass through a parking lot and continue south along the Brooks Street right-of-way for approximately 450 feet before turning east towards State Route 91 (SR 91). Micro-tunneling will be used to install the new trunk sewer line beneath SR 91 and the Union Pacific railway line to connect to private property to the east. East of the rail corridor the new sewer line turns south for 0.3 mile before turning towards Victoria Avenue approximately 0.4 mile to the east. This section of the alignment will be constructed primarily within private property and outside of the existing sewer right-of-way. The new line crosses the Tequesquite Arroyo at two locations within this section. East of Victoria Avenue the project alignment continues into the Victoria Club property.

The portion of the project alignment that remains unsurveyed because of restricted access is in Figure 2. This section extends from Park Street west to SR 91.

Project Personnel: SWCA archaeologists John Covert and Gary King surveyed the majority of the project alignment, with a 1,250 foot section surveyed by Cultural Resources Project Manager Kevin Hunt. Edward J. Knell, Ph.D., RPA, served as Principal Investigator and was the primary author of this report. Kevin Hunt managed the project and coauthored this report. Emily Game prepared the tables; Russ Gatlin served as technical editor; and Glenn Dunno produced all GIS and figures for the survey and this report.

ENVIRONMENTAL SETTING

PHYSIOGRAPHY AND GEOLOGY

The project alignment extends along Tequesquite Arroyo, which is a tributary to the Santa Ana River watershed. The Santa Ana River watershed includes much of the Pomona, San Bernardino and San Jacinto Valleys, and receives water from the southern flanks of the San Gabriel and San Bernardino Mountains as well as from the flanks of several smaller hilly ranges that surround the Santa Ana River. Elevations within the project area range from 240–270 meters (800 to 900 feet) above mean sea level (msl).

The project occurs near the northern end of the Perris Block, which lies within the Peninsular Ranges geomorphic province. Rivers in this province, including the Santa Ana River, drain westward into the Pacific Ocean. The Perris Block is a structurally stable, internally unfaulted mass of crustal rocks bounded on the west by the Elsinore-Chino fault zones, on the east by the San Jacinto fault zone, and on the north by the Cucamonga fault zone (Morton and Matti 1989; Morton and Cox 1994, 2001). The Perris Block, to the south, is bounded by sedimentary basins that lie between Temecula and Anza (Morton and Matti 1989).

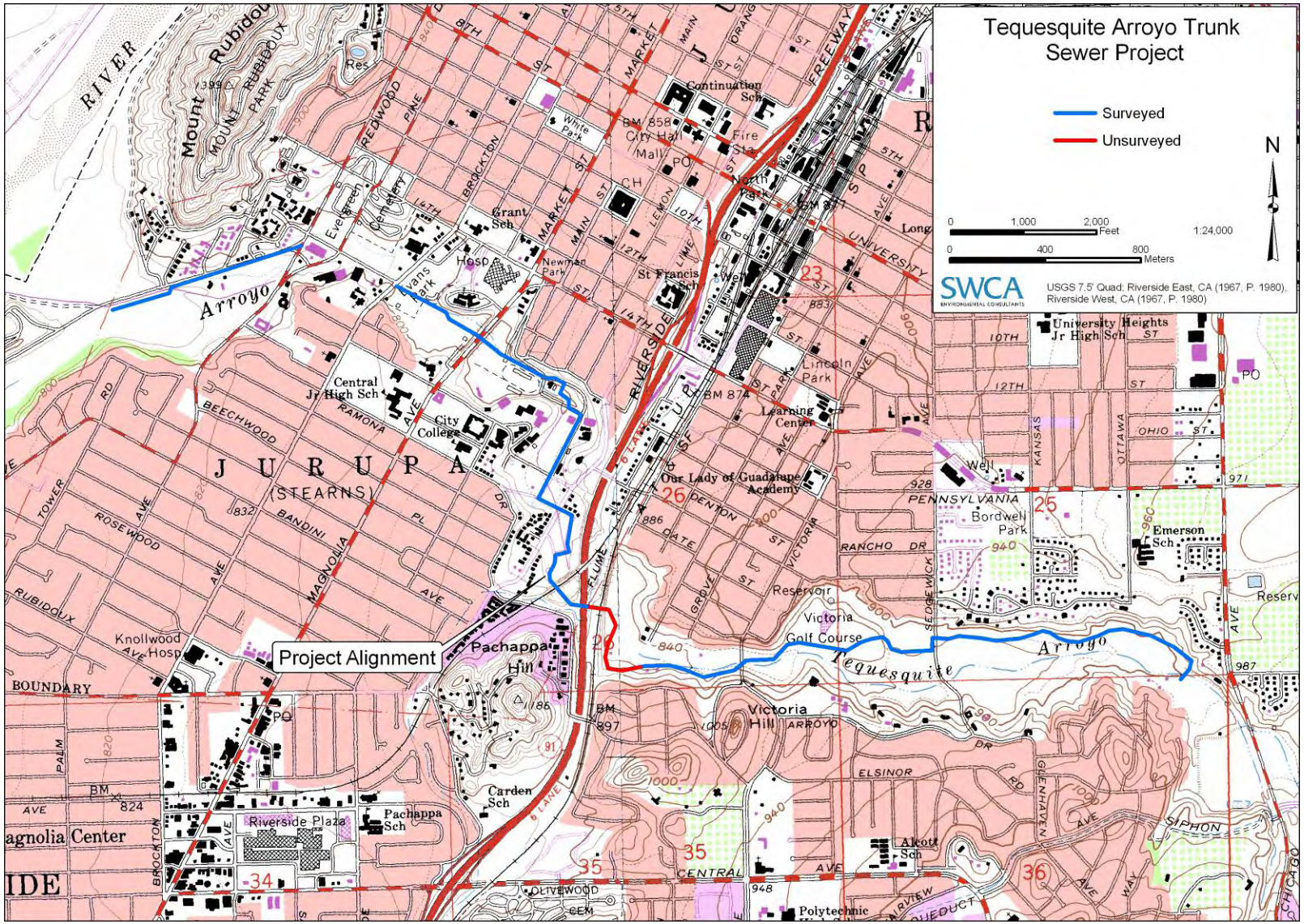

Figure 2. Project Location Map Showing Surveyed and Unsurveyed Areas

Approximately 5 million years ago the Sierra Nevada, Coast Ranges, Transverse Ranges, and Peninsular Ranges began to uplift. Studies on the nature and distribution of clasts from the Transverse and Peninsular Ranges and deposited on the Perris Block area suggest that the Peninsular Ranges formed much further south of their present location and were moved by the San Andreas Fault (Morton and Matti, 1989).

Across the Perris Block are various plutonic rocks that form the Peninsular Range Batholith. These rocks have tonalite, quartz diorite, granodiorite, granite, and sparse small bodies of gabbro and diorite (Morton and Cox 2001). The alluvial units that settled over and around these granitoid bodies consist variously of fluvial sand, gravel and cobbles, as well as eroded gravel and pebbly sand. These sediments contain clasts of mylonite, quartzite, and plutonic rocks from the western San Bernardino Mountains that are erosional remnants of a paleo-Santa Ana River that flowed further south than its present-day course (Morton and Cox 2001).

CLIMATE

The project area has hot dry summers with maximum temperatures that range from 28.8–33.3 degrees Centigrade (84° to 92° Fahrenheit), and winter lows from 0–6.6 degrees Centigrade (32° to 44° Fahrenheit) (Munz and Keck 1968:17). The average annual precipitation is 28 cm (11 inches), with most rain fall occurring between November and March. The uplands generally have a warm Mediterranean-type climate with occasional summer thundershowers. The paucity of precipitation results in little natural perennial surface water within the watershed, and rivers that typically convey a low volume of water. River flow today includes highly treated discharges from wastewater treatment plants, as well as urban and irrigation runoff.

VEGETATION

The proposed sewer alignment traverses areas that have been heavily and continually disturbed or landscaped for most of its approximate 4-mile length. Non-native vegetation and ruderal areas dominate the landscape within large parts of the arroyo, with landscaping common in the residential areas. The golf course is covered with grass.

Six vegetation communities likely existed within the vicinity of the project alignment prior to development of the area: valley and foothill grassland, coast live oak woodland, coastal sage scrub, chaparral, freshwater marshland, and riparian scrub/forest (Holland 1986; Holland and Keil 1995; Sawyer and Keeler-Wolf 1995). Several communities, particularly those located along the Santa Ana River channel, still exist today.

ANIMAL RESOURCES

Wildlife species at one point common to the vegetation communities near the project likely included mule deer (*Odocoileus hemionus*), cottontail (*Sylvilagus audubonii*), jackrabbit (*Lepus californicus*), mice (*Perognathus* spp.), and wood rats (*Dipodomys* spp.). California quail (*Callipepla californica*), dove (*Zenaidura macroura*), and birds associated with marshes, various types of reptiles, amphibians and insects were also probably common. Predators included mountain lion (*Felis concolor*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), and fox (*Urocyon cineroargenteus*). Though early Euro-American settlers barely note the presence of antelope (*Antilocapra americana*) (Sleeper 1982), they were quite common in 1769 throughout the plains and valleys when the Portolá expedition traveled through the region. Deer were less commonly noted than they are today (Brown 2001:308, 325).

CULTURAL SETTING

PREHISTORIC OVERVIEW

Numerous chronological sequences have been devised to understand cultural changes for various areas within southern California over the past century (Figure 3). Building on early studies and focusing on data synthesis, Wallace (1955, 1978) developed a prehistoric chronology for the southern California coastal region, which is still widely used today and is applicable to near-coastal and many inland areas, including western Riverside County. Four periods are presented in Wallace's prehistoric sequence: Early Man, Milling Stone, Intermediate, and Late Prehistoric. As noted by Moratto (1984:159), Wallace's (1955) synthesis lacked chronological precision due to the lack of absolute dates at the time of its creation, but remains generally valid today.

In addition to Wallace's classic summary, a regional synthesis developed by Warren (1968) will be referred to in the following discussion. This synthesis is supported by a larger archaeological database for southern California, which includes the advent and increased use of radiocarbon dating after the 1950s. Using the concepts of cultural ecology and cultural tradition, Warren (1968) proposed a series of six prehistoric traditions. Three of these traditions, the San Dieguito Tradition, Encinitas Tradition, and Campbell Tradition, correlate with Wallace's Early Man, Milling Stone, and Intermediate Periods. The Chumash Tradition, Takic Tradition (formerly "Shoshonean"), and Yuman Tradition are represented within Wallace's Late Prehistoric Period. As noted further, these ecologically-based traditions are applicable to specific regions within southern California.

Some revisions have been made to Wallace's 1955 synthesis using radiocarbon dates and projectile point assemblages (e.g., Koerper and Drover 1983; Mason and Peterson 1994; Koerper et al. 2002). The summary of prehistoric chronological sequences for southern California coastal and near-coastal areas presented below is a composite of information in Wallace (1955) and Warren (1968), as well as more recent studies, including Koerper and Drover (1983). The chronology formulated by Koerper and Drover (1983) is based on the results of their excavations at a multi-component village site (CA-ORA-119-A) near the University of California, Irvine, in Orange County.

Early Man Period /San Dieguito/Paleo-Coastal (ca. 10,000–6000 B.C.)

When Wallace defined the Early Man Period in the mid-1950s there was little evidence of human presence on the southern California coast prior to 6000 B.C. Archaeological work in the intervening years has identified numerous older sites dating prior to 10,000 years ago, including ones on the coast and Channel Islands (e.g., Erlandson 1991; Johnson et al. 2002; Moratto 1984; Rick et al. 2001:609). The earliest accepted dates for occupation are from two of the northern Channel Islands, located off the coast of Santa Barbara. On San Miguel Island, Daisy Cave clearly establishes the presence of people in this area about 10,000 years ago (Erlandson 1991:105). On Santa Rosa Island, human remains have been dated from the Arlington Springs site to approximately 13,000 years ago (Johnson et al. 2002).

In what is now Orange County, there are sites dating to 9000–10,000 years ago (Macko 1998a:41; Mason and Peterson 1994:55-57; Sawyer 2006). Known sites dating to the Early Man Period are rare in western Riverside County. One exception is the Elsinore site (CA-RIV-2798-B) that has deposits dating as early as 6630 cal. B.C. (Grenda 1997:260).

Recent data from coastal and inland sites during this period indicate that the economy was a diverse mixture of hunting and gathering, with a major emphasis on aquatic resources in many coastal areas (e.g., Jones et al. 2002) and on Pleistocene lakeshores in eastern San Diego County (see Moratto 1984:90-92).

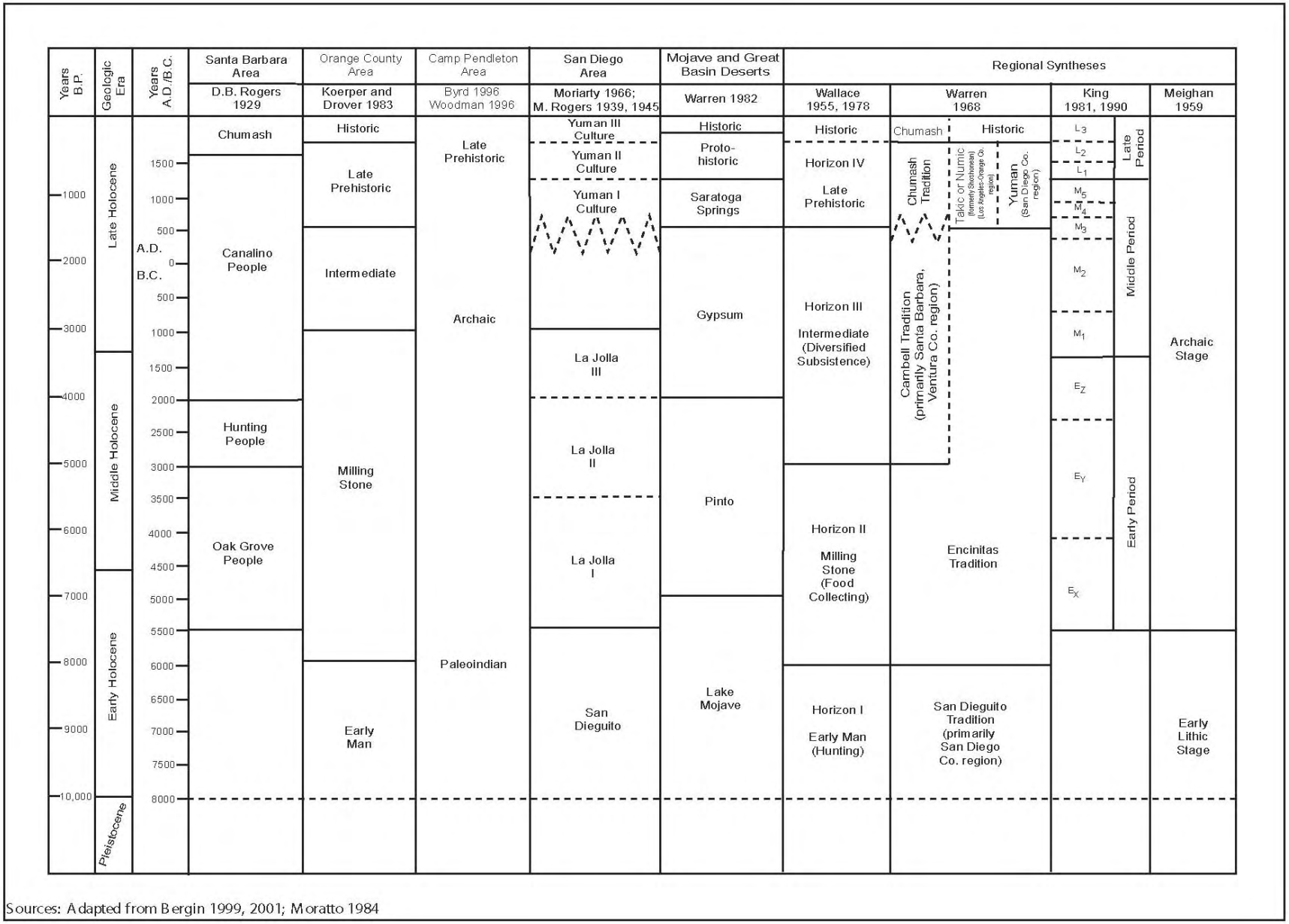

Figure 3. Cultural Chronologies for Coastal and Southern California

A Paleo-Coastal Tradition was proposed and recently referenced to highlight the distinctive marine and littoral focus identified within the southern California coastal archaeological record prior to the emergence of the Encinitis Tradition during the succeeding Milling Stone Period (Moratto 1984:104; Mason and Peterson 1994:57-58). At coastal sites, there is abundant evidence that marine resources such as fish, sea mammals, and shellfish were exploited during the Paleo-Coastal.

At near-coastal and inland sites, it is generally considered that an emphasis on hunting may have been greater during the Early Man Period than in later periods, although few Clovis-like or Folsom-like fluted points have been found in southern California (e.g., Dillon 2002; Erlandson et al. 1987). In Riverside County, only one isolated fluted point has been identified on the surface of a site in the Pinto Basin in the central part of the county (Campbell and Campbell 1935; Dillon 2002:113). Common elements in many San Dieguito Tradition sites include leaf-shaped bifacial projectile points and knives, stemmed or shouldered projectile points (e.g., Silver Lake and Lake Mojave series), scrapers, engraving tools, and crescents (Warren 1967:174-177; Warren and True 1961:251-254). Use of the atlatl (spear-throwing stick) during this period facilitated launching spears with greater power and distance. Subsistence patterns shifted around 6000 B.C. coincident with the gradual desiccation associated with the onset of the Altithermal, a warm and dry period that lasted for about 3000 years. After 6000 B.C., a greater emphasis was placed on plant foods and small animals.

Milling Stone Period (ca. 6000–3000/1000 B.C.)

The Milling Stone Period of Wallace (1955, 1978) and the Encinitas Tradition of Warren (1968) are characterized by an ecological adaptation to collecting, and by the dominance of the principal ground stone implements generally associated with the horizontal motion of grinding small seeds; namely, milling stones (metates, slabs) and handstones (manos), which are typically shaped. Milling stones occur in large numbers for the first time, and are even more numerous near the end of this period. As testified by their toolkits and shell middens in coastal sites, people during this period practiced a mixed food procurement strategy. Subsistence patterns varied somewhat as groups became better adapted to their regional or local environments.

Milling Stone Period sites are common in the southern California coastal region between Santa Barbara and San Diego, and at many inland locations including the Prado Basin in western Riverside County and the Pauma Valley in northeastern San Diego County (e.g., Herring 1968; Langenwalter and Brock 1985; Sutton 1993; Sawyer and Brock 1999; True 1958). Wallace (1955, 1978) and Warren (1968) relied on several key coastal sites to characterize the Milling Stone Period and Encinitas Tradition, respectively. These include the Oak Grove Complex in the Santa Barbara region, Little Sycamore in southwestern Ventura County, Topanga Canyon in the Santa Monica Mountains, and at La Jolla in San Diego County. The Encinitas Tradition was proposed to extend into San Diego County where it apparently continued alongside the following Campbell Tradition, which occurred primarily in the Santa Barbara-Ventura County region beginning around 3000 B.C.

Of the numerous Milling Stone Period sites identified in the region, the most well known is the Irvine site (CA-ORA-64), which has occupation levels dating between circa 6000–4000 B.C. (Drover et al. 1983; Macko 1998b). Along coastal Orange County, Koerper and Drover (1983:11) mark the transition at the end of the Milling Stone around 1000 B.C., whereas Wallace's mid-1950s scheme has the period ending at 3000 B.C. Based on radiocarbon dates from the Newport Coast Archaeological Project (NCAP), Mason and Peterson (1994) propose a timeline for the Milling Stone similar to that advanced by Koerper and Drover (1983). The chronological schemes advanced for coastal Orange County also apply to many southern California near-coastal and inland areas, including much of western Riverside County.

During the Milling Stone Period and Encinitas Tradition, stone chopping, scraping, and cutting tools are abundant, and generally made from locally available raw material. Projectile points, rather large and

generally leaf-shaped, and bone tools, including awls, are generally rare. The large points are associated with the spear, and probably with an atlatl. Items made from shell, including beads, pendants, and abalone dishes, are generally rare. Evidence of weaving or basketry is present at a few sites. Cogged stones and discoidals are often purposefully buried or "cached," and are found mainly in sites along the coastal drainages from southern Ventura County southward, with a few specimens inland at Cajon Pass, and in abundance at some Orange County sites (Dixon 1968:63; Moratto 1984:149). Kowta (1969) attributes the presence of numerous scraper-planes in Milling Stone sites to the preparation of agave or yucca for food or fiber. The mortar and pestle, associated with the vertical motion of pounding foods, such as acorns, were introduced during the Milling Stone, but are not common.

Two types of artifacts that are considered diagnostic of the Milling Stone Period are the cogged stone and discoidal, most of which have been found within sites dating between 4000–1000 B.C. (Moratto 1984:149). The cogged stone is best described as a ground stone object that has variant forms of gear-like teeth on the perimeter, which is produced from a variety of materials. The function of cogged stones is unknown, but has been interpreted as ritualistic or ceremonial in nature (Dixon 1968:64-65; Eberhart 1961:367). Similar to cogged stones, discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Both discoidals and cogged stones have been found together at some Orange County sites, such as CA-ORA-83/86/144 (Van Bueren et al. 1989:772), CA-ORA-950 (Ron Bissell, personal communication 1999), and Los Cerritos Ranch (Dixon 1975 in Moratto 1984:150).

Koerper and Drover (1983) suggest that Milling Stone Period sites represent migratory settlement patterns of hunters and gatherers who used marine resources during the winter and inland resources the remainder of the year. More recent research indicates that residential bases or camps were moved to resources in a seasonal round (de Barros 1996; Mason et al. 1997; Koerper et al. 2002), or that some sites were occupied year-round with portions of the village population leaving at certain times of the year to exploit available resources (Cottrell and Del Chario 1981). Regardless of settlement system, it is clear that subsistence strategies during the Milling Stone Period included hunting of small and large terrestrial mammals, sea mammals, and birds; collecting shellfish and other shore species; extensive use of seed and plant products; the processing of yucca and agave; and nearshore fishing with barbs or gorges (Kowta 1969; Reinman 1964). As evidenced by the abundant milling equipment found at these sites throughout the region, the processing of small seeds was an important component of their subsistence practices.

Characteristic mortuary practices during the Milling Stone Period or Encinitas Tradition include extended and loosely flexed burials, some with red ochre and few grave goods such as shell beads and milling stones interred beneath cobble or milling stone cairns. "Killed" milling stones, exhibiting holes, may occur in the cairns. Reburials are common in the Los Angeles County area, with flexed burials oriented to the north common in Orange and San Diego Counties. Evidence of wattle-and-daub structures and walls have been identified at some sites in the San Joaquin Hills and Newport Coast area spanning all cultural periods (Koerper 1995; Mason et al. 1991, 1992, 1993; Sawyer 2006; Strudwick 2004).

Perhaps one unique trait of the Milling Stone Period, isolated to a small region of coastal Orange County, is the presence of a rudimentary ceramic industry involving the creation of fired clay effigies, figurines, and small crude thick-walled pottery vessels (Drover 1971, 1975; Drover et al. 1983; Macko 1998b; Sawyer and Koerper 2006). The figurines have been found at the Irvine site (CA-ORA-64) on Newport Bay, and a collapsed rockshelter site (CA-ORA-1405-B) within Muddy Canyon.

Intermediate Period (ca. 3000/1000 B.C.–A.D. 500/650)

Following the Milling Stone, Wallace's Intermediate Period and Warren's Campbell Tradition in Santa Barbara, Ventura, and parts of Los Angles Counties, date from approximately 3000 B.C.–A.D. 500 and are characterized by a shift toward a hunting and maritime subsistence strategy, along with a wider use of plant foods. The Campbell Tradition (Warren 1968) incorporates David B. Rogers' (1929) Hunting

Culture and related expressions along the Santa Barbara coast. In the San Diego region, the Encinitas Tradition (Warren 1968) and the La Jolla Culture (Moriarty 1966; M. Rogers 1939, 1945) persist with little change during this time.

Temporal placement of the Intermediate is generally recognized as ranging between 3000 B.C. and A.D. 500 (Wallace 1955; Warren 1968). In Orange County, researchers have estimated the Intermediate Period began around 1000 B.C. and lasted until circa A.D. 650 (3000–1300 B.P.) (Koerper and Drover 1983:11; Mason and Peterson 1994). A more recent evaluation, based on some 1,300 calibrated radiocarbon dates from sites in Orange County, suggests a date of 1400 B.C. for the start of the Intermediate, marked by single-piece circular fishhooks and coinciding with the transition from the Middle to Late Holocene (Koerper et al. 2002:67–68). Another researcher sees the Intermediate, not as a cultural period, but as a transition between the Milling Stone and the later Late Prehistoric Period based on his investigations at sites in the Bonita Mesa area near upper Newport Bay (Peterson 2000). This idea may simply reflect a sub-regional or area specific trends at sites in and around Newport Bay rather than an accurate depiction of the cultural period dynamics in Orange County and the greater southern California region.

Although sites in the Prado Basin and Perris Reservoir area have cultural components that date to this period (Bettinger 1974:160; Grenda 1995:25), the Intermediate Period in western Riverside County is still not as well understood as it is in coastal areas (e.g., Van Bueren et al. 1986:11). The following discussion is thus mainly based on information gathered from coastal and near-coastal sites in southern California.

During the Intermediate Period, there is a pronounced trend toward greater adaptation to regional or local resources. For example, the remains of fish, land mammals, and sea mammals are increasingly abundant and diverse in sites along the California coast in the referenced region. Related chipped stone tools suitable for hunting are more abundant and diversified, and shell fishhooks become part of the toolkit during this period. Larger knives, a variety of flake scrapers, and drill-like implements are common during this period. Projectile points include large side-notched, stemmed, and lanceolate or leaf-shaped forms. Koerper and Drover (1983) consider Gypsum Cave and Elko series points, which have a wide distribution in the Great Basin and Mojave deserts between circa 2000 B.C.–A.D. 500, to be diagnostic of this period. Bone tools, including awls, are more numerous than in the preceding period, and the use of asphaltum adhesive is now common.

Mortars and pestles become more common during this period, gradually replacing manos and metates as milling stone implements. In addition, hopper mortars and stone bowls, including steatite vessels, appear to enter the toolkit at this time. This shift appears to correlate with a diversification in subsistence resources. Many archaeologists believe this change in milling stones signals a shift away from the processing and consumption of hard seed resources to the increasing importance of the acorn (e.g., Glassow et al. 1988; True 1993). It has been argued that mortars and pestles may have been used initially to process roots (e.g., tubers, bulbs, and corms associated with marshland plants), with acorn processing beginning at a later point in prehistory (Glassow 1997:86) and continuing to European contact.

Characteristic mortuary practices during the Intermediate Period include fully flexed burials, placed face down or face up, and oriented toward the north or west (Warren 1968:2–3). Red ochre is common, and abalone shell dishes infrequent. Interments sometimes occurred beneath cairns or broken artifacts. Shell, bone, and stone ornaments, including charmstones, are more common than in the preceding Encinitas Tradition. Some later sites include Olivella shell and steatite beads, mortars with flat bases and flaring sides, and a few small points. The broad distribution of steatite from the Channel Islands and obsidian from distant inland regions, among other items, attest to the growth of trade, particularly during the later part of this period.

Late Prehistoric Period (ca. A.D. 500/650–A.D. 1769)

Wallace (1955, 1978) places the beginning of the Late Prehistoric around A.D. 500. In Orange County, the start of this period is recognized at a slightly later date, circa A.D. 650 (Koerper and Drover 1983; Mason and Peterson 1994). In all chronological schemes for southern California, the Late Prehistoric Period lasts until European contact occurred in A.D. 1769.

During the Late Prehistoric Period, there was an increase in the use of plant food resources in addition to an increase in land and sea mammal hunting. There was a concomitant increase in the diversity and complexity of material culture during this period, demonstrated by more classes of artifacts. The recovery of a greater number of small, finely chipped projectile points, usually stemless with convex or concave bases, suggests an increased utilization of the bow and arrow rather than the atlatl and dart for hunting. In Orange County, Cottonwood series triangular projectile points in particular are diagnostic of this period (Koerper and Drover 1983). Other items include steatite cooking vessels and containers, the increased presence of smaller bone and shell circular fishhooks, perforated stones, arrow shaft straighteners made of steatite, a variety of bone tools, and personal ornaments made from shell, bone, and stone. There is also an increased use of asphalt for waterproofing and as an adhesive.

During the Late Prehistoric, sites contain beautiful and complex objects of utility, art, and decoration. Ornaments include drilled whole Chione (venus clam) and drilled abalone. Steatite effigies become more common, with Pecten shell rattles common in middens. In Orange County, for example, pecten shell rattles are concentrated in the Late Prehistoric midden at CA-ORA-119A, and other time sensitive artifacts, including abalone ornaments and drilled Chione shells, are also present (Koerper and Drover 1983:19-20). Most of the rock art found today in the Chumash sphere is thought to date to this period. Mortuary customs are elaborate, including cremation and interment, with abundant grave goods.

By A.D. 1000, fired clay smoking pipes and ceramic vessels begin to appear at some sites (Meighan 1954; Warren and True 1984). The scarcity of pottery in coastal and near-coastal sites implies ceramic technology was not well developed in that area, or that ceramics were obtained by trade with neighboring groups to the south and east. The lack of widespread pottery manufacture is usually attributed to the high quality of tightly woven and watertight basketry that functioned in the same capacity as ceramic vessels.

Another feature typical of Late Prehistoric Period occupation is an increase in the frequency of obsidian imported from the Obsidian Butte source in Imperial County, California. Obsidian Butte was exploited after circa A.D. 1000 after its exposure by the receding waters of Holocene Lake Cahuilla (Wilke 1978). A Late Prehistoric Period component of the Elsinore site (CA-RIV-2798-A) produced two flakes that originated from Obsidian Butte (Grenda 1997:255; Towner et al. 1997:224-225). Although about 16 percent of the debitage at the Peppertree site (CA-RIV-463) at Perris Reservoir is obsidian, no sourcing study was done (Wilke 1974:61). The site contains a late Intermediate to Late Prehistoric period component and it is assumed that most of the obsidian originated from Obsidian Butte. In the earlier Milling Stone and Intermediate Periods, most of the obsidian found at sites within Orange County and many inland areas came from northern sources, mostly the Coso volcanic field. This also appears to be the case within Prado Basin and other interior sites that have yielded obsidian (e.g., Grenda 1995:59; Taşkiran 1997:46). The presence of Grimes Canyon (Ventura County) fused shale at southern California archaeological sites is also thought to be typical of the Late Prehistoric Period (Demcak 1981; Hall 1988).

During this period, there is an increase in population size accompanied by the advent of larger, more permanent villages (Wallace 1955:223). Large populations and, in places, high population densities are characteristic, with some coastal and near-coastal settlements containing as many as 1,500 people. Many of the larger settlements were permanent villages, where people resided year-round. The populations of these villages may have also increased seasonally.

In Warren's (1968) cultural ecological scheme, the period between A.D. 500 and European contact is divided into three regional patterns. The Chumash Tradition is present mainly in the region of Santa Barbara and Ventura Counties; the Takic or Numic Tradition in the Los Angeles, Orange, and western Riverside Counties region; and the Yuman Tradition in the San Diego region. The seemingly abrupt changes in material culture, burial practices, and subsistence focus at the beginning of the Late Prehistoric Period are considered the result of a migration to the coast of peoples from inland desert regions to the east. In addition to the small triangular and triangular side-notched points similar to those found in the desert regions in the Great Basin and Lower Colorado River, Colorado River pottery and the introduction of cremation in the archaeological record are diagnostic of the Yuman Tradition in the San Diego region. This combination certainly suggests a strong influence from the Colorado Desert region.

In Los Angeles, Orange, and western Riverside Counties, similar changes (introduction of cremation, pottery, and small triangular arrow points) are considered the result of a Takic migration to the coast from inland desert regions. This Takic or Numic Tradition was formerly referred to as the "Shoshonean wedge" or "Shoshonean intrusion" (Warren 1968). This terminology, used originally to describe a Uto-Aztecan language group, is generally no longer employed in order to avoid confusion with ethnohistoric and modern Shoshonean groups who spoke Numic languages (Heizer 1978:5; Shipley 1978:88, 90). Modern Gabrielino/Tongva, Juaneño, and Luiseño in this region are considered the descendants of the prehistoric Uto-Aztecan, Takic-speaking populations that settled along the California coast during this period, or perhaps somewhat earlier.

ETHNOGRAPHIC OVERVIEW

The Tequesquite Arroyo Trunk Sewer alignment lies in the vicinity of several ethnographically known groups of Native Americans. The immediate area is likely within the Cahuilla ethnographic boundaries (Bean 1978:576; Kroeber 1925), although recent research suggests the area may have been within Serrano territory (King 2003:Fig 1). Since several trade routes were in the vicinity of the project area, people from different indigenous groups likely visited the area on a fairly regular basis (Bean 1978:575). Other ethnographically documented groups that likely inhabited the area included the Gabrielino or Tongva from the west (Bean and Smith 1978a), Luiseño from the southwest (Bean and Shipek 1978), and Serrano from the northeast (Bean and Smith 1978b; King 2003). The language of all four groups was derived from the Takic branch of the Uto-Aztecan linguistic family (Mithun 2001).

Cahuilla

The Cahuilla language formed a dialect of a branch of the Takic family of the Uto-Aztecan linguistic stock (Kroeber 1925; Bean and Shipek 1978). The name "Cahuilla" possibly derives from a native word meaning "master, boss" (Bean 1978:575). *'Ivi'lyu'atam* is the traditional term for the linguistically and culturally defined Cahuilla cultural nationality, and "refers to persons speaking the Cahuilla language and recognizing a commonly shared cultural heritage" (Bean 1972:85).

Evidence suggests the Cahuilla migrated to southern California about 2,000 to 3,000 years ago, most likely from the southern Sierra Nevada ranges of east-central California with other related socio-linguistic (Takic speaking) groups (Moratto 1984:559). The Cahuilla settled in a territory that extended west to east from the present-day City of Riverside to the central portion of the Salton Sea in the Colorado Desert, and south to north from the San Jacinto Valley to the San Bernardino Mountains. Though 60 percent of Cahuilla territory was in the Lower Sonoran Desert environment, 75 percent of their diet came from plant resources acquired in Upper Sonoran and Transition environmental zones (Bean 1978:576).

Cahuilla socio-political organization included three primary levels (Bean 1978:580). The highest level was the cultural nationality, encompassing everyone speaking a common language. Next were two patrimoieties called the Wildcats (*tuktum*) and the Coyotes (*'istam*), within which every clan of the

Cahuilla belonged to one or the other. The third basic level of socio-political organization was the many political-ritual-corporate units called sibs, or patrilineal clans (Bean 1978:580). Anthropologists have designated groups of Cahuilla clans by their geographical location into Pass, Desert, and Mountain, which though implying dialectical and ceremonial differences between these groupings actually results from proximity rather than actual differences in social connections (Strong 1929). In reality, a continuum of minor differences existed between the clans. Lineages within a clan cooperated in many ways, including defense, communal subsistence activities, and religious ceremonies. While most lineages owned their own village site and particular resource area, much of the territory was open to all Cahuilla people.

Each lineage within a sib had a defined territory that, among the Cahuilla of the Coachella Valley desert, was formed around springs in mountain canyons and the alluvial fans that spread from these canyons out onto the desert floor. Villages in these canyons were occupied year-round. They were situated to take maximum advantage of natural resources such as climate, water, food, and materials. Individuals or groups would periodically leave the villages for gathering, hunting, visiting, or trading activities. The sibs and lineages maintained formal associations among themselves for protection, for religious ceremonies, and help with large projects. The relationship between these groups was maintained through intermarriage and ceremonial reciprocity (Bean 1972).

Cahuilla villages were usually located in canyons or on alluvial fans near a source of accessible water such as springs or where large wells could be dug. Each family and lineage had houses (*kish*) and granaries for the storage of food, and ramadas for work and cooking. Sweat houses and song houses (for non-religious music) commonly occurred at these villages. Each community built a separate house for the lineage or clan leader. The clan leader also had a ceremonial house, or *kíš ʔámnawet*, where major religious ceremonies were held. Houses and ancillary structures were often spaced apart, causing villages to sometimes spread over a mile or two.

Each lineage maintained ownership rights to various resource collecting locations, "including food collecting, hunting, and other areas. Individuals also owned specific areas or resources, e.g., plant foods, hunting areas, mineral collecting places, or sacred spots used only by shamans, healers and the like" (Bean 1990:2). A variety of game was hunted, including mountain sheep, cottontail, jackrabbit, mice, and wood rats, as well as carnivores such as mountain lion, coyote, wolf, bobcat, and fox. Various birds were also consumed, including quail, chukker, and dove, plus various reptiles, amphibians and insects.

The Cahuilla utilized more than 200 desert and mountain plants (Bean and Saubel 1972). Key plant foods included acorns, screwbean and honey mesquite, piñon nuts, prickly-pear cactus fruit and leaves, yucca blossoms and stalks. They also gathered hard seeds from manzanita, sunflowers, sages, lemonade berry, wild rose, buckwheat, and coyote gourd (calabazilla). Fruits, berries (toyon, grape, blackberry, and elderberry, which was also used for medicine), tubers, and greens (chenopodium, clover, Miner's lettuce, and white sage [Dale 1985]) were also gathered (Bean and Smith 1978:538-539; O'Neil 2001). The amole tuber served for making tools and soap. Numerous additional plants were used for making medicine, twine, basketry, ornamentation, and tools, and as well as in religious ceremonies (O'Neil 2001).

The territory used by the Cahuilla was a productive environment well suited to a sophisticated hunting and gathering economy. Studies (Bean and Lawton 1993) suggest that aboriginal people in southern California improved the structure and productivity of the environment through controlled burning, selective harvesting and pruning, replanting, seed rebroadcast, and possibly limited irrigation. Human induced burning, whether accidental or intentional, potentially influenced fire adapted plant associations over the past few thousand years. It has been suggested (e.g., Bean and Lawton 1993:37-42, 46-51; King 1993:296-298), for example, that burning the native vegetation helped create and maintain the park-like aspect of many California landscapes described by early Spanish diarists. The emphasis on fire suppression that began during colonial times and which largely continues today is partially responsible for the current distribution of brush and paucity of grasslands in areas that looked quite different to European explorers and missionaries (Timbrook et al. 1993:129-134).

The Cahuilla adopted limited agriculture by the time of Euro-American contact. Bean (1978:578) suggests that their "proto-agricultural techniques and…marginal agriculture" included beans, squash and corn, which they potentially adopted from the Colorado River groups to the east. Certainly by the time of the first Romero Expedition in 1823–24 they observed corn, pumpkins, and beans growing in small gardens localized around springs in the Thermal area of the Coachella Valley (Bean and Mason 1962:104). By the 1850s, the inhabitants of Toro village supplied food to travelers from crops produced at their village: "We camped at this place and were surrounded by crowds of Indians anxious to trade melons, squashes, corn, and barley, for pork, bacon, or other articles" (Hoyt 1948:19). The introduction of barley and other grain crops provides evidence for the introduction of European plants via the mission or local Mexican rancheros. Despite the increasing use and diversity of crops, no evidence exists to indicate that small-scale agriculture provided anything more than a supplement to Cahuilla subsistence or that it altered their social organization (i.e., no effect on the basic division of labor or created new social roles).

The Cahuilla employed a wide variety of tools and implements when they gathered and collected food resources. Hunting was achieved using bow and arrow, traps, nets, slings and blinds for land mammals and birds, and nets for fish when Lake Cahuilla was filled. Throwing sticks were used to procure individual rabbits and hares, whereas clubs and large nets were used during communal rabbit drives. Food processing was achieved using a variety of tools: portable and bedrock mortars, basket hopper mortars, pestles, manos and metates, bedrock grinding slicks, hammer stones and anvils, woven strainers and winnowers, leaching baskets and bowls, woven parching trays, knives, bone saws, and wooden drying racks. Food was consumed from woven, carved wood, and pottery vessels. Ground meal and unprocessed hard seeds were stored in large, finely woven baskets, whereas unprocessed mesquite beans were stored in large granaries woven from willow branches and placed on raised platforms to protect them from vermin.

The Cahuilla produced pottery vessels, and also obtained them via trade with Yuman-speaking groups across the Colorado River and to the south. Pottery was introduced to the Cahuilla during the Late Prehistoric period. The art of constructing pottery was later adopted by the Cahuilla, who used the paddle and anvil technique. Typical culinary wares included jars, cooking vessels, and ladles. Ceramic pipes were also commonly manufactured and used. Ceramic ollas (large, round pots with small necks) were used for storing seeds, and were frequently cached in caves and rockshelters with foodstuffs sealed in to be used during anticipated hunting and gathering forays (Bean 1978:578–579).

Spanish mission outposts, known as *assistencias*, were established near Cahuilla territory at San Bernardino and San Jacinto by 1819, though interaction with Europeans was less intense in the Cahuilla region than it was for coastal groups. The topography and lack of water made the inland area inhabited by the Cahuilla less attractive to colonists than the coastal valley regions. By the 1820s, however, the Pass Cahuilla experienced consistent contact with the ranchos of Mission San Gabriel, whereas the Mountain Cahuilla frequently received employment from private rancheros and were recruited to Mission San Luis Rey.

The Romero-Pacheco Expedition during the winter of 1823 passed through the Coachella Valley in an unsuccessful attempt to establish a route from San Gabriel to Tucson via the upper Colorado River. They passed by the village of Toro with its great mesquite thickets on the north side and walk-in wells at the village site (Bean and Mason 1962:37). This scene has been identified as the village of *Pūichekiva*. Underground water supported the large stands of mesquite, the major plant resource for the local Cahuilla. Water was sufficiently close to the surface that the Cahuilla excavated walk-in wells, which reached a depth of 12–15 feet. Blake described this same village complex in 1853, indicating that the well water was used for household purposes as well as mesquite and crop irrigation (Bean et al. 1991:78). Crops included melons, squashes, corn, and barley.

Mexican ranchos were located near Cahuilla territory along the upper Santa Ana and San Jacinto rivers by the 1830s, providing the opportunity for the Cahuilla to earn money ranching and to learn new

agricultural techniques. The Bradshaw Trail, established in 1862, was the first major east-west stage and freight route through the Coachella Valley. Traversing the San Gorgonio Pass, the trail connected gold mines on the Colorado River to the coast. Bradshaw developed his trail using the model employed for the Cocomaricopa trail, which had maps and guides provided by local Native Americans. Journals by early travelers along the Bradshaw Trail described encounters with Cahuilla villages and walk-in wells as they journeyed through the Coachella Valley.

The continued expansion of immigrants into the region introduced the Cahuilla to European diseases. The single worst recorded event was a smallpox epidemic in 1862–63. By 1891, only 1,160 Cahuilla remained within what was left of their territory, down from an aboriginal population of 6,000–10,000 (Bean 1978:583-584). By 1974, approximately 900 people claimed Cahuilla descent, most of who resided on reservations.

Between 1875 and 1891, the United States established ten reservations for the Cahuilla within their territory: Agua Caliente, Augustine, Cabazon, Cahuilla, Los Coyotes, Morongo, Ramona, Santa Rosa, Soboba, and Torres-Martinez (Bean 1978:585). Four of these reservations are shared with other Native American groups, including the Chemehuevi, Cupeño, and Serrano. The Cahuilla on the Morongo Reservation established the Malki Museum in 1965, which today is a respected repository for artifacts and ethnographic knowledge. The museum publishes books on Native American lifeways, and the Journal of California and Great Basin Anthropology.

HISTORIC OVERVIEW

Post-contact history for the state of California is divided into three periods: the Spanish Period, the Mexican Period, and the American Period. Each of these periods is briefly described below.

Spanish Period (1769–1822)

The first Europeans to observe what became southern California were members of the A.D. 1542 expedition of Juan Rodriguez Cabrillo. Cabrillo and other early explorers sailed along the coast, and made limited expeditions into Alta (upper) California between 1529 and 1769. Spanish, Russian, and British explorers briefly visited Alta California during this nearly 250-year span. Eventual Spanish settlement of California in the spring of 1769 marked the devastating disruption of the indigenous cultures.

Gaspar de Portolá established the first Spanish settlement in Alta California at San Diego in 1769, and with Father Junipero Serra founded the first of 21 missions (Mission San Diego de Alcala) built by the Spanish and Franciscan Order between 1769 and 1823. Portolá continued north, reaching San Francisco Bay on 31 October, 1769. Pedro Fages, who sought a site for a mission, and Lt. Colonel Juan Bautista De Anza, a Spanish military officer from Tubac, Arizona, who surveyed an overland trail from the Mexican interior to San Francisco Bay, made later expeditions to Alta California in 1772 and 1774, respectively (Grunsky 1989:2–3). De Anza's diary provides the first recorded Euro-American entry into the region. De Anza later led a group of colonists and their livestock through the San Jacinto Valley and across the Santa Ana Narrows on their way to settle San Francisco Bay between 1775 and 1776. The Juan Bautista de Anza National Historic Trail—approved by Congress in 1990 and mapped by the National Park Service in 1996—and the National Millennial Trail (designated in 1999) both commemorate the trail as a heritage tourism automobile route (California Highways 2004).

The process of converting the local Native American population to Christianity through baptism and relocation to the mission grounds began in this region by the Franciscan padres at Mission San Juan Capistrano, which was established in 1776. People from the interior region were converted within ten years of establishing Mission San Juan Capistrano. Mission San Luis Rey was founded twenty years later,

and as it grew and expanded its influence, it established ranchos east of San Juan Capistrano. This expansion created territorial conflicts with Mission San Juan Capistrano.

Mexican Period (1822–1848)

Mexico revolted against the Spanish crown in 1822. After the Revolution, all Spanish holdings in North America (including both Alta and Baja California) became part of the new Mexican republic. An era of extensive land grants began with the onset of the Mexican Period. Most of the land grants to Mexican citizens in California (*Californios*) were in the interior, and were granted to increase the population away from the more settled coastal areas where the Spanish concentrated their settlements. The Mexican Period is also marked by exploration by American fur trappers west of the Sierra Nevada Mountains.

American Period (1848–Present)

The Mexican–American War ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, making California a territory of the United States. The discovery of gold in 1848 at Sutter's Mill near Sacramento and the resulting Gold Rush era greatly influenced the history of the state and the nation. The tens of thousands of people who rushed to the gold fields had a devastating impact on the lives of indigenous Californians, with the introduction and concentration of diseases, the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation. Thousands of settlers and immigrants continued to pour into the state, particularly after the completion of the transcontinental railroad in 1869.

One year after discovering gold, nearly 90,000 people journeyed to the California gold fields. A portion of Captain John Sutter's Mexican land grant, known as *New Helvetia*, became the bustling Gold Rush boomtown of Sacramento. California became the 31st state in 1850 largely as a result of the Gold Rush. By 1853, the population of the state exceeded 300,000 and Sacramento became the state capital in 1854.

Riverside County formed 40 years later in 1893, created from portions of nearby San Bernardino and San Diego Counties. The City of Riverside, located on the Santa Ana River channel, is the county seat and was founded in 1870. Part of California's "Inland Empire," many Riverside County residents work in and commute to the greater Los Angeles metropolitan area.

Local History: City of Riverside

The first recorded Euro-American entry into the region surrounding the project area comes from Lt. Colonel Juan Bautista de Anza's 1774 expedition of an overland trail from the Mexican interior to San Francisco Bay. Following his initial mapping survey, de Anza led a group of more than 200 settlers and their livestock in 1775–1776 through the San Jacinto Valley and across the Santa Ana Narrows on their way to found a mission and presidio in San Francisco.

San Diego merchant Juan Bandini gained in 1838 a land-grant from the Mexican government that entitled him to a great extent of the Santa Ana River drainage, which he named Rancho Jurupa. A group of Euro-American investors in 1870 bought a substantial portion of the rancho, and then surveyed a square-mile town site for their new colony that they named Riverside. They built irrigation canals to divert water from the Santa Ana River, supplying the water needed to found the modern California citrus industry (City of Riverside 2004).

As Riverside began to grow and develop into a larger city, the Atchison, Topeka & Santa Fe Railway extended the Chicago railroad's main line through Riverside in 1882, connecting Barstow with Los Angeles. The Southern Pacific Railroad extended a branch line to Riverside in 1892. Resulting from the

influx of people and industry, Riverside County was formed in 1893 with Riverside as the county seat (Hansen and Mermilliod 2002).

Further expansion of California and western commerce in 1904 brought the San Pedro, Los Angeles & Salt Lake Railroad across the Santa Ana River and through Riverside to connect the thriving capitals of California and Utah. That year, a massive 984-foot-long concrete viaduct across the Santa Ana's Anza Narrows was built by the "Salt Lake Route" (part of the Union Pacific after 1921, which it remains today) to gain access from the north bank into Riverside on the south side of the river. After completion, the bridge briefly held the title "largest concrete structure in the world" (National Park Service 1991). The railroad established a depot for "Jurupa" just south of the river (between present Jurupa Avenue and Mountain View Avenue; not extant), and in 1908 the Riverside Land and Irrigation Company platted housing tracts around the railroad station. A handful of suburban-styled homes appeared by the 1920s in the area. The surviving 1910s and 1920s houses along Jurupa Avenue and Florence Street represent this early twentieth century attempt at Riverside suburban settlement.

In 1942 the Riverside Water Quality Control Plant (WWTP) was developed with federal Work Projects Administration assistance, which reflected a post-Depression boom in Riverside and California in general. The WWTP's subsequent expansions, doubling in capacity in 1953 and again in 1958, chronicle the intensity of the post-war population boom in Riverside (City of Riverside 2001). According to the County of Riverside webpage, this growth has continued to today with Riverside becoming the fastest growing city in California between 1980 and 1990.

PRIOR RESEARCH

LITERATURE SEARCH

A search of the California Historical Resources Information System (CHRIS) was conducted for the Tequesquite Arroyo Trunk Sewer project (Appendix A). On June 6, 2007 the Eastern Information Center (EIC) provided a literature and archival records search pertaining to previously recorded cultural resources and investigations within the project alignment and within a 0.5-mile radius of the alignment. A review was made of the National Register of Historic Places (NRHP) (Office of Archaeology and Historic Preservation 1997), Archaeological Determinations of Eligibility, the Office of Historic Preservation (OHP), and the Directory of Properties in the Historic Property Data File. SWCA reviewed the 1901 Elsinore, CA, 30-minute and 1942 Riverside, CA, 15-minute USGS topographic maps.

Thirty cultural resources studies have been previously conducted within a 0.5-mile radius of the project area (Table 1). Five of these studies include portions of the Tequesquite Arroyo Trunk Sewer project alignment, with five additional studies conducted adjacent to the project area. Three regional overviews cover the project area.

Table 1. Previously Conducted Cultural Resources Studies within 0.5 Mile of the Project Area

Report #	Title	Author(s)	Include Current Project Area?
RI-00030	Archeological Impact Expected from the Tequesquite Arroyo-Box Springs Wash Flood Control Project.	Gardner, Michael C. / 1971	No
RI-00031	The Arlington Channel Flood Control Project: Expected Impact On Archaeological Resources	Gardner, Michael C. / 1971	Regional Overview

Table 1. Previously Conducted Cultural Resources Studies within 0.5 Mile of the Project Area

Report #	Title	Author(s)	Include Current Project Area?
RI-00127	Letter Report – Archaeological Survey of the Central Avenue Shopping Center, City of Riverside, California	Barker, James P. / 1974	No
RI-02050	Preliminary History Inventory – March Air Force Base, California	Perault, Gordon / 1985	Regional Overview
RI-02307	Cultural Resources Survey, Upper Santa Anna River, California	Hampson, et al. 1988	Yes
RI-02938	An Archaeological Assessment of the Mt. Rubidoux Golf Course Project , Riverside, California	Drover, Christopher E. / 1990	Yes
RI-03001	Environmental Impact Evaluation: MY. Rubidoux Golf Course Project, Riverside California	Drover, Christopher E. / 1990	Adjacent to Project Area
RI-03122	An Archaeological Assessment of Parcel Map 23965, Mira Loma, California	Drover, Christopher E. / 1990	Adjacent to Project Area
RI-03190	Part III, Addendum to: Cultural Resources Assessment of AT&T's Proposed San Bernardino to San Diego Fiber Optic Cable, San Bernardino, Riverside, and San Diego Counties, California	Peak and Associates / 1990	No
RI-03286	Wong Ho Leun: An American Chinatown; Volume Two – Archaeology	Great Basin Foundation (Editor) / 1987	Adjacent to Project Area
RI-03287	Wong Ho Leun: An American Chinatown; Volume One – History	Great Basin Foundation (Editor) / 1987	Adjacent to Project Area
RI-03491	The Gage Canal: A Narrative History [Excerpt From Draft Haer Report, P 108 – 180)	Hallaran, Kevin / 1991	No
RI-03605	An Archaeological Survey Report Documenting the Effects of the RCIC I-215 Improvement Project in Moreno Valley, Riverside County, to Orange Show Road in the City of San Bernardino, San Bernardino County, California	Wlodarski, Robert J. / 1993	Yes
RI-03617	Cultural Resources Assessment Proposed Vons Market Located in the Canyon Crest Village, City of Riverside	Taskiran, Ayse / 1993	No
RI-03893	Archaeological Assessment of the Riverside Cogeneration Project on the Santa Ana River, Riverside County, California.	Dillon, Brian D. / 1995	No
RI-03969	Historical Explorations at Newman Park, Turn-of-the-Century Artifacts from Old Downtown Riverside	Love, B., Bai, T. / 1996	No
RI-04048	Historic Building Evaluation Report The James White House and the Benjamin Rockhold House 4205 and 4220 Lemon Street, City of Riverside, Riverside County California	Love, B., Bai, T. / 1996	No
RI-04124	Cultural Resources Records Search and Survey Report for a Pacific Nell Mobile Services Telecommunications Facility: CM 154-08 City of Riverside, California	Roger, M., Lapin, P., Bonner, W. / 1998	No
RI-04404	Final Cultural Resources Inventory Report for the Williams Communications, Inc., Fiber Optic Cable System Installation Project, Riverside to San Diego , California Vol I-IV	Jones and Stokes Associates, Inc. / 2000	Yes

Table 1. Previously Conducted Cultural Resources Studies within 0.5 Mile of the Project Area

Report #	Title	Author(s)	Include Current Project Area?
RI-04451	Cultural Resources Monitoring for the Tequesquite Landfill Well and Gasline Project, City of Riverside, County of Riverside, California	Alexandrowicz, John Stephen / 1999	No
RI-04481	Determination of Eligibility for the USDA, Natural Resource Consideration Services (NRCS) Area Office / Old United Stated Salinity Laboratory, Riverside, California	Historic Resource Associates / 2002	No
RI-04793	A Phase I Archaeological Study: 5160 Palm Drive (AKA 4502 High Place), City of Riverside, Riverside County, California	Alexandrowicz, John Stephen / 1993	No
RI-04813	California Citrus Heritage Recording Project: Arlington Height Citrus Landscape, Gage Irrigation Canal, National Orange Company Packing House, Victoria Bridge, and Union Pacific Railroad Bridge	National Park Service, Historic American Engineering Record / 1993	Yes
RI-05056	A Phase I Cultural Resources Investigation for the Proposed Corona Feeder Master Plan Project Area, Riverside County, California	McKenna et al. / 2003	No
RI-05173	Results of the Cultural Resources Assessment for the Fidelity Family Holdings Four Lots in the City of Riverside , Riverside County, California	Goodwin, R. / 2003	No
RI-05301	Results of the Cultural Resource Assessment for the Fidality Family Holdings, One Lot in the City of Riverside, Riverside County, CA	LSA Associates / 2003	No
RI-05802	Identification and Evaluation of Historic Properties, Downtown Commuter Rail Station Parking Expansion, City of Riverside, Riverside County, California	Love, B., Bai, T., Ballester, D., Dahdul, M. / 2002	No
RI-05873	Cultural Resources Technical Report, UCR Long Range Development Plan	Love, B., Bai, T., Ballester, D., Dahdul, M. / 2002	No
RI-05997	Historical / Archaeological Resources Survey Report, Assessor's Parcel Numbers 221-240-003, -004, and -005, City of Riverside, Riverside County, California	Love, B. et al. / 2003	No
RI-06088	First Supplemental Historic Property Survey Report for the Improvement of Interstate Rout215 / State Route 91 / State Route 60. Riverside County, California	Bricker, D. / 1998	Regional Overview
RI-06220	New Tower ("NT") Submission Packet, FCC Form 620: Pachappa Hill	Earth Touch, Inc. / 2006	No
RI-06597	Historic Building Evaluation, 3138 Prospect Avenue, in the City of Riverside, Riverside County, California	Tang, B., Hogan, M., Tibbet, C. / 2005	No
RI-06600	Letter Report: Riverside Chinatown Archaeological Site (CA-RIV-3284H), Assessors Parcel Nos. 217-005-003 and -018, City of Riverside, Riverside County, CA	Smallwood, J.	Adjacent to Project Area

Forty-four cultural resources have been previously recorded within 0.5 mile of the project area (Table 2). Three of these cultural resources extend across the project alignment: CA-RIV-4495H, CA-RIV-4791H, and P-33-9772. CA-RIV-4495H is the 19-mile long Riverside Canal, which diverted water from the Santa

Ana River to the Mile Square or main areas of Riverside (Gustafson 2001). This resource has been Determined NRHP-eligible and listed on the CRHR under status code 2S2: "Individual property determined eligible for the NR[HP] by a consensus through the Section 106 [of the National Historic Preservation Act] process. Listed in the CR[HR]." CA-RIV-4791H is a segment of the Lower Riverside Canal which was in use from 1874–1914, and brought water for irrigation to Temescal Canyon from Riverside (McKenna et al. 2005). The canal is now used as a flood control channel. Prior survey indicates this resource is ineligible for the National Register, California Register, or other local designation (California Historical Resource Status Code 6Z). P-33-9772 is the Victoria Avenue Bridge which spans the Tequesquite Arroyo and the proposed sewer alignment. The current reinforced concrete bridge was constructed in 1928 by the City of Riverside. It was placed on the National Register of Historic Places in 2000, and is City of Riverside Cultural Historical Resources Board Landmark No 54.

Table 2. Previously Recorded Cultural Resources

Trinomial/Primary Number	Other Identifier	Resource Description	Recorded by / Date	Within Project Area?
CA-RIV-3284	Riverside Chinatown Archaeological Site	NRHP-listed, Point of Historical Interest, local register-listed 2.5-acre historic archaeological site	Gualtiui, K. / 1990	Directly Adjacent
CA-RIV-3358H		Historic refuse scatter (glass, ceramics, metal fragments)	Sorenson, J. / 1987. Drover, C.E., Smith, D.H. / 1990.	No
CA-RIV-4495H (P-33-4495)	Upper Riverside Canal	Historic Canal / Aqueduct / Water Conveyance System NRHP Status Code: 2S2 (Determined NRHP-eligible and listed in CRHR)	Jertberg, P. / 1991. Starzak, R. / 1996. Gustafson, A. / 2001	Yes (crosses)
CA-RIV-4768H (P-33-4768, CA-SBR-7168H, P1074-81H / MFA-1H)	Gage Canal	Underground cement pipe used to provide water various parcels. Plot is a small portion of what was Arlington Heights	Wlodarski, R. / 1992. McCarthy, D. / 2001. McCarthy, D. / 2003.	No
CA-RIV-4791H (P-33-4791, CA-SBR-7172)	Lower Riverside Canal	Segments of the Lower Riverside Canal which are now utilized as a flood control channel. NRHP Status Code:6Z (Found ineligible for NRHP, CRHR, or local listing through survey evaluation)	Wlodarski, R. / 1992. Gustafson, A. / 2001 Chandler, E. / 2002 McKenna et al. / 2005	Yes (crosses)
CA-RIV-5831H (P-33-7838)	Old Magnolia Ave. Trolley Line	Remnants of Old Magnolia Ave. Trolley Line, and historic refuse deposit. NRHP Status Code: 3S	Love, B. / 1996	No
P-33-8163	James White House	Single-family house in the Mission Revival Style. 4205 Lemon Street. NRHP Status Code: 3S, Criteria B and C	Curl, A. / 1979. Tang, Bai. / 1997	No

Table 2. Previously Recorded Cultural Resources

Trinomial/Primary Number	Other Identifier	Resource Description	Recorded by / Date	Within Project Area?
P-33-8164	Benjamin Rockhold House	Single-family house in the combination of Craftsman & Swill Chalet style. 4220 Lemon Street . NRHP Status Code: 3S, Criteria B and C	Tang, Bai. / 1997	No
P-33-8811		Single story Art Deco buildings. 4060 Orange Street .NRHP Status Code: 3	Curl, A. / 1979	No
P-33-9677	Masonic Temple	3650 Eleventh Street. NRHP Status Code: 6 – Determined Not Eligible	Schaeffer, J. / 1979	No
P-33-9680 (CA-RIV-007)	Mount Rubidoux	-Point of Historical Interest	Wood, R. / 1967	No
P-33-9685 (CA-RIV-021)	Riverside County Courthouse	Point of Historical Interest; 4050 Main Street	Wood, R. / 1968	No
P-33-9688	M.H. Simon S. Undertaking Chapel / Simon S. Mortuary	3610 Eleventh Street NRHP Status Code: 6	Schaeffer, J. / 1979	No
P-33-9692	The Woods Streets	Area of historic homes (ranging from 1916-1940), within an area known as the “Woods Streets” NRHP Status Code: 3D	Curl, A. / 1980	No
P-33-9772	Victoria Avenue Bridge	Bridge determined eligible for the NRHP and is City of Riverside Cultural Historic Board Landmark No. 54	Jones and Stokes / 1999	Yes
P-33-11567	U.S. Salinity Laboratory	Conducted experiments in agriculture, plant pathology & water salinity. 4500 Glenwood Drive. NRHP Status Code: 6Y (Partial)	Supernowicz, D / 2002	No
P-33-11784	St. John’s Baptist Church / Allen Chapel A.M.E Church	Oldest established African American church in Riverside. 2433 10th Street. NRHP Status Code: 7	Ramsey, E. / 1980	No
P-33-11788	Doll House	A transitional Classical Revival – English combination home. 3891 11th Street. NRHP Status Code: 3	Riverside Municipal Museum / 1977	No
P-33-11789	Stoke/ Wiley Grocery Store / Mercantile Block	2933 11th Street . NRHP Status Code: 7	Ramsey, E. / 1980	No

Table 2. Previously Recorded Cultural Resources

Trinomial/Primary Number	Other Identifier	Resource Description	Recorded by / Date	Within Project Area?
P-33-11790		Dutch Colonial influenced home. 4336 12th Street NRHP Status Code: 3	Curl, A. / 1977	No
P-33-11791		California Bungalow. 4392 12th Street. NRHP Status Code: 3	Curl, A. / 1979	No
P-33-11792	Grant School	Mission Revival Style. 4011 14th Street. NRHP Status Code: 3	Riverside Municipal Museum / 1979	No
P-33-11823		Two story Victorian Cottage. 4049 Almond Street. NRHP Status Code: 3	Curl, A. / 1979	No
P-33-11829		One and a half story California Bungalow . 4290 Brockton Avenue. NRHP Status Code: 4	Curl, A. / 1979	No
P-33-11830		Two story Classical Revival home. 4315 Brockton Avenue. NRHP Status Code: 3	Curl, A. / 1979	No
P-33-11879	Wood, James M. House	Georgian or Colonial influenced ranch home. 2490 Prince Albert Drive. NRHP Status Code: 3	Curl, A. / 1980	No
P-33-11881	Calvary Presbyterian Church	Gothic church with elements of the Mediterranean Renaissance. 4495 Magnolia Avenue. NRHP Status Code: 3	Curl, A., Arredondo, C. / 1980	No
P-3311882	Central Middle School / Central Junior High School	Neo-Baroque Spanish architecture (much destroyed during fire). 4795 Magnolia Avenue. NRHP Status Code: 3	Curl, A. / 1980	No
P-33-11883	Riverside Community College	4800 Magnolia Avenue. NRHP Status Code: 3	Curl, A. / 1980	No
P-33-11889	Rockledge -	Spanish Colonial Revival, Mediterranean-influenced cottages, Victorian American Colonial Revival and Pueblo homes. 5036 – 5174 Hallwood Avenue, 2812 – 2746 Ivy Street, 5029 – 5085 Rockledge Drive. NRHP Status Code: 3D	Curl, A., Flippen, J. / 1980	No
P-33-11924		A frame bungalow house constructed in 1925. 2274 Ninth Street.	Unknown	No

Table 2. Previously Recorded Cultural Resources

Trinomial/Primary Number	Other Identifier	Resource Description	Recorded by / Date	Within Project Area?
P-33-11991	Twogood Orange Grove Tract	Victorian, Colonial Revival, Classical Revival, California Bungalow, Mission Revival, Pueblo, Mediterranean-influenced, Northern Tradition and wartime homes. 4447-4587 Mulberry, 3410-3623 Prospect, 4412 – 4555 Lemon, 4434 – 4562 Orange, 4429 – 4561 Orange Grove, 4445-4494 Main, 3620 – 3685 15th, 4429 – 4586 Olivewood NRHP Status Code: 3	Curl, A., Flippen, J. / 1980	Southwest corner adjacent to project area
P-33-12185		One story Classical Revival bungalow. 4192 Tenth Street. NRHP Status Code: 5S1	Teaman, J. / 1999	No
P-33-12189		One story California bungalow. 4542 Bandini Avenue. NRHP Status Code: 6Z	Tarabuta, L. / 2000	No
P-33-12190		One story period revival home. 2790 Iris Street. NRHP Status Code: 5S3	Tibbet, C. / 1999	No
P-33-12191		One story California bungalow. 3007 Date Street. NRHP Status Code: 5S3	Tibbet, C. / 2000	No
P-33-12807	Eden Lutheran Church	Spanish Eclectic style. 4725 Brockton Avenue.	Marvin, J., Goodwin, R. / 2003	No
P-33-12831	Leo J. Koltz House	Tudor Revival Style House. 4624 Olivewood Way. NRHP Status Code: 2B and 3C	Marvin, J. / 2002	No
P-33-12832		Pump House owned by the City of Riverside. 3196 / 3198 Prospect Avenue. NRHP Status Code: 6Z	Marvin, J. / 2003	No
P-33-12833		One and a half story frame Craftsman home NRHP Status Code: 6Z	Marvin, J. / 2003	No
P-33-12834		One story frame residence with a truncated hip roof and a surrounding porch. 3164 Date Street. NRHP Status Code: 6Z	Marvin, J. / 2003	No
P-33-12835		One story frame residence with a low-pitched cross-gable roof with exposed rafters. NRHP Status Code: 6Z	Marvin, J. / 2002	No

Table 2. Previously Recorded Cultural Resources

Trinomial/Primary Number	Other Identifier	Resource Description	Recorded by / Date	Within Project Area?
P-33-12836		One story frame Modern Minimal Traditional residence with a hipped roof, with extended open eaves. 2983 Ivy Street. NRHP Status Code: 6Z	Marvin, J. / 2003	No
P-33-12837		One story frame residence with a cross-gabbled roof. 2998 Ivy Street. NRHP Status Code: 6Z	Marvin, J. / 2003	No
P-33-14881		One story California Ranch house. 2984 Ivy Street. NRHP Status Code: 6L	Tibbet, C. / 2006	No
P-33-14882		Single-span railroad bridge located over the SR91 midway between the 14th Street & Central Exits. NRHP Status Code: 6Z	Hansen, J. / 2006	No
P-33-14883		One story California Ranch-style four-unit apartment. 3300-3306 Prospect Avenue. NRHP Status Code: 6Z	Tibbet, C. / 2006	No

Another archaeological site, located adjacent to the project alignment, is worthy of mention because of the potential for impacts to currently undocumented parts of this site. The Riverside Chinatown archaeological site (CA-RIV-3284) was once a large, productive Chinatown (Kleinhesselink and Lawton 1987) that [CONFIDENTIAL LOCATIONAL DATA REMOVED]. No standing structures currently remain at this location, but from 1885 until the late 1930s this area once had many wood and brick buildings associated with businesses and residences. During the late 1940s and early 1950s the then owner of the property, George Wong, hired contractors to bury the eastern and southeastern boundary of the historic Chinatown (i.e., [CONFIDENTIAL LOCATIONAL DATA REMOVED]) with 10 to 15 feet of fill. Limited testing conducted from 1984–1985 revealed intact portions of subsurface brick structures along the eastern part of the Chinatown (Kleinhesselink and Lawton 1987). The remaining 2.5-acres of the Chinatown, which abuts the proposed sewer alignment, is listed on the National Register of Historic Places and is a Point of Historical Interest in Riverside.

SACRED LANDS FILE SEARCH

SWCA initiated Native American consultation for the project on May 31, 2007 (Appendix B). SWCA contacted the California Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File and to obtain a list of Native American groups or individuals listed by the NAHC for Los Angeles County (Appendix B). The NAHC responded on 1 June, 2007, and indicated that the search failed to indicate the presence of Native American sacred lands or traditional cultural properties within the immediate project area. SWCA mailed letters to each of the NAHC-listed contacts on June 4, 2007.

Two Native American groups responded to the letter (Appendix B). The Soboba Band of Luiseño Indians responded via a letter received by SWCA in June, 2007. The letter acknowledged that the project was

outside of their reservation lands, but stated that it falls within the bounds of the Tribal Traditional Use Areas. They requested the following: (1) inclusion in any further government to government consultation regarding the project; (2) copies of any archaeological and/or cultural resources documentation; and (3) that Cultural Resource Monitors from the Soboba Band of Luiseño Indians be present during any ground disturbing proceedings. The Ramona Band of Cahuilla Indians indicated they have no information to provide regarding the proposed project, but reserve the right to comment on the proposed project and request that they receive a copy of this cultural resources study.

METHODS

SURVEY

SWCA archaeologists John Covert and Gary King conducted an intensive pedestrian survey of the majority of the project alignment on July 19, 2007. Cultural Resources Project Manager Kevin Hunt surveyed an additional 1,250 linear feet on September 24, 2007. The alignment was intensively surveyed with transects spaced no greater than 15 meters. One parcel possessing an additional 1,250 linear feet or was not surveyed due to right-of-entry issues between the City and the landowner. The unsurveyed parcel is located east of SR 91 and west of the south end of Park Avenue (see Figure 2).

The project alignment was surveyed for prehistoric artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), historic debris (e.g., metal, glass, ceramics), soil discoloration that might indicate the presence of a cultural midden, soil depressions and other features indicative of the former presence of structures or buildings (e.g., postholes, foundations), and for standing structures thought to potentially have historical significance under the pertinent laws.

RESULTS AND IMPACT CONSIDERATIONS

The project alignment is in an area heavily modified by recent developments. Ground visibility was poor for identifying archaeological resources along most of the sewer alignment as the surveyed area included concrete covered golf paths and manicured fairways associated with the golf course at the eastern end of the proposed project, asphalt covered streets in the residential areas, and the grass covered outfields of conjoined baseball fields towards the western end of the proposed alignment. The only part of the survey with good visibility for archaeological resources was the extreme western end of the alignment which extends along Tequesquite Avenue; however, the ground surface surrounding the alignment has been disturbed by recent construction activities. Right-of-entry could not be acquired for one parcel that includes approximately 1,250 linear feet of the project alignment; this segment of the alignment was not survey for cultural resources.

No new archaeological sites, historic resources, or isolated artifacts were discovered during the pedestrian survey.

The three previously documented cultural resources present within the project area (CA-RIV-4495H, CA-RIV-4791H, and P-33-9772) were found using a hand-held GPS and visual inspection, and the potential for project-related impacts considered for each resource. Additionally, though CA-RIV-3284 (the Historic Chinatown) is located outside of the project alignment, this NRHP and Riverside Point of Historical Interest site is located adjacent to the project alignment and could potentially be subject to project-related impacts.

CA-RIV-4495H

CA-RIV-4495H (Riverside Canal) is located within the unsurveyed portion of the project alignment, and was not formally inspected or recorded. The portion of this resource that crosses the project alignment was, however, casually observed from approximately 0.25-mile distance. No comments on the condition of this resource can be made at this time. CA-RIV-4495H has been determined NRHP eligible and is listed in the CRHR. Any impacts to this resource would be significant unless mitigation measures are undertaken to reduce such impacts below a level of significance. It should be noted, however, that the proposed project would micro-tunnel under this resource, so it is presumed that it will not sustain project-related impacts.

CA-RIV-4791H

CA-RIV-4791H is a segment of the Lower Riverside Canal that now serves as a flood control channel. Prior evaluations found this potential resource ineligible for the National Register, California Register, or other local designation. The current survey revealed no visible evidence of the canal or other water conveyance system within the project alignment, despite verification of its purported location using a hand-held GPS. Given its previously asserted ineligibility to the National Register, California Register, or other local designation and fact that it crosses rather than extends along the proposed alignment, this resource is assumed to have been destroyed or piped and buried over. Any project-related impacts to CA-RIV-4791H would not be significant.

P-33-9772

P-33-9772 is the Victoria Avenue Bridge which spans the Tequesquite Arroyo and the proposed sewer alignment (Photograph 1). The bridge is listed on the National Register of Historic Places and is a City of Riverside Cultural Historical Resources Board Landmark. The project alignment crosses underneath and roughly perpendicular to the tall bridge. Any project-related impacts to the Victoria Avenue Bridge would be significant.

Photograph 1. Victoria Avenue Bridge.

CA-RIV-3284

The Riverside Chinatown Archaeological Site (CA-RIV-3284) is located adjacent to the project alignment. This NRHP and CRHR listed site is recorded as being capped with 10 feet of fill dirt. Any project-related impacts to this site would be significant.

RECOMMENDATIONS

Three previously recorded cultural resources (CA-RIV-4495H, CA-RIV-4791H, and P-33-9772) cross the project alignment; the historic Chinatown archaeological site is located adjacent to but outside the project area (Figure 4; also see Appendix C). Recommendations for each known resource are provided below, as well as general recommendations for the proposed project.

KNOWN RESOURCES

CA-RIV-4495H (UPPER RIVERSIDE CANAL)

A segment of this historic canal is located within a portion of the project alignment that was not surveyed. Consequently, the resource was not formally updated or re-evaluated. CA-RIV-4495H has been previously determined eligible for the NRHP and is listed in the CRHR. Any project-related impacts to this resource would be significant. Avoidance of this resource is recommended. Formal cultural resources survey where the project alignment meets this resource, including updating this resource on State of California Department of Parks and Recreation (DPR) 523 forms, is strongly recommended to assess the condition of the resource and the potential of the project to cause significant impacts to the canal. If the

resource cannot be avoided through tunneling under it or reengineering, project-related impacts can potentially be reduced below significant through mitigation measures that would likely include formal recordation (such as Historic American Buildings Survey/Historic American Engineering Record).

CA-RIV-4791H (LOWER RIVERSIDE CANAL)

As this resource has been previously identified as ineligible for the NRHP, CRHR, or other local designation, it is not considered significant under CEQA and as such, impacts to this resource would not be significant. No additional measures or study are recommended for CA-RIV-4791H.

P-33-9772 (VICTORIA AVENUE BRIDGE)

This resource is listed on the NRHP and is a City of Riverside Cultural Historical Resources Board Landmark. Any project-related impacts to this resource would be significant. Avoidance of the Victoria Avenue Bridge is recommended and should include safety fencing to protect the bridge (including footings) from construction impacts as well as a brief mention at a contractor safety meeting prior to the start of construction activities to alert construction personnel of the significance of the bridge. If the Victoria Avenue Bridge will be impacted by the proposed project, additional mitigation measures will be required.

Confidential Figure Removed

CA-RIV-3284 (RIVERSIDE CHINATOWN ARCHAEOLOGICAL SITE)

Ground-disturbing project construction activities near the National Register-listed Riverside Chinatown archaeological site (CA-RIV-3284) could potentially result in negative impacts to this resource. The southeastern portion of this site [CONFIDENTIAL LOCATIONAL DATA REMOVED] is known to have intact, subsurface structures. However, it is also known that these structures are covered by at least 10 feet of fill. For this reason, it is recommended that any trenching or ground-disturbing procedures within 300 feet of [CONFIDENTIAL LOCATIONAL DATA REMOVED] be monitored for cultural resources under the direction of a qualified archaeologist. In the event that cultural resources are exposed during construction, the monitor must be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities may continue in other areas. If the discovery proves significant under CEQA, additional work such as testing or data recovery may be warranted.

GENERAL RECOMMENDATIONS

Survey

The remaining approximately 1,250 linear feet of the project alignment should be surveyed for cultural resources. This portion of the project alignment, located between State Route 91 and the south end of Park Avenue, includes the NRHP-listed CA-RIV-4495H. If survey of this area is not completed prior to project construction, full-time archaeological monitoring of this portion is strongly recommended. Recommendations for CA-RIV-4495H are provided separately below.

Spot-Check Archaeological Monitoring

The proposed sewer alignment is located within a culturally sensitive area with many historic buildings; however, very few archaeological sites have been recorded in the vicinity. As a result, spot-check archaeological monitoring (8-16 hours per week) is recommended for portions of the project alignment outside those stipulated. This recommendation is based on the highly disturbed nature of the project alignment and the absence of observed archeological resources within the alignment. In the event that cultural resources are exposed during construction, the monitor must be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities may continue in other areas. If the discovery proves significant under CEQA, additional work such as testing or data recovery may be warranted.

The Soboba Band of Luiseño Indians requested that a Cultural Resources Monitor(s) be present during any ground disturbing proceedings. Due to the lack of known prehistoric archaeological sites in the project alignment, the lack of known sacred sites, and negative survey results for prehistoric archaeological sites or isolated artifacts, SWCA recommends that the presence of a Native American monitor is unnecessary for this project. In the event that prehistoric cultural resources are encountered during construction, SWCA recommends that the concerned Native American groups be contacted at that time.

Human Remains

The discovery of human remains is always a possibility; State of California Health and Safety Code Section 7050.5 covers these findings. This code section 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 human

remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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APPENDIX A:
Records Search Results

EASTERN INFORMATION CENTER

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

Department of Anthropology, University of California, Riverside, CA 92521-0418

(951) 827-5745 - Fax (951) 827-5409 - eickw@ucr.edu

Inyo, Mono, and Riverside Counties

June 6, 2007
RS #3982

Kevin Hunt
SWCA
625 Fair Oaks Avenue, Suite 190
South Pasadena, CA 91030

Re: Cultural Resource Records Search for the Tequesquite Arroyo Trunk Sewer Project (12947-191)

Dear Mr. Hunt:

We received your request on May 31, 2007 for a cultural resource records search for the Tequesquite Arroyo Trunk Sewer project located in various sections of T.2S, R.5W, SBBM, in the city of Riverside in Riverside County. We have reviewed our site records, maps, and manuscripts against the location map you provided.

Our records indicate that 30 cultural resource studies have been conducted within a half-mile radius of your project area. One of these studies (RI-3605) crosses the project area. Three additional studies provide overviews of cultural resources in the general project vicinity. All of these reports are listed on the attachment entitled "Archeological Reports" and are available upon request at 15¢/page plus $30/hour. The KEYWORD section of each citation lists the geographic area, quad name, listing of trinomials (when identified), report number in our manuscript files (RI #), and the number of pages per report.

Three cultural resource properties (33-3284 [CA-RIV-3284], 33-4495 [CA-RIV-4495], and 33-4791 [CA-RIV-4791]) intersect the project area. Our records indicate that 44 properties have been recorded within a half-mile radius of the project area. Copies of the records are included for your reference.

The above information is reflected on the enclosed map. Areas that have been surveyed are highlighted in yellow. Numbers marked in blue ink refer to the report number in our manuscript files (RI #). Cultural resource properties are marked in red; numbers in black refer to Trinomial designations, those in green to Primary Number designations. National Register properties are indicated in light blue.

Additional sources of information consulted are identified below.

National Register of Historic Places: no listed properties are located within the boundaries of the project area.

Office of Historic Preservation (OHP), Archaeological Determinations of Eligibility (ADOE): no listed properties are located within the boundaries of the project area.

Office of Historic Preservation (OHP), Directory of Properties in the Historic Property Data File (HPD): no listed properties are located within the boundaries of the project area.

Note: not all properties in the California Historical Resources Information System are listed in the OHP ADOE and HPD; the ADOE and HPD comprise lists of properties submitted to the OHP for review.

Copies of the 1942 Riverside 15' and 1901 Elsinore 30' USGS topographic maps are included for your reference.

As the Information Center for Riverside County, it is necessary that we receive a copy of <u>all</u> cultural resource reports and site information pertaining to this county in order to maintain our map and manuscript files. Confidential information provided with this records search regarding the location of cultural resources outside the boundaries of your project area should not be included in reports addressing the project area.

Sincerely,

Arabesque Said
Information Officer

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	Acreage ----- Survey	Acreage ----- Monitoring
RI-00030	1971	GARDNER, MICHAEL C.	ARCHAEOLOGICAL IMPACT EXPECTED FROM THE TEQUESQUITE ARROYO-BOX SPRINGS WASH FLOOD CONTROL PROJECT.	AUTHOR(S)	8	0	0	0
RI-00031	1971	GARDNER, MICHAEL C.	THE ARLINGTON CHANNEL FLOOD CONTROL PROJECT: EXPECTED IMPACT ON ARCHAEOLOGICAL RESOURCES.	AUTHOR(S) overview	6	0	0	0
RI-00127	1974	BARKER, JAMES P.	LETTER REPORT- ARCHAEOLOGICAL SURVEY OF THE CENTRAL AVENUE SHOPPING CENTER, CITY OF RIVERSIDE, CALIFORNIA.	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	1	0	11	0
RI-02050	1985	PERAULT, GORDON	PRELIMINARY HISTORIC INVENTORY - MARCH AIR FORCE BASE, CALIFORNIA	FIELDS AND SILVERMAN ARCHITECTS overview	132	0	640	0
RI-02307	1988	HAMPSON, R.P.; J. SORENSEN; S.K. GOLDBERG; M.T. SWANSON; J.ARNOLD	CULTURAL RESOURCES SURVEY, UPPER SANTA ANA RIVER, CALIFORNIA	GREENWOOD AND ASSOCIATES	158	15	3860	0
RI-02938	1990	DROVER, CHRISTOPHER E.	AN ARCHAEOLOGICAL ASSESSMENT OF THE MT. RUBIDOUX GOLF COURSE PROJECT RIVERSIDE COUNTY, CALIFORNIA.	AUTHOR(S)	10	1	130	0
RI-03001	1990	DROVER, CHRISTOPHER E.	ENVIRONMENTAL IMPACT EVALUATION: MY. RUBIDOUX GOLF COURSE PROJECT, RIVERSIDE, CALIFORNIA.	AUTHOR	9	1	130	0
RI-03122	1990	DROVER, CHRISTOPHER E.	AN ARCHAEOLOGICAL ASSESSMENT OF PARCEL MAP 26365, MIRA LOMA, CALIFORNIA	AUTHOR(S)	12	1	287	0
RI-03190	1990	PEAK AND ASSOCIATES	PART III, ADDENDUM TO: CULTURAL RESOURCES ASSESSMENT OF AT&T'S PROPOSED SAN BERNARDINO TO SAN DIEGO FIBER OPTIC CABLE, SAN BERNARDINO, RIVERSIDE, AND SAN DIEGO COUNTIES, CALIFORNIA	PEAK AND ASSOCIATES	15	9	129	0
RI-03286	1987	GREAT BASIN FOUNDATION (EDITOR)	WONG HO LEUN: AN AMERICAN CHINATOWN; VOLUME TWO--ARCHAEOLOGY		557	1	0	0
RI-03287	1987	GREAT BASIN FOUNDATION (EDITOR)	WONG HO LEUN: AN AMERICAN CHINATOWN; VOLUME ONE--HISTORY		406	1	0	0
RI-03301	1990	WHITE, ROBERT S.	AN ARCHAEOLOGICAL ASSESSMENT OF A 15-ACRE PARCEL AS SHOWN ON TPM 25722 LOCATED SOUTHEAST OF SAGE ROAD, RIVERSIDE COUNTY	ARCHAEOLOGICAL ASSOCIATES, LTD.	7	1	15	0

typically was 05301 last (see prior)

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	----- Acreage ----- Survey	Monitoring
RI-03491	1991	HALLARAN, KEVIN	THE GAGE CANAL: A NARRATIVE HISTORY [EXCERPT FROM DRAFT HAER REPORT, PP 108-180)	HALLARAN AND CHRISTOPHER FORD	84	1	0	0
RI-03605	1993	WLODARSKI, ROBERT J.	AN ARCHAEOLOGICAL SURVEY REPORT DOCUMENTING THE EFFECTS OF THE RCIC I-215 IMPROVEMENT PROJECT IN MORENO VALLEY, RIVERSIDE COUNTY, TO ORANGE SHOW ROAD IN THE CITY OF SAN BERNARDINO, SAN BERNARDINO COUNTY, CALIFORNIA.	HISTORICAL, ENVIRONMENTAL, ARCHAEOLOGICAL RESEARCH TEAM	107	7	~0	0
RI-03617	1993	TASKIRAN, AYSE	CULTURAL RESOURCES ASSESSMENT PROPOSED VONS MARKET LOCATED IN THE CANYON CREST VILLAGE, CITY OF RIVERSIDE	ARCHAEOLOGICAL RESEARCH UNIT, U.C. RIVERSIDE	34	2	11	0
RI-03893	1995	DILLON, BRIAN D.	ARCHAEOLOGICAL ASSESSMENT OF THE RIVERSIDE COGENERATION PROJECT ON THE SANTA ANA RIVER, RIVERSIDE COUNTY, CALIFORNIA	AUTHOR	74	3	150	0
RI-03969	1996	LOVE, BRUCE; BAI TOM TANG	HISTORICAL EXPLORATIONS AT NEWMAN PARK, TURN-OF-THE-CENTURY ARTIFACTS FROM OLD DOWNTOWN RIVERSIDE	CRM TECH	44	1	0	0
RI-04048	1997	LOVE, BRUCE; BAI "TOM" TANG	HISTORIC BUILDING EVALUATION REPORT THE JAMES WHITE HOUSE AND THE BENJAMIN ROCKHOLD HOUSE 4205 AND 4220 LEMON STREET, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	22	2	0	0
RI-04124	1998	MASON, ROGER; PHILIPPE LAPIN; WAYNE H. BONNER	CULTURAL RESOURCES RECORDS SEARCH AND SURVEY REPORT FOR A PACIFIC BELL MOBILE SERVICES TELECOMMUNICATIONS FACILITY: CM 154-08 CITY OF RIVERSIDE, CALIFORNIA	CHAMBERS GROUP, INC.	13	0	0	0
RI-04404	2000	JONES AND STOKES ASSOCIATES, INC.	FINAL CULTURAL RESOURCES INVENTORY REPORT FOR THE WILLIAMS COMMUNICATIONS, INC., FIBER OPTIC CABLE SYSTEM INSTALLATION PROJECT, RIVERSIDE TO SAN DIEGO, CALIFORNIA VOL I-IV.	JONES AND STOKES ASSOCIATES, INC.	252	20	12	0
RI-04451	1999	ALEXANDROWICZ, JOHN STEPHEN	CULTURAL RESOURCES MONITORING FOR THE TEQUESQUITE LANDFILL WELL AND GASLINE PROJECT, CITY OF RIVERSIDE, COUNTY OF RIVERSIDE, CALIFORNIA	ARCHAEOLOGICAL CONSULTING SERVICES	7	3	0	0

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	----- Acreage ----- Survey	Monitoring
RI-04481	2002	HISTORIC RESOURCE ASSOCIATES	DETERMINATION OF ELIGIBILITY FOR THE USDA, NATURAL RESOURCE CONSERVATION SERVICES (NRCS) AREA OFFICE/OLD UNITED STATES SALINITY LABORATORY, RIVERSIDE, CALIFORNIA	HISTORIC RESOURCE ASSOCIATES	22	1	0	0
RI-04793	2003	WLODARSKI, ROBERT J.	A PHASE I ARCHAEOLOGICAL STUDY: 5160 PALM DRIVE (AKA 4502 HIGH PLACE), CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	HISTORICAL, ENVIRONMENTAL, ARCHAEOLOGICAL, RESEARCH, TEAM	20	0	1	0
RI-04813	1993	NATIONAL PARK SERVICE, HAER	CALIFORNIA CITRUS HERITAGE RECORDING PROJECT: ARLINGTON HEIGHT CITRUS LANDSCAPE, GAGE IRRIGATION CANAL, NATIONAL ORANGE COMPANY PACKING HOUSE, VICTORIA BRIDGE, AND UNION PACIFIC RAILROAD BRIDGE	NATIONAL PARK SERVICE, HISTORIC AMERICAN ENGINEERING RECORD	307	3	0	0
RI-05056	2003	MCKENNA ET AL.	A PHASE I CULTURAL RESOURCES INVESTIGATION FOR THE PROPOSED CORONA FEEDER MASTER PLAN PROJECT AREA, RIVERSIDE COUNTY, CALIFORNIA	MCKENNA ET AL	176	4	31	0
RI-05173	2003	GOODWIN, RIORDAN	RESULTS OF THE CULTURAL RSOURC ASSESSMENT FOR THE FIDELITY FAMILY HOLDINGS FOUR LOTS IN THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	LSA ASSOCIATES, INC.	7	0	0	0
RI-05802	2002	LOVE, BRUCE, BAI "TOM" TANG; DANIEL BALLESTER; MARIAM DAHDUL	IDENTIFICATION AND EVALUATION OF HISTORIC PROPERTIES, DOWNTOWN COMMUTER RAIL STATION PARKING EXPANSION, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	22	0	10	0
RI-05873	2002	LOVE, BRUCE; BAI TANG; MICHAEL HOGAN; MARIAM DAHDUL	CULTURAL RESOURCES TECHNICAL REPORT, UCR LONG RANGE DEVELOPMENT PLAN	CRM TECH	28	6	1300	0
RI-05997	2003	TANG, BAI; MICHAEL HOGAN; MARIAM DAHDUL; CASEY TIBET, DANIEL BALLESTER; TERRY JACQUEMAIN; SCOTT CRULL	HISTORICAL/ARCHAEOLOGICAL RESOURCES SURVEY REPORT, ASSESSOR'S PARCEL NUMBERS 221-240-003, -004, AND -005, CITY OF RIVERSIDE COUNTY, CALIFORNIA	CRM TECH	30	1	20	0

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	----- Acreage ----- Survey	Monitoring
RI-06088	1998	BRICKER, DAVID	FIRST SUPPLEMENTAL HISTORIC PROPERTY SURVEY REPORT FOR THE IMPROVEMENT OF INTERSTATE ROUTE 215/STATE ROUTE 91/ STATE ROUTE 60, RIVERSIDE COUNTY, CA	CALTRANS- DISTRICT 8 overview	124	30	0	0
RI-06220	2006	EARTH TOUCH, INC.	NEW TOWER ("NT") SUBMISSION PACKET, FCC FORM 620: PACHAPPA HILL	EARTH TOUCH, INC.	72	0	~1	0
RI-06597	2005	TANG, BAI; MICHAEL HOGAN; CASEY TIBBET	HISTORIC BUILDING EVALUATION, 3138 PROSPECT AVENUE, IN THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA	CRM TECH	22	0	1	0
RI-06600	2006	JOSH SMALLWOOD	LETTER REPORT: RIVERSIDE CHINATOWN ARCHAEOLOGICAL SITE (CA-RIV-3284H), ASSESSOR'S PARCEL NOS. 217-005-003 AND -018, CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA	CRM TECH	9	1	~1	0

Eastern Information Center Report Listing

Report No.	Year	Author(s)	Title	Affiliation	Pages	Resources	Acreage — Survey	Acreage — Monitoring
RI-05301	2003	GOODWIN, RIORDAN	RESULTS OF THE CULTURAL RESOURCE ASSESSMENT FOR THE FIDALITY FAMILY HOLDINGS, ONE LOT IN THE CITY OF RIVERSIDE, RIVERSIDE COUNTY, CA	LSA ASSOCIATES	7	0	3	0

APPENDIX B:
Native American Consultation

SWCA Environmental Consultants
Pasadena Office
625 Fair Oaks Avenue, Suite 190
Tel 626 240-0587 Fax 626 240-0607

SWCA
Environmental Consultants

Fax

To:	Dave Singleton- California Native American Heritage Commission	**From:**	Kevin Hunt
Fax:	(916) 657-5390	**Pages:**	2
Phone:	(916) 653-6251	**Date:**	5/31/2007
Re:	Sacred lands file search request for a project in Riverside County	**CC:**	

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☑ **Please Reply** ☐ **Please Recycle**

• **Comments:**

Dear Mr. Singleton,

I am requesting a records search of the Sacred Lands File, and a list of appropriate Native American contacts for a project located within the City of Riverside, Riverside County, California. This project comprises a cultural resource survey of an approximately 4-mile long alignment for a proposed sewer replacement project. Known as the "Tequesquite Arroyo Trunk Sewer Project" the study area falls within the USGS 7.5-minute *Riverside East, CA* and *Riverside West, CA* quadrangles, including portions of Sections 25 and 26 of Township 2 South, Range 5 West, and an unplatted portion of the Jurupa Land Grant. The study area includes the entire length depicted in the attached figure. I am requesting the following information:

I am requesting the following information:

- Groups or individuals listed by the NAHC as contacts for Riverside County.
- Identification by the NAHC of any sacred lands in the area that are listed within the Sacred Lands File.

Thank you for your attention to this request.

Sincerely,

Kevin Hunt- SWCA Cultural Resources Project Manger

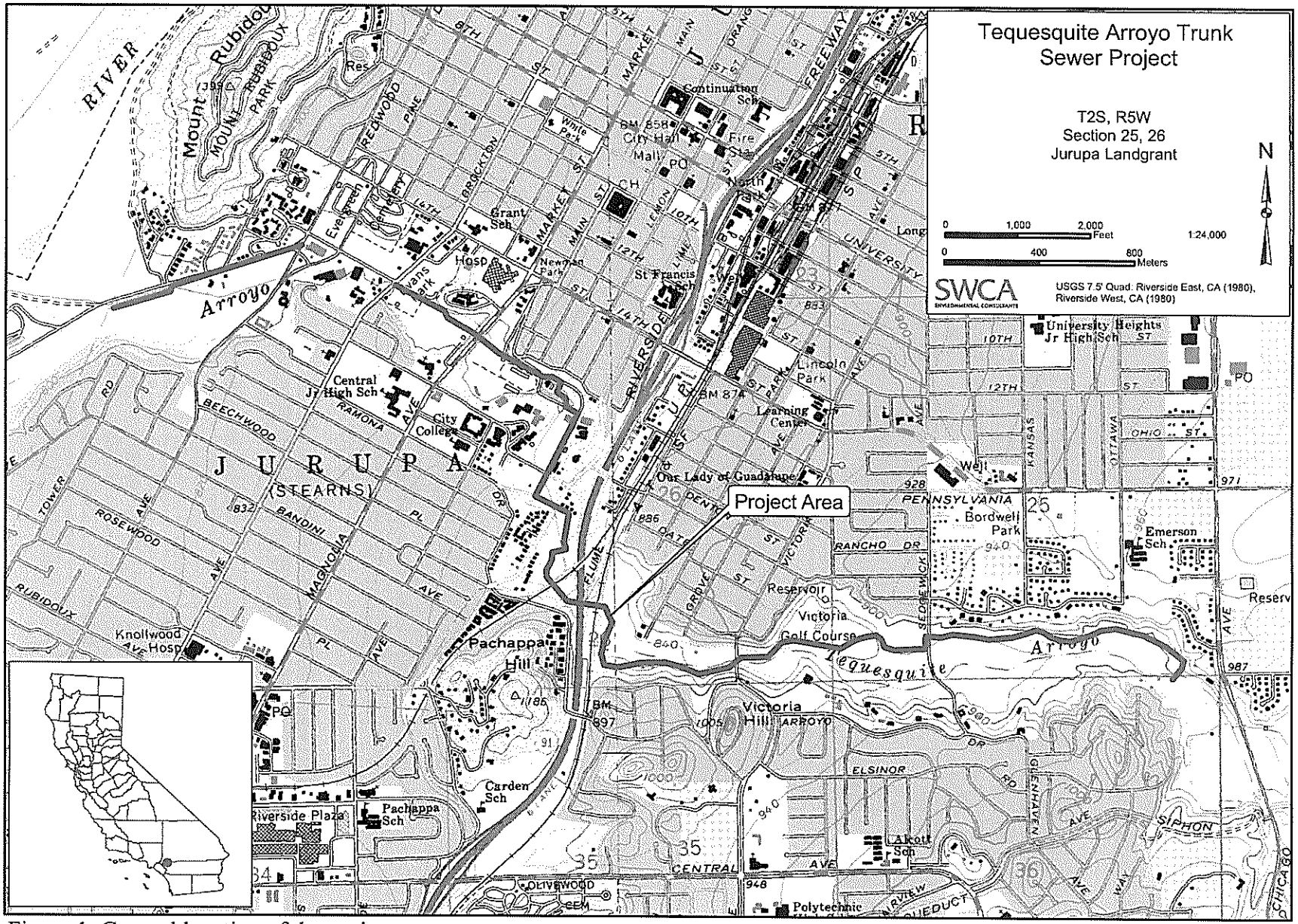

Figure 1. General location of the project area.

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

June 1, 2007

Kevin Hunt
Cultural Resources Project manager
SWCA
Pasadena office
625 Fair Oaks Avenue, Suite 190
So. Pasadena, CA 91030

Sent by FAX to: 626-240-0607
Number of pages: 3

Re: Proposed Tequesquite Arroyo Trunk Sewer Project; City of Riverside; Riverside County.

Dear Mr. Hunt:

The Native American Heritage Commission was able to perform a record search of its Sacred Lands File (SLF) for the affected project area. The SLF failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the Sacred Lands File does not guarantee the absence of cultural resources in any 'area of potential effect (APE).'

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the nearest tribes that may have knowledge of cultural resources in the project area. A List of Native American contacts are attached to assist you. The Commission makes no recommendation of a single individual or group over another. It is advisable to contact the person listed; if they cannot supply you with specific information about the impact on cultural resources, they may be able to refer you to another tribe or person knowledgeable of the cultural resources in or near the affected project area (APE).

Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Native American Contacts
Riverside County
May 31, 2007

Cahuilla Band of Indians
Anthony Madrigal, Jr., Interim-Chairperson
P.O. Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
(951) 763-2631

(951) 763-2632 Fax

Soboba Band of Mission Indians
Robert J. Salgado, Sr., Chairperson
P.O. Box 487 Luiseno
San Jacinto , CA 92581
varres@soboba-nsn.gov
(951) 654-2765
(951) 654-4198 - Fax

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resource Center
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 308-9295 Ext 8106
(951) 676-2768
(951) 506-9491 Fax

Ti'At Society
Cindi Alvitre
6602 Zelzah Avenue Gabrielino
Reseda , CA 91335
calvitre@yahoo.com
(714) 504-2468 Cell

Ramona Band of Mission Indians
Joseph Hamilton, vice chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Gabrieleno/Tongva Tribal Council
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
ChiefRBwife@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

San Manuel Band of Mission Indians
Henry Duro, Chairperson
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3370 Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 609 Cahuilla
Hemet , CA 92546
srtribaloffice@aol.com
(951) 658-5311
(951) 658-6733 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed Tequesquite Arroyo Trunk Sewer Project; located in the City of Riverside; Riverside County, California for which a Sacred Lands File search was requested.

Native American Contacts
Riverside County
May 31, 2007

Gabrielino/Tongva Council / Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva
Los Angeles , CA 90021
office @tongvatribe.net
(213) 489-5001 - Officer
(909) 262-9351 - cell
(213) 489-5002 Fax

Soboba Band of Luiseno Indians
Harold Arres, Cultural Resources Manager
P.O. Box 487 Luiseno
San Jacinto , CA 92581
harres@soboba-nsn.gov
(951) 654-2765
FAX: (951) 654-4198

Soboba Band of Luiseño Indians
Bennae Calac, Cultural Resource Director
P.O. Box 487 Luiseno
San Jacinto , CA 92581
(951) 663-8332
(951) 654-4198 - FAX

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 Luiseno
Temecula , CA 92593
tbrown@pechanga-nsn.gov
(951) 676-2768
(951) 695-1778 Fax

Willie Pink
48310 Pechanga Road Luiseno
Temecula , CA 92592
wjpink@hotmail.com
(909) 936-1216
Prefers e-mail contact

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed Tequesquite Arroyo Trunk Sewer Project, located in the City of Riverside; Riverside County, California for which a Sacred Lands File search was requested.

SWCA®
ENVIRONMENTAL CONSULTANTS
Sound Science. Creative Solutions.

Pasadena Office
625 Fair Oaks Avenue, Suite 190
South Pasadena, CA 91030
Tel 626.240.0587 Fax 626.240.0607
www.swca.com

June 4, 2007

Anthony Madrigal, Jr
Cahuilla Band of Indians
P.O. Box 391760
Anza, CA 92539

Dear Anthony Madrigal, Jr,

SWCA Environmental Consultants has been retained to conduct a cultural resource survey for a sewer replacement project, located in the city of Riverside, California.

As part of the process in identifying cultural resources issues on this project, the Native American Heritage Commission (NAHC) was contacted by SWCA to conduct a Sacred Lands File search and provide a list of Native American individuals and/or tribal organizations that may have knowledge of cultural resources in or near the project area. The NAHC search failed to indicate the presence of Native American Sacred Lands in the immediate vicinity of the project area, but did request that we consult with you directly regarding your knowledge of the presence of cultural resources that may be impacted by this project. This letter is a result of that consultation.

This project comprises a 4-mile alignment, located within Tequesquite Arroyo, east of the Santa Ana River. The study area falls within portions of the USGS 7.5-minute *Riverside East, and Riverside West,* CA quadrangles. Specifically, the project is located Township 2 South, Range 5 West, Sections 25 and 26 (see enclosed map).

If you have any knowledge of cultural resources that may exists within or near the project area and wish to have your concerns considered, please contact Kevin Hunt at (626) 240-0587, khunt@swca.com, or the above address, at your earliest convenience.

This consultation is project-specific and is not intended to constitute SB 18 consultation, should that be required for this project.

We would greatly appreciate hearing from you if you know of any cultural resources or other concerns that might be within the proposed project area. Thank you for your assistance.

SWCA
ENVIRONMENTAL CONSULTANTS

Sincerely,
SWCA Environmental Consultants

Kevin Hunt
Project Manager – Cultural Resources

Enclosure: Map

Mission:

Educate and communicate the rich heritage of Soboba peoples; Lead and assist individuals, organizations and communities in understanding the needs and concerns of Native American monitoring of traditional sites; Advocate Native American participation in state agencies and boards; Advocate legislation and enforcement of laws affecting Native American peoples and protecting historical and archaeological resources.

June 7, 2007

Attn: Kevin Hunt
SWCA
625 Fair Oaks Ave, Suite 190
South Pasadena, CA 91030

Re: Tequesquite Arroyo Trunk Sewer Project

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project(s) has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does falls within the bounds of our Tribal Traditional Use Areas.

Soboba Band of Luiseño Indians is requesting the following:

1. Further **government to government** consultation.

2. Copies of archeological and/or cultural resource documentation.

3. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests Cultural Resource Monitor(s) to be present during any ground disturbing proceedings.

[SPECIAL NOTE (for projects other than cell towers): *If* this project is associated with a city or county specific plan or general plan action it is subject to the provisions of SB18-Tradtional Tribal Cultural Places (law became effective January 1, 2005) and will require the city or county to participate in **formal, government-to-government** consultation with the Tribe. If the city or county are your client, you may wish to make them aware of this requirement. By law, they are required to contact the Tribe.]

Sincerely,

Erica Helms
Soboba Band of Luiseño Indians
Phone (951) 487-8268
Cell (951) 663-8333
ehelms@soboba-nsn.gov

From: John Gomez [pechangajg@msn.com]
Sent: Friday, July 06, 2007 9:41 AM
To: Kevin Hunt
Subject: Riverside City, Sewer replacement project

Dear Mr. Hunt:

The Ramona Band of Cahuilla Indians appreciates the opportunity to consult with you regarding the proposed project listed above.

The Ramona Band of Cahuilla Indians is concerned about the protection of unique and irreplaceable cultural resources, such as Cahuilla village and burial sites and archaeological items that may be displaced by ground-disturbing work associated with any project within the aboriginal homelands of the Cahuilla people.

The Ramona Band of Cahuilla Indians is also concerned about the proper and lawful treatment of any cultural or ceremonial items, Native American human remains, or sacred items discovered during planning and/or construction of the project.

At this time, the Ramona Band of Cahuilla Indians has no information to provide regarding cultural resources that may be located within the project area(s) or which may be impacted by development of the proposed project.

However, the Ramona Band of Cahuilla Indians reserves the right to provide comments regarding the proposed Project upon review of the findings of the cultural resources assessment for the subject property. Please forward a copy of the cultural resources study/investigation of the above referenced property to the address listed above.

The Ramona Band of Cahuilla Indians appreciates the opportunity to consult regarding the proposed project(s).

Sincerely,

John A. Gomez, Jr.
Cultural Resources Coordinator
Ramona Band of Cahuilla Indians

Confidential
APPENDIX C:
Site Records for Potentially Impacted Cultural Resources

LIMITED ENVIRONMENTAL INVESTIGATION
TEQUESQUITE ARROYO TRUNK
SEWER ALIGNMENT
PHASES I AND II
RIVERSIDE, CALIFORNIA
PREPARED FOR
BIRGE ENGINEERING, INCORPORATED
JOB NO. 08812-9

C.H.J. Incorporated
1355 E. Cooley Drive, Colton, CA 92324 ◆ Phone (909) 824-7210 ◆ Fax (909) 824-7209
15345 Anacapa Road, Suite D, Victorville, CA 92392 ◆ Phone (760) 243-0506 ◆ Fax (760) 243-1225

February 2, 2009

Birge Engineering, Inc.
600 North Mountain Avenue, Suite B204
Upland, California 91786
Attention: Mr. Steven B. Frieson

Job No. 08812-9

Dear Mr. Frieson:

Attached is the Limited Environmental Investigation report prepared for the proposed Tequesquite Arroyo Trunk Sewer Alignment - Phases I and II, in Riverside, California.

We appreciate the opportunity to provide environmental assessment services for this project. If you should have questions or comments concerning this report, please contact this firm at your convenience.

Respectfully submitted,
C.H.J., INCORPORATED

Ann Laudermilk

Ann Laudermilk, R.E.A.
Environmental Project Manager

AL/RJJ:ndt

Distribution: Birge Engineering, Inc. (6)

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- "B" - Environmental Database Search Report
- "C" - Reviewed Aerial Photographs
- "D" - References

LIMITED ENVIRONMENTAL INVESTIGATION
TEQUESQUITE ARROYO TRUNK
SEWER ALIGNMENT
PHASES I AND II
RIVERSIDE, CALIFORNIA
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1.0 INTRODUCTION

A limited environmental investigation was conducted for the project alignment by C.H.J., Incorporated (CHJ). The purpose of the investigation was to identify the presence of environmentally significant issues related to soil or groundwater contamination along the proposed pipeline alignment which could have a negative impact on the project during construction.

2.0 SCOPE OF WORK

The scope of work for the limited environmental investigation was outlined in our proposal letter, dated November 12, 2008, as follows:

- Review historical aerial photographs in order to evaluate a general sequence of events regarding past land use
- Research and review County, State, and Federal databases, including but not limited to, current and historic known hazardous waste sites, Underground Storage Tank (UST) sites, Leaking Underground Storage Tank (LUST) sites, and landfill sites, as compiled by a nationwide regulatory agency database company, Environmental Data Resources (EDR)
- Observe the alignment and immediately adjacent areas, with particular attention to the sites identified in the EDR report

Additional tasks included:

- Review online databases including the State Water Resources Control Board GeoTracker database and the DTSC Envirostor database for information regarding contaminated sites northeast of the project alignment in downtown Riverside, California

- Review County Department of Environmental Health Hazardous Materials Division (DEH) records for RCC tanks and one historical UST identified in the EDR report
- Interview the Director of Facilities Maintenance and Operations of RCC for information regarding RCC's ASTs and USTs

Based on the plans provided, the pipeline will have an invert depth generally 15 feet or less below existing grades. However, there are several areas along the alignment where deeper installation will be necessary by means of jack-and-bore construction to avoid existing utility lines and structures. The area of study for the database review encompassed a corridor approximately 1/8 mile wide, with the alignment in the center of the corridor. The site observations provided field verification of the identified facilities and determination of the proximity to the area of construction, as well as identification of any additional areas of concern along the project alignment.

3.0 SITE DESCRIPTION

3.1 Alignment

Phases I and II of the project consist of the design and construction of approximately 4 miles of 30-inch and 42-inch diameter pipeline to replace an existing sewer trunk main. From east to west, Phase I begins on Brooks Street, west of the 91 Freeway, is routed through the Riverside Community College (RCC) campus, crosses Magnolia Avenue, and crosses the north portion of the Evans Sports Complex to Brockton Avenue. Resuming at Palm Avenue, Phase I of the alignment follows Tequesquite Avenue toward the west, adjacent to the proposed Tequesquite Park. No sewer main replacement is planned between Brockton Avenue and Palm Avenue.

Beginning at the eastern end of Phase I, Phase II of the alignment extends from Brooks Street under the 91 Freeway and the UP and BNSF Railroads, then trends south toward the Tequesquite Arroyo. The alignment generally follows the arroyo toward the east, under the Victoria Avenue Bridge, then through the Victoria Club, ending near Chicago Avenue in the newly developed Andulka Park.

3.2 Site and Vicinity Topography

Topographic maps indicate that the east end of the alignment is mapped at an approximate elevation of 900 feet above mean sea level (amsl) and that the west end of the alignment is mapped at an approximate elevation of 740 feet amsl. The alignment generally follows a natural drainage pattern in a topographic low for the area. The overall slope for the region is a gentle downward grade toward the Santa Ana River to the west. There are hills south of the central portion of the alignment (to approximately 1,100 feet amsl), and Mount Rubidoux (approximately 1,300 feet amsl) is located north of the west end of the alignment.

3.3 Groundwater

Groundwater was encountered within four of the 16 exploratory borings drilled for a concurrent geotechnical investigation conducted by CHJ for Phase I of the project alignment. Groundwater was reached at 17-1/2 feet below ground surface (bgs) in Boring B-5 at Tequesquite and Palm, 21 feet bgs in Boring B-4 on Tequesquite west of Palm, at 26-1/2 feet bgs in Boring B-16 on Tequesquite east of Brockton, and 31 feet bgs in Boring B-6 in the RCC parking lot east of Magnolia Avenue. Groundwater was not encountered in remaining borings (up to 50 feet bgs) east of Boring B-6 to the east end of Phase I at the 91 Freeway. Water well records compiled by the Western Municipal Water District (2007) show a depth to groundwater of 35.43 feet bgs in State Well No. 02S-05W-36A (east end of Phase II alignment near Andulka Park) in December of 2006. Shallow groundwater encountered along the project alignment is suspected to be perched groundwater within the younger alluvium of the Tequesquite Arroyo wash area.

The subject site is located in the Riverside Hydrologic Subarea of the Santa Ana Drainage Province (California Department of Water Resources, 1977). The regional topography indicates that the groundwater flow direction in the project vicinity is generally to the west, toward the Santa Ana River. Groundwater monitoring reports for several of the LUST facilities northeast of the project alignment in downtown Riverside, as found on the DTSC's GeoTracker website, indicate a generally southwesterly groundwater flow direction from the downtown area toward the project alignment.

3.4 Site Reconnaissance

The site reconnaissance was conducted on January 21, 2009. The purposes of the site observation were to verify the proximity of facilities identified on regulatory databases and to identify additional businesses, structures, or field conditions which may indicate areas of potential environmental impact related to soil or groundwater contamination along the project alignment. No addresses or facilities on the Phase II portion of the alignment were identified on regulatory databases, and the majority of the Phase II alignment is within private property and the Victoria Club Golf Course.

3.4.1 Phase I

Brooks Street to Saunders Street

The southeast end of Phase I of the alignment begins within an area of residential apartments. A residential address was identified in the regulatory database report, as described in section 4.1; however, no contamination was indicated. The alignment crosses Olivewood Avenue, with parking lots on two adjacent corners (Parking Lots U and Q), into RCC Parking Lot F. The alignment parallels the concrete-lined storm drain channel through Parking Lot F to Saunders Street. The Gage Canal pump house is located in the northeast corner of Parking Lot F. There are no contamination concerns along this portion of the alignment.

Saunders Street to Parking Lot L

The alignment along Saunders Street passes adjacent to the Maintenance and Operations Department of RCC. County DEH records indicated that RCC has had four USTs that were removed between 1986 and 1995. Records indicated that only one of the four USTs, a 1,000-gallon gasoline UST, was located in the Maintenance and Operations area. Contamination was not encountered during tank removal in 1990. See Section 4.3 for more information regarding the RCC USTs. Mr. Ralph Perez, Director of Facilities Maintenance and Operations for RCC, was contacted for information regarding hazardous materials use and storage within the maintenance yard and on the campus in general. Currently there are two 1,000-gallon unleaded gasoline aboveground storage tanks (ASTs) utilized by the college. Mr. Perez was unfamiliar with the previous UST; however, he reported that the ASTs are in the same location as documented for the UST. Mr. Perez reported two clarifiers on campus. One is located on the

maintenance yard east of the main office building. The second clarifier is located in the south central portion of the campus at the Automotive Technology department.

Parking Lot G, a series of classrooms, and an athletic field are located adjacent to the west of Saunders Street. Adjacent to the east of Saunders Street, north of the Maintenance and Operations Department, are a warehouse used for dry goods storage, a pilates studio, and a gymnasium. There are no contamination concerns along this portion of the alignment.

Parking Lot L to Parking Lot Y

The alignment follows the north edge of RCC Parking Lot L, north of the Cutter Pool facility, between two office buildings and Wheelock Field, into Parking Lot Y. North of the alignment in the Parking Lot L area there is a slope and the Riverside Press Enterprise facility. North of the alignment in the Cutter Pool area there is a slope with residential properties at the top. East of Parking Lot Y the pipeline crosses beneath the concrete-lined storm drain channel. There are no contamination concerns along this portion of the alignment.

Magnolia Avenue to Brockton Avenue

The alignment will be bored beneath Magnolia Avenue and enter the Samuel Evans Sports Complex. Jack-and-bore construction will also be utilized within portions of the sports complex. The alignment exits the park onto a paved road/driveway, passes through the center median of the driveway, and ends at Brockton Avenue. Adjacent facilities to the north are a church and parking lots for medical office buildings. The Riverside Community Hospital is located adjacent to the north of the church. Adjacent facilities to the south of the alignment are the sports park, parking lots for medical offices, and medical offices located at 4646 Brockton Avenue. One facility at 4646 Brockton Avenue was identified on the regulatory database review, as described in section 4.1. It is a radiology lab within the medical office building. There are no indications of contamination related to the facility. There are no contamination concerns along this portion of the alignment.

Palm Avenue to End of Phase I

There is no sewer main replacement between Brockton Avenue and Palm Avenue. Phase I of the alignment begins again at the center line of Palm Avenue at Tequesquite Avenue (southern segment), then trends west-southwest along Tequesquite Avenue approximately 1/2 mile to the existing Santa Ana Trunk Sewer connection. Residential development is located north of Tequesquite Avenue, and vacant land is located south of Tequesquite Avenue. Near the intersection of Palm Avenue and Tequesquite Avenue, there are two facilities identified in the regulatory database review. One is a drycleaner located in a shopping plaza over 500 feet southeast of the pipeline. Contamination related to the drycleaner is not considered to have a potential impact on the pipeline construction. The second facility is a historical UST at the nursing home at 4580 Palm Avenue, adjacent to the pipeline alignment. The location of the UST, the date, or other details of the removal were not indicated on the HIST UST database. The facility was not identified on the LUST databases; therefore, the historical UST is considered to have a low potential impact on the construction project. A records search request was submitted to the County DEH for additional information; however, it was not complete by the date this report was issued. Pertinent results will be reviewed and submitted as they become available. An automotive repair shop, Riverside Carburetor and Electric, was located south of the alignment, south of the intersection of Palm Avenue and Wong Way. The repair shop was not identified on any of the regulatory databases and is not considered to be a source of contamination. There are no significant contamination concerns along this portion of the alignment.

3.4.2 Phase II

Brooks Street to Victoria Avenue

The southwest end of Phase II of the alignment begins at Brooks Street. The alignment crosses beneath the 91 Freeway and two railroad tracks by jack-and-bore construction and emerges within the private residential parcel with the address of 4891 Howard Street. The private property was not visible from the street due to surrounding trees. Recent online aerial photographs indicate a large structure that appears to be a greenhouse. The alignment continues on private property toward the south, following the bottom of the slope, and parallel to the railroad tracks toward the Tequesquite Arroyo. The alignment generally follows the arroyo east to Victoria Avenue. The property adjacent to the alignment in this area is

generally vacant and undeveloped. The wash area is heavily vegetated. Isolated areas of trash and debris were noted within the wash area. Surrounding properties to the north and south are residential. There was no access to private properties between Park Avenue and Victoria Avenue. There are no contamination concerns along this portion of the alignment.

Victoria Avenue to Andulka Park

After passing beneath the Victoria Avenue bridge, the alignment crosses several private residential parcels before it enters the property of the Victoria Club. The alignment generally follows the northern portion of the golf course. The final segment of the alignment turns to the south at the eastern end of the golf course and ends in the northern portion of the newly developed Andulka Park near Chicago Avenue. Properties adjacent to the alignment from Victoria Avenue to Andulka Park consist of golf course and residential parcels. The maintenance facility for the Victoria Club is located on the south side of the property, east of Sedgewick Avenue, approximately 1,250 feet south of the project alignment. There are no contamination concerns along this portion of the alignment.

4.0 RECORDS REVIEW

4.1 Database Review Within Project Corridor

County, State, and Federal listings were compiled and searched by a nationwide regulatory agency database company, EDR, and reviewed by CHJ. The listings/databases were searched for sites located within a 1/8-mile corridor, with the project alignment along the center of the corridor. The coordinates of the alignment were smoothed for mapping purposes where they deviated less than 30 feet from the mapped line. The approximately 330-foot distance searched on each side of the alignment encompassed the 250-foot proposed search distance. All databases typically searched in accordance with the standards promulgated by the ASTM for Phase I Environmental Site Assessments (ASTM Standard E 1527-05) were searched; however, the search distance for all databases was restricted to the 1/8-mile corridor.

The database findings are summarized in the following table. The Comments section includes conclusions regarding the potential impact to the construction of the pipeline.

Facility/Address	Database(s)*	Comments
4580 Palm Avenue	HIST UST	One gasoline UST (tank capacity and date unspecified) was reported at the nursing home address. The address is generally upgradient of the pipeline alignment; however, the location of the UST on the parcel is unknown. Shallow groundwater at 17-1/2 ft bgs was recently encountered in CHJ geotechnical Boring B-5, across Palm Avenue. There is no documentation of leaking or contamination on available databases, including the LUST databases. A County DEH records request was submitted for information regarding the removal of the UST. Conclusion: Although the potential for contamination in the construction area is considered to be low based on the absence of the facility on databases indicating contamination, the historical UST may be a source of soil and/or shallow groundwater contamination in the area of the alignment near Palm Avenue. County DEH records may provide additional documentation regarding the removal of the tank and will be submitted as it becomes available.
Pine Center Cleaners 4644 Pine Street	RCRA-SQG FINDS HAZNET SLIC DRYCLEANERS	RCRA reports the facility as a SQG since 1988. Records indicate that the facility is not a recycler, treater, transporter, storer, or disposer of hazardous waste and that there is no underground injection activity. HAZNET records (undated) indicate several removals of between 0.04 and 0.2 tons of halogenated solvents. SLIC records indicate that the facility is a Cleanup Program Site, type listed as soil and groundwater. The date of the information is unspecified. The location is greater than 500 feet from the nearest pipeline alignment and is generally equal in gradient with the alignment Conclusion: Due to the distance and relative hydraulic position of the facility, any soil or groundwater contamination that may exist at the drycleaner facility is considered to have a very low potential impact on the construction project.
Computerized Diagnostic Imaging (within a medical office building) 4646 Brockton Avenue	RCRA-SQG FINDS HAZNET	RCRA reports the facility as a SQG since 1996. Records indicate that the facility is not a recycler, treater, transporter, storer, or disposer of hazardous waste and that there is no underground injection activity. HAZNET records (undated) indicate several removals of between 0.45 and 1.86 tons of photochemicals/photoprocessing waste. Conclusion: No indication of any release of hazardous waste or contamination was reported. No potential impact on the construction project.

Facility/Address	Database(s)*	Comments
5109 Boxwood Place, Apt. 2	HAZNET	HAZNET records (undated) indicate the removal of 0.18 tons of inorganic solid waste and 0.075 tons of liquid with a pH of less than 2 (acid) from a residence. Conclusion: No indication of any release of hazardous waste or contamination was reported. No potential impact on the construction project.
City of Riverside Tequesquite Landfill	(EDR's Unmappable List) HIST UST also listed on DTSC GeoTracker website	The former Tequesquite Landfill (120 acres, Class III) is located near the western end of the pipeline alignment, generally adjacent to the west-southwest. The landfill has not accepted solid waste since 1985. The landfill has Leaking Underground Storage Tank (LUST) records that indicate soil contamination by gasoline discovered in 1982. Excavation and disposal occurred in 1990, and the case was closed in 1992. Conclusion: The former landfill is located downgradient of the project alignment; therefore, any soil contamination is not considered to have a potential impact on the construction project

*** Database Descriptions**

The Hazardous Substance Storage Container Database (HIST UST) is one of three state historical listings of UST sites searched by EDR. The HIST UST database was last updated in October of 1990.

The USEPA Resource Conservation and Recovery Act Information (RCRA) is a comprehensive information system that includes selective information on sites which generate, transport, treat, and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) of 1976. RCRA Small Quantity Generators (SQGs) are defined as generating between 100 and 1,000 kg of hazardous waste per month. The RCRA-SQG database was last updated in September of 2008.

The Facility Index System/Facility Registry System (FINDS) list is a federal database which contains facility information, as well as 'pointers' to other sources (databases) that contain more detail. The FINDS database was last updated in October of 2008.

The Hazardous Waste Facility and Manifest (HAZNET) database is a state listing provided by the California EPA and lists sites with hazardous waste transportation manifests, as provided by the DTSC. The HAZNET database was last updated in December of 2006.

The California Spills, Leaks, Investigations and Cleanup Listing (SLIC) database is provided by the State Water Resources Control Board. The SLIC listing contains information on unauthorized discharges from spills and leaks, other than from USTs or other regulated sites. The SLIC database was last updated in November of 2008.

The DRYCLEANERS database is a state listing of drycleaner related facilities with CA EPA identification numbers. (Most RCRA generators, transporters and disposal facilities need an ID number to handle, store and/or treat hazardous waste.) The database was last updated in September of 2008.

EDR identified 19 facilities on regulatory databases that were considered to be unmappable based on insufficient information. Based on the information in the EDR report, the site reconnaissance, and mapping based on the information provided, 18 of the unmapped facilities were considered to be located outside of the project corridor and project vicinity. The listings for the City of Riverside Tequesquite Landfill are summarized in the table above.

The full EDR report is included as Enclosure "B". Additional explanations of the federal and state listings/databases are provided in the portion of the EDR report entitled "Description of Databases Searched".

4.2 Database Review Upgradient of Project Alignment

The State Water Resources Control Board GeoTracker database and the California Department of Toxic Substances Control Envirostor database were accessed online for information regarding facilities upgradient of the project corridor. Several facilities in the downtown Riverside area with a history of contamination, primarily due to leaking USTs, were identified. The online databases mapped 14 LUST facilities within approximately 1/2 mile of the project alignment. Two of the facilities are beyond the corridor searched by EDR, but within 1,000 feet of the pipeline alignment. The remaining 12 facilities are between 1,000 feet and 1/2 mile of the alignment. Two of the LUST sites are located east of the 91 Freeway; however, the closest point on the alignment is west of the freeway. The available information for each LUST site varied. The following table summarizes the type of contamination and case status for each address.

LUST Address	Type of Contamination	Case Status
4616 Vine Street (East of 91)	Soil - Gasoline	Closed 1992
4526 Commerce Street (East of 91)	Soil and Groundwater - Gasoline	Open, Remediation ongoing
3870 Mulberry Street	Soil - Gasoline	Closed 1996
3304 14th Street	Soil and Groundwater - Gasoline	Closed 2008
3315 14th Street	Soil and Groundwater - Gasoline	Closed 2008
4401 Magnolia Avenue	Soil - Gasoline	Closed 2003
4293 Orange Street	Soil and Groundwater - Gasoline	Open, Verification Monitoring
4445 Magnolia Avenue	Soil - Diesel	Closed 1989
4395 Market Street	Soil and Groundwater - Gasoline	Open, Remediation ongoing
4336 Market Street	Soil and Groundwater - Solvents	Open, Remediation ongoing
4491 Brockton Avenue	Soil and Groundwater - Gasoline	Open, Remediation ongoing
4279 El Dorado Street	Soil - Gasoline	Closed 1995
4271 Market Street	Soil and Groundwater - Gasoline	Open, Remediation ongoing
4150 Market Street	Soil - Gasoline, Waste Oil	Closed 1997

Groundwater monitoring reports for several of the LUST facilities northeast of the project alignment are available on the DTSC GeoTracker website. Data indicate a generally southwesterly groundwater flow direction from the downtown area toward the project alignment. Depth to groundwater data collected in recent years from monitoring wells east of the 91 Freeway near 14th Street indicate a range of approximately 90 to 110 feet bgs. The screened intervals of these monitoring wells begin at approximately 80 feet bgs, which is within the regional drinking water aquifer. Depth to groundwater data collected in recent years from monitoring wells downtown near 14th and Market Streets indicate a range of approximately 60 to 70 feet bgs. The screened intervals of these monitoring wells begin at approximately 50 feet bgs, which is within the regional drinking water aquifer.

Groundwater at depth along the project alignment may be affected by upgradient contamination sources. Groundwater encountered within the approximately 25 feet of soil disturbed during construction; however, is suspected to be perched groundwater within the younger alluvium of the wash area. Perched

groundwater along the project alignment is not expected to be continuous with shallow groundwater that may exist at LUST locations between 1,000 feet and 1/2 mile from the alignment. Groundwater contamination related to upgradient LUST facilities is not considered to have a potential impact on the construction project.

Due to the extended distance from the subject site alignment, soil contamination at the identified LUST facilities is not considered to have a potential impact on the construction project.

4.3 County of Riverside, Department of Environmental Health Records

Requests for records reviews specific to two facilities adjacent to the project alignment with known USTs were submitted to the DEH. The presence of underground tanks does not necessarily indicate the existence of contamination. However, the information provided by the DEH may indicate if there are potential contamination sources at, or in the vicinity of, the subject site.

The records review for RCC was completed on January 29, 2009. There were records for a total of four USTs on campus:

- 280-gallon tank used for paint thinner (Stoddard solvent), location listed as Automotive Repair Instructional Facility (no map), removed in June of 1993, soil samples indicated no contamination, County issued a no further action letter in November of 1993
- 550-gallon tank used for waste oil, installed in 1979, location listed as Automotive Technology Shop with a map indicating the area south of Terracina Drive and east of Riverside Avenue, removed in April of 1995, soil samples indicated no contamination, County issued a no further action letter in May of 1995
- 2,000-gallon tank used for weed oil, no location given, removed in March 1986 with no permit, soil samples indicated very low concentration of hydrocarbons (5.9 mg/Kg TPH by 418.1) beneath tank, County required permit and paperwork to be submitted in 1991 for closure
- 1,000-gallon tank used for regular gasoline, installed in 1979, located approximately 100 feet north of the maintenance building adjacent to Saunders Street with associated dispenser island, both removed in August of 1990, soil samples indicated no contamination

The only UST known or suspected of being near the project alignment is the 1,000-gallon gasoline UST within the Maintenance and Operations yard. Although the removal was in 1990, and soil sampling was minimal, the results were negative; therefore, there is no indication that any residual soil contamination will be encountered during the pipeline construction project.

The DEH records search for 4580 Palm Avenue was not complete at the time of issuance of this report; therefore, pertinent results of the review (if any) will be documented in an addendum to this report.

5.0 AERIAL PHOTOGRAPH REVIEW

Aerial photographs taken in **1931**, **1938**, **1953**, **1967**, **1977**, **1990**, **1994**, **2002**, and **2005**, as compiled by EDR, were reviewed and are included in Enclosure "C". Google Earth images were used to complete the recent (2005) set of photographs. Our review of these photographs indicated that portions of the project alignment have historically crossed through agricultural areas. Once development occurred in vacant or agricultural areas, uses did not appear to change significantly over time. RCC and the Victoria Club were developed from the time of the earliest photographs reviewed. No significant features were identified on aerial photographs that indicated areas of environmental concern along the project alignment. The following table summarizes the findings of the aerial photograph review:

Year	**Tequesquite Avenue, west end of Phase I to Palm Avenue**
1931	Tequesquite Avenue appeared to be a dirt road. Groves, vacant land, one residential-type structure north of road. Vacant land, residential-type structure with several outbuildings including two large barns or sheds south of road
1938 - 1953	No significant changes
1967	Residential development north of Tequesquite (paved). Palm Avenue, Pine Avenue, and Wong Way developed. Commercial-type structure south of Wong Way and Palm Avenue. Commercial/retail structure currently existing south of Pine Avenue developed
1977	Structure (currently existing nursing home) developed on southeast corner of Palm Avenue and Tequesquite Avenue. No other significant changes
1990	Additional residential development north of Tequesquite Avenue. Residence and outbuildings removed south of Tequesquite Avenue
1994 - 2005	No significant changes

	Brockton Avenue to Magnolia Avenue
1931	Small dirt road through generally vacant undeveloped land
1938	The church was developed north of the alignment. Appeared to be a baseball field also to the north. Generally vacant fields south of alignment
1953	No significant changes
1967	Two additional baseball fields were developed south of the alignment (one in the location of the current Evans Park). No significant changes to the north
1977	No significant changes
1990	Parking lot (medical offices) paved north of east portion. Evans Park developed as it currently exists.
1994	No significant changes
2002	Medical offices and parking lot developed south of east portion. No other significant changes
2005	No significant changes
	RCC Campus to Railroad Tracks
1931	Parking lot areas appeared vacant and unpaved. Track was in place. Storm drain channel was in place. Some residential development north of alignment. Groves east and west of Saunders. One building was in place on southwest corner of maintenance area at Saunders and Ramona. Area east of Olivewood appeared to be residential and row crops
1938	Additional residential development north of RCC. Olivewood and Ramona Drive were paved. Storm drain channel noted. No other significant changes
1953	Vacant field and Parking Lot G west of Saunders. Gymnasium and two maintenance buildings east of Saunders.
1967	Cutter Pool and Parking Lot L were developed. 91 Freeway developed west of railroad tracks. Commercial/industrial buildings and parking lots developed north of Saunders Street at Parking Lot L. No other significant changes
1977	Residential development in progress east of Olivewood (Brooks Street). No other significant changes
1990	Apartment buildings developed in Brooks Street area. No other significant changes
1994	Parking Lot U paved. No other significant changes
2002	Parking Lot Y paved. No other significant changes
2005	Offices and classrooms (Lovekin Complex) were located on the previous athletic field adjacent to west of Saunders Street. No other significant changes

	Railroad Tracks to Victoria Avenue
1931	Both rail lines were in place. Agricultural uses (row crops and groves) along tracks and arroyo to Victoria Avenue
1938	No significant changes
1953	Residential development north of alignment. No other significant changes
1967	Agricultural uses appeared to be ceased. Parcels appeared to be vacant. No other significant changes
1977	No significant changes
1990	Row crops appeared to be planted on one property adjacent to east of railroad tracks. No other significant changes along arroyo to Victoria Avenue
1994	Greenhouse structure appeared to be present. No other significant changes
2002 - 2005	No significant changes
	Victoria Avenue through Victoria Club
1931	Heavy vegetation near Victoria Avenue. Golf club was developed. Groves and some residences north of alignment. Residence and row crops at east end of alignment
1938	No significant changes
1953	Residential development north of west portion. Groves remained north of east portion
1967	Residential development north of east portion of golf course. Additional residential development south of east portion of golf course. Chicago Avenue developed
1977 - 2005	No significant changes

6.0 CONCLUSIONS

Based on the site reconnaissance and database, document, and aerial photograph reviews conducted during this investigation, CHJ has developed the following conclusions:

- The database review indicated only five facilities/properties with findings. Two had no indication of any release and are considered to have no potential impact on the project. One is located downgradient of the west end of the alignment and is considered to have no potential impact. One drycleaner was listed with known contamination. Due to the distance from the alignment and relative hydraulic position of the facility, any soil or groundwater contamination that may exist at the drycleaner facility is considered to have a very low

potential impact on the construction project. One historical UST was identified adjacent to the project alignment. The address was not identified as a leaking UST. A County DEH records search was submitted for the former UST address; however, it was not complete as of the date this report was issued. The potential for contamination in the construction area due to possible releases from the UST is considered to be low.

- Several facilities in the downtown Riverside area with a history of contamination, primarily due to leaking USTs, were identified on online databases. Groundwater at depth along the project alignment may be affected by upgradient contamination sources. Any groundwater encountered within the approximately 25 feet of soil disturbed during construction; however, is suspected to be perched groundwater within the younger alluvium of the wash area. Perched groundwater along the project alignment is not expected to be continuous with shallow groundwater that may exist at LUST locations between 1,000 feet and 1/2 mile from the alignment. Groundwater contamination related to upgradient LUST facilities is not considered to have a potential impact on the construction project.

- Due to the extended distance from the subject site alignment, soil contamination at the identified LUST facilities in the downtown Riverside area is not considered to have a potential impact on the construction project.

- County DEH documents indicated four USTs formerly on the RCC campus. The only UST known or suspected of being near the project alignment is a 1,000-gallon gasoline UST within the Maintenance and Operations yard, which was removed in 1990. Soil sampling results were negative for hydrocarbons; therefore, there is no indication that residual soil contamination will be encountered during the pipeline construction project.

- Any residual pesticides that may have been present in soils in agricultural areas along Phase I of the alignment are not expected to remain in the surficial soils due to subsequent development.

- There is a very low potential for residual pesticides to remain in surficial soils along the western portion of the Phase II alignment due to limited agricultural uses from at least the 1930s through the 1950s. The very low potential is not considered to warrant any additional investigation.

- No significant contamination concerns were identified during the site reconnaissance.

- No significant features were identified on aerial photographs that indicated areas of environmental concern along the project alignment.

7.0 RECOMMENDATIONS

Based on the conclusions summarized above, CHJ provides the following recommendations:

- Although no properties/facilities were identified on the database search and there are no suspected sources of contamination in the area, at such time that the private properties generally between the railroad tracks and Victoria Avenue (west portion of Phase II) are accessible, a field assessment of the alignment should be conducted by this firm for any evidence of surficial contamination.

- If discolored soils, soils with an unusual odor, or landfilled materials are encountered during trenching or other excavation, this firm or a similarly qualified firm should be contacted and work should be discontinued in that particular area until an evaluation of the soils can be made.

- Due to the proximity of the alignment to historic USTs in two locations (at the east end of the Phase I segment at Palm Avenue and Tequesquite Avenue, and adjacent to RCC maintenance yard), additional caution should be applied during excavation for detection of hydrocarbon odor or discoloration of soils.

8.0 LIMITATIONS

C.H.J., Incorporated has performed our services within the limits prescribed by our client with no vested interest in the site or in the subject matter contained in the report and with the usual thoroughness and competence of the engineering profession. C.H.J., Incorporated makes no other warranty or representation, either express or implied.

The findings and conclusions presented in this report are based upon the research and site reconnaissance described in this report. Should conditions be encountered in the field that appear different from those described in this report, we should be contacted immediately in order that we might evaluate their effect. Site conditions are subject to change with time, and should be evaluated within this context. C.H.J., Incorporated shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time the investigation was performed.

If this report or portions thereof are provided to others, it should be understood by all parties that it is provided for information only, and should be used as such.

This report and its contents resulting from this investigation are not intended or represented to be suitable for reuse on extensions or modifications of the project or for use on any other projects.

9.0 CLOSURE

We appreciate this opportunity to provide environmental assessment services for this project. If you should have questions or comments regarding this report, please contact this firm at your convenience.

REGISTERED ENVIRONMENTAL ASSESSOR
ANN M. LAUDERMILK
No. [illegible]
Exp. 4/30/2013
STATE OF CALIFORNIA
2/3/09

Respectfully submitted,
C.H.J., INCORPORATED

Ann Laudermilk

Ann M. Laudermilk, R.E.A. 30067
Environmental Project Manager

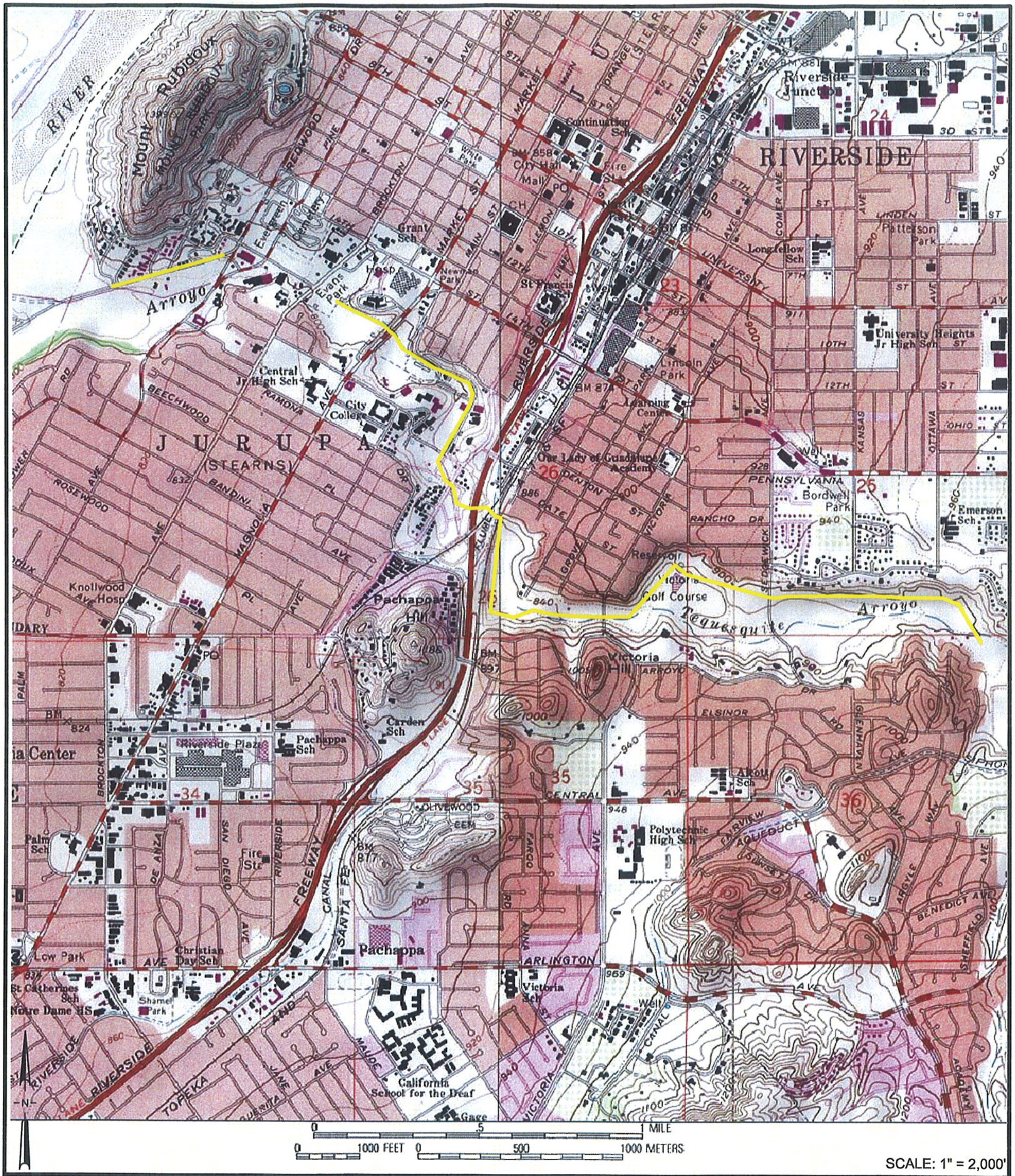
Robert J. Johnson, R.E.A. 859
President

REGISTERED ENVIRONMENTAL ASSESSOR
ROBERT J. JOHNSON
No. 859
Exp. 6/30/2009
STATE OF CALIFORNIA
2/3/09

AML/RJJ:ndt

ENCLOSURE "A"

MAPS



LEGEND:

SEWER PHASE I AND II

PLAT

FOR:
BIRGE ENGINEERING, INC.

DATE:
FEBRUARY 2009

LIMITED ENVIRONMENTAL INVESTIGATION
TEQUESQUITE ARROYO TRUNK SEWER ALIGNMENT
PHASES I AND II
RIVERSIDE, CALIFORNIA

ENCLOSURE
"A-1"

JOB NUMBER
08812-9

C.H.J. Incorporated

Historical UST location
No record of contamination
No hydrocarbon odor in geotechnical boring at end of pipeline (Palm and Tequesquite)
Low potential impact

Riverside Carburator and Electric

Drycleaner
Solvent contamination
Equal gradient
Very low potential impact

Former UST on RCC maintenance yard
1000g gasoline, 1979-1990
1990 Soil samples indicated no contamination
Very low potential impact

Golf course maintenance facility

-N-

SCALE: 1" = 1000'

LEGEND:

SEWER PHASE I AND II

SITE PLAN

FOR: BIRGE ENGINEERING, INC.

DATE: FEBRUARY 2009

LIMITED ENVIRONMENTAL INVESTIGATION
TEQUESQUITE ARROYO TRUNK SEWER ALIGNMENT
PHASES I AND II
RIVERSIDE, CALIFORNIA

ENCLOSURE "A-2"

JOB NUMBER 08812-9

C.H.J. Incorporated

ENCLOSURE "B"

ENVIRONMENTAL DATABASE SEARCH REPORT

Tequesquite Sewer AlignmentPhases I & II
Riverside, CA 92507

Inquiry Number: 2396286.1s
January 12, 2009

EDR Radius Map™ with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free 800.352.0050
www.edrnet.com

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

RIVERSIDE, CA 92507
RIVERSIDE, CA 92507

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records within the requested search area for the following databases:

FEDERAL RECORDS

NPL	National Priority List
Proposed NPL	Proposed National Priority List Sites
Delisted NPL	National Priority List Deletions
NPL LIENS	Federal Superfund Liens
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
LIENS 2	CERCLA Lien Information
CORRACTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
RCRA-NonGen	RCRA - Non Generators
US ENG CONTROLS	Engineering Controls Sites List
US INST CONTROL	Sites with Institutional Controls
ERNS	Emergency Response Notification System
HMIRS	Hazardous Materials Information Reporting System
DOT OPS	Incident and Accident Data
US CDL	Clandestine Drug Labs
US BROWNFIELDS	A Listing of Brownfields Sites
DOD	Department of Defense Sites
FUDS	Formerly Used Defense Sites
LUCIS	Land Use Control Information System
CONSENT	Superfund (CERCLA) Consent Decrees
ROD	Records Of Decision
UMTRA	Uranium Mill Tailings Sites
DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations
ODI	Open Dump Inventory
MINES	Mines Master Index File
TRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS	Section 7 Tracking Systems
ICIS	Integrated Compliance Information System

EXECUTIVE SUMMARY

PADS	PCB Activity Database System
MLTS	Material Licensing Tracking System
RADINFO	Radiation Information Database
RAATS	RCRA Administrative Action Tracking System
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing

STATE AND LOCAL RECORDS

HIST Cal-Sites	Historical Calsites Database
CA BOND EXP. PLAN	Bond Expenditure Plan
SCH	School Property Evaluation Program
Toxic Pits	Toxic Pits Cleanup Act Sites
SWF/LF	Solid Waste Information System
WMUDS/SWAT	Waste Management Unit Database
CA WDS	Waste Discharge System
Cortese	"Cortese" Hazardous Waste & Substances Sites List
SWRCY	Recycler Database
LUST	Geotracker's Leaking Underground Fuel Tank Report
CA FID UST	Facility Inventory Database
UST	Active UST Facilities
LIENS	Environmental Liens Listing
SWEEPS UST	SWEEPS UST Listing
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
AST	Aboveground Petroleum Storage Tank Facilities
Notify 65	Proposition 65 Records
DEED	Deed Restriction Listing
VCP	Voluntary Cleanup Program Properties
WIP	Well Investigation Program Case List
CDL	Clandestine Drug Labs
RESPONSE	State Response Sites
ENVIROSTOR	EnviroStor Database
HAULERS	Registered Waste Tire Haulers Listing

TRIBAL RECORDS

INDIAN RESERV	Indian Reservations
INDIAN ODI	Report on the Status of Open Dumps on Indian Lands
INDIAN LUST	Leaking Underground Storage Tanks on Indian Land
INDIAN UST	Underground Storage Tanks on Indian Land
INDIAN VCP	Voluntary Cleanup Priority Listing

EDR PROPRIETARY RECORDS

Manufactured Gas Plants	EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

FEDERAL RECORDS

RCRA-SQG: RCRAinfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 09/10/2008 has revealed that there are 2 RCRA-SQG sites within the searched area.

Site	Address	Map ID	Page
PINE CENTER CLEANERS	*4644 PINE ST*	*2*	*3*
COMPUTERIZED DIAGNOSTIC IMAGIN	*4646 BROCKTON AVE*	*3*	*9*

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 10/30/2008 has revealed that there are 2 FINDS sites within the searched area.

Site	Address	Map ID	Page
PINE CENTER CLEANERS	*4644 PINE ST*	*2*	*3*
COMPUTERIZED DIAGNOSTIC IMAGIN	*4646 BROCKTON AVE*	*3*	*9*

STATE AND LOCAL RECORDS

SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the SLIC list, as provided by EDR, and dated 11/04/2008 has revealed that there is 1 SLIC site within the searched area.

Site	Address	Map ID	Page
PINE CENTER CLEANERS Facility Status: Open	*4644 PINE ST*	*2*	*3*

EXECUTIVE SUMMARY

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there is 1 HIST UST site within the searched area.

Site	Address	Map ID	Page
BEVERLY MANAN	4580 PALM AVE	1	3

DRYCLEANERS: A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; drycleaning plants except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

A review of the DRYCLEANERS list, as provided by EDR, and dated 09/23/2008 has revealed that there is 1 DRYCLEANERS site within the searched area.

Site	Address	Map ID	Page
PINE CENTER CLEANERS	*4644 PINE ST*	*2*	*3*

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency

A review of the HAZNET list, as provided by EDR, and dated 12/31/2006 has revealed that there are 3 HAZNET sites within the searched area.

Site	Address	Map ID	Page
PINE CENTER CLEANERS	*4644 PINE ST*	*2*	*3*
COMPUTERIZED DIAGNOSTIC IMAGIN	*4646 BROCKTON AVE*	*3*	*9*
JAVIER ROBLES	5109 BOXWOOD PLACE APT	4	12

EMI: Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies

A review of the EMI list, as provided by EDR, and dated 12/31/2006 has revealed that there is 1 EMI site within the searched area.

Site	Address	Map ID	Page
PINE CENTER CLEANERS	*4644 PINE ST*	*2*	*3*

EXECUTIVE SUMMARY

Please refer to the end of the findings report for unmapped orphan sites due to poor or inadequate address information.

MAP FINDINGS SUMMARY

Database	Total Plotted
FEDERAL RECORDS	
NPL	0
Proposed NPL	0
Delisted NPL	0
NPL LIENS	0
CERCLIS	0
CERC-NFRAP	0
LIENS 2	0
CORRACTS	0
RCRA-TSDF	0
RCRA-LQG	0
RCRA-SQG	2
RCRA-CESQG	0
RCRA-NonGen	0
US ENG CONTROLS	0
US INST CONTROL	0
ERNS	0
HMIRS	0
DOT OPS	0
US CDL	0
US BROWNFIELDS	0
DOD	0
FUDS	0
LUCIS	0
CONSENT	0
ROD	0
UMTRA	0
DEBRIS REGION 9	0
ODI	0
MINES	0
TRIS	0
TSCA	0
FTTS	0
HIST FTTS	0
SSTS	0
ICIS	0
PADS	0
MLTS	0
RADINFO	0
FINDS	2
RAATS	0
SCRD DRYCLEANERS	0
STATE AND LOCAL RECORDS	
HIST Cal-Sites	0
CA BOND EXP. PLAN	0
SCH	0
Toxic Pits	0

MAP FINDINGS SUMMARY

Database	Total Plotted
SWF/LF	0
WMUDS/SWAT	0
CA WDS	0
Cortese	0
SWRCY	0
LUST	0
CA FID UST	0
SLIC	1
UST	0
HIST UST	1
LIENS	0
SWEEPS UST	0
CHMIRS	0
LDS	0
MCS	0
AST	0
Notify 65	0
DEED	0
VCP	0
DRYCLEANERS	1
WIP	0
CDL	0
RESPONSE	0
HAZNET	3
EMI	1
ENVIROSTOR	0
HAULERS	0
TRIBAL RECORDS	
INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0
EDR PROPRIETARY RECORDS	
Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

1 **BEVERLY MANAN** — **HIST UST** — **U001576258** / **N/A**
4580 PALM AVE
RIVERSIDE, CA 92501

HIST UST:

Region:	STATE
Facility ID:	00000051738
Facility Type:	Other
Other Type:	HOSPITAL
Total Tanks:	0001
Contact Name:	Not reported
Telephone:	7146847701
Owner Name:	BEVERLY MANAN
Owner Address:	4580 PALM
Owner City,St,Zip:	RIVERSIDE, CA 92501
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Tank Construction:	Not reported
Leak Detection:	None

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2 **PINE CENTER CLEANERS** — **RCRA-SQG** — **1000195691**
4644 PINE ST — **FINDS** — **CAD982320343**
RIVERSIDE, CA 92501 — **HAZNET**
SLIC
DRYCLEANERS
EMI

RCRA-SQG:

Date form received by agency:	03/16/1988
Facility name:	PINE CENTER CLEANERS
Facility address:	4644 PINE ST RIVERSIDE, CA 92501
EPA ID:	CAD982320343
Contact:	ENVIRONMENTAL MANAGER
Contact address:	4644 PINE ST RIVERSIDE, CA 92501
Contact country:	US
Contact telephone:	(714) 683-9496
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	NATHANIEL N CHO
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private

PINE CENTER CLEANERS (Continued) **1000195691**

Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported
Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	Unknown
Mixed waste (haz. and radioactive):	Unknown
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	Unknown
Furnace exemption:	Unknown
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No
Off-site waste receiver:	Commercial status unknown

Violation Status: No violations found

FINDS:

Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:

Gepaid:	CAD982320343
Contact:	YONG CHUL CHUN
Telephone:	9098247067
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	4644 PINE ST
Mailing City,St,Zip:	RIVERSIDE, CA 925014007
Gen County:	Riverside
TSD EPA ID:	NVR000076158
TSD County:	99
Waste Category:	Aqueous solution with less than 10% total organic residues

PINE CENTER CLEANERS (Continued) **1000195691**

Disposal Method: Not reported
Tons: Not reported
Facility County: Not reported

Gepaid: CAD982320343
Contact: YOUN CHUL CHUN
Telephone: 9098247067
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing City,St,Zip: RIVERSIDE, CA 925014007
Gen County: Riverside
TSD EPA ID: CAD981397417
TSD County: Los Angeles
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Tons: .2315
Facility County: Riverside

Gepaid: CAD982320343
Contact: YOUN CHUL CHUN
Telephone: 9098247067
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing City,St,Zip: RIVERSIDE, CA 925014007
Gen County: Riverside
TSD EPA ID: CAD981375983
TSD County: 1
Waste Category: Solids or sludges with halogenated organic compounds > 1000mg/kg
Disposal Method: Recycler
Tons: .0375
Facility County: Riverside

Gepaid: CAD982320343
Contact: YOUN CHUL CHUN
Telephone: 9098247067
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing City,St,Zip: RIVERSIDE, CA 925014007
Gen County: Riverside
TSD EPA ID: CAD981397417
TSD County: Los Angeles
Waste Category: Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.)
Disposal Method: Recycler
Tons: .0583
Facility County: Riverside

Click this hyperlink while viewing on your computer to access
-1 additional CA_HAZNET: record(s) in the EDR Site Report.

SLIC:
Region: STATE
Facility Status: **Open**

PINE CENTER CLEANERS (Continued) **1000195691**

Status Date: Not reported
Global Id: SLT8R0223907
Lead Agency: Not reported
Lead Agency Case Number: Not reported
Latitude: 33.976981
Longitude: -117.388734
Case Type: Cleanup Program Site
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: SLT8R022
File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

SLIC:
Type: Soil and Groundwater
Facility Status: 39512
Region: 8
Staff: EGK
Substance: EGK
Lead Agency: EGK
Location Code: EGK
Thomas Bros Code: EGK

CLEANERS:
EPA Id: CAD982320343
NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7211
Create Date: 6/17/1988
Facility Active: No
Inactive Date: 6/30/1998
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing Address 2: Not reported
Mailing State: CA
Mailing Zip: 925014007
Region Code: 4
Owner Name: YOUN CHUL CHUN
Owner Address: 4644 PINE ST
Owner Address 2: Not reported
Owner Telephone: 9098247067
Owner Fax Number: Not reported
Contact Name: YONG CHUL CHUN
Contact Address: INACT PER 98VQ FINAL NOTICE
Contact Address 2: - BATCH 4/27
Contact Telephone: 9098247067
SIC Description: 7211 Power Laundries, Family and Commercial
SIC Description: 7216 Drycleaning Plants, Except Rug Cleaning
SIC Description: 7212 Garment Pressing, and Agents for Laundries and Drycleaners
SIC Description: 7389 Business Services, NEC (apparel pressing service for the trade)
SIC Description: 7219 Laundry and Garment Services, NEC (except diaper service and clothing alteration and repair)

PINE CENTER CLEANERS (Continued) **1000195691**

EPA Id: CAD982320343
NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7212
Create Date: 6/17/1988
Facility Active: No
Inactive Date: 6/30/1998
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing Address 2: Not reported
Mailing State: CA
Mailing Zip: 925014007
Region Code: 4
Owner Name: YOUN CHUL CHUN
Owner Address: 4644 PINE ST
Owner Address 2: Not reported
Owner Telephone: 9098247067
Owner Fax Number: Not reported
Contact Name: YONG CHUL CHUN
Contact Address: INACT PER 98VQ FINAL NOTICE
Contact Address 2: - BATCH 4/27
Contact Telephone: 9098247067
SIC Description: 7211 Power Laundries, Family and Commercial
SIC Description: 7216 Drycleaning Plants, Except Rug Cleaning
SIC Description: 7212 Garment Pressing, and Agents for Laundries and Drycleaners
SIC Description: 7389 Business Services, NEC (apparel pressing service for the trade)
SIC Description: 7219 Laundry and Garment Services, NEC (except diaper service and clothing alteration and repair)

EPA Id: CAD982320343
NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7216
Create Date: 6/17/1988
Facility Active: No
Inactive Date: 6/30/1998
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing Address 2: Not reported
Mailing State: CA
Mailing Zip: 925014007
Region Code: 4
Owner Name: YOUN CHUL CHUN
Owner Address: 4644 PINE ST
Owner Address 2: Not reported
Owner Telephone: 9098247067
Owner Fax Number: Not reported
Contact Name: YONG CHUL CHUN
Contact Address: INACT PER 98VQ FINAL NOTICE
Contact Address 2: - BATCH 4/27
Contact Telephone: 9098247067
SIC Description: 7211 Power Laundries, Family and Commercial
SIC Description: 7216 Drycleaning Plants, Except Rug Cleaning
SIC Description: 7212 Garment Pressing, and Agents for Laundries and Drycleaners
SIC Description: 7389 Business Services, NEC (apparel pressing service for the trade)

PINE CENTER CLEANERS (Continued) **1000195691**

SIC Description: 7219 Laundry and Garment Services, NEC (except diaper service and clothing alteration and repair)

EPA Id: CAD982320343
NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7219
Create Date: 6/17/1988
Facility Active: No
Inactive Date: 6/30/1998
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing Address 2: Not reported
Mailing State: CA
Mailing Zip: 925014007
Region Code: 4
Owner Name: YOUN CHUL CHUN
Owner Address: 4644 PINE ST
Owner Address 2: Not reported
Owner Telephone: 9098247067
Owner Fax Number: Not reported
Contact Name: YONG CHUL CHUN
Contact Address: INACT PER 98VQ FINAL NOTICE
Contact Address 2: - BATCH 4/27
Contact Telephone: 9098247067
SIC Description: 7211 Power Laundries, Family and Commercial
SIC Description: 7216 Drycleaning Plants, Except Rug Cleaning
SIC Description: 7212 Garment Pressing, and Agents for Laundries and Drycleaners
SIC Description: 7389 Business Services, NEC (apparel pressing service for the trade)
SIC Description: 7219 Laundry and Garment Services, NEC (except diaper service and clothing alteration and repair)

EPA Id: CAD982320343
NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7389
Create Date: 6/17/1988
Facility Active: No
Inactive Date: 6/30/1998
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4644 PINE ST
Mailing Address 2: Not reported
Mailing State: CA
Mailing Zip: 925014007
Region Code: 4
Owner Name: YOUN CHUL CHUN
Owner Address: 4644 PINE ST
Owner Address 2: Not reported
Owner Telephone: 9098247067
Owner Fax Number: Not reported
Contact Name: YONG CHUL CHUN
Contact Address: INACT PER 98VQ FINAL NOTICE
Contact Address 2: - BATCH 4/27
Contact Telephone: 9098247067
SIC Description: 7211 Power Laundries, Family and Commercial

PINE CENTER CLEANERS (Continued) **1000195691**

SIC Description: 7216 Drycleaning Plants, Except Rug Cleaning
SIC Description: 7212 Garment Pressing, and Agents for Laundries and Drycleaners
SIC Description: 7389 Business Services, NEC (apparel pressing service for the trade)
SIC Description: 7219 Laundry and Garment Services, NEC (except diaper service and clothing alteration and repair)

EMI:

Year:	1990
County Code:	33
Air Basin:	SC
Facility ID:	42266
Air District Name:	SC
SIC Code:	7216
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

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3 **COMPUTERIZED DIAGNOSTIC IMAGIN** **RCRA-SQG 1001126624**
4646 BROCKTON AVE **FINDS CAR000016899**
RIVERSIDE, CA 92506 **HAZNET**

RCRA-SQG:

Date form received by agency:	12/16/1996
Facility name:	COMPUTERIZED DIAGNOSTIC IMAGIN
Facility address:	4646 BROCKTON AVE RIVERSIDE, CA 92506
EPA ID:	CAR000016899
Mailing address:	14TH ST STE 109 RIVERSIDE, CA 92501
Contact:	DENISE LESLIE
Contact address:	4000 14TH ST STE 109 RIVERSIDE, CA 92501
Contact country:	US
Contact telephone:	(909) 276-7500
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	COMPUTERIZED DIAGNOSTIC IMAGIN
Owner/operator address:	2020 IOWA AVE STE A 103 RIVERSIDE, CA 92507
Owner/operator country:	Not reported
Owner/operator telephone:	(909) 781-2270
Legal status:	Private

COMPUTERIZED DIAGNOSTIC IMAGIN (Continued) **1001126624**

Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Violation Status: No violations found

FINDS:
Other Pertinent Environmental Activity Identified at Site

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZNET:
Gepaid: CAR000016899
Contact: COMPUTERIZED DIAGNOSTIC IMAGIN
Telephone: 9097812270
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 14TH ST STE 109
Mailing City,St,Zip: RIVERSIDE, CA 925014009
Gen County: Riverside
TSD EPA ID: CAD983604000
TSD County: San Bernardino
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 1.3550
Facility County: Riverside

Gepaid: CAR000016899
Contact: DENISE LESLIE DIRECTOR IMG SER
Telephone: 9092767500
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 14TH ST STE 109

COMPUTERIZED DIAGNOSTIC IMAGIN (Continued) **1001126624**

Mailing City,St,Zip: RIVERSIDE, CA 925014009
Gen County: Riverside
TSD EPA ID: Not reported
TSD County: Kern
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 0.45
Facility County: Not reported

Gepaid: CAR000016899
Contact: COMPUTERIZED DIAGNOSTIC IMAGIN
Telephone: 9097812270
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 14TH ST STE 109
Mailing City,St,Zip: RIVERSIDE, CA 925014009
Gen County: Riverside
TSD EPA ID: CAD983604000
TSD County: San Bernardino
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 1.5427
Facility County: Riverside

Gepaid: CAR000016899
Contact: COMPUTERIZED DIAGNOSTIC IMAGIN
Telephone: 9097812270
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 14TH ST STE 109
Mailing City,St,Zip: RIVERSIDE, CA 925014009
Gen County: Riverside
TSD EPA ID: CAD983604000
TSD County: San Bernardino
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 1.8553
Facility County: Riverside

Gepaid: CAR000016899
Contact: COMPUTERIZED DIAGNOSTIC IMAGIN
Telephone: 9097812270
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: 4000 14TH ST STE 109
Mailing City,St,Zip: RIVERSIDE, CA 925014009
Gen County: Riverside
TSD EPA ID: CAD981402522
TSD County: Kern
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: .4586
Facility County: Riverside

Click this hyperlink while viewing on your computer to access
1 additional CA_HAZNET: record(s) in the EDR Site Report.

4 **JAVIER ROBLES** **HAZNET** **S103971752**
5109 BOXWOOD PLACE APT 2 **N/A**
RIVERSIDE, CA 92501

HAZNET:

Gepaid:	CLU960005928
Contact:	JAVIER ROBLES
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	DTSC CLU/ERU
Mailing City,St,Zip:	SACRAMENTO, CA 958120806
Gen County:	Riverside
TSD EPA ID:	AZD049318009
TSD County:	99
Waste Category:	Other inorganic solid waste
Disposal Method:	Transfer Station
Tons:	.1800
Facility County:	Riverside

Gepaid:	CLU960005928
Contact:	JAVIER ROBLES
Telephone:	0000000000
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	DTSC CLU/ERU
Mailing City,St,Zip:	SACRAMENTO, CA 958120806
Gen County:	Riverside
TSD EPA ID:	AZD049318009
TSD County:	99
Waste Category:	Liquids with pH <UN-> 2
Disposal Method:	Transfer Station
Tons:	.0750
Facility County:	Riverside

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BLYTHE	U001576259	BLYTHE AIRPORT	HIGHWAY 60	92501	HIST UST
BOX SPRINGS	1000213838	GENERAL TELEPHONE OF CALIFORNIA	PIGEON PASS ROAD OFF HIGHWAY 60	92507	RCRA-SQG, FINDS
RIVERSIDE	S106117723	SMITH PROPERTY	7TH ST / BROCKTON AVE		LUST
RIVERSIDE	U001576507	G.I. TRUCKING COMPANY	12950 BOX SPRINGS BLVD.	92507	HIST UST
RIVERSIDE	8873614	WB I 10 30 MI W OF BUTTE	WB I 10 30 MI W OF BUTTE		ERNS
RIVERSIDE	1004675594	I G DIEGO	7525 JURUPA AVE UNITS E AND F	92504	RCRA-SQG, FINDS
RIVERSIDE	1010415996	NW MAIN ST AND 12TH ST	NW MAIN ST AND 12TH ST	92501	US BROWNFIELDS
RIVERSIDE	1010416004	SW MAIN ST AND 11TH ST	SW MAIN ST AND 11TH ST	92501	US BROWNFIELDS
RIVERSIDE	U003982274	FIRST & MARKET	3063-3065 MAIN ST	92501	UST
RIVERSIDE	S109285005	EDWARD F. GOULD, INC.	121 N MAIN ST	92501	LUST
RIVERSIDE	S103393794	CAMP YOUNG (J09CA029600)	25 MILES EAST OF INDIO(HWY 195/INTST 10)	92501	ENVIROSTOR, HIST Cal-Sites
RIVERSIDE	1010416006	W OF MAIN ST, ON E SIDE OF BLOCK	W OF MAIN ST, ON E SIDE OF BLOCK	92501	US BROWNFIELDS
RIVERSIDE	96508807	PRIVATE CITIZEN POURED OIL DOWN A SEWER DRAIN	PRIVATE CITIZEN POURED OIL DOWN A SEWER DRAIN		ERNS
RIVERSIDE	1003878498	PACIFIC AIRMOTIVE	RIVERSIDE MUNICIPAL ARPT	92504	CERC-NFRAP
RIVERSIDE	1009311263	3RD AND COMMERCE STREETS (RCTC)	3RD STREET AND COMMERCE STREET	92507	US BROWNFIELDS
RIVERSIDE	1009311265	4TH AND COMMERCE STREETS (RCTC)	4TH STREET AND COMMERCE STREET	92507	US BROWNFIELDS
RIVERSIDE	1009311267	5TH AND COMMERCE STREETS (SPTC)	5TH STREET AND COMMERCE STREET	92507	US BROWNFIELDS
RIVERSIDE	1009311271	6TH AND COMMERCE STREETS	6TH STREET AND COMMERCE STREET	92507	US BROWNFIELDS
RIVERSIDE	1006837241	TEQUESQUITE LF / CITY OF RIVERSIDE SLF	6253 TEQUESQUITE AVENUE		FINDS
RIVERSIDE	U001576267	CITY OF RIVERSIDE LANDFILL	5253 TEQUESQUITE	92501	HIST UST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public

FEDERAL RECORDS

NPL National Priority List
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-665-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL Proposed National Priority List Sites
A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

DELISTED NPL National Priority List Deletions
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/29/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 40

Source: EPA
Telephone: N/A
Last EDR Contact: 09/29/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens
Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/07/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 66

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/07/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 53

Source: EPA
Telephone: 703-412-9310
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned
Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 12/03/2007
Date Data Arrived at EDR: 12/06/2007
Date Made Active in Reports: 02/20/2008
Number of Days to Update: 76

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 08/15/2008
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/08/2008
Number of Days to Update: 11

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

CORRACTS: Corrective Action Report
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/11/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

RCRA-TSDF: RCRA - Transporters, Storage and Disposal
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 11/18/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

RCRA-LQG: RCRA - Large Quantity Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 11/18/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 11/18/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGS) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 11/18/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

RCRA-NonGen: RCRA - Non Generators
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/10/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 11/18/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US ENG CONTROLS: Engineering Controls Sites List
A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls
A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

ERNS: Emergency Response Notification System
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 01/23/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 54

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/21/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 05/30/2008
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 34

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

DOT OPS: Incident and Accident Data
Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 05/14/2008
Date Data Arrived at EDR: 05/22/2008
Date Made Active in Reports: 06/06/2008
Number of Days to Update: 72

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/06/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Varies

CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example contacting local law enforcement and local health departments.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 10/31/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Quarterly

US BROWNFIELDS: A Listing of Brownfields Sites
Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities

Date of Government Version: 10/01/2006
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 10/10/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 11/07/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/05/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 18

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

LUCIS: Land Use Control Information System
LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 12/08/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/15/2008
Date Data Arrived at EDR: 10/22/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 62

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

ROD: Records Of Decision
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup

Date of Government Version: 10/21/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 55

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites
Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low, however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 07/13/2007
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 05/05/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California

Date of Government Version: 03/25/2005
Date Data Arrived at EDR: 04/12/2005
Date Made Active in Reports: 05/16/2005
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Varies

MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information

Date of Government Version: 08/07/2008
Date Data Arrived at EDR: 09/23/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 23

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/23/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/19/2008
Next Scheduled EDR Contact: 12/15/2008
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 10/14/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 10/08/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 52

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated

Date of Government Version: 10/18/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated

Date of Government Version: 10/18/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems
Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/14/2006
Date Made Active in Reports: 04/18/2006
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 12/04/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program

Date of Government Version: 07/31/2008
Date Data Arrived at EDR: 08/13/2008
Date Made Active in Reports: 09/09/2008
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities

Date of Government Version: 12/04/2007
Date Data Arrived at EDR: 02/07/2008
Date Made Active in Reports: 03/17/2008
Number of Days to Update: 39

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 09/18/2008
Next Scheduled EDR Contact: 11/03/2008
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 10/03/2008
Date Data Arrived at EDR: 10/15/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 35

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S Environmental Protection Agency (EPA) regulations for radiation and radioactivity

Date of Government Version: 10/28/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 12/08/2008
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/29/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System)

Date of Government Version: 10/30/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 53

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System
RCRA Administrative Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 05/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/06/2007
Date Made Active in Reports: 04/13/2007
Number of Days to Update: 38

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/09/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Biennially

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/10/2008
Date Made Active in Reports: 09/23/2008
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 12/03/2008
Next Scheduled EDR Contact: 02/09/2009
Data Release Frequency: Varies

STATE AND LOCAL RECORDS

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 11/24/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/03/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program
This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 11/01/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: No Update Planned

SWF/LF (SWIS): Solid Waste Information System
Active Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/08/2008
Date Data Arrived at EDR: 09/05/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 9

Source: Integrated Waste Management Board
Telephone: 916-341-6320
Last EDR Contact: 12/03/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

CA WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/15/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Quarterly

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites). This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 05/29/2001
Date Made Active in Reports: 07/26/2001
Number of Days to Update: 58

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/08/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 49

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 01/08/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 11/04/2008
Date Data Arrived at EDR: 11/04/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 08/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 11/10/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 12/23/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calaveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/22/2008
Next Scheduled EDR Contact: 10/20/2008
Data Release Frequency: Quarterly

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 11/04/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 03/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/04/2008
Date Data Arrived at EDR: 11/04/2008
Date Made Active in Reports: 11/20/2008
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/08/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/29/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/18/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 11/19/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Annually

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 11/04/2008
Date Data Arrived at EDR: 11/04/2008
Date Made Active in Reports: 12/05/2008
Number of Days to Update: 31

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 01/08/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Semi-Annually

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/08/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 19

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Varies

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 11/06/2008
Date Data Arrived at EDR: 11/07/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 19

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/03/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Varies

SWEEPS UST: SWEEPS UST Listing
Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 05/09/2008
Date Made Active in Reports: 06/20/2008
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing
The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 11/04/2008
Date Data Arrived at EDR: 11/07/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 19

Source: State Water Quality Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/08/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

AST: Aboveground Petroleum Storage Tank Facilities
Registered Aboveground Storage Tanks.

Date of Government Version: 11/01/2007
Date Data Arrived at EDR: 11/27/2007
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 10/27/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing
The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities

Date of Government Version: 11/04/2008
Date Data Arrived at EDR: 11/07/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 19

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 01/08/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk

Date of Government Version: 10/21/1993
Date Data Arrived at EDR: 11/01/1993
Date Made Active in Reports: 11/19/1993
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 09/30/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 13

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 12/30/2009
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Semi-Annually

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 09/23/2008
Date Data Arrived at EDR: 09/24/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 5

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Annually

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 10/31/2008
Date Data Arrived at EDR: 11/03/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 23

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 11/03/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

CDL: Clandestine Drug Labs
A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/26/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

RESPONSE: State Response Sites
Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Quarterly

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 10/04/2007
Date Made Active in Reports: 11/07/2007
Number of Days to Update: 34

Source: California Environmental Protection Agency
Telephone: 916 255-1136
Last EDR Contact: 11/07/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 10/16/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 41

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 10/16/2008
Next Scheduled EDR Contact: 01/12/2009
Data Release Frequency: Varies

ENVIROSTOR: EnviroStor Database
The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifies sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/25/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 7

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 09/22/2008
Date Data Arrived at EDR: 09/22/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 7

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 11/07/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/24/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 12/02/2008
Date Data Arrived at EDR: 12/04/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 19

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/03/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 20

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/19/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina

Date of Government Version: 05/06/2008
Date Data Arrived at EDR: 10/03/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/10/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington

Date of Government Version: 11/18/2008
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma

Date of Government Version: 11/25/2008
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 27

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
A listing of underground storage tank locations on Indian Land.

Date of Government Version: 03/12/2008
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 03/20/2008
Number of Days to Update: 6

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 06/06/2008
Date Data Arrived at EDR: 10/09/2008
Date Made Active in Reports: 11/19/2008
Number of Days to Update: 41

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 11/25/2008
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 27

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 06/01/2007
Date Data Arrived at EDR: 06/14/2007
Date Made Active in Reports: 07/05/2007
Number of Days to Update: 21

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/19/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 12/01/2008
Date Data Arrived at EDR: 12/04/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 19

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 09/05/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 27

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
No description is available for this data

Date of Government Version: 11/18/2008
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 12/23/2008
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (soil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/28/2008
Date Data Arrived at EDR: 10/30/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Semi-Annually

Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 10/28/2008
Date Data Arrived at EDR: 10/30/2008
Date Made Active in Reports: 12/05/2008
Number of Days to Update: 36

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs

Date of Government Version: 09/03/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 11/24/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Semi-Annually

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 09/30/2008
Date Data Arrived at EDR: 10/20/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 37

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 11/03/2008
Next Scheduled EDR Contact: 01/02/2009
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 09/15/2008
Date Data Arrived at EDR: 09/16/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 15

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 07/07/1999
Date Made Active in Reports: N/A
Number of Days to Update: 0

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/31/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 40

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 11/10/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 08/12/2008
Date Data Arrived at EDR: 09/22/2008
Date Made Active in Reports: 09/30/2008
Number of Days to Update: 12

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 11/13/2008
Next Scheduled EDR Contact: 02/09/2009
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/01/2008
Date Data Arrived at EDR: 03/20/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 25

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 12/08/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 02/14/2008
Date Data Arrived at EDR: 04/10/2008
Date Made Active in Reports: 05/06/2008
Number of Days to Update: 26

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 11/10/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 10

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 11/10/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/26/2003
Date Data Arrived at EDR: 10/23/2003
Date Made Active in Reports: 11/26/2003
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 08/26/2008
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 20

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 12/11/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County

Date of Government Version: 08/04/2008
Date Data Arrived at EDR: 08/29/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 17

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 10/27/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Semi-Annually

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 07/09/2008
Date Data Arrived at EDR: 07/09/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 22

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/16/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 13

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/02/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST)

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/17/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 12

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/02/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST)

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/25/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 6

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/02/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites

Date of Government Version: 07/23/2007
Date Data Arrived at EDR: 07/23/2007
Date Made Active in Reports: 08/09/2007
Number of Days to Update: 17

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST)

Date of Government Version: 11/06/2008
Date Data Arrived at EDR: 11/17/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 9

Source: Department of Public Health
Telephone: 951-358-5055
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 11/12/2008
Date Data Arrived at EDR: 11/25/2008
Date Made Active in Reports: 12/05/2008
Number of Days to Update: 10

Source: Health Services Agency
Telephone: 951-358-5055
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Quarterly

SACRAMENTO COUNTY

Contaminated Sites
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/08/2008
Date Data Arrived at EDR: 08/08/2008
Date Made Active in Reports: 09/03/2008
Number of Days to Update: 26

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/29/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

ML - Regulatory Compliance Master List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks waste generators.

Date of Government Version: 09/08/2008
Date Data Arrived at EDR: 10/29/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 28

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/29/2008
Next Scheduled EDR Contact: 01/26/2009
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 10/31/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 07/16/2008
Date Data Arrived at EDR: 10/28/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 28

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 12/31/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities

Date of Government Version: 08/01/2007
Date Data Arrived at EDR: 02/05/2008
Date Made Active in Reports: 02/14/2008
Number of Days to Update: 9

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 11/17/2008
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program

Date of Government Version: 08/07/2008
Date Data Arrived at EDR: 10/31/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 26

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 12/30/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Varies

SAN FRANCISCO COUNTY

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 10/01/2008
Number of Days to Update: 12

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 08/26/2008
Date Data Arrived at EDR: 08/27/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 19

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/13/2009
Data Release Frequency: Semi-Annually

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks

Date of Government Version: 11/19/2008
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 7

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 10/06/2008
Date Data Arrived at EDR: 10/07/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 6

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Semi-Annually

SANTA CLARA COUNTY

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 09/24/2008
Date Data Arrived at EDR: 09/25/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 4

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites

Date of Government Version: 09/02/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 11

Source: City of San Jose Fire Department
Telephone: 408-277-4659
Last EDR Contact: 12/01/2008
Next Scheduled EDR Contact: 03/02/2009
Data Release Frequency: Annually

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 09/22/2008
Date Data Arrived at EDR: 10/06/2008
Date Made Active in Reports: 10/13/2008
Number of Days to Update: 7

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/22/2008
Date Data Arrived at EDR: 10/17/2008
Date Made Active in Reports: 12/05/2008
Number of Days to Update: 49

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 12/22/2008
Next Scheduled EDR Contact: 03/23/2009
Data Release Frequency: Quarterly

SONOMA COUNTY

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county

Date of Government Version: 10/30/2008
Date Data Arrived at EDR: 10/30/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 27

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 10/20/2008
Next Scheduled EDR Contact: 01/19/2009
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 05/04/2007
Date Data Arrived at EDR: 05/04/2007
Date Made Active in Reports: 05/24/2007
Number of Days to Update: 20

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 12/29/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Semi-Annually

VENTURA COUNTY

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information

Date of Government Version: 05/27/2008
Date Data Arrived at EDR: 10/14/2008
Date Made Active in Reports: 11/26/2008
Number of Days to Update: 43

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/10/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites

Date of Government Version: 08/01/2008
Date Data Arrived at EDR: 09/04/2008
Date Made Active in Reports: 09/18/2008
Number of Days to Update: 14

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/17/2008
Next Scheduled EDR Contact: 02/16/2009
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 12/09/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List

Date of Government Version: 10/01/2008
Date Data Arrived at EDR: 10/08/2008
Date Made Active in Reports: 10/16/2008
Number of Days to Update: 8

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/08/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Quarterly

YOLO COUNTY

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 08/11/2008
Date Data Arrived at EDR: 08/29/2008
Date Made Active in Reports: 09/15/2008
Number of Days to Update: 17

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 01/12/2009
Next Scheduled EDR Contact: 04/12/2009
Data Release Frequency: Annually

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 06/15/2007
Date Made Active in Reports: 08/20/2007
Number of Days to Update: 66

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 12/11/2008
Next Scheduled EDR Contact: 03/30/2009
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information
Hazardous waste manifest information

Date of Government Version: 09/30/2007
Date Data Arrived at EDR: 12/04/2007
Date Made Active in Reports: 12/31/2007
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 11/07/2008
Next Scheduled EDR Contact: 02/02/2009
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/21/2005
Date Data Arrived at EDR: 11/26/2008
Date Made Active in Reports: 12/11/2008
Number of Days to Update: 15

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/26/2008
Next Scheduled EDR Contact: 02/23/2009
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 09/11/2008
Date Made Active in Reports: 10/02/2008
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 12/08/2008
Next Scheduled EDR Contact: 03/09/2009
Data Release Frequency: Annually

RI MANIFEST: Manifest Information
Hazardous waste manifest information

Date of Government Version: 10/07/2008
Date Data Arrived at EDR: 10/10/2008
Date Made Active in Reports: 10/28/2008
Number of Days to Update: 18

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 12/15/2008
Next Scheduled EDR Contact: 03/16/2009
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/22/2008
Date Made Active in Reports: 09/08/2008
Number of Days to Update: 17

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 01/05/2009
Next Scheduled EDR Contact: 04/06/2009
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.
Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.
Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.
Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100 year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

STREET AND ADDRESS INFORMATION

ENCLOSURE "C"

REVIEWED AERIAL PHOTOGRAPHS

Tequesquite Sewer Alignment, Phases I and II
Riverside
Riverside, CA 92507

Inquiry Number: 2396289.1
January 12, 2009

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography January 12, 2009

Target Property:

Riverside

Riverside, CA 92507

Year	*Scale*	*Details*	*Source*
1931	Aerial Photograph. Scale: 1"=700'	Flight Year: 1931 Best Copy Available from original source	Fairchild
1931	Aerial Photograph. Scale: 1"=700'	Flight Year: 1931 Best Copy Available from original source	Fairchild
1931	Aerial Photograph. Scale: 1"=700'	Flight Year: 1931 Best Copy Available from original source	Fairchild
1938	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1938	Laval
1938	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1938	Laval
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	Pacific Air
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	Pacific Air
1953	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1953	Pacific Air
1967	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1967	Western
1967	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1967	Western
1967	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1967	Western
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	Teledyne
1977	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1977	Teledyne
1989	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1989	USGS
1990	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1990	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
1994	Aerial Photograph. Scale: 1"=1000'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS

Year	*Scale*	*Details*	*Source*
2002	Aerial Photograph. Scale: 1"=1000'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=485'	Flight Year: 2005	EDR

INQUIRY #: 2396289.1

YEAR: 1931

= 700'

N

EDR Environmental Data Resources Inc

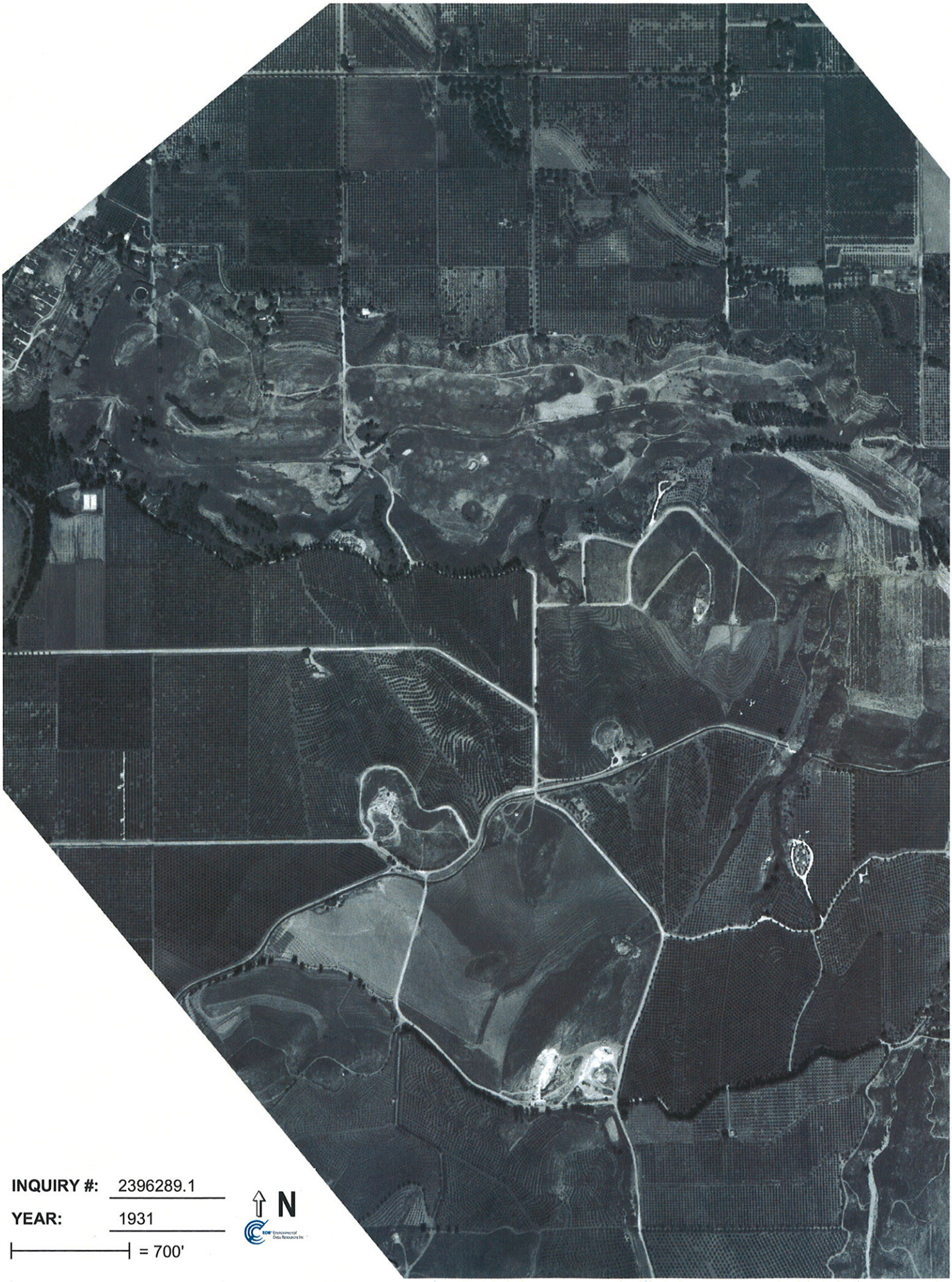
INQUIRY #: 2396289.1

YEAR: 1931

= 700'

N

EDR Environmental Data Resources Inc



INQUIRY #: 2396289.1

YEAR: 1931

= 700'

N

EDR Environmental Data Resources Inc


INQUIRY #: 2396289.1
YEAR: 1938
= 1000'
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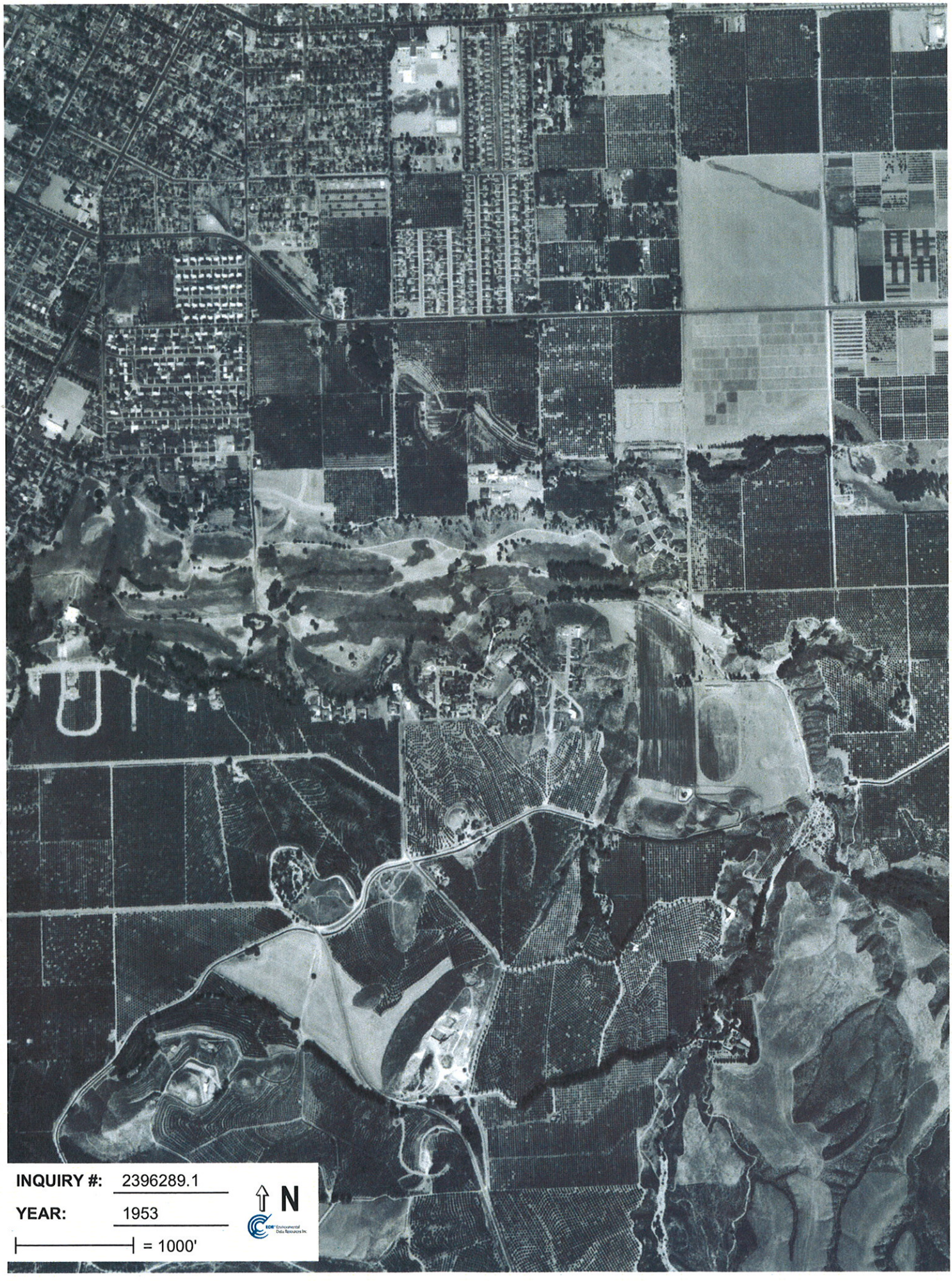
INQUIRY #: 2396289.1
YEAR: 1938
= 1000'
N


INQUIRY #: 2396289.1
YEAR: 1953
= 1000'
N
EDR Environmental Data Resources Inc


INQUIRY #: 2396289.1
YEAR: 1953
= 1000'
N
EDR Environmental Data Resources Inc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INQUIRY #: 2396289.1

YEAR: 2005

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EDR Environmental Data Resources Inc

ENCLOSURE "D"

REFERENCES

REFERENCES

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2/12/2009 12:40:44 PM

Urbemis 2007 Version 9.2.4

Summary Report for Summer Emissions (Pounds/Day)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2009 TOTALS (lbs/day unmitigated)	7.25	61.02	30.07	0.00	60.61	3.05	62.28	12.66	2.80	14.20	6,465.52
2009 TOTALS (lbs/day mitigated)	7.25	51.89	30.07	0.00	13.75	1.68	15.43	2.87	1.54	4.41	6,465.52
2010 TOTALS (lbs/day unmitigated)	3.65	28.80	15.88	0.01	60.61	1.58	62.19	12.66	1.45	14.11	2,701.41
2010 TOTALS (lbs/day mitigated)	3.65	28.80	15.88	0.01	13.75	1.58	15.33	2.87	1.45	4.33	2,701.41

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Urbemis 2007 Version 9.2.4

Summary Report for Winter Emissions (Pounds/Day)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2009 TOTALS (lbs/day unmitigated)	7.25	61.02	30.07	0.00	60.61	3.05	62.28	12.66	2.80	14.20	6,465.52
2009 TOTALS (lbs/day mitigated)	7.25	51.89	30.07	0.00	13.75	1.68	15.43	2.87	1.54	4.41	6,465.52
2010 TOTALS (lbs/day unmitigated)	3.65	28.80	15.88	0.01	60.61	1.58	62.19	12.66	1.45	14.11	2,701.41
2010 TOTALS (lbs/day mitigated)	3.65	28.80	15.88	0.01	13.75	1.58	15.33	2.87	1.45	4.33	2,701.41

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Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2009 TOTALS (tons/year unmitigated)	0.46	3.84	1.90	0.00	0.36	0.19	0.56	0.08	0.18	0.25	404.14
2009 TOTALS (tons/year mitigated)	0.46	3.30	1.90	0.00	0.08	0.02	0.11	0.02	0.02	0.04	404.14
Percent Reduction	0.00	14.25	0.00	0.00	77.17	87.46	80.73	77.05	87.48	84.35	0.00
2010 TOTALS (tons/year unmitigated)	0.23	1.73	0.98	0.00	3.24	0.10	3.34	0.68	0.09	0.77	163.42
2010 TOTALS (tons/year mitigated)	0.23	1.70	0.98	0.00	0.74	0.09	0.82	0.15	0.08	0.23	163.42
Percent Reduction	0.00	1.43	0.00	0.00	77.31	13.22	75.40	77.30	13.22	69.65	0.00

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 7/1/2009-12/15/2009 Active Days: 120	**7.25**	**61.02**	**30.07**	0.00	0.01	**3.05**	3.06	0.00	**2.80**	2.81	**6,465.52**
Trenching 07/01/2009-12/15/2009	7.25	61.02	30.07	0.00	0.01	3.05	3.06	0.00	2.80	2.81	6,465.52
Trenching Off Road Diesel	7.18	60.89	27.79	0.00	0.00	3.04	3.04	0.00	2.80	2.80	6,216.72
Trenching Worker Trips	0.07	0.13	2.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.81
Time Slice 12/16/2009-12/31/2009 Active Days: 12	3.87	30.48	16.54	0.00	**60.61**	1.68	**62.28**	**12.66**	1.54	**14.20**	2,701.43
Fine Grading 12/16/2009-05/31/2010	3.87	30.48	16.54	0.00	60.61	1.68	62.28	12.66	1.54	14.20	2,701.43
Fine Grading Dust	0.00	0.00	0.00	0.00	60.60	0.00	60.60	12.66	0.00	12.66	0.00
Fine Grading Off Road Diesel	3.83	30.39	15.11	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.43	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.50
Time Slice 1/1/2010-5/31/2010 Active Days: 107	3.65	28.80	15.88	0.00	**60.61**	1.58	62.19	**12.66**	1.45	14.11	2,701.41
Fine Grading 12/16/2009-05/31/2010	3.65	28.80	15.88	0.00	60.61	1.58	62.19	12.66	1.45	14.11	2,701.41
Fine Grading Dust	0.00	0.00	0.00	0.00	60.60	0.00	60.60	12.66	0.00	12.66	0.00
Fine Grading Off Road Diesel	3.61	28.73	14.58	0.00	0.00	1.58	1.58	0.00	1.45	1.45	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 6/1/2010-6/30/2010 Active Days: 22	3.13	16.99	11.40	**0.01**	0.02	1.38	1.40	0.01	1.27	1.27	1,717.33
Asphalt 06/01/2010-06/30/2010	3.13	16.99	11.40	0.01	0.02	1.38	1.40	0.01	1.27	1.27	1,717.33
Paving Off-Gas	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.47	14.95	8.63	0.00	0.00	1.30	1.30	0.00	1.19	1.19	1,198.83
Paving On Road Diesel	0.14	1.92	0.69	0.00	0.01	0.07	0.08	0.00	0.07	0.07	269.71
Paving Worker Trips	0.06	0.12	2.09	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79

Phase Assumptions

Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description 2nd stage
Total Acres Disturbed: 12.12
Maximum Daily Acreage Disturbed: 3.03
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description 1st stage
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description 3rd stage
Acres to be Paved: 3.9
Off-Road Equipment:
4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

2/12/2009 12:41:18 PM

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Mitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 7/1/2009-12/15/2009 Active Days: 120	**7.25**	51.89	**30.07**	0.00	0.01	0.24	0.25	0.00	0.22	0.22	**6,465.52**
Trenching 07/01/2009-12/15/2009	7.25	51.89	30.07	0.00	0.01	0.24	0.25	0.00	0.22	0.22	6,465.52
Trenching Off Road Diesel	7.18	51.75	27.79	0.00	0.00	0.23	0.23	0.00	0.21	0.21	6,216.72
Trenching Worker Trips	0.07	0.13	2.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.81
Time Slice 12/16/2009-12/31/2009 Active Days: 12	3.87	30.48	16.54	0.00	13.75	1.68	15.43	2.87	1.54	4.41	2,701.43
Fine Grading 12/16/2009-05/31/2010	3.87	30.48	16.54	0.00	13.75	1.68	15.43	2.87	1.54	4.41	2,701.43
Fine Grading Dust	0.00	0.00	0.00	0.00	13.74	0.00	13.74	2.87	0.00	2.87	0.00
Fine Grading Off Road Diesel	3.83	30.39	15.11	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.43	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.50
Time Slice 1/1/2010-5/31/2010 Active Days: 107	3.65	28.80	15.88	0.00	13.75	1.58	15.33	2.87	1.45	4.33	2,701.41
Fine Grading 12/16/2009-05/31/2010	3.65	28.80	15.88	0.00	13.75	1.58	15.33	2.87	1.45	4.33	2,701.41
Fine Grading Dust	0.00	0.00	0.00	0.00	13.74	0.00	13.74	2.87	0.00	2.87	0.00
Fine Grading Off Road Diesel	3.61	28.73	14.58	0.00	0.00	1.58	1.58	0.00	1.45	1.45	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 6/1/2010-6/30/2010 Active Days: 22	3.13	14.75	11.40	**0.01**	0.02	0.18	0.20	0.01	0.16	0.17	1,717.33
Asphalt 06/01/2010-06/30/2010	3.13	14.75	11.40	0.01	0.02	0.18	0.20	0.01	0.16	0.17	1,717.33
Paving Off-Gas	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.47	12.71	8.63	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,198.83
Paving On Road Diesel	0.14	1.92	0.69	0.00	0.01	0.07	0.08	0.00	0.07	0.07	269.71
Paving Worker Trips	0.06	0.12	2.09	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

The following mitigation measures apply to Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

For Bore/Drill Rigs, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Bore/Drill Rigs, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rough Terrain Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rough Terrain Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Loaders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Loaders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Trenchers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Trenchers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

Phase Assumptions

Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 12.12

Maximum Daily Acreage Disturbed: 3.03

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

Acres to be Paved: 3.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

2/12/2009 12:41:44 PM

Urbemis 2007 Version 9.2.4

Detail Report for Winter Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

2/12/2009 12:41:44 PM

CONSTRUCTION EMISSION ESTIMATES (Winter Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 7/1/2009-12/15/2009 Active Days: 120	**7.25**	**61.02**	**30.07**	0.00	0.01	**3.05**	3.06	0.00	**2.80**	2.81	**6,465.52**
Trenching 07/01/2009-12/15/2009	7.25	61.02	30.07	0.00	0.01	3.05	3.06	0.00	2.80	2.81	6,465.52
Trenching Off Road Diesel	7.18	60.89	27.79	0.00	0.00	3.04	3.04	0.00	2.80	2.80	6,216.72
Trenching Worker Trips	0.07	0.13	2.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.81
Time Slice 12/16/2009-12/31/2009 Active Days: 12	3.87	30.48	16.54	0.00	**60.61**	1.68	**62.28**	**12.66**	1.54	**14.20**	2,701.43
Fine Grading 12/16/2009-05/31/2010	3.87	30.48	16.54	0.00	60.61	1.68	62.28	12.66	1.54	14.20	2,701.43
Fine Grading Dust	0.00	0.00	0.00	0.00	60.60	0.00	60.60	12.66	0.00	12.66	0.00
Fine Grading Off Road Diesel	3.83	30.39	15.11	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.43	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.50
Time Slice 1/1/2010-5/31/2010 Active Days: 107	3.65	28.80	15.88	0.00	**60.61**	1.58	62.19	**12.66**	1.45	14.11	2,701.41
Fine Grading 12/16/2009-05/31/2010	3.65	28.80	15.88	0.00	60.61	1.58	62.19	12.66	1.45	14.11	2,701.41
Fine Grading Dust	0.00	0.00	0.00	0.00	60.60	0.00	60.60	12.66	0.00	12.66	0.00
Fine Grading Off Road Diesel	3.61	28.73	14.58	0.00	0.00	1.58	1.58	0.00	1.45	1.45	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 6/1/2010-6/30/2010 Active Days: 22	3.13	16.99	11.40	**0.01**	0.02	1.38	1.40	0.01	1.27	1.27	1,717.33
Asphalt 06/01/2010-06/30/2010	3.13	16.99	11.40	0.01	0.02	1.38	1.40	0.01	1.27	1.27	1,717.33
Paving Off-Gas	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.47	14.95	8.63	0.00	0.00	1.30	1.30	0.00	1.19	1.19	1,198.83
Paving On Road Diesel	0.14	1.92	0.69	0.00	0.01	0.07	0.08	0.00	0.07	0.07	269.71
Paving Worker Trips	0.06	0.12	2.09	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79

Phase Assumptions

Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 12.12

Maximum Daily Acreage Disturbed: 3.03

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

Acres to be Paved: 3.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Urbemis 2007 Version 9.2.4

Detail Report for Winter Construction Mitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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CONSTRUCTION EMISSION ESTIMATES (Winter Pounds Per Day, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
Time Slice 7/1/2009-12/15/2009 Active Days: 120	**7.25**	51.89	**30.07**	0.00	0.01	0.24	0.25	0.00	0.22	0.22	**6,465.52**
Trenching 07/01/2009-12/15/2009	7.25	51.89	30.07	0.00	0.01	0.24	0.25	0.00	0.22	0.22	6,465.52
Trenching Off Road Diesel	7.18	51.75	27.79	0.00	0.00	0.23	0.23	0.00	0.21	0.21	6,216.72
Trenching Worker Trips	0.07	0.13	2.28	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.81
Time Slice 12/16/2009-12/31/2009 Active Days: 12	3.87	30.48	16.54	0.00	13.75	1.68	15.43	2.87	1.54	4.41	2,701.43
Fine Grading 12/16/2009-05/31/2010	3.87	30.48	16.54	0.00	13.75	1.68	15.43	2.87	1.54	4.41	2,701.43
Fine Grading Dust	0.00	0.00	0.00	0.00	13.74	0.00	13.74	2.87	0.00	2.87	0.00
Fine Grading Off Road Diesel	3.83	30.39	15.11	0.00	0.00	1.67	1.67	0.00	1.54	1.54	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.43	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.50
Time Slice 1/1/2010-5/31/2010 Active Days: 107	3.65	28.80	15.88	0.00	13.75	1.58	15.33	2.87	1.45	4.33	2,701.41
Fine Grading 12/16/2009-05/31/2010	3.65	28.80	15.88	0.00	13.75	1.58	15.33	2.87	1.45	4.33	2,701.41
Fine Grading Dust	0.00	0.00	0.00	0.00	13.74	0.00	13.74	2.87	0.00	2.87	0.00
Fine Grading Off Road Diesel	3.61	28.73	14.58	0.00	0.00	1.58	1.58	0.00	1.45	1.45	2,545.92
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.08	1.30	0.00	0.01	0.00	0.01	0.00	0.00	0.01	155.49
Time Slice 6/1/2010-6/30/2010 Active Days: 22	3.13	14.75	11.40	**0.01**	0.02	0.18	0.20	0.01	0.16	0.17	1,717.33
Asphalt 06/01/2010-06/30/2010	3.13	14.75	11.40	0.01	0.02	0.18	0.20	0.01	0.16	0.17	1,717.33
Paving Off-Gas	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.47	12.71	8.63	0.00	0.00	0.10	0.10	0.00	0.09	0.09	1,198.83
Paving On Road Diesel	0.14	1.92	0.69	0.00	0.01	0.07	0.08	0.00	0.07	0.07	269.71
Paving Worker Trips	0.06	0.12	2.09	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.79

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

The following mitigation measures apply to Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

For Bore/Drill Rigs, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Bore/Drill Rigs, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rough Terrain Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rough Terrain Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Loaders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Loaders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Trenchers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Trenchers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

Phase Assumptions

Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 12.12

Maximum Daily Acreage Disturbed: 3.03

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

Acres to be Paved: 3.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Construction Unmitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
2009	0.46	3.84	1.90	0.00	0.36	0.19	0.56	0.08	0.18	0.25	404.14
Trenching 07/01/2009-12/15/2009	0.44	3.66	1.80	0.00	0.00	0.18	0.18	0.00	0.17	0.17	387.93
Trenching Off Road Diesel	0.43	3.65	1.67	0.00	0.00	0.18	0.18	0.00	0.17	0.17	373.00
Trenching Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.93
Fine Grading 12/16/2009-05/31/2010	0.02	0.18	0.10	0.00	0.36	0.01	0.37	0.08	0.01	0.09	16.21
Fine Grading Dust	0.00	0.00	0.00	0.00	0.36	0.00	0.36	0.08	0.00	0.08	0.00
Fine Grading Off Road Diesel	0.02	0.18	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.28
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93

2010	0.23	1.73	0.98	0.00	3.24	0.10	3.34	0.68	0.09	0.77	163.42
Fine Grading 12/16/2009-05/31/2010	0.20	1.54	0.85	0.00	3.24	0.08	3.33	0.68	0.08	0.76	144.53
Fine Grading Dust	0.00	0.00	0.00	0.00	3.24	0.00	3.24	0.68	0.00	0.68	0.00
Fine Grading Off Road Diesel	0.19	1.54	0.78	0.00	0.00	0.08	0.08	0.00	0.08	0.08	136.21
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.32
Asphalt 06/01/2010-06/30/2010	0.03	0.19	0.13	0.00	0.00	0.02	0.02	0.00	0.01	0.01	18.89
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.16	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.19
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.97
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74

Phase Assumptions

Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 12.12

Maximum Daily Acreage Disturbed: 3.03

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day

1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day

1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

Acres to be Paved: 3.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Urbemis 2007 Version 9.2.4

Detail Report for Annual Construction Mitigated Emissions (Tons/Year)

File Name: C:\Documents and Settings\djwy\Application Data\Urbemis\Version9a\Projects\tequesquite2009.urb924

Project Name: Tequesquite Arroyo Trunk Sewer Alignment 2009

Project Location: Riverside County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Annual Tons Per Year, Mitigated)

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
2009	0.46	3.30	1.90	0.00	0.08	0.02	0.11	0.02	0.02	0.04	404.14
Trenching 07/01/2009-12/15/2009	0.44	3.11	1.80	0.00	0.00	0.01	0.01	0.00	0.01	0.01	387.93
Trenching Off Road Diesel	0.43	3.11	1.67	0.00	0.00	0.01	0.01	0.00	0.01	0.01	373.00
Trenching Worker Trips	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.93
Fine Grading 12/16/2009-05/31/2010	0.02	0.18	0.10	0.00	0.08	0.01	0.09	0.02	0.01	0.03	16.21
Fine Grading Dust	0.00	0.00	0.00	0.00	0.08	0.00	0.08	0.02	0.00	0.02	0.00
Fine Grading Off Road Diesel	0.02	0.18	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.28
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93

2010	0.23	1.70	0.98	0.00	0.74	0.09	0.82	0.15	0.08	0.23	163.42
Fine Grading 12/16/2009-05/31/2010	0.20	1.54	0.85	0.00	0.74	0.08	0.82	0.15	0.08	0.23	144.53
Fine Grading Dust	0.00	0.00	0.00	0.00	0.74	0.00	0.74	0.15	0.00	0.15	0.00
Fine Grading Off Road Diesel	0.19	1.54	0.78	0.00	0.00	0.08	0.08	0.00	0.08	0.08	136.21
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.32
Asphalt 06/01/2010-06/30/2010	0.03	0.16	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.89
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.14	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.19
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.97
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

The following mitigation measures apply to Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description

For Bore/Drill Rigs, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Bore/Drill Rigs, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Concrete/Industrial Saws, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Concrete/Industrial Saws, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Excavators, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Excavators, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Off Highway Trucks, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Off Highway Trucks, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rough Terrain Forklifts, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rough Terrain Forklifts, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Dozers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Dozers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Rubber Tired Loaders, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Rubber Tired Loaders, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Trenchers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Trenchers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

The following mitigation measures apply to Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

For Cement and Mortar Mixers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Cement and Mortar Mixers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Pavers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Pavers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:

PM10: 85% PM25: 85%

For Paving Equipment, the Use Aqueous Diesel Fuel mitigation reduces emissions by:

NOX: 15% PM10: 50% PM25: 50%

For Paving Equipment, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
PM10: 85% PM25: 85%
For Rollers, the Use Aqueous Diesel Fuel mitigation reduces emissions by:
NOX: 15% PM10: 50% PM25: 50%
For Rollers, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
PM10: 85% PM25: 85%
For Tractors/Loaders/Backhoes, the Use Aqueous Diesel Fuel mitigation reduces emissions by:
NOX: 15% PM10: 50% PM25: 50%
For Tractors/Loaders/Backhoes, the Diesel Particulate Filter (DPF) 1st Tier mitigation reduces emissions by:
PM10: 85% PM25: 85%

Phase Assumptions

Phase: Fine Grading 12/16/2009 - 5/31/2010 - Default Fine Site Grading/Excavation Description
Total Acres Disturbed: 12.12
Maximum Daily Acreage Disturbed: 3.03
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 0
Off-Road Equipment:
1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 7/1/2009 - 12/15/2009 - Default Trenching Description
Off-Road Equipment:
1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 8 hours per day
1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
1 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
1 Trenchers (63 hp) operating at a 0.75 load factor for 8 hours per day

Phase: Paving 6/1/2010 - 6/30/2010 - Default Paving Description

Acres to be Paved: 3.9

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day