

Appendix F.
Hazardous Materials Background Information

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**PHASE I ENVIRONMENTAL SITE
ASSESSMENT
ARROYO GRANDE CREEK
ARROYO GRANDE, CALIFORNIA**

August 4, 2009

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**PHASE I ENVIRONMENTAL SITE ASSESSMENT
ARROYO GRANDE CREEK
ARROYO GRANDE, CALIFORNIA**

Kleinfelder Job No: 96612

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1. SUMMARY

A Phase I Environmental Site Assessment (ESA) was conducted to include properties which contain the Arroyo Grande Creek (AGC) and the conjoined Los Berros Creek (LBC) in west-central San Luis Obispo (SLO) County (site). The AGC/LBC study area runs from 0.14-miles upstream of the confluence of AGC and LBS (to the north), where Los Berros Creek passes under the intersection of Los Berros Road and Century Lane (to the east), through the Cities of Arroyo Grande and Oceano and continues downstream to the upper edge of the Arroyo Grande Lagoon at the Pacific Ocean. The site also includes a portion of the railroad right-of-way extending both north and south of where the tracks bisect 22nd Street (See Plate 2).

The site has been occupied by the un-channelized Arroyo Grande Creek prior to 1965 and occupied by the current Los Berros Creek/Arroyo Grande Creek alignment since 1965. The properties north of the Arroyo Grande Creek, have undergone continually increasing development, including single-family dwellings, rural residences, mobile home parks, agricultural cropland, several inter-modal storage container yards, industrial properties (primarily associated with trucking or shipping businesses), a propane fueling station, an airport, and a sewage treatment facility. The property south of the site has been agricultural or rural residential since about 1900. No other land use has been reported.

The site does not contain structures. However, there are commercial, rural, industrial agricultural, and residential properties immediately adjacent to the creek alignment. No additional uses of the site were noted during our assessment.

No records were noted at regulatory agencies contacted, that suggest the presence of USTs, hazardous materials handling, storage, or releases at the site. Properties in the vicinity of the site appearing on published regulatory agency lists are not anticipated to pose an adverse impact to the site.

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-05 of APN 018-102-138 (site). Any exceptions to, or deletions from, this practice are described in Section 8, Limitations, of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property. Therefore no adverse impacts to the site are anticipated. However, concerns with regard to adjacent facilities were identified and are summarized below.

- The Petroleum pipeline which runs parallel to the creek levee (at two locations), may present a potential risk to soil and groundwater at the site from previous undocumented releases or future releases. No documented releases from the pipeline were identified.

- There are two agricultural equipment storage/maintenance facilities, adjacent to the site. One is located adjacent to the southern branch of the railroad right-of-way portion of the site. This area has several ASTs associated with this facility. There were no signs identifying the nature or name of the business. County of San Luis Obispo Environmental Health Services (CSLOEHS) has been contacted for more information, but to date, Kleinfelder has not received a response. The other facility is located adjacent to the northern portion of the site, near the confluence of AGC and LBC on the east side of AGC. This area also appears to store and possibly maintain agricultural equipment. These types of operations are known to store and mix agricultural chemicals and rinse the application and storage equipment. Resultant agricultural chemicals have the potential to impact the site. Additionally, agricultural operations have been known to have un-documented USTs located at the facilities. Un-documented USTs may be a concern to the site.

- Typically railroad right-of-way soils contain elevated concentrations of arsenic, as well as lead and organochlorine pesticides due to former weed control practices.

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During the site reconnaissance, twenty-nine hand auger surface soil samples were collected along the study area, near the creek bottom, and were submitted for naturally occurring asbestos (NOA) analysis. None of the samples collected contained NOA. The analytical results are presented in Appendix D.

Findings of Kleinfelder's assessment are discussed in greater detail in Chapter 7 of this report. This report is subject to the limitations in Chapter 8.

2. INTRODUCTION

The purpose of this assessment is to assist the client in evaluating recognized environmental conditions at the site. A recognized environmental condition is defined by the American Society for Testing and Materials (ASTM) standard as “the presence or likely presence of hazardous substances or petroleum products under conditions that indicate a release into structures on the property or into the ground, groundwater or surface water of the property.” Kleinfelder performed this Phase I ESA in general accordance with the scope and limitations of the ASTM; *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-05)*.

Report Format

The following sections describe Kleinfelder’s work scope:

- Chapter 3, **Site Setting**, is a compilation of information concerning the site’s location, physical setting, and geologic and hydrogeologic conditions.
- Chapter 4, **Records Review**, is a compilation of Kleinfelder’s review of several databases available from the Federal, State, and local regulatory agencies regarding hazardous substance use, storage, or disposal at the site; and for off-site facilities up to a mile radius from the site. This chapter includes interviews and telephone conversations conducted by Kleinfelder with local regulatory personnel knowledgeable about the site.
- Chapter 5, **History of the Site**, summarizes the history of the site and adjoining properties based on various sources which may include a review of aerial photographs, city or suburban directories, interviews, historical maps, chain-of-title, and information provided to Kleinfelder by the client.
- Chapter 6, **Site Reconnaissance**, describes Kleinfelder’s site observations during the site reconnaissance and observations of adjacent parcels.
- Chapter 7, **Findings and Conclusions**, is a presentation of our findings and conclusions regarding the information in Chapters 3 through 6; and presents our opinion regarding the presence of environmental conditions of concern at

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the site. Data gaps in historical or regulatory agency research and their significance to the conclusions of the Phase I ESA are presented.

- Chapters 8 and 9 present our **Limitations** and **References**, respectively.

Pertinent documentation regarding the site is included in Appendices A through D of this report.

3. SITE SETTING

The site setting is presented to assess the significance of potential on- and off-site contaminant migration, if present. The site location is presented on Plate 1 (Vicinity Map) and on Plate 2 (Site Plan) in Appendix A. Tables 1 through 3 provide the physical characteristics of the site and bordering properties.

3.1 Physical Setting

The information presented in Table 1 describes the physical location of the site. This information was obtained from maps, public records, and interviews.

**TABLE 1
SITE SETTING**

ASSESSOR'S PARCEL NUMBER AND ADDRESS	<p>Portions of APN 061;-091-029, -161-011, -008, -010, -126-006, -007, -321-002, -003, -331-001, -002, -003, -004, -005, 062-122-009, -010, -151-004, 075-011-020, -022, -038, -039, -042, -053, -031-016, -032-005, -006, -008, -009, -010, and -011.</p> <p>No addresses assigned to the site.</p>
LOCATION	<p>Site extends from 0.14-miles upstream of the confluence of AGC and LBS (to the north), where LBC passes under the intersection of Los Berros Road and Century Lane (to the east), through the Cities of Arroyo Grande and Oceano and continues downstream to the upper edge of the Arroyo Grande Lagoon at the Pacific Ocean. The site also includes a portion of the railroad right-of-way extending both 1400 ft. north and 2100 ft. south of where the tracks cross 22nd Street (See Plate 2). Approx. 3.5 miles of creek channels.</p>
TOWNSHIP & RANGE	<p>Portion of sections 31, 32, and 33, Township 32 South, Range 13 East, Oceano Quadrangle</p>
ACREAGE	<p>Approximately 15,550 linear feet or 36-acres (with an average creek width of 100-feet).</p>
CURRENT USE	<p>Creek right-of-way</p>
PROPOSED USE	<p>No change of use. Modifications to raise the levees, remove sediments, and to manage vegetation.</p>

Table 2 presents information about the physical setting of the site. This information was obtained from published maps.

**TABLE 2
PHYSICAL SETTING**

USGS TOPOGRAPHIC QUADRANGLE	Oceano Quadrangle	No structures are depicted at the site. The site elevations range from approximately 20-feet in the western portion of the site to approximately 70-feet above sea level at the northeastern portion of the site.
GEOLOGIC MAP	San Luis Obispo Sheet	Quaternary basin deposits and Nipomo Mesa, which consists of Aeolian sand deposits.
SOIL TYPES	Marimel sandy clay loam ⁽¹⁾ Mocho variant fine sandy loam ⁽²⁾	1) Very deep, poorly-drained soil on flood plains and alluvial fans. Formed in alluvium derived predominantly from sedimentary rock. Permeability is moderately slow. 2) Very deep, well-drained soil on alluvial fans and plains. Formed in alluvium weathered from sedimentary rock. Permeability is moderately rapid.
OIL AND GAS FIELDS	California Division of Oil and Gas Maps	According to map W-45, there are no oil or gas wells located on site or within one mile of the site.

Information on the regional geology and hydrogeology is presented on Table 3. This information was obtained from published data and maps, interviews with public agencies knowledgeable about the site, and from previous investigations conducted by Kleinfelder in the vicinity of the site.

**TABLE 3
REGIONAL GEOLOGY AND HYDROGEOLOGY**

REGIONAL GEOMORPHIC PROVINCE	The Site is located in the Coastal Ranges Geomorphic Province consisting of marine sedimentary and mélangé metamorphic rocks resting on a basement complex of metamorphic and igneous rocks. Surficial deposits are derived from erosion of variable rock units of the Coastal Ranges. Local surface deposits are primarily wind-blown sands.
DEPTH TO GROUNDWATER (Source: Department of Water Resources, Spring 2004)	Groundwater has been reported at approximately 40-80 feet below ground surface in the vicinity of the site
GROUNDWATER FLOW DIRECTION (Source: DWR)	Southwest
REGIONAL GROUNDWATER QUALITY PROBLEMS (Source: EDR, Kleinfelder Library)	Groundwater resources at coastal communities have been impacted by salt-water intrusion due to over drafting of potable groundwater for agricultural and municipal water supplies.

A brief drive-by survey of the parcels adjacent to the site was conducted on the same day as the site reconnaissance. A summary of the surrounding properties is presented on Table 4.

**TABLE 4
SURROUNDING PROPERTIES**

NORTH	Single-family dwellings, industrial, agricultural, an airport, waste treatment facility, and commercial facilities.
SOUTH	Single-family dwellings (rural), industrial, agricultural, and commercial facilities.
EAST	Agricultural property
WEST	Oceano dunes

4. RECORDS REVIEW

4.1 Regulatory Agency Database Review

The purpose of the records review is to obtain and review records that would help to evaluate recognized environmental conditions in connection with the site and bordering properties.

Federal, state and local regulatory agencies publish databases or "lists" of businesses and properties that handle hazardous materials or hazardous waste, or are the known location of a release of hazardous substances to soil and/or groundwater. These databases are available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. Kleinfelder contracted with a commercial database service, Environmental Data Services (EDR), to review the regulatory agency lists for references to the site and any listings within the appropriate ASTM minimum search distances to the site. The EDR database search results are included in Appendix B, EDR ASTM Search. Table 5 summarizes the federal and state databases reviewed by EDR.

**TABLE 5
RECORDS REVIEWED-SEARCH DISTANCE**

LIST	SEARCH RADIUS	FINDINGS
FEDERAL		
NPL	1-mile	None listed
CERCLIS	½ mile	None listed
RCRA-TSD	1-mile	None listed
RCRA-GEN	Site & bordering	None listed
ERNS	Site	None listed
CORRACTS TSD	1-mile	None listed
Non-CORRACTS TSD	½ mile	None listed
STATE		
BEP/AWP/EnviroStor	1-mile	None listed
SWIS/SWAT	½ mile	None listed
LUST	½ mile	One listed
SLIC	½ mile	None listed
UST	Site & bordering	One listed
CHMIRS	Site and bordering	None listed
CORTESE	½ mile	One listed

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The site does not have an address and does not appear on any of the records compiled by EDR and reviewed by Kleinfelder.

Orphan Summary/Unmapped Sites Report

Due to poor or inadequate address information, several properties could not be mapped by EDR. These properties were included in an orphan summary/unmapped properties report, which was reviewed by Kleinfelder. The orphan summary/unmapped properties report was reviewed to assess the potential for off site properties to affect the site. Because they have incomplete addresses, these properties are not practically reviewable as defined by the ASTM standard.

Discussion of Agency Records for the Site

Local Agency Records

Local regulatory agencies were contacted for reasonably ascertainable and practically reviewable information regarding recognized environmental conditions present at facilities in the area of the site. A summary of information obtained is provided on Table 6 and discussion follows:

**TABLE 6
AGENCY RECORDS SUMMARY**

AGENCY	CONTACT NAME	TYPE OF INFORMATION
San Luis Obispo County Assessor's Office	Receptionist	Assessors parcel map included in Appendix C. Appraisal records not reviewed as owner authorization was not provided.
City of Arroyo Grande and Oceano Building Department	File Clerk	Building permit records revealed no records of USTs, hazardous materials storage, or handling on file for the site.
County of San Luis Obispo Environmental Health Services	File Clerk	Information concerning hazardous material usage, UST investigations and permits. No records were on file for the site.
State of CA Regional Water Quality Control Board	Corey Walsh	LUST records for facility located north of the site were reviewed.
Office of the State Fire Marshal/Pipeline Safety Division	Kathy Battles	Pipeline survey of petroleum pipelines near the study area.

BeJo Seed Inc., an organic seed business is located adjacent to the site at 1972 Silver Spur Place. Records reviewed at the County of San Luis Obispo Environmental Health Services (CSLOEHS) had information that they had a hazardous business plan. However, the business plan was not in the file and could not be located. The business may store fuels or other chemicals, however, no indication of such storage or use was noted during our site reconnaissance.

Discussion of Agency Records for Surrounding Properties

Federal Lists

CERCLIS Properties

The CERCLIS database contains information on potentially hazardous waste sites that have been reported to the EPA pursuant to the Comprehensive Environmental

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Response, Compensation and Liability Act (CERCLA, a.k.a., the Superfund program). No active CERCLIS listed properties are located within one-half mile of the site.

NPL Properties

The National Priorities List (NPL) includes sites that the United States Environmental Protection Agency (EPA) considers threats to public health and the environment, and for which Superfund monies have been allocated. The NPL is derived from the CERCLIS List and identifies over 1,200 sites for priority cleanup under the Superfund program. The list is primarily based on a score that the site receives from the EPA's Hazard Ranking System. There were no NPL properties located within one-mile of the site.

RCRA CORRACTS TSD Properties

The EPA maintains a database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued pursuant to RCRA Section 3008 (h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility's boundary and can be required regardless of when the release occurred, even if it predates RCRA. This portion of EPA's RCRA database contains information on Treatment, Storage or Disposal (TSD) facilities with corrective action activity. There are no RCRA CORRACTS TSD facilities located on or within one-mile of the site.

RCRA non-CORRACTS TSD Properties

This portion of the RCRA database lists hazardous waste treatment, storage, and disposal (TSD) facilities that are not currently under corrective action order. There were no TSD properties located within one-mile of the site.

RCRA Generators

The portion of the RCRA database contains information on reporting facilities that generate hazardous wastes as defined by the RCRA. There are no RCRA Generators facilities located on or adjacent to the site.

ERNS

The Emergency Response Notification System (ERNS) is a national database that contains information from spill reports made to federal authorities including the EPA, the United States Coast Guard, the National Response Center and the Department of Transportation. This reporting system contains preliminary information on specific releases, including spill location, substance, and responsible party. There are no ERNS hazardous materials incidents listed for the site or adjacent properties.

State Lists

BEP/ AWP/ EnviroStor Properties

Cal-EPA maintains a database of potentially hazardous waste facilities identified as the *Cal-Sites* list. These sites are identified through the historical Abandoned Site Survey Program and federal, state, and county funded site evaluation programs. The *Cal-Sites* lists also includes both the Annual Workplan (AWP) and Bond Expenditure Plan (BEP) sites. The Department of toxic Substances Control's maintains the EnviroStor database, formerly CalSites. There were no properties included in this list located within one-mile of the site.

Regional Water Quality Control Board SLIC list

The California Regional Water Quality Control Board - Central Valley Region (RWQCB) maintains a list of spills, leaks, incidents and complaints (SLIC) that have been reported within their jurisdiction. There are no SLIC locations listed within a one-half mile of the site.

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LUST Properties

The RWQCB maintains records of reported leaking underground storage tank (LUST) incidents. The RWQCB is required to submit an annual report to the state that covers the reported leaks of hazardous substances from underground storage tanks.

There is one RWQCB LUST property listed within one-half mile of the site. The Craig Bell property is a former gasoline service station located approximately one-third mile north of the site at the intersection of Front and Cienega Streets. According to reports reviewed at RWQCB, groundwater monitoring and remediation are on-going as of the beginning of 2008. The groundwater contamination plume does not extend beyond a one block area of that facility. This facility is not anticipated to be a concern to the site due to its current status.

UST (Hazardous Substance Storage Container Database) Properties and Facility Inventory Database

The Hazardous Substance Storage Container database and the Facility Inventory Database are historical listings of underground storage tank (UST) sites maintained by the State Water Resources Control Board. More recent information is obtained by contacting the local regulatory agency that regulates USTs.

The site does not appear on UST listings. There is one adjacent facility listed. Fukuhara Farms, located at 1091 South Halcyon Road. It is listed on the historical UST list as having two tanks. A file review conducted at CSLOEHS revealed no evidence of USTs at the facility. However, a 500-gallon diesel above ground storage tank (AST) and a 500-gallon gasoline AST were noted at the facility. Waste oil and filters were also listed, but records did not indicate the waste oil was being stored in a tank (AST or UST). This facility is not anticipated to be a concern to the site due to its status.

Cortese Properties

The Office of Environmental Protection, Office of Hazardous Materials maintains the Identified Hazardous Waste and Substances Site database also known as the Cortese

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list. This database identifies contaminated public drinking water supply wells, sites selected for remediation, sites with known toxic releases, UST sites with reported releases, and solid waste disposal facilities where contamination migration is known.

There is one Cortese listed property within a half-mile of the site. The Bell property, discussed above, appears on this list. As previously discussed, this facility is not anticipated to be a concern to the site.

SWIS/SWAT Landfill Properties

The California Integrated Waste Management Board maintains a database of active, inactive and closed landfills, and transfer and composting stations. There are no SWIS/SWAT Landfill listed properties on or within a half-mile of the site.

CHMIRS

The California Hazardous Materials Incident Reporting System (CHMIRS) records hazardous materials spill incidents recorded by the State of California Office of Emergency Services. The site and adjacent properties do not appear on the CHMIRS List.

Environmental Lien and Activity Use Limitation Search

A search for recorded Environmental Liens and Activity Use Limitations was not included in the Scope of Services for this report.

5. HISTORY OF THE SITE

The history of the site was researched to identify obvious uses of the site from the present to first developed use, or back to the earliest readily available resources. Table 7 summarizes the availability of information reviewed during this assessment.

**TABLE 7
HISTORICAL INFORMATION REVIEWED**

	Years reviewed	Availability
AERIAL PHOTOGRAPHS	1939, 1949, 1956, 1966, 1972, 1989, 1994, 2002	EDR
TOPOGRAPHIC MAPS	Oceano, CA Quad 1900, 1918, 1952, 1965, 1979, and 1994	EDR and Kleinfelder library
SANBORN FIRE INSURANCE MAPS	None	No historic coverage provided for this area of SLO County.
CITY DIRECTORIES	None	No historic coverage provided for this area of SLO County.
INTERVIEW QUESTIONNAIRE	None	

The site history was established by utilizing historic topographic maps, aerial photographs, and building permit records.

Topographic Maps, and Aerial Photographs

The 1900 and 1918 topographic maps depict the site as the Arroyo Grande Creek. No structures are visible. The adjacent and surrounding properties appear as agricultural and rural residences near the creek alignment, with a few streets depicted in the town of Oceano, north of the site. Railroad tracks, labeled Southern Pacific Railroad, cross the site approximately in the center of the site at 22nd Street.

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The 1939 aerial photograph shows the Arroyo Grande Creek in its approximate current pattern. More creek-bottom vegetation than what currently exists is evident. The eastern extension of LBC does not exist. The area south of the creek is relatively rural and agricultural. Oceano is developed north of the site but is less densely developed than today.

The site and surrounding areas appear similar in the 1949 aerial photograph. A large barn is located along the east bank of the creek north of Arroyo Grande Avenue.

The 1952 topographic map depicts conditions at the site similar to those noted in the 1949 aerial photograph. The creek appears to have been channelized, as evidenced by the straightened trace of the creek. The development north of the site is more dense and consistent with what is seen in the 1950s and 1960s aerial photographs. The Pismo Airport is located north of the site.

The 1956 aerial photograph show the site as relatively unchanged, with the exception of less vegetation. LBC does not extend west to intersect AGC. The Pismo Airport is located north of the site. Other surrounding properties appear relatively unchanged. The barn that existed on the 1949 aerial photographs has been replaced by several small structures.

The 1965 topographic map depicts the existing eastern creek branch towards Valley Road, in alignment with Los Berros Road. This feature appears to connect AGC to LBC. The airport name has been changed to Oceano and a residential development is present north of Los LBC.

The 1966 aerial photograph shows the changes to the site, which were depicted in the 1965 topographic map. Conditions on surrounding properties are similar to those noted on earlier aerial photographs, with two exceptions; the addition of a residential area north of LBC and the addition of the sewage treatment facility, located adjacent to the creek between the creek and airport.

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The 1972 aerial photograph shows little change to the site and surrounding areas compared to the 1966 photograph.

The 1979 topographic map depicts little change to the site and surrounding areas.

The 1989 aerial photograph shows little change to the site. The surrounding areas are similar with the exception that a mobile home park has been developed near the center and adjacent to the site. Some additional development west of the mobile home park is evident and includes a container storage yard adjacent to the railroad tracks that bisect the site. Large barns appear adjacent and east of the north end of the site.

The 1994 and 2002 aerial photographs show little change to the site and surrounding properties.

The 1994 topographic map depicts little change to the site.

Copies of aerial photographs and topographic maps have been included in Appendix C.

Building Department Permit Records

City Building Department records are issued by address. Since there are addresses assigned to the site, no permits were on file for the site.

City Directories

No review of Polk City Directories and/or Haines Criss-Cross Directories for the County of SLO was conducted for the site, since no addresses have been assigned to the site.

Interviews

Interviews were not conducted since a person with knowledge about the site was not provided to Kleinfelder.

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6. SITE RECONNAISSANCE

Representatives from Kleinfelder conducted a site reconnaissance on April 27, 2009 to assess and photograph current site conditions. The approximate site boundaries are shown on Plate 2, "Site Plan," and photographs of the site are presented on Plates 3A through 3E in Appendix A.

The site consists of an approximately 15,500 foot long corridor along the LBC/AGC right-of-way. The LBC/AGC study area runs from 0.14-miles upstream of the confluence of AGC and LBS (to the north), where LBC passes under the intersection of Los Berros Road and Century Lane (to the east), through the Cities of Arroyo Grande and Oceano and continues downstream to the upper edge of the Arroyo Grande Lagoon at the Pacific Ocean. The site also includes a portion of the railroad right-of-way extending both north and south of where the tracks bisect 22nd Street (See Plate 2).

The creek right of way channelized in levees. Land south of the creek is primarily agricultural cropland. There are two residences with adjacent commercial horse riding stables along the central and southwestern portions of the creek. There are also two commercial businesses adjacent to the creek between 22nd Street and Creek Road. One business has agricultural spray equipment and above ground storage tanks (ASTs) in it's yard. The other business has no distinct features or visible operations. The areas north of the site include single-family dwellings, rural residences, mobile home parks, agricultural cropland, several inter-modal storage container yards, industrial properties (primarily associated with trucking or shipping businesses), a propane fueling station (with large propane ASTs), an airport, and a sewage treatment facility (between the airport and the creek). There are petroleum pipeline markers along the southeast creek bank between Cienega Street and Halcion Road. One area is located about one-

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tenth mile south of the site that appears to be a farm equipment fueling and agricultural chemical equipment storage and maintenance area. This facility is adjacent to the southern railroad segment the site. No signs were noted that identify the business or purpose of the tanks. Additionally, there is an agricultural equipment storage area located east of the northern-most area of the site. Database information does not reference these facilities.

During the site reconnaissance, observations and conditions likely to be associated with environmental concerns, as described in ASTM standards, were noted and summarized on Table 8.

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**TABLE 8
SITE OBSERVATIONS**

Exterior observations likely to involve the use, storage, disposal, or generation of hazardous substances or petroleum products.		Observed	Not Observed
	Remarks		
Current Use	AGC right-of-way	X	
Past Use	AGC right-of-way		X
Structures			X
Terrain	Slopes slightly to the west	X	
Hazardous chemical and petroleum products in connection with known use.			X
Aboveground storage tanks			X
Underground storage tanks			X
Odors			X
Pools of Liquid			X
Drums			X
Hazardous chemical and petroleum products in connection with unknown use.			X
Unidentified substance containers			X
Chemical storage or Ag chemical mixing areas			X
Asbestos, lead, PCBs			X
Pits, Ponds, or Lagoons			
Stained soil or pavement			X
Stressed vegetation			X
Hazardous Waste Storage			X
Solid Waste			X
Waste Water			X
Process waste water			X
Wells			X
Dry wells			X
Surface water	Water was only present in certain areas of creek.	X	
Storm basins/catch			X
Storm drains			X
Drains and sumps			X
Septic system			X
Imported Soil			X
Burned or buried debris			X
Pipelines	Petroleum pipeline markers adjacent to two areas of the site	X	

7. FINDINGS AND CONCLUSIONS

Kleinfelder performed this ESA of the site in conformance with the scope and limitations of ASTM Practice E1527-05. In summary:

7.1 History

The site has been occupied by the un-channelized Arroyo Grande Creek prior to 1965 and occupied by the current LBC/AGC alignment since 1965. The properties north of the Arroyo Grande Creek, have undergone continually increasing development, including single-family dwellings, rural residences, mobile home parks, agricultural cropland, several inter-modal storage container yards, industrial properties (primarily associated with trucking or shipping businesses), a propane fueling station, an airport, and a sewage treatment facility beginning. The property south of the site has been agricultural or rural residential since at least 1900. No other land use has been reported.

7.2 Site Reconnaissance

The site consists of an approximately 15,550 foot long corridor along the LBC/AGC right-of-way. The AGC/LBC study area runs from 0.14-miles upstream of the confluence of AGC and LBS (to the north), where LBC passes under the intersection of Los Berros Road and Century Lane (to the east), through the Cities of Arroyo Grande and Oceano and continues downstream to the upper edge of the Arroyo Grande Lagoon at the Pacific Ocean. The site also includes a portion of the railroad right-of-way extending both north and south of where the tracks bisect 22nd Street (See Plate 2). The site is bordered by commercial, rural, industrial, agricultural, and residential properties immediately adjacent to the creek alignment. No additional uses of the site were noted during our assessment. One area is located about one-tenth mile south of the site that appears to be a farm equipment fueling and agricultural chemical

equipment storage and maintenance area. This facility is adjacent to the southern railroad segment the site. No signs were noted that identify the business or purpose of the tanks. Additionally, there is an agricultural equipment storage area located east of the northern most area of the site. Database information does not reference these facilities.

7.3 Regulatory Review

No records were noted at the regulatory agencies contacted suggesting the presence of USTs, hazardous materials handling, storage, or releases at the site. Properties in the vicinity of the site appearing on published regulatory agency lists are not anticipated to pose an adverse impact to the site.

7.4 Conclusions

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-05 of APN 018-102-138 (site). Any exceptions to, or deletions from, this practice are described in Section 8, Limitations, of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the property. Therefore no adverse impacts to the site are anticipated. However, concerns with regard to adjacent facilities were identified and are summarized below.

- The Petroleum pipeline which runs parallel to the creek levee (at two locations), may present a potential risk to soil and groundwater at the site from previous undocumented releases or future releases. No documented releases from the pipeline were identified.
- There are two agricultural equipment storage/maintenance facilities, adjacent to the site. One is located adjacent to the southern branch of the railroad right-of-way portion of the site. This area has several ASTs associated with this facility. There were no signs identifying the nature or name of the

business. CSLOEHS has been contacted for more information, but to date, Kleinfelder has not received a response. The other facility is located adjacent to the northern portion of the site, near the confluence of AGC and LBC on the east side of AGC. This area also appears to store and possibly maintain agricultural equipment. These types of operations are known to store and mix agricultural chemicals and rinse the application and storage equipment. Resultant agricultural chemicals have the potential to impact the site.

- Typically railroad right-of-way soils contain elevated concentrations of arsenic, as well as lead and organochlorine pesticides due to former weed control practices. Soil sampling and analysis for these constituents should be performed along the railroad portion of the site.

7.5 Data Gaps

Following is a discussion of data gaps documented during the course of our assessment, with their potential impact upon the conclusions of this Phase I ESA:

- A User Questionnaire was not completed by SWCA, Environmental Consultants. The lack of responses to the User Questionnaire is not considered a significant impact to the findings of our assessment, as it is unlikely that the responses would have provided additional sources of information regarding past activities conducted at the site, considering the limited amount of city involvement with the site.

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8. LIMITATIONS

Phase I ESAs are non-comprehensive by nature and are unlikely to identify all environmental problems or eliminate all risk. The attached report is a qualitative assessment. Kleinfelder offers a range of investigative and engineering services to suit the needs of our clients, including more quantitative investigations. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help you understand and better manage your risks. Since such detailed services involve greater expense, we ask our clients to participate in identifying the level of service that will provide them with an acceptable level of risk. Please contact the signatories of this report if you would like to discuss this issue of risk further.

Kleinfelder performed this environmental assessment in general accordance with the guidelines set forth in the ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (Designation E1527-05), in accordance with generally accepted standards of care practiced by other members of our profession in San Luis Obispo County, California at the time the work was completed, and subsequently approved by you as our client. Environmental issues not specifically addressed in the report were beyond the scope of our work and not included in our evaluation.

This report may only be used by SWCA, Environmental Consultants and only for the purposes stated, within a reasonable time from its issuance, but no more than one (1) year from the date of the report. All information gathered by Kleinfelder is considered confidential and will be released only upon written authorization of SWCA, Environmental Consultants, or as required by law. Non-compliance with any of these requirements by SWCA, Environmental Consultants or anyone else, unless specifically agreed to in advance by Kleinfelder in writing, will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party and SWCA,

DRAFT



Environmental Consultants agrees to defend, indemnify, and hold harmless Kleinfelder from any claim or liability associated with such unauthorized use or non-compliance.

Kleinfelder offers various levels of investigative and engineering services to suit the varying need of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present. Although risk can never be eliminated, more detailed and extensive investigations yield more information, which may help understand and manage the level of risk. Since such detailed investigation and analysis involve greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies may be performed to reduce uncertainties. Acceptance of this report will indicate that SWCA, Environmental Consultants has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may be discovered. Kleinfelder will assume no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, generator, or person who arranges for the disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. SWCA, Environmental Consultants will be solely responsible for notifying all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. SWCA, Environmental Consultants will be responsible for all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including samples resulting from Kleinfelder's services.

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Regulations and professional standards applicable to Kleinfelder's services are continually evolving. Techniques are, by necessity, often new and relatively untried. Different professionals may reasonably adopt different approaches to similar problems. As such, our services are intended to provide SWCA, Environmental Consultants with a source of professional advice, opinions, and recommendations. Our professional opinions and recommendations are based on our research activities limited by the scope of work, in accordance with the generally accepted consulting practice that exists at the time and may depend on, and be qualified by, information gathered previously by others and provided to Kleinfelder. Consequently, no warranty or guarantee, express or implied, is intended or made.

Land use, site conditions (both on-site and off-site) and other factors will change over time. Since site activities and regulations beyond our control could change at any time after the completion of this report, our observations, findings and opinions can be considered valid only as of the date of the site visit. This report should not be relied upon after 180 days from the date of its issuance (ASTM Standard E1527, Section 4.5).

ASTM Standard E1527-05 requires additional user responsibilities and continuing obligations on the part of the report user, including but not limited to the assessment of comparative fair market property values of the site (if the property was not affected by hazardous substances or petroleum products, Section 6.5), environmental clean-up liens beyond land title records (Section 6.2), and specialized knowledge of the property by the users of Phase I ESA (Section 6.3).

DRAFT



9. REFERENCES

1. EDR report dated May 1, 2009.
2. Agencies (and personnel) interviewed are listed on Table 5 in Chapter 4 and Chapter 6.
3. Aerial photographs; EDR 1939, 1949, 1956, 1966, 1972, 1989, 1994, and 2001.
4. Historical topographical maps for Oceano, California: 1900, 1918, 1952, 1965, 1979 and 1994.

10. QUALIFICATIONS

Kleinfelder is an engineering firm with Engineers, Geologists, and Class I & II Environmental Assessors registered by the Office of Environmental Health Hazard Assessment in California. Kleinfelder is qualified to perform the environmental assessments in accordance with the guidelines of ASTM E1527-05, Standard Practice for Environmental Site Assessment Process.

The Environmental professionals responsible for preparing this report are as follows:

TERRY NEPHEW

Mr. Nephew has fifteen years of experience in the environmental and geotechnical field. His responsibilities include project management responsibilities and technical support for soil, air, and groundwater sample collection at underground fuel storage tank sites; and the construction and maintenance of groundwater, air, and vapor extraction systems for environmental assessment and remediation projects. He has completed the ASTM courses in Environmental Site Assessment for Commercial Real Estate and the Phase II Environmental Site Assessment for Commercial Real Estate. Mr. Nephew is responsible for performing Phase I and II ESAs as well as conducting the field work and has been performing ESAs for agricultural, commercial, industrial, residential properties, and school sites for at least ten years. Mr. Nephew also performs drafting tasks for environmental as well as geotechnical projects using the Automated Computer Assisted Drafting Program (AutoCAD).

Registration

Class I Registered Environmental Assessor, REA-07359

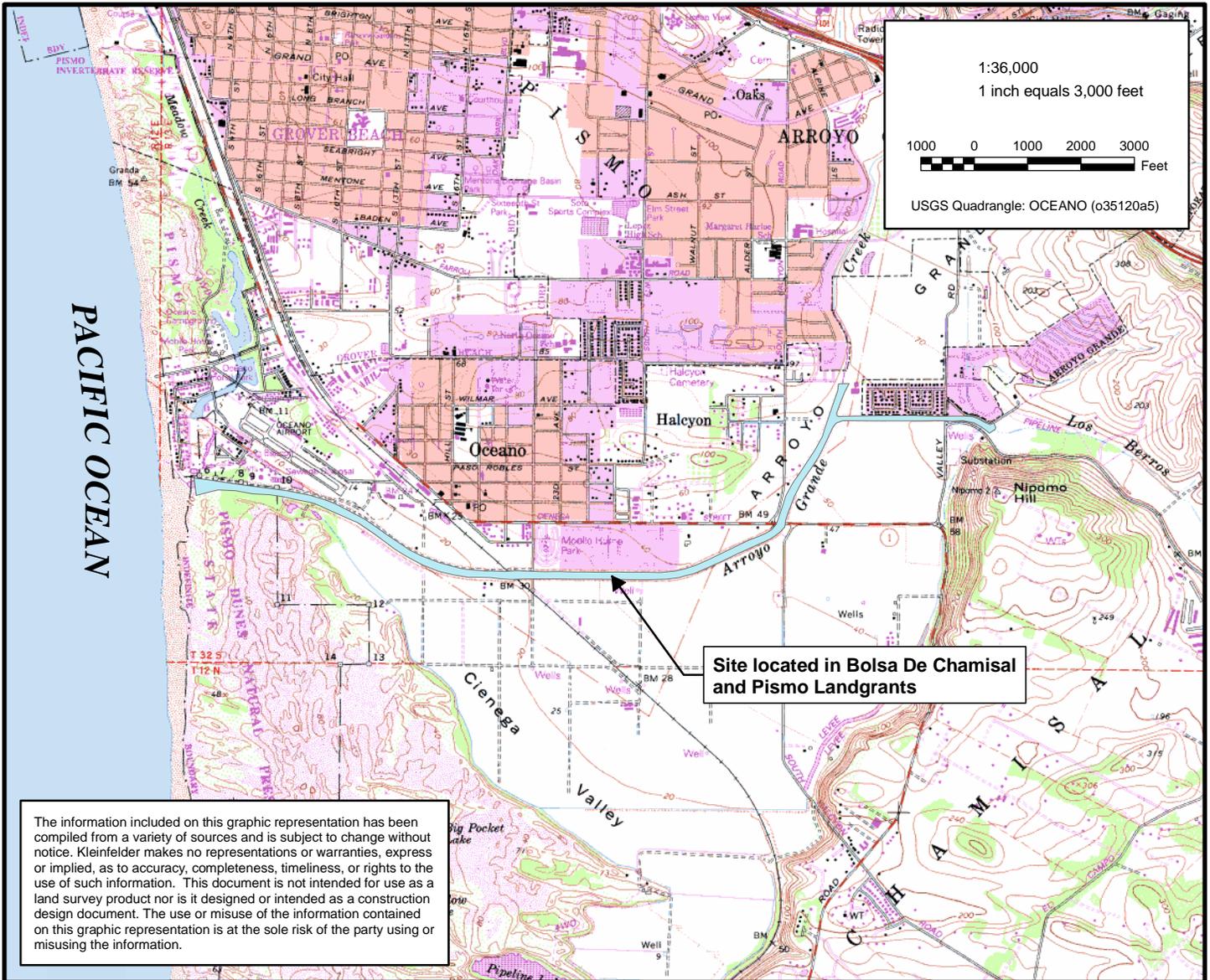
JASON R. PAUL

Mr. Paul has eighteen years of experience in the environmental discipline. He has worked extensively as client liaison with various regulatory agencies and has strong project management skills in working with both public and private sector clients. He has managed and conducted work on numerous soils and groundwater investigation and remediation projects, Phase I Environmental Site Assessments (ESAs), Preliminary Endangerment Assessments, and Risk Assessments. His project experience includes municipal, industrial, agricultural, public utility, commercial, military, and school sites. Mr. Paul's project management responsibilities include formulation of environmental assessment work plans, regulatory agency liaison, supervision of drilling operations, preparation of groundwater sampling and laboratory analysis programs for environmental clients, and supervision of field staff.

Registrations

Geologist, 7557, California, 2003

Cal-OSHA Building Inspector/EPA AH August 5, 2005ERA C-14970, California



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Site located in Bolsa De Chamisal and Pismo Landgrants

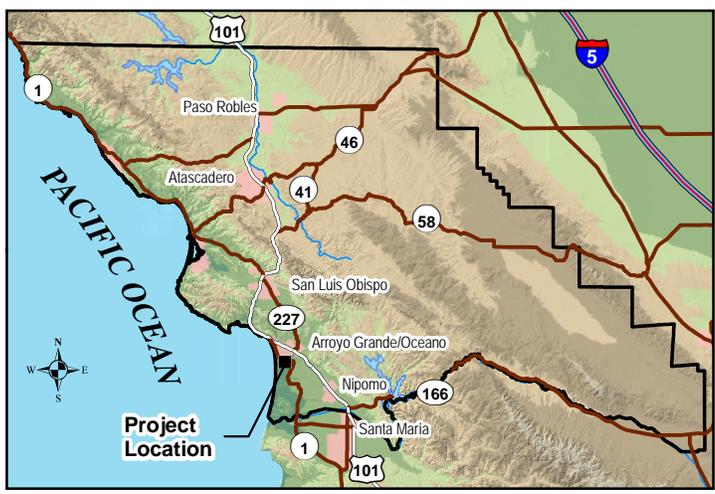
PACIFIC OCEAN

1:36,000
1 inch equals 3,000 feet

USGS Quadrangle: OCEANO (035120a5)



County of San Luis Obispo

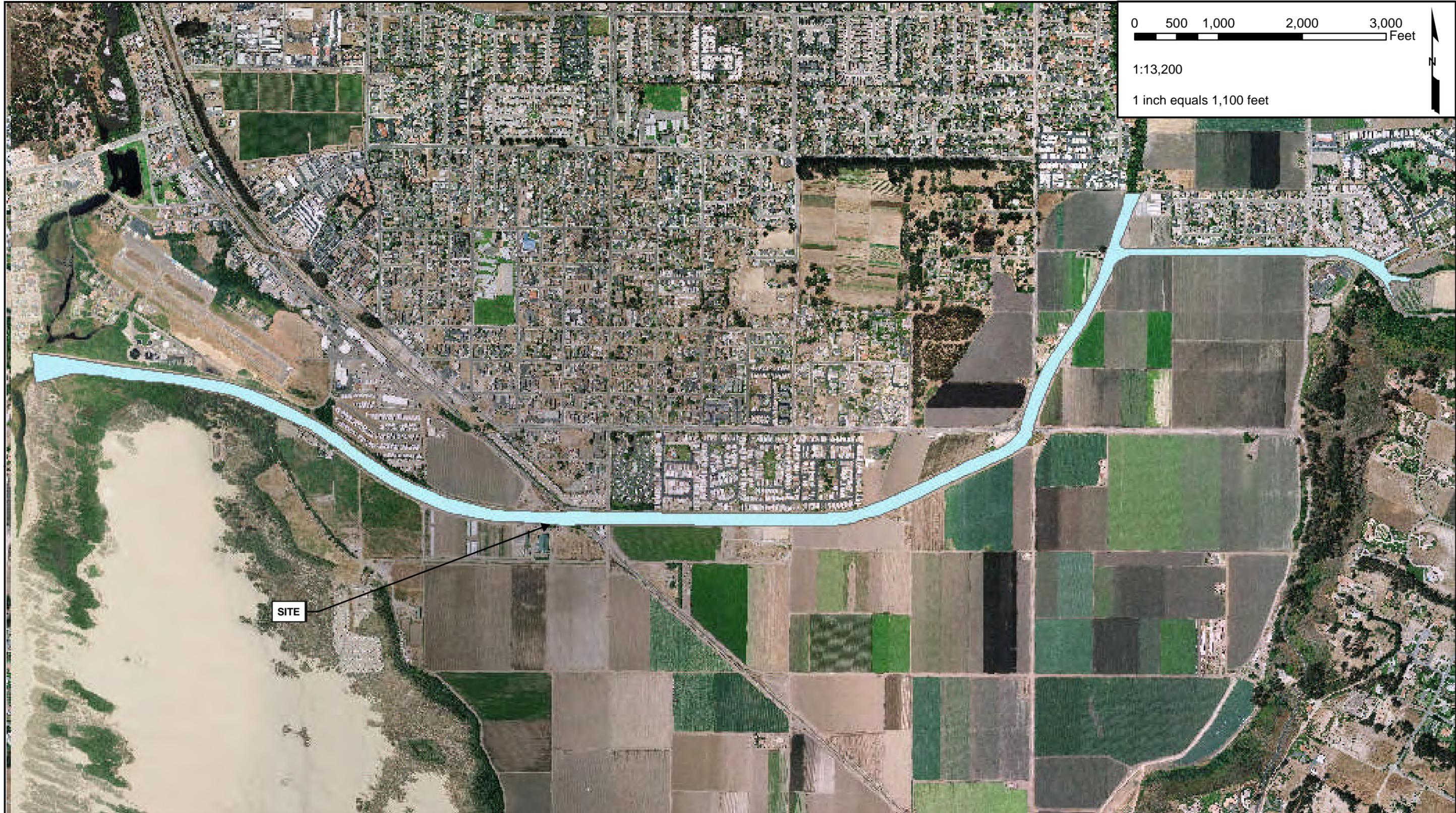


SITE VICINITY MAP

Arroyo Grande Creek
San Luis Obispo County, California

Plate
1

1410 F Street
Fresno, CA 93706
o| 559.486.0750 • f| 559.442.5081
www.kleinfelder.com



0 500 1,000 2,000 3,000
Feet

1:13,200

1 inch equals 1,100 feet

SITE

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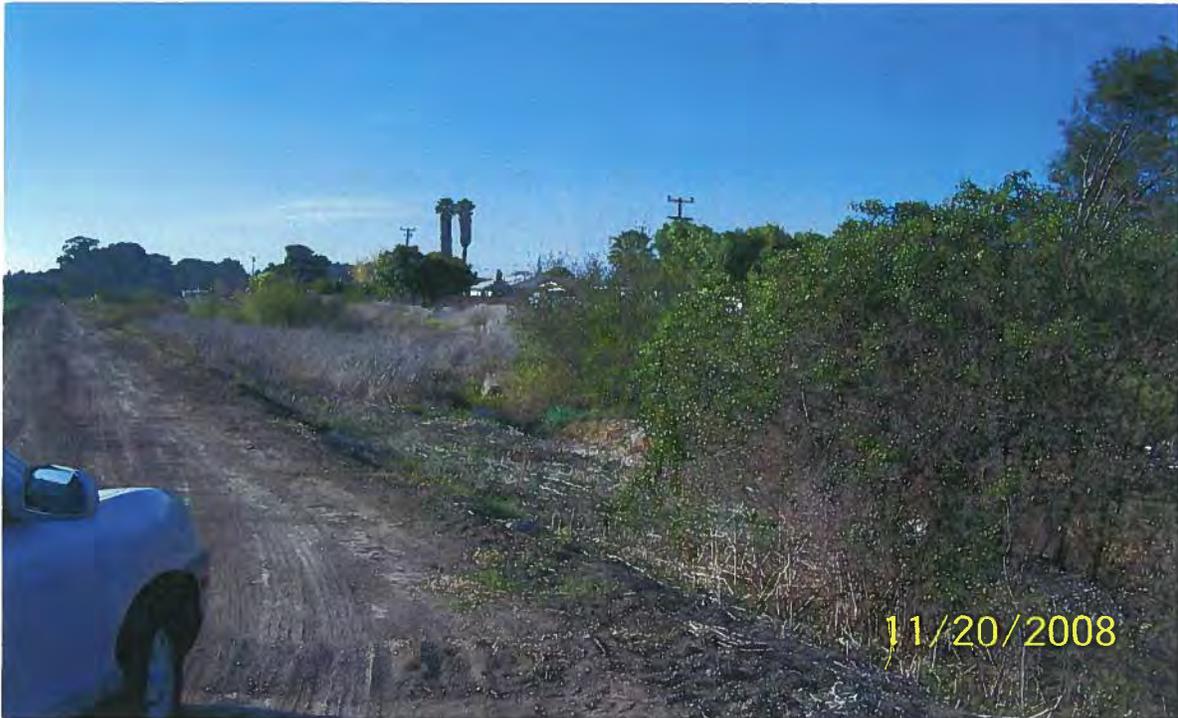


KLEINFELDER
 1410 F Street
 Fresno, CA 93706
 ☎ 559.486.0750 • 📠 559.442.5081
 www.kleinfelder.com

SITE PLAN		Plate 2
ARROYO GRANDE CREEK SAN LUIS OBISPO, COUNTY CALIFORNIA		
Cartography By: V. Ocegüera	Date: 07/31/09	Project Number: 96612
		File Name: 96612_P2_073109.mxd
© 2009, Kleinfelder		



View of the creek bottom looking north at the site located at the intersection of Valley Rd. & Los Berros Rd.



View from the intersection of Valley Rd. & Los Berros Rd looking northwest along creek bank.

KLEINFELDER
 1410 F Street
 Fresno, California 93706
 TEL: 559-186-0750 FAX: 559-442-5081

Site Photo

Arroyo Grande Creek Levee Project
 Arroyo Grande, California

Plate

3A

Drawn by: T. Nephew

Date: 11/26/2008

Project Number: 966612

File Name: Plate 3A



View of a petroleum pipeline marker located along the creek bank parallel to Halcyon Rd.



View of AST located adjacent to south creek bank approximately even with Elm St. alignment.

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 1410 F Street
 Fresno, California 93706
 TEL: 559-186-0750 FAX: 559-442-5081

Site Photo

Arroyo Grande Creek Levee Project
 Arroyo Grande, California

Plate

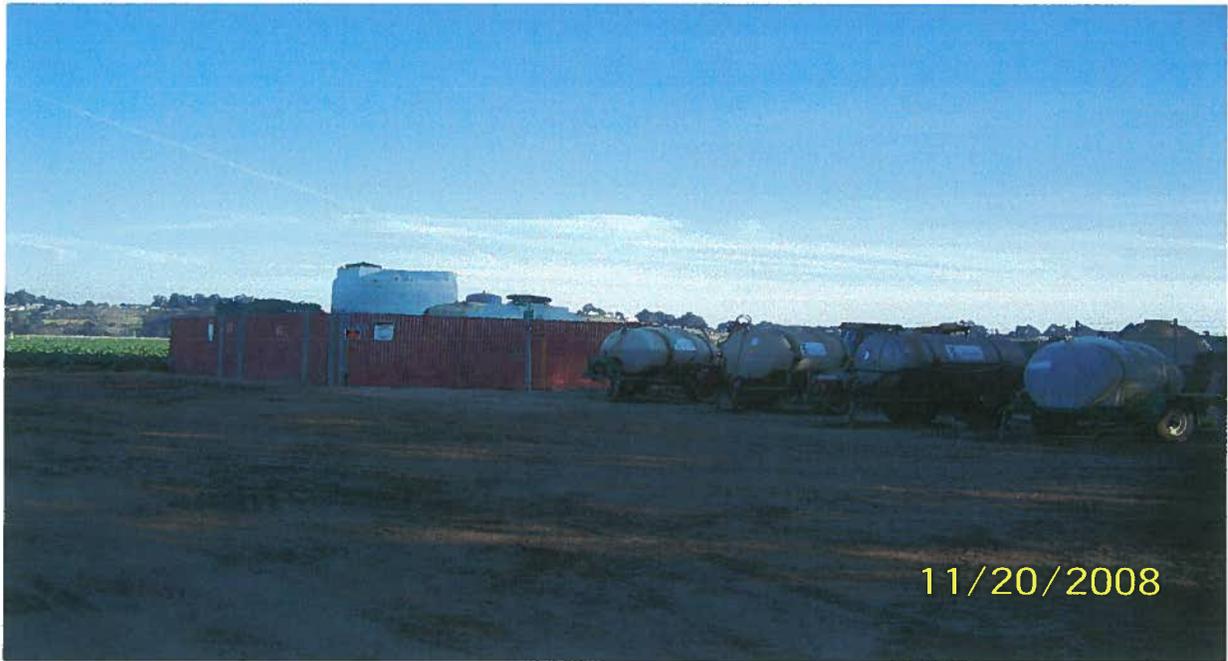
3B

Drawn by: T. Nephew

Date: 11/26/2008

Project Number: 966612

File Name: Plate 3B



View of agricultural spray business located about 800' south of site, south of Casa Pl.



View of AST at agricultural spray business located about 800' south of site, south of Casa Pl.



Site Photo

Arroyo Grande Creek Levee Project
Arroyo Grande, California

Plate

3C

Drawn by: T. Nephew

Date: 11/26/2008

Project Number: 966612

File Name: Plate 3C



View of agricultural business located between south creek bank and Casa Pl.



View of AST at agricultural business located between south creek bank and Casa Pl.

KLEINFELDER
 1410 F Street
 Fresno, California 93706
 TEL: 559-186-0750 FAX: 559-442-5081

Site Photo

Arroyo Grande Creek Levee Project
 Arroyo Grande, California

Plate

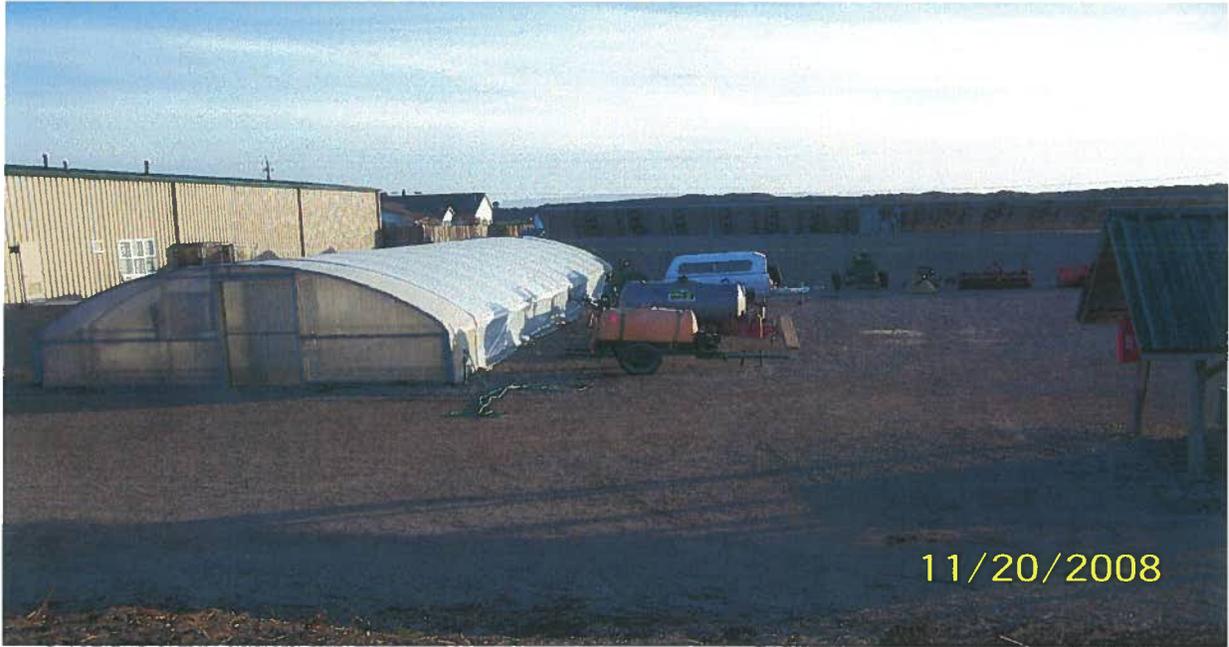
3D

Drawn by: T. Nephew

Date: 11/26/2008

Project Number: 966612

File Name: Plate 3D



View of sprayers at agricultural business located between south creek bank and Casa Pl.



Site Photo

Arroyo Grande Creek Levee Project
 Arroyo Grande, California

Plate

3E

Drawn by: T. Nephew

Date: 11/26/2008

Project Number: 966612

File Name: Plate 3E

Arroyo Grande Creek

Oceano, CA 93445

Inquiry Number: 02481113.1r

May 01, 2009

EDR DataMap™ Corridor Study

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

OCEANO, CA 93445
OCEANO, CA 93445

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
CORRECTS	Corrective Action Report
RCRA-TSDF	RCRA - Transporters, Storage and Disposal
RCRA-LQG	RCRA - Large Quantity Generators
RCRA-SQG	RCRA - Small Quantity Generators
RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generator
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
SLIC.....	Statewide SLIC Cases
LIENS.....	Environmental Liens 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
DRYCLEANERS.....	Cleaner Facilities
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-NonGen: 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.

A review of the RCRA-NonGen list, as provided by EDR, and dated 11/12/2008 has revealed that there is 1 RCRA-NonGen site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
<i>CENTRAL COAST TRUCKING</i>	<i>2100 22ND ST</i>	<i>10</i>	<i>14</i>

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 is 1 FINDS site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
<i>CENTRAL COAST TRUCKING</i>	<i>2100 22ND ST</i>	<i>10</i>	<i>14</i>

STATE AND LOCAL RECORDS

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 01/05/2009 has revealed that there is 1 SWRCY site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
NEXCYCLE	1909 FRONT ST	8	11

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 01/06/2009 has revealed that there is 1 LUST site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
BELL CRAIG(FORM SERV STATION) Status: Open - Remediation	1899 CIENEGA	9	12

EXECUTIVE SUMMARY

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
M., FUKUHARA	1091 S HALCYON RD	7	10

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, and dated 01/06/2009 has revealed that there are 2 UST sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
SLOCO FUEL SITE #1 ARROYO GRAN	840 BRANCH ST	2	3
OCEANO MARKET	1711 FRONT ST	6	9

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 are 7 HIST UST sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
RUNELS BROS	661 VALLEY RD	1	3
PHELAN & TAYLOR PRODUCE	GARDEN STREET	4	4
CERTIFIED FREIGHT LINES INC.	1820 RAILROAD ST	4	4
OCEANO ICE CO.	1730 RAILROAD ST	4	5
S. SAN LUIS OBISPO COUNTY SAN.	1600 ALOHA PL	5	5
M., FUKUHARA	1091 S HALCYON RD	7	10
SUTTONS EXXON SERVICE	1899 CIENAGA ST	9	11

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
OCEANO C.S.D.	1685 FRONT ST	3	3
AUSTIN'S MARKET	1711 FRONT ST	6	8

EXECUTIVE SUMMARY

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 12/31/2007 has revealed that there are 3 HAZNET sites within the searched area.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
<i>S. SAN LUIS OBISPO COUNTY SAN.</i>	<i>1600 ALOHA PL</i>	<i>5</i>	<i>5</i>
<i>AUSTIN'S MARKET</i>	<i>1711 FRONT ST</i>	<i>6</i>	<i>8</i>
<i>SUTTONS EXXON SERVICE</i>	<i>1899 CIENAGA ST</i>	<i>9</i>	<i>11</i>

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.

<u>Site</u>	<u>Address</u>	<u>Map ID</u>	<u>Page</u>
<i>S. SAN LUIS OBISPO COUNTY SAN.</i>	<i>1600 ALOHA PL</i>	<i>5</i>	<i>5</i>

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

<u>Database</u>	<u>Total Plotted</u>
<u>FEDERAL RECORDS</u>	
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	0
RCRA-CESQG	0
RCRA-NonGen	1
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	1
RAATS	0
SCRD DRYCLEANERS	0
<u>STATE AND LOCAL RECORDS</u>	
HIST Cal-Sites	0
CA BOND EXP. PLAN	0
SCH	0
Toxic Pits	0

MAP FINDINGS SUMMARY

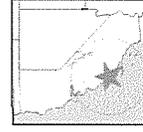
<u>Database</u>	<u>Total Plotted</u>
SWF/LF	0
WMUDS/SWAT	0
CA WDS	0
Cortese	0
SWRCY	1
LUST	1
CA FID UST	1
SLIC	0
UST	2
HIST UST	7
LIENS	0
SWEEPS UST	2
CHMIRS	0
LDS	0
MCS	0
AST	0
Notify 65	0
DEED	0
VCP	0
DRYCLEANERS	0
WIP	0
CDL	0
RESPONSE	0
HAZNET	3
EMI	1
ENVIROSTOR	0
HAULERS	0
 <u>TRIBAL RECORDS</u>	
INDIAN RESERV	0
INDIAN ODI	0
INDIAN LUST	0
INDIAN UST	0
INDIAN VCP	0
 <u>EDR PROPRIETARY RECORDS</u>	
Manufactured Gas Plants	0

NOTES:

Sites may be listed in more than one database

Arroyo Grande Creek

- Listed Sites
- Earthquake Epicenters (Richter 5 or greater)
- Search Boundary
- Roads
- Major Roads
- Waterways
- Railroads
- Contour Lines
- Pipelines
- Powerlines
- Fault Lines
- Water
- Superfund Sites
- Federal DOD Sites
- Indian Reservations BIA
- 100-Yr Flood Zones
- National Wetland Inventory



MAP FINDINGS

Map ID			EDR ID Number
Direction			
Distance			
Distance (ft.)Site		Database(s)	EPA ID Number

1	RUNELS BROS 661 VALLEY RD ARROYO GRANDE, CA 98342	HIST UST	U001621236 N/A
---	--	----------	-------------------

HIST UST:

Region:	STATE
Facility ID:	00000042656
Facility Type:	Other
Other Type:	Not reported
Total Tanks:	0001
Contact Name:	Not reported
Telephone:	8054895727
Owner Name:	RUNELS BROS
Owner Address:	661 VALLEY RD.
Owner City,St,Zip:	ARROYO GRANDE, CA 93420

Tank Num:	001
Container Num:	001
Year Installed:	1935
Tank Capacity:	00000550
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Tank Construction:	Not reported
Leak Detection:	Visual

2	SLOCO FUEL SITE #1 ARROYO GRANDE 840 BRANCH ST ARROYO GRANDE, CA 93420	UST	U003949085 N/A
---	---	-----	-------------------

UST:

Global ID:	16731
Latitude:	35.10413
Longitude:	-120.58285

3	OCEANO C.S.D. 1685 FRONT ST OCEANO, CA 93445	SWEEPS UST	S106930085 N/A
---	---	------------	-------------------

SWEEPS UST:

Status:	A
Comp Number:	17101
Number:	4
Board Of Equalization:	Not reported
Ref Date:	03-16-93
Act Date:	03-16-93
Created Date:	12-12-90
Tank Status:	A
Owner Tank Id:	Not reported
Swrcb Tank Id:	40-000-017101-000001
Actv Date:	02-13-91
Capacity:	1000
Tank Use:	M.V. FUEL
Stg:	P
Content:	DIESEL
Number Of Tanks:	1

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

4 PHELAN & TAYLOR PRODUCE HIST UST U001585719
GARDEN STREET N/A
OCEANO, CA 93445

HIST UST:

Region: STATE
 Facility ID: 00000041844
 Facility Type: Other
 Other Type: FARM
 Total Tanks: 0002
 Contact Name: Not reported
 Telephone: 8054892413
 Owner Name: PHELAN & TAYLOR PRODUCE CO.
 Owner Address: 1860 HIWAY 1
 Owner City,St,Zip: OCEANO, CA 93445

Tank Num: 001
 Container Num: 1
 Year Installed: Not reported
 Tank Capacity: 00004000
 Tank Used for: PRODUCT
 Type of Fuel: REGULAR
 Tank Construction: Not reported
 Leak Detection: None

Tank Num: 002
 Container Num: 2
 Year Installed: Not reported
 Tank Capacity: 00002000
 Tank Used for: PRODUCT
 Type of Fuel: DIESEL
 Tank Construction: Not reported
 Leak Detection: None

4 CERTIFIED FREIGHT LINES INC. HIST UST U001585712
1820 RAILROAD ST N/A
OCEANO, CA 93445

HIST UST:

Region: STATE
 Facility ID: 00000011937
 Facility Type: Other
 Other Type: TRUCKING TERMINAL
 Total Tanks: 0001
 Contact Name: SEBASTIAN OIL DISTR.
 Telephone: 8054891374
 Owner Name: CERTIFIED FREIGHT LINES, INC.
 Owner Address: 1820 RAILROAD AVENUE
 Owner City,St,Zip: OCEANO, CA 93445

Tank Num: 001
 Container Num: 01
 Year Installed: 1982
 Tank Capacity: 00000000
 Tank Used for: PRODUCT
 Type of Fuel: DIESEL
 Tank Construction: Not reported
 Leak Detection: Visual

MAP FINDINGS

Map ID			EDR ID Number
Direction			
Distance			
Distance (ft.)	Site	Database(s)	EPA ID Number

4	OCEANO ICE CO. 1730 RAILROAD ST OCEANO, CA 93445	HIST UST	U001585717 N/A
----------	---	-----------------	---------------------------------

HIST UST:

Region:	STATE
Facility ID:	00000038125
Facility Type:	Other
Other Type:	ICE MFG & DISTRIBUTI
Total Tanks:	0001
Contact Name:	Not reported
Telephone:	8054892288
Owner Name:	OCEANO ICE CO., INC.
Owner Address:	1730 RAILROAD ST.
Owner City,St,Zip:	OCEANO, CA 93445

Tank Num:	001
Container Num:	1
Year Installed:	1970
Tank Capacity:	00000500
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Tank Construction:	1/4 inches
Leak Detection:	Stock Inventor

5	S. SAN LUIS OBISPO COUNTY SAN. 1600 ALOHA PL OCEANO, CA 93445	HAZNET HIST UST EMI	U001585723 N/A
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HAZNET:

Gepaid:	CAL000253969
Contact:	AARON ALLEN OPERATOR
Telephone:	8054896666
Facility Addr2:	Not reported
Mailing Name:	Not reported
Mailing Address:	PO BOX 339
Mailing City,St,Zip:	OCEANO, CA 934450550
Gen County:	San Luis Obispo
TSD EPA ID:	CAL000190080
TSD County:	San Joaquin
Waste Category:	Asbestos-containing waste
Disposal Method:	H132
Tons:	0.4
Facility County:	San Luis Obispo

HIST UST:

Region:	STATE
Facility ID:	00000058706
Facility Type:	Other
Other Type:	WASTEWATER TREATMENT
Total Tanks:	0001
Contact Name:	R. MICHAEL RHOADES
Telephone:	805489666
Owner Name:	S. SAN LUIS OBISPO COUNTY SANI
Owner Address:	1600 ALOHA PLACE
Owner City,St,Zip:	OCEANO, CA 93445

Tank Num:	001
Container Num:	1

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number
 EPA ID Number

Database(s)

S. SAN LUIS OBISPO COUNTY SAN. (Continued)

U001585723

Year Installed: 1981
 Tank Capacity: 00002133
 Tank Used for: PRODUCT
 Type of Fuel: DIESEL
 Tank Construction: Not reported
 Leak Detection: Stock Inventor

EMI:

Year: 2000
 County Code: 40
 Air Basin: SCC
 Facility ID: 996
 Air District Name: SLO
 SIC Code: 4952
 Air District Name: SAN LUIS OBISPO COUNTY APCD
 Community Health Air Pollution Info System: Not reported
 Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: 1
 Reactive Organic Gases Tons/Yr: 0
 Carbon Monoxide Emissions Tons/Yr: 1
 NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers & Smlr Tons/Yr: 0

Year: 2001
 County Code: 40
 Air Basin: SCC
 Facility ID: 996
 Air District Name: SLO
 SIC Code: 4952
 Air District Name: SAN LUIS OBISPO COUNTY APCD
 Community Health Air Pollution Info System: Not reported
 Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: 1
 Reactive Organic Gases Tons/Yr: 0
 Carbon Monoxide Emissions Tons/Yr: 1
 NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers & Smlr Tons/Yr: 0

Year: 2002
 County Code: 40
 Air Basin: SCC
 Facility ID: 996
 Air District Name: SLO
 SIC Code: 4952
 Air District Name: SAN LUIS OBISPO COUNTY APCD
 Community Health Air Pollution Info System: Not reported
 Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: 1
 Reactive Organic Gases Tons/Yr: 0
 Carbon Monoxide Emissions Tons/Yr: 1
 NOX - Oxides of Nitrogen Tons/Yr: 0
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number
 Database(s) EPA ID Number

S. SAN LUIS OBISPO COUNTY SAN. (Continued)

U001585723

Part. Matter 10 Micrometers & Smlr Tons/Yr:	0
Year:	2003
County Code:	40
Air Basin:	SCC
Facility ID:	996
Air District Name:	SLO
SIC Code:	4952
Air District Name:	SAN LUIS OBISPO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smlr Tons/Yr:	0
Year:	2004
County Code:	40
Air Basin:	SCC
Facility ID:	996
Air District Name:	SLO
SIC Code:	4952
Air District Name:	SAN LUIS OBISPO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0.604
Reactive Organic Gases Tons/Yr:	0.2828284
Carbon Monoxide Emissions Tons/Yr:	1.084
NOX - Oxides of Nitrogen Tons/Yr:	0.199
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smlr Tons/Yr:	0
Year:	2005
County Code:	40
Air Basin:	SCC
Facility ID:	996
Air District Name:	SLO
SIC Code:	4952
Air District Name:	SAN LUIS OBISPO COUNTY APCD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.604
Reactive Organic Gases Tons/Yr:	.2828284
Carbon Monoxide Emissions Tons/Yr:	1.084
NOX - Oxides of Nitrogen Tons/Yr:	.199
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smlr Tons/Yr:	0
Year:	2006
County Code:	40
Air Basin:	SCC
Facility ID:	996

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

S. SAN LUIS OBISPO COUNTY SAN. (Continued)

U001585723

Air District Name: SLO
 SIC Code: 4952
 Air District Name: SAN LUIS OBISPO COUNTY APCD
 Community Health Air Pollution Info System: Not reported
 Consolidated Emission Reporting Rule: Not reported
 Total Organic Hydrocarbon Gases Tons/Yr: .604
 Reactive Organic Gases Tons/Yr: .2828284
 Carbon Monoxide Emissions Tons/Yr: 1.084
 NOX - Oxides of Nitrogen Tons/Yr: .199
 SOX - Oxides of Sulphur Tons/Yr: 0
 Particulate Matter Tons/Yr: 0
 Part. Matter 10 Micrometers & Smllr Tons/Yr: 0

6

**AUSTIN'S MARKET
 1711 FRONT ST
 OCEANO, CA 93445**

**HAZNET S105083182
 SWEEPS UST N/A**

HAZNET:

Gepaid: CAC001329056
 Contact: ROBERT PADILLA
 Telephone: 8054893138
 Facility Addr2: Not reported
 Mailing Name: Not reported
 Mailing Address: 1711 FRONT ST
 Mailing City,St,Zip: OCEANO, CA 934450000
 Gen County: San Luis Obispo
 TSD EPA ID: CAT080013352
 TSD County: Los Angeles
 Waste Category: Waste oil and mixed oil
 Disposal Method: Recycler
 Tons: 1.6680
 Facility County: San Luis Obispo

Gepaid: CAC001329056
 Contact: ROBERT PADILLA - PROP OWNER
 Telephone: 8054893138
 Facility Addr2: Not reported
 Mailing Name: Not reported
 Mailing Address: 1711 FRONT ST
 Mailing City,St,Zip: OCEANO, CA 934450000
 Gen County: San Luis Obispo
 TSD EPA ID: CAT080013352
 TSD County: Los Angeles
 Waste Category: Tank bottom waste
 Disposal Method: Recycler
 Tons: 1.04
 Facility County: Not reported

SWEEPS UST:

Status: A
 Comp Number: 10701
 Number: 2
 Board Of Equalization: Not reported
 Ref Date: 03-16-93
 Act Date: 03-16-93
 Created Date: 02-29-88
 Tank Status: A

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

AUSTIN'S MARKET (Continued)

S105083182

Owner Tank Id: 1
 Swrcb Tank Id: 40-000-010701-000001
 Actv Date: 02-13-91
 Capacity: 8003
 Tank Use: M.V. FUEL
 Stg: P
 Content: LEADED
 Number Of Tanks: 3

Status: A
 Comp Number: 10701
 Number: 2
 Board Of Equalization: Not reported
 Ref Date: 03-16-93
 Act Date: 03-16-93
 Created Date: 02-29-88
 Tank Status: A

Owner Tank Id: 2
 Swrcb Tank Id: 40-000-010701-000002
 Actv Date: 02-13-91
 Capacity: 4407
 Tank Use: M.V. FUEL
 Stg: P
 Content: REG UNLEADED
 Number Of Tanks: Not reported

Status: A
 Comp Number: 10701
 Number: 2
 Board Of Equalization: Not reported
 Ref Date: 03-16-93
 Act Date: 03-16-93
 Created Date: 02-29-88
 Tank Status: A

Owner Tank Id: 3
 Swrcb Tank Id: 40-000-010701-000003
 Actv Date: 02-13-91
 Capacity: 3017
 Tank Use: M.V. FUEL
 Stg: P
 Content: REG UNLEADED
 Number Of Tanks: Not reported

6

**OCEANO MARKET
 1711 FRONT ST
 OCEANO, CA 93445**

**UST U003786096
 N/A**

UST:
 Global ID: 16671
 Latitude: 35.10172
 Longitude: -120.61642

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

7 **M., FUKUHARA** **CA FID UST** **S101620681**
1091 S HALCYON RD **N/A**
ARROYO GRANDE, CA 93420

CA FID UST:
 Facility ID: 40001692
 Regulated By: UTNKA
 Regulated ID: 00015203
 Cortese Code: Not reported
 SIC Code: Not reported
 Facility Phone: 8054892630
 Mail To: Not reported
 Mailing Address: 1091 S HALCYON RD
 Mailing Address 2: Not reported
 Mailing City,St,Zip: ARROYO GRANDE 93420
 Contact: Not reported
 Contact Phone: Not reported
 DUNS Number: Not reported
 NPDES Number: Not reported
 EPA ID: Not reported
 Comments: Not reported
 Status: Active

7 **M., FUKUHARA** **HIST UST** **U001585127**
1091 S HALCYON RD **N/A**
ARROYO GRANDE, CA 93420

HIST UST:
 Region: STATE
 Facility ID: 00000015203
 Facility Type: Other
 Other Type: FARM
 Total Tanks: 0002
 Contact Name: Not reported
 Telephone: 8054892630
 Owner Name: M., FUKUHARA
 Owner Address: 1091 S. HALYCON RD.
 Owner City,St,Zip: ARROYO GRANDE, CA 93420

Tank Num: 001
 Container Num: #2
 Year Installed: Not reported
 Tank Capacity: 00000300
 Tank Used for: PRODUCT
 Type of Fuel: UNLEADED
 Tank Construction: Not reported
 Leak Detection: None

Tank Num: 002
 Container Num: #1
 Year Installed: Not reported
 Tank Capacity: 00000550
 Tank Used for: PRODUCT
 Type of Fuel: REGULAR
 Tank Construction: Not reported
 Leak Detection: None

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

8 NEXCYCLE
1909 FRONT ST
OCEANO, CA 93445

SWRCY S107137399
N/A

SWRCY:
 Certification Status: O
 Facility Phone Number: Not reported
 Date facility became certified: 10/1/2001
 Date facility began operating: 10/19/2001
 Date facility ceased operating: Still operating
 Whether The Facility Is Grandfathered: Not reported
 Convenience Zone Where Facility Located: 3094
 Convenience Zone Where Facility Located 2: Not Accepted
 Convenience Zone Where Facility Located 3: Not Accepted
 Convenience Zone Where Facility Located 4: Not Accepted
 Convenience Zone Where Facility Located 5: Not Accepted
 Convenience Zone Where Facility Located 6: Not Accepted
 Convenience Zone Where Facility Located 7: Not Accepted
 Aluminum Beverage Containers Redeemed: AL
 Glass Beverage Containers Redeemed: GL
 Plastic Beverage Containers Redeemed: PL
 Other mat beverage containers redeemed: Not reported
 Refillable Beverage Containers Redeemed: Not reported

9 SUTTONS EXXON SERVICE
1899 CIENAGA ST
OCEANO, CA 93445

HAZNET U001585726
HIST UST N/A

HAZNET:
 Gepaid: CAL000318437
 Contact: LEO FEDEWA
 Telephone: 8055434084
 Facility Addr2: Not reported
 Mailing Name: Not reported
 Mailing Address: 3455 S OCEANO AVE
 Mailing City,St,Zip: CAYUCOS, CA 934300000
 Gen County: San Luis Obispo
 TSD EPA ID: CAD982446858
 TSD County: Santa Barbara
 Waste Category: Unspecified oil-containing waste
 Disposal Method: H141
 Tons: 0.52
 Facility County: San Luis Obispo

HIST UST:
 Region: STATE
 Facility ID: 0000035605
 Facility Type: Gas Station
 Other Type: Not reported
 Total Tanks: 0004
 Contact Name: LEO SUTTON
 Telephone: 8054819561
 Owner Name: CLEO N. & BERNIDENE SMITH
 Owner Address: 516 FILLMORE
 Owner City,St,Zip: TAFT, CA 93268

 Tank Num: 001
 Container Num: 1
 Year Installed: Not reported

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

SUTTONS EXXON SERVICE (Continued)

U001585726

Tank Capacity: 00006000
 Tank Used for: PRODUCT
 Type of Fuel: UNLEADED
 Tank Construction: Not reported
 Leak Detection: None

Tank Num: 002
 Container Num: 4
 Year Installed: Not reported
 Tank Capacity: 00000300
 Tank Used for: WASTE
 Type of Fuel: WASTE OIL
 Tank Construction: Not reported
 Leak Detection: None

Tank Num: 003
 Container Num: 2
 Year Installed: Not reported
 Tank Capacity: 00008000
 Tank Used for: PRODUCT
 Type of Fuel: REGULAR
 Tank Construction: Not reported
 Leak Detection: None

Tank Num: 004
 Container Num: 3
 Year Installed: Not reported
 Tank Capacity: 00004000
 Tank Used for: PRODUCT
 Type of Fuel: PREMIUM
 Tank Construction: Not reported
 Leak Detection: None

**9 BELL CRAIG(FORM SERV STATION)
 1899 CIENEGA
 OCEANO, CA 93445**

**LUST S101308517
 N/A**

LUST:

Region: STATE
 Global Id: T0607900041
 Latitude: 35.0979929
 Longitude: -120.610919
 Case Type: LUST Cleanup Site
 Status: Open - Remediation
 Status Date: 2006-10-30 00:00:00
 Lead Agency: CENTRAL COAST RWQCB (REGION 3)
 Case Worker: Not reported
 Local Agency: SAN LUIS OBISPO COUNTY
 RB Case Number: 2079
 LOC Case Number: Not reported
 File Location: Regional Board
 Potential Media Affect: Aquifer used for drinking water supply
 Potential Contaminats of Concern: Gasoline
 Site History: Not reported

LUST REG 3:

Region: 3

MAP FINDINGS

Map ID
 Direction
 Distance
 Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

BELL CRAIG(FORM SERV STATION) (Continued)

S101308517

Regional Board: Central Coast Region
 Facility County: San Luis Obispo
 Status: Pollution Characterization
 Case Number: 2079
 Local Case Num: Not reported
 Case Type: O
 Substance: Gasoline
 Quantity: Not reported
 Abatement Method: U
 Global ID: T0607900041
 Leak Source: Tank
 Leak Cause: UNK
 How Stopped: Not reported
 How Discovered: Tank Closure
 Release Date: 02/03/1992
 Discovered Date: 5/18/90
 Enter Date: 01/01/1980
 Stop Date: Not reported
 Review Date: 08/07/2002
 Enforce Date: Not reported
 Close Date: Not reported
 Enforcement Type: LET
 Responsible Party: CRAIG BELL
 RP Address: 3455 SO. OCEAN
 Contact: Not reported
 Cross Street: HWH 1
 Local Agency: 40000
 Lead Agency: Regional Board
 Staff Initials: MTK
 Confirm Leak: Not reported
 Workplan: Not reported
 Prelim Assess: 5/10/91
 Pollution Char: 01/01/1992
 Remedial Plan: Not reported
 Remedial Action: Not reported
 Monitoring: / /
 Pilot Program: UST
 Interim Action: y
 Funding: y
 MTBE Class: B
 Max MTBE Grnd Wtr: 690
 Max MTBE Soil: Not reported
 Max MTBE Data: 10/02/2001
 MTBE Tested: YES
 Lat/Long: 35.0979929 / -120.610919
 Soil Qualifier: Not reported
 Grnd Wtr Qualifier: =
 Mtbe Concentratn: 19
 Mtbe Fuel: 1
 Org Name: Not reported
 Basin Plan: 10.31
 Beneficial: MUN
 Priority: Not reported
 UST Cleanup Fund ID: Not reported
 Suspended: Not reported
 Operator: Not reported
 Water System: OCEANO CSD

MAP FINDINGS

Map ID			EDR ID Number
Direction			
Distance			
Distance (ft.)	Site	Database(s)	EPA ID Number

BELL CRAIG(FORM SERV STATION) (Continued)

S101308517

Well Name: WELL 05
 Distance From Well: 0
 Assigned Name: 32S/13E-32D10 M
 Summary: RR ACCESS PENDING.

**10 CENTRAL COAST TRUCKING
 2100 22ND ST
 OCEANO, CA 93445**

**FINDS 1004676704
 RCRA-NonGen CAR000088435**

FINDS:

Other Pertinent Environmental Activity Identified at Site

Registry ID: 110012246462

California - Hazardous Waste Tracking System - Datamart

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.

RCRA-NonGen:

Date form received by agency: 12/14/2000
 Facility name: CENTRAL COAST TRUCKING
 Facility address: 2100 22ND ST
 OCEANO, CA 93445
 EPA ID: CAR000088435
 Mailing address: P O BOX 686
 OCEANO, CA 93445
 Contact: GEORGE WINSLETT
 Contact address: P O BOX 686
 OCEANO, CA 93445
 Contact country: US
 Contact telephone: (805) 474-1446
 Contact email: Not reported
 EPA Region: 09
 Classification: Non-Generator
 Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name: GEORGE C WINSLETT
 Owner/operator address: P O BOX 686
 OCEANO, CA 93445
 Owner/operator country: Not reported
 Owner/operator telephone: (805) 474-1446
 Legal status: Private
 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

MAP FINDINGS

Map ID
Direction
Distance
Distance (ft.)Site

EDR ID Number

Database(s) EPA ID Number

CENTRAL COAST TRUCKING (Continued)

1004676704

Recycler of hazardous waste:	No
Transporter of hazardous waste:	Yes
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

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
ARROYO GRANDE	1003109126	RALCCO RECYCLING COMPANY	HIGHWAY 1 AT 801 RALCOA WAY	93420	CERCLIS, FINDS
ARROYO GRANDE	1000174710	NG CO	1111 HWY 101	93420	RCRA-SQG, FINDS
ARROYO GRANDE	U001585141	SEVEN-UP BOTTLING COMPANY	1111 HIGHWAY 101	93420	HIST UST
ARROYO GRANDE	1000251503	PACIFIC BELL	(L4) E/O HIGHWAY FIRST HUNDRED	93420	FINDS, RCRA-NonGen
ARROYO GRANDE	91466331	S31 T31S R13E/8 MI N OF ARROYO GRANDE	S31 T31S R13E/8 MI N OF ARROYO GRANDE	93420	ERNS
ARROYO GRANDE	1003878704	UNION CHEMICALS	2565 WILLOW RD SW OF HWY 1	93420	CERC-NFRAP
ARROYO GRANDE	S101482188	UNION OIL COMPANY - SANTA MARIA REFINERY	WILLOW ROAD AT HWY 1, 8 MILES N OF GUAD.	93420	ENVIROSTOR
GROVER BEACH	S106245238	JAMES CROOKS TRUCKING INC.	1050 GRIFFIN ST STE E	93433	DRYCLEANERS
GROVER CITY	1003877976	GROVER CITY LANDFILL	16TH & MINTONE	93433	CERC-NFRAP
OCEANO	U001585722	RICHARD PERRY	22ND / SILVERSPUR COURT MAILIN	93445	HIST UST
OCEANO	U001585725	SUTTON'S EXXON	1899 ARROYO GRANDE	93445	HIST UST
OCEANO	U001585711	AUSTINS MOBIL SER	1711 PACIFIC	93445	HIST UST
OCEANO	S106924185	CERTIFIED FREIGHT LINES, INC.	1820 RAILROAD AVE	93445	SWEEPS UST
OCEANO	1004678239	JOE COUPRAKIS	S SIDE OF PIER AVE AND E SIDE	93445	RCRA-SQG, FINDS

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: 02/02/2009	Source: EPA
Date Data Arrived at EDR: 02/12/2009	Telephone: N/A
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 04/20/2009
Number of Days to Update: 46	Next Scheduled EDR Contact: 07/27/2009
	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: 214-655-6659

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: 02/02/2009	Source: EPA
Date Data Arrived at EDR: 02/12/2009	Telephone: N/A
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 04/20/2009
Number of Days to Update: 46	Next Scheduled EDR Contact: 07/27/2009
	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: 02/02/2009	Source: EPA
Date Data Arrived at EDR: 02/12/2009	Telephone: N/A
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 04/20/2009
Number of Days to Update: 46	Next Scheduled EDR Contact: 07/27/2009
	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	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 02/16/2009
Number of Days to Update: 56	Next Scheduled EDR Contact: 05/18/2009
	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	Source: EPA
Date Data Arrived at EDR: 10/16/2008	Telephone: 703-412-9810
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 04/17/2009
Number of Days to Update: 53	Next Scheduled EDR Contact: 07/13/2009
	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	Source: EPA
Date Data Arrived at EDR: 12/06/2007	Telephone: 703-412-9810
Date Made Active in Reports: 02/20/2008	Last EDR Contact: 03/16/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: 06/15/2009
	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: 11/20/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/23/2008	Telephone: 202-564-6023
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 03/03/2009
Number of Days to Update: 83	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/17/2008	Source: EPA
Date Data Arrived at EDR: 12/22/2008	Telephone: 800-424-9346
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 03/03/2009
Number of Days to Update: 98	Next Scheduled EDR Contact: 06/01/2009
	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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
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: 11/12/2008
Date Data Arrived at EDR: 11/18/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 118

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 04/23/2009
Next Scheduled EDR Contact: 07/20/2009
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 effect human health.

Date of Government Version: 10/06/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/17/2008	Telephone: 703-603-0695
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 03/30/2009
Number of Days to Update: 52	Next Scheduled EDR Contact: 06/29/2009
	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	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/17/2008	Telephone: 703-603-0695
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 03/30/2009
Number of Days to Update: 52	Next Scheduled EDR Contact: 06/29/2009
	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	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/23/2008	Telephone: 202-267-2180
Date Made Active in Reports: 03/17/2008	Last EDR Contact: 04/07/2009
Number of Days to Update: 54	Next Scheduled EDR Contact: 07/20/2009
	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: 09/30/2008	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 10/16/2008	Telephone: 202-366-4555
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 04/16/2009
Number of Days to Update: 34	Next Scheduled EDR Contact: 07/13/2009
	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	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 05/28/2008	Telephone: 202-366-4595
Date Made Active in Reports: 08/08/2008	Last EDR Contact: 02/24/2009
Number of Days to Update: 72	Next Scheduled EDR Contact: 05/25/2009
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 03/26/2009
Next Scheduled EDR Contact: 06/22/2009
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: 10/01/2008
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: 04/17/2009
Next Scheduled EDR Contact: 07/13/2009
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: 02/06/2009
Next Scheduled EDR Contact: 05/04/2009
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: 09/05/2008
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 03/09/2009
Next Scheduled EDR Contact: 06/08/2009
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 11/03/2008
Date Data Arrived at EDR: 01/06/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 83

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/21/2009
Next Scheduled EDR Contact: 07/20/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 03/16/2009
Next Scheduled EDR Contact: 06/15/2009
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: 06/09/2004
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: 03/25/2008
Date Data Arrived at EDR: 04/17/2008
Date Made Active in Reports: 05/15/2008
Number of Days to Update: 28

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/22/2009
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: 10/31/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 97

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/24/2009
Next Scheduled EDR Contact: 06/22/2009
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2006	Source: EPA
Date Data Arrived at EDR: 02/29/2008	Telephone: 202-566-0250
Date Made Active in Reports: 04/18/2008	Last EDR Contact: 04/09/2009
Number of Days to Update: 49	Next Scheduled EDR Contact: 06/15/2009
	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	Source: EPA
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-260-5521
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 04/14/2009
Number of Days to Update: 46	Next Scheduled EDR Contact: 07/13/2009
	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	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 10/17/2008	Telephone: 202-566-1667
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 03/16/2009
Number of Days to Update: 52	Next Scheduled EDR Contact: 06/15/2009
	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	Source: EPA
Date Data Arrived at EDR: 10/17/2008	Telephone: 202-566-1667
Date Made Active in Reports: 12/08/2008	Last EDR Contact: 03/16/2009
Number of Days to Update: 52	Next Scheduled EDR Contact: 06/15/2009
	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: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
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: 12/31/2006
Date Data Arrived at EDR: 03/14/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 12/04/2008
Next Scheduled EDR Contact: 07/13/2009
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: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
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: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
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: 01/07/2009
Date Data Arrived at EDR: 01/15/2009
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 74

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 04/29/2009
Next Scheduled EDR Contact: 07/27/2009
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	Source: EPA
Date Data Arrived at EDR: 10/31/2008	Telephone: (415) 947-8000
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 03/30/2009
Number of Days to Update: 53	Next Scheduled EDR Contact: 06/29/2009
	Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration 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: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	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	Source: EPA/NTIS
Date Data Arrived at EDR: 03/06/2007	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2007	Last EDR Contact: 02/19/2009
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/08/2009
	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: 12/08/2008	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/09/2008	Telephone: 615-532-8599
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 04/07/2009
Number of Days to Update: 97	Next Scheduled EDR Contact: 05/11/2009
	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	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 08/03/2006	Telephone: 916-323-3400
Date Made Active in Reports: 08/24/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/25/2009
	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	Source: Department of Health Services
Date Data Arrived at EDR: 07/27/1994	Telephone: 916-255-2118
Date Made Active in Reports: 08/02/1994	Last EDR Contact: 05/31/1994
Number of Days to Update: 6	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: 02/23/2009	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 02/24/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 02/24/2009
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/25/2009
	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	Source: State Water Resources Control Board
Date Data Arrived at EDR: 08/30/1995	Telephone: 916-227-4364
Date Made Active in Reports: 09/26/1995	Last EDR Contact: 01/26/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 04/27/2009
	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: 03/09/2009	Source: Integrated Waste Management Board
Date Data Arrived at EDR: 03/10/2009	Telephone: 916-341-6320
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 03/10/2009
Number of Days to Update: 29	Next Scheduled EDR Contact: 06/08/2009
	Data Release Frequency: Quarterly

CA WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007	Source: State Water Resources Control Board
Date Data Arrived at EDR: 06/20/2007	Telephone: 916-341-5227
Date Made Active in Reports: 06/29/2007	Last EDR Contact: 03/16/2009
Number of Days to Update: 9	Next Scheduled EDR Contact: 06/15/2009
	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: 03/04/2009
Next Scheduled EDR Contact: 06/01/2009
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: 01/21/2009
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 04/22/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: No Update Planned

SWRCY: Recycler Database

A listing of recycling facilities in California.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
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: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
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: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
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: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
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, Calveras, 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: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
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: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: No Update Planned

LUST REG 9: 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: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
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	Source: California Regional Water Quality Control Board Santa Ana Region (8)
Date Data Arrived at EDR: 02/15/2005	Telephone: 909-782-4496
Date Made Active in Reports: 03/28/2005	Last EDR Contact: 02/02/2009
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/04/2009
	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	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 09/05/1995	Telephone: 916-341-5851
Date Made Active in Reports: 09/29/1995	Last EDR Contact: 12/28/1998
Number of Days to Update: 24	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: 01/06/2009	Source: State Water Resources Control Board
Date Data Arrived at EDR: 01/08/2009	Telephone: 866-480-1028
Date Made Active in Reports: 01/27/2009	Last EDR Contact: 04/08/2009
Number of Days to Update: 19	Next Scheduled EDR Contact: 07/06/2009
	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	Source: California Regional Water Quality Control Board, North Coast Region (1)
Date Data Arrived at EDR: 04/07/2003	Telephone: 707-576-2220
Date Made Active in Reports: 04/25/2003	Last EDR Contact: 02/16/2009
Number of Days to Update: 18	Next Scheduled EDR Contact: 05/18/2008
	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	Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Date Data Arrived at EDR: 10/20/2004	Telephone: 510-286-0457
Date Made Active in Reports: 11/19/2004	Last EDR Contact: 04/07/2009
Number of Days to Update: 30	Next Scheduled EDR Contact: 07/06/2009
	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	Source: California Regional Water Quality Control Board Central Coast Region (3)
Date Data Arrived at EDR: 05/18/2006	Telephone: 805-549-3147
Date Made Active in Reports: 06/15/2006	Last EDR Contact: 02/09/2009
Number of Days to Update: 28	Next Scheduled EDR Contact: 05/11/2009
	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: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 03/03/2009
Next Scheduled EDR Contact: 06/01/2009
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: 03/03/2009
Next Scheduled EDR Contact: 05/18/2009
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: 03/30/2009
Next Scheduled EDR Contact: 06/29/2009
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: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: Annually

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/30/2009
Number of Days to Update: 22

Source: SWRCB
Telephone: 916-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
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: 12/29/2008
Date Data Arrived at EDR: 12/29/2008
Date Made Active in Reports: 01/30/2009
Number of Days to Update: 32

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 06/22/2009
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: 02/13/2009
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 50

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
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: 02/16/2009
Next Scheduled EDR Contact: 05/18/2009
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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Quality Control Board
Telephone: 866-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
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: 02/10/2009
Date Made Active in Reports: 04/14/2009
Number of Days to Update: 63

Source: State Water Resources Control Board
Telephone: 916-341-5712
Last EDR Contact: 04/27/2009
Next Scheduled EDR Contact: 07/27/2009
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: 01/06/2009
Date Data Arrived at EDR: 01/08/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 19

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 04/08/2009
Next Scheduled EDR Contact: 07/06/2009
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: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: No Update Planned

DEED: Deed Restriction Listing

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 03/30/2009	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 03/31/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 12/30/2009
Number of Days to Update: 8	Next Scheduled EDR Contact: 06/29/2009
	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: 02/23/2009	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 02/24/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 02/24/2009
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/25/2009
	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	Source: Department of Toxic Substance Control
Date Data Arrived at EDR: 09/24/2008	Telephone: 916-327-4498
Date Made Active in Reports: 09/29/2008	Last EDR Contact: 04/17/2009
Number of Days to Update: 5	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	Source: Los Angeles Water Quality Control Board
Date Data Arrived at EDR: 11/03/2008	Telephone: 213-576-6726
Date Made Active in Reports: 11/26/2008	Last EDR Contact: 04/24/2009
Number of Days to Update: 23	Next Scheduled EDR Contact: 07/20/2009
	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	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 10/06/2008	Telephone: 916-255-6504
Date Made Active in Reports: 10/13/2008	Last EDR Contact: 04/24/2009
Number of Days to Update: 7	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/23/2009	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 02/24/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 02/24/2009
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/25/2009
	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: 12/31/2007	Source: California Environmental Protection Agency
Date Data Arrived at EDR: 02/17/2009	Telephone: 916-255-1136
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 02/17/2009
Number of Days to Update: 50	Next Scheduled EDR Contact: 05/04/2009
	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	Source: California Air Resources Board
Date Data Arrived at EDR: 10/16/2008	Telephone: 916-322-2990
Date Made Active in Reports: 11/26/2008	Last EDR Contact: 04/17/2009
Number of Days to Update: 41	Next Scheduled EDR Contact: 04/13/2009
	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: 02/23/2009	Source: Department of Toxic Substances Control
Date Data Arrived at EDR: 02/24/2009	Telephone: 916-323-3400
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 02/24/2009
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing

A listing of registered waste tire haulers.

Date of Government Version: 12/22/2008	Source: Integrated Waste Management Board
Date Data Arrived at EDR: 12/22/2008	Telephone: 916-341-6422
Date Made Active in Reports: 01/27/2009	Last EDR Contact: 04/07/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: 06/08/2009
	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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005 Source: USGS
Date Data Arrived at EDR: 12/08/2006 Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007 Last EDR Contact: 02/06/2009
Number of Days to Update: 34 Next Scheduled EDR Contact: 05/04/2009
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 Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007 Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008 Last EDR Contact: 02/23/2009
Number of Days to Update: 52 Next Scheduled EDR Contact: 05/25/2009
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: 03/13/2009 Source: EPA Region 8
Date Data Arrived at EDR: 03/17/2009 Telephone: 303-312-6271
Date Made Active in Reports: 03/30/2009 Last EDR Contact: 02/16/2009
Number of Days to Update: 13 Next Scheduled EDR Contact: 05/18/2009
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 Source: EPA Region 7
Date Data Arrived at EDR: 12/03/2008 Telephone: 913-551-7003
Date Made Active in Reports: 12/23/2008 Last EDR Contact: 02/20/2009
Number of Days to Update: 20 Next Scheduled EDR Contact: 05/18/2009
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: 06/06/2008 Source: EPA Region 4
Date Data Arrived at EDR: 10/09/2008 Telephone: 404-562-8677
Date Made Active in Reports: 11/19/2008 Last EDR Contact: 02/16/2009
Number of Days to Update: 41 Next Scheduled EDR Contact: 05/18/2009
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: 02/19/2009 Source: EPA Region 1
Date Data Arrived at EDR: 02/19/2009 Telephone: 617-918-1313
Date Made Active in Reports: 03/16/2009 Last EDR Contact: 02/16/2009
Number of Days to Update: 25 Next Scheduled EDR Contact: 05/18/2009
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: 12/15/2008 Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2008 Telephone: 415-972-3372
Date Made Active in Reports: 03/16/2009 Last EDR Contact: 04/17/2009
Number of Days to Update: 90 Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 03/03/2009	Source: EPA Region 10
Date Data Arrived at EDR: 03/04/2009	Telephone: 206-553-2857
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 26	Next Scheduled EDR Contact: 05/18/2009
	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: 02/15/2009	Source: EPA Region 6
Date Data Arrived at EDR: 02/27/2009	Telephone: 214-665-6597
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 17	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009	Source: EPA, Region 1
Date Data Arrived at EDR: 02/19/2009	Telephone: 617-918-1313
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 25	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 06/06/2008	Source: EPA Region 4
Date Data Arrived at EDR: 10/09/2008	Telephone: 404-562-9424
Date Made Active in Reports: 11/19/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 41	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 09/08/2008	Source: EPA Region 5
Date Data Arrived at EDR: 09/19/2008	Telephone: 312-886-6136
Date Made Active in Reports: 10/16/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/25/2008	Source: EPA Region 6
Date Data Arrived at EDR: 11/26/2008	Telephone: 214-665-7591
Date Made Active in Reports: 12/23/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008	Source: EPA Region 7
Date Data Arrived at EDR: 12/30/2008	Telephone: 913-551-7003
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 02/20/2009
Number of Days to Update: 76	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 03/13/2009	Source: EPA Region 8
Date Data Arrived at EDR: 03/17/2009	Telephone: 303-312-6137
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 13	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/15/2008	Source: EPA Region 9
Date Data Arrived at EDR: 12/16/2008	Telephone: 415-972-3368
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 04/17/2009
Number of Days to Update: 90	Next Scheduled EDR Contact: 05/18/2009
	Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 03/03/2009	Source: EPA Region 10
Date Data Arrived at EDR: 03/04/2009	Telephone: 206-553-2857
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 02/16/2009
Number of Days to Update: 26	Next Scheduled EDR Contact: 05/18/2009
	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	Source: EPA, Region 1
Date Data Arrived at EDR: 04/22/2008	Telephone: 617-918-1102
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	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	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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 (oil 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: 01/23/2009
Date Data Arrived at EDR: 01/23/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 75

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/23/2009
Date Data Arrived at EDR: 01/23/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 76

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
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: 02/24/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 42

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
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.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/14/2009
Date Data Arrived at EDR: 01/15/2009
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 12

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 02/02/2009
Next Scheduled EDR Contact: 05/04/2009
Data Release Frequency: Semi-Annually

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing Kern County Sites and Tanks Listing.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 9

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 03/30/2009
Next Scheduled EDR Contact: 06/01/2009
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: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/26/2008
Date Data Arrived at EDR: 01/27/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 71

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 11/10/2008
Date Data Arrived at EDR: 11/25/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 63

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 02/11/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 03/05/2009
Date Data Arrived at EDR: 03/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 29

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 03/10/2009
Next Scheduled EDR Contact: 06/08/2009
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 02/09/2009
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 51

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 02/09/2009
Next Scheduled EDR Contact: 05/11/2009
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: 03/28/2003
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: 02/20/2009
Next Scheduled EDR Contact: 05/18/2009
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/23/2009
Date Data Arrived at EDR: 02/24/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 44

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/11/2009
Data Release Frequency: Semi-Annually

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 02/05/2009
Date Data Arrived at EDR: 02/17/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 51

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 04/27/2009
Next Scheduled EDR Contact: 07/27/2009
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: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Semi-Annually

Closed and Operating Underground Storage Tank Sites

Underground storage tank sites located in Napa county.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: Annually

ORANGE COUNTY:

List of Industrial Site Cleanups

Petroleum and non-petroleum spills.

Date of Government Version: 03/02/2009
Date Data Arrived at EDR: 03/18/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 21

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/05/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups

Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/02/2009
Date Data Arrived at EDR: 03/27/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 12

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 03/05/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities

Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 03/02/2009
Date Data Arrived at EDR: 03/18/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 22

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities

List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 01/26/2009
Date Data Arrived at EDR: 02/10/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 57

Source: Placer County Health and Human Services
Telephone: 530-889-7312
Last EDR Contact: 04/03/2009
Next Scheduled EDR Contact: 06/29/2009
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: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Tank List

Underground storage tank sites located in Riverside county.

Date of Government Version: 02/19/2009	Source: Health Services Agency
Date Data Arrived at EDR: 02/20/2009	Telephone: 951-358-5055
Date Made Active in Reports: 04/09/2009	Last EDR Contact: 04/13/2009
Number of Days to Update: 48	Next Scheduled EDR Contact: 07/13/2009
	Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Contaminated Sites

List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 01/30/2009	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 02/03/2009	Telephone: 916-875-8406
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 04/29/2009
Number of Days to Update: 64	Next Scheduled EDR Contact: 07/27/2009
	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: 01/30/2009	Source: Sacramento County Environmental Management
Date Data Arrived at EDR: 02/03/2009	Telephone: 916-875-8406
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 04/29/2009
Number of Days to Update: 64	Next Scheduled EDR Contact: 07/27/2009
	Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

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: 01/07/2009	Source: San Bernardino County Fire Department Hazardous Materials Division
Date Data Arrived at EDR: 01/09/2009	Telephone: 909-387-3041
Date Made Active in Reports: 01/27/2009	Last EDR Contact: 03/03/2009
Number of Days to Update: 18	Next Scheduled EDR Contact: 06/01/2009
	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	Source: Hazardous Materials Management Division
Date Data Arrived at EDR: 10/29/2008	Telephone: 619-338-2268
Date Made Active in Reports: 11/26/2008	Last EDR Contact: 04/03/2009
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/29/2009
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 11/01/2008
Date Data Arrived at EDR: 12/23/2008
Date Made Active in Reports: 01/27/2009
Number of Days to Update: 35

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 02/16/2009
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: 01/22/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 8

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 03/31/2009
Next Scheduled EDR Contact: 06/29/2009
Data Release Frequency: Varies

SAN FRANCISCO COUNTY:

Local Oversight 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: 03/30/2009
Next Scheduled EDR Contact: 06/01/2009
Data Release Frequency: Quarterly

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: 03/16/2009
Next Scheduled EDR Contact: 06/01/2009
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: 02/10/2009
Date Data Arrived at EDR: 02/25/2009
Date Made Active in Reports: 04/09/2009
Number of Days to Update: 43

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 04/13/2009
Next Scheduled EDR Contact: 07/13/2009
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: 01/29/2009
Date Data Arrived at EDR: 01/30/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 68

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 04/07/2009
Next Scheduled EDR Contact: 07/06/2009
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Fuel Leak List

A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 01/05/2009	Source: San Mateo County Environmental Health Services Division
Date Data Arrived at EDR: 01/06/2009	Telephone: 650-363-1921
Date Made Active in Reports: 01/27/2009	Last EDR Contact: 04/07/2009
Number of Days to Update: 21	Next Scheduled EDR Contact: 07/06/2009
	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	Source: Santa Clara Valley Water District
Date Data Arrived at EDR: 03/30/2005	Telephone: 408-265-2600
Date Made Active in Reports: 04/21/2005	Last EDR Contact: 03/23/2009
Number of Days to Update: 22	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: No Update Planned

LOP Listing

A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 12/29/2008	Source: Department of Environmental Health
Date Data Arrived at EDR: 12/29/2008	Telephone: 408-918-3417
Date Made Active in Reports: 01/27/2009	Last EDR Contact: 04/20/2009
Number of Days to Update: 29	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: Varies

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 03/03/2009	Source: City of San Jose Fire Department
Date Data Arrived at EDR: 03/03/2009	Telephone: 408-277-4659
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 03/03/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: 06/01/2009
	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: 01/09/2009	Source: Solano County Department of Environmental Management
Date Data Arrived at EDR: 01/30/2009	Telephone: 707-784-6770
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 03/23/2009
Number of Days to Update: 68	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: Quarterly

Underground Storage Tanks

Underground storage tank sites located in Solano county.

Date of Government Version: 01/09/2009	Source: Solano County Department of Environmental Management
Date Data Arrived at EDR: 02/03/2009	Telephone: 707-784-6770
Date Made Active in Reports: 04/09/2009	Last EDR Contact: 03/23/2009
Number of Days to Update: 65	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: Quarterly

SONOMA COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/20/2009	Source: Department of Health Services
Date Data Arrived at EDR: 01/21/2009	Telephone: 707-565-6565
Date Made Active in Reports: 01/27/2009	Last EDR Contact: 04/20/2009
Number of Days to Update: 6	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 04/01/2009	Source: Sutter County Department of Agriculture
Date Data Arrived at EDR: 04/02/2009	Telephone: 530-822-7500
Date Made Active in Reports: 04/09/2009	Last EDR Contact: 03/30/2009
Number of Days to Update: 7	Next Scheduled EDR Contact: 06/29/2009
	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: 02/26/2009	Source: Ventura County Environmental Health Division
Date Data Arrived at EDR: 03/31/2009	Telephone: 805-654-2813
Date Made Active in Reports: 04/08/2009	Last EDR Contact: 03/10/2009
Number of Days to Update: 8	Next Scheduled EDR Contact: 06/08/2009
	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	Source: Environmental Health Division
Date Data Arrived at EDR: 09/04/2008	Telephone: 805-654-2813
Date Made Active in Reports: 09/18/2008	Last EDR Contact: 02/16/2009
Number of Days to Update: 14	Next Scheduled EDR Contact: 05/18/2009
	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	Source: Environmental Health Division
Date Data Arrived at EDR: 06/24/2008	Telephone: 805-654-2813
Date Made Active in Reports: 07/31/2008	Last EDR Contact: 06/09/2009
Number of Days to Update: 37	Next Scheduled EDR Contact: 06/08/2009
	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: 12/29/2008	Source: Environmental Health Division
Date Data Arrived at EDR: 01/08/2009	Telephone: 805-654-2813
Date Made Active in Reports: 01/30/2009	Last EDR Contact: 04/08/2009
Number of Days to Update: 22	Next Scheduled EDR Contact: 07/06/2009
	Data Release Frequency: Quarterly

YOLO COUNTY:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 01/14/2009	Source: Yolo County Department of Health
Date Data Arrived at EDR: 02/06/2009	Telephone: 530-666-8646
Date Made Active in Reports: 04/09/2009	Last EDR Contact: 04/13/2009
Number of Days to Update: 62	Next Scheduled EDR Contact: 07/13/2009
	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: 12/31/2006	Source: Department of Environmental Protection
Date Data Arrived at EDR: 12/11/2008	Telephone: 860-424-3375
Date Made Active in Reports: 03/19/2009	Last EDR Contact: 03/13/2009
Number of Days to Update: 98	Next Scheduled EDR Contact: 06/08/2009
	Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 09/30/2007	Source: Department of Environmental Protection
Date Data Arrived at EDR: 12/04/2007	Telephone: N/A
Date Made Active in Reports: 12/31/2007	Last EDR Contact: 02/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 05/04/2009
	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: 01/27/2009	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 02/25/2009	Telephone: 518-402-8651
Date Made Active in Reports: 03/12/2009	Last EDR Contact: 02/25/2009
Number of Days to Update: 15	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2007	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/11/2008	Telephone: N/A
Date Made Active in Reports: 10/02/2008	Last EDR Contact: 03/09/2009
Number of Days to Update: 21	Next Scheduled EDR Contact: 06/08/2009
	Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2008	Source: Department of Environmental Management
Date Data Arrived at EDR: 02/12/2009	Telephone: 401-222-2797
Date Made Active in Reports: 03/11/2009	Last EDR Contact: 03/16/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 06/15/2009
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

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: 04/07/2009

Next Scheduled EDR Contact: 07/06/2009

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.

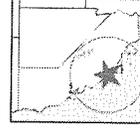
STREET AND ADDRESS INFORMATION

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EDR DataMap® Corridor Study

Arroyo Grande Creek

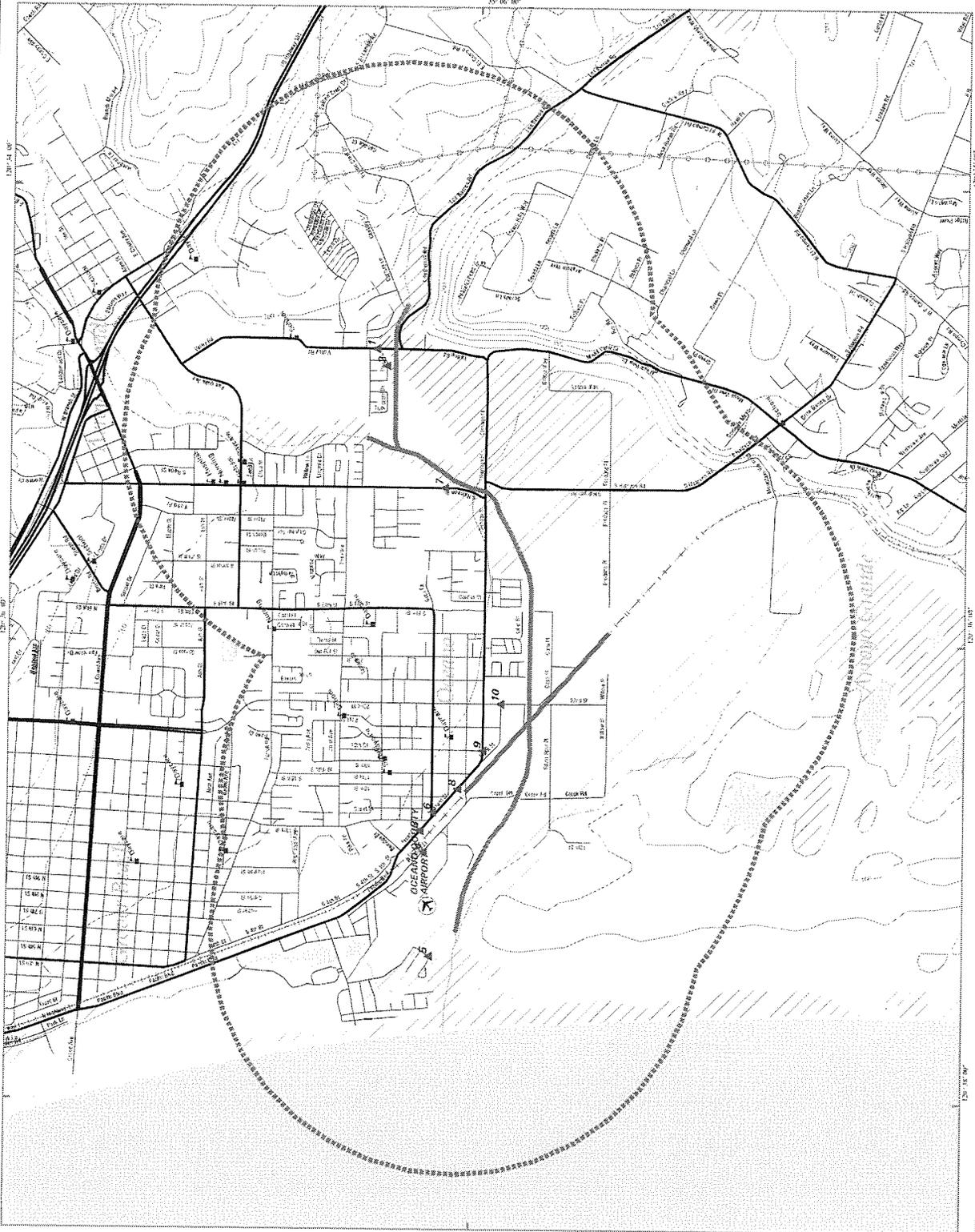
-  Listed Sites
-  Earthquake Epicenters (Richter 5 or greater)
-  Search Boundary
-  Roads
-  Major Roads
-  Waterways
-  Railroads
-  Contour Lines
-  Pipelines
-  Powerlines
-  Fault Lines
-  Water
-  Superfund Sites
-  Federal DOD Sites
-  Indian Reservations BIA
-  100-Yr Flood Zones
-  National Wetland Inventory



Oceano, CA



Scale in Miles



Arroyo Grande Creek

Arroyo Grande Creek

Arroyo Grande, CA 93445

Inquiry Number: 2294958.2

August 22, 2008

The EDR Historical Topographic Map Report

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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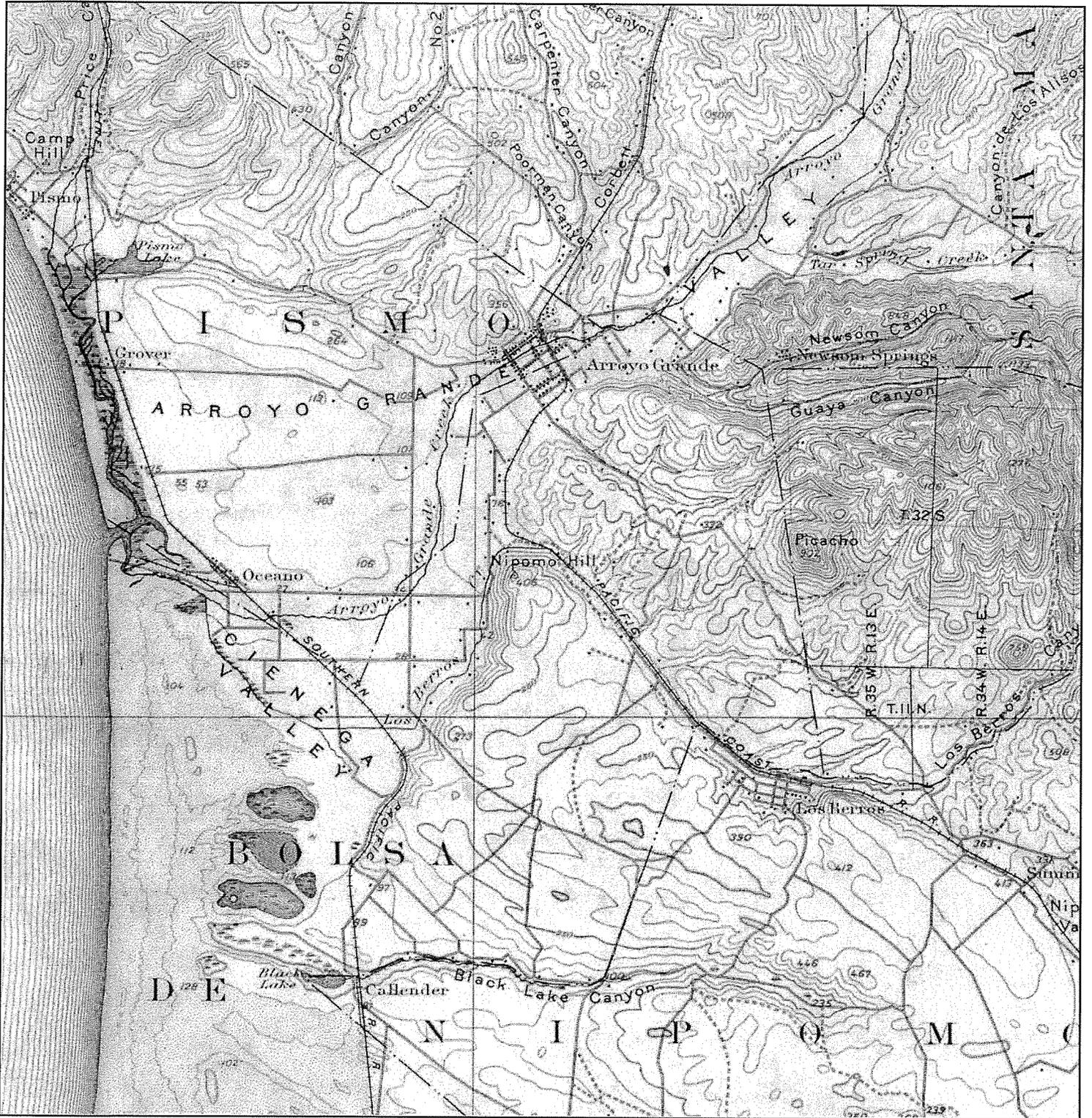
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Historical Topographic Map



<p>N ↑</p>	<p>TARGET QUAD NAME: SAN LUIS MAP YEAR: 1900</p>	<p>SITE NAME: Arroyo Grande Creek ADDRESS: Arroyo Grande Creek Arroyo Grande, CA 93445</p>	<p>CLIENT: Kleinfelder, Inc. CONTACT: Kathlien Childers INQUIRY#: 2294958.2 RESEARCH DATE: 08/22/2008</p>
	<p>SERIES: 30 SCALE: 1:125000</p>	<p>LAT/LONG: /</p>	

Historical Topographic Map



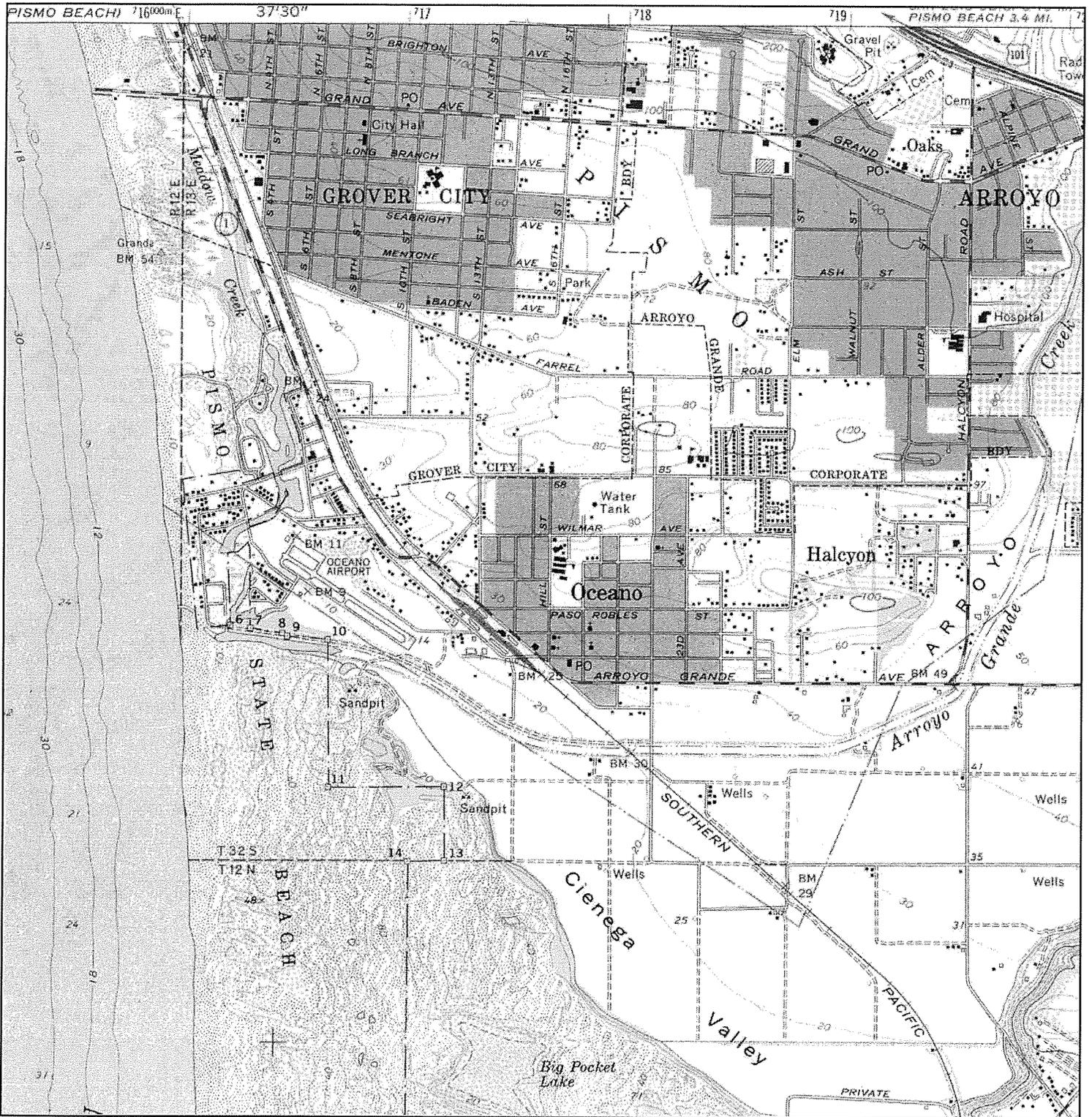
<p>N ↑</p>	<p>TARGET QUAD NAME: ARROYO GRANDE MAP YEAR: 1918</p>	<p>SITE NAME: Arroyo Grande Creek ADDRESS: Arroyo Grande Creek Arroyo Grande, CA 93445</p>	<p>CLIENT: Kleinfelder, Inc. CONTACT: Kathlien Childers INQUIRY#: 2294958.2 RESEARCH DATE: 08/22/2008</p>
	<p>SERIES: 15 SCALE: 1:62500</p>	<p>LAT/LONG: /</p>	

Historical Topographic Map



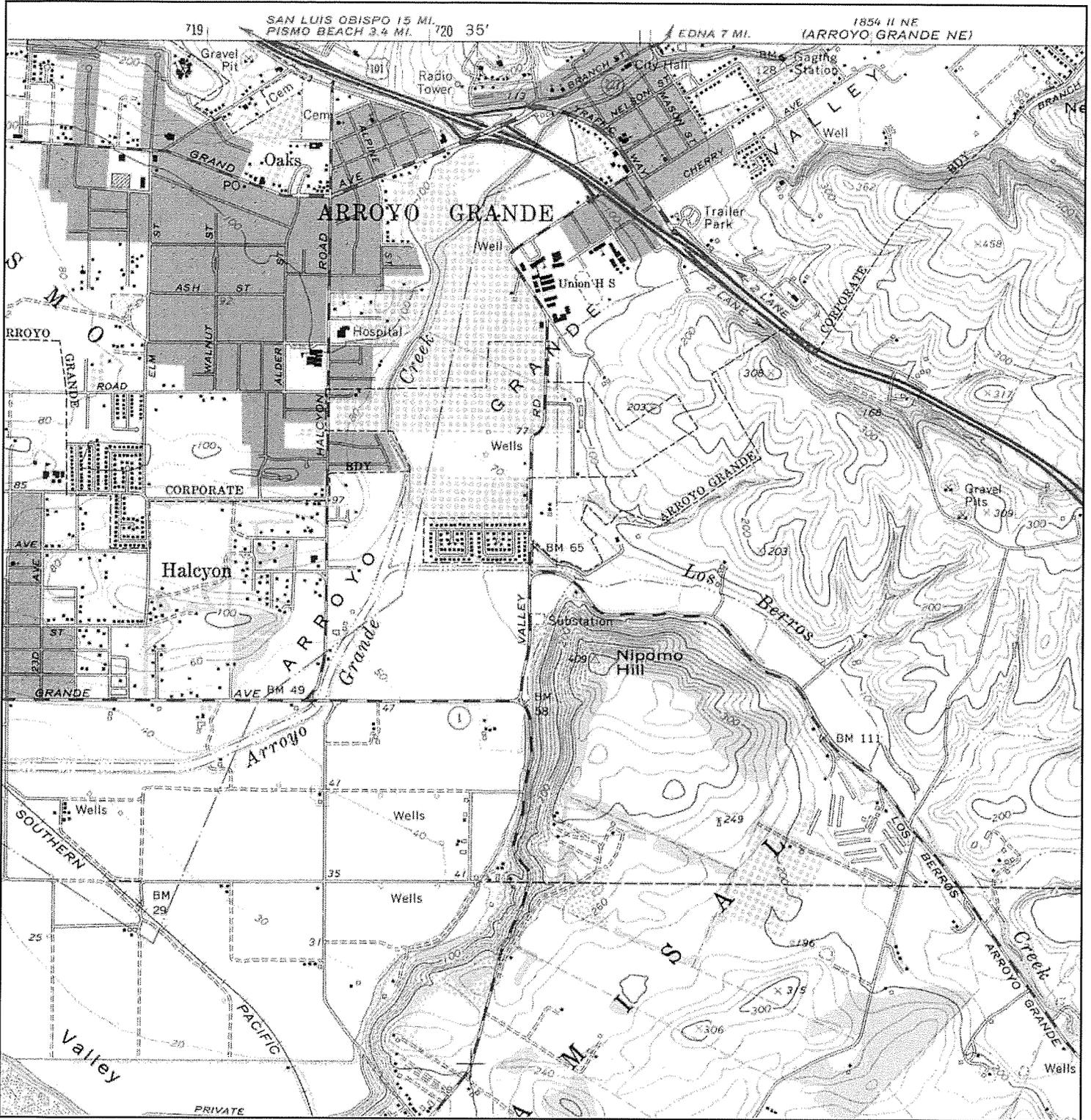
<p>N ↑</p>	<p>TARGET QUAD NAME: ARROYO GRANDE MAP YEAR: 1952</p>	<p>SITE NAME: Arroyo Grande Creek ADDRESS: Arroyo Grande Creek Arroyo Grande, CA 93445</p>	<p>CLIENT: Kleinfelder, Inc. CONTACT: Kathlien Childers INQUIRY#: 2294958.2 RESEARCH DATE: 08/22/2008</p>
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Historical Topographic Map



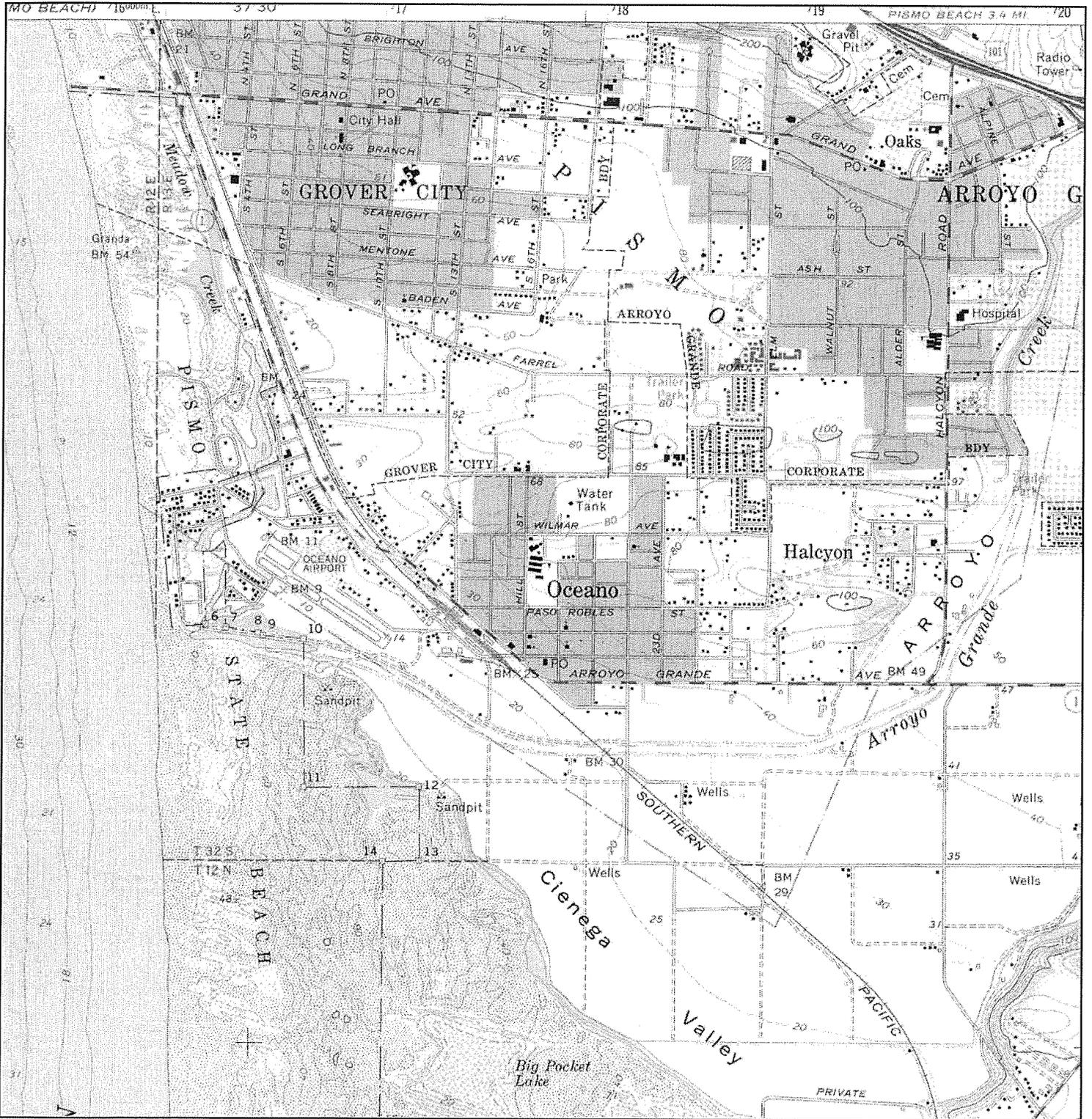
	TARGET QUAD	SITE NAME:	Arroyo Grande Creek	CLIENT:	Kleinfelder, Inc.
	NAME: OCEANO	ADDRESS:	Arroyo Grande Creek	CONTACT:	Kathleen Childers
	MAP YEAR: 1965	LAT/LONG:	Arroyo Grande, CA 93445	INQUIRY#:	2294958.2
SERIES: 7.5				RESEARCH DATE:	08/22/2008
SCALE: 1:24000					

Historical Topographic Map



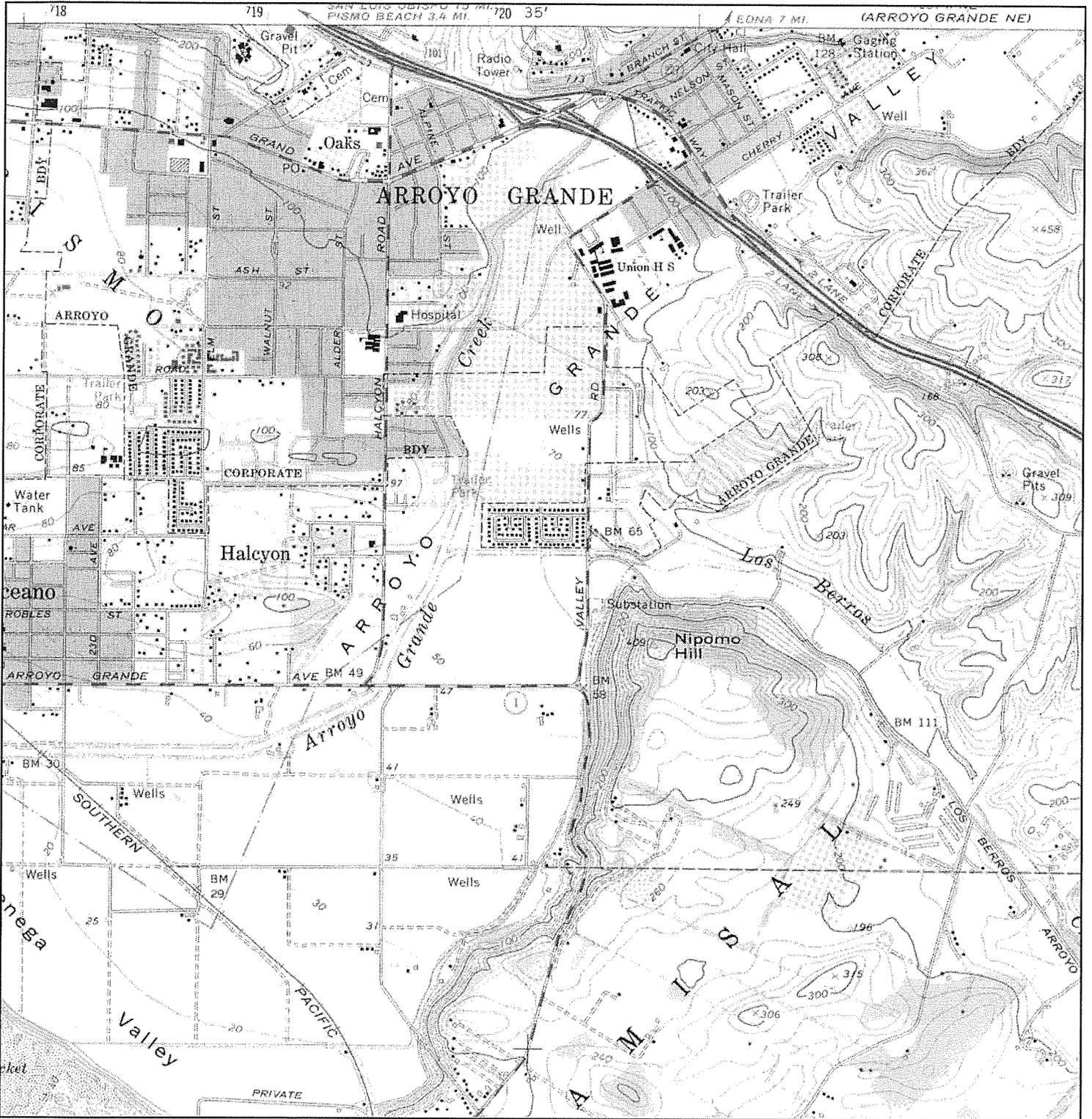
<p>N</p> 	TARGET QUAD	SITE NAME:	Arroyo Grande Creek	CLIENT:	Kleinfelder, Inc.
	NAME: OCEANO	ADDRESS:	Arroyo Grande Creek	CONTACT:	Kathleen Childers
	MAP YEAR: 1965	LAT/LONG:	Arroyo Grande, CA 93445	INQUIRY#:	2294958.2
SERIES: 7.5				RESEARCH DATE:	08/22/2008
SCALE: 1:24000					

Historical Topographic Map



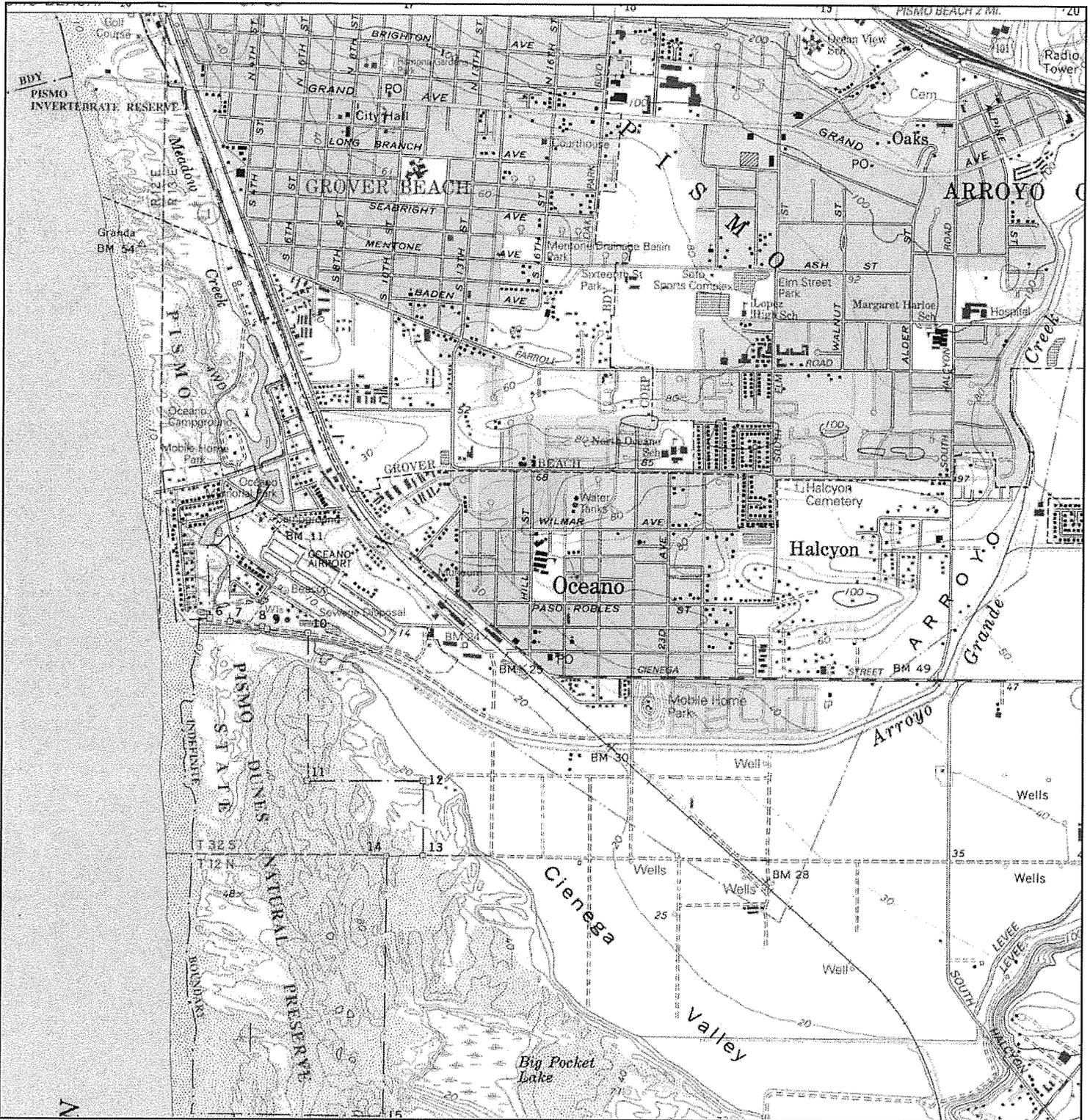
	TARGET QUAD	SITE NAME:	Arroyo Grande Creek	CLIENT:	Kleinfelder, Inc.
	NAME: OCEANO	ADDRESS:	Arroyo Grande Creek	CONTACT:	Kathleen Childers
	MAP YEAR: 1979		Arroyo Grande, CA 93445	INQUIRY#:	2294958.2
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Historical Topographic Map



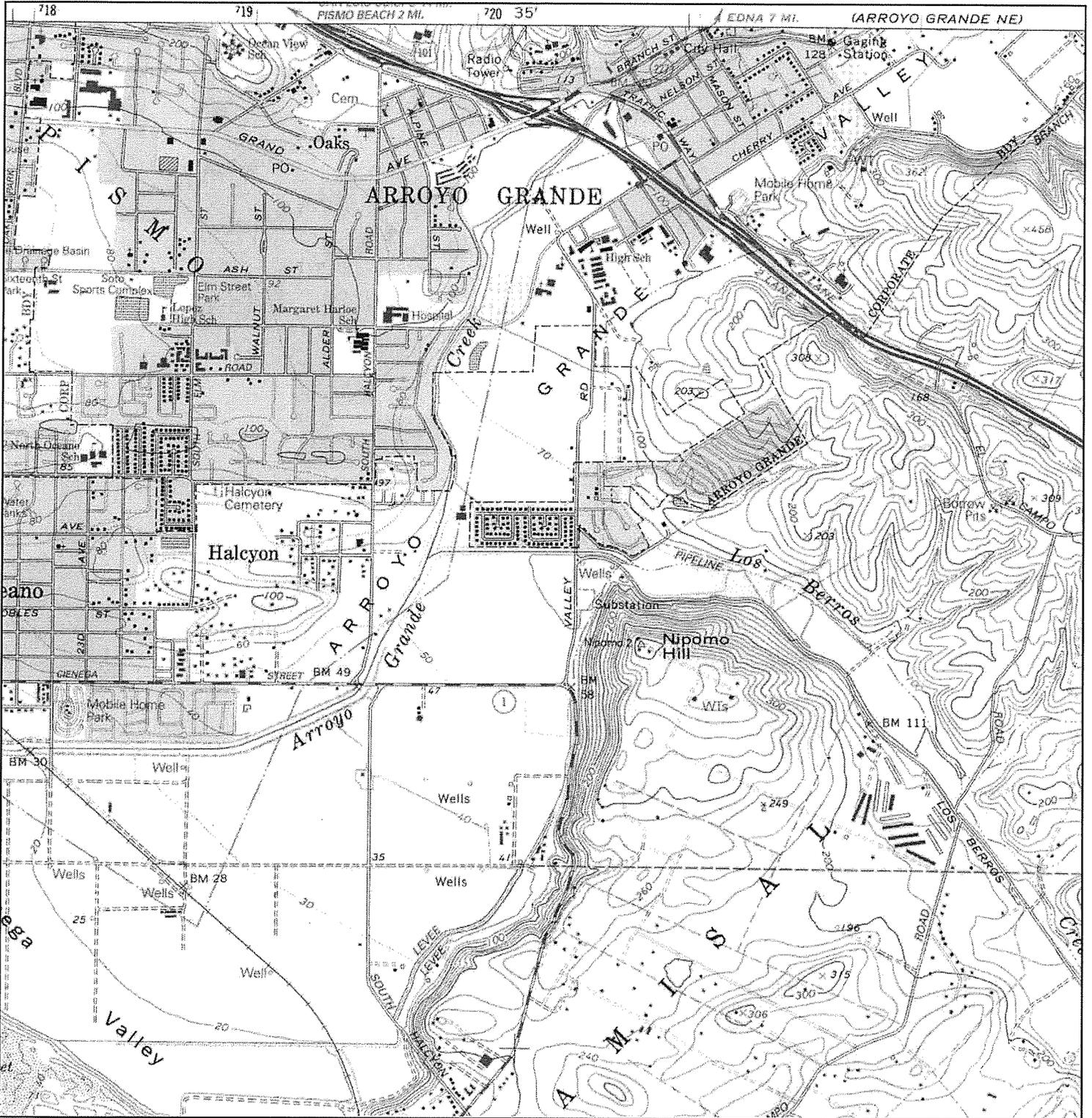
<p>N ↑</p>	TARGET QUAD	SITE NAME:	Arroyo Grande Creek	CLIENT:	Kleinfelder, Inc.	
	NAME:	OCEANO	ADDRESS:	Arroyo Grande Creek	CONTACT:	Kathleen Childers
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	PHOTOREVISED FROM:	1965	LAT/LONG:	/	RESEARCH DATE:	08/22/2008
	SERIES:	7.5				
	SCALE:	1:24000				

Historical Topographic Map



<p>N ↑</p>	TARGET QUAD	SITE NAME:	Arroyo Grande Creek	CLIENT:	Kleinfelder, Inc.
	NAME: OCEANO	ADDRESS:	Arroyo Grande Creek	CONTACT:	Kathleen Childers
	MAP YEAR: 1994		Arroyo Grande, CA 93445	INQUIRY#:	2294958.2
	REVISED FROM: 1965	LAT/LONG:	/	RESEARCH DATE:	08/22/2008
	SERIES: 7.5				
	SCALE: 1:24000				

Historical Topographic Map



<p>N ↑</p>	<p>TARGET QUAD NAME: OCEANO MAP YEAR: 1994 REVISED FROM: 1965 SERIES: 7.5 SCALE: 1:24000</p>	<p>SITE NAME: Arroyo Grande Creek ADDRESS: Arroyo Grande Creek Arroyo Grande, CA 93445 LAT/LONG: /</p>	<p>CLIENT: Kleinfelder, Inc. CONTACT: Kathlien Childers INQUIRY#: 2294958.2 RESEARCH DATE: 08/22/2008</p>

Arroyo Grande Creek

Arroyo Grande Creek

Arroyo Grande, CA 93445

Inquiry Number: 2294958.1

August 25, 2008

The EDR Aerial Photo Decade Package



440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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Date EDR Searched Historical Sources:

Aerial Photography August 25, 2008

Target Property:

Arroyo Grande Creek

Arroyo Grande, CA 93445

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
1939	Aerial Photograph. Scale: 1"=666'	Flight Year: 1939	Laval
1939	Aerial Photograph. Scale: 1"=666'	Flight Year: 1939	Laval
1949	Aerial Photograph. Scale: 1"=666'	Flight Year: 1949	Aero
1949	Aerial Photograph. Scale: 1"=666'	Flight Year: 1949	Aero
1956	Aerial Photograph. Scale: 1"=666'	Flight Year: 1956	Hycon
1956	Aerial Photograph. Scale: 1"=666'	Flight Year: 1956	Hycon
1966	Aerial Photograph. Scale: 1"=666'	Flight Year: 1966	Mark Hurd
1966	Aerial Photograph. Scale: 1"=666'	Flight Year: 1966	Mark Hurd
1972	Aerial Photograph. Scale: 1"=666'	Flight Year: 1972	Mark Hurd
1972	Aerial Photograph. Scale: 1"=666'	Flight Year: 1972	Mark Hurd
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=666'	Flight Year: 1994	USGS
1994	Aerial Photograph. Scale: 1"=666'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS



INQUIRY #: 2294958.1

YEAR: 1939

— = 666'





INQUIRY #: 2294958.1
YEAR: 1939
| = 666'



INQUIRY #: 2294958.1

YEAR: 1949

1" = 666'





INQUIRY #: 2294958.1

YEAR: 1949

1" = 666'





INQUIRY #: 2294958.1

YEAR: 1956

— = 666'





INQUIRY #: 2294958.1
YEAR: 1956
| = 666'

N
↑
C
© 1956

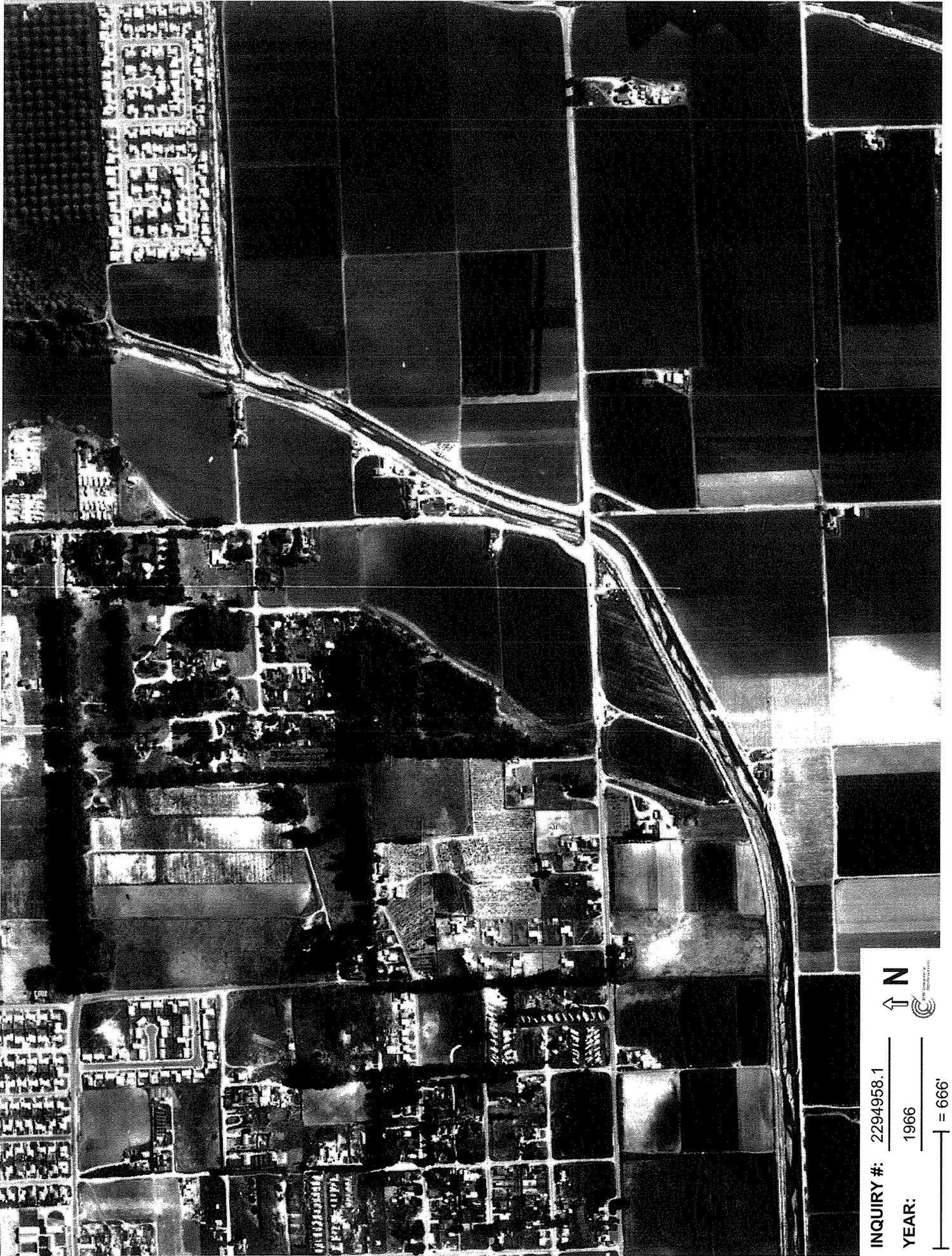


INQUIRY #: 2294958.1

YEAR: 1966

— | = 666'





INQUIRY #: 2294958.1

YEAR: 1966

_____ | = 666'



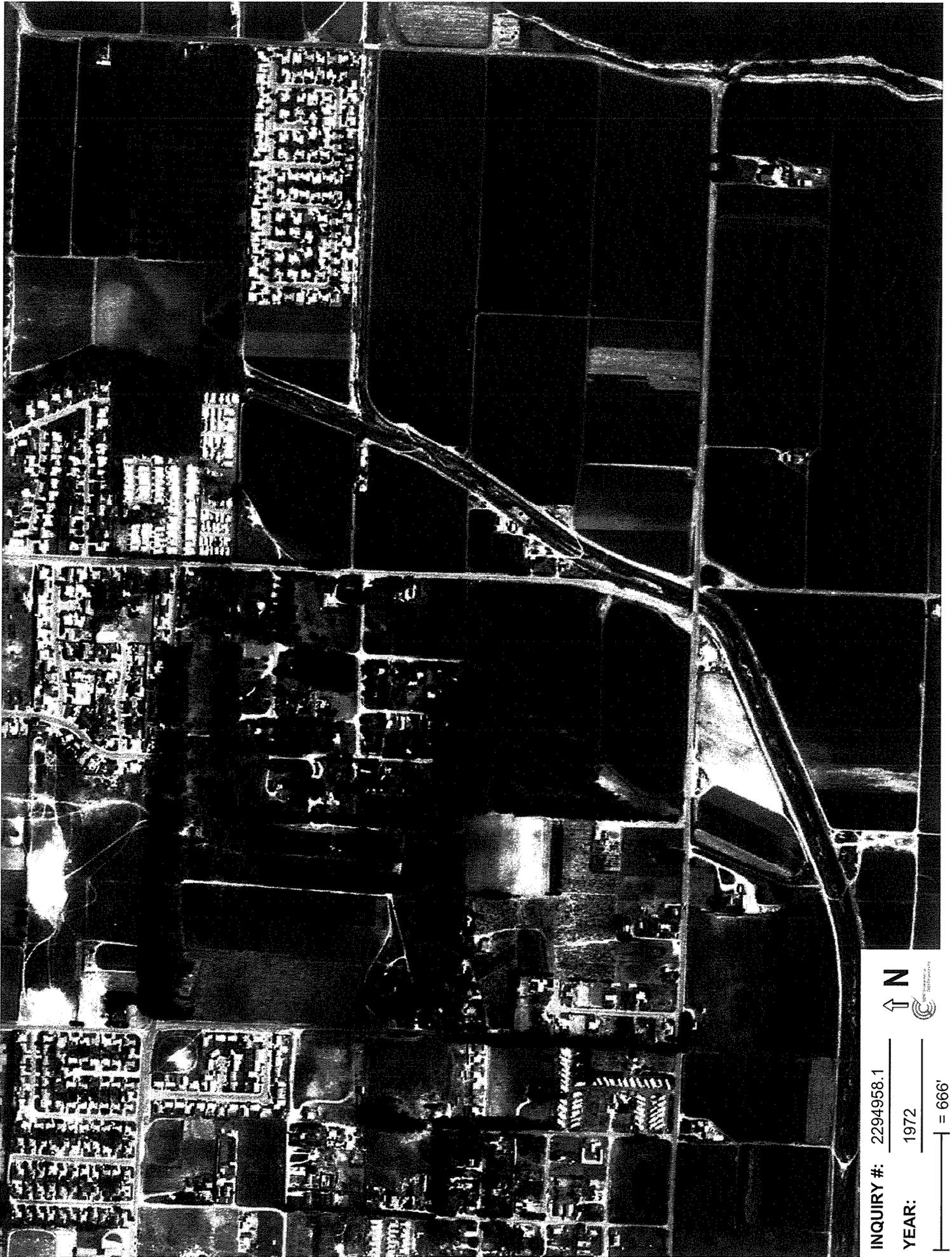


INQUIRY #: 2294958.1

YEAR: 1972

— = 666'



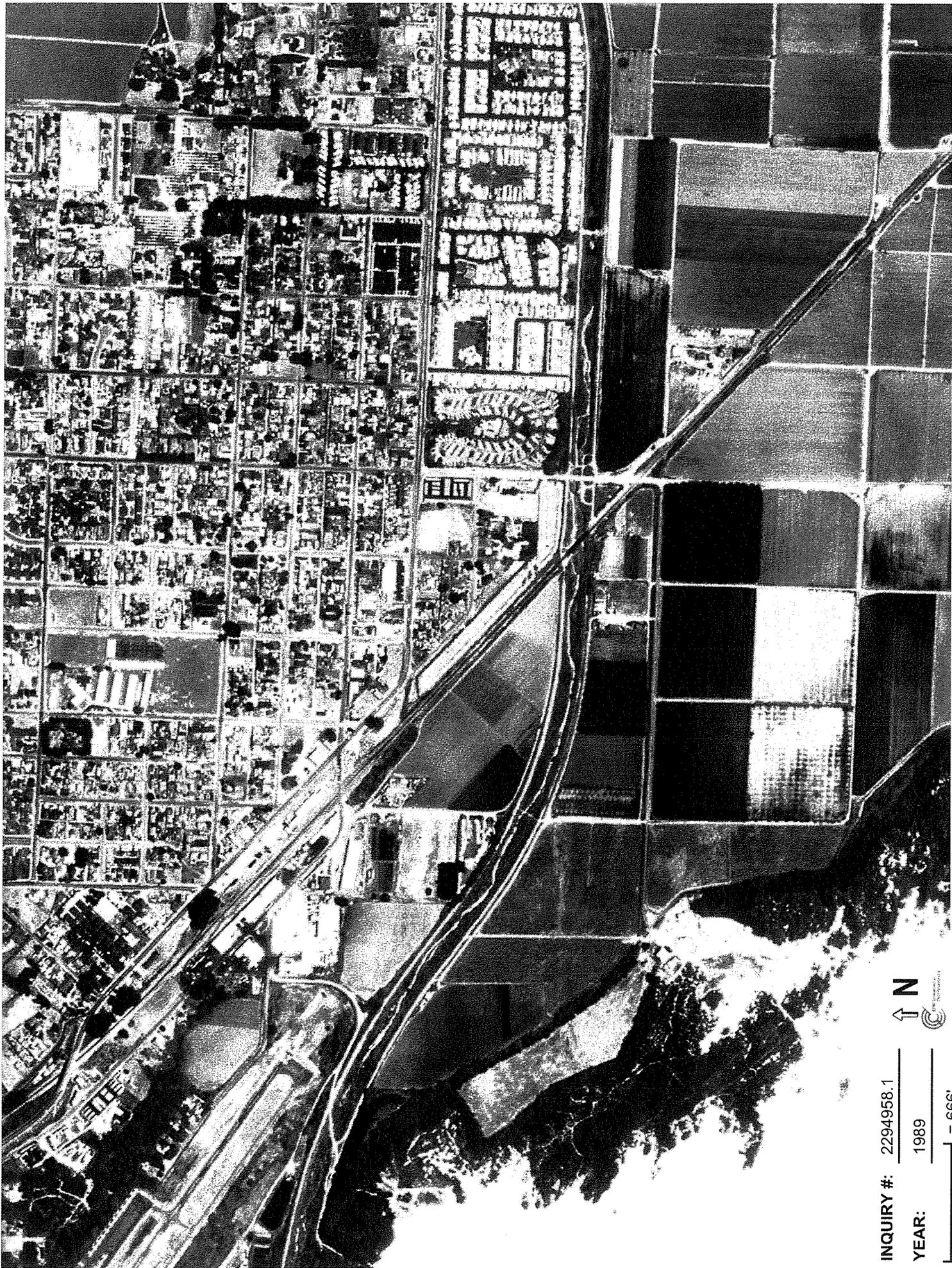


INQUIRY #: 2294958.1

YEAR: 1972

1" = 666'





INQUIRY #: 2294958.1

YEAR: 1989

1" = 666'





INQUIRY #: 2294958.1

YEAR: 1989

— = 666'





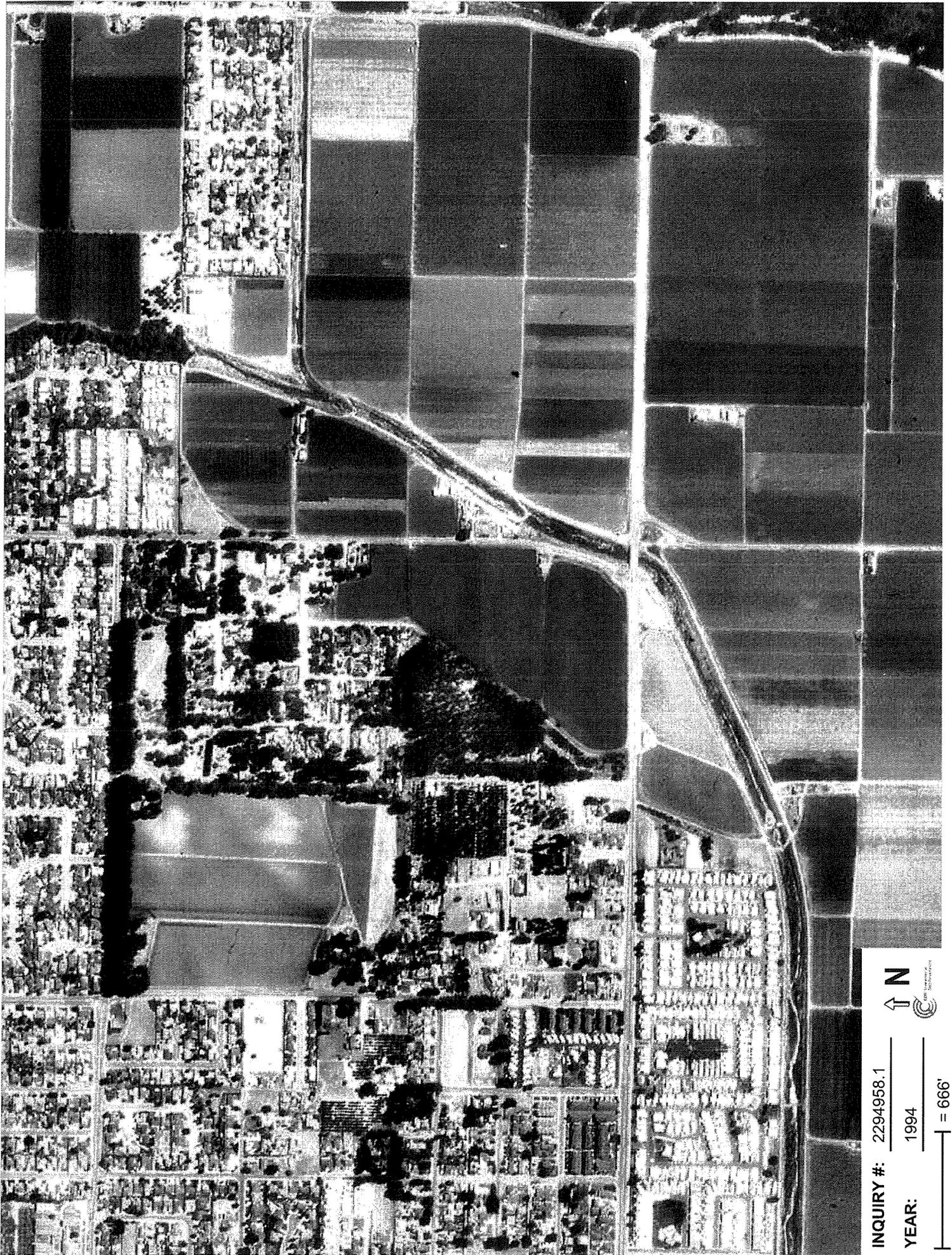
INQUIRY #: 2294958.1

YEAR: 1994

| = 666'



© 1994



INQUIRY #: 2294958.1

YEAR: 1994

1" = 666'





INQUIRY #: 2294958.1

YEAR: 2002

| = 666'





INQUIRY #: 2294958.1

YEAR: 2002

— = 666'



Arroyo Grande Creek

Arroyo Grande Creek

Oceano, CA 93420

Inquiry Number: 2481087.1

April 29, 2009

The EDR Aerial Photo Decade Package



440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

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with any questions or comments.

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Date EDR Searched Historical Sources:

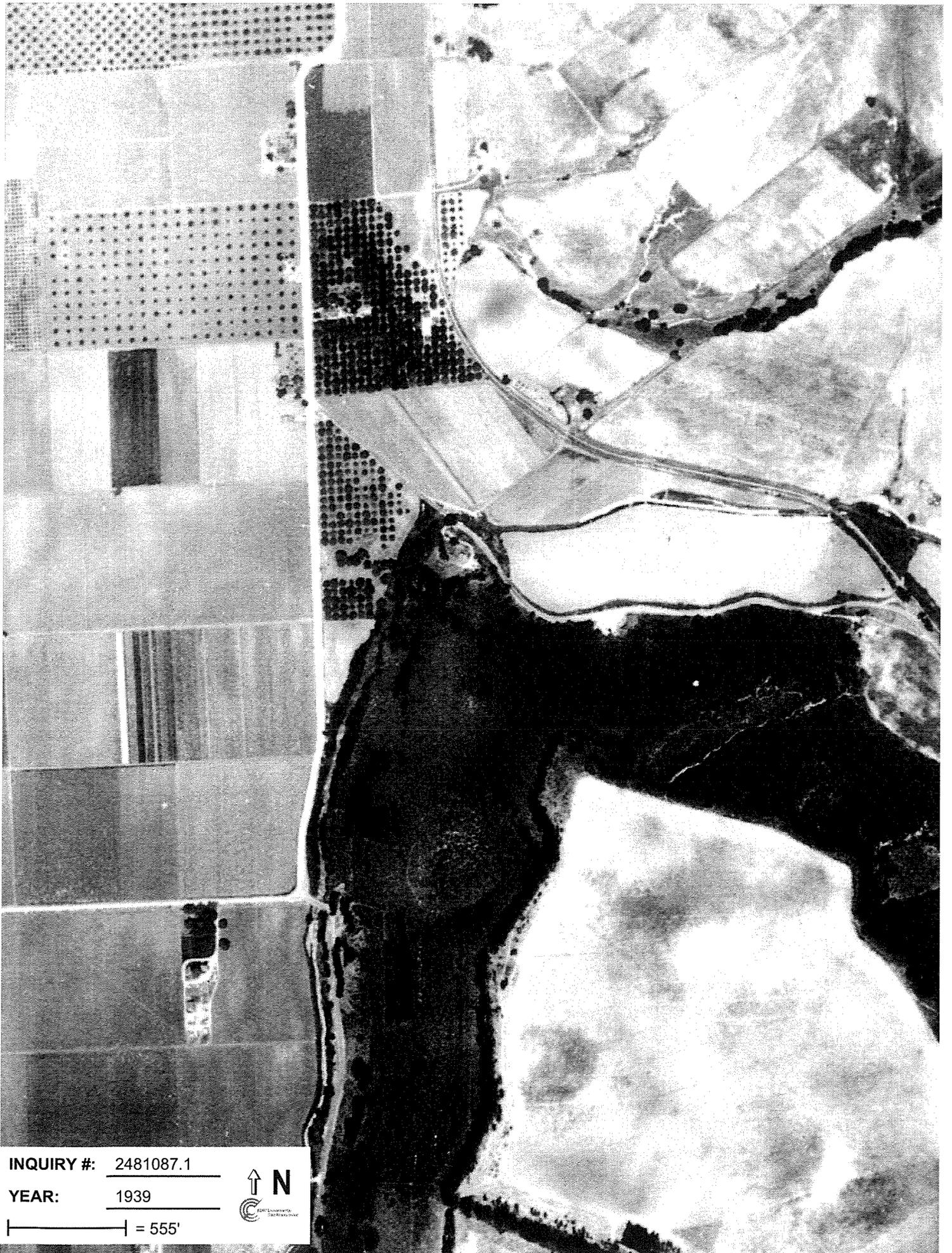
Aerial Photography April 29, 2009

Target Property:

Arroyo Grande Creek

Oceano, CA 93420

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
1939	Aerial Photograph. Scale: 1"=555'	Flight Year: 1939	Army
1949	Aerial Photograph. Scale: 1"=555'	Flight Year: 1949	Aero
1956	Aerial Photograph. Scale: 1"=555'	Flight Year: 1956	Hycon
1969	Aerial Photograph. Scale: 1"=555'	Flight Year: 1969	Western
1972	Aerial Photograph. Scale: 1"=528'	Flight Year: 1972	Mark Hurd
1989	Aerial Photograph. Scale: 1"=666'	Flight Year: 1989	USGS
1994	Aerial Photograph. Scale: 1"=666'	Flight Year: 1994	USGS
2002	Aerial Photograph. Scale: 1"=666'	Flight Year: 2002	USGS
2005	Aerial Photograph. Scale: 1"=484'	Flight Year: 2005	EDR



INQUIRY #: 2481087.1

YEAR: 1939

| = 555'





INQUIRY #: 2481087.1

YEAR: 1949

— = 555'



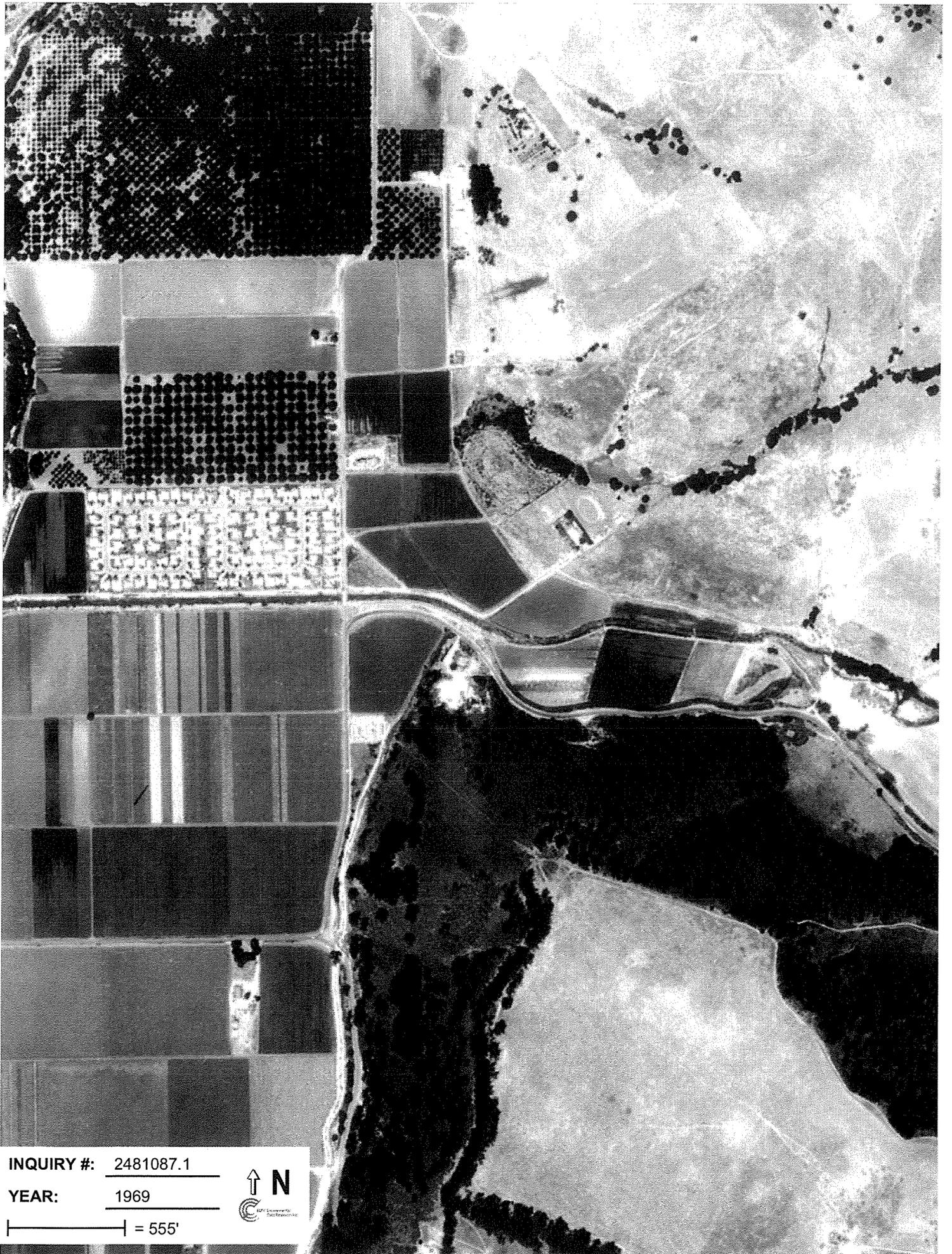


INQUIRY #: 2481087.1

YEAR: 1956

— = 555'





INQUIRY #: 2481087.1

YEAR: 1969

— = 555'





INQUIRY #: 2481087.1

YEAR: 1989

— = 666'



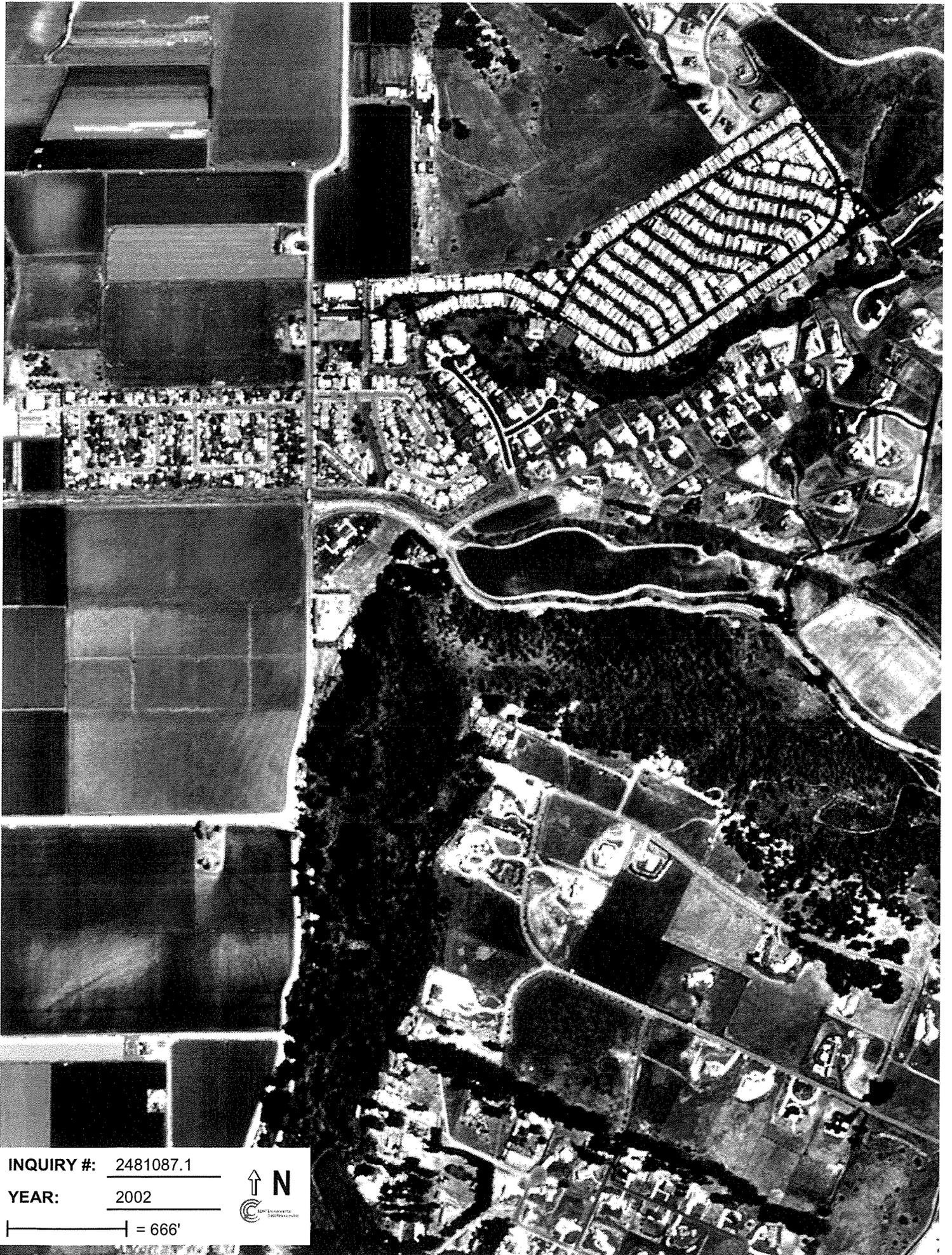


INQUIRY #: 2481087.1

YEAR: 1994

 = 666'





INQUIRY #: 2481087.1

YEAR: 2002

— = 666'





INQUIRY #: 2481087.1

YEAR: 2005

| = 484'





RECEIVED
JUN 23 2009
KLEINFELDER, INC.
FRESNO, CA

Leo Martinez
Property Tax, Real Estate,
Right of Way and Claims
1232 Park Street, Suite 300
Paso Robles, CA 93446
Phone (805) 226-2656
Fax (805) 239-4410

June 26, 2009

Terry Nephew
Kleinfelder
1410 F Street
Fresno, CA 93706

**RE: ARROYO GRANDE CREEK PIPELINE ROUTES
COP FILE NO. 10341**

Terry,

In reply to your captioned Preliminary Utility Notice, ConocoPhillips Pipeline Company, successor in interest to Tosco Corporation has facilities in the **project areas that may conflict** with your proposed plans. Enclosed for your information is a copy of our pipeline alignment map as identified below.

**D2A493: 8 INCH ORCUTT LINE
12 INCH SANTA MARIA LINE**

Should you need more definitive information on the horizontal and/or vertical location of any of our facilities, please contact:

Randy Booth – PTRRC Agent at (805) 226-2641
Mark Mitchell – Santa Margarita Area Supervisor at (805) 438-6201

Sincerely,

Leo Martinez
Property Tax, Real Estate, Right of Way and Claims

FORM I
San Luis Obispo County Hazardous Material Inventory Form - Chemical Description Page

JR

(1) ADD DELETE REVISE

PAGE (2) **3** OF (3) **4**

BUSINESS NAME: **FUKUHARA FARMS**

CHEMICAL LOCATION (4) **south east of house**

MAP # (5) **01**

GRID # (6) **I-9**

CHEMICAL LOCATION IS CONFIDENTIAL AND NOT SUBJECT TO PUBLIC DISCLOSURE

CHEMICAL NAME (7) **PETROLEUM HYDROCARBON**

TRADE SECRET (10) **N**

COMMON NAME (8) **GASOLINE (Includes Unleaded, Regular, etc.)**

EHS (11) **N**

CAS # (9) **8006-61-9**

IF EHS BOX IS "Y"
ALL AMOUNTS MUST BE IN LBS

TYPE (12) PURE MIXTURE WASTE

PHYSICAL STATE (13) SOLID LIQUID GAS

RADIOACTIVE (14) Y N (15) μ CURIES

HAZARD CATEGORIES (16) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH

STATE WASTE CODE (17) **N/A** UNITS (20) GAL CU FT LBS TONS

MAX DAILY AMT (21) **500**

DAYS ON SITE (18) **360** If EHS amounts must be in lb.

AVG DAILY AMT (22) **200**

LARGEST CONTAINER (19) **500**

ANNUAL WASTE AMT (23) **N/A**

STORAGE CONTAINER (24) ABOVE GROUND TANK CAN BOX TANK WAGON
 BELOW GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS BOTTLE
 STEEL DRUM FIBER DRUM PLASTIC BOTTLE
 PLASTIC/NONMETALLIC DRUM BAG TOTE BIN

STORAGE PRESSURE (25) AMBIENT ABOVE AMBIENT BELOW AMBIENT

STORAGE TEMPERATURE (26) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(27) %WT	(28) HAZARDOUS COMPONENT	(29) EHS	(30) CAS NUMBER
1 15%	METHYL TERT BUTYL ETHER	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	1634-04-4
2 15%	TOLUENE	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	108-88-3
3 21%	XYLENE	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	1330-20-7
4 5%	BENZENE	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	71-43-2
5 5%	1, 2, 4 - TRIMETHYL BENZENE	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	95-63-6

(31) ADDITIONAL LOCALLY COLLECTED INFORMATION

car 2/2/10/08

FORM I

San Luis Obispo County Hazardous Material Inventory Form - Chemical Description Page

OK

(1) ADD DELETE REVISE

PAGE (2) 4 OF (3) 4

BUSINESS NAME: FUKUWARA FARMS

CHEMICAL LOCATION (4) southeast of house

MAP # (5) 01

GRID # (6) E8 - E9

CHEMICAL LOCATION IS CONFIDENTIAL AND NOT SUBJECT TO PUBLIC DISCLOSURE

CHEMICAL NAME (7) PETROLEUM HYDROCARBON

TRADE SECRET (10) Y N

COMMON NAME (8) DIESEL FUEL

EHS (11) Y N

CAS # (9) 68476-34-6

IF EHS BOX IS "Y"
ALL AMOUNTS MUST BE IN LBS

TYPE (12) PURE MIXTURE WASTE

PHYSICAL STATE (13) SOLID LIQUID GAS

RADIOACTIVE (14) Y N (15) μCURIES

HAZARD CATEGORIES (16) FIRE REACTIVE PRESSURE RELEASE ACUTE HEALTH CHRONIC HEALTH

STATE WASTE CODE (17) N/A UNITS (20) GAL CU FT LBS TONS

MAX DAILY AMT (21) 500

DAYS ON SITE (18) 360 If EHS amounts must be in lb.

AVG DAILY AMT (22) 200

LARGEST CONTAINER (19) 500

ANNUAL WASTE AMT (23) N/A

STORAGE CONTAINER (24) ABOVE GROUND TANK CAN BOX TANK WAGON
 BELOW GROUND TANK CARBOY CYLINDER RAIL CAR
 TANK INSIDE BUILDING SILO GLASS BOTTLE
 STEEL DRUM FIBER DRUM PLASTIC BOTTLE
 PLASTIC/NONMETALLIC DRUM BAG TOTE BIN

STORAGE PRESSURE (25) AMBIENT ABOVE AMBIENT BELOW AMBIENT

STORAGE TEMPERATURE (26) AMBIENT ABOVE AMBIENT BELOW AMBIENT CRYOGENIC

(27) %WT	(28) HAZARDOUS COMPONENT	(29) EHS	(30) CAS NUMBER
1 99.5%	DIESEL FUEL	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	68476-34-6
2 0.5%	NAPHTHALENE	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	91-20-3
3	PETROLEUM DISTILLATES	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	NONE
4		<input type="checkbox"/> Y <input type="checkbox"/> N	
5		<input type="checkbox"/> Y <input type="checkbox"/> N	

(31) ADDITIONAL LOCALLY COLLECTED INFORMATION

OK



COUNTY OF SAN LUIS OBISPO
HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT
Environmental Health Division
2156 Sierra Way • P.O. Box 1489
San Luis Obispo, California 93406-1489
Phone: (805) 781-5544 FAX: (805) 781-4211

Susan G. Zepeda, Ph.D.
Health Agency Director
Gregory Thomas, M.D., M.P.H.
Health Officer
Curtis A. Batson, R.E.H.S.
Director

February 23, 1999

Certified Freight Lines, Inc.
P.O. Box 455
Arroyo Grande CA 93420

**RE: UNDERGROUND STORAGE TANK (UST) CLOSURE AT: CERTIFIED FREIGHT
LINES TERMINAL, 1820 RAILROAD AVE., OCEANO, CALIFORNIA 93445**

Our Department issued permit # 589-1-A for the removal of one single wall steel UST used for the storage of diesel fuel.

On January 7, 1999, our staff witnessed the UST removal and the collection of soil samples from the tank excavation and piping system.

Our review of the sample test results received by this Department from Cirrus Environmental, Inc. dated January 14, 1999, indicated the following: the test results for the tank excavation bottom and product lines were reported as 33 mg/kg and 59 mg/kg TPHd.

Based upon the information provided in connection with this UST closure and subject to the provision that the information provided in connection with this closure was accurate and representative of site conditions, no further action related to the UST closure is required by this Department.

If you have any question regarding this matter, please contact this office at (805) 781-5544.

MANUEL NEGRETE, R.E.H.S.
Environmental Health Specialist III

c: Ken Katen, RWQCB

**HAZARDOUS MATERIAL/UNDERGROUND STORAGE TANK/WASTE GENERATOR
INSPECTION REPORT/NOTICE OF VIOLATION**

Facility Name: CERTIFIED FREIGHT LINES Date: 1/7/99
Facility Address: 1820 KNICKROAD Contact Person: C Engle
OCEANO Title/Position: _____

HAZARDOUS MATERIALS (2185) (COMP #) (CA H&S Code, Div. 20, Chap. 6.95)			UNDERGROUND STORAGE TANKS (COMP #) (CA H&S Code, Div. 20, Chap. 6.7)		
BUSINESS I.D. FORM			ATL. # _____ GENERAL		
	Compl	Viol		Compl	Viol
1. Complete			20. Permit to operate		
2. Verify emergency phone number			21. Inventory reconciliation		
3. Location of utilities			22. Precision tank test		
INVENTORY			23. Leak detectors		
4. Hazardous material & amounts listed			TANK CLOSURE		
5. Material stored in proper containers & labeled			24. Permit approved	✓	
6. Incompatibles not stored together			25. Temporary closure	✓	
7. Spill containment provided			26. Removal/in place abandonment	✓	
PLOT PLAN			a) Tanks purged	✓	
8. Plot plan submitted			b) Tanks rinsed	✓	
9. Verify streets & adjacent buildings			c) Soil samples taken	✓	
10. Location of hazardous materials			WASTE GENERATORS COMP # _____		
11. Fire extinguishers/water source			27. EPA identification number		
12. Emergency shut-off switches			28. Variances and/or exemptions		
13. Location & verification of MSDS			29. Manifests		
14. Sewer system and/or storm drains			30. Waste oil receipt		
15. Staging area			31. Training program/records		
16. Changes/modifications in previous year			32. Contingency plan		
EMERGENCY RESPONSE PLAN			33. Material stored in proper containers & labeled		
17. Adequate emergency response procedures			34. Incompatibles not stored together		
18. Adequate evacuation procedures			35. Storage - 90 days		
19. TRAINING PROCEDURES			36. Fire extinguishers		
			37. Spill containment		

The above marked items represent violations of the California Health & Safety Code and the California Code of Regulations and must be corrected.

COMMENTS
PULLED ONE 10,000 GAL DIESEL UST
2 SOIL SAMPLES TAKEN AT BOTTOM OF HOLE
TEST FOR TPH AS DIESEL

Inspector's Signature [Signature]
Owner/Operator Signature [Signature]

NOTE: Signature indicates receipt of this document only and not an admission of the facts.



COUNTY OF SAN LUIS OBISPO
HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT
Environmental Health Division
2156 Sierra Way • P.O. Box 1489
San Luis Obispo, California 93406-1489
Phone: (805) 781-5544 FAX: (805) 781-4211

Susan G. Zepeda, Ph.D.
Health Agency Director

Gregory Thomas, M.D., M.P.H.
Health Officer

Curtis A. Batson, R.E.H.S.
Director

UNDERGROUND STORAGE TANK CLOSURE PERMIT

PERMIT EXPIRES 04/01/99

PERMIT # 589-1-A

APPROVAL DATE 12/01/98

APPROVED BY JOHN SCHOLTES JS

CONTRACTOR NAME AND ADDRESS

Engel & Gray, Inc.
P. O. Box 5020
Santa Maria CA 93456

FACILITY NAME AND ADDRESS

Certified Freight Lines Terminal
1820 Railroad Avenue
Oceano CA 93445

OWNER NAME AND ADDRESS

Certified Freight Lines, Inc.
P. O. Box 455
Arroyo Grande CA 93421-0455

CONDITIONS AS FOLLOWS:

1. This is not a permit to operate.
2. Permit shall be shown upon request to this Department, County Air Pollution Control District, State Regional Water Board or any representative of local Fire, Building, Planning or Police jurisdiction.
3. Owner, contractor, employees and agents shall comply with all Federal, State and local laws, ordinances, regulations and enactments.
4. This permit does not supersede the requirements of Uniform Fire and Building Code permits required by the local agency having jurisdiction.
5. This permit may be suspended or revoked by this Department for sufficient cause.
6. A 48-hour notice shall be given before inspection, and a fee may be assessed if a 24-hour notice is not received to cancel inspection.
7. Tank must be cleaned and rendered inert or rendered inert and hauled hazardous.
8. All samples must be collected by a certified technician under the guidance of this Department.
9. All samples must be analyzed by a State certified laboratory.

John\Engel & Gray\CLOSURE
mj 12/98

1/7/99 11⁰⁰ AM - CARL
ENGEL

pd.

SAN LUIS OBISPO COUNTY
APPLICATION FOR PERMIT TO ABANDON
UNDERGROUND HAZARDOUS MATERIALS STORAGE TANK

Application is hereby made by the undersigned for permit to abandon tank(s) in or on premises at: _____

1730 RAILROAD ST. OCEANO, CA.

PART I

OWNER: Name of Company: OCEANO ICE CO. Contact: W.M. SMITH
Mailing Address: P.O. BOX 332 OCEANO, CA. 93445
Telephone () 805-489-2288

OPERATOR: Company: SAME Contact: _____
Mailing Address: _____
Telephone () _____

List previous owners and operators of the tank(s), if applicable:

<u>DATE</u>	<u>OWNER/OPERATOR</u>
_____	_____
_____	_____
_____	_____

Attach a plot plan showing:

- _____ Location of all tank(s) and piping and their secondary containment
- _____ Leak detection system
- _____ Overfill protection system
- _____ Scale
- _____ North arrow
- _____ Property line
- _____ Nearest intersection or road
- _____ Equipment summary
- _____ Existing equipment and equipment to be removed

W.M. Smith 2-4-86
Applicant Signature Date

PART II

ate Tank Installed: UNKNOWN Volume of Tank (Gallons) 500

Materials stored in tank:

<u>DATE</u>	<u>MATERIAL</u>
<u>DEC. 1985</u>	<u>GASOLINE</u>
_____	_____
_____	_____
_____	_____

Type of Primary Containment: Concrete Fiberglass Steel
 Fiberglass Coated Steel Other

Piping/Materials of Construction: Steel Fiberglass Other

Type of Secondary Containment: Concrete Fiberglass Steel
 Fiberglass Coated Steel Other

Was any part of system cathodically protected? NO
If yes, which part(s)? _____

Describe leak detection system used, if any: INVENTORY CONTROL

Describe overflow protection system used: VISUAL

What is approximate depth to groundwater? UNKNOWN

Basis of determination: _____

What is the final destination of the tank(s) for disposal? DESTINATION DEPENDENT ON CONDITION

9/24/86 - excavation looked good. Tank had been cut up on site, informed them best to have it ^{2 of 2} melted down & to send a letter.

File Memorandum

Date: 6-12-08

To: Site Remediation File

CC:

From: Aaron LaBarre, Supervisor Hazardous Materials Program, San Luis Obispo
County Environmental Health Services

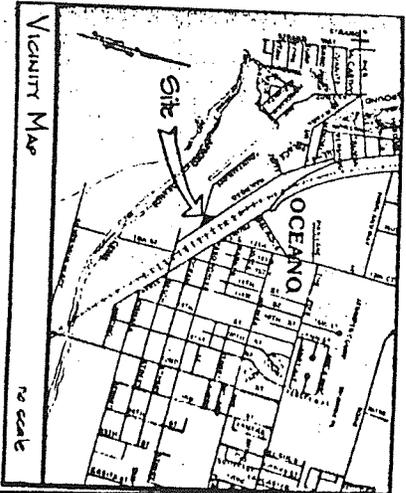
Re: General Statement regarding future redevelopment

Further action may be required by this department if:

- Hazardous materials/waste that impact soil or groundwater are discovered on site.
- The property is redeveloped.

Further action may include, but not limited to, a review by this Agency, further investigations, soil gas analyses, remedial action, and human health risk assessment.

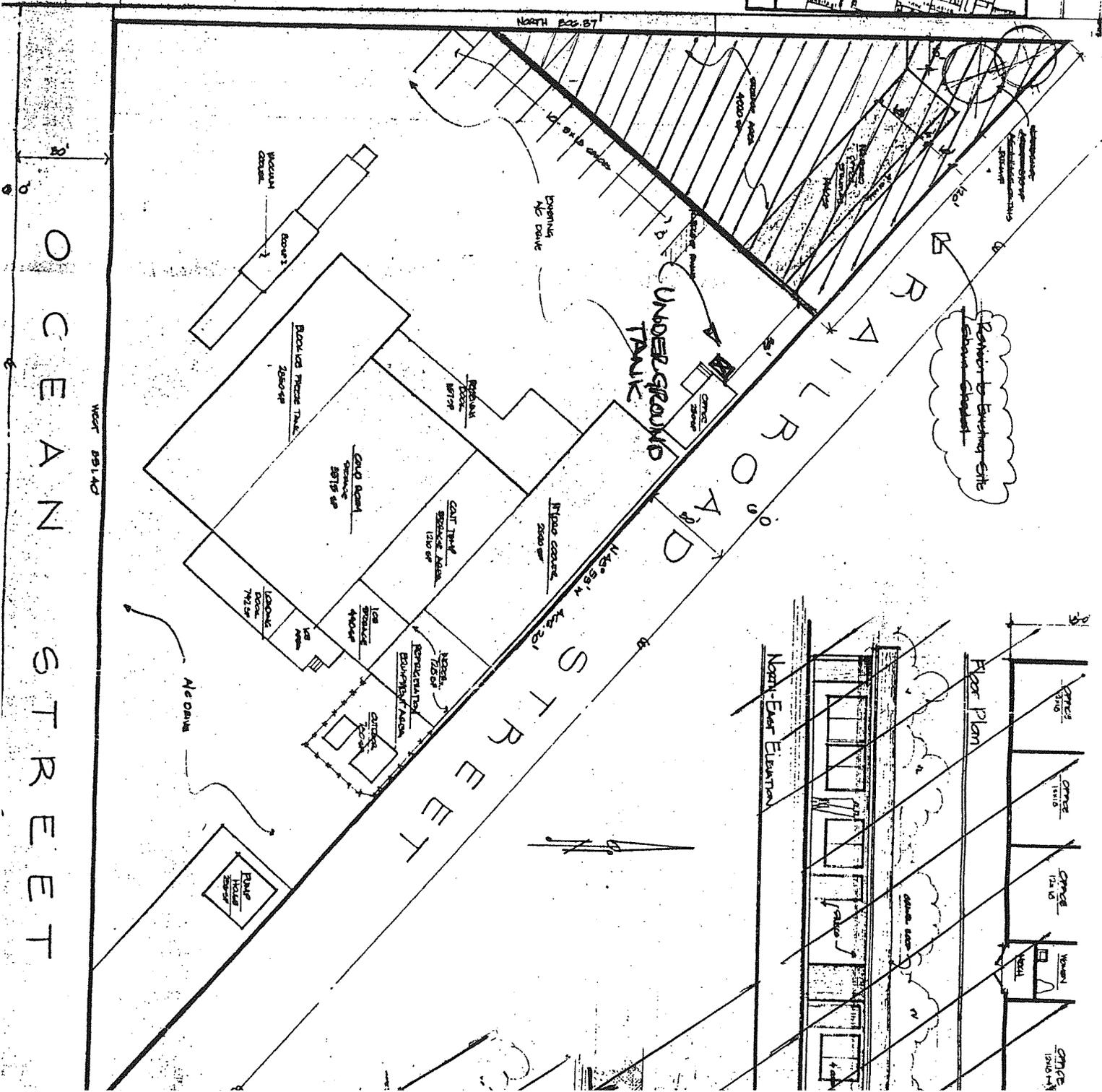
Southwest Elevation



Plot Plan

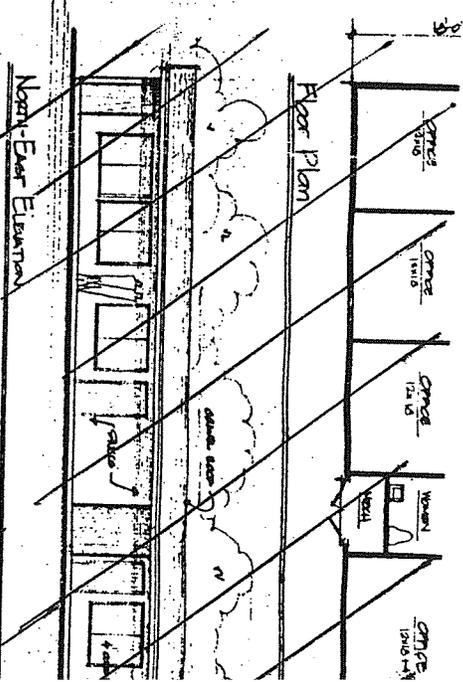
OCEANO ICE CO.
1730 BAIL ROAD ST.
OCEANO, CA.

APPROX. SCALE
1" = 40'



Return to Existing Site
Return to Existing Site

Floor Plan



North-East Elevation

OCEAN STREET

BAIL ROAD

STREET

DAILY DEPOSIT FORM

PAID
 @ 11-20-08

DATE: 11-20-08

DEPOSITED BY: MJ

DEPOSIT AMOUNT 1.00

INTERNAL ORDER	EHS PGM #	DESCRIPTION	AMOUNT	INTERNAL ORDER	EHS PGM #	DESCRIPTION	AMOUNT
160R301EH7		Administration		160R301EH07	7	Hazardous Materials Handlers	
160R301EH8A		Body Adornment		160R301EH11	11	Waste Generators	
				160R301EH02	2	Calarp	

160R301EH16	16	Food & Restaurants	
160R301EH36	36	Recreational Health	
160R301EH26	26	Land Use Planning	

160R301EH03	3	UST Inspections	
160R301EH03A	3	UST Removal & Installations	
160R301EH12	12	Above Ground Storage Tanks	

160R301EH42	42	Sewage (Liquid Waste)	
160R301EH44	44	Solid Waste Vehicles	

160R301EH25	25	Emergency Response	
160R301EH29	29	Site Mitigation	
160R340EH		Unocal	
160R301EH01E	1	CUPA Enforcement/AEO	
		Calarp - CUPA fine	
		UST - CUPA fine	
		Hazmat - CUPA fine	
		Waste Gen - CUPA fine	

160R301EH43	43	Well Construction/Destruction	
160R301EH45	46	Water Systems	
160R301EH47	47	Cross-Connection	
160R301EH48	48	Bacteriological Testing	

Trust Accounts	
3312500025	State Sur-charge Co of SLO
3312500020	City of SLO Hazmat Fees
3312500019	City of SLO State Sur-charge

010:00000:	Public Health Lab	
------------	-------------------	--

COPIES 61.00

NSF CHARGE

File Memorandum

Date: 6-12-08

To: Site Remediation File

CC:

From: Aaron LaBarre, Supervisor Hazardous Materials Program, San Luis Obispo
County Environmental Health Services

Re: General Statement regarding future redevelopment

Further action may be required by this department if:

- Hazardous materials/waste that impact soil or groundwater are discovered on site.
- The property is redeveloped.

Further action may include, but not limited to, a review by this Agency, further investigations, soil gas analyses, remedial action, and human health risk assessment.

1.0 INTRODUCTION

The following report describes the methods and findings of a 1,000 and 500 gallon gasoline underground storage tank removal project conducted at Oceano Market, 1711 Front Street, Oceano CA. (Fig. 1). A total of two single wall, steel underground storage tanks (UST's) were removed on October 5, 2005, under authority of the San Luis Obispo County, Public Health Department, Environmental Health Services Division (PHDEHS).

2.0 TANK EXCAVATION & TRIPLE RINSE CLEANING

During October 5, 2005, the tanks were fully exposed, then Adams Services, Inc. (US EPA #CAL922125668) rivet busted opened and triple rinse cleaned both tanks. A total of 250 gallons of total tank fluid was removed and transported as Non-RCRA Hazardous waste to Demenno Kerdoon (US EPA #CAT080013352) located in Compton, CA for proper recycling. The tank fluid was transported under State Manifest Document Number 24778806. A copy of the tank fluid Uniform Hazardous Waste Manifest is provided in Appendix I.

3.0 TANK REMOVAL

Once the tanks were certified inert by PHDEHS Inspector Mr. Aarron LaBarre, they were lifted to a flat bed carrier and secured for transport. The tanks were subsequently transported to Pacific Coast Recycling, Inc., (Long Beach Station) for destruction. A copy of the tank destruction certificate is provided as Appendix II.

4.0 OBSERVED SOIL TYPES & DEPTH TO WATER ESTIMATE

Native soil types observed in the excavated pit sidewalls and from sample collection, consisted mainly of a moist, loose, well-sorted fine and medium sand. Groundwater is estimated at no greater than 15-feet below grade at this site.

5.0 SOIL SAMPLE COLLECTION

Soil samples were collected the day of the tank removal directly beneath both ends of the 1,000 gallon gasoline tank and beneath the middle of the 500 gallon gasoline tank. The 500 gallon tank had a 5-gallon "belly" tank attached that was full of a gas/ water mixture. Upon removal some of the gas-water mixture spilled before it could be vacuum removed. The impacted soil was immediately placed on 6-mililiter polyethylene sheeting while Inspector LaBarre and Mr. William C. Lachmar discussed general actions that would appropriately address the small spill. It was ultimately decided to take several hand auger samples around the spill area and if nothing was disclosed in the investigative hand auger samples that the small amount of impacted soil could be spread out on the polyethylene sheeting for a period of two days then placed back on-site.

Each tank confirmation soil sample was collected from the teeth of the excavator bucket in one 4-ounce sterile glass sample jar. The samples were immediately given to a mobile laboratory for analyses. The confirmation UST soil samples were collected by Mr. William C. Lachmar (R.G. # 6168), under the direct observation of Inspector Aaron LaBarre. The samples were subsequently transported under proper chain-of-custody documentation to Jones Environmental, Inc. and subsequent subcontracting to Severn Trent, Inc. for organic lead analyses.

6.0 INVESTIGATIVE BORING SOIL COLLECTION METHODS

All hand auger borings conducted for the small spill extent determination were located approximately 3-feet from the spill in more-or-less the four compass directions. Soil samples were collected at 5 and 11-feet bgs in each boring by driving a six-inch long spoon sampler containing two 1-1/2" by 3" long brass sample sleeves into undisturbed soil using a 25# slide hammer. The lead brass sample sleeve was then secured with Teflon lined plastic end caps, clearly labeled, then immediately transported to the mobile laboratory for chemical analyses. A summary of the soil laboratory chemical analyses results is provided in Table 1 and Table 2 below.

TABLE 1:
SUMMARY OF TANK PULL CONFIRMATION SOIL ANALYTICAL RESULTS
 In Parts Per Million (mg/kg)
 Sampling Date: October 5, 2005

Sample ID	Depth (Feet)	Gas (8015M)	Benzene (8260B)	TEX (8260B)	MTBE (8260B)	Organic Pb (6010B)
BKBU-1	1	ND	ND	ND	ND	1.4
PIPE	1	ND	ND	ND	ND	16.3
GTE-6	6	ND	ND	ND	ND	2.1
GTW-6	6	ND	ND	ND	ND	16.6
RT-7	7	ND	ND	0.01/0.0/0.02	ND	18.4
KT-11	11	57	0.031	0.4/0.9/1.5	ND	10.1
KT-14	14	ND	ND	ND	ND	8.3
SP1-Comp	Surface	ND	ND	ND	ND	13.9
SP2-Comp	Surface	ND	ND	ND	ND	8.9
Detect Limit	NA	1.0	0.002	0.002	0.002	0.5

TABLE 2:
SUMMARY OF SMALL SPILL INVESTIGATIVE SOIL ANALYTICAL RESULTS
 In Parts Per Million (mg/kg)
 Sampling Date: October 6, 2005

Sample ID	Depth (Feet)	Gas (8015M)	Benzene (8260B)	TEX (8260B)	MTBE (8260B)	Organic Lead (6010B)
BEW-5	5	ND	ND	ND	ND	---
BEW-11	11	ND	ND	ND	ND	---
BWW-5	5	ND	ND	ND	ND	---
BWW-11	11	ND	ND	ND	ND	---
BSW-5	5	ND	ND	ND	ND	---
BSW-11	11	ND	ND	ND	ND	---
BNW-5	5	ND	ND	ND	ND	---
BNW-11	11	ND	ND	ND	ND	---
Detect Limit	1.0	10.0	0.002	0.002	0.002	0.5

ND = non detect; MTBE = Methyl Tertiary Butyl Ether; TEX = Toluene, Ethylbenzene, Total Xylenes

7.0 SOIL CHEMICAL ANALYSES RESULTS

All collected soil samples were analyzed for those particular petroleum based products and associated constituents as specified by DPHEHS Inspector Mr. Aaron LaBarre. The chemical analyses results indicated non-detectable levels of all combustible products specified for analyses in all soil samples except KT-11, which was collected beneath the belly tank spill upon removal of the 500 gallon UST. Organic Lead concentrations were found at levels that do not pose an environmental health risk when referencing the California Code of Regulations (CCR) Title 22 maximum contaminant levels. Results of sample KT-11 taken immediately after the belly tank spill found a gasoline concentration of 57 parts per million (ppm), with fuel constituent levels registering at 31 parts per billion (ppb) benzene, 390 ppb toluene, 900 ppb ethylbenzene and 1,500 ppb total xylenes. The certified chemical analyses report with QA/QC statement and chain-of-custody is provided in Appendix III.

8.0 CONCLUSIONS/RECOMMENDATIONS

Based on the soil chemical analyses results and field observations, it is the opinion of Geo Point Technologies (Geo Point) that no further "action" is warranted at this time. Therefore Geo Point respectfully requests that "closure" be granted this site with respect to the former underground UST's and immediate surrounding area.

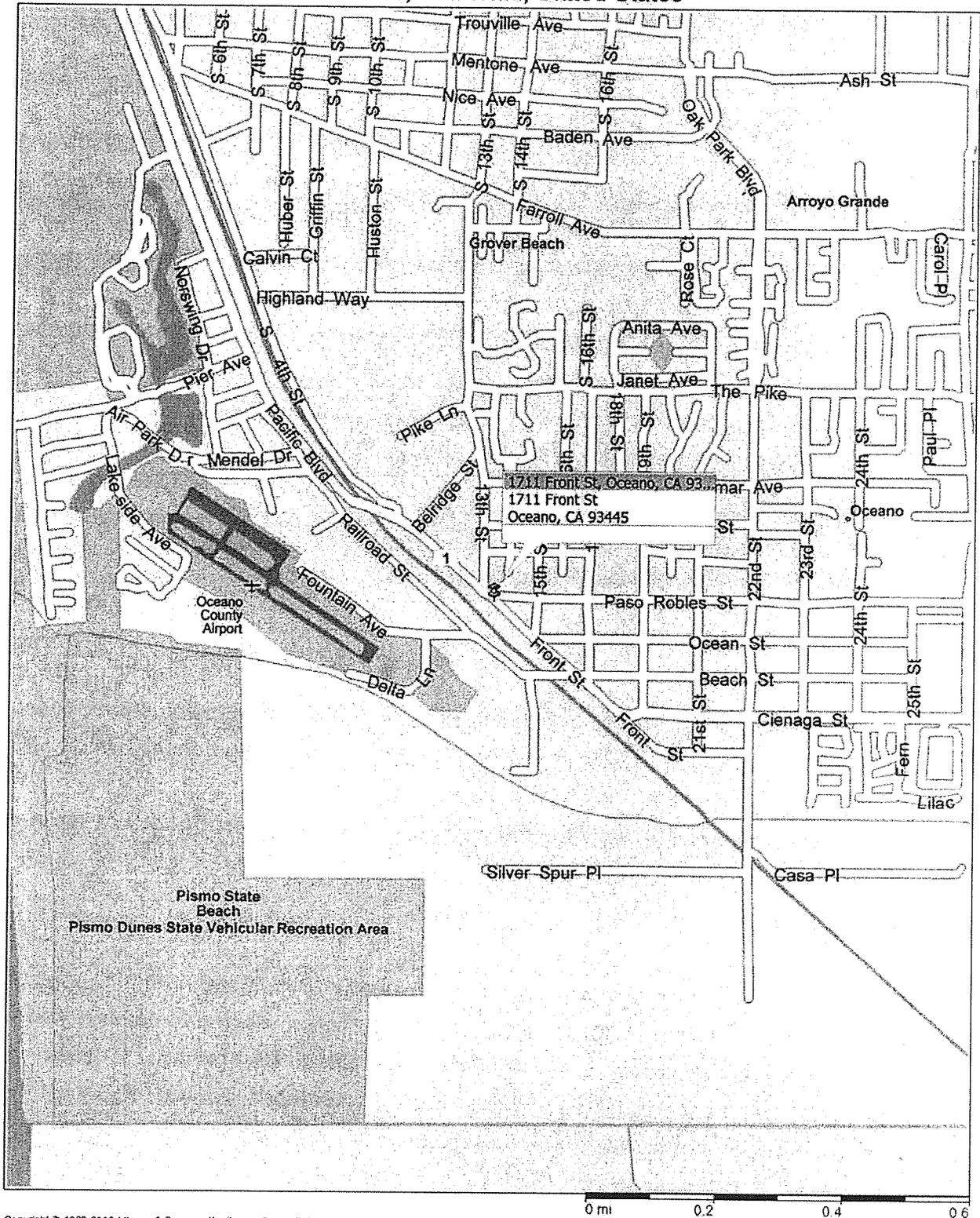
9.0 REPORT LIMITATIONS

Results of this investigation represent conditions at the time and specific locations where soil samples were collected and for the specific constituents categorized for analyses. It does not fully characterize the site for products not specified for analyses, or other areas not investigated. All laboratory work cited in this report was prepared under the direction of Jones Environmental, or Severn Trent Laboratories, Inc. who are solely responsible for the contents and conclusions of the chemical analyses data.

Sincerely,

Geo Point Technologies, Inc.

Oceano, California, United States



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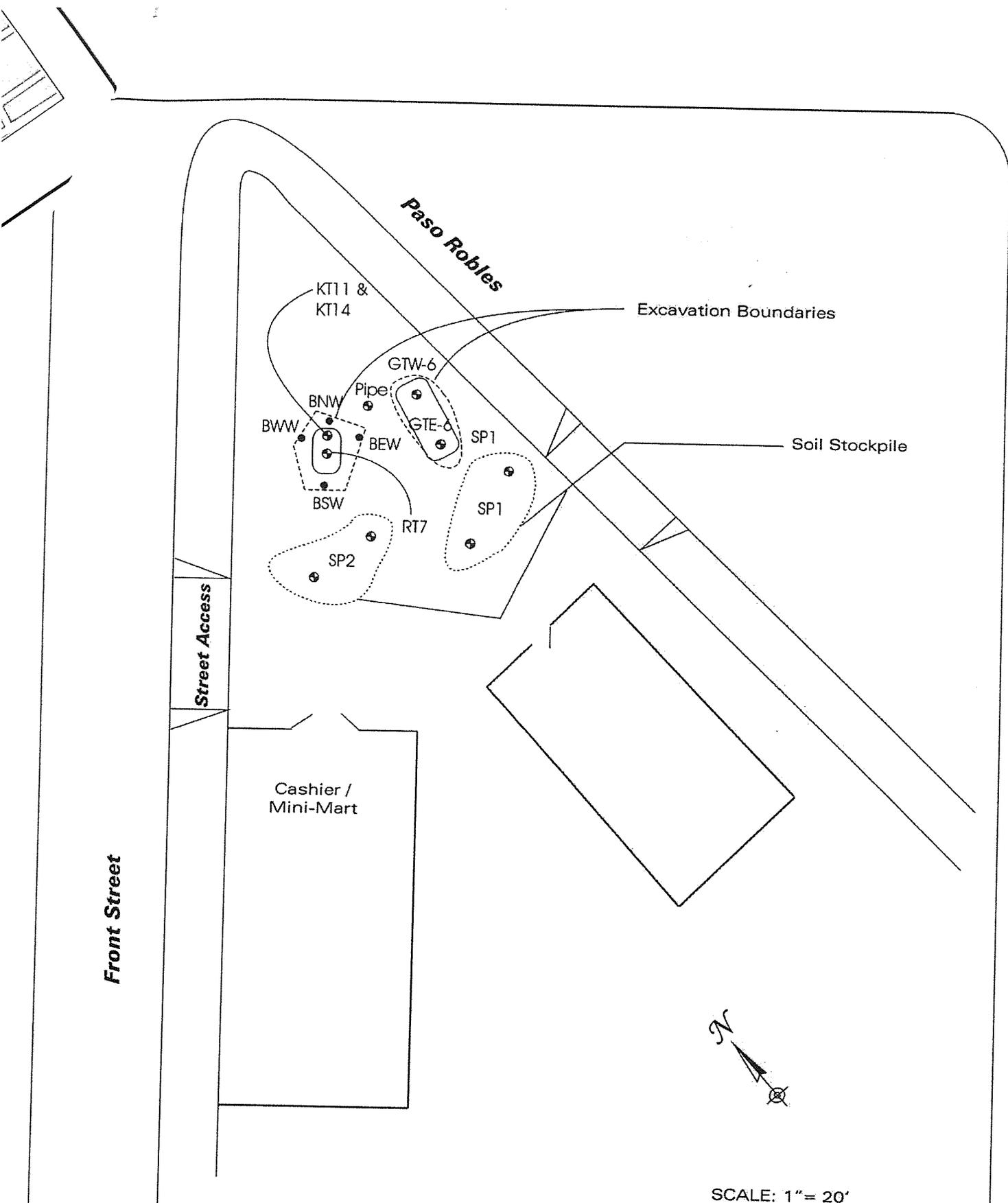


SITE LOCATION MAP
SITE: Oceano Market
 1711 Front Street
 Oceano, CA 93445

 	DRAFTED BY:	WCL
	DATE:	11/05

PROJECT #51005

FIG
1



LEGEND:

- SWW — Sample Designation
- ⊙ — Tank Removal Soil Locations
- — Investigative Boring Location

SITE SKETCH MAP
 SHOWING ALL BORING LOCATIONS
SITE: Oceano Market
 1711 Front Street
 Oceano, CA 93345



GEO • POINT
 TECHNOLOGIES, INC.

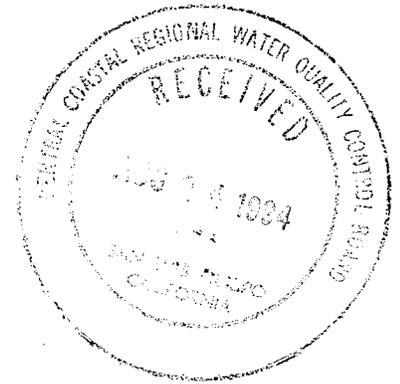
FIG
2

PROJECT # 51005

DRAFTED BY:	WCL
DATE:	11/05

CUESTA GEOTECHNICAL

An Environmental Service
670 Chorro Street, #D
San Luis Obispo, CA 93401
(805) 543-4084



August 18, 1994

Mr. Richard Aleshire
Regional Water Quality Control Board
81 Higuera Street, Suite 200
San Luis Obispo, CA.

RE: Bell/Webber Property, 1899 Cienega Street, Oceano, California

1.0 Introduction

This report presents the results of Cuesta Geotechnical subsurface investigation. The purpose of the investigation was to determine the extent of gasoline contaminated ground water at the referenced site (appendix A, figure #1). The investigation was conducted in response to a directive from the California Regional Water Quality Control Board (CRWQCB).

2.0 Site Description

The subject property is currently a tire repair shop. This business operates from the site's former gasoline service station building (appendix A, figure #2). No known petroleum products are currently stored or sold on-site. The site is located on the southeast corner of Front Street and Cienega Street. The site elevation is approximately 95 feet above sea level and the topography slopes to the southwest. Southern Pacific Railroad tracks are located approximately 200 feet west of the subject site and parallels Front Street. Oceano's business area is North of the site, while residents are to the East and South. The area between the site and the railroad tracks is trailer storage site.

3.0 Site History

Triangle Gas operated a service station at the subject property that included three underground fuel tanks (regular, unleaded, and diesel) and one underground waste oil tank. The tanks were removed in March, 1990. Gasoline contamination was identified during removal of the tanks and an assessment of the contamination was initiated with the installation of three monitoring wells in May, 1991. These wells were monitored until three additional wells were installed in March, 1993. Assessment of the gasoline contamination from the six monitoring wells showed that 1) ground water was flowing in a westerly direction, 2) ground water depth varied from 6 feet to 9 feet below grade, and 3) the extent of the gasoline contamination was not identified to the North or West.

4.0 Investigation Methodology

4.1 Drilling and Soil Monitoring

Three borings were drilled in the area north and west of the gasoline contaminated ground water plume. The soil was monitored from surface to the ground water, which was identified at approximately 8 feet below grade. Soil samples were obtained from 5 feet below grade and tested with a PID meter. The borings were drilled with a Giddings Drill Rig that utilized 8-inch hollow stem augers. All soils generated during drilling operations remain on-site, placed on and covered by 6 mil. plastic sheeting. To assure the collection of representative data, field procedures as outlined in Cuesta Geotechnical's Quality Assurance and Quality Control Plan (appendix D) were implemented.

The soils encountered during drilling were logged by a registered geologist. The soils were characterized by visual inspection of the drilling cuttings. The soils were classified according to the Unified Soil Classification System and are described on the Boring Logs (appendix B). Following completion of drilling, monitoring wells (MW-7, MW-8, and MW-9) were constructed using 2-inch PVC casing and screen. Additional information concerning the construction of the wells is shown on the Well Construction Logs (appendix B).

To assure that cross contamination did not occur between drilling of successive borings, all equipment contacting subsurface soil or ground water was steam cleaned. The water used in these operations was collected in barrels and remains on-site.

4.2 Ground Water Monitoring and Sampling

Following construction of the monitoring wells, the elevations of the well heads and the depth to ground water were obtained. The wells were then purged in preparation of obtaining ground water samples. Ground water samples were obtained using bailers supplied by a laboratory. The samples were analyzed for the contaminants previously identified, which are total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and xylenes (BTEX). The samples were analyzed using EPA methods 8260 and GC/MS Combination by a state certified laboratory.

5.0 Hydrogeology

Ground water in the Oceano area is generally contained within the permeable Paso Robles Formation sediments and to a lesser extent the older dune sands. Wells that tap these sediments are used mainly for agricultural and domestic supply. Due to the granular nature of alluvial sediments in the area, the uppermost ground water body is generally unconfined and in hydraulic continuity with the ground surface. The primary water body, from which most wells in the area produce water, is generally confined by overlying clay layers (CDWR, 1970). It is anticipated that ground water flow is to the west toward the ocean.

The ground water depth in Oceano varies from greater than 30 feet in the eastern portion to less than 10 feet in the western portion. The static ground water level at the

subject property is approximately 8 feet below grade. The Oceano Community Services District has five wells in this area. Three of these wells are located on 19th Street between The Pike (a street) and Wilmar Avenue and produce from depths greater than 200 feet. The other two wells are located on Front Street between 13th Street and Belridge Street and produce from depths greater than 170 feet.

6.0 Results of the Investigation

6.1 Field Inspection

Soils at the site, as described by the geologist, range from a clayey silt from grade to two feet that overlays medium to coarse grain sands to T.D./24.5 feet. The sediments from 2 feet to 24.5 feet are interpreted to be recent dune sands. Identifiable saturated soils were first encountered at approximately 8 feet below grade (appendix A, figure #3).

During the drilling and sampling of borings MW-7, MW-8, and MW-9, there was no petroleum odor in the vadose zone sands. Soil samples from approximately 2 feet, 5 feet, and 7 feet were tested with a PID meter. The results of these testings indicated there were no petroleum hydrocarbons in these zones.

6.2 Laboratory Analysis

Soil samples were not laboratory analyzed due to the results of the field inspection. Ground water samples were obtained from MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, and MW-9 and analyzed for TPH-BTEX using EPA method 8260 and GC/MS Combination. Samples with the benzene concentration over the state action limit of 1.0 part per billion (ppb) are from MW-1, MW-4, MW-6, and MW-7 (appendix A, figure #4). The results of these analysis are shown in Table #1. The laboratory data sheets and the chain-of-custody forms are included in appendix C.

7.0 Conclusion and Recommendation

Based on the information obtained during Cuesta Geotechnical investigation and previous investigations, the subject property's gasoline contaminated ground water plume appears to have been defined in all directions except to the northwest. MW-7 attempted to define the northerly extent, but this well identified 3.1 ppb benzene and 7900 ppb TPH.

The subject property's ground water flow is currently to the northwest at the north end of the property and to the southwest at the south end of the property. The extent of the ground water contamination at the south end is defined by MW-5, MW-9, and the direction of ground water flow. An attempt to define the northwest extent of the ground water contamination was attempted by MW-7, MW-8. The ground water contamination in MW-7 and the northwesterly ground water flow in the area of MW-6 and MW-7 make it questionable as to whether or not MW-7 and MW-8 define the contamination identified by MW-6. Based on this data, it is recommended that a monitoring well be installed between MW-7 and MW-8. Proposed MW-10 is shown on Appendix A, Figure #4.

Table #1

Cuesta Geotechnical Soil Samples

Sample Site: Bell/Webber Property, 1899 Cienega Street, Oceano, California
 Sampling Date: 7/6 & 7/7, 1994
 Reporting Units: Ground Water - Parts per Billion/ppm

Sample Location	Benzene	Toluene	Ethyl Benzene	Xylenes	TPH Gasoline
MW-1	4800	26000	5100	26000	120000
MW-2	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND
MW-4	7300	430	3100	5800	39000
MW-5'	ND	ND	ND	ND	ND
MW-6	9400	15000	2700	13000	110000
MW-7	3.1	25	220	480	7900
MW-8	ND	6.0	ND	0.9	ND
MW-9	ND	17	ND	ND	ND
Action Level	1.0	100	680	1000	1000

ND Not detected above the analysis' Practical Quantitative Limit (see lab sheet)
 Bold Above the Maximum Contaminant Level as specified in Title 22, CCR

8.0 Closure

This report has been prepared for the use of the client as it pertains to the property at 1899 Cienega Street, Oceano, California. The findings and conclusions presented in this report are based on the field work, and laboratory testing of ground water samples collected during this investigation. This report may not reflect potential variations in subsurface conditions which may exist between sample locations. All work has been performed in accordance with generally accepted practices in geologic, hydrogeologic and environmental consulting. No warranty, either expressed or implied, is made.

Sincerely,

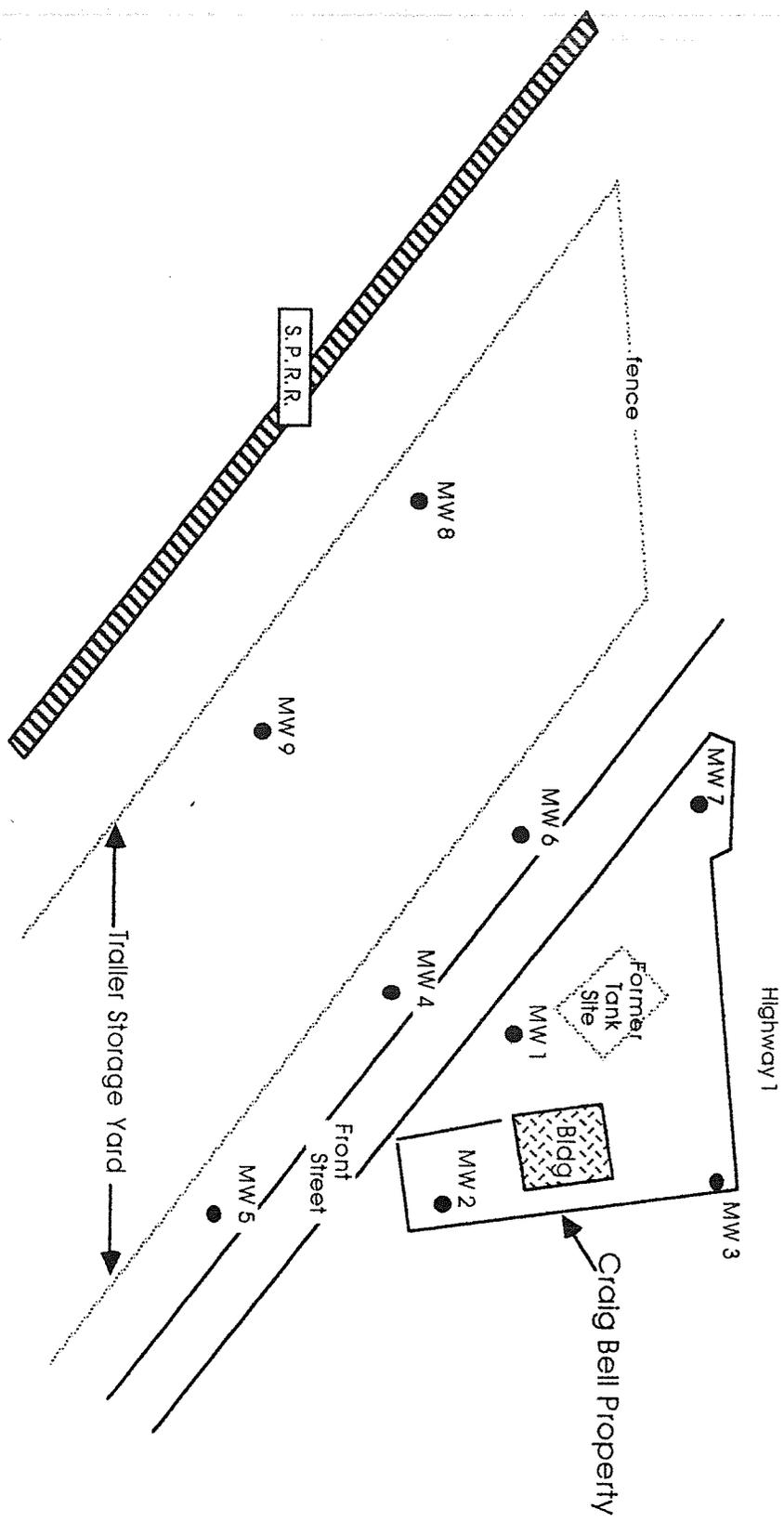
Leo T. Fedewa

Leo T. Fedewa
 Registered Geologist



Site Map

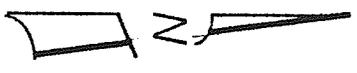
Figure #2



64 feet

Legend

● Monitoring Well Site



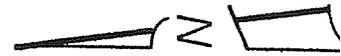
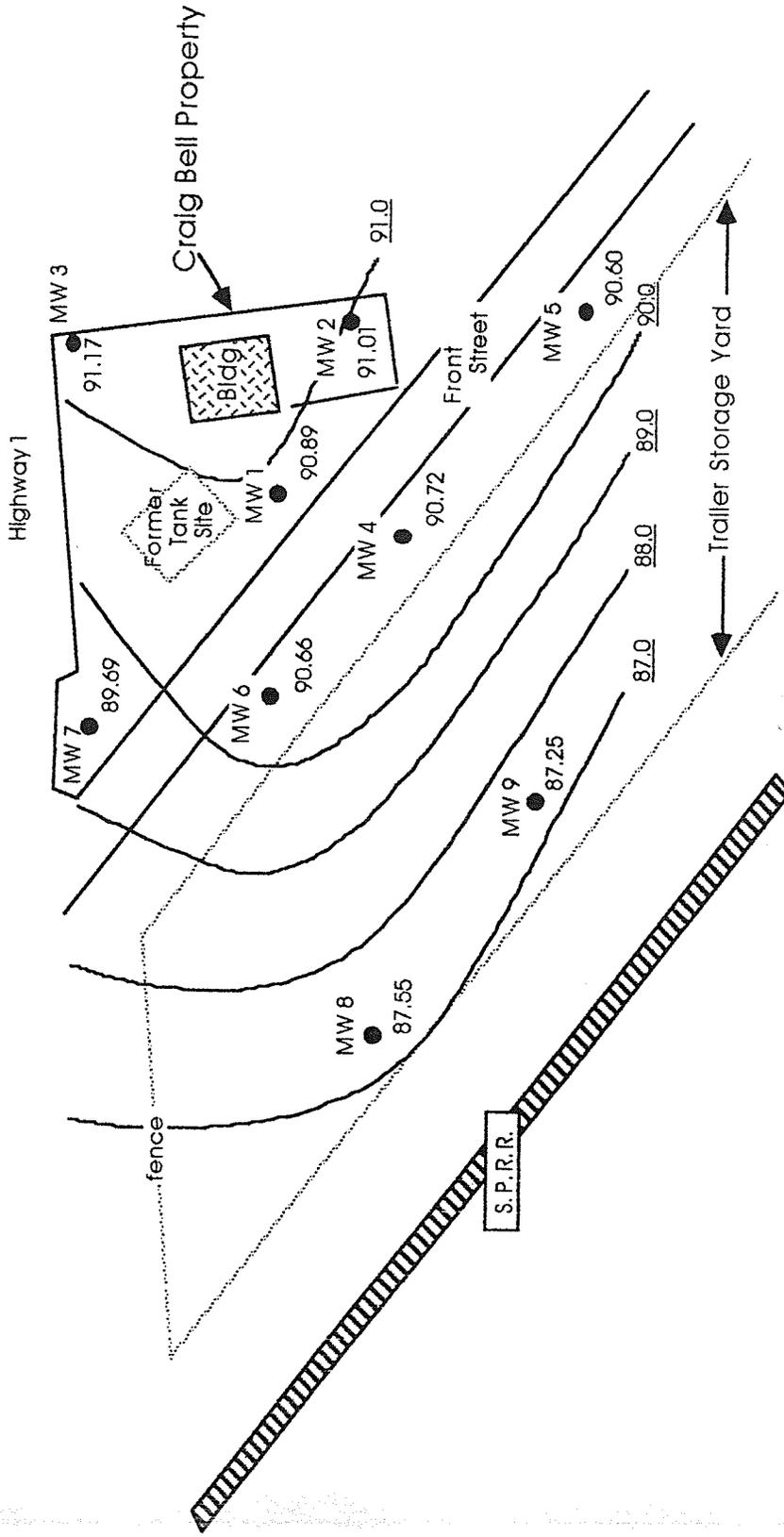
CUESTA GEOTECHNICAL
Environmental Service

San Luis Obispo, CA
(805) 543-4084

Craig Bell Property
1899 Front Street
Oceano, CA

Site Map

Figure #3



Legend	
MW 6	Monitoring Well Site w/ Elevation Of Ground Water (feet above sea level)
90.66	
87.0	Contours On Top Ground Water

CUESTA GEOTECHNICAL Environmental Service
 San Luis Obispo, CA (805) 543-4084

Craig Bell Property
 1899 Front Street
 Oceano, CA

Top Ground Water

RECEIVED

MAY 16 1991

Environmental Health



GROUNDWATER MONITORING WELLS AND SAMPLING
1899 FRONT STREET, OCEANO CALIFORNIA

MAY 10, 1991

PREPARED FOR

The County of San Luis Obispo
Department of Environmental Health
Attn: Mr. Michael McGee
P.O. Box 1489
2156 Sierra Way
San Luis Obispo, CA 93406

KEN MALONEY/GEOLOGY

P.O. BOX 1392
MORRO BAY, CA 93443
805 772 4819

KEN MALONEY/GEOLOGY

INTRODUCTION

The subject site is an inoperational service station at the corner of Front Street and Highway 1 in Oceano, California (Figure 1). Several underground fuel tanks were removed in the spring of 1990. During the tank removal evidence of petroleum contamination was evident both in the soil and in the first groundwater, at a depth of about 8 feet. Laboratory analysis of soil showed contamination above usual clean-up levels. Free petroleum was pumped from the water surface in the tank excavation and recycled by refining. In the weeks following the tank removal much of the petroleum contaminated soil had been removed, aerated, and placed back into the excavation. Verification sampling of this aerated soil is pending.

SCOPE OF SERVICES

On April 23, 1991 the undersigned supervised the installation of three groundwater monitoring wells at 1899 Front Street. The well locations are shown on Figure 2. Well construction details can be found on the appended Monitoring Well Information, and Monitoring Well Detail sheets. The investigation was designed to address the current concerns of the San Luis Obispo County Environmental Health Department.

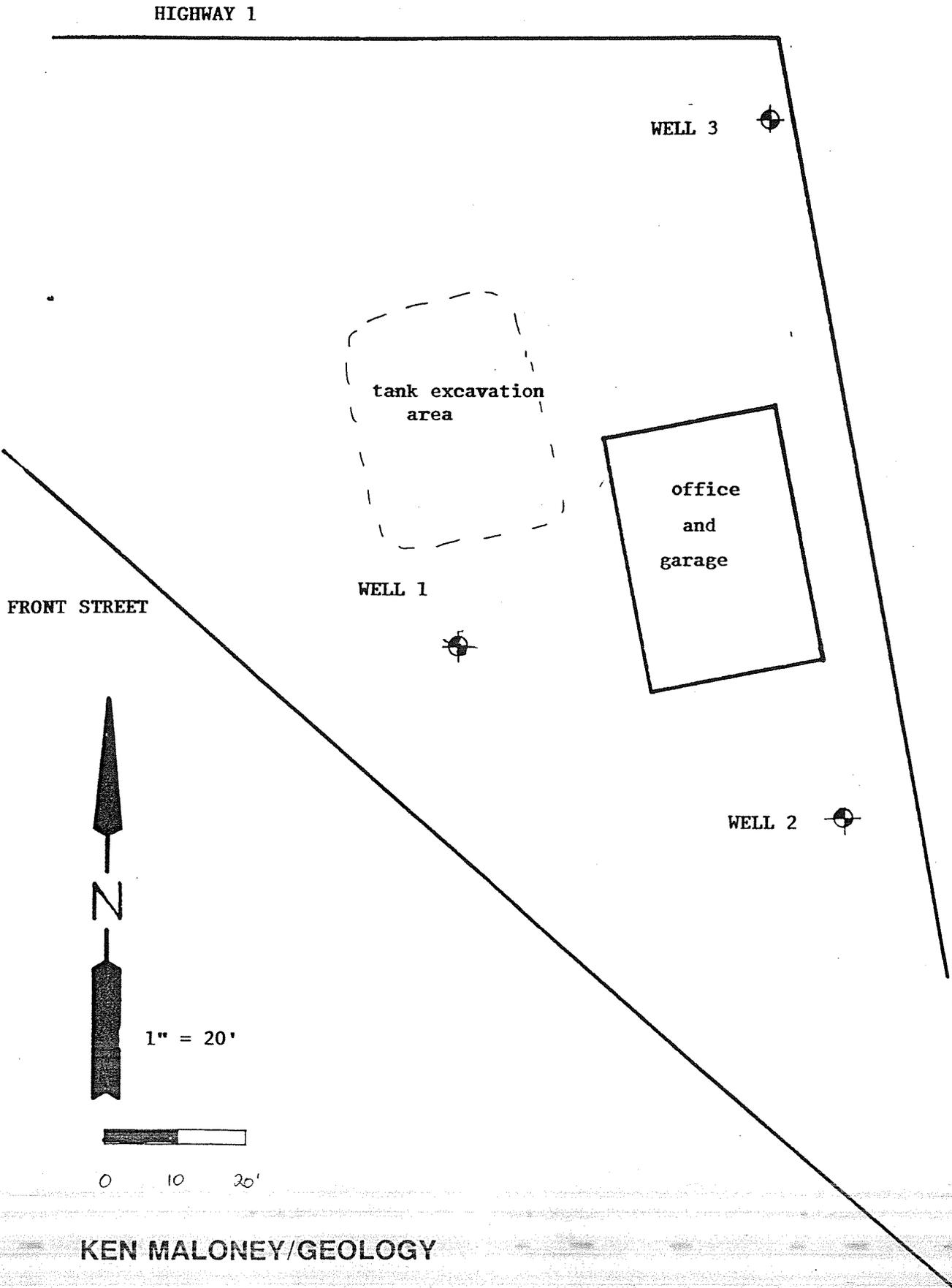
Water elevations were measured and well heads surveyed as to their relative elevations. A three point solution of groundwater flow is attached for data measured 5/5/91, and is discussed in a following section of the report.

SITE CHARACTERISTICS

The subject site is level and is in a mixed neighborhood of commercial and residential zoning. Two single family residences are to the east, a recreational vehicle storage yard and the Southern Pacific Railroad tracks are to the west across Front Street, and commercial and residences are located to the north across Highway 1.

FIGURE 2

BELL PROPERTY 1899 FRONT STREET AND HIGHWAY 1, OCEANO, CALIFORNIA



KEN MALONEY/GEOLOGY

PAGE 2

The nearest surface water is Arroyo Grande Creek about 1000 feet south of the site. Some water was noted pooled but not surface flowing on May 5, 1991.

GEOLOGY

The geologic maps of the area (Hall 1973, DWR 1979), show the surface sediments to be Quaternary age (last 2 million years) sand dune deposits. During the well installation the sand dune deposits were found to be fine grained quartz and feldspathic sands. At a depth of approximately 17 feet in Well 3, a gravelly sandy clay was encountered that acts as an aquitard. This clay layer is assumed to be of the Paso Robles Formation, because of the angularity of the cherty shale gravel particles.

SITE GROUNDWATER & GROUNDWATER FLOW DIRECTION

The first groundwater beneath the site is at a depth of about 8 feet. As such the groundwater level approximates the standing water level of Arroyo Grande Creek. It is probable that the source of the groundwater is from precipitation and underflow from the creek. Given the calculated groundwater flow direction of 43 degrees to the northeast, Arroyo Grande Creek is estimated to provide a greater volume of water to the aquifer, than is provided by precipitation. The calculated flow gradient is 0.3 percent which seems too low and indicates a high probability that the groundwater is locally perched.

GROUNDWATER CONTAMINATION

Laboratory analysis shows detectable concentration of petroleum constituents in all three wells. However, only in Well 1 are the constituents found in levels exceeding the usual clean-up limits. Given the calculated groundwater flow direction it can be concluded at this time that the significant groundwater contamination is limited to the area immediately adjacent to Well 1.

FREE PRODUCT

Free or floating petroleum is not present to date in any of the monitoring wells.

KEN MALONEY/GEOLOGY

TABLE 1
SUBSURFACE ANALYTICAL RESULTS

Well #	benzene	toluene	e-benz	xylene	TPH	date
WATER SAMPLES (IN PARTS PER BILLION)						
1	20,000.	59,000.	6,400.	33,300.	370,000.	04/23/91
2	0.97	1.2	nd	0.61	nd	04/23/91
3	0.79	1.2	nd	2.19	nd	04/23/91

(concentrations in parts per billion.
nd= below detection limits of the analysis.
-- not analyzed,
e-benz is ethylbenzene, TPH is total petroleum hydrocarbons.)

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PAGE 3

DISCUSSION

A pump and treat method can be used should groundwater require remediation. Details of the system can be developed at the client's request. Installation of at least one additional groundwater well would be necessary if a pump and treat groundwater treatment system is installed.

.....

Sincerely,

Ken Maloney

Ken Maloney
Certified Engineering Geologist
#1513

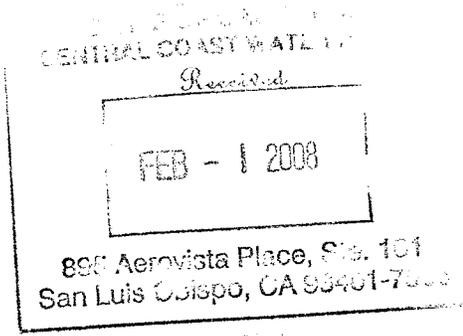


30.15
1/30
C U E S T A G E O T E C H N I C A L
A n E n v i r o n m e n t a l S e r v i c e

January 29, 2008

Corey Walsh
Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

ed



RE: Biosparging & Quarterly Groundwater Monitoring:
Bell/Webber Property, 1899 Cienega St., Oceano, CA

During the fourth quarter of 2007, gasoline contaminated groundwater was remediated using biosparging at the Bell-Webber property, 1899 Cienega Street, Oceano; and a quarterly groundwater monitoring/sampling was performed on December 6, 7 and 10, 2007 (Figure 1). This report has been prepared for property owners Craig Bell and Mary Webber.

Biosparging Groundwater

Biosparging was conducted at the referenced site by injecting air into the gasoline-contaminated groundwater during the fourth quarter of 2007. Monitoring of the system indicates it operated between October 1 and 25, 2007. An inspection of the injection system on October 25 found it shut down due to burnt wires from an electrical short in the air compressor pump/motor. Because this unit has required many repairs over the past two years, a new unit was purchased for this site. The new compressor unit was received and installation of the unit was completed on December 31, 2007.

Monitoring of injection parameters (flow rates, pipe pressure) has shown several injection wells with flow rates less than 1 cfm and pipe pressure above 30 psi. Initial injection rates were set at 3 to 4 cfm and line pressures averaged 10 psi. Monitoring of the air injection system with time identified injection wells with decreasing flow rates and increasing piping pressures due to the development of the microbial population, a symptom identified as biofouling, and/or plugging

C U E S T A G E O T E C H N I C A L

A n E n v i r o n m e n t a l S e r v i c e

volume and then the wells were allowed to recharge within 80% of the water table. The purge logs are presented in Attachment A. Groundwater purged from the monitoring wells is stored on-site in DOT approved drums and will be removed to a recycling facility in the near future. Samples were obtained in 40 milliliter containers that were stored in a cooled ice chest until delivered to the laboratory for analyses. Groundwater samples were analyzed for TPH-gasoline, B, T, E and X constituents using EPA Methods 8015 and 8021.

Site monitoring data showing well construction, groundwater depth, flow direction, and groundwater gradient for approximately three years is listed in Table 2. Groundwater flows from an east to west direction and averages 0.006 feet per foot (Figure 2). The vicinity map (Figure 1) shows water wells identified within a one-mile radius of the site, and Table 3 lists the well's property owners and completion data.

A historical summary of the groundwater analyses is listed in Table 1 and includes groundwater elevations. The laboratory report sheets, QA/QC data and chain of custody record for this quarter are included in Attachment B. This quarter's laboratory analyses identified the following monitoring wells with gasoline contamination or detection limits above the maximum contaminant levels or levels of concern (in ppb):

Well#	Benzene	Toluene	Ethylbenzene	Xylenes	TPH
MW-1	<100	15,000	4,390	21,200	60,000
MW-6	6,090	24,500	2,800	21,900	88,000
MW-7	10.9				4,600
MW-10	962				7,800
MW-12	6.34				
MW-13	398	1,710	2,420	7,230	33,000
Action Level	1	150	700	1,750	1,000

The site maps, Figures 3 and 4, show the extent of benzene and TPH-gasoline, respectively. The laboratory analyses of groundwater samples for December 2007 are generally consistent with the previous results for perimeter non-impacted wells (MW-2, MW-3, MW-5, MW-8, MW-11, MW-12). Wells MW-1, MW-4, MW-6, MW-7 and MW-13, located closest to the source area, generally exhibit stable to increasing constituent concentrations when comparing August and December 2007 results. Historically, there appears to be a trend of higher benzene and TPH

C U E S T A G E O T E C H N I C A L

A n E n v i r o n m e n t a l S e r v i c e

due to the conversion of soluble iron oxide (Fe_{2+}) to insoluble iron oxide (Fe_{3+}) from the injection of oxygen/air to the groundwater. As previously reported, treatment for biofouling was performed in the third quarter 2007 by addition of hydrogen peroxide into the injection wells. The change in injection rates after hydrogen peroxide treatment showed a slight flow increase in a few wells, while most show no marked increase. To address the low flow rates due to soluble iron oxide (Fe_{2+}) being converted to insoluble iron oxide (Fe_{3+}), the Fe_{3+} was converted back to a soluble form by treating the effected injection wells with 90% oxalic acid ($C_2H_2O_4 \cdot 2H_2O$ in aqueous solution) and 10% citric acid ($H_3C_6H_5O_7$). This was proposed in a September 5, 2007 letter and approved by the RWQCB in an October 26, 2007 email. The oxalic acid/citric acid treatment was performed on December 31, 2007, the same day as the new compressor was started up. Injection flow rates for most wells showed an immediate increase to an average of 4 cfm after treatment.

Dissolved oxygen (DO) levels are monitored in wells MW-1, MW-4, MW-6, MW-7, MW-10, MW-11 and MW-13 approximately every 3 to 5 weeks during system operation and during groundwater sampling events. The DO levels during the December 6 to 10, 2007 monitoring are presented in the purge logs (Attachment A). The distribution of DO levels obtained during the December 2007 monitoring is presented on Figure 5. The relatively low DO levels for the December 2007 monitoring (Figure 5) are likely the result of the biosparging system being shut down since October 25, 2007.

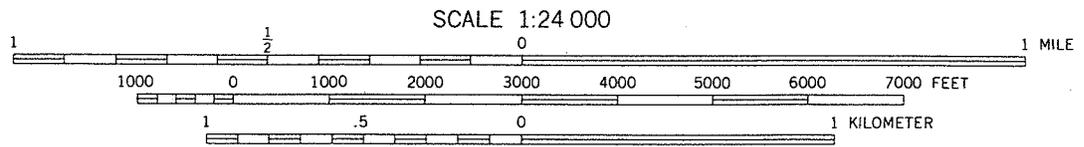
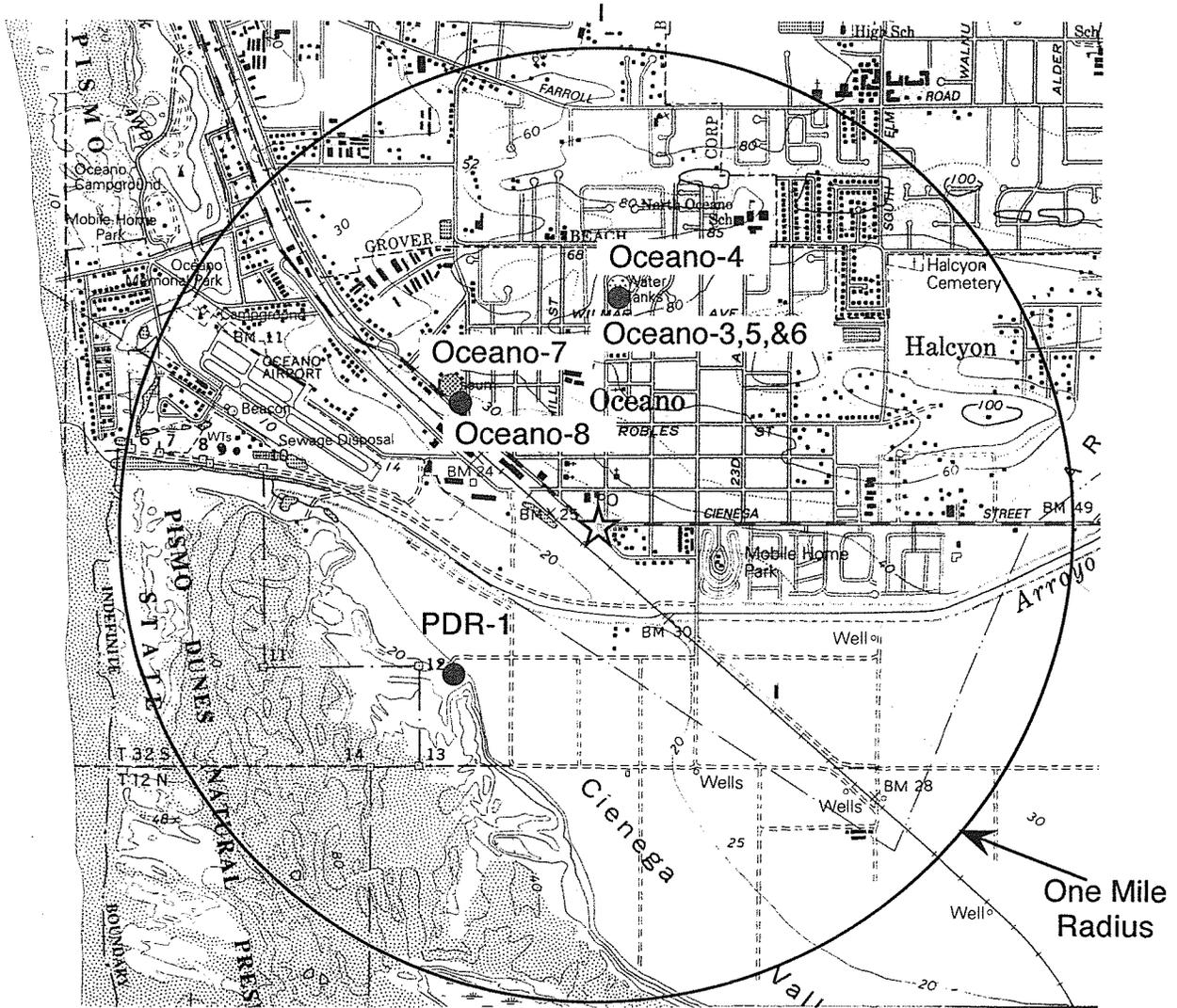
Field monitoring for VOC's using a PID meter was performed to assure biosparged air did not mobilize volatile gasoline constituents to the ground surface. Measurements were obtained from approximately one-inch above the surface of groundwater monitoring wells and air injection wells. All measurements obtained were less than 5 ppm during the injection periods.

Quarterly Monitoring / Sampling

On December 6, 7 and 10, 2007, the fourth quarterly monitoring/sampling was conducted. The extended monitoring/sampling period resulted from rain delaying the sampling. Site monitoring wells MW-1 through MW-13 were monitored (12/6/07) to determine groundwater depth and dissolved oxygen content, and groundwater samples were obtained (Figure 2). Before sampling, each well was purged in an effort to obtain three to four times the casing's

VICINITY MAP W/ GROUNDWATER WELLS

Figure



CONTOUR INTERVAL 20 FEET

Legend

- Groundwater Wells
 - Active
 - ▨ Inactive
 - ⊙ Abandoned
- ★ Subject Property

Cuesta Geotechnical San Luis Obispo,
An Environmental Service (805) 543-40

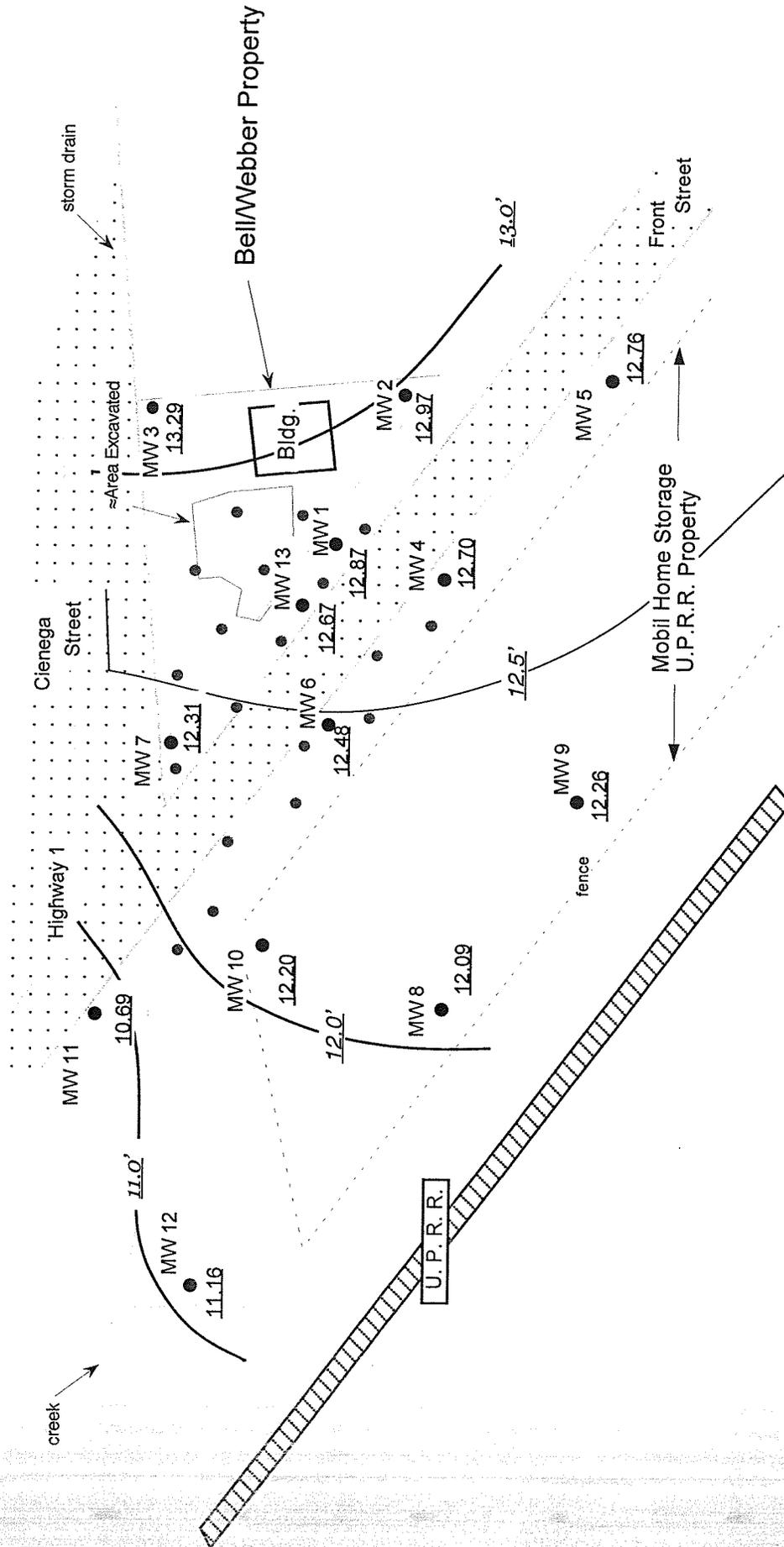
Bell/Webber Property
1899 Cienega Street
Oceano, CA

Scale:

Date: 10/11

Figure 2

TOP GROUNDWATER



Legend

- MW 1 ● 12.87 Monitoring Well Site w/ Elevation of Groundwater
- Biosparging wells
- 13.0' Contours On Top Ground Water (feet above sea level)



CUESTA GEOTECHNICAL
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Bell/Webber Property
1899 Cienega Street
Oceano, CA

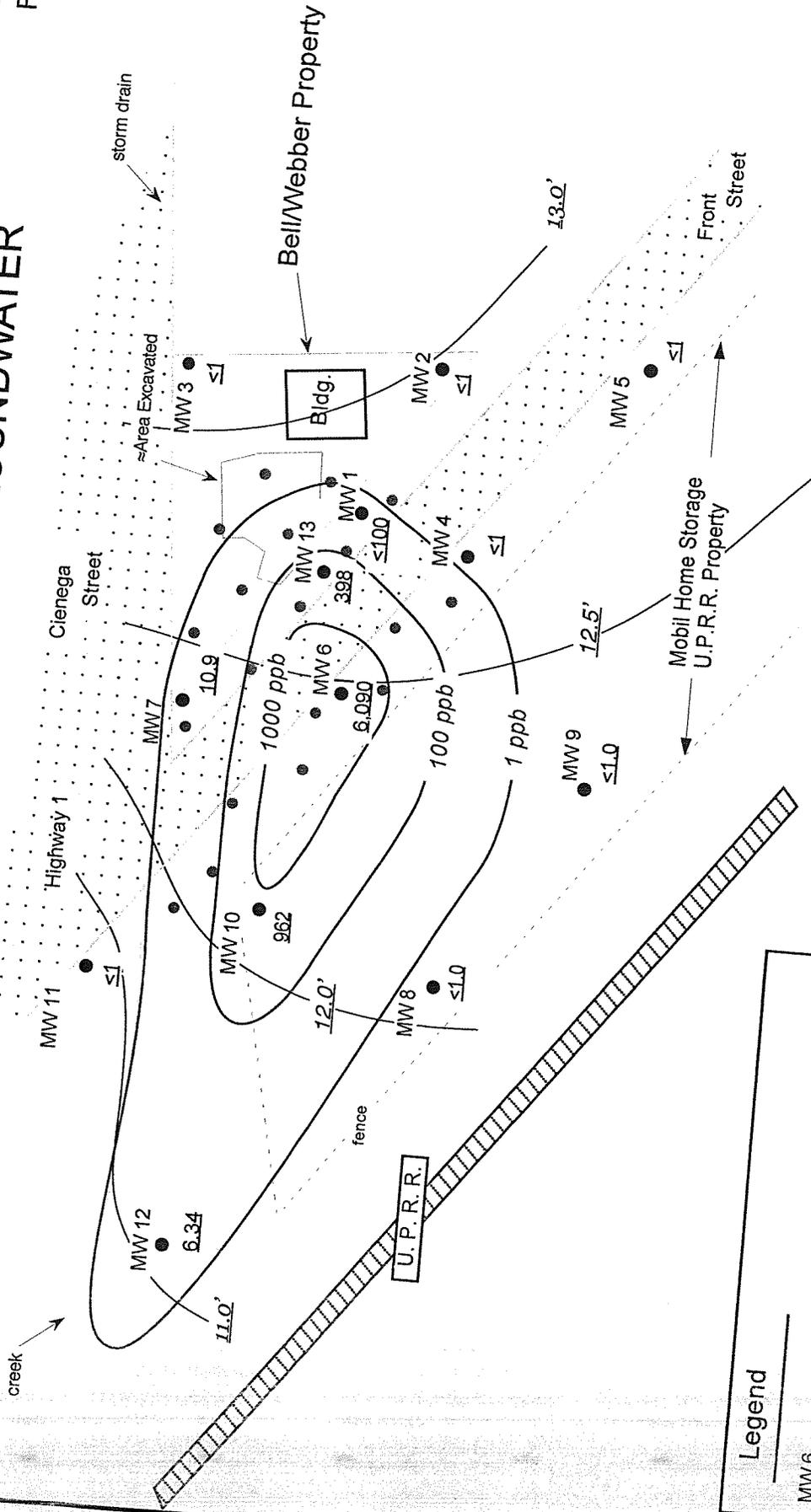
Contours Top Groundwater

Scale: 1" = 64'

Date: 12/6/07

BENZENE CONCENTRATION GROUNDWATER

Figure 3



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Bell/Webber Property
1899 Cienega Street
Oceano, CA

Contours: Benzene Concentration

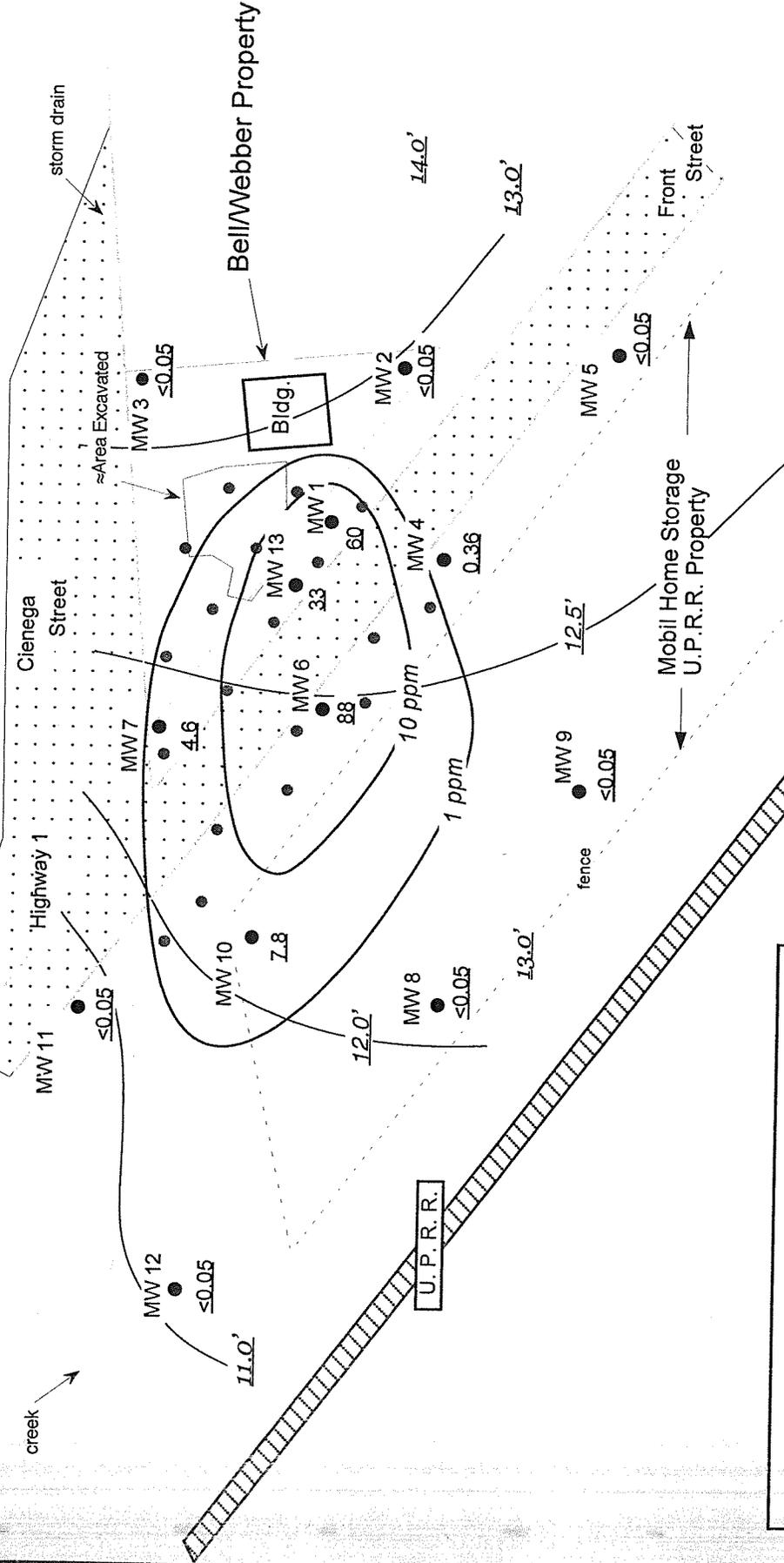
Scale: 1" = 64'

Legend

- MW 6 ● 5.090
- 100 ppb
- 13.0'
- Monitoring Well Site
- Benzene Concentration
- Contours: Benzene Concentration
- Contours: Top Groundwater (feet)
- Biosparging Wells

TPH GASOLINE CONCENTRATION GROUNDWATER

Figure 4



Legend

- MW 6 ● 88
- 1 ppm
- 13.0'
- ⊕ Biosparging Wells

Monitoring Well Site
 TPHg Concentration (ppm - parts per million)
 Contours: TPHg Concentration
 Contours: Top Groundwater (feet)
 Biosparging Wells

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 San Luis Obispo, CA
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Bell/Webber Property
 1899 Cienega Street
 Oceano, CA

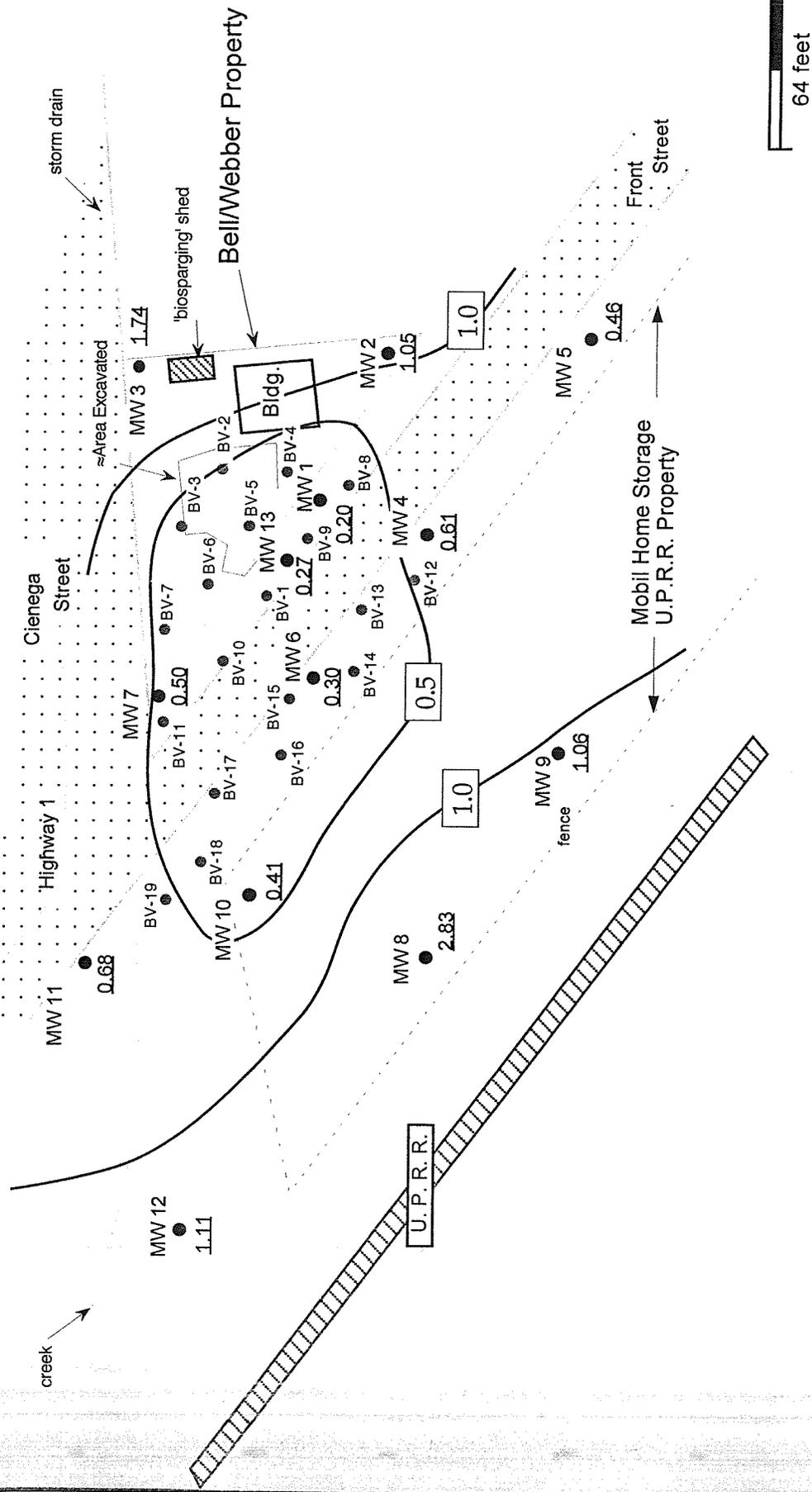
Contours: TPH Gasoline Concentration

Scale: 1" = 64'

Date: 12/10/07

Figure 5

Site Map



CUESTA GEOTECHNICAL
 An Environmental Service
 San Luis Obispo, CA
 (805) 543-4084

Bell/Webber Property
 1899 Cienega Street
 Oceano, CA

Dissolved Oxygen Levels & Biosparging Well Locations

Scale: 1" = 64'
 Date: 12/6/07

Table #1

Cuesta Geotechnical: Groundwater Analysis Report*

Sample Site: Bell/Webber, 1899 Cienega Street, Oceano, CA
 Reporting Units: Ground water - Parts per billion/ppb
 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Water Samples Location/Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	TPH Gasoline	F.L. feet
MW-1 12/6/07	<100	15,000	4,390	21,200	NT	60,000	12.87
8/31/07	4.33	6,170	2,150	5,650	NT	58,000	13.70
5/23/07	10.6	13,400	2,020	10,400	NT	33,000	14.40
2/28/07	<10	4,100	1,600	7,600	NT	31,000	14.62
12/6/06	20	5,800	1,400	6,500	NT	41,000	14.05
8/30/06	<100	5,300	1,800	10,400	NT	60,000	15.00
6/1/06	<5	3,920	901	6,480	NT	33,300	15.99
3/16/06	<50	6,710	1,740	10,230	NT	46,000	15.25
12/20/05	34.1	21,600	4,330	20,240	NT	72,700	13.74
9/7/05	95	21,800	4,260	22,100	NT	98,400	14.43
6/1/05	22	3,000	1,900	8,400	NT	62,000	15.47
3/4/05	37	4,100	2,100	10,000	NT	51,000	15.72
12/9/04	63	6,800	1,800	8,000	NT	45,000	12.97
9/22/04	74	13,000	4,300	14,000	NT	110,000	13.03
6/16/04	96	15,000	3,400	14,000	NT	73,000	14.49
3/18/04	130	21,000	3,700	22,000	<50	120,000	14.73
12/16/03	130	21,000	4,400	19,000	<50	81,000	13.33
10/7/03	130	8,800	2,300	9,300	<50	65,000	13.54
6/11/03	190	15,000	5,000	22,000	<50	80,000	14.53
3/26/03	190	12,000	4,000	15,000	<100	120,000	14.76
1/1/03	170	10,000	2,600	11,000	<100	72,000	14.02
9/20/02	320	14,000	2,800	14,000	<100	100,000	13.46
7/11/02	520	24,000	4,100	20,000	<100	110,000	14.01
4/14/02	650	25,000	5,700	28,000	<500	140,000	14.67
12/21/01	640	20,000	4,100	21,000	<500	100,000	14.92
10/2/01	850	20,000	3,500	19,000	690	180,000	14.84
6/13/01	640	15,000	3,700	19,000	<500	100,000	16.08
4/11/01	400	6,000	2,900	13,000	<50	79,000	17.14
1/2/01	730	21,000	4,300	20,000	<50	74,000	14.18
9/23/00	1,000	27,000	3,800	24,000	<100	88,000	14.72
3/30/00	580	870	3,600	17,000	<500	85,000	16.92
10/2/99	1,900	24,000	5,600	27,000	<500	120,000	14.83
4/2/99	1,200	14,000	4,700	23,000	<100	85,000	17.51
10/8/98	1,500	17,000	4,900	25,000	<500	150,000	15.65
1/6/98	1,600	18,000	4,700	25,000		400,000	16.81
7/2/97	1,800	17,000	3,800	18,000		150,000	15.53
1/16/97	1,800	16,000	4,400	21,000		89,000	18.57
9/27/96	3,100	30,000	5,200	27,000	<500	130,000	14.53
4/4/96	2,100	19,000	4,300	24,000		100,000	17.05
11/22/95	2,200	19,000	2,800	8,600		99,000	14.98
6/22/95	4,700	34,000	8,100	48,000		520,000	16.90
11/10/94	2,400	17,000	3,800	18,000		100,000	13.32
3/17/93	7,400	22,000	3,300	17,000		84,000	
MW-2 12/10/07	<1.0	<6.0	<1.0	<1.0	NT	<50	12.97
8/30/07	<1.0	<6.0	<1.0	4.49	NT	<50	13.87
5/23/07	<1.0	<6.0	<1.0	<1.0	NT	<50	14.51
2/28/07	<1.0	<6.0	<1.0	1.5	NT	<50	14.66
12/6/06	<1.0	<6.0	<1.0	2.3	NT	56	14.40
8/30/06	<0.5	<0.5	<0.5	<0.5	NT	<50	15.40
6/1/06	<0.5	<0.5	<0.5	<0.5	NT	<10	16.04
3/16/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.24
12/20/05	<0.5	0.6	<0.5	<0.5	NT	<10	13.82
9/7/05	<0.25	<0.25	<0.25	<0.5	NT	<5.0	14.52
6/1/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.51
3/4/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.80
12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.12
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.20
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	14.18
3/18/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	14.88
12/16/03	ND	ND	ND	ND	<0.5	ND	13.52
10/7/03	ND	ND	ND	ND	<0.5	ND	13.78
6/11/03	ND	ND	ND	ND	<0.5	ND	14.64
3/26/03	ND	ND	ND	ND	<0.5	ND	14.88
12/31/02	ND	ND	ND	ND	<0.5	ND	14.21
9/20/02	ND	ND	ND	ND	<0.5	ND	13.61
7/11/02	ND	ND	ND	ND	<0.5	ND	14.12
4/14/02	ND	ND	ND	ND	<0.5	ND	14.76
12/21/01	ND	ND	ND	ND	<0.5	ND	15.06
10/2/01	ND	ND	ND	ND	<0.5	ND	14.96
6/13/01	ND	ND	ND	ND	<0.5	ND	16.20
4/11/01	ND	ND	ND	ND	<0.5	ND	17.30
1/2/01	ND	ND	ND	ND	<0.5	ND	14.32
9/23/00	ND	ND	ND	ND	<0.5	ND	14.83
3/30/00	ND	ND	ND	ND	<0.5	ND	16.97
10/2/99	ND	ND	ND	ND	5.9	ND	14.96
4/2/99	ND	ND	ND	ND	<0.5	ND	17.14
10/8/98	ND	ND	ND	0.7	<0.5	ND	15.77
1/6/98	ND	2.3	ND	2.6		ND	16.80
7/2/97	ND	ND	ND	ND		ND	15.66
1/16/97	ND	ND	ND	ND	<0.5	ND	18.54
9/27/96	ND	1.3	ND	2.4		ND	14.67
4/4/96	ND	ND	ND	ND		ND	17.11
11/22/95	ND	ND	ND	ND		ND	15.12
6/22/95	1.8	1.1	0.6	2.3		48	16.98
11/10/94	ND	ND	ND	ND		ND	13.37
3/17/93	ND	ND	ND	ND		ND	
Action Limit**	1	150	700	1,750	5	1,000	

ND Not detected above the analysis' Practical Quantitative Limit (see lab sheet)
 ** Maximum Contaminant Level as specified in Title 22, CCR

Table #1

Cuesta Geotechnical: Groundwater Analysis Report*

Sample Site: Bell/Webber, 1899 Cienega Street, Oceano, CA
 Reporting Units: Ground water - Parts per billion/ppb
 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Water Samples Location/Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	TPH Gasoline	F.L. feet
MW-3 12/6/07	<1.0	<6.0	<1.0	4.04	NT	<50	13.29
8/30/07	<1.0	<6.0	<1.0	4.77	NT	<50	14.06
5/24/07	<1.0	17.0	5.89	14.3	NT	<50	14.72
2/26/07	<1.0	<6.0	<1.0	<1.0	NT	<50	15.07
12/6/06	<1.0	<6.0	<1.0	<1.0	NT	<50	14.56
8/29/06	<0.5	<0.5	<0.5	1.9	NT	<50	15.38
6/1/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.65
3/16/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.69
12/20/05	<0.5	4.9	1.5	7.2	NT	<10	14.17
9/7/05	<0.25	<0.25	<0.25	<0.5	NT	<5.0	14.79
6/1/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.79
3/4/05	<0.5	<0.5	<0.5	<0.5	NT	<50	16.25
12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.47
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.40
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	14.35
3/18/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	15.20
12/16/03	ND	ND	ND	ND	<0.5	ND	13.79
10/7/03	2.0	16	4.1	22	<0.5	110	14.00
6/17/03	ND	ND	ND	ND	<0.5	ND	14.85
3/26/03	ND	1.3	0.8	2.9	<0.5	ND	15.26
1/1/03	ND	1.4	0.8	3.0	<0.5	70	14.84
9/20/02	ND	ND	ND	0.8	0.5	ND	13.93
7/11/02	ND	ND	ND	ND	0.6	ND	14.43
4/14/02	ND	1.4	0.6	2.8	0.5	ND	15.05
12/21/01	ND	1.8	ND	2.7	0.9	ND	15.44
10/2/01	ND	1.3	0.6	2.2	0.8	ND	15.26
6/13/01	ND	ND	ND	ND	1.2	ND	16.33
4/11/01	ND	ND	ND	ND	0.6	ND	17.09
1/2/01	ND	0.7	ND	1.8	0.8	ND	14.63
9/23/00	ND	ND	ND	ND	0.8	ND	15.18
3/30/00	ND	ND	ND	ND	0.9	ND	16.88
10/2/99	ND	0.7	ND	1.7	1.0	ND	15.29
4/2/99	ND	0.7	ND	1.6	0.8	ND	17.14
10/8/98	ND	ND	ND	0.9	1.0	ND	16.02
1/6/98	ND	0.5	ND	1.1		ND	16.84
7/2/97	ND	ND	ND	ND		ND	15.91
1/16/97	ND	ND	ND	ND		ND	18.63
9/27/96	ND	2.1	0.6	3.0	2.1	ND	15.01
4/4/96	ND	ND	ND	ND		ND	17.01
11/22/95	ND	ND	ND	ND		ND	15.44
6/23/95	ND	1.1	ND	1.8		17	17.00
11/10/94	ND	ND	ND	ND		ND	14.00
3/17/93	ND	ND	ND	ND		ND	
MW-4 12/6/07	<1.0	<6.0	3.02	4.92	NT	360	12.70
8/31/07	<1.0	41	399	49	NT	1,900	13.54
5/23/07	<1.0	<6.0	1,310	2.66	NT	2,200	14.26
2/26/07	<2.0	<12	1,400	21	NT	4,200	14.38
12/6/06	<1.0	<6.0	810	8.1	NT	2,700	13.96
8/29/06	<0.5	2.3	1,700	173.6	NT	14,000	14.83
6/1/06	1.4	8.9	996	154	NT	7,280	15.81
3/15/06	0.6	1.2	822	5.2	NT	5,020	15.01
12/19/05	<0.5	4.4	801	10.3	NT	27,300	13.53
9/7/05	6.85	16.8	593	341	NT	4,120	14.25
5/31/05	<0.5	<0.5	<0.5	6.5	NT	760	15.26
3/3/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.38
12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.73
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.67
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.82
3/17/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	14.52
12/16/03	ND	ND	ND	ND	<0.5	ND	13.14
10/7/03	ND	ND	ND	ND	<0.5	50	13.37
6/11/03	ND	ND	13	ND	0.7	390	14.30
3/26/03	ND	ND	1.7	ND	<0.5	110	14.53
12/31/02	ND	ND	ND	ND	0.6	ND	13.66
9/20/02	ND	ND	ND	ND	<0.5	92	13.26
7/11/02	ND	ND	ND	ND	<0.5	97	13.80
4/14/02	ND	ND	ND	ND	<0.5	130	14.49
12/21/01	ND	ND	ND	ND	0.6	240	15.00
10/2/01	ND	ND	2.5	ND	0.5	190	14.64
6/13/01	3.3	ND	210	1.2	2.2	1,300	15.91
4/11/01	7.1	ND	180	1.1	0.6	1,200	17.07
1/2/01	12	4.1	1,700	40	4.0	6,700	14.01
9/23/00	16	14	790	250	2.7	7,300	14.52
3/30/00	5.7	ND	23	2.2	<0.5	170	16.84
10/2/99	ND	ND	ND	ND	<0.5	100	14.63
4/2/99	ND	ND	ND	ND	<0.5	ND	17.15
10/8/98	ND	ND	ND	ND	<0.5	180	15.45
1/6/98	33	ND	120	1.4		1,200	16.76
7/2/97	18	1.9	66	7.0		1,400	15.33
1/16/97	580	5.6	410	57		3,700	18.79
9/27/96	300	ND	850	ND	<10	5,500	14.31
4/4/96	2,000	12	910	280		9,200	16.92
11/22/95	1,600	ND	1,300	480		26,000	14.78
6/22/95	6,800	1,100	3,300	7,000		74,000	16.71
11/10/94	8,200	250	3,400	5,600		46,000	13.04
3/17/93	3,500	1,700	810	3,100		15,000	
Action Limit**	1	150	700	1,750	5	1,000	

ND Not detected above the analysis' Practical Quantitative Limit (see lab sheet)
 ** Maximum Contaminant Level as specified in Title 22, CCR

Table #1

Cuesta Geotechnical: Groundwater Analysis Report*

Sample Site: Bell/Webber, 1899 Cienega Street, Oceano, CA
 Reporting Units: Ground water - Parts per billion/ppb
 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Water Samples Location/Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	TPH Gasoline	F.L. feet
MW-5 12/7/07	<1.0	<6.0	2.19	12.0	NT	<50	12.76
MW-5 8/31/07	<1.0	15.9	6.97	17.6	NT	180	13.59
MW-5 5/23/07	<1.0	<6.0	<1.0	<1.0	NT	<50	14.27
MW-5 2/26/07	<1.0	<6.0	2.3	<1.0	NT	<50	14.39
MW-5 12/6/06	<1.0	<6.0	1.8	<1.0	NT	<50	14.00
MW-5 8/29/06	<0.5	<0.5	<0.5	<0.5	NT	<50	14.84
MW-5 6/1/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.79
MW-5 3/15/06	<0.5	<0.5	<0.5	<0.5	NT	<10	14.96
MW-5 12/19/05	<0.5	<0.5	<0.5	<0.5	NT	<10	13.56
MW-5 9/7/05	<0.25	<0.25	<0.25	<0.5	NT	<5.0	13.27
MW-5 5/31/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.20
MW-5 3/3/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.37
MW-5 12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.87
MW-5 9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.97
MW-5 6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.88
MW-5 3/18/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	14.48
MW-5 12/16/03	ND	ND	ND	ND	<0.5	ND	13.25
MW-5 10/7/03	ND	ND	ND	ND	<0.5	ND	13.48
MW-5 6/11/03	ND	ND	ND	ND	<0.5	ND	14.36
MW-5 3/27/03	ND	ND	ND	ND	<0.5	ND	14.61
MW-5 12/31/02	ND	ND	ND	ND	<0.5	ND	13.87
MW-5 9/20/02	ND	ND	ND	ND	<0.5	ND	13.35
MW-5 7/11/02	ND	ND	ND	ND	<0.5	ND	13.87
MW-5 4/14/02	ND	ND	ND	ND	<0.5	ND	14.55
MW-5 12/21/01	ND	ND	ND	ND	<0.5	ND	14.81
MW-5 10/2/01	ND	ND	ND	ND	<0.5	ND	14.72
MW-5 6/13/01	ND	ND	ND	ND	<0.5	ND	15.98
MW-5 4/11/01	ND	ND	ND	ND	<0.5	ND	17.15
MW-5 1/2/01	ND	ND	ND	ND	<0.5	ND	14.09
MW-5 9/23/00	ND	ND	ND	ND	<0.5	ND	14.58
MW-5 3/30/00	ND	ND	ND	ND	<0.5	ND	16.75
MW-5 10/2/99	ND	ND	ND	ND	<0.5	ND	14.66
MW-5 4/2/99	ND	ND	ND	ND	<0.5	ND	16.95
MW-5 10/8/98	ND	ND	ND	ND	<0.5	ND	15.53
MW-5 1/6/98	ND	ND	ND	1.0	<0.5	ND	16.60
MW-5 7/2/97	ND	ND	ND	ND	<0.5	ND	15.40
MW-5 1/16/97	ND	ND	ND	ND	<0.5	ND	18.46
MW-5 9/27/96	ND	ND	ND	ND	<0.5	ND	14.39
MW-5 4/4/96	ND	ND	ND	ND	<0.5	ND	16.89
MW-5 11/22/95	ND	ND	ND	ND	<0.5	ND	14.89
MW-5 6/22/95	ND	ND	ND	ND	<0.5	ND	16.76
MW-5 11/10/94	ND	ND	ND	ND	<0.5	ND	13.03
MW-5 3/17/93	ND	ND	ND	ND	<0.5	ND	13.03
MW-6 12/6/07	6,090	24,500	2,800	21,900	NT	88,000	12.48
MW-6 8/31/07	4,100	14,900	9,470	12,300	NT	67,000	13.29
MW-6 5/23/07	3,630	9,490	1,710	9,610	NT	39,000	14.16
MW-6 2/26/07	3,100	14,000	2,000	12,000	NT	65,000	14.44
MW-6 12/6/06	1,900	9,700	1,200	7,500	NT	46,000	13.84
MW-6 8/29/06	6,300	21,000	2,100	10,000	NT	160,000	14.66
MW-6 5/31/06	3,590	8,830	1,630	9,480	NT	47,100	15.83
MW-6 3/15/06	2,470	6,660	1,570	8,600	NT	46,800	15.23
MW-6 12/19/05	3,020	12,100	2,060	10,600	NT	32,200	13.38
MW-6 9/7/05	6,980	20,700	2,540	16,700	NT	101,000	14.10
MW-6 5/31/05	5,400	16,000	1,800	14,400	NT	76,000	15.19
MW-6 3/3/05	2,000	4,800	1,500	8,000	NT	43,000	15.68
MW-6 12/9/04	6,200	16,000	2,800	15,000	NT	100,000	12.61
MW-6 9/22/04	7,500	20,000	3,700	20,000	NT	120,000	12.59
MW-6 6/16/04	7,800	21,000	3,200	18,000	NT	99,000	13.67
MW-6 3/17/04	5,400	16,000	2,900	17,000	<500	95,000	14.47
MW-6 12/16/03	7,700	20,000	3,100	14,000	<5.0	92,000	13.06
MW-6 10/07/03	3,800	8,200	2,100	8,200	<50	86,000	13.06
MW-6 6/11/03	8,400	18,000	3,900	15,000	<500	93,000	14.21
MW-6 3/26/03	6,000	8,300	3,900	11,000	<100	120,000	14.57
MW-6 1/1/03	3,800	5,600	3,500	7,900	<100	140,000	13.89
MW-6 9/20/02	6,100	11,000	2,700	9,600	<100	100,000	13.11
MW-6 7/11/02	6,900	18,000	3,500	14,000	<100	110,000	13.63
MW-6 4/14/02	9,600	22,000	6,200	23,000	<500	160,000	14.40
MW-6 12/21/01	8,100	21,000	2,800	14,000	<500	100,000	14.65
MW-6 10/2/01	8,900	20,000	2,200	12,000	<100	130,000	14.49
MW-6 6/13/01	6,500	6,800	1,400	6,300	<50	46,000	15.75
MW-6 4/11/01	690	1,300	400	2,100	<50	14,000	16.90
MW-6 1/2/01	10,000	23,000	3,900	16,000	<500	92,000	14.10
MW-6 9/23/00	11,000	25,000	2,900	16,000	<500	140,000	14.38
MW-6 3/30/00	650	1,800	670	3,100	<50	25,000	16.79
MW-6 10/2/99	13,000	22,000	4,900	21,000	<500	130,000	14.50
MW-6 4/2/99	3,100	5,200	980	5,500	<20	29,000	17.36
MW-6 10/8/98	9,700	12,000	1,700	8,200	<100	70,000	15.30
MW-6 1/6/98	2,400	5,800	1,400	7,500	<100	51,000	16.85
MW-6 7/2/97	14,000	23,000	2,300	15,000	<100	100,000	15.16
MW-6 1/16/97	180	360	310	1,700	<100	20,000	19.14
MW-6 9/27/96	12,000	20,000	3,000	17,000	<500	97,000	14.16
MW-6 4/4/96	2,600	6,900	1,500	10,000	<500	62,000	16.79
MW-6 11/22/95	8,500	17,000	1,800	5,900	<500	91,000	14.64
MW-6 6/22/95	8,000	11,000	1,800	9,800	<500	53,000	16.60
MW-6 11/10/94	13,000	23,000	4,500	21,000	<500	200,000	13.02
MW-6 3/17/93	18,000	35,000	3,700	24,000	<500	130,000	13.02
Action Limit**	1	150	700	1,750	5	1,000	

ND Not detected above the analysis' Practical Quantitative Limit (see lab sheet)
 ** Maximum Contaminant Level as specified in Title 22, CCR

Table #1

Cuesta Geotechnical: Groundwater Analysis Report*

Sample Site: Bell/Webber, 1899 Cienega Street, Oceano, CA
 Reporting Units: Ground water - Parts per billion/ppb
 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Water Samples Location/Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	TPH Gasoline	F.L. feet
MW-7 12/6/07	10.9	101	246	794	NT	4,600	12.31
8/30/07	2.15	65.2	80.2	351	NT	1,900	12.99
5/24/07	1.36	11.7	22.1	19.6	NT	360	14.15
2/27/07	<1.0	<6.0	<1.0	5.8	NT	73	14.31
12/6/06	7.4	790	590	4,200	NT	17,000	13.58
8/31/06	1.8	110	170	1,220	NT	9,100	14.75
6/1/06	2.5	0.9	28.9	103	NT	655	15.83
3/15/06	1.7	3.7	29.5	165	NT	1,310	15.43
12/19/05	9.4	393	235	1,152	NT	62,100	13.12
9/7/05	2.8	117	517	2,950	NT	8,670	13.98
6/1/05	<0.5	<0.5	<0.5	2.6	NT	87	15.25
3/4/05	<0.5	<0.5	1.0	6.7	NT	58	16.12
12/9/04	36	520	420	1,700	NT	9,400	12.35
9/22/04	31	850	740	2,800	NT	14,000	11.79
6/16/04	48	710	590	2,900	NT	12,000	13.19
3/17/04	3.6	1.5	6.1	19	<0.5	180	14.68
12/16/03	170	1,200	1,100	3,800	<100	19,000	12.86
10/7/03	30	150	590	1700	<1.0	11,000	12.70
6/11/03	0.6	4.2	6.1	19	<0.5	220	14.18
3/26/03	ND	6.1	190	580	<2.0	4,400	14.68
1/1/03	13	1,100	430	2,600	<2.5	11,000	13.83
9/20/02	42	540	540	2,200	<5.0	20,000	12.77
7/11/02	71	2,400	2,000	12,000	<5.0	51,000	13.45
4/14/02	2.5	12	120	150	<2.0	2,800	14.43
12/21/01	ND	2.1	290	740	<2.0	6,100	14.81
10/2/01	120	1,200	420	6,600	<20	54,000	14.42
6/13/01	8.8	43	61	670	<0.5	2,400	15.73
4/11/01	ND	ND	0.8	0.9	<0.5	ND	16.78
1/2/01	58	1,300	2,000	4,600	<20	23,000	13.81
9/23/00	95	6,500	3,500	15,000	<50	49,000	14.41
3/30/00	ND	ND	0.9	0.9	<0.5	ND	16.62
10/2/99	690	10,000	3,400	15,000	<500	62,000	14.48
4/2/99	1.1	ND	15	19	<0.5	420	17.22
1/9/99	28	150	230	630	<10	5,700	15.34
10/8/98	220	1,300	1,200	2,900	<20	21,000	15.36
1/6/98	13	150	380	2,000	NT	11,000	16.78
7/2/97	72	890	250	1,800	NT	11,000	15.24
1/16/97	ND	ND	0.8	1.6	NT	ND	19.08
9/27/96	190	5,900	3,600	16,000	<50	62,000	14.09
4/4/96	5.7	ND	7.8	8.9	NT	230	16.67
11/22/95	32	230	750	2,500	NT	13,000	14.76
6/22/95	1.6	1.0	11	76	NT	510	16.61
11/10/94	1,300	9,500	3,000	18,000	NT	80,000	11.91
MW-8 12/10/07	<1.0	<6.0	<1.0	<1.0	NT	<50	12.09
8/31/07	11.3	51.7	7.45	50.1	NT	330	12.89
5/23/07	<1.0	<6.0	<1.0	<1.0	NT	<50	13.87
2/27/07	<1.0	<6.0	<1.0	<1.0	NT	<50	14.47
12/7/06	3.0	<6.0	4.0	8.5	NT	150	13.67
8/29/06	<0.5	<0.5	<0.5	<0.5	NT	<50	14.36
5/30/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.78
3/15/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.30
12/19/05	4.6	17.4	4.7	25.6	NT	468	12.93
9/7/05	<0.25	<0.25	<0.25	<0.5	NT	<5.0	13.61
5/31/05	<0.5	<0.5	<0.5	<0.5	NT	<50	14.93
3/3/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.86
12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	10.50
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	9.17
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.92
3/17/04	<0.5	<0.5	<0.5	<0.5	NT	<50	14.66
12/16/03	ND	ND	ND	ND	<0.5	ND	11.24
10/7/13	ND	ND	ND	ND	<0.5	ND	10.94
6/11/03	ND	ND	ND	ND	<0.5	ND	12.01
3/26/03	ND	ND	ND	ND	<0.5	ND	13.26
12/31/02	ND	ND	ND	ND	<0.5	ND	12.39
9/20/02	ND	ND	ND	ND	<0.5	ND	10.68
7/11/02	ND	ND	ND	ND	<0.5	ND	13.07
4/02 to 9/96	ND	ND	Not Sampled	ND	<0.5	ND	14.40
4/4/96	ND	ND	ND	ND	NT	ND	12.86
11/22/95	ND	ND	ND	ND	NT	ND	14.36
6/22/95	ND	ND	ND	ND	NT	ND	10.71
11/21/94	ND	ND	ND	ND	NT	ND	
Action Limit**	1	150	700	1,750	5	1,000	

ND Not detected above the analysis' Practical Quantitative Limit (see lab sheet)
 ** Maximum Contaminant Level as specified in Title 22, CCR

Table #1

Cuesta Geotechnical: Groundwater Analysis Report*

Sample Site: Bell/Webber, 1899 Cienega Street, Oceano, CA
 Reporting Units: Ground water - Parts per billion/ppb
 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Water Samples Location/Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	TPH Gasoline	F.L. feet
MW-9 12/10/07	<1.0	<6.0	<1.0	<1.0	NT	<50	12.26
8/31/07	8.18	22.8	3.94	18	NT	200	13.25
5/23/07	9.72	<6.0	2.87	<1.0	NT	<50	14.13
2/27/07	<1.0	<6.0	1.0	<1.0	NT	60	14.23
12/7/06	5.1	<6.0	2.2	1.0	NT	<50	14.73
8/29/06	<0.5	<0.5	0.7	<0.5	NT	70	14.54
5/30/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.98
3/16/06	1.5	<0.5	3.2	<0.5	NT	<10	14.91
12/19/05	9.6	1.0	23.4	1.7	NT	280	13.20
9/7/05	33.7	<0.25	14.7	0.66	NT	196	14.00
5/31/05	77	<0.5	38	<0.5	NT	350	14.99
3/3/05	<0.5	<0.5	<0.5	<0.5	NT	<50	15.31
12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.10
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	12.26
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	13.61
3/17/04	15	<0.5	<0.5	<0.5	<0.5	<50	14.51
12/16/03	ND	ND	ND	ND	<0.5	ND	11.75
10/7/03	ND	ND	ND	ND	<0.5	ND	11.57
6/11/03	31	ND	ND	ND	<0.5	65	14.00
3/26/03	0.8	ND	ND	ND	<0.5	ND	14.31
12/31/02	ND	ND	ND	ND	<0.5	ND	13.20
9/20/02	ND	ND	ND	ND	<0.5	ND	11.78
7/11/02	ND	ND	ND	ND	<0.5	ND	12.20
4/02 to 9/96			Not Sampled				
4/4/96	ND	ND	ND	ND	ND	ND	16.71
11/22/95	13	ND	2.7	14		730	
6/22/95	5.2	ND	ND	ND		13	15.07
11/9/94	ND	ND	ND	ND		ND	10.40
MW-10 12/7/07	962	11.5	21.2	21.1	NT	7,800	12.20
8/31/07	339	<12	9.08	21.6	NT	1,700	12.96
5/23/07	46.9	<6	56.2	1.67	NT	87	13.86
2/27/07	4.1	<6	1.6	<1	NT	240	14.76
12/7/06	2,500	18	1,300	1,700	NT	8,300	13.56
8/29/06	<0.5	<0.5	<0.5	<0.5	NT	160	14.21
5/30/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.73
3/15/06	3.4	<0.5	<0.5	<0.5	NT	<10	15.59
12/19/05	28.3	4.8	201	7.9	NT	883	13.25
9/7/05	16.3	0.58	9.99	1.28	NT	602	13.64
5/31/05	<0.5	<0.5	<0.5	<0.5	NT	<50	14.88
3/3/05	1.5	<0.5	<0.5	<0.5	NT	<50	16.23
12/9/04	7,700	26	790	66	NT	15,000	12.63
9/22/04	7,800	15	2,100	110	NT	15,000	12.05
6/16/04	6,000	11	1,800	63	NT	11,000	13.25
3/17/04	930	<10	130	<10	<10	2,700	14.59
12/16/03	11,000	<20	3,600	120	<20	21,000	13.05
10/7/03	9,000	<100	2,500	180	<100	28,000	12.55
6/11/03	3,800	<20	2,000	64	<20	12,000	13.83
3/26/03	2,600	<20	1,400	1,200	<20	9,700	14.51
12/31/02	5,500	<50	2,000	130	<20	25,000	14.56
9/20/02	9,400	<50	2,600	<50	<50	38,000	12.56
7/11/02	6,900	<50	3,200	260	<50	27,000	13.17
4/02 to 9/96			Not Sampled				
4/4/96	4.8	ND	ND	ND		ND	16.44
11/22/95	570	8.1	340	320		3,700	14.24
6/22/95	25	ND	3.8	ND		95	16.29
11/10/94	4,200	ND	1,700	5,600		29,000	11.80
MW-11 12/6/07	<1.0	<6.0	<1.0	<1.0	NT	<50	10.69
8/30/07	<1.0	<6.0	1.75	8.77	NT	<50	11.70
5/24/07	<1.0	<6.0	<1.0	<1.0	NT	<50	13.04
2/26/07	<1.0	8.9	2.4	16	NT	100	12.86
12/7/06	<1.0	<6.0	<1.0	1.1	NT	<50	12.52
8/30/06	<0.5	<0.5	<0.5	<0.5	NT	<50	13.98
5/31/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.36
3/16/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.40
12/19/05	<0.5	<0.5	<0.5	<0.5	NT	<10	12.78
9/7/05	<0.25	<0.25	<0.25	<0.5	NT	<5.0	12.52
5/31/05	<0.5	<0.5	<0.5	<0.5	NT	<60	14.07
3/4/05	<0.5	<0.5	<0.5	<0.5	NT	<60	16.33
12/9/04	94	0.7	1.4	0.5	NT	180	11.38
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	9.83
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	11.68
3/18/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	13.15
Action Limit**	1	150	700	1,750	5	1,000	

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Cuesta Geotechnical: Groundwater Analysis Report*

Sample Site: Bell/Webber, 1899 Cienega Street, Oceano, CA
 Reporting Units: Ground water - Parts per billion/ppb
 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Water Samples Location/Date	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	TPH Gasoline	F.L. feet
MW-12 12/7/07	6.34	<6.0	<1.0	1.94	NT	<50	11.16
8/30/07	<1.0	<6.0	<1.0	3.98	NT	<50	11.69
5/24/07	<1.0	<6.0	<1.0	<1.0	NT	<50	13.09
2/27/07	<1.0	<6.0	<1.0	<1.0	NT	<50	14.91
12/6/06	<1.0	<6.0	<1.0	<1.0	NT	<50	12.74
8/30/06	<0.5	<0.5	<0.5	<0.5	NT	<50	13.46
5/31/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.21
3/16/06	<0.5	<0.5	<0.5	<0.5	NT	<10	15.80
12/19/05	<0.5	<0.5	<0.5	<0.5	NT	<10	12.48
9/7/05	<0.25	<0.25	<0.25	<0.5	NT	<5.0	12.51
5/31/05	<0.5	<0.5	<0.5	<0.5	NT	<50	14.51
3/3/05	<0.5	<0.5	<0.5	<0.5	NT	<50	16.78
12/9/04	<0.5	<0.5	<0.5	<0.5	NT	<50	11.21
9/22/04	<0.5	<0.5	<0.5	<0.5	NT	<50	10.14
6/16/04	<0.5	<0.5	<0.5	<0.5	NT	<50	11.03
3/18/04	<0.5	<0.5	<0.5	<0.5	<0.5	<50	13.25
MW-13 12/6/07	398	1,710	2,420	7,230	NT	33,000	12.67
8/30/07	49.0	324	205	479	NT	3,100	13.51
5/23/07	431	3,550	1,750	7,100	NT	21,000	14.25
2/27/07	400	3,300	1,600	5,500	NT	24,000	14.54
12/6/06	33	3,800	1,600	7,800	NT	3,900	13.91
8/30/06	540	1,300	2,400	13,900	NT	83,000	14.95
6/1/06	273	977	1,500	12,570	NT	43,900	15.86
3/16/06	740	5,710	3,100	16,310	NT	57,100	15.20
12/20/05	150	10,100	3,150	16,590	NT	62,200	13.69
9/7/05	86.5	837	353	2,210	NT	8,160	14.27
6/1/05	580	4,900	1,700	18,100	NT	60,000	15.30
3/4/05	690	7,400	2,500	15,000	NT	72,000	15.65
12/9/04	700	10,000	3,700	14,000	NT	64,000	12.81
9/22/04	620	11,000	4,100	15,000	NT	88,000	12.80
6/16/04	780	6,800	3,000	13,000	NT	56,000	13.82
3/18/04	1,100	11,000	3,000	16,000	<200	59,000	14.62
12/16/03	620	12,000	4,200	12,000	<100	71,000	13.16
10/7/03	740	7,400	3,000	9,900	100	78,000	13.29
6/11/03	1,400	9,800	4,000	14,000	<100	73,000	14.38
3/26/03	1,400	15,000	3,900	16,000	<200	83,000	14.62
1/1/03	1,500	11,000	3,400	14,000	<200	98,000	13.93
12/4/02	1,300	11,000	3,800	16,000	<200	84,000	13.19
9/20/02	1,800	12,000	3,700	13,000	<200	110,000	13.26
7/11/02	1,800	13,000	5,200	24,000	<200	130,000	13.87
3/9/02	2,300	26,000	5,000	27,000	<50	97,000	14.80
HP-1 2/27/04	1,200	59,000	18,000	100,000	<500	880,000	
HP-2 2/27/04	3,700	37,000	3,400	39,000	<2000	250,000	
Action Limit**	1	150	700	1,750	5	1,000	

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 Fluid Level: F.L. - Feet above mean sea level (updated with 2002 well survey data)

Additional Analyses To Evaluate Biosparging

Water Samples Location/Date	Nitrate (mg/L)	Sulfate (mg/L)	Fe2+				
MW-1 6/18/07	<0.4	6.6	-				
MW-1 8/31/07	<0.4	11	1.4				
MW-2 6/18/07	23.5	150	-				
MW-2 8/31/07	13.8	96	0.11				
MW-3 6/18/07	25.5	98	-				
MW-3 8/31/07	23.3	95	0.18				
MW-4 6/18/07	<0.4	10	-				
MW-4 8/31/07	<0.4	14	-				
MW-5 6/18/07	13.1	68	-				
MW-5 8/31/07	17.9	65	-				
MW-6 6/18/07	<0.4	58	-				
MW-6 8/31/07	<0.4	6.9	1.3				
MW-7 6/18/07	NT	NT	-				
MW-7 8/31/07	<0.4	3.4	-				
MW-8 6/18/07	2.6	16	-				
MW-8 8/31/07	11.0	86	-				
MW-9 6/18/07	16.5	71	-				
MW-9 8/31/07	-	-	-				
MW-10 6/18/07	<0.4	38	-				
MW-10 8/31/07	-	-	-				
MW-11 6/18/07	NT	NT	-				
MW-11 8/31/07	<0.4	20	-				
MW-12 6/18/07	1.54	17	-				
MW-12 8/31/07	8.0	36	-				
MW-13 6/18/07	<0.4	10	-				
MW-13 8/31/07	-	-	-				
Action Limit	45	250?					

ND Not detected above the analysis' Practical Quantitative Limit (see lab sheet)
 ** Maximum Contaminant Level as specified in Title 22, CCR

Table #2: Well Data

Site: Bell /Webber Property, 1899 Cienega Street, Oceano, CA (measurements in feet)

WELL ID	Date	Casing Elevation	Total Depth	Casing Interval	Screen Interval	Groundwater Depth	Groundwater Elevation	Flow Direction	Gradient
MW-1	12/6/07	22.78	15	0 to 5.0	5.0 to 15.0	9.91	12.87	W	0.004
	8/31/07	22.78				9.08	13.70	W	0.005
	5/23/07	22.78				8.38	14.40	W	0.004
	2/28/07	22.78				8.16	14.62	SW	0.005
	12/6/06	22.78				8.73	14.05	W-SW	0.007
	8/30/06	22.78				7.78	15.00	SW	0.006
	6/1/06	22.78				6.79	15.99	W	0.002
	3/16/06	22.78				7.53	15.25	SW	0.006
	12/20/05	22.78				9.04	13.74	W	0.005
	9/7/05	22.78				8.35	14.43	SW	0.005
	6/1/05	22.78				7.31	15.47	SW	0.005
	3/4/05	22.78				7.06	15.72	SW	0.008
	12/9/04	22.78				9.81	12.97	W	0.006
	9/22/04	22.78				9.75	13.03	W	0.006
	6/16/04	22.78				8.29	14.49	W	0.02
3/18/04	22.78				8.05	14.73	SW	0.005	
MW-2	12/10/07	23.33	15	0 to 5.0	5.0 to 15.0	10.36	12.97	SW	0.006
	8/30/07	23.33				9.46	13.87	SW	0.005
	5/23/07	23.33				8.82	14.51	SW	0.007
	2/28/07	23.33				8.67	14.66	SW	0.005
	12/7/06	23.33				8.93	14.40	SW	0.01
	8/30/06	23.33				7.93	15.40	SW	0.006
	6/1/06	23.33				7.29	16.04	SW	0.002
	3/16/06	23.33				8.09	15.24	SW	0.005
	12/20/05	23.33				9.51	13.82	SW	0.006
	9/7/05	23.33				8.81	14.52	SW	0.01
	6/1/05	23.33				7.82	15.51	SW	0.005
	3/4/05	23.33				7.53	15.80	S-SW	0.006
	12/9/04	23.33				10.21	13.12	SW	0.006
	9/22/04	23.33				10.13	13.20	SW	0.006
	6/16/04	23.33				9.15	14.18	SW	0.01
3/18/04	23.33				8.45	14.88	SW	0.005	
MW-3	12/6/07	22.20	17	0 to 5.0	5.0 to 17.0	8.91	13.29	W	0.006
	8/30/07	22.20				8.14	14.06	W	0.008
	5/23/07	22.20				7.48	14.72	W-NW	0.006
	2/26/07	22.20				7.13	15.07	W	0.005
	12/7/06	22.20				7.64	14.56	W-NW	0.007
	8/30/06	22.20				6.82	15.38	W-NW	0.006
	5/31/06	22.20				6.55	15.65	NW	0.002
	3/15/06	22.20				6.51	15.69	SW	0.005
	12/20/05	22.20				8.03	14.17	NW	0.01
	9/7/05	22.20				7.41	14.79	NW	0.008
	5/31/05	22.20				6.41	15.79	W	0.004
	3/4/05	22.20				5.95	16.25	SW	0.007
	12/9/04	22.20				8.73	13.47	W-NW	0.008
	9/22/04	22.20				8.80	13.40	NW	0.006
	6/15/04	22.20				7.85	14.35	NW	0.02
3/18/04	22.20				7.00	15.20	SW	0.005	
MW-4	12/6/07	22.52	15	0 to 5.0	5.0 to 15.0	9.82	12.70	W-SW	0.004
	8/31/07	22.52				8.98	13.54	W-SW	0.004
	5/23/07	22.52				8.26	14.26	SW	0.003
	2/26/07	22.52				8.14	14.38	SW	0.004
	12/7/06	22.52				8.56	13.96	NW	0.002
	8/29/06	22.52				7.69	14.83	SW	0.006
	5/30/06	22.52				6.71	15.81	SW	0.002
	3/15/06	22.52				7.51	15.01	S-SW	0.005
	12/19/05	22.52				8.99	13.53	SW	0.005
	9/7/05	22.52				8.27	14.25	SW	0.009
	5/31/05	22.52				7.26	15.26	SW	0.004
	3/3/05	22.52				7.14	15.38	SW	0.008
	12/9/04	22.52				9.79	12.73	W-SW	0.007
	9/22/04	22.52				9.85	12.67	SW	0.005
	6/16/04	22.52				8.70	13.82	SW	0.005
3/17/04	22.52				8.00	14.52	SW	0.005	

Table #2: Well Data

Site: Bell /Webber Property, 1899 Cienega Street, Oceano, CA (measurements in feet)

Page 2 of 4

WELL ID	Date	Elevation	Depth	Interval	Interval	Depth	Elevation	Direction	Gradient
MW-5	12/7/07	22.18	15	0 to 5.0	5.0 to 15.0	9.42	12.76	SW	0.004
	8/31/07	22.18				8.59	13.59	SW	0.003
	5/23/07	22.18				7.91	14.27	SW	0.002
	2/26/07	22.18				7.79	14.39	SW	0.003
	12/6/06	22.18				8.18	14.00	NW	0.002
	8/29/06	22.18				7.34	14.84	SW	0.006
	5/30/06	22.18				6.39	15.79	SW	<0.002
	3/15/06	22.18				7.22	14.96	SW	<0.005
	12/19/05	22.18				8.62	13.56	SW	<0.005
	9/7/05	22.18				8.91	13.27	S	0.015
	5/31/05	22.18				6.98	15.20	SW	0.004
	3/3/05	22.18				6.81	15.37	S-SW	0.006
	12/9/04	22.18				9.31	12.87	SW	0.005
	9/22/04	22.18				9.21	12.97	SW	0.005
	6/16/04	22.18				8.30	13.88	SW	0.005
	3/17/04	22.18				7.70	14.48	SW	0.005
MW-6	12/6/07	22.12	15	0 to 5.0	5.0 to 15.0	9.64	12.48	W	0.004
	8/31/07	22.12				8.83	13.29	W-NW	0.005
	5/23/07	22.12				7.96	14.16	W-NW	0.004
	2/26/07	22.12				7.68	14.44	W	0.005
	12/6/06	22.12				8.28	13.84	NW	0.005
	8/29/06	22.12				7.46	14.66	W	0.006
	5/31/06	22.12				6.29	15.83	W	0.002
	3/15/06	22.12				6.89	15.23	SE	0.004
	12/19/05	22.12				8.74	13.38	W	0.005
	9/7/05	22.12				8.02	14.10	W	0.006
	5/31/05	22.12				6.93	15.19	SW	0.004
	3/3/05	22.12				6.44	15.68	SE	0.008
	12/9/04	22.12				9.51	12.61	SW	0.006
	9/22/04	22.12				9.53	12.59	W	0.006
	6/16/04	22.12				8.45	13.67	W	0.015
	3/17/04	22.12				7.65	14.47	S	-0.005
MW-7	12/6/07	22.34	24.5	0 to 4.5	4.5 to 24.5	10.03	12.31	W-NW	0.006
	8/30/07	22.34				9.35	12.99	NW	0.01
	5/23/07	22.34				8.19	14.15	W-NW	0.005
	2/27/07	22.34				8.03	14.31	W-NW	0.006
	12/6/06	22.34				8.76	13.58	W-NW	0.01
	8/30/06	22.34				7.59	14.75	W	0.006
	5/31/06	22.34				6.51	15.83	NW	0.003
	3/15/06	22.34				6.91	15.43	S	0.004
	12/19/05	22.34				9.22	13.12	NW	0.007
	9/7/05	22.34				8.36	13.98	NW	0.007
	5/31/05	22.34				7.09	15.25	W	0.006
	3/4/05	22.34				6.22	16.12	S-SE	0.007
	12/9/04	22.34				9.99	12.35	NW	0.01
	9/22/04	22.34				10.55	11.79	NW	0.03
	6/16/04	22.34				9.15	13.19	NW	0.025
	3/17/04	22.34				7.66	14.68	NW	<0.02
MW-8	12/10/07	20.08	24	0 to 3.0	3.0 to 23.0	7.99	12.09	NW	0.005
	8/31/07	20.08				7.19	12.89	NW	0.007
	5/23/07	20.08				6.21	13.87	NW	0.005
	2/27/07	20.08				5.61	14.47	W-NW	0.008
	12/7/06	20.08				6.41	13.67	NW	0.006
	8/29/06	20.08				5.72	14.36	W-NW	0.004
	5/30/06	20.08				4.30	15.78	NW	0.003
	3/15/06	20.08				4.78	15.30	S-SE	0.005
	12/19/05	20.08				7.15	12.93	W-SW	0.005
	9/7/05	20.08				6.47	13.61	NW	0.005
	5/31/05	20.08				5.15	14.93	NW	0.002
	3/3/05	20.08				4.22	15.86	SE	0.008
	12/9/04	20.08				9.58	10.50	SW	0.02
	9/22/04	20.08				10.91	9.17	SW	0.03
	6/15/04	20.08				7.16	12.92	W	0.01
	3/17/04	20.08				5.42	14.66	FLAT?	—

Table #2: Well Data

Site: Bell /Webber Property, 1899 Cienega Street, Oceano, CA (measurements in feet)

WELL ID	Date	Elevation	Depth	Interval	Interval	Depth	Elevation	Direction	Gradient
MW-9	12/10/07	20.31	24	0 to 3.0	3.0 to 23.0	8.05	12.26	W	0.004
	8/31/07	20.31				7.06	13.25	W-NW	0.004
	5/23/07	20.31				6.18	14.13	NW	0.004
	2/27/07	20.31				6.08	14.23	W-NW	0.003
	12/7/06	20.31				5.58	14.73	N-NW	0.01
	8/29/06	20.31				5.77	14.54	W-NW	0.003
	5/30/06	20.31				4.33	15.98	NW	0.003
	3/15/06	20.31				5.40	14.91	S-SE	<0.005
	12/19/05	20.31				7.11	13.20	SW	<0.005
	9/7/05	20.31				6.31	14.00	SW	0.009
	5/31/05	20.31				5.32	14.99	W	0.002
	3/3/05	20.31				5.00	15.31	SE	0.008
	12/9/04	20.31				8.21	12.10	W	0.01
	9/22/04	20.31				8.05	12.26	W	0.01
	6/15/04	20.31				6.70	13.61	W	0.005
3/17/04	20.31				5.80	14.51	E	=0.001	
MW-10	12/7/07	20.25	24	0 to 3.0	3.0 to 23.0	8.05	12.20	NW	0.009
	8/31/07	20.25				7.29	12.96	NW	0.015
	5/23/07	20.25				6.39	13.86	NW	0.008
	2/27/07	20.25				5.49	14.76	W-NW	0.009
	12/7/06	20.25				6.69	13.56	NW	0.008
	8/29/06	20.25				6.04	14.21	W-NW	0.006
	5/30/06	20.25				4.52	15.73	NW	0.007
	3/15/06	20.25				4.66	15.59	S-SE	0.004
	12/19/05	20.25				7.00	13.25	W-NW	0.004
	9/7/05	20.25				6.61	13.64	NW	0.005
	5/31/05	20.25				5.37	14.88	NW	0.005
	3/3/05	20.25				4.02	16.23	SE	0.006
	12/9/04	20.25				7.62	12.63	W	<0.01
	9/22/04	20.25				8.20	12.05	NW	0.008
	6/15/04	20.25				7.00	13.25	W	0.02
3/17/04	20.25				5.66	14.59	NW	0.02	
MW-11	12/6/07	21.69	18.5	0 to 3.5	3.5 to 18.5	11.00	10.69	NW	0.01
	8/30/07	21.69				9.99	11.70	NW	0.01
	5/23/07	21.69				8.65	13.04	NW	0.012
	2/26/07	21.69				8.83	12.86	W-NW	0.009
	12/7/06	21.69				9.17	12.52	NW	0.01
	8/30/06	21.69				7.71	13.98	W-NW	0.006
	5/31/06	21.69				6.33	15.36	NW	0.003
	3/16/06	21.69				6.29	15.40	-	
	12/19/05	21.69				8.91	12.78	NW	0.006
	9/7/05	21.69				9.17	12.52	NW	0.02
	5/31/05	21.69				7.62	14.07	NW	0.004
	3/4/05	21.69				5.36	16.33	SE	0.005
	12/9/04	21.69				10.31	11.38	NW	0.01
	9/22/04	21.69				11.86	9.83	N	0.03
	6/16/04	21.69				10.01	11.68	NW	0.02
3/17/04	21.69				8.54	13.15	NW	0.02	
MW-12	12/7/07	20.20	18	0 to 3.0	3.0 to 18.0	9.04	11.16	NW	0.007
	8/30/07	20.20				8.51	11.69	NW	0.007
	5/24/07	20.20				7.11	13.09	N-NW	0.005
	2/27/07	20.20				5.29	14.91	W-NW	0.009
	12/6/06	20.20				7.46	12.74	NW	0.01
	8/30/06	20.20				6.74	13.46	W-NW	0.006
	5/31/06	20.20				4.99	15.21	NW	0.005
	3/16/06	20.20				4.40	15.80	SE	<0.005
	12/19/05	20.20				7.72	12.48	W-NW	<0.005
	9/7/05	20.20				7.69	12.51	NW	0.01
	5/31/05	20.20				5.69	14.51	N-NE	0.002
	3/3/05	20.20				3.42	16.78	SE	0.005
	12/9/04	20.20				8.99	11.21	W	0.01
	9/22/04	20.20				10.06	10.14	NW	0.02
	6/16/04	20.20				9.17	11.03	W	0.02
3/17/04	20.20				6.95	13.25	NW	0.02	

Table #2: Well Data

Site: Bell /Webber Property, 1899 Cienega Street, Oceano, CA (measurements in feet)

WELL ID	Date	Casing Elevation	Total Depth	Casing Interval	Screen Interval	Groundwater Depth	Groundwater Elevation	Flow Direction	Gradient
MW-13	12/6/07	22.72	12	0 to 3.0	3.0 to 12.0	10.05	12.67	W	0.004
	8/30/07	22.72				9.21	13.51	W	0.005
	5/23/07	22.72				8.47	14.25	W	0.005
	2/27/07	22.72				8.18	14.54	W	0.005
	12/6/06	22.72				8.81	13.91	W	0.005
	8/29/06	22.72				7.77	14.95	W	0.006
	6/1/06	22.72				6.86	15.86	W	0.002
	3/16/06	22.72				7.52	15.20	S-SE	0.005
	12/19/05	22.72				9.03	13.69	W	0.005
	9/7/05	22.72				8.45	14.27	W	0.005
	6/1/05	22.72				7.42	15.30	W	0.005
	3/4/05	22.72				7.07	15.65	S-SW	0.008
	12/9/04	22.72				9.91	12.81	W	0.006
	9/22/04	22.72				9.92	12.80	W	0.006
	6/16/04	22.72				8.90	13.82	W	0.02
3/17/04	22.72	8.10	14.62	SW	0.005				

File Memorandum

Date: 6-12-08

To: Site Remediation File

CC:

From: Aaron LaBarre, Supervisor Hazardous Materials Program, San Luis Obispo
County Environmental Health Services

Re: General Statement regarding future redevelopment

Further action may be required by this department if:

- Hazardous materials/waste that impact soil or groundwater are discovered on site.
- The property is redeveloped.

Further action may include, but not limited to, a review by this Agency, further investigations, soil gas analyses, remedial action, and human health risk assessment.

ATTACHMENT A PROJECT DESCRIPTION

PROJECT SUMMARY

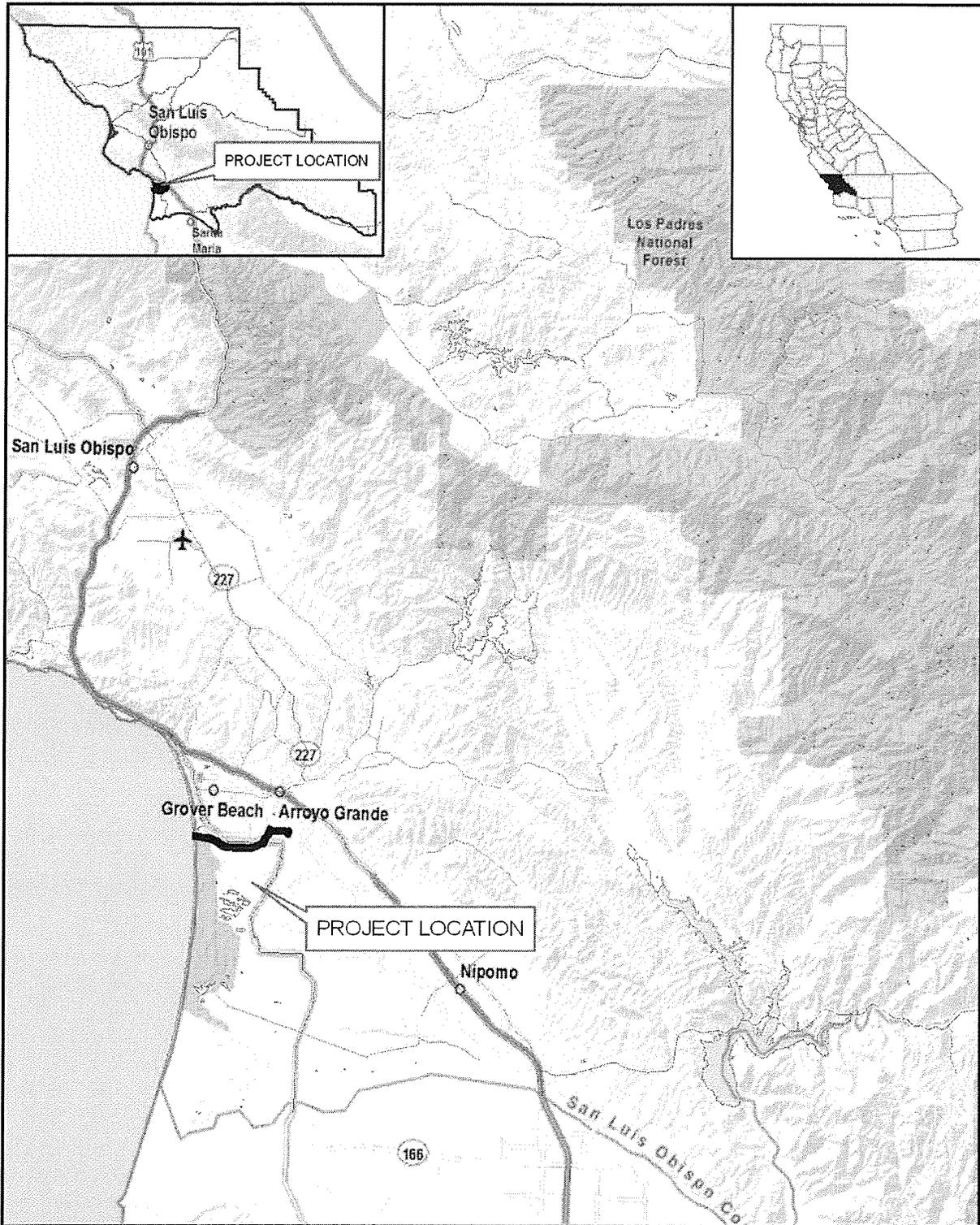
The Arroyo Grande Creek Channel Waterway Management Program (WMP, proposed project) is being developed through a cooperative effort between the community, the Coastal San Luis Resource Conservation District (RCD) and the San Luis Obispo County Flood Control and Water Conservation District (District). The project is located along the lower reaches of Arroyo Grande Creek, from near the intersection of Los Berros Creek to the Arroyo Grande lagoon, and along Los Berros Creek from Century Lane to the confluence with Arroyo Grande Creek. This area is within Flood Control District “Zones 1 and 1A” (Zone 1/1A).

The County of San Luis Obispo Public Works Department (County) is developing the WMP and preparing California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) documentation, including an Environmental Impact Report (EIR), to obtain the necessary federal and state permits for implementation. The WMP includes the following components:

1. Manage riparian vegetation annually to maintain a composite roughness of 0.040 within the flood control reach, fill existing gaps in the riparian corridor vegetation and encourage species diversity by planting riparian tree species;
2. Remove sediment to create secondary channels that could be self-maintaining, and monitor annually to evaluate future sediment deposition and the need for annual maintenance of accumulated sediments;
3. Raise levees throughout the flood control channel to achieve channel capacity for up to 10-year flood flows; and
4. Raise levees throughout the flood control channel to achieve channel capacity for up to 20-year flood flows.

PROJECT LOCATION

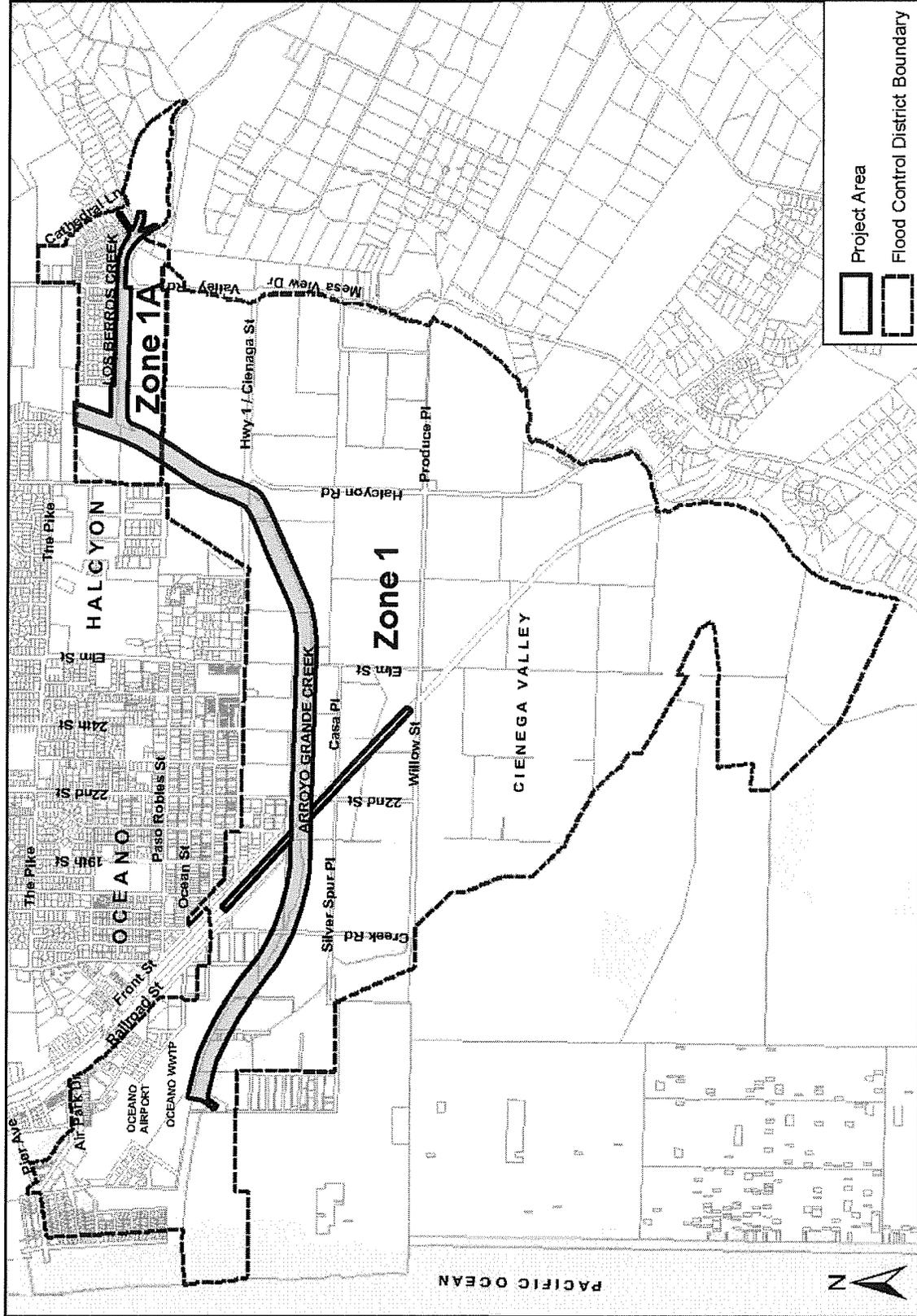
The proposed project is located within San Luis Obispo County, California, near the City of Arroyo Grande and the community of Oceano (refer to Figure 1). The project area is located entirely within the unincorporated areas of San Luis Obispo County. The project area is a linear corridor with two segments: (1) beginning on Arroyo Grande Creek 0.14 mile upstream of the confluence of Los Berros Creek and continuing downstream to the upper edge of the Arroyo Grande lagoon at the Pacific Ocean, and (2) beginning at the Century Lane Bridge on Los Berros Creek and continuing downstream to the confluence with Arroyo Grande Creek (refer to Figure 2). This area is within Zone 1/1A. The total length of the flood control channels addressed in the WMP is approximately 3.5 miles.



Source: ESRI Resources Center.


NORTH
Not to Scale

Project Vicinity Map
FIGURE 1



Source: ESRI Resource Center

Project Location Map
FIGURE 2

PROJECT BACKGROUND

The lower Arroyo Grande Valley has a long history of flooding and severe damage to agricultural and residential lands. Levees were built along lower Arroyo Grande Creek, and the lower portion of Los Berros Creek was diverted in 1961 to provide flood control for the adjacent Cienega Valley. Lopez Lake is a water supply reservoir that also provides the added benefit of some flood storage for the uppermost portion of Arroyo Grande Creek.

In February 2005, the Department of Water Resources (DWR) issued a Statement of Necessary Work with the goal of initiating maintenance work on the channel in July 2005. As mandated by State Water Code, the intended Work Plan was the existing plan developed as part of the 1955 Arroyo Grande Creek Flood Control Project which requires maintaining the channel by restoring it to its original 1958 design. Without Water Code provisions to study or implement alternative flood control designs, DWR was faced with a difficult and expensive regulatory permitting process which would likely result in costly mitigation requirements related to habitat loss for federally-listed species. These costs would have been paid locally through a Zone 1/1A property assessment process.

In response to impending assessments estimated by DWR, the Zone 1/1A Advisory Committee comprised of agriculturalists and other local residents and various stakeholders, actively lobbied the County Board of Supervisors to restore funding for a study of flood control alternatives, which had been dropped with the decision to relinquish responsibility to DWR in 2003. In June 2004, the District approved release of funding to Coastal San Luis RCD to conduct the “Arroyo Grande Creek Erosion, Sedimentation and Flooding Alternatives Study” (Alternatives Study). It was prepared in 2006 by Swanson Hydrology + Geomorphology. The Alternatives Study focuses in-depth on erosion sources, sedimentation, and hydrology as they relate to recurring flooding in the lower reaches of the creek.

Following completion of the Alternatives Study the Zone 1/1A Advisory Committee selected a preliminary preferred project alternative which was considered feasible within anticipated funding limits. The selected approach was to pursue vegetation and sediment management within the channel, and a phased implementation of Alternative 3a, at a minimum, as funding within the local flood control district became available. Alternative 3a would provide flood protection up to the 10-year return period and would most likely be implemented in several phases. Alternative 3c would also be pursued as funding allows. Alternative 3c includes all elements of Alternative 3a, and additionally raises the levees and Union Pacific Railroad (UPRR) Bridge to provide flood protection up to the 20-year return period.

PROJECT OBJECTIVE

The primary objective of the WMP is to develop a comprehensive set of actions designed to restore the capacity of the leveed lower three miles of Arroyo Grande Creek Channel and the Los Berros Creek Diversion Channel to provide flood protection from up to a 20-year storm event while simultaneously enhancing water quality and sensitive species habitat within the managed channel.

PROPOSED PROJECT

The WMP is currently being prepared, and the information below reflects the most recent information available at the time this Notice of Preparation (NOP) was published. The project description may be refined somewhat for use in the CEQA and NEPA analyses; however, no significant changes are anticipated. Implementation of the WMP would include three distinctive components:

1. Vegetation Management
2. Sediment Management
3. Levee Raising (Alternatives 3a and 3c)

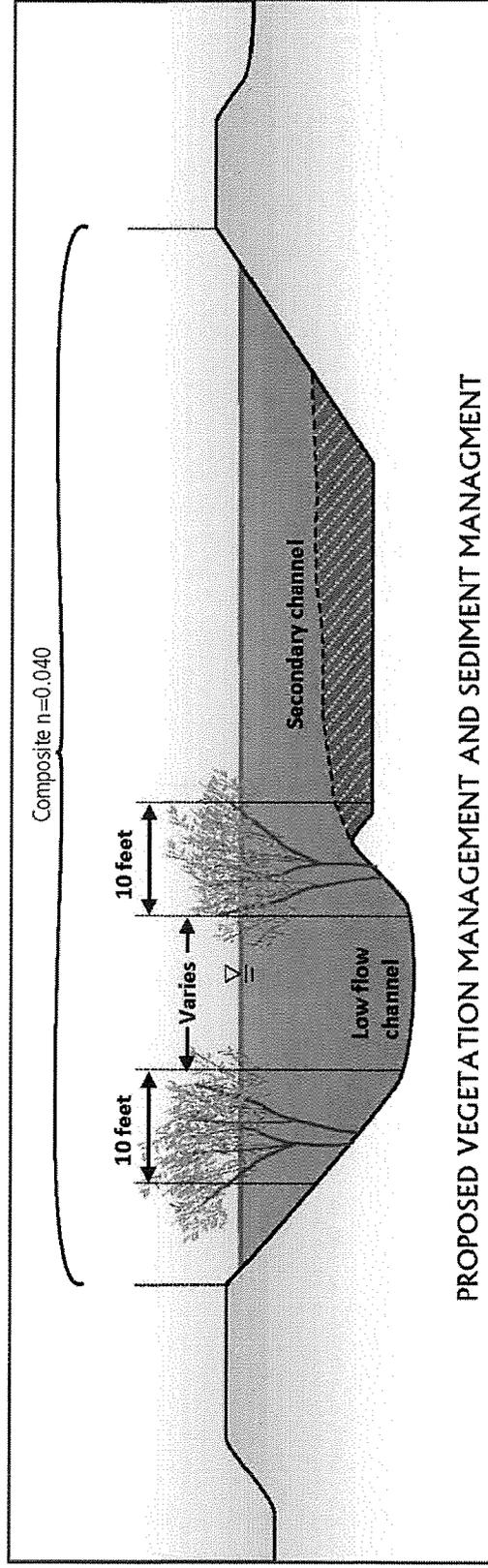
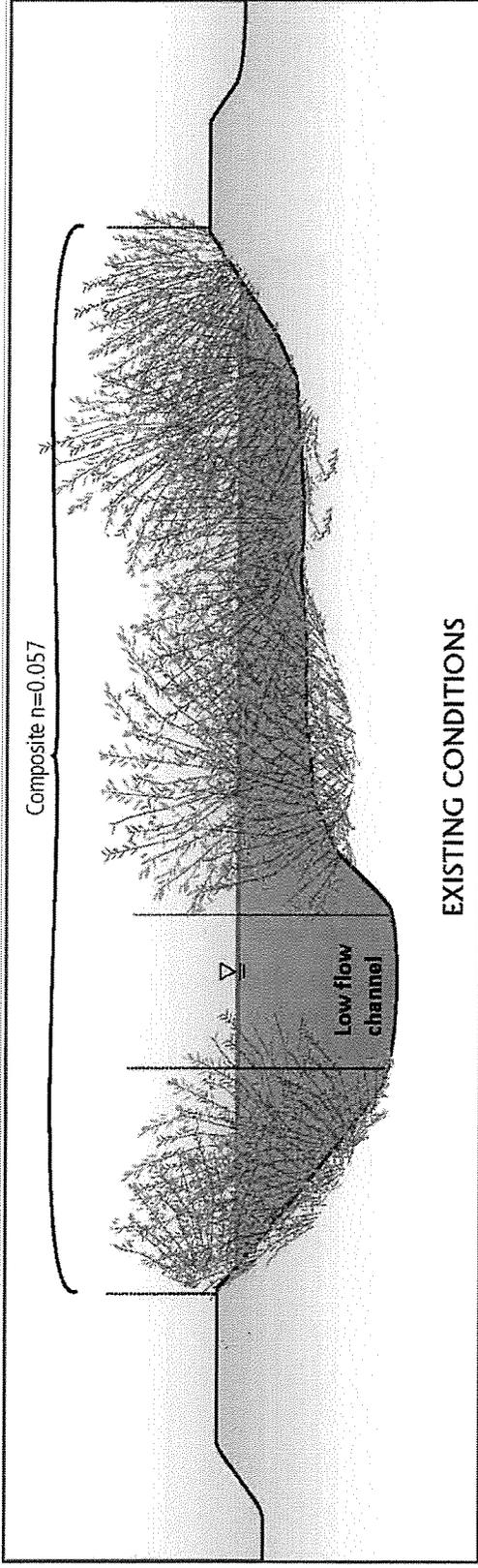
In addition there are a number of known secondary components resulting from implementation of the levee raising components of the project. These include raising of the railroad bridge, raising and/or relocating a portion of Halcyon Road, making improvements to the 22nd Street Bridge, and potentially the relocation of structures located within the Arroyo Grande Channel maintenance easement that encroach on proposed improvements.

A. VEGETATION MANAGEMENT

The vegetation management program would consist of maintaining a 10-foot riparian buffer on both sides of the low-flow channel to provide riparian habitat and streamside cover to protect aquatic habitat. The management would result in an approximate 40-foot riparian corridor, not including canopy width, although this width could vary depending upon the width of the channel and the location of the low-flow channel in relation to the levees. The corridor would also act to maintain a bankfull channel that has developed over the last several years by providing root strength along the low flow channel margins. All vegetation outside of the buffer would be removed completely to allow for high flows to access secondary channels and provide for increased conveyance and flood capacity (refer to Figure 3).

Willows present within the buffer would be limbed up to reduce cross-sectional roughness but still provide adequate stream shading and riparian habitat. Root balls within the riparian buffer would be left intact to encourage spring/summer growth along the bankfull channel edge. Gaps in the riparian buffer would be revegetated with native riparian species including cottonwood, sycamore, and willow. Cottonwood and sycamore would be planted at random along the length of the flood control channel within the buffer to encourage long-term diversity in the riparian canopy.

Vegetation management would be conducted as often as necessary to maintain a roughness coefficient of 0.04 (current roughness is approximately 0.057 on average) through an adaptive management approach that would include reconnaissance surveys and site visits with regulatory agency staff. Based on past experience, vegetation management would be repeated approximately every one to three years, depending on the amount of regrowth. Vegetation management would occur as late as possible in the summer and fall of each year to maximize stream shading during the warmer summer months while avoiding impacts to steelhead. Regrowth of willow is expected in late winter and spring providing low, overhanging vegetation during critical months for steelhead rearing.



Proposed Vegetation & Sediment Management
FIGURE 3

B. SEDIMENT MANAGEMENT

1. Short Term Removal

The Arroyo Grande Creek flood control channel currently lacks the secondary channels that are found in more natural, low gradient stream environments. Therefore secondary, or overflow channels, would be excavated into areas in the channel that have accumulated excess sediment in bars and terraces resulting in reduced flood capacity (refer to Figure 3). At strategic locations, the excavated secondary channels would be connected with the primary channels to allow for complex flow conditions that would encourage scour and sediment transport, and reduce the need for future sediment removal. No sediment in the primary channel would be excavated.

Large wood structures would be placed at the confluence of each active and secondary channel connection to enhance aquatic habitat. Approximately 35 large wood structures are proposed for the project, to promote pool scour, encourage sediment sorting, and provide deep pools and cover habitat for steelhead and red-legged frog. It is currently estimated that this project component would require the removal of approximately 21,000 cubic yards of sediment from the Arroyo Grande Creek and Los Berros channels. Sediment would be hauled by truck to an approved disposal site. The site had not been identified at the time the NOP was published. Heavy machinery would need to operate in the channel during initial sediment removal and during construction of the log structures.

2. Long-term Sediment Removal

Some maintenance (sediment removal) of the secondary channels would be required over the long-term because of the likelihood that significant quantities of fine material would be deposited in the channels. Annual cross-section monitoring would assess the performance of the channel in moving supplied sediment. Cross-sections would be prepared each year following the rainy season. The hydraulic model would also be rerun annually with updated cross-sections and roughness information to assess channel capacity.

The volume of sediment to be removed would vary from year to year, would be considerably less than the initial removal, and in some years may not be required at all. Maintenance of the secondary channel would consist of removal of excess sediment by an excavator located on the top of the levee, and a long-reach bucket would be used to scoop up sediment from designated areas and deposit it in a dump truck to take the sediment off-site to a County approved disposal area. Heavy machinery would most likely not need to access the channel during the annual sediment removal.

C. LEVEE RAISING

The originally constructed flood control channel was believed to provide flood protection from a 50-year storm, but due to challenges in maintaining the channel, such as inadequate funding and regulatory requirements, and changes in the hydrology of the watershed associated with significant changes in land use, the level of flood protection has been reduced. It is estimated that the channels can currently provide flood protection from only a 4.6 year storm. This means that the channel has the probability to overtop once every 4.6 years.

The proposed project includes raising the levees in two stages along portions of the Los Berros Creek Diversion Channel and along Arroyo Grande Creek Channel from the Los Berros confluence to the lagoon. Levee raising would most likely be conducted in phases as funding is available. The levees would ultimately be raised up to 2.5 feet above the 20-year storm flows (i.e., “freeboard”). Although overtopping of the levees is not desired at all, it is more desirable to overtop to the south where flood waters would inundate agricultural fields, rather than housing, the airport and a wastewater treatment plant, and reduce the risk of loss of life. To that end, the north levee is currently approximately 4-6 inches higher than the south levee, and would remain so as a result of the proposed project.

In general, levee slopes would be constructed at a ratio of 2:1 (horizontal:vertical) on the channel side of the levees and 1.5:1 on the outside of the levees due to the limited levee easement area and number of existing structures encroaching on the levees. Retaining walls may also be necessary in some places to minimize the levee footprint due to the proximity of existing structures to the base of the levee. Retaining walls would not be located within the channel. The levees would maintain a minimum top width of 15 feet. Refer to Figures 4a and 4b for the approximate area of disturbance associated with the proposed project.

1. Short-term Levee Raise (Alternative 3a)

The first phase of the levee raising (Alternative 3a) would raise the levees to an elevation that would, along with the vegetation and sediment management discussed above, provide up to 10-year flood protection with freeboard. This raise would focus on “low spots” along the existing levee. The levees would need to be raised in various locations from approximately six inches to as much as two feet. This component would require approximately 14,350 cubic yards of fill material and would be implemented over a period of one or more years, depending on available funding.

2. Longer-term Levee Raise (Alternative 3c)

The longer term levee raise (Alternative 3c) would achieve 20-year flood protection with up to 2.5-feet of freeboard for those parcels included within the special maintenance assessment district. The average levee raise required to implement this component would be approximately 2.8 feet from existing grade, with a maximum raise necessary in some places of approximately 5 feet. These heights would be reduced accordingly if Alternative 3a is implemented first. It is currently estimated that this component would require a total of approximately 67,000 cubic yards of fill, less if Alternative 3a is implemented first. Refer to Figures 4a and 4b for more information regarding the approximate location and extent of the proposed levee improvements.

3. Secondary Components

In some cases, achieving the goals of levee raise Alternatives 3a (10 year protection) and 3c (20 year protection) would require improvements other than vegetation management, sedimentation management, and the levee raise. These are discussed below.

a. Union Pacific Railroad Bridge Replacement

The existing railroad bridge, located downstream of the 22nd Street bridge, hangs low in elevation in the Creek and creates a hydraulic constriction in levee raise Alternative 3c. The bridge would need to be raised or replaced at a higher elevation (approximately 5 feet) to relieve the constriction. Raising the bridge also necessitates raising the railroad tracks approaching the bridge. The raise of the approaching railroad bed would have to begin approximately 1,700 feet north and 2,400 feet south of the bridge, according to conceptual plans prepared by UPRR in 2006 (refer to Figure 4a). The area of disturbance would be approximately three acres (4,100 feet by 30 feet). So that railroad service is not disrupted, a parallel but temporary track would need to be installed. This track is known as a “shoefly” and would allow for uninterrupted railroad service during the bridge raising. The area of disturbance for the shoefly may be approximately the same as that necessary for the bridge raising and immediately west of the current tracks. It would occur mostly within the existing railroad right-of-way. This component of the project may result in earthwork totaling approximately 135,000 cubic yards (90,000 to construct and remove the shoefly, and 45,000 to construct the permanent raise). These construction improvements may require work within the creek channel.

b. Halcyon Road

Halcyon Road was built at an elevation roughly equal to the top of the bank of Arroyo Grande Creek. North of Highway 1, the northwest levee visually disappears becoming part of Halcyon Road. The levee raise for alternative 3c would encroach into a portion of Halcyon Road north of Highway 1 for approximately 600 feet (refer to Figure 4b). Either the road would need to be shifted to the west, or the ground would need to be elevated to achieve the flood protection goal under levee raise alternative 3c. The road would need to be raised along this length approximately 5.5 feet or flood walls could be installed in the channel to an equivalent height.

The Department of Public Works is currently working on plans to improve the Halcyon Road/Highway 1 intersection, and it is expected that the improvements would be coordinated with the implementation of the WMP to minimize the work required and disturbance of the flood control channel. The Halcyon Road project may result in shifting Halcyon Road to the west, and if this project occurs first, it will provide space for the levee improvements to occur.

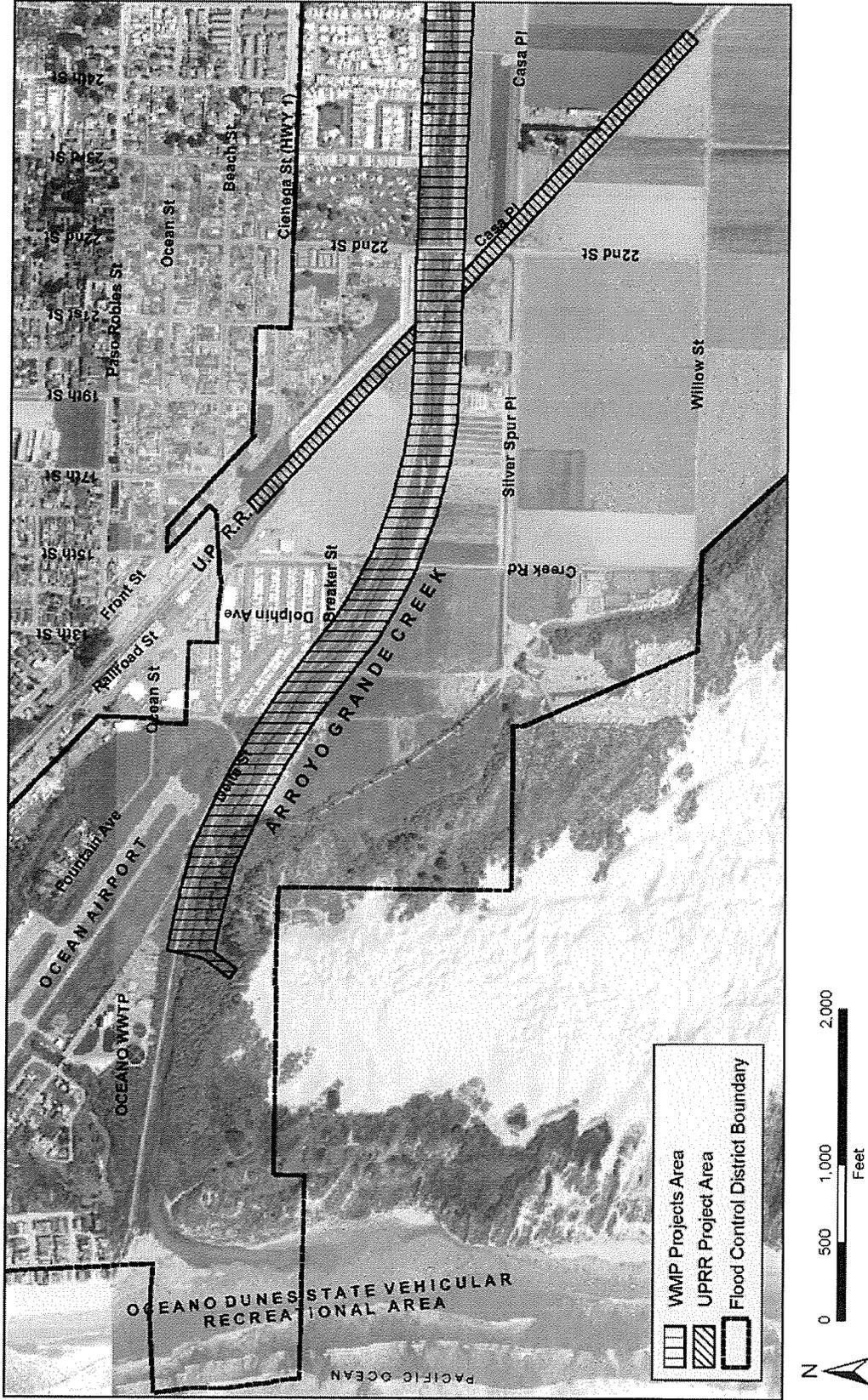
c. Structure Encroachment

There are a number of locations along Arroyo Grande Creek Channel where structures have been constructed within the right-of-way. Many of these structures would be impacted by the construction of Levee Raise Alternative 3a and/or 3c. These structures include water tanks, stalls, a barn, propane tanks, and a mobile home, among others. The degree to which they encroach varies. Some would only be affected by work on alternative 3c, for example. The actual encroachment issues will not be known until the construction plans have been further

refined. It may be possible to design around these structures through the use of retaining walls or other alternate design techniques.

d. 22nd Street Bridge Modification

The 22nd Street Bridge is considered a "perched" bridge. This means that if water is allowed to flow over the bridge it will not continue to flow perpendicular to the bridge deck but would turn and flow parallel, potentially creating flooding to adjacent properties. Alternative 3a would only require the installation of a short length of concrete floodwall along the north side of the upstream levee. As part of alternative 3c, the project would include replacing the open bridge railing with a solid concrete barrier on the upstream side of the bridge. It would also require construction of concrete floodwalls on both the north and south levees, to keep floodwaters in the channel. It should be noted that the 22nd bridge, unlike the railroad bridge does not create a hydraulic constriction.



Project Area
FIGURE 4a



Bulk Asbestos Material Analysis

(Air Resources Board Method 435, June 6, 1991)

Kleinfelder Inc
T. Nephew
1410 "F" Street

Fresno, CA 93706

Client ID: 3640
Report Number: N001174
Date Received: 11/24/08
Date Analyzed: 12/01/08
Date Printed: 12/01/08

Job ID/Site: 96612-2 - Arroyo Grand Cr.

FASI Job ID: 3640

Sample Preparation and Analysis:

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Sample ID	Lab Number	Layer Description
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HA-1	10820927	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample:	100
Visual estimation percentage:	None Detected
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-2	10820928	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample:	100
Visual estimation percentage:	None Detected
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-3	10820929	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample:	100
Visual estimation percentage:	None Detected
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



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Sample ID	Lab Number	Layer Description
HA-4	10820930	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-5	10820931	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-6	10820932	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



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Sample ID	Lab Number	Layer Description
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HA-7	10820933	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample:	100
Visual estimation percentage:	None Detected
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-8	10820934	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample:	100
Visual estimation percentage:	None Detected
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-9	10820935	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample:	100
Visual estimation percentage:	None Detected
Asbestos type(s) detected:	None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



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Sample ID	Lab Number	Layer Description
HA-10	10820936	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-11	10820937	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-12	10820938	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



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Sample ID	Lab Number	Layer Description
HA-13	10820939	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-14	10820940	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-15	10820941	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



Bulk Asbestos Material Analysis

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Sample ID	Lab Number	Layer Description
HA-16	10820942	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-18	10820943	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-19	10820944	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



Bulk Asbestos Material Analysis

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Sample ID	Lab Number	Layer Description
HA-20	10820945	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-21	10820946	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-22	10820947	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



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Sample ID	Lab Number	Layer Description
HA-23	10820948	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-24	10820949	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-25	10820950	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



Bulk Asbestos Material Analysis

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Sample ID	Lab Number	Layer Description
HA-26	10820951	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-27	10820952	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-28	10820953	Brown Soil
--------------	----------	-------------------

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.



Bulk Asbestos Material Analysis

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Sample ID	Lab Number	Layer Description
HA-29	10820954	Brown Soil

Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

HA-30	10820955	Brown Soil
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Visual Estimation Results:

Layer percentage of entire sample: 100
Visual estimation percentage: None Detected
Asbestos type(s) detected: None Detected

Comment: This result meets the requirements of Exception I as defined by the 435 Method.

James Flores, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification (LOQ) = 0.25%. Trace denotes the presence of asbestos below the LOQ. ND = None Detected.

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Appendix G.
2006 Alternatives Study Summary Table

	A	B	C	D	E	F
1	Preliminary List of Potential Flood and Sediment Reduction Actions					
2						
3	#	Action	Objective	Brief Description	Pros	Cons
4						
5	1	Levee raise	Increase flood capacity	Includes raising the existing levees to obtain adequate flood protection along the Arroyo Grande Creek Flood Control Channel. The height of the levee will depend upon the level of flood protection required and existing infrastructure elements such as bridges. Levee raise could account for and allow for riparian vegetation and habitat with specific performance-based maintenance requirements.	<ul style="list-style-type: none"> - Increased flood conveyance and protection of adjacent properties - Improved levee stability if combined with geotechnical evaluation and structural improvements - Ability to confine work to areas outside of ordinary high water 	<ul style="list-style-type: none"> - Level of protection limited by existing infrastructure (i.e. - bridge low chord elevations) - May require purchase of property along edge of levee to accommodate larger footprint
6	2a	Levee setback and raise	Increase flood capacity	Includes all elements of the levee raise with the addition of a levee setback, where appropriate, to increase the overall capacity of the flood channel. Could create an additional floodplain within the channel and allow for integration of expanded wetlands. This option would require purchase of adjacent parcels to setback levee and restore floodplain.	<ul style="list-style-type: none"> - Could potentially provide a significant increase in conveyance if combined with infrastructure improvements (i.e.-bridge lengthening). With this approach, may be able to forego levee raise. - Could significantly increase functional floodplain area and provide larger riparian corridor and off-channel wetlands 	<ul style="list-style-type: none"> - Without infrastructure improvements, a levee setback approach would not significantly improve conveyance - Increased conveyance may be limited by current constriction at the lagoon - High cost to build a new levee and purchase properties/easements - Significantly loss of high value agricultural land
7	2b	Retain existing levee and build second levee	Increase flood capacity	Would provide for additional conveyance and flood storage without dismantling the existing levee system. The floodplain could be managed differently in existing channel as compared to the overflow/bypass channel. This option would require purchase of adjacent parcels to setback levee.	<ul style="list-style-type: none"> - Could potentially provide a significant increase in conveyance if combined with infrastructure improvements (i.e.-bridge lengthening). With this approach, may be able to forego levee raise. - Could significantly increase functional floodplain area and provide larger riparian corridor and off-channel wetlands 	<ul style="list-style-type: none"> - Without infrastructure improvements, building a second levee would not significantly improve conveyance - Increased conveyance may be limited by current constriction at the lagoon - High cost to build a new levee and purchase properties/easements - Significantly loss of high value agricultural land
8	3	Bridge modification or replacement	Increase flood capacity and reduce sedimentation in flood control channel	Preliminary observations suggest that existing bridges may constrict flow and result in backwatering, sediment deposition, and levee overtopping. This project will include modifications to existing constrictions to reduce potential flooding. May need to be combined with a levee raise to achieve desired flood protection.	<ul style="list-style-type: none"> - Combined with a levee raise, this option greatly improves flood conveyance. - Newer bridges could also be designed to minimize debris buildup at piers 	<ul style="list-style-type: none"> - Very costly to replace bridges - Temporary traffic disruptions - Construction related biological impacts of working in channel
9	4	High flow weirs and flood easements	Detain flood waters	This approach would consist of creating a low point in the levee where flood waters could be controlled with known consequences. This option would have to either include agricultural land purchase with potential lease-back option or payment guarantees in the case of crop failure on affected land (i.e. - flood easements).	<ul style="list-style-type: none"> - Manages flood waters along with risks and impacts - Retains agricultural production with reduced risks due to loss compensation agreements 	<ul style="list-style-type: none"> - Costly to purchase easements and develop smaller perimeter levees to contain flooding - Controlled flooding of farmland has additional impacts other than crop loss, such as sedimentation, impacts from poor water quality, and future productivity losses that may not be compensated for under traditional farm flood easement programs
10	5	Vegetation maintenance program	Increase flood capacity and reduce sedimentation in flood control channel	This alternative would most likely be bundled with other flood protection alternatives and would include an environmentally sound approach to vegetation maintenance with specific roughness targets identified for each reach.	<ul style="list-style-type: none"> - Cost effective approach to increasing flood conveyance - Sensitive to environmental concerns - Potential tool to improve riparian species diversity and removal of non-natives 	<ul style="list-style-type: none"> - Impacts to aquatic and riparian habitat must be closely monitored - Potential "flood fighting" threat due to downed trees and log jams
11	6	Restoration of floodplain in vicinity of airport	Detain flood waters and restore habitat	Restoring floodplain may be a multiobjective approach that reduces flood risk and mitigates for habitat impacts associated with other flood reduction actions.	<ul style="list-style-type: none"> - Potentially large floodplain storage area that would remove a portion of the downstream constriction - Potential riparian habitat mitigation area 	<ul style="list-style-type: none"> - Costly to purchase property and restore as floodplain - Ordinances in place discouraging elimination of regional airport facilities
12	7	Restoring floodplain and flood capacity on tributary streams	Detain flood waters, restore habitat, reduce sedimentation in flood control channel	Opportunities may exist to expand floodplain and increase flood storage in several tributary areas such as Los Berros, Tar Springs, and Corbett-Carpenter Creeks. This approach would have the added benefit of reducing sediment inputs to the flood control reach.	<ul style="list-style-type: none"> - Multi-objective approach to attenuating flood peaks, restoring floodplain, and mitigating for loss of riparian habitat - Net benefit of developing multiple sites on several tributaries can significantly attenuate peak flows 	<ul style="list-style-type: none"> - Cost relatively high due to property or easement acquisitions - Requires detailed design to maximize timing and magnitude of flood attenuation benefits
13	8	Restore floodplain on mainstem Arroyo Grande Creek above flood control channel	Detain flood waters, restore habitat, reduce sedimentation in flood control channel	There are several locations where there may be opportunities to restore floodplain and increase flood storage along the mainstem between Lopez Dam and the flood control channel. The approach could either be a passive or active approach to flood storage.	<ul style="list-style-type: none"> - Multi-objective approach to attenuating flood peaks, restoring floodplain, and mitigating for loss of riparian habitat - Net benefit of developing multiple sites on several tributaries can significantly attenuate peak flows 	<ul style="list-style-type: none"> - Cost relatively high due to property or easement acquisitions - Requires detailed design to maximize timing and magnitude of flood attenuation benefits
14	9a	Restore historic Los Berros Channel	Redirect portion of high flows away from main channel	Before the flood control project was built, Los Berros Creek entered Arroyo Grande Creek much further downstream. Reactivating this old channel as an overflow channel would reduce stresses on the upper portion of the flood control channel.	<ul style="list-style-type: none"> - Potentially significant reduction in peak flows along most of the flood control channel - Potential habitat enhancement benefits (e.g. - red legged frog) in Los Berros bypass channel 	<ul style="list-style-type: none"> - Relatively high cost since the channel is not continuous; May require relocation of houses and other structures and new bridges or crossings - Detailed hydrologic/hydraulic evaluation would be required to understand net benefit since the outlet of the channel is upstream of the AG constriction
15	9b	Construct alternative bypass channel	Redirect portion of high flows away from main channel	Construct a new bypass channel as an overflow channel.	<ul style="list-style-type: none"> - Could potentially provide a significant increase in conveyance if combined with infrastructure improvements (i.e.-new culverts under existing bridges). With this approach, may be able to forego levee raise. 	<ul style="list-style-type: none"> - Without infrastructure improvements, a bypass channel approach would not work - Increased conveyance may be limited by current constriction at the lagoon - High cost to build bypass channel and purchase property/easements - Significantly loss of high value agricultural land
16	10	Alter Lopez Dam operations to provide flood detention	Detain flood waters	The current focus of operations at Lopez Dam are to maximize water storage. Operations could be adjusted to allow for flood detention, though this may impact storage in some years.	<ul style="list-style-type: none"> - Managing flood waters to limit uncontrolled releases during peak rainfall months would significantly reduce the frequency of flooding through the flood control channel - Managed releases in fall/early winter could improve habitat and sediment conditions (e.g. - flushing flows) 	<ul style="list-style-type: none"> - Potential reduction in water availability during droughts - Study goes beyond scope of addressing Zone 1/1A issues - Potential very costly (water = money)
17	11	Reduce bank erosion on mainstem and gully formation in tributaries	Increase flood capacity and reduce sedimentation in flood control channel	Bank erosion, channel incision and gully formation have been identified as the most significant sources of erosion in the lower watershed. Reducing erosion would reduce the frequency of maintenance dredging required in the flood control reach to maintain flood capacity.	<ul style="list-style-type: none"> - Maintenance of design flood capacity - Reduce maintenance costs associated with dredging - Improved habitat quality if sediment is primarily fine material - Protection of infrastructure locally due to bank protection 	<ul style="list-style-type: none"> - Benefit of individual projects is difficult to evaluate - Relatively costly when entire program is implemented
18	12	Excavate benches within channel	Increase flood capacity	Excavate benches to create geomorphically stable channel; allow vegetation on low flow channel banks.	<ul style="list-style-type: none"> - Increases flood capacity - Can combine with overflow and secondary channels to improve channel morphology and sorting of fines and gravel 	<ul style="list-style-type: none"> - Most likely requires long-term maintenance of overflow areas due to recolonization of riparian vegetation and sedimentation - Significant cost associated with environmental review and permitting - Initial and long-term impacts to riparian corridor
19	13	Sediment retention basin in channel	Reduce sedimentation downstream	Create a stilling basin in channel to settle sediments and reduce loss of channel capacity downstream - perhaps 20-75 acres total. May be especially useful around bridges.	<ul style="list-style-type: none"> - Focuses sediment management activities in one or several locations 	<ul style="list-style-type: none"> - Costly to develop and difficult to evaluate performance - Environmental impacts associated with fish stranding and water temperatures - Would enhance sediment deposition - Costly environmental impact analysis phase and challenges with permitting
20	14	Off-channel Sediment basin	Reduce sedimentation downstream	Create a stilling basin adjacent to the main channel to settle sediments and reduce loss of channel capacity downstream.	<ul style="list-style-type: none"> - Focuses sediment management activities in one or several locations 	<ul style="list-style-type: none"> - Costly to develop and difficult to evaluate performance - Environmental impacts associated with fish stranding and water temperatures - Would enhance sediment deposition - Costly environmental impact analysis phase and challenges with permitting
21	15	Flood Plain Management	Non-structural, site specific measures to eliminate and/or minimize flood damage to property or structures	Raise and flood proof structures, install ring levees or floodwalls; move vulnerable structures; install overflow weirs and energy dissipaters to control overflow, improve drainage network to drain flood plain quickly after floods.	<ul style="list-style-type: none"> - Reduces impacts of flooding rather than reducing risk of flooding - Would be long-term solution - Would provide greater level of flood protection than provided by other alternatives 	<ul style="list-style-type: none"> - Would not likely be feasible to protect farmland - Could potentially be very expensive - Would require coordination that goes beyond the scope of Zone 1/1A
22	16	Maintain/enlarge existing retention basins in housing developments	Detain flood waters	Several housing developments have been identified that have incorporated stormwater detention basins that appear to be poorly designed. Simple modifications could be made to these basins to make them more effective at capturing peak events.	<ul style="list-style-type: none"> - Manages increases in peak flows associated with urban development - Cost effective 	<ul style="list-style-type: none"> - Benefit limited to urban/developing watersheds - Outside of scope of Zone 1/1A
23	17	Change county and/or local development codes	Reduce impermeable surfaces in developed areas; reduce erosion	Revise zoning and building regulations to reduce upslope impermeable surfaces, allowing for greater infiltration and diminishing flashiness of stream flows. Improve and enforce erosion control rules to reduce delivery of sediment to tributaries and main channel.	<ul style="list-style-type: none"> - Manages increases in peak flows associated with urban development - Cost effective 	<ul style="list-style-type: none"> - Benefit limited to urban/developing watersheds
24	18	In off-season, rip benches/banks in flood control channel	Increase sediment mobility	Use machinery to loosen soil on upper benches/banks of flood control channel, making it easier for accumulated sediment to be entrained and moved downstream and flushed to ocean during high flows.	<ul style="list-style-type: none"> - Maintains flood capacity achieved from initial dredging - Encourages improved channel morphology by creating main and overflow channels 	<ul style="list-style-type: none"> - Requires long-term maintenance of overflow areas due to recolonization of riparian vegetation - Significant cost associated with environmental review and permitting - Long-term impacts to riparian corridor - Concerns exist about lagoon sedimentation
25	19	Have all landowners or district self-insure for crop loss	Financial compensation for potential flood loss; reduce flood prevention costs	Rather than implementing expensive engineering fixes, let farmland risk flood losses, and be covered for losses by insurance.	<ul style="list-style-type: none"> - Manages impacts of flooding rather than reducing risk of flooding - Retains agricultural production with reduced risks due to loss compensation agreements - May prove to be cost effective but would need to be evaluated; Can be combined with flood protection efforts to reduce premiums and frequency of loss 	<ul style="list-style-type: none"> - Controlled flooding of farmland has additional impacts other than crop loss, such as sedimentation, impacts from poor water quality, and future productivity losses that may not be compensated for under traditional farm flood easement programs

EXHIBIT N

**SAN LUIS OBISPO COUNTY FLOOD CONTROL
and WATER CONSERVATION DISTRICT - FLOOD
CONTROL ZONE 1 and 1A
(Arroyo Grande and Los Berros Channels)**

**ASSESSMENT ENGINEER'S REPORT for an
Added Special Benefit**

**PREPARED FOR
SAN LUIS OBISPO COUNTY
PUBLIC WORKS DEPARTMENT**

**PREPARED BY
CANNON ASSOCIATES
364 PACIFIC STREET
SAN LUIS OBISPO, CA 93401**

**ASSESSMENT ENGINEER:
CANNON ASSOCIATES
ROBERT A. LIVICK, P.E.
C61057
EXPIRES 12/31/2006**

March 2006

Engineer's Report

**San Luis Obispo County Flood Control and Water Conservation District
Flood Zones 1 and 1A**

Arroyo Grande Creek and Los Berros Creek Channel Maintenance

March 15, 2006

Assessment Engineer: Cannon Associates
Robert A. Livick, C61057
Expires 12/31/06



**SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER
CONSERVATION DISTRICT
Arroyo Grande Creek and Los Berros Creek Channel
Additional Maintenance Assessment**

CERTIFICATES

1. I, the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, hereby certify that the Special Assessment and Assessment Roll in this Engineer's Report, in the amounts set forth in Columns (1) of each, with the Assessment Diagram attached, was filed on _____, 20__.

Clerk of the Board of Supervisors

2. I have prepared this Engineer's Report and do hereby certify that the amounts set forth in Column (2) under Summary Cost Estimate on page 6 hereof entitled "Special Assessment" and the individual amounts in the Assessment Roll herein, have been computed by me in accordance with the provisions of the contract agreed upon between the County of San Luis Obispo Public Works and Cannon Associates, dated November 22, 1995, Document Number 25002120.



Assessment Engineer

3. I, the Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, hereby certify that the Special Assessment in this Engineer's Report, in the amounts set forth in Column (2) was approved and confirmed by the Board of Supervisors on _____, 20__, by resolution No. _____.

Clerk of the Board of Supervisors

ASSESSMENT ENGINEER'S REPORT

FOR THE:

SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT ARROYO GRANDE CREEK AND LOS BERROS CREEK CHANNEL ADDITIONAL ASSESSMENTS

Pursuant to the provisions of the "San Luis Obispo County Flood Control Act", applicable provisions of "Proposition 218" (being Article XIID of the California Constitution) and provisions of the "Proposition 218 Omnibus Implementation Act" (being California Senate Bill 919 of 1997) (the aforementioned provisions are hereinafter referred to collectively as "Assessment Law"), and in connection with the proceedings for the maintenance of the ARROYO GRANDE CREEK AND LOS BERROS CREEK FLOOD CONTROL LEVEES (Structures) CHANNELS – FLOOD CONTROL ZONES 1 and 1A (hereinafter referred to as "Zones") of the San Luis Obispo Flood Control and Water Conservation District (District), CANNON ASSOCIATES, as Assessment Engineer, for the District as required Assessment Law, to the District for these proceedings, submits herewith this report, consisting of five parts:

PART I

The **proposed added special assessment** of the total amount of the costs and expenses of the maintenance of structures within the Zones, in proportion to the estimated special benefits to be received by each parcel, respectively, from said maintenance, is set forth upon the assessment roll filed herewith and made a part hereof.

The **assessment roll** includes the "Assessor APN" for each parcel which is the Assessor's Parcel Number corresponding to each property within the Zones as recorded in the San Luis Obispo County Assessor's Office.

PART II

The **reason** for the proposed maintenance is attached hereto and made a part hereof.

PART III

An **estimate of the cost** of the proposed maintenance of the Structures described in Part III is attached hereto and is made a part hereof.

PART IV

The **assessment diagram** showing the exterior boundaries of the Zones, and each parcel of land within the Zones is attached hereto and is made a part hereof. The location of the properties corresponding to the Assessment Numbers (APN) shown on the attached assessment roll can be found on the Assessor Parcel Maps located in the San Luis Obispo County Assessor's Office.

PART V

The **method of assessment and apportionment** and a **statement regarding special benefit** is attached hereto and made a part hereof. All benefits additionally assessed are of special benefit to the parcels. No general benefits have been assessed.

Dated this 15 day of March, 2006



Assessment Engineer

PART I

**PROPOSED ADDED SPECIAL ASSESSMENT
SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER
CONSERVATION DISTRICT
ARROYO GRANDE CREEK AND LOS BERROS CREEK CHANNEL**

The undersigned, by virtue of the power vested in me under said Act and the order of the Board of the San Luis Obispo Flood Control and Water Conservation District, hereby make the following additional assessment to cover the portion of the estimated cost of said operations and maintenance expenses incidental thereto be paid by the Zones.

The amount to be paid for said operations and maintenance incidental thereto, is generally as follows:

TABLE 1: SUMMARY COST DISTRIBUTION

	(1) As Preliminarily Approved
Total Number of Parcels Additionally Assessed	331
Total Estimated Number of Benefit Units (EBU)	1495
Estimated Annual Maintenance Cost for Zones	\$427,372
Estimated Additional Special Benefit	\$350,000
Estimated General Benefit Relating to Additional Special Benefit	\$77,372
Estimated Cost per EBU	\$234.11

And I do hereby assess and apportion said portion of said additional benefit of the cost and expenses of said maintenance upon the several parcels of land liable therefore and benefited thereby, and hereinafter number to correspond with the numbers upon the attached Assessment Roll, upon each, severally and respectively, and more particularly set forth in the list hereto attached and by reference made a part hereof.

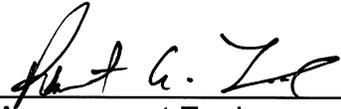
An Assessment Diagram is hereto attached showing the Zones and also the boundaries of the respective parcels of land within said Zones.

Said additional assessment is made upon each parcel within said Zones in proportion to the estimated additional special benefits to be received by said parcel, respectively, from said maintenance of Structures. The diagram and assessment parcel numbers appearing herein are the diagram numbers appearing on said diagram, to which reference is hereby made for a more

particular description of said property. The total of said additional assessments does not exceed one-half of the total value of the parcels to be assessed.

Each parcel additionally assessed is described within the Assessment Roll by reference to its parcel number as shown on the Assessor's Maps of the County of San Luis Obispo for the last equalized secured property tax assessment roll and includes all of such parcel excepting those portions thereof within existing public rights of way. For a more particular description of said property, reference is hereby made to the deeds and maps on file and of record in the office of the County Recorder of said County.

Dated this 15 day of March, 2006



Assessment Engineer

Assessment Roll

Arroyo Grande and Los Berros Channel
Maintenance Assessment Roll

APN/ Assessment #	ASSESSEE	Street	City	ST	ZIP	LAND USE	Benefit Units BA x Factor x IF	ASSESSED AND TRUE TOTAL PROPERTY VALUE	Annual Assessment	Comments
008-084-001	SLO COUNTY - PUBLIC WORKS DEPT (939)	COUNTY GOVT CTR ROOM 207	SLO	CA	93408	UNDEV	0.00	\$ -	\$ -	
008-086-006	HOBSON ANTHONY R TRE ETAL	854 VIA BERROS	ARROYO GRANDE	CA	93420	MFR	1.67	\$ 286,110.00	\$ -	FCC
008-086-007	TOWNSEND PAMELA S	815 VALLEY RD	ARROYO GRANDE	CA	93420	MFR	1.67	\$ 184,549.00	\$ 390.28	
008-086-008	GILLIAM MARJORIE A TRE	817 VALLEY RD	ARROYO GRANDE	CA	93420	MFR	1.67	\$ 170,841.00	\$ 390.28	
008-087-001	SLO COUNTY - PUBLIC WORKS DEPT (939)	COUNTY GOVT CTR ROOM 207	SLO	CA	93408	PF	0.00	\$ -	\$ -	
008-087-002	ST JOHNS LUTHERAN CHURCH OF GROVER CITY A CA CORP	959 VALLEY RD	ARROYO GRANDE	CA	93420	CR	25.28	\$ 1,064,609.00	\$ -	FCC
061-032-016	OCEANO/FIVE CITIES ELK LODGE	PO BOX 476	OCEANO	CA	93445	REC	3.33	\$ 136,292.00	\$ 5,920.02	ASSESSED AS Commercial with 50 % Benefitting
061-032-036	OCEANO/FIVE CITIES ELK LODGE	PO BOX 476	OCEANO	CA	93445	REC	3.33	\$ 104,489.00	\$ 780.56	3% of Property Benefitting
061-032-037	COUNTY OF SAN LUIS OBISPO (937)	1087 SANTA ROSA	SLO	CA	93408	UNDEV	0.00	\$ -	\$ -	82% of Property Benefitting
061-033-027	HOP PETER & MARY	10994 AVENUE 272	VISALIA	CA	93277	MFR	1.67	\$ 140,531.00	\$ 390.28	Airport OS
061-033-030	TARIN ASSARADON	3834 PRUNERIDGE AVE	SANTA CLARA	CA	95051	MFR	1.67	\$ 140,531.00	\$ 390.28	
061-033-031	TARIN ASSARADON	3834 PRUNERIDGE AVE	SANTA CLARA	CA	95051	MFR	1.67	\$ 54,048.00	\$ 390.28	
061-033-036	PIEPER JANET L & DONALD R	119 SEARIDGE CT	SHELL BEACH	CA	93449	MFR	1.67	\$ 44,509.00	\$ 390.28	
061-033-037	TAKEDA JAMES K & MUN C	2155 W ALLUVIAL	FRESNO	CA	93711	MFR	1.67	\$ 59,225.00	\$ 390.28	
061-033-038	TAKEDA JAMES K & MUN C	2155 W ALLUVIAL	FRESNO	CA	93711	MFR	1.67	\$ 161,049.00	\$ 390.28	
061-033-039	PIEPER JANET L & DONALD R	119 SEARIDGE CT	SHELL BEACH	CA	93449	MFR	1.67	\$ 148,362.00	\$ 390.28	
061-033-040	BREX DANIEL D & AMY M	4044 VIA ZORRO #A	SANTA BARBARA	CA	93110	MFR	1.67	\$ 148,362.00	\$ 390.28	
061-033-041	PRESNELL JAYNE K	2532 S E COTTONWOOD CIR	VISALIA	CA	93277	MFR	1.67	\$ 161,049.00	\$ 390.28	
061-033-042	PRESNELL JAYNE K	2532 S E COTTONWOOD CIR	VISALIA	CA	93277	MFR	1.67	\$ 58,185.00	\$ 390.28	
061-033-049	KRAEMER ROBIN B TRE ETAL	6586 N THORNE AVE	FRESNO	CA	93711	MFR	1.67	\$ 148,267.00	\$ 390.28	
061-033-050	BORBA SCOTT V	1845 S HOLT AVE	LA	CA	90035	MFR	1.67	\$ 183,600.00	\$ 390.28	
061-033-051	DALBEY MARGARET R TRE	2322 DAWSON COVE LN	CLOVIS	CA	93611	MFR	1.67	\$ 148,362.00	\$ 390.28	
061-033-052	IRVINE JOHN C TRE ETAL	864 CORVEY CIR	GALT	CA	95632	MFR	1.67	\$ 74,186.00	\$ 390.28	
061-033-057	PACIFIC PLAZA RESORT OWNERS ASSOCIATION	550 CAMINO MERCADO	ARROYO GRANDE	CA	93420	MFR	0.00	\$ -	\$ -	
061-033-068	DERAMO ANGELO & TERESA			0	0	0	0.00	\$ -	\$ -	
061-041-001	DITTMANN STEVEN H TRE	850 DELANO ST	PISMO BEACH	CA	93449	SFR	1.67	\$ 192,875.00	\$ 390.28	Formerly Parcels 061-033-047/048
061-041-002	HOLLAND DON A TRE	1490 KINGSWOOD DR	HILLSBOROUGH	CA	94010	SFR	1.67	\$ 169,725.00	\$ 390.28	
061-041-003	ETCHEVERRY MARTIN P TRE ETAL	13136 APPALOOSA AVE	BAKERSFIELD	CA	93312	SFR	1.67	\$ 18,237.00	\$ 390.28	
061-041-004	ETCHEVERRY MARTIN P TRE ETAL	13136 APPALOOSA AVE	BAKERSFIELD	CA	93312	SFR	1.67	\$ 196,625.00	\$ 390.28	
061-041-007	WILLIAMS RANDAL S & JUDY S	649 AIR PARK DR	OCEANO	CA	93445	SFR	1.67	\$ 45,441.00	\$ 390.28	
061-041-009	OSBORNE JAMES W	7928 WASHINGTON AVE	WHITTIER	CA	90602	SFR	1.67	\$ 104,748.00	\$ 390.28	
061-041-010	DIAS ROBERT J	2737 COMET LANE	ARROYO GRANDE	CA	93420	SFR	1.67	\$ 89,342.00	\$ 390.28	
061-041-013	ROGERS JAY TRE ETAL	1407 BRIGHTON AVE	ARROYO GRANDE	CA	93420	SFR	1.67	\$ 115,919.00	\$ 390.28	
061-041-014	ETCHEVERRY MARTIN W & LORI M	PO BOX 906	GROVER BEACH	CA	93483	SFR	1.67	\$ 84,349.00	\$ 390.28	
061-041-015	HADJI WILLIAM P & ELAINE C	656 MENDEL DR	OCEANO	CA	93445	SFR	1.67	\$ 151,770.00	\$ 390.28	
061-041-016	TANKELL ADAM	2122 GRIFFITH PARK BLVD	LA	CA	90039	SFR	1.67	\$ 95,596.00	\$ 390.28	
061-041-017	JOSEPH JACK TRE ETAL	620 MENDEL DR	OCEANO	CA	93445	SFR	1.67	\$ 135,729.00	\$ 390.28	
061-041-018	CARTER JOHN W TRE	38472 30TH ST EAST	PALMDALE	CA	93550	SFR	1.67	\$ 204,235.00	\$ 390.28	
061-041-019	WORTH FRANK E & SANDRA L	5216 MONTECITO DR	BAKERSFIELD	CA	93306	SFR	1.67	\$ 261,487.00	\$ 390.28	
061-041-020	HILL MIKE & DEBBIE	18059 ROSEDALE HWY	BAKERSFIELD	CA	93314	SFR	1.67	\$ 101,209.00	\$ 390.28	
061-041-021	LAXAMANA HOMER K TRE	PO BOX 1171	GROVER BEACH	CA	93483	MFR	1.67	\$ 295,228.00	\$ 390.28	
061-042-001	GUITON GLENDA L TRE ETAL	PO BOX 535	OCEANO	CA	93445	SFR	0.00	\$ 416,757.00	\$ 390.28	
061-042-003	MENDONSA JACK & PATRICIA	518 N THOMPSON	TIPTON	CA	93272	SFR	1.67	\$ 44,581.00	\$ -	
061-042-004	AUSTIN LARRY W & LINDA M	PO BOX 602	OCEANO	CA	93272	SFR	1.67	\$ 308,737.00	\$ 390.28	
061-042-005	ETCHEVERRY MARTIN ETAL	7933 CALLOWAY DR	BAKERSFIELD	CA	93445	SFR	1.67	\$ 208,734.00	\$ 390.28	
061-042-007	FURNARI SAMUEL A & GLORIA A	19990 LORENCITA	COVINA	CA	91722	SFR	1.67	\$ 266,395.00	\$ 390.28	
061-042-008	MORAN MARY H TRE ETCON	624 AIR PARK	OCEANO	CA	93445	SFR	1.67	\$ 163,619.00	\$ 390.28	
061-042-009	RINKER BUDDY E TRE ETAL	339 SHERWOOD DR	SANTA BARBARA	CA	93110	SFR	1.67	\$ 175,132.00	\$ 390.28	
061-042-010	GUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	SFR	1.67	\$ 166,631.00	\$ 390.28	
061-042-011	GUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	SFR	0.00	\$ 15,862.00	\$ -	
061-042-012	BUCHS EARL P	P.O. BOX 20069	LONG BEACH	CA	90802	SFR	1.67	\$ 181,087.00	\$ -	
061-042-013	BUCHS EARL P TRE	PO BOX 20069	LONG BEACH	CA	90802	SFR	0.00	\$ 110,995.00	\$ 390.28	
061-042-014	GUITON GLENDA L	PO BOX 535	OCEANO	CA	93455	SFR	0.00	\$ 1,950.00	\$ -	
061-042-015	GUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	SFR	0.00	\$ 8,928.00	\$ -	
061-042-016	GUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	SFR	0.00	\$ 3,710.00	\$ -	
061-042-017	GUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	SFR	0.00	\$ 10,817.00	\$ -	
061-042-022	MCGINLEY PATRICK TRE	PO BOX 921	GROVER BEACH	CA	93483	MFR	1.67	\$ 391,718.00	\$ 390.28	
061-042-023	SEALY RICHARD JR ETAL	1928 MOON LAKE CT	BAKERSFIELD	CA	93314	MFR	1.67	\$ 269,171.00	\$ 390.28	
061-042-024	GREGG JANETTE	674 GAYNFAR TERR	ARROYO GRANDE	CA	93420	MFR	1.67	\$ 389,000.00	\$ 390.28	
061-042-025	HARTFORD CHAD & DEBORAH	1990 PHILHURST DR	MERCED	CA	95340	MFR	1.67	\$ 258,361.00	\$ 390.28	
061-042-026	WELCH TIMOTHY L & TAMMY B	8497 MILLBROOK #106	FRESNO	CA	93720	MFR	1.67	\$ 248,329.00	\$ 390.28	
061-042-027	HORN MATTHEW A	610 AIR PARK DR	OCEANO	CA	93444	MFR	1.67	\$ 251,361.00	\$ 390.28	
061-042-028	AIRPARK VILLAS HOMEOWNERS ASSOCIATION	608 AIRPARK	OCEANO	CA	93445	MFR	0.00	\$ -	\$ -	
061-044-006	GARRETT SANDRA J TRE ETAL	7177 E ALLUVIAL AVE	CLOVIS	CA	93611	SFR	1.67	\$ 197,369.00	\$ 390.28	
061-044-012	TAKKEN DEVELOPMENT COMPANY INC A CA CORP	668 MARSH ST	SLO	CA	93401	SFR	0.00	\$ 739,500.00	\$ -	1.54 ac no benefit
061-044-014	BROWN LESTER E	4050 W WATHEN	FRESNO	CA	93722	SFR	1.67	\$ 19,419.00	\$ 390.28	
061-044-017	BLANKENSHIP RICHARD H TRE ETAL	476 SHERWOOD CT	HANFORD	CA	93230	MFR	1.67	\$ 120,562.00	\$ 390.28	
061-044-026	MENDONSA ANNA TRE	12750 AVENUE 160	TIPTON	CA	93272	SFR	1.67	\$ 401,370.00	\$ 390.28	
061-044-027	WAY BILL E	1114 MISSION DR	LEMOORE	CA	93245	SFR	1.67	\$ 500,000.00	\$ 390.28	
061-044-034	HERON CREST DEVELOPMENT A CA LTD PTP	% 760 MATTIE RD #A3	PISMO BEACH	CA	93449	SFR	0.00	\$ 54,050.00	\$ -	
061-044-035	HERON CREST DEVELOPMENT A CA LTD PTP	760 MATTIE RD #A3	PISMO BEACH	CA	93449	SFR	0.00	\$ 108,101.00	\$ -	
061-046-012	MAXWELL ROBERT & DANA	2628 20TH ST	BAKERSFIELD	CA	93301	SFR	0.00	\$ 176,500.00	\$ -	
061-046-014	BERGSTROM JEFFREY L	4542 NORTH AVE	SAN DIEGO	CA	92116	CR	0.00	\$ 50,000.00	\$ -	
061-046-015	SHOSTACK KERRAN L	145 SHARON LN	GROVER BEACH	CA	93433	CR	0.00	\$ 37,834.00	\$ -	
061-046-016	SHOSTACK KERRAN L	145 SHARON LN	GROVER BEACH	CA	93433	CR	0.00	\$ 37,834.00	\$ -	

Arroyo Grande and Los Berros Channel
Maintenance Assessment Roll

APN/ Assessment #	ASSESSEE	Street	City	ST	ZIP	LAND USE	Benefit Units BA x Factor x IF	ASSESSED AND TRUE TOTAL PROPERTY VALUE	Annual Assessment	Comments
061-046-017	BERGSTROM JEFFREY L	4542 NORTH AVE	SAN DIEGO	CA	92116	CR	0.00	\$ 30,000.00	\$ -	
061-046-020	OBLINIS RONALD J TRE ETAL	PO BOX 447	PISMO BEACH	CA	93449	CR	0.00	\$ 1,294.00	\$ -	
061-046-027	MACK TERRANCE J	1545 PALACE AVE	OCEANO	CA	93445	SFR	1.67	\$ 212,929.00	\$ 390.28	
061-046-028	GUIOTON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	SFR	0.00	\$ 35,401.00	\$ -	
061-046-033	LOPEZ JOSE M ETAL	734 JETTY AVE	OCEANO	CA	93445	SFR	1.67	\$ 91,548.00	\$ 390.28	
061-046-034	LOPEZ JOSE M & LORETTA D	734 JETTY AVE	OCEANO	CA	93445	SFR	0.00	\$ 76,111.00	\$ -	
061-046-035	LOPEZ JESSE ETAL	736 JETTY AVE	OCEANO	CA	93445	SFR	1.67	\$ 93,791.00	\$ 390.28	
061-046-040	BOOKOUT WILLIAM A	PO BOX 653	ARROYO GRANDE	CA	93421	SFR	1.67	\$ 97,218.00	\$ 390.28	
061-046-041	RAMIREZ DEL ORES C TRE	32546 SUCCESS VALLEY DR	PORTERVILLE	CA	93257	SFR	1.67	\$ 14,151.00	\$ 390.28	
061-046-042	BROADWELL GREG A & DENISE J	2230 SEQUOIA DR	SANTA CRUZ	CA	95065	SFR	1.67	\$ 285,216.00	\$ 390.28	
061-046-043	BOOKOUT WILLIAM A	PO BOX 653	ARROYO GRANDE	CA	93421	SFR	1.67	\$ 109,834.00	\$ 390.28	
061-046-044	TOMASINI RONALD J TRE ETAL	151 CUYAMA	PISMO BEACH	CA	93449	SFR	1.67	\$ 12,603.00	\$ 390.28	
061-046-045	BOGDAN WILLIAM	945 AIRPORT DR	SLO	CA	93401	SFR	0.00	\$ 103,951.00	\$ -	
061-046-049	BAUGHMAN LARRY A TRE ETAL	1895 CASITAS LN	OCEANO	CA	93445	SFR	0.00	\$ 14,277.00	\$ -	
061-046-050	BAUGHMAN LARRY A TRE ETAL	1895 CASITAS LN	OCEANO	CA	93445	SFR	1.67	\$ 59,981.00	\$ 390.28	
061-046-051	INGRAM EDITH R	1563 PALACE AVE	OCEANO	CA	93445	SFR	1.67	\$ 207,391.00	\$ 390.28	
061-046-052	BACHMAN CHARLES F & COLLEEN L	1519 FOUNTAIN AV	OCEANO	CA	93445	SFR	0.00	\$ 114,161.00	\$ -	
061-046-057	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-058	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-059	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-060	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-061	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-062	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-063	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-064	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-065	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-046-066	KELLEY RICHARD E & JANICE ETAL	152 W BRANCH #A	ARROYO GRANDE	CA	93420	SFR	0.00	\$ -	\$ -	
061-081-015	BRIDGES JW TRE ETAL	500 CRIDER RD	ARVIN	CA	93203	SFR	2.01	\$ 22,654.00	\$ 471.22	
061-081-016	FINWALL KEN	PO BOX 3935	SLO	CA	93403	SFR	0.00	\$ 154,829.00	\$ -	
061-081-019	PREBYL DARLENE M TRE ETAL	3580 CABADA CYN	LIMPOC	CA	93436	SFR	1.67	\$ 252,315.00	\$ 390.28	
061-081-024	WILLIAMSON PAUL M	3340 MARBLE RIDGE DR	CHINO HILLS	CA	91709	SFR	1.67	\$ 181,933.00	\$ 390.28	
061-081-026	R & R INVESTMENTS	5059 SAN SIMEON DR	SANTA BARBARA	CA	93111	SFR	0.00	\$ 250,000.00	\$ -	
061-081-027	WESLOH GEORGE A JR ETAL	PO BOX 431	MONROVIA	CA	91016	SFR	0.00	\$ 52,787.00	\$ -	
061-081-030	SLATER PATRICIA E	1056 GRAND AVE	GROVER BEACH	CA	93433	SFR	1.67	\$ 77,417.00	\$ 390.28	
061-081-031	GIBSON JACK R & SHARON S	1616 CASTLEVIEW DR	VISALIA	CA	93292	SFR	1.67	\$ 268,144.00	\$ 390.28	
061-081-033	COBB GREGORY L & PAMELA S	559 HONOLULU AVE	OCEANO	CA	93445	SFR	1.67	\$ 92,981.00	\$ 390.28	
061-081-035	CAMPANELLA DREW	19152 SHORELINE LN #8	HUNTINGTON BEACH	CA	92648	SFR	1.67	\$ 165,393.00	\$ 390.28	
061-081-036	VILLALBA DAVID B & DELILAH P	204 OCEANVIEW	GROVER BEACH	CA	93433	MFR	1.67	\$ 349,371.00	\$ 390.28	
061-081-037	ESCOBAR CARLOS & VIOLETA	1560 LAKESIDE AVE	OCEANO	CA	93401	SFR	1.67	\$ 91,321.00	\$ 390.28	
061-082-001	BABCOCK TERRY L	981 N CONCOURSE ST	LA HABRA	CA	90631	SFR	0.00	\$ 5,438.00	\$ -	
061-082-002	COUNTY OF SAN LUIS OBISPO (937)	1087 SANTA ROSA	SLO	CA	93408	UNDEV	0.00	\$ -	\$ -	
061-082-004	MILLER MARQUIS JG & EMANDA B	260 RIO RD	ARROYO GRANDE	CA	93420	SFR	1.67	\$ 171,327.00	\$ 390.28	
061-082-006	FUERY WALTER R	5851 GLOUCESTER CIR	WESTMINSTER	CA	92693	SFR	1.67	\$ 151,723.00	\$ 390.28	
061-082-007	MARTINEZ ADOLFO R & CYNTHIA BVH	114 TORRO CYN RD	CARPENTERIA	CA	93013	SFR	1.67	\$ 343,959.00	\$ 390.28	
061-082-010	STANAVAGE ADOLPH L TRE	547 SECURITY CT	OCEANO	CA	93445	MFR	1.88	\$ 28,853.00	\$ 439.17	
061-082-011	DELLACROCE LYNN ETAL	135 TRES CASAS	NIPOMO	CA	93444	SFR	0.00	\$ 5,438.00	\$ -	
061-082-014	SCHACHERER JOSEPH M JR & JANET M	577 SECURITY COURT	OCEANO	CA	93445	SFR	1.67	\$ 458,566.00	\$ 390.28	
061-082-015	CARTER JOHN W TRE	36472 30TH ST EAST	PALMDALE	CA	93550	SFR	0.00	\$ 100,228.00	\$ -	
061-082-016	WALKER MARGARET V TRE ETAL	1678 ALOHA PL	OCEANO	CA	93445	SFR	1.67	\$ 417,923.00	\$ 390.28	
061-082-017	LEWIS JONIE H & SHANNON J	1650 ALOHA	OCEANO	CA	93445	SFR	1.67	\$ 171,760.00	\$ 390.28	
061-082-018	FERNALD MARY L TRE ETAL	507 W BUTLER DR	PHOENIX	AZ	85021	SFR	1.67	\$ 16,328.00	\$ 390.28	
061-082-019	NICHOLS MICHAEL R & JENIFER L	544 HONOLULU AVE	OCEANO	CA	93445	SFR	1.67	\$ 222,955.00	\$ 390.28	
061-082-020	COMPAGNON PATRICIA TRE	2311 TAFT HWY	BAKERSFIELD	CA	93313	SFR	1.67	\$ 14,045.00	\$ 390.28	
061-082-021	JOHNSON CHRISTOPHER B & BP	1772 JAMIE LEE CT	SAN LUIS OBISPO	CA	93401	SFR	1.67	\$ 102,313.00	\$ 390.28	
061-082-022	FERNALD MARY L TRE ETAL	507 W BUTLER DR	PHOENIX	AZ	85021	SFR	0.00	\$ 3,804.00	\$ -	
061-082-023	CORLEY MICHAEL J & KALLEEN K	30000-359 KASSON RD	TRACY	CA	95304	SFR	1.67	\$ 291,764.00	\$ 390.28	
061-082-024	SORENSEN DEAN M TRE ETAL	561 SECURITY CT	OCEANO	CA	93445	SFR	1.67	\$ 122,978.00	\$ 390.28	
061-082-025	ANGELO JOSEPH TRE	263 CAPISTRANO	SHELL BEACH	CA	93449	SFR	0.00	\$ 25,985.00	\$ -	
061-082-026	YANKASAMMY DEVICKA ETAL	740 ATLANTIC CITY AVE	GROVER BEACH	CA	93433	SFR	0.00	\$ 220,277.00	\$ -	
061-083-001	FESLER STEVEN ETAL	5445 MOHICAN RD	BETHESDA	MD	20816	SFR	1.67	\$ 409,000.00	\$ 390.28	
061-083-003	SEGURA GABRIEL	6055 QUAIL CT	SANTA MARIA	CA	93455	SFR	1.67	\$ 245,000.00	\$ 390.28	
061-083-004	SEGURA GABRIEL	6055 QUAIL CT	SANTA MARIA	CA	93455	SFR	1.67	\$ 160,000.00	\$ 390.28	
061-091-018	SOUTH COUNTY SANITARY DISTR (943)	PO BOX 339	OCEANO	CA	93445	PF	1.67	\$ -	\$ -	
061-091-019	STATE OF CALIFORNIA (935)	707 3RD ST 5TH FL	WEST SACRAMENTO	CA	95605	UNDEV	72.92	\$ -	\$ 17,076.23	1.54 ac no benefit
061-091-025	COUNTY OF SAN LUIS OBISPO (937)	1087 SANTA ROSA	SLO	CA	93408	UNDEV	0.00	\$ -	\$ -	Pond
061-091-027	COUNTY OF SAN LUIS OBISPO (937)	1087 SANTA ROSA	SLO	CA	93408	REC	19.09	\$ -	\$ -	Pond
061-091-029	COUNTY OF SAN LUIS OBISPO (937)	1087 SANTA ROSA	SLO	CA	93408	AG	7.06	\$ -	\$ -	4,471.01
						PF	104.00	\$ -	\$ -	1,653.70
						UNDEV	0.00	\$ -	\$ -	24,353.52
						UNDEV	0.00	\$ -	\$ -	10.4 as CR/IND(incld RV Storage), 25.62 as AF, 23.5 as UNDEV
						UNDEV	0.00	\$ -	\$ -	10.4 as CR/IND(incld RV Storage), 25.62 as AF, 23.5 as UNDEV
						UNDEV	0.00	\$ -	\$ -	10.4 as CR/IND(incld RV Storage), 25.62 as AF, 23.5 as UNDEV
061-101-014	STATE OF CALIFORNIA (935)	707 3RD ST 5TH FL	WEST SACRAMENTO	CA	95605	REC	15.77	\$ -	\$ -	3,692.67
061-113-030	POUYIOUKAS MARIOS A	1347 DEWEY DR	OCEANO	CA	93447	MFR	1.67	\$ -	\$ -	5.62 ac on dev pond
061-113-039	GASBARRA LARRY S & WAYNETTE C	1200 N PEPPER TREE	VISALIA	CA	93291	MFR	1.67	\$ 475,000.00	\$ 390.28	
061-113-041	SINCLAIR GABE R	1351 DEWEY ST	OCEANO	CA	93445	MFR	1.67	\$ 64,974.00	\$ 390.28	
061-113-043	HACKLEMAN JOHN & JULIA	9105 SAN MARCOS RD	ATASCADERO	CA	93422	MFR	1.67	\$ 110,812.00	\$ 390.28	
061-113-044	SALE JEFFREY TRE	1218 SPRING ST	PASO ROBLES	CA	93446	MFR	1.67	\$ 310,000.00	\$ 390.28	
							1.67	\$ 52,687.00	\$ 390.28	

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061-113-045	ODDONE STEVEN & SUSAN	508 PHEASANT AVE	BAKERSFIELD	CA	93309	MFR	1.67	\$ 169,570.00	\$ 390.28	
061-113-046	CRAWFORD KEVIN T ETAL	6887 ALMANOR LAKE EST DR	LAKE ALMANOR	CA	96137	MFR	1.67	\$ 124,315.00	\$ 390.28	
061-131-001	PISMO COAST VILLAGE INC	165 S DOLLIVER	PISMO BEACH	CA	93449	CR	0.00	\$ 77,928.00	\$ -	
061-131-004	LATER ROGER D	1865 W 222ND ST STE B	TORRANCE	CA	90501	IND	5.10	\$ 350,308.00	\$ 1,184.73	.89 ac no benefit
061-131-005	PISMO COAST VILLAGE INC	165 S DOLLIVER	PISMO BEACH	CA	93449	CR	0.00	\$ 88,317.00	\$ -	
061-131-009	JMK HOLDINGS INC A AZ CORP	2602 N 35TH AVE	PHOENIX	AZ	85009	IND	9.71	\$ 264,631.00	\$ 2,273.46	0.45 no benefit
061-131-012	PISMO COAST VILLAGE INC	165 S DOLLIVER	PISMO BEACH	CA	93449	REC	0.00	\$ 25,975.00	\$ -	
061-131-020	PISMO COAST VILLAGE INC					0	0	\$ 483,154.00	\$ -	lot line adjustment parcels 7, 8, 10, 11, 13 into three parcels: numbers 20, 21, 22
061-131-021	LATER ROGER D					0	0	\$ 146,009.00	\$ -	lot line adjustment parcels 7, 8, 10, 11, 13 into three parcels: numbers 20, 21, 22
061-131-022	LATER ROGER D					0	0	\$ 146,009.00	\$ -	lot line adjustment parcels 7, 8, 10, 11, 13 into three parcels: numbers 20, 21, 22
061-134-001	OCEANO PACKING CO A CORP	PO BOX 458	OCEANO	CA	93445	IND	8.58	\$ 18,199.00	\$ 2,646.10	
061-134-006	OCEANO PACKING CO	PO BOX 458	OCEANO	CA	93445	IND	0.00	\$ 1,517.00	\$ 2,009.07	
061-134-007	OCEANO PACKING CO	PO BOX 458	OCEANO	CA	93445	IND	0.00	\$ 2,279.00	\$ -	
061-134-008	OCEANO PACKING CO A CORP	PO BOX 458	OCEANO	CA	93445	IND	12.00	\$ 121,024.00	\$ 2,810.60	
061-134-009	PHELAN & TAYLOR PROD CO INC	PO BOX 458	OCEANO	CA	93445	IND	0.00	\$ 31,189.00	\$ -	
061-161-008	CARDOZA PAT L & VICTORIA L	PO BOX 154	OCEANO	CA	93445	AG	5.39	\$ 245,342.00	\$ 1,261.88	2.04 ac no benefit
061-161-009	QUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	AG	6.40	\$ 62,588.00	\$ 1,499.22	5.56 ac no benefit
061-161-010	QUITON GLENDA L	PO BOX 535	OCEANO	CA	93445	AG	0.47	\$ 14,584.00	\$ 110.17	5.26 ac no benefit
061-161-011	QUITON GLENDA L	PO BOX 535	OCEANO	CA	93445	AG	1.40	\$ 113,983.00	\$ 328.42	5.04 ac no benefit
061-161-012	SLO COUNTY - PUBLIC WORKS DEPT (939)	COUNTY GOVT CTR ROOM 207	SLO	CA	93408	UNDEV	0.00	\$ -	\$ -	no benefit
061-171-003	CRUPE HENRY W	PO BOX 458	OCEANO	CA	93445	CR	0.00	\$ 866.00	\$ -	
061-171-004	QUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	IND	5.25	\$ 62,336.00	\$ 1,229.45	
061-171-005	1400 RAILROAD AVE LTD A PTP	PO BOX 519	OCEANO	CA	93445	IND	10.56	\$ 605,801.00	\$ 2,472.63	
061-171-006	PISMO COAST VILLAGE RV A CA CORP	165 S DOLLIVER ST	PISMO BEACH	CA	93449	CR	14.33	\$ 225,046.00	\$ 3,354.72	
061-171-007	PISMO COAST VILLAGE RV A CA CORP	165 S DOLLIVER ST	PISMO BEACH	CA	93449	IND	27.99	\$ 449,435.00	\$ 6,563.85	
061-261-006	ARNOLD PEGGY L TRE					0	0	\$ 271,117.00	\$ 2,035.39	126=281 in app, 2.0 ac no benefit
061-261-007	NHC-CA3 LP A DE LTD PTP					0	0	\$ 573,592.00	\$ 1,533.73	126=281 in app
061-261-012	NHC-CA3 LP A DE LTD PTP					0	0	\$ 4,256,964.00	\$ 5,894.57	15.1 ac no benefit
061-261-013	NHC-CA3 LP A DE LTD PTP					0	0	\$ -	\$ -	126=281 in app, Visible improvements, 2.54 ac No Benefit (operates as a commercial stable)
061-321-001	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	5.64	\$ 291,977.00	\$ 1,321.36	
061-321-002	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	3.62	\$ 28,597.00	\$ 847.94	2.57 ac FCC
061-321-003	BEJO SEEDS INC A CA CORP	PO BOX 869	OCEANO	CA	93476	AG	5.66	\$ 3,174,710.00	\$ 1,301.08	11.74 AC as AG and 4.3AC as CR/IND, 1.61 ac UNDEV
061-321-004	PHELAN & TAYLOR PRODUCE CO						38.71	\$ 3,174,710.00	\$ 9,065.22	11.74 AC as AG and 4.3AC as CR/IND, 1.61 ac UNDEV
061-331-001	PISMO COAST VILLAGE A CAL CORP	PO BOX 458	OCEANO	CA	93445	AG	8.18	\$ 206,991.00	\$ 1,915.76	
061-331-001	PISMO COAST VILLAGE A CAL CORP	165 S DOLLIVER	PISMO BEACH	CA	93449	CR	17.56	\$ 144,015.00	\$ 4,111.97	0.21 ac no benefit
061-331-002	SCHROEDER RICHARD & LINDA	2350 22ND ST	OCEANO	CA	93445	SFR	2.55	\$ 128,393.00	\$ 596.66	0.70 ac no benefit (Shop acts as accessory to SFR, not commercial)
061-331-003	LACKIE LESTER E & ELIZABETH A CO-TRES	446 E MAUNA LOA AVE	GLENDORA	CA	91740	AG	4.72	\$ 151,833.00	\$ 1,104.44	
061-331-004	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	5.67	\$ 35,239.00	\$ 1,328.24	
061-331-005	MANCINI HENRY & NANCY	262 PHELAN RANCH WAY	ARROYO GRANDE	CA	93420	AG	5.23	\$ 84,892.00	\$ 1,224.63	
061-331-006	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	3.75	\$ 19,609.00	\$ 878.09	
061-331-008	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	2.67	\$ 13,617.00	\$ 625.78	
061-331-009	SIMMERMAKER GLENN W JR	PO BOX 411	OCEANO	CA	93445	AG	4.19	\$ 118,011.00	\$ 980.83	
061-331-010	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	5.63	\$ 105,806.00	\$ 1,319.39	
061-331-011	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	2.90	\$ 12,473.00	\$ 678.78	
061-331-012	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	5.67	\$ 77,279.00	\$ 1,328.70	
061-331-013	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	5.75	\$ 69,532.00	\$ 1,345.32	
062-083-004	GERMAN JERRY E TRE	2440 BLACKWALNUT RD	SLO	CA	93405	CR	0.00	\$ 24,513.00	\$ -	
062-083-010	GERMAN JERRY E TRE	2440 BLACKWALNUT RD	SLO	CA	93405	CR	0.00	\$ 173,400.00	\$ -	
062-083-012	QUITON GLENDA L ETAL	PO BOX 535	OCEANO	CA	93445	CR	0.00	\$ 842.00	\$ -	
062-083-013	GERMAN JERRY E TRE	2440 BLACKWALNUT RD	SLO	CA	93405	CR	0.00	\$ 137,700.00	\$ -	
062-083-014	GERMAN JERRY E TRE	2440 BLACKWALNUT RD	SLO	CA	93405	CR	0.00	\$ 137,700.00	\$ -	
062-083-019	SCHLENKER JOHN R TRE ETAL	241 STAGECOACH	ARROYO GRANDE	CA	93420	CR	3.33	\$ 224,400.00	\$ 780.56	
062-086-020	CATHOLIC CHURCH OCEANO	PO BOX 2048	MONTEREY	CA	93942	CR	3.33	\$ 375,554.00	\$ 780.56	
062-086-021	CATHOLIC CHURCH OCEANO	PO BOX 2048	MONTEREY	CA	93942	CR	3.33	\$ 20,910.00	\$ 780.56	
062-111-001	CHAVEZ ISIDRO G & MARIA P	PO BOX 674	OCEANO	CA	93445	CR	0.00	\$ 8,960.00	\$ -	
062-111-009	LOPEZ FABIAN TRE ETAL	311 SAN ANDREW WY	SANTA MARIA	CA	93455	CR	3.33	\$ 225,852.00	\$ 780.56	
062-111-010	LOPEZ FABIAN TRE ETAL	311 ST ANDREWS WY	SANTA MARIA	CA	93454	CR	3.33	\$ 275,000.00	\$ 780.56	
062-111-011	LOPEZ FABIAN TRE ETAL	311 ST ANDREWS WY	SANTA MARIA	CA	93454	CR	0.00	\$ 91,800.00	\$ -	
062-111-014	HART JOHN S TRE ETAL	190 W DANA	SANTA MARIA	CA	93454	CR	0.00	\$ 63,240.00	\$ -	
062-111-018	MANKINS HOWARD D TRE ETAL	1005 EL CAMINO REAL	NIPOMO	CA	93444	CR	3.33	\$ 207,560.00	\$ 780.56	
062-111-019	MANKINS HOWARD D TRE ETAL	1005 EL CAMINO REAL	ARROYO GRANDE	CA	93420	CR	3.33	\$ 61,043.00	\$ 780.56	
062-111-022	ANNECCHINI NICHOLAS J TRE ETAL	306 W CHERRY AVE	ARROYO GRANDE	CA	93420	CR	0.00	\$ 5,207.00	\$ -	
062-111-023	LEON AMELIA	PO BOX 463	OCEANO	CA	93445	SFR	3.33	\$ 228,540.00	\$ 780.56	
062-111-024	DEWAR KENNETH L TRE	1151 CORBETT CANYON RD	ARROYO GRANDE	CA	93420	CR	1.67	\$ 143,100.00	\$ 390.28	
062-111-027	JOSEPH JOE T & VICTORIA J	9232 GLENDON WAY	ROSEMEAD	CA	91770	CR	0.00	\$ 67,306.00	\$ -	
062-111-028	DEWAR KENNETH L TRE	1151 CORBETT CANYON RD	ARROYO GRANDE	CA	93420	CR	3.33	\$ 211,161.00	\$ 780.56	
062-111-029	DEWAR KENNETH L TRE	1151 CORBETT CANYON RD	ARROYO GRANDE	CA	93420	CR	0.00	\$ 47,110.00	\$ -	
062-111-030	HART JOHN S TRE ETAL	190 W DANA	NIPOMO	CA	93444	CR	3.33	\$ 87,500.00	\$ -	
062-112-002	WEBBER MARY R TRE ETAL	3455 OCEAN BLVD	CAYUCOS	CA	93430	IND	3.33	\$ 164,734.00	\$ 780.56	
062-114-006	JANDEGAN DEBRA L ETAL	PO BOX 8943	INCLINE VILLAGE	NV	89452	CR	3.33	\$ 91,852.00	\$ 780.56	

Arroyo Grande and Los Berros Channel
Maintenance Assessment Roll

APN/ Assessment #	ASSESSEE	Street	City	ST	ZIP	LAND USE	Benefit Units BA x Factor x IF	ASSESSED AND TRUE TOTAL PROPERTY VALUE	Annual Assessment	Comments
062-114-007	BOOKOUT WILLIAM A	PO BOX 653	ARROYO GRANDE	CA	93421	SFR	0.00	\$ 68,396.00	\$ -	
062-114-016	BOOKOUT WILLIAM A	PO BOX 653	ARROYO GRANDE	CA	93421	CR	0.00	\$ 127,178.00	\$ -	
062-114-022	JEONG BEATRICE S TRE ETAL	367 HILL	SLO	CA	93405	CR	3.77	\$ 670,274.00	\$ -	
062-114-023	JEONG BEATRICE S TRE ETAL	367 HILL	SLO	CA	93405	CR	0.00	\$ -	\$ 883.90	0.18 ac no benefit
062-115-002	NUNEZ SEBASTIAN JR & GUADALUPE	1920 HIGHWAY 1	OCEANO	CA	93445	SFR	1.67	\$ 10,422.00	\$ -	Obvious improvements > 10,000 on parcel
062-115-005	PIMENTEL MAX JR TRE ETAL	P O BOX 425	OCEANO	CA	93445	SFR	0.00	\$ 6,394.00	\$ -	390.28
062-115-006	HENDBURY JUDITH M TRE ETAL	517 BRIARWOOD LN	NIPOMO	CA	93444	CR	0.00	\$ 112,467.00	\$ -	
062-115-011	DELGADO JUAN	2011 NIPOMO ST	OCEANO	CA	93445	SFR	1.67	\$ 386,000.00	\$ -	390.28
062-115-013	GONZALEZ ANDRES	530 TEJAS	NIPOMO	CA	93444	CR	0.00	\$ 100,000.00	\$ -	
062-115-017	SMITH VAUDINE A	PO BOX 701	OCEANO	CA	93445	SFR	1.67	\$ 13,691.00	\$ -	390.28
062-115-022	LOPEZ MARIO M	2065 FRONT ST	OCEANO	CA	93445	SFR	1.67	\$ 34,561.00	\$ -	390.28
062-115-023	ROMERO ELISEO & BEATRIZ	PO BOX 130	GROVER BEACH	CA	93483	SFR	1.67	\$ 268,070.00	\$ -	390.28
062-115-024	LEMUS LUIS F JR	1630 MESA RD	NIPOMO	CA	93444	SFR	0.00	\$ 20,242.00	\$ -	
062-115-025	RENTERIA RUDY & LEA J	1312 22ND ST	OCEANO	CA	93445	IND	3.33	\$ 111,455.00	\$ -	780.56
062-115-029	HEALY THOMAS J & IMOGENE B	9223 54TH ST	RIVERSIDE	CA	92509	SFR	1.67	\$ 148,679.00	\$ -	390.28
062-115-030	ANGELLO DAVID C TRE ETAL	1630 LAGUNA ST	OCEANO	CA	93445	CR	0.00	\$ 49,617.00	\$ -	
062-115-031	ANGELLO DAVID C TRE ETAL	1630 LAGUNA ST	OCEANO	CA	93445	CR	0.00	\$ 55,130.00	\$ -	
062-115-032	CABALES FLORENDA I TRE	1371 LONGBRANCH ST	GROVER BEACH	CA	93433	IND	3.33	\$ 90,938.00	\$ -	780.56
062-115-033	CABALES FLORENDA I TRE	1371 LONGBRANCH AVE	GROVER BEACH	CA	93433	CR	0.00	\$ 1,801.00	\$ -	
062-115-034	GONZALEZ ANDRES	530 TEJAS	NIPOMO	CA	93444	CR	0.00	\$ 200,000.00	\$ -	
062-117-003	ROBB WILLIAM H TRE ETAL	828 RAYMOND AVE	SANTA MARIA	CA	93455	CR	3.33	\$ 277,076.00	\$ -	780.56
062-117-004	WATSON CHARLES B	6520 VIA AVE	ATASCADERO	CA	93422	CR	0.00	\$ 73,126.00	\$ -	0.25 ac no benefit
062-117-005	ROBB WILLIAM H TRE ETAL	528 RAYMOND AVE	SANTA MARIA	CA	93455	CR	5.51	\$ 300,755.00	\$ -	1,290.18
062-117-008	WISBERG ROBERT E TRE ETAL	1232 TIFFANY RANCH RD	ARROYO GRANDE	CA	93401	CR	0.00	\$ 79,174.00	\$ -	
062-117-009	TAKKEN ROBERT W TRE ETAL	668 MARSH ST	SLO	CA	93401	CR	0.00	\$ 47,691.00	\$ -	
062-117-011	TAKKEN ROBERT W TRE ETAL	668 MARSH ST	SLO	CA	93401	CR	0.00	\$ 162,812.00	\$ -	
062-117-012	COULTER JOHN ETAL	2091 21ST ST	OCEANO	CA	93445	SFR	1.67	\$ 270,300.00	\$ -	390.28
062-117-013	JOHNBOYS TOWING INC	1211 BRIGHTON AVE	ARROYO GRANDE	CA	93420	CR	0.00	\$ 75,330.00	\$ -	
062-117-014	JOHNBOYS TOWING INC	1211 BRIGHTON AVE	ARROYO GRANDE	CA	93420	CR	0.00	\$ 75,330.00	\$ -	
062-117-015	BULTMAN PETER	727 BUCKLEY RD	SLO	CA	93401	CR	0.00	\$ 75,330.00	\$ -	
062-117-016	BULTMAN PETER	727 BUCKLEY RD	SLO	CA	93401	CR	0.00	\$ 75,330.00	\$ -	
062-118-003	SOUTHERN PACIFIC TRANSPORTATION CO	UNKNOWN	UNKNOWN	CA	99999	IND	6.33	\$ -	\$ 1,481.62	0.96 ac no benefit
062-118-004	SOUTHERN PACIFIC TRANSPORTATION CO	UNKNOWN	UNKNOWN	CA	99999	IND	22.59	\$ -	\$ 5,288.89	Used for RV Storage
062-118-005	SOUTHERN PACIFIC TRANSPORTATION CO	UNKNOWN	UNKNOWN	CA	99999	AG	2.87	\$ -	\$ 672.06	AG use, 0.27 no benefit
062-118-007	SOUTHERN PACIFIC TRANSPORTATION CO	UNKNOWN	UNKNOWN	CA	99999	IND	23.70	\$ -	\$ 5,549.79	1.02 ac no benefit
062-118-008	SOUTHERN PACIFIC TRANS CO	UNKNOWN	UNKNOWN	CA	99999	IND	3.33	\$ -	\$ 780.56	
062-122-005	CIENAGA SEABREEZE PARK INC	2300 CIENAGA	OCEANO	CA	93445	SFR	38.76	\$ 1,521,728.00	\$ 9,076.55	0.23 ac no benefit
062-122-006	PEPPER TREE INN INC	1275 LINCOLN AV #7	SAN JOSE	CA	95125	REC	68.30	\$ 1,176,451.00	\$ 15,992.98	Assessed as REC for RV campground, 1.11 ac no benefit
062-122-007	CIENAGA SEABREEZE PARK INC	2300 CIENAGA	OCEANO	CA	93445	SFR	2.23	\$ 150,097.00	\$ 522.28	
062-122-009	PEPPER TREE INN INC	PO BOX 6330	SAN JOSE	CA	95150	REC	15.83	\$ 376,254.00	\$ 3,705.85	1.15 ac no benefit, Assessed as REC for RV campground
062-122-010	CENAGA SEABREEZE PARK INC	2300 CIENAGA	OCEANO CALIE	CA	93445	SFR	8.34	\$ 330,253.00	\$ 1,952.49	1.21 ac no benefit
062-142-001	SEARCY RICHARD TRE ETAL	1360 17TH ST	OCEANO	CA	93445	SFR	1.99	\$ 208,933.00	\$ 465.94	
062-143-001	JC & DD PROPERTIES AND MANAGEMENT A LLC	PO BOX 5578	SANTA MARIA	CA	93456	SFR	1.67	\$ 99,235.00	\$ 390.28	
062-143-006	WINSLETT G & H	PO BOX 686	OCEANO	CA	93445	SFR	1.67	\$ 64,246.00	\$ 390.28	
062-143-007	JC & DD PROPERTIES AND MANAGEMENT A LLC	PO BOX 5578	SANTA MARIA	CA	93456	CR	0.00	\$ 55,131.00	\$ -	
062-143-012	WINSLETT GEORGE B & HAZEL	PO BOX 686	OCEANO	CA	93445	CR	0.00	\$ 45,927.00	\$ -	
062-143-014	CRAVENS JOHN & CINDY	490 DAL PORTO LANE	SANTA MARIA	CA	93454	SFR	0.00	\$ 80,382.00	\$ -	
062-143-015	SIPES RICHARD J TRE ETAL	2160 NIPOMO	OCEANO	CA	93445	SFR	2.41	\$ 189,667.00	\$ 564.46	
062-143-016	SIPES RICHARD J	1146 MAPLE ST	ARROYO GRANDE	CA	93420	CR	0.00	\$ 58,414.00	\$ -	
062-143-017	AUSTIN DAVID H TRE ETAL	2128 NIPOMO ST	OCEANO	CA	93445	SFR	1.67	\$ 141,075.00	\$ 390.28	
062-143-018	MORGAN SUZETTE L	2150 NIPOMO ST	OCEANO	CA	93445	SFR	1.67	\$ 64,980.00	\$ 390.28	
062-143-019	MCKEE JEFFREY E	PO BOX 226	MORRO BAY	CA	93443	SFR	1.67	\$ 64,980.00	\$ 390.28	
062-151-002	DUNA VISTA MOBILE HOME PARK LLC A CA LLC	1394 BALMORAL DR	GLENDALE	CA	91207	SFR	33.43	\$ 1,428,105.00	\$ 7,827.70	2.87 ac no benefit
062-151-004	DUNA VISTA MOBILE HOME PARK LLC A CA LLC	1394 BALMORAL DR	GLENDALE	CA	91207	SFR	9.42	\$ 579,665.00	\$ 2,266.83	3.14ac no benefit
062-151-005	PORTICOS MARIA S TRE ETAL	2510 CIENEGA	OCEANO	CA	93445	SFR	17.43	\$ 1,161,445.00	\$ 4,080.84	4.25 ac no benefit
075-011-004	SLO COUNTY - PUBLIC WORKS DEPT (939)	COUNTY GOVT CTR ROOM 207	SLO	CA	93408	PF	0.00	\$ -	\$ -	FCC
075-011-020	STEJER WARHAM ETAL	ATTN: JOYCE SMITH	HOUSTON	TX	77205	AG	6.39	\$ 106,476.00	\$ 1,495.59	
075-011-022	LAN VEST LIMITED	921 S HALCYON RD	ARROYO GRANDE	CA	93420	AG	5.89	\$ 164,309.00	\$ 1,379.08	2.18 ac no benefit
075-031-002	GAR BAR A CA CORP	2595 GRACIA WAY	ARROYO GRANDE	CA	93420	AG	6.68	\$ 407,151.00	\$ 1,564.24	
075-031-003	GAR BAR A CA CORP	2595 GRACIA WAY	ARROYO GRANDE	CA	93420	AG	5.54	\$ 64,024.00	\$ 1,296.33	
075-031-004	HAYASHI HARUO & ROSE ETAL	2460 GRACIA WAY	ARROYO GRANDE	CA	93420	AG	5.48	\$ 124,743.00	\$ 1,284.08	
075-031-005	SILVEIRA THOMAS F ETAL	810 PEARL DR	ARROYO GRANDE	CA	93420	AG	6.36	\$ 99,537.00	\$ 1,488.98	
075-031-006	GAR BAR A CA CORP	2595 GRACIA WAY	ARROYO GRANDE	CA	93420	AG	6.97	\$ 593,608.00	\$ 1,633.27	
075-031-007	KOBARA KEN ETAL	2595 GRACIA WAY	ARROYO GRANDE	CA	93420	AG	6.05	\$ 150,460.00	\$ 1,417.72	
075-031-013	PACIFIC GAS & ELECTRIC CO	UNK	UNKNOWN	CA	99999	IND	17.52	\$ -	\$ 4,101.88	PGE Site assessed as Developed
075-031-015	STEJER WARHAM ETAL	ATTN: JOYCE SMITH	HOUSTON	TX	77205	AG	8.59	\$ 200,596.00	\$ 2,011.27	
075-031-016	FUKUHARA FARMS INC	1091 SO HALCYON RD	ARROYO GRANDE	CA	93420	AG	8.46	\$ 231,344.00	\$ 1,981.52	3.43 ac no benefit
075-031-020	WALLER CHRISTOPHER S HEIRS OF ETAL	1155 CARPENTER CANYON RD	ARROYO GRANDE	CA	93420	AG	8.62	\$ 191,784.00	\$ 2,017.53	
075-031-021	WALLER JUNE S	1098 HUASAN RD	ARROYO GRANDE	CA	93420	AG	6.66	\$ 89,415.00	\$ 1,558.77	
075-032-005	PL HOLDINGS LLC	1220 MARSH ST	SLO	CA	93401	CR	0.16	\$ 321,304.00	\$ 1,443.36	1.09 ac no benefit
075-032-006	PISMO OCEANO VEGETABLE EXCHANGE	PO BOX 368	OCEANO	CA	93445	AG	5.77	\$ 310,927.00	\$ 1,351.88	
075-032-007	FARAO KERRY A ETAL	185 HIGHLAND DR	SLO	CA	93405	AG	8.56	\$ 267,625.00	\$ 2,004.07	
075-032-008	CARITAS CORP	1921 PALOMAR OAKS WAY #105	CARLSBAD	CA	92008	SFR	78.06	\$ 3,675,468.00	\$ 18,278.36	2.37 ac no benefit

Arroyo Grande and Los Berros Channel
Maintenance Assessment Roll

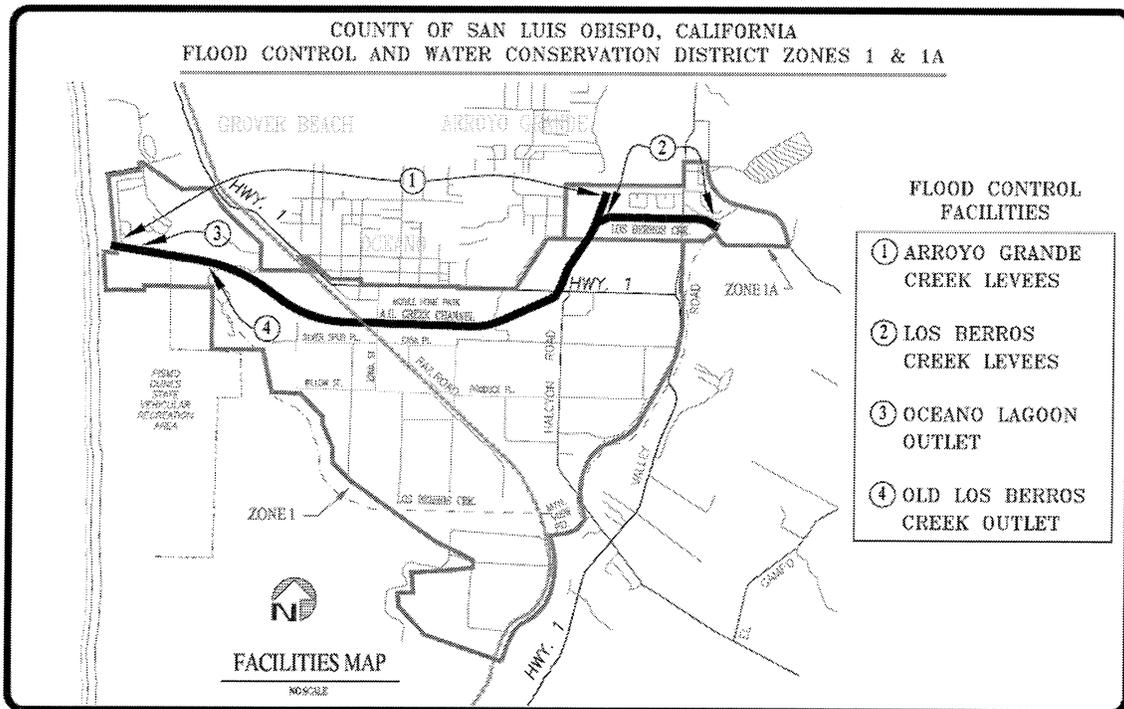
APN/ Assessment #	ASSESSEE	Street	City	ST	ZIP	LAND USE	Benefit Units BA x Factor x IF	ASSESSED AND TRUE TOTAL PROPERTY VALUE	Annual Assessment	Comments
075-032-009	RAPP GEORGE C TRE	2750 CIENAGA ST	OCEANO	CA	93445	AG	1.45	\$ 3,930.00	\$ 339.91	
075-032-010	RAPP GEORGE C TRE	2750 CIENAGA ST	OCEANO	CA	93445	AG	6.85	\$ 86,265.00	\$ 1,604.93	
075-032-011	RAPP GEORGE C TRE	2750 CIENAGA ST	OCEANO	CA	93445	AG	4.43	\$ 175,328.00	\$ 1,036.35	5.02 ac no benefit
075-032-012	RAPP GEORGE C TRE	2750 CIENAGA ST	OCEANO	CA	93445	AG	8.54	\$ 137,534.00	\$ 2,000.06	
075-032-013	GUARD IN CHIF TEMP OF PEOPLE	PO BOX 7100	HALCYON	CA	93421	AG	6.50	\$ 120,192.00	\$ 1,521.69	
075-121-002	DUNE LAKES LTD	115 E MICHELTORENA ST #200	SANTA BARBARA	CA	93101	AG	6.95	\$ 52,062.00	\$ 675.00	6.75 ac no benefit
075-121-003	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	8.01	\$ 193,338.00	\$ 1,875.05	
075-121-004	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	9.37	\$ 147,935.00	\$ 2,193.03	
075-121-005	PHELAN & TAYLOR PRODUCE CO	PO BOX 458	OCEANO	CA	93445	AG	8.64	\$ 248,012.00	\$ 2,022.78	
075-121-006	IKEDA BROS CALIF CORP	PO BOX 518	OCEANO	CA	93445	AG	10.65	\$ 438,868.00	\$ 2,492.73	
075-121-007	PHELAN & TAYLOR PRODUCE CO INC	PO BOX 458	OCEANO	CA	93445	AG	7.33	\$ 147,198.00	\$ 1,715.83	4.21 ac no benefit
075-121-008	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	0.33	\$ 213.00	\$ 78.06	
075-121-009	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	4.85	\$ 18,310.00	\$ 1,136.12	
075-121-010	TAYLOR JOHN M TRE ETAL	PO BOX 458	OCEANO	CA	93445	AG	5.47	\$ 33,574.00	\$ 1,279.75	
075-131-001	LEFLER ALBERTA J ETAL	2761 CROCKETT CIR	LOS OSOS	CA	93402	AG	7.88	\$ 293,477.00	\$ 1,845.11	
075-131-002	IKEDA BROS INC	145 S HALCYON RD	ARROYO GRANDE	CA	93420	AG	8.29	\$ 302,527.00	\$ 1,941.64	
075-131-003	IKEDA BROS CALIF CORP	PO BOX 518	OCEANO	CA	93445	AG	8.58	\$ 305,749.00	\$ 2,009.46	
075-131-004	PHELAN & TAYLOR PRODUCE CO INC	PO BOX 458	OCEANO	CA	93445	AG	6.94	\$ 191,966.00	\$ 1,624.07	
075-131-005	TAYLOR JOHN M & DIANE E	PO BOX 458	OCEANO	CA	93445	AG	8.08	\$ 518,308.00	\$ 1,892.64	
075-141-001	DUNE LAKES LTD	115 E MICHELTORENA ST #200	SANTA BARBARA	CA	93101	AG	15.95	\$ 279,947.00	\$ 3,735.40	
075-141-002	DUNE LAKES LTD	115 E MICHELTORENA ST #200	SANTA BARBARA	CA	93101	AG	5.22	\$ 63,479.00	\$ 1,222.08	
075-141-003	GAR-BAR INC A CA CORP	2595 GRACIA WY	ARROYO GRANDE	CA	93420	AG	7.00	\$ 128,778.00	\$ 1,639.46	
075-141-004	SILVA GERALD J TRE ETAL	4620 CHARLTON AVE	HEMET	CA	92543	AG	6.74	\$ 84,808.00	\$ 1,578.82	
075-141-005	ATKINSON WILLIAM R ETAL	135 BOEKER ST	PISMO BEACH	CA	93449	AG	0.33	\$ -	\$ 78.06	
075-181-035	E & M LTD PTP	438 W HARDING	SANTA MARIA	CA	93454	AG	10.83	\$ 232,773.00	\$ 2,535.58	8.14 ac no benefit
075-181-036	E&M LTD PTP	438 W HARDING	SANTA MARIA	CA	93454	AG	0.43	\$ 6,333.00	\$ 100.64	
075-191-004	HAMILTON GLENN W	504 MESA VIEW DR	ARROYO GRANDE	CA	93420	AG	0.33	\$ 1,481.00	\$ 78.06	
075-191-006	MULLANEY JOHN F JR ETUX	2866 CORTE DE MAYO	ARROYO GRANDE	CA	93420	AG	0.33	\$ 8,393.00	\$ 78.06	
075-191-009	SANTOS RUTH M	524 MESA VIEW DRIVE	ARROYO GRANDE	CA	93420	AG	0.33	\$ 786.00	\$ 78.06	
075-191-011	ABATTI TONY E HEIRS OF	PO BOX 1136	ARROYO GRANDE	CA	93421	AG	0.33	\$ 1,647.00	\$ 78.06	
075-191-015	PACE BROS CONSTRUCTION INC A CA CORP ETAL	PO BOX 519	ARROYO GRANDE	CA	93421	AG	0.33	\$ 109.00	\$ 78.06	
075-191-016	HAMILTON GLENN W TRE ETAL	504 MESA VIEW DR	ARROYO GRANDE	CA	93420	AG	0.33	\$ 1,735.00	\$ 78.06	
075-191-017	DEBARNARDI DONALD A TR ETAL	2331 WOODLAKE CIR	LODI	CA	95240	AG	0.33	\$ 151.00	\$ 78.06	
075-191-018	LACHINI KAVOUS	8051 BEVERLY BLVD	LA	CA	90048	AG	0.33	\$ 9,727.00	\$ 78.06	
075-191-033	BUD & SERENEA TAYLOR FOUNDATION INC	PO BOX 2179	PASO ROBLES	CA	93447	AG	0.33	\$ 1,828.00	\$ 78.06	
075-191-034	SILVA GERALD J TRE ETAL	4620 CHARLTON AVE	HEMET	CA	92543	AG	5.26	\$ 30,824.00	\$ 1,231.66	
075-191-036	SMITH WILLIAM M TRE ETAL	500 MESA VIEW DRIVE	ARROYO GRANDE	CA	93420	AG	1.77	\$ 476.00	\$ 414.65	
075-261-001	DUNE LAKES LTD	115 E MICHELTORENA ST #200	SANTA BARBARA	CA	93101	AG	5.50	\$ 65,577.00	\$ 1,287.93	326.56 ac no benefit
075-261-003	DUNE LAKES LTD	115 E MICHELTORENA ST #200	SANTA BARBARA	CA	93101	AG	10.00	\$ 137,633.00	\$ 2,341.68	44.21 ac no benefit
075-321-025	BARKSDALE BUDDY ETAL	10801 SESSLER	SOUTHGATE	CA	90280	AG	0.33	\$ 819.00	\$ 78.06	0.47 ac no benefit
075-321-026	VOIGHT FRITZ	4917 E SLAUSON AV	MAYWOOD	CA	90270	AG	0.38	\$ 1,321.00	\$ 90.04	0.27 ac no benefit
331							1495	\$ 64,368,871.00	\$ 350,000.00	

PART II

REASON FOR ADDITIONAL ASSESSMENT ARROYO GRANDE CREEK AND LOS BERROS CREEK CHANNEL

Several reasons exist for the proposed additional assessments that are included in this report. Primarily, the proposed additional assessments are needed to provide funding for the operations and maintenance of the flood control levees and related Structures along Arroyo Grande Creek and Los Berros Creek that are depicted in Figure 1. More specifically, the additional assessments may be utilized for any and all powers that the District is legally authorized to carry-out for the Zones, including but not limited to the operation and maintenance of the structures.

Figure 1



PART III

Estimated Costs Summary Cost Estimates

The estimated annual cost for maintenance of the existing structures has been estimated at approximately \$427,372.

A summary of estimated annual maintenance costs relating to the additional special benefits and general benefits of maintenance is provided in Table 2.

TABLE 2: SUMMARY COST ESTIMATE

Work Activity	Annual Cost¹
Vegetation Maintenance	\$80,000
Sediment Removal	\$140,000
Total O&M Costs	\$220,000
Contingencies (20%)	\$44,000
Admin/Permitting (3%)	\$6,600
Liability Insurance/Risk Management Charges	\$135,000
Other District Costs	\$21,772
Total	\$427,372

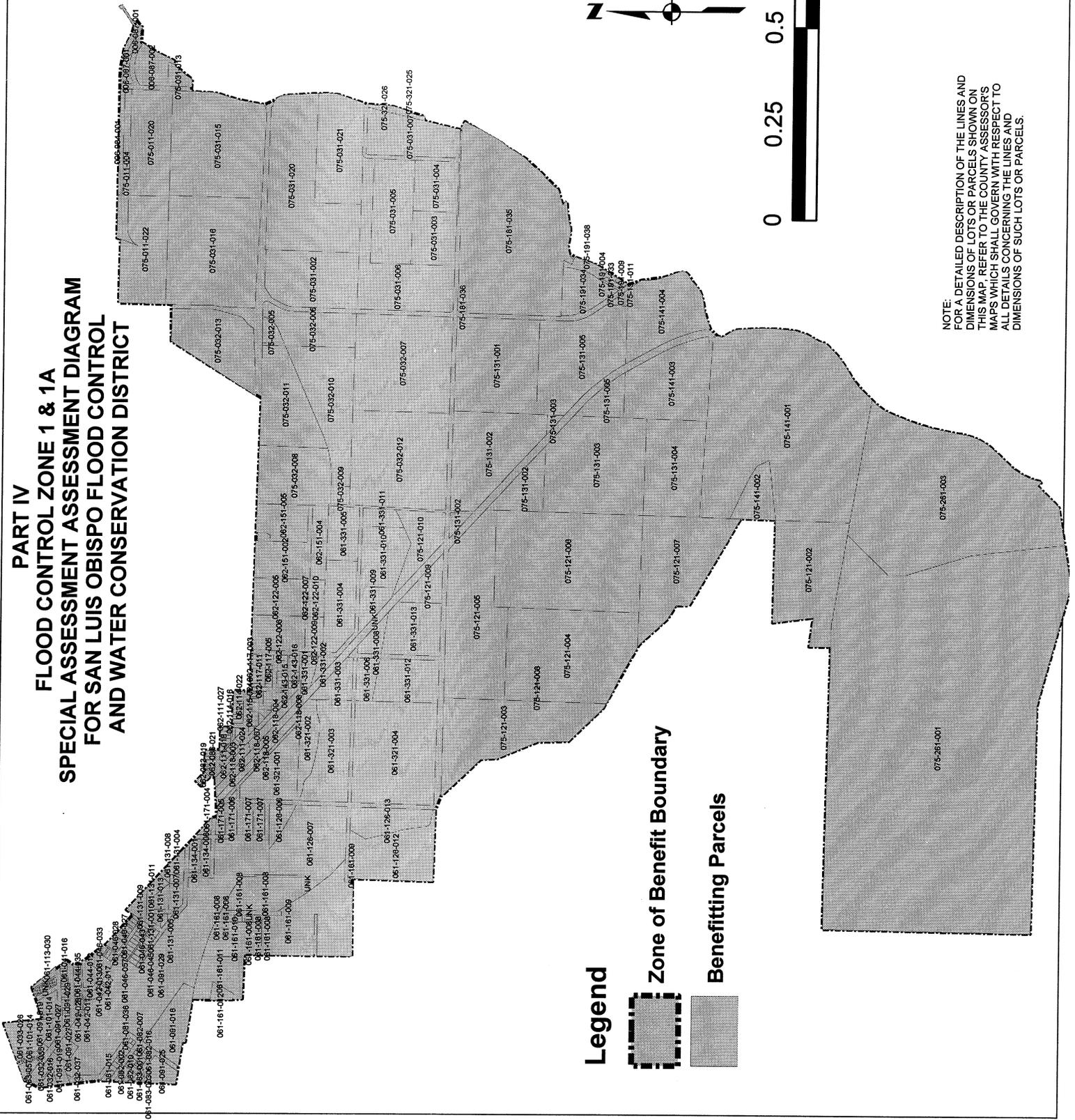
Annual Cost Indexing

With the passage of Proposition 218, any proposed increase in District assessments must be approved by affected property owners via a mail ballot and public hearing process, similar to these proceedings. A weighted simple majority of ballots received (weighted according to each parcel's proportionate additional assessment) must be affirmative for the District's Board of Supervisors to confirm and levy the increased assessments. Indexing additional assessments annually to a factor not-to-exceed three percent (3%) allows for minor increases in normal maintenance and operating costs, without incurring the costs of ballot proceedings required by Proposition 218.

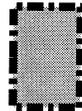
The maximum authorized benefit unit additional assessment rates established in these proceedings will be indexed (increased or decreased) annually by a factor of three percent (3%). Fiscal Year 2008 will be the first year authorized for such indexing. In addition, as described in Part V "Method of Assessing and Apportioning Costs", a change in land use of any parcel can also result in a change in the additional assessment for that parcel.

¹ Source: Arroyo Grande Creek Erosion, Sedimentation and Flooding Alternatives Study, January 4, 2006

**PART IV
FLOOD CONTROL ZONE 1 & 1A
SPECIAL ASSESSMENT ASSESSMENT DIAGRAM
FOR SAN LUIS OBISPO FLOOD CONTROL
AND WATER CONSERVATION DISTRICT**



Legend



Zone of Benefit Boundary



Benefiting Parcels



NOTE:
FOR A DETAILED DESCRIPTION OF THE LINES AND DIMENSIONS OF LOTS OR PARCELS SHOWN ON THIS MAP, REFER TO THE COUNTY ASSESSOR'S MAPS WHICH SHALL GOVERN WITH RESPECT TO ALL DETAILS CONCERNING THE LINES AND DIMENSIONS OF SUCH LOTS OR PARCELS.

PART V

METHOD OF ASSESSING AND APPORTIONING COSTS

Estimated Benefit for Maintenance

The existing Structures described in this assessment engineer's report, which are maintained by the Zones are located within the Cienega Valley near the communities of Oceano and Arroyo Grande in Southern San Luis Obispo County. The San Luis Obispo County Flood Control Act and the California Water Code, establish the authority for the maintenance of the flood control facilities. The Structures to be maintained by the District are consistent with this authority.

The boundary of the Zones was determined through the use of the Hydraulic Model prepared by Swanson Hydrology and Geomorphology as a part of their work for the Coastal San Luis Resource Conservation District. The water surface elevations generated by the hydraulic model at each of the cross sections in the hydraulic model were intersected with the ground surface to establish the worst case inundation level should the channel's levee be breached or damaged. The 20 year flood recurrence was used for the purposes of defining benefit for this additional assessment.

The District supports the establishment of community-based maintenance Zones, such as Zone 1 and 1A, to fund maintenance of the Structures.

Apportionment Methodology

The total cost for maintenance of structures within the Zones will be assessed to the various parcels in the zone in proportion to the estimated Benefit Units (BUs) assigned to a parcel in relationship to the total BUs of all the parcels in the District.

BUs for each parcel have been determined as a function of two factors, Land Area and a Benefit Factor, related as shown in the following equation:

$$\text{BUs} = (\text{Benefiting Parcel Land Area}) \times \text{Benefit Factor}$$

Parcels determined to receive no benefit from maintenance of the Structures within the Zones have been assigned zero (0) Benefit Factor, for the parcel or portion of parcel with no benefit. Examples of this include undeveloped properties or properties with a portion of their area outside the estimated 20-year flood boundary. For the purposes of this report if the improvement value was less than \$10,000 for properties unless inspection of the property indicated otherwise.

Land Use (Benefit) Factor

Since the Structures to be maintained by the District are associated with flood

protection, Section 12878.40 (Assessments for Maintenance and Operation) of the California Water Code has been used as the primary basis for the development of Land Use Factors.

Land use/zoning classifications have been grouped and assigned to establish the Land Use Factors as shown in Table 3.

TABLE 3: Land Use Factors

Land Use	Land Use Factor
Waste or unusable land or Undeveloped land with potential for future development ²	0
Agriculture ³	1
Residential with improvements > \$10,000	5
Commercial, Industrial, Recreation and other with improvements > \$10,000	10.0 per acre
Public Facilities (WWTP, Improved Airport Area)	10.0 per acre

While those traveling the streets and roadways enjoy the enhanced flood control protection being maintained by the District, the actual benefit accrues to the lands at the origins and destinations of their trips, not to the lands of the streets and roadways, themselves. Accordingly, the Streets/Roadways category receives no benefit and has been assigned a Land Use Factor of zero. Those persons using the roads and facilities from those persons residing outside the District is considered a general benefit and is discussed below.

Change in Land Use

Changes in land use will cause the additional annual assessments levied upon properties to also change in a manner consistent with the assessment methodologies established herein, included increases described in Part III, Annual Cost Indexing, except that total additional assessments may not exceed total additional special benefits in any given year.

Separation of General and Special Benefits

The amount of additional special benefit, which results from the maintenance of the Structures is 90% of total estimated costs, the additional assessments levied herein do not exceed the reasonable cost of the proportional special benefits conferred upon property in the Zones.

² These underdeveloped properties will be reassessed at time of development (i.e. issuance of occupancy permit)

³ Agricultural acreage is adjusted by 0.10 for every acre over 5.

Only special benefits are assessable, and an agency shall separate the general benefits from the special benefits conferred on a parcel. Parcels within a district that are owned or used by an agency, the State of California or the United States shall not be exempt from additional assessment unless the agency can demonstrate by clear and convincing evidence that those publicly owned parcels in fact receive no additional special benefit.

Exhibit O

BEFORE THE BOARD OF SUPERVISORS

of the
**SAN LUIS OBISPO COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT**

Tues day July 18, 2006

PRESENT: Supervisors Harry L. Ovitt, Shirley Bianchi, Jerry Lenthall,
James R. Patterson and Chairperson K.H. 'Katcho' Achadjian

ABSENT: None

RESOLUTION NO. 2006-245

**RESOLUTION TO LEVY ASSESSMENTS FOR COSTS OF THE SAN LUIS OBISPO
COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
THE PARCELS OF FLOOD CONTROL ZONE 1 & 1A**

The following Resolution is now offered and read:

WHEREAS, the Federal Government of the United States of America constructed the Arroyo Grande and Los Berros Creek levees (Structures) as a result of recommendations included in watershed work plans in 1955, 1956, and 1957 and the desire for reclamation and flood control benefits; and

WHEREAS, the Board of Supervisors (Board) of the San Luis Obispo County Flood Control and Water Conservation District (District) formed Zones 1 and 1A to maintain the Structures pursuant to an Agreement entitled "Watershed Protection Operations and Maintenance Agreement" dated May 15, 1959 (The 1959 Agreement) with the Federal Natural Resources Conservation Service (NRCS), which was formerly known as Soil Conservation Service of the United States Department of Agriculture and the Coastal San Luis Resource Conservation District (RCD), which was formerly known as Arroyo Grande Soil Conservation District; and

WHEREAS, the San Luis Obispo County Flood Control and Water Conservation District (District) does not have adequate funding to maintain the Structures pursuant to The 1959 Agreement without conducting a special taxes or assessments vote to increase funding as required by California Constitution Article XIII(A) or XIII(D); and

WHEREAS, the State Department of Water Resources does have the authority to acquire adequate funding without having to conduct an election, by assessing parcels receiving flood control protection to maintain the Structures; and

WHEREAS, in order to assure adequate long term maintenance of the Structures, the District adopted Resolution No. 2003-105 on April 1, 2003 relinquishing the maintenance of the Structures to DWR; and

WHEREAS, a community coalition of San Luis Obispo County Flood Control and Water Conservation District submitted a petition with 756 signatures on June 14, 2005 during a public hearing of the District's Board of Supervisors, which was made part of the Clerk's public record, requesting a one year delay in the relinquishment of the Structures to

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DWR so that the community coalition could develop a local solution (Local Solution) as an alternative to relinquishing the Structures to DWR; and

WHEREAS, the petition and its request to delay relinquishing the Structures to DWR was supported by the Zone 1 and 1A Advisory Committee and its Task Force, whose members are listed in Exhibit "D", and representatives and officials of NRCS and RCD; and

WHEREAS, in response to the request to delay by the community coalition, the Zone 1 and 1A Advisory Committee, its Task Force, the NRCS and RCD, the Board of the District passed resolution number 2005-183 on June 28, 2005 requesting the State proceed to conclusion with only those aspects of the implementation of a State Maintenance area 18, as described in Water Code sections 12878.1 through 12878.19, and that the State delay the filing for record of the order determining and establishing the boundaries of the State Maintenance Area 18 for a period of 12 months from July 1, 2005 through July 1, 2006; and

WHEREAS, the District's Board approved the one-year delay requested by the community coalition so that the coalition, the Zone 1 and 1A Advisory Committee, its Task Force, the NRCS and RCD could develop an alternative Local Solution including a plan and a method to provide adequate funding sources to enable continuing flood control protection from the Structures; and

WHEREAS, the District's Zone 1 and 1A Advisory Committee was formed in 2001 to provide recommendations to the District's Board regarding appropriate actions to provide flood protection for the properties within the boundaries of Flood Control Zone 1 and 1A; and

WHEREAS, the Zone 1 and 1A Advisory Committee and its Task Force have conducted numerous meetings in close coordination with the RCD and NRCS since the Board's adoption of Resolution 2005-183 to develop the Local Solution; and

WHEREAS, their efforts have also included the review of the "Arroyo Grande Creek Erosion, Sedimentation and Flooding Alternatives Study" prepared by Swanson Hydrology and Geomorphology for the RCD (Swanson Study); and

WHEREAS, although their tentative recommendation, which was expressed to the Board on November 8, 2005 during a public hearing, supported Swanson Study Alternative #3C; their final recommendation supports Swanson Study Alternative #3A, which is both less costly and provides a lower level of service than Swanson Alternative #3C; and

WHEREAS, an assessment engineer was hired by the District at the request of the Advisory Committee, and a determination was made that all parcels within the 20 year flood boundary receive benefit from the maintenance of the levees at that level of service that is generally consistent with Swanson Study Alternative #3A; and

WHEREAS, the assessment engineer's report, attached hereto and made part hereof as Exhibit "A", determined certain parcels of land within the 20 year flood boundary, are outside the existing boundaries of the San Luis Obispo County Flood Control and Water Conservation District Zone 1; and

WHEREAS, the District Zone 1 and 1A Advisory Committee recommended that the District annex all land parcels presently within the 20 year flood boundary that are not presently within the existing boundaries of Zones 1 and 1A of the District to Zone 1 of the District; and

WHEREAS, on February 28, 2006 the Board, acting as the governing board of the San Luis Obispo Flood Control and Water Conservation District, considered a report entitled *Policy Considerations for Maintenance of the Arroyo Grande Los Berros Creek Levees (in response to a Petition of a Community Coalition Submitted to the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District on June 14, 2005)* and approved Resolutions 2006-79 and 2006-80

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Resolution 2006-79 was a resolution of intention to annex certain parcels within the San Luis Obispo County Flood Control and Water Conservation District to Zone 1 of said District. The resolution of intention set a public hearing for March 21, 2006, and directed the Clerk to notice the hearing in accordance with required statutes. The Board also set May 2, 2006 as the date for further consideration of Resolution 2006-80; and

WHEREAS, in accordance with the San Luis Obispo County Flood Control Act, Section 3.2, a public hearing was held on March 21, 2006, at which all persons interested in or affected by such change in the zone boundary had an opportunity to appear and be heard regarding said annexation and the determination of annexation fees;

WHEREAS, after fully considering all evidence presented at said hearing, the District Board passed a resolution, which annexed certain parcels in the County of San Luis Obispo identified by the assessment engineer as being inside the 20 year flood boundary but outside of Zone 1 to Flood Zone 1 on March 21, 2006, in accordance with the San Luis Obispo County Flood Control Act, Section 3.2; and

WHEREAS, the parcels annexed to Zone 1 of the San Luis Obispo County Flood Control and Water Conservation District are responsible for their proportionate share of the cost of flood control benefits resulting from the Structures' maintenance and, as allowable by law, will be subject to the existing assessments of Zone 1; and

WHEREAS, as per California Government Code Section 53753 voters of said districts on June 6, 2006, by an 89% majority vote approved levying an additional benefit assessment and increasing 3% per year afterwards; and

WHEREAS, it is in the public interest to levy said assessments for fiscal year 2006-07.

NOW, THEREFORE, BE IT RESOLVED BY THE SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT as follows:

1. That this Board hereby determines that every charge set forth on the attachment document marked Exhibit "A" is an accurate computation of said assessment (said Exhibit "A" being hereby expressly incorporated herein by reference as though here fully set forth); and the Board hereby confirms and adopts the report for 2006-07 containing such charges set forth in said Exhibit "A".
2. That pursuant to Section 13 of the San Luis Obispo County Flood Control and Water Conservation District Act, Act 7205 of Deering's California Codes, Water - Uncodified Acts, the said assessments, as set forth in Exhibit "A" hereto, shall be levied; and, the County Tax Collector/Treasurer shall collect same together with taxes levied for County purposes.

Upon motion of Supervisor Ovitt, seconded by Supervisor Lenthall, and on the following roll call vote, to wit:

AYES: Supervisors Ovitt, Lenthall, Bianchi, Patterson, Chairperson Achadjian

NOES: None

ABSENT: None

ABSTAINING: None

the foregoing Resolution is hereby adopted.

The undersigned Deputy Clerk of the Board of Supervisors certifies that pursuant to Section 25103 of the Government Code the foregoing document has been recorded on JUL 20 2006.

By CM Christensen
Deputy Clerk

[Signature]
Chairperson of the Board of Supervisors

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ATTEST:

JULIE L. RODEWALD
Clerk of the Board of Supervisors
By: CM Christensen Deputy Clerk
[SEAL]

APPROVED AS TO FORM AND LEGAL EFFECT:

JAMES B. LINDHOLM, JR.
County Counsel

By: [Signature]
Assistant County Counsel

Dated: 6/1/06

L:\ACCTNG\JUN06\BOS\FCZ 1&1A LEVY ASSESSMENTS-RESO.doc.SSZ:CAH

STATE OF CALIFORNIA, }
County of San Luis Obispo, } ss.

I, JULIE L. RODEWALD, County Clerk and ex-officio Clerk of the Board of Supervisors of the San Luis Obispo County Flood Control and Water Conservation District, do hereby certify the foregoing to be a full, true and correct copy of an order made by the Board of Supervisors, as the same appears spread upon their minute book.

WITNESS my hand and the seal of said Board of Supervisors, affixed this 20th day of July, 20 06.

(SEAL)

JULIE L. RODEWALD
County Clerk and Ex-Officio Clerk of the Board of Supervisors

By _____ Deputy Clerk.

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Service Charge 2006-07 - Flood Control Zone 1
(Arroyo Grande Creek Area-Enhanced
Maintenance)

06-Jul-06

Exhibit A

<u>APN</u>	<u>AMOUNT</u>
006-087-002	\$5,920.02
061-032-016	\$780.56
061-032-035	\$780.56
061-033-027	\$390.28
061-033-030	\$390.28
061-033-031	\$390.28
061-033-036	\$390.28
061-033-037	\$390.28
061-033-038	\$390.28
061-033-039	\$390.28
061-033-040	\$390.28
061-033-041	\$390.28
061-033-042	\$390.28
061-033-049	\$390.28
061-033-050	\$390.28
061-033-051	\$390.28
061-033-052	\$390.28
061-033-058	\$390.28
061-041-001	\$390.28
061-041-002	\$390.28
061-041-003	\$390.28
061-041-004	\$390.28
061-041-007	\$390.28
061-041-009	\$390.28
061-041-010	\$390.28
061-041-013	\$390.28
061-041-014	\$390.28
061-041-015	\$390.28
061-041-016	\$390.28
061-041-017	\$390.28
061-041-018	\$390.28
061-041-019	\$390.28
061-041-020	\$390.28

APN	AMOUNT
061-041-021	\$390.28
061-042-003	\$390.28
061-042-004	\$390.28
061-042-005	\$390.28
061-042-007	\$390.28
061-042-008	\$390.28
061-042-009	\$390.28
061-042-012	\$390.28
061-042-022	\$390.28
061-042-023	\$390.28
061-042-024	\$390.28
061-042-025	\$390.28
061-042-026	\$390.28
061-042-027	\$390.28
061-044-006	\$390.28
061-044-014	\$390.28
061-044-017	\$390.28
061-044-026	\$390.28
061-044-027	\$390.28
061-046-027	\$390.28
061-046-033	\$390.28
061-046-035	\$390.28
061-046-040	\$390.28
061-046-041	\$390.28
061-046-042	\$390.28
061-046-043	\$390.28
061-046-044	\$390.28
061-046-050	\$390.28
061-046-051	\$390.28
061-081-015	\$471.22
061-081-019	\$390.28
061-081-024	\$390.28
061-081-030	\$390.28
061-081-031	\$390.28
061-081-033	\$390.28
061-081-035	\$390.28
061-081-036	\$390.28
061-081-037	\$390.28
061-082-004	\$390.28
061-082-006	\$390.28

APN	AMOUNT
061-082-007	\$390.28
061-082-010	\$439.18
061-082-014	\$390.28
061-082-016	\$390.28
061-082-017	\$390.28
061-082-018	\$390.28
061-082-019	\$390.28
061-082-020	\$390.28
061-082-021	\$390.28
061-082-023	\$390.28
061-082-024	\$390.28
061-083-001	\$390.28
061-083-003	\$390.28
061-083-004	\$390.28
061-091-018	\$17,076.24
061-091-027	\$4,471.02
061-091-029	\$26,007.22
061-101-014	\$3,692.66
061-113-030	\$390.28
061-113-039	\$390.28
061-113-041	\$390.28
061-113-043	\$390.28
061-113-044	\$390.28
061-113-045	\$390.28
061-113-046	\$390.28
061-131-004	\$1,194.74
061-131-009	\$2,273.46
061-131-022	\$2,046.10
061-134-001	\$2,009.06
061-134-008	\$2,810.60
061-161-008	\$1,261.88
061-161-009	\$1,499.22
061-161-010	\$110.18
061-161-011	\$328.42
061-171-004	\$1,229.45
061-171-005	\$2,472.63
061-171-006	\$3,354.72
061-171-007	\$6,553.84
061-261-006	\$2,035.40
061-261-007	\$1,533.72

APN	AMOUNT
061-261-012	\$5,894.58
061-261-013	\$13,787.18
061-321-001	\$1,321.36
061-321-002	\$847.94
061-321-003	\$10,366.30
061-321-004	\$1,915.76
061-331-001	\$4,111.98
061-331-002	\$596.66
061-331-003	\$1,104.44
061-331-004	\$1,328.24
061-331-005	\$1,224.62
061-331-006	\$878.10
061-331-008	\$625.78
061-331-009	\$980.84
061-331-010	\$1,319.38
061-331-011	\$678.78
061-331-012	\$1,328.70
061-331-013	\$1,345.32
062-083-014	\$780.56
062-083-019	\$780.56
062-086-020	\$780.56
062-111-001	\$780.56
062-111-009	\$780.56
062-111-014	\$780.56
062-111-018	\$780.56
062-111-022	\$780.56
062-111-023	\$390.28
062-111-027	\$780.56
062-111-030	\$780.56
062-112-002	\$780.56
062-114-006	\$780.56
062-114-022	\$883.90
062-114-023	\$780.56
062-115-002	\$390.28
062-115-011	\$390.28
062-115-017	\$390.28
062-115-022	\$390.28
062-115-023	\$390.28
062-115-025	\$780.56
062-115-029	\$390.28

APN	AMOUNT
062-115-032	\$780.56
062-117-003	\$780.56
062-117-005	\$1,290.18
062-117-012	\$390.28
062-118-003	\$1,481.52
062-118-004	\$5,288.98
062-118-005	\$672.06
062-118-007	\$5,549.80
062-118-008	\$780.56
062-122-005	\$9,076.56
062-122-006	15,992.98
062-122-007	\$522.28
062-122-009	\$3,705.84
062-122-010	\$1,952.48
062-142-001	\$465.94
062-143-001	\$390.28
062-143-006	\$390.28
062-143-015	\$564.46
062-143-017	\$390.28
062-143-018	\$390.28
062-143-019	\$390.28
062-151-002	\$7,827.70
062-151-004	\$2,206.84
062-151-005	\$4,080.54
075-031-002	\$1,564.24
075-031-003	\$1,296.34
075-031-004	\$1,284.08
075-031-005	\$1,488.98
075-031-006	\$1,633.28
075-031-007	\$1,417.72
075-031-013	\$4,101.88
075-031-015	\$2,011.26
075-031-016	\$1,981.52
075-031-020	\$2,017.54
075-031-021	\$1,558.76
075-032-005	\$1,443.36
075-032-006	\$1,351.88
075-032-007	\$2,004.06
075-032-008	18,278.36
075-032-009	\$339.90

APN	AMOUNT
075-032-010	\$1,604.94
075-032-011	\$1,036.36
075-032-012	\$2,000.06
075-032-013	\$1,521.70
075-121-002	\$1,627.22
075-121-003	\$1,875.04
075-121-004	\$2,193.04
075-121-005	\$2,022.78
075-121-006	\$2,492.72
075-121-007	\$1,715.84
075-121-008	\$78.06
075-121-009	\$1,136.12
075-121-010	\$1,279.74
075-131-001	\$1,845.10
075-131-002	\$1,941.64
075-131-003	\$2,009.46
075-131-004	\$1,624.06
075-131-005	\$1,892.64
075-141-001	\$3,735.40
075-141-002	\$1,222.08
075-141-003	\$1,639.46
075-141-004	\$1,578.82
075-141-005	\$78.06
075-181-035	\$2,535.58
075-181-036	\$100.64
075-191-004	\$78.06
075-191-006	\$78.06
075-191-009	\$78.06
075-191-011	\$78.06
075-191-015	\$78.06
075-191-016	\$78.06
075-191-017	\$78.06
075-191-018	\$78.06
075-191-033	\$78.06
075-191-034	\$1,231.66
075-191-038	\$414.66
075-261-001	\$1,287.92
075-261-003	\$1,951.08
075-321-025	\$78.06
075-321-026	\$90.04

<u>APN</u>	<u>AMOUNT</u>
<u>Grand Total:</u>	\$345,563.88
<u>Tax Fund:</u>	<u>No of APNs:</u> 233

**Service Charge 2006-07 - Flood Control Zone 1A
(Los Berros Creek Area-Enhanced Maintenance)**

06-Jul-06

Exhibit B

<u>APN</u>	<u>AMOUNT</u>
006-086-006	\$390.28
006-086-007	\$390.28
006-086-008	\$390.28
075-011-020	\$1,495.60
075-011-022	\$1,379.08
Grand Total:	\$4,045.52
Tax Fund:	No of APNs: 5

EXHIBIT P

Parameter	Existing conditions	Alternative 1 Vegetation control	Alternative 2 Vegetation control and sediment management	Alternative 3a Levee smoothing (10-yr)	Alternative 3b Levee raise (15-yr)	Alternative 3c Levee raise (20-yr)	Alternative 4 Levee raise (20yr) w/o sediment management	Alternative 5a Overflow weir and storage	Alternative 5b Overflow weir and storage	Alternative 5c Overflow weir and storage	Alternative 6 Upper watershed storage
Infrastructure cost	\$ 0	\$ 107,508	\$ 805,388	\$ 1,222,765	\$ 6,213,906	\$ 7,505,711	\$ 6,799,168	\$ 6,247,392	\$ 14,579,802	\$ 11,991,679	\$ 8,588,291
Maintenance cost	\$ 0	\$ 1,250,237	\$ 3,466,334	\$ 3,466,334	\$ 3,466,334	\$ 3,466,334	\$ 1,250,237	\$ 3,466,334	\$ 3,466,334	\$ 3,466,334	\$ 3,466,334
Ten-year cost	\$ 0	\$ 1,357,745	\$ 4,271,722	\$ 4,689,099	\$ 9,680,240	\$ 10,972,045	\$ 8,049,405	\$ 9,713,726	\$ 18,046,135	\$ 15,458,013	\$ 12,054,625
Indirect cost	\$	\$ 11,368,276	\$ 9,947,242	\$ 4,973,621	\$ 3,671,006	\$ 2,249,971	\$ 2,368,391	\$ 3,138,118	\$ 1,212,616	\$ 1,567,875	\$ 6,856,492
Flood protection (with no freeboard)	4.6yr	7.3yr	8.3yr	16.6yr	22.4yr	37.4yr	34.4yr	--	--	--	--
Capacity (with no freeboard)	2500 cfs	4000 cfs	4500 cfs	7500 cfs	9000 cfs	11500 cfs	11000 cfs	--	--	--	--
Flood protection (with 2' of freeboard)	2.8yr	4.1yr	4.6yr	10yr	15yr	20yr	16.6yr	20yr	50yr	50yr	12.1YR
Capacity (with 2' of freeboard)	1300 cfs	2200 cfs	2500 cfs	5400 cfs	7000 cfs	8600 cfs	7500 cfs	8600 cfs	13600 cfs	13600 cfs	6070 CFS
Ten-year cost per increase in capacity	-	1509	3560	1144	1698	1503	1298	1331	1467	1257	2527
Rank	-	6	10	1	8	7	4	3	5	2	9
Year one cost per increase in capacity	-	119	671	298	1090	1028	1097	856	1185	975	1800

TABLE 3.13: Cost benefit analysis table for Alternatives 1 through 6. The cost of each project per unit increase in channel capacity (\$/cfs) is calculated for the first year (infrastructure) costs and the 10 year cost (infrastructure and maintenance). The cost/benefit of each alternative may change if analyzed over different time periods.

EXHIBIT Q

**PRELIMINARY GEOTECHNICAL REPORT
ARROYO GRANDE CREEK WATERWAYS
MANAGEMENT PLAN
LOS BERROS CREEK TO NEAR OCEANO AIRPORT
SAN LUIS OBISPO COUNTY, CALIFORNIA**

Prepared for:
County of San Luis Obispo
Department of Public Works

April 22, 2009





FUGRO WEST, INC.

660 Clarion Court, Suite A
San Luis Obispo, California 93401
Tel: (805) 542-0797
Fax: (805) 542-9311

April 22, 2009
Project No. 3014.029

County of San Luis Obispo
Public Works Department, Utilities Administration
County Government Center, Room 107
San Luis Obispo, California 93401

Attention: Ms. Jill Ogren

Subject: Preliminary Geotechnical Report, Arroyo Grande Creek Waterways Management Plan, Los Berros Creek to near Oceano Airport, San Luis Obispo County, California

Dear Ms. Ogren:

Fugro is pleased to submit this Preliminary Geotechnical Report for the Arroyo Grande Creek Waterways Management Plan in San Luis Obispo County, California. This report was prepared in accordance with our proposal dated April 3, 2008. The proposal was authorized under County Purchase Order No. 25004312, dated April 29, 2008.

This report presents the results of a preliminary geotechnical evaluation of alternatives to raise the levees along a portion of Arroyo Grande Creek. Site-specific exploration, previous geotechnical studies, published geologic information, and project information provided by the County of San Luis Obispo, Swanson Hydrology + Geomorphology, Cannon Associates, and the Morro Group were used as a basis for preparing this report.

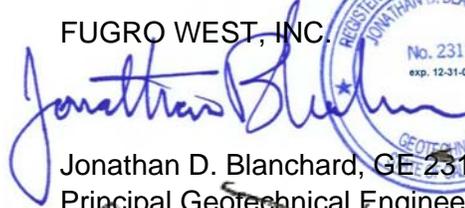
The purpose of this report is twofold: to provide input to the Environmental Impact Report and study being prepared by the Morro Group; and to provide geotechnical alternatives for improving the levee along Arroyo Grande Creek. Preliminary design of the improvements is being prepared by Swanson Hydrology + Geomorphology (SH +G). This report summarizes geologic hazards and geotechnical considerations that are likely to impact the design and construction of the project, and discusses mitigation measures that may be needed to address these items.



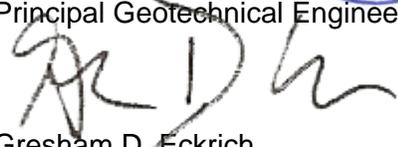
We appreciate the opportunity to provide our services on this project. Please contact the undersigned if you have questions regarding this report, or require additional information.

Sincerely,

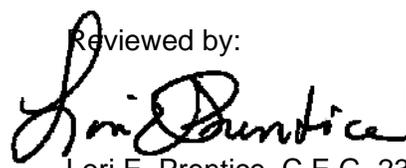
FUGRO WEST, INC.

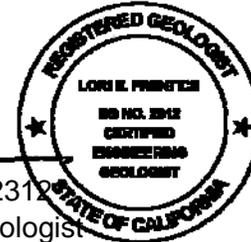

Jonathan D. Blanchard, GE 2312
Principal Geotechnical Engineer




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Reviewed by:


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Copies: 4 – Addressee (1 – pdf on CD ROM)



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1. SITE AND PROJECT DESCRIPTION

The project will generally consist of raising an existing levee from the city limits of Arroyo Grande and the confluence with Los Berros Creek to approximately 2,500 feet downstream of Creek Road, near the Oceano Airport. The location of the site and project limits is shown on Plate 1 - Site Map. The proposed levee improvements will extend along the lower approximately 3½ miles of Arroyo Grande Creek and the lower approximately 1,700 feet of Los Berros Creek (a total of about 7 miles of levee). Arroyo Grande Creek is mainly confined by levees west of Highway 1, and intermittently confined by levees east of Highway 1.

1.1 EXISTING SITE

Los Berros Creek flows west into Arroyo Grande Creek at the eastern terminus of the project. Arroyo Grande Creek then flows westerly to the Pacific Ocean, about 3½ miles downstream of Los Berros Creek. Based on site observations, concrete weirs and check dams are located within the Los Berros Creek channel, and rip-rap boulders associated with construction and maintenance of existing levees were observed along sections of variable length within the Arroyo Grande Creek channel. Bridges span Arroyo Grande Creek at Highway 1/Cienega Street, 22nd Street, and the Union Pacific Railroad (UPRR).

Existing site grades range from approximately elevation 11 feet (SH+G, 2008), at the west end of the project reach, to approximately elevation 63 feet, near the city limits of Arroyo Grande. The existing channel bottom consists mostly of gravel with vegetated banks and levee slopes. Sand and gravel bars have built up within the channel between the slopes of the levees. The existing land use adjacent to the southern levee is predominantly agricultural land planted in irrigated row crops. There is also the Cardoza (horse) Ranch west of Creek Road. The existing land use adjacent to the northern levee is a combination of the Oceano airport, and residential and agricultural plots. Beyond the down stream limits of the project, the south levee is bordered by active sand dunes within the Oceano Vehicle Recreation Area operated by State Parks.

The levees and channelized Arroyo Grande Creek were constructed in the late 1950s as a U.S. Department of Agriculture, Soil Conservation Service project (USDA 1956). Portions of the creek were relocated as part of the construction of the levee system. Downstream of Highway 1, the levees consist of earthen berms. Review of the USDA (1956) plans show the levee embankments designed with 15-foot wide crests, with 1½h :1v to 2h:1v exterior slope inclinations, and 3h:1v interior slope inclinations. As-built plans provided by the County, and cross sections developed from recent topo, show that the interior slopes were constructed as steep as about 2h:1v. The interior height of the channel slopes indicated on the plans ranges from about 11 to 14 feet. The exterior slope height appears to have been designed about 5 to 12 feet above the adjacent grades downstream of Highway 1. However, upstream of Highway 1, the existing levee is less pronounced and more intermittent, with a design height generally less than about 3 feet above adjacent grades. The existing stream channel upstream of Highway 1 is increasingly incised to the east, with localized areas of near vertical creek banks, likely from bank erosion.



As part of the levee construction (USDA 1956), the alignment of Los Berros Creek was altered. Prior to 1956, Los Berros Creek appears to have merged with Arroyo Grande Creek downstream of their current confluence, closer to the western limits of the project and along the southwestern edge of Cienega Valley. The approximate pre-1956 Los Berros Creek alignment is shown on Plate 2. This channel appears to serve as a seasonal drainage path.

The levee was damaged by the 2003 San Simeon Earthquake. Damage to the southern levee, as evidenced by cracking and settlement of the berm, was observed by the County near Creek Road following the earthquake. Based on reports discussed by the U.S. Geologic Survey (Holzer et al. 2004), the damage was likely related to liquefaction and settlement of the foundation support soil in response to the earthquake. The County subsequently repaired the levee by regrading areas where the cracking was observed. We understand that the County performs periodic tree trimming and vegetation management of the channel as part of the maintenance of the levee system. Levee maintenance was being performed at the time of our field work in the summer of 2008.

1.2 FLOOD CONTROL IMPROVEMENTS

In the project area, Arroyo Grande Creek receives storm water runoff from the Arroyo Grande Flood Control Channel, referred to as Zones 1 and 1A of the San Luis Obispo County Flood Control and Water Conservation District (Morro Group, 2008). The project will involve flood control improvements along the northern and southern banks of the Arroyo Grande and Los Berros Creeks. The project is intended to provide increased flood control benefits and riparian enhancement through vegetation management and sediment control within Arroyo Grande Creek channel. The preliminary designs under consideration for the project are described as Alternatives 3a, 3b and 3c in a memorandum prepared by Swanson Hydrology + Geomorphology (SH+G, 2008).

Alternative 3c is the main alternative evaluated for this study. The geotechnical aspects of the proposed flood control improvements for Alternative 3c include raising the height of the levees by approximately 3 to 6 feet along roughly 3 miles of the creek. Raising the levees will increase the channel capacity and elevate the levees above the 20-year water surface with 2 feet of freeboard. Alternative 3c involves placement of the greatest quantity and lineal extent of imported or native fill relative to Alternatives 3a and 3b.

2. WORK PERFORMED

2.1 PURPOSE

The purpose of this report is to provide a preliminary engineering evaluation regarding the geotechnical feasibility of raising the levee along Arroyo Grande Creek for the preliminary design and as input to the Environmental Impact Report. The main geotechnical considerations that we have evaluated for this project are:

- ❖ Potential for the levee to be impacted by geologic hazards;



- ❖ Characterization of the soil and groundwater conditions along the alignment of the levee relative to foundation design, constructability, and seismic vulnerability; and
- ❖ A preliminary evaluation of the stability of planned levee improvements relative to slope stability, erosion, seepage, and feasibility for design.

2.2 SCOPE

To evaluate the geotechnical considerations for the project, we have executed the following scope of work:

- ❖ Meeting and consulting with members of the design team regarding our approach to providing geotechnical services for the project, and to review the project objectives;
- ❖ Reviewing selected published geologic maps and reports, previous geotechnical studies performed along the levee and for bridges that span the creek channel, and as-built plans for the existing levee;
- ❖ Performing site visits to observe the general site conditions, coordinate the field exploration program, and collect near-surface samples of selected stream channel materials;
- ❖ Laboratory testing of selected samples obtained from the site to assist in characterizing the material properties of the streambed and bank sediments encountered;
- ❖ Performing field exploration consisting of advancing six (6) cone penetration test soundings to depths of approximately 43 to 50 feet; and
- ❖ Preparing this Preliminary Geotechnical Report for the project that provides our opinions and recommendations regarding:
 - Geologic and seismic setting;
 - Soil and groundwater conditions encountered;
 - Predominant soil and formational units in the project area;
 - Historical seismicity including the impact that the 2003 San Simeon Earthquake had on the site;
 - Potential for the site to be impacted by geologic hazards (such as strong ground motion, fault rupture, liquefaction, seismic settlement, landsliding, flooding, tsunami or seiche, or dam inundation);
 - Potential for erosion, hydrocollapse, subsidence, expansive or collapsible soil conditions;
 - Potential to encounter naturally occurring asbestos or radon gases;
 - Areas that pose geologic hazards;



- Potential for geologic conditions to cause site alterations (such as grading) to adversely impact the project;
- Construction or geotechnical considerations that could impact the project, such as the need for dewatering, excavation characteristics of the geologic materials, and anticipated grading;
- A discussion of the existing levees, and alternatives to dredge the creek, and raise the levees;
- Anticipated site preparation, grading, and slope inclinations that can be used for preliminary design and planning (and subject to change based on design-level studies); and
- Mitigation measures for project development and preliminary design as necessary to address potentially significant impacts.

2.3 FIELD EXPLORATION

Field exploration activities consisted of performing six (6) electric cone penetration test (CPT) soundings, collecting hand samples from the creek, and performing a hand auger boring adjacent to the levee. The logs of the CPT soundings and hand auger boring are presented in Appendix A. The approximate locations of the CPT soundings, hand samples and hand auger boring are shown on Plate 2 – Field Exploration Plan.

2.3.1 Cone Penetration Testing

Fugro Geosciences of Santa Fe Springs, California performed the CPT work for this project on July 22, 2008. CPT soundings were advanced to depths of approximately 43 to 50 feet below the ground surface. The CPT soundings were performed using an electronic piezocone penetrometer. The penetrometer was advanced into the ground using a hydraulic ram mounted within a truck having a weight of at least 20 tons. The piezocone has a diameter of approximately 1.7 inches. Cone tip resistance (q_c), sleeve friction (f_s), and penetration pore pressures measured behind the tip (u_2) were recorded during penetration using an on-board computer. Data were collected from the penetrometer at approximately 2 centimeter intervals to provide a nearly continuous profile of the subsurface conditions encountered during penetration. The friction ratio (FR) was computed for each value of q_c and f_s recorded. The data was retrieved electronically for use in subsequent geotechnical analyses. CPT data and soil behavior type classifications were used in conjunction with historical boring information to evaluate soil boundaries encountered at the site.

2.3.2 Hand Samples

Fugro personnel collected thirteen (13) bulk samples from within the Arroyo Grande Creek channel on July 14 and 22, 2008. Samples of the sediments were collected from the active streambed and from bars and bank materials above the water surface in the creek. Descriptions of the samples obtained are included with the laboratory test results in Appendix B.



2.3.3 Hand Auger Boring

One hand auger boring was advanced adjacent to the southern levee by Fugro on August 14, 2008. The hand auger had a diameter of 4 inches, and was excavated in the agricultural field east adjacent to the southern levee just north of Creek Road. The hand auger boring was drilled to a depth of approximately 4½ feet. Samples were obtained at selected intervals from the boring using a hand-driven modified California sampler and from excavated cuttings. The hand driven sampler had an outside diameter of approximately 3 inches, and contained six (6) 1-inch high brass rings. The sampler was driven using a 5-pound slide hammer.

2.4 LABORATORY TESTING

Laboratory tests for grain size distribution and direct shear strength were performed on selected samples recovered from the field exploration program. The tests were performed in general accordance with the applicable standards of ASTM. The results of the tests are presented in Appendix B.

2.5 PREVIOUS STUDIES

The U.S. Geological Survey (Holzer et al., 2004) previously performed a geotechnical study in the project vicinity. The study focused on liquefaction and liquefaction-induced lateral spreading that occurred in Oceano in response to the 2003 San Simeon Earthquake. As part of that study, the USGS performed three CPT soundings (SOC 036, 035 and 037) on the Arroyo Grande Creek Levee within the project limits. The soundings were performed in this area of the levee because the USGS observed evidence of instability of the levee and liquefaction within the field adjacent to the levee. The data from those CPT soundings were used to assist in our characterization of the subsurface conditions for this report. The logs of those CPT soundings performed by the USGS are included with the Fugro CPT logs in Appendix A. The approximate locations of the CPT soundings performed by the USGS are also shown on Plate 2.

We reviewed logs of test borings from Caltrans (1956, 1984) and San Luis Obispo County (1984) as part of geotechnical investigations for the State Route 1 Bridge and 22nd Street Bridge, respectively. This boring information was used to help characterize the subsurface profile for the site. The approximate locations of the bridge borings are shown on Plate 2.

2.6 GENERAL CONDITIONS

Fugro prepared the conclusions and professional opinions presented in this report in accordance with generally accepted geotechnical engineering principals and practices at the time and location this report was prepared. This statement is in lieu of all warranties, expressed or implied.

This report has been prepared for San Luis Obispo County and their authorized agents only. It may not contain sufficient information for the purposes of other parties or other uses. If any changes are made in the project as described in this report, the conclusions and



recommendations contained in this report should not be considered valid unless Fugro reviews the changes and modifies and approves, in writing, the conclusions and recommendations of this report. The report and drawings contained in this report are preliminary, intended for design-input purposes; they are not intended to act as construction drawings or specifications.

Soil and rock deposits will vary in type, strength, and other geotechnical properties between points of observation and exploration. Additionally, groundwater and soil moisture conditions can also vary seasonally or for other reasons. Therefore, we do not and cannot have complete knowledge of the subsurface conditions underlying the site. The conclusions and recommendations presented in this report are based upon the findings at the points of exploration, and interpolation and extrapolation of information between and beyond the points of observation, and are subject to confirmation based on the conditions revealed during construction.

The scope of services did not include any environmental assessments for the presence or absence of hazardous/toxic materials in the soil, surface water, groundwater, or atmosphere. Any statements or absence of statements, in this report or data presented herein regarding odors, unusual or suspicious items, or conditions observed are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous/toxic assessment. Site conditions

3. SITE CONDITIONS

3.1 GEOLOGIC SETTING

The project is located in the Arroyo Grande and Cienega Valleys and within the Coast Ranges geologic and geomorphic province. That province consists of north-northwest-trending sedimentary, volcanic, and igneous rocks extending from the Transverse ranges to the south into northern California. Rocks of the Coast Ranges province are predominantly of Jurassic and Cretaceous age; however, some pre-Jurassic, along with Paleocene-age to Recent rocks are present. The surficial geology in the project vicinity, as mapped by Hall et al. (1973), is shown on Plate 3 – Regional Geologic Map.

The Arroyo Grande and Cienega Valleys and adjacent eolian (windblown) dune sand deposits are the dominant geomorphic features within the project vicinity. The valleys were formed during a period of low sea level (the Wisconsin glacial stage), as coastal streams adjusted to the drop in sea level by carving into the landscape. A subsequent rise in sea level produced a dynamic depositional environment reflected in the discontinuous and variable subsurface stratigraphy. Approximately 800 feet of interlayered and unconsolidated sediments have been deposited within the valleys, dip gently to the west, and are underlain by bedrock consisting of Pismo Sandstone or similar sedimentary rocks.

As shown on Plates 2 and 3, the predominant geologic units mapped in the study area are surficial sediments comprised of dune sand deposits (Qs), older-stabilized dune sand deposits (Qos), and alluvium (Qal). The dune sands (Qs and Qos) mapped by Hall et al. (1973) are referred to as eolian deposits (Qe) by Hanson et al. (1994) on Plate 6. Hall identified older



dune sands as eolian deposits that have been stabilized and subsequently covered by vegetation. The alluvium is associated with sediment that has been deposited along Arroyo Grande Creek and Los Berros Creek, and the floor of the Arroyo Grande and Cienega Valleys. Surficial sediments are primarily underlain by weakly consolidated units of the age-equivalent of Paso Robles Formation and Careaga Sandstone.

Also depicted on Plate 2, a portion of the site along the creek was previously occupied by dune sand and an extensive pre-settlement Estero, according to an 1873-1874 map produced by the U.S. Coast Survey (Holzer et al., 2004). According to the USGS (2004) report, this area was subsequently "subdivided and turned into developable lots by leveling dunes and filling in swamp areas with dune sand in March 1927." Presumably, the creek alignment was altered as a consequence of this development. The approximate limits of the Pre-Existing Estero reported by Holzer et al. are noted on Plate 2.

3.2 SUBSURFACE CONDITIONS

The subsurface conditions encountered generally consisted of artificial fill (Af) materials overlying alluvium deposits (Qal). Logs for this and previous explorations are presented in Appendix A. The locations of the explorations are shown on Plate 2. Subsurface profiles summarizing our interpretation of the soil conditions encountered along the alignment of Arroyo Grande Creek within the project limits are shown on Plates 4a and 4b. A discussion of the geologic units encountered is provided below. Our interpretation of subsurface conditions is based on the CPT correlations developed by Robertson and Campanella (1986) and our hand auger boring log, and is generally supplemented by logs of previous explorations (USGS, 2004; Caltrans, 1956, 1984; San Luis Obispo County, 1984).

Artificial Fill (Af). Artificial fill materials were encountered in each of the CPT soundings advanced through the existing levee. Fill materials were encountered from the ground surface to approximately 2½ to 10½ feet below the ground surface. The artificial fill generally consisted of the earth materials placed during the construction of the existing levee, except in C-2 advanced within an adjacent parking lot (near the intersection of Halcyon Road and Highway 1). The artificial fill materials encountered in the CPT soundings consisted predominantly of medium dense to very dense sand (SP or SW) and silty sand (SM).

Alluvium Deposits (Qal). The alluvium encountered likely contained undifferentiated units of floodplain, fluvial, and estuarine sediments deposited along Los Berros Creek and Arroyo Grande Creek. The alluvium was encountered below the artificial fill materials to the maximum depth explored, approximately 43 to 50 feet below the existing ground surface. The alluvium encountered has been characterized as two predominant units of sandy alluvium (Qal1, Qal2), and three predominant units of fine-grained alluvium that were encountered at various depths within and below the sandy alluvium (Qal3, Qal4 and Qal5). Our interpretation of the subsurface conditions is shown on Plates 4a and 4b - Subsurface Profile.

Qal1. This unit consisted predominantly of loose to medium dense sandy material encountered below the levee fill and/or surficial clay units. The sandy alluvium was interbedded with various units of the fine grained alluvium as shown on Plates 4a and 4b. The unit was



encountered from at or near the creekbed elevation to depths of approximately 10 to 15 feet below the creek bed where penetrated. This upper sand unit consists of mostly silty sand (SM) to sandy silt (ML) and sand (SP or SW). This unit would also include the gravel and gravelly sand (SP or SW) streambed material.

Qal2. This unit consisted predominantly of dense to very dense sandy alluvium encountered below the upper Qal1 sand unit at a depth of approximately 10 to 15 feet below the streambed elevation. This lower sand unit consists mostly of sand (SP/SW), silty sand (SM) and gravelly sand or gravel (GP/GW). The layer is interbedded at various depths with finer grained alluvial units (Qal4), as shown on Plates 4a and 4b. The USGS soundings (SOC 035, 036 and 037) encountered materials classified as very dense cemented or overconsolidated sand (SP/SW) or clayey sand (SC). Where penetrated near and downstream of Highway 1, this unit was underlain by a deeper fine grained alluvium (Qal5) at depths of approximately 30 to 55 feet below the creek bed. The unit was encountered to the maximum depth explored, approximately 40 feet below the creek bed in C-1.

Qal3. This unit consisted of a shallow layer of predominantly stiff to very stiff clay and silt that was encountered near or just below the levee fill in most of the explorations (see Plates 4a and 4b). The thickness of this unit ranged from approximately 2 to 15 feet. The unit is generally thin (less than 4 feet thick) downstream of Highway 1, and increases in thickness upstream of Highway 1. This unit consisted of mostly clay (CL/CH), silty clay (CL-ML), sandy silt (ML) and clayey silt (ML), and hard cemented or overconsolidated fine grained material.

The hand auger boring (H-1) was drilled near the Creek Road adjacent to the southern levee to obtain a sample of this material for direct shear testing (used in our slope stability analyses). Based on the test results, the sample of the clayey sand had a friction angle of approximately 38 degrees and a cohesion of approximately 100 pounds per square foot.

Qal4. This unit consisted of 2- to 10-foot-thick layers and lenses of stiff to very stiff fine grained alluvium that was interbedded at various depths throughout the sandy Qal1 and Qal2 units (Plates 4a and 4b). A zone of about 15 feet of soft to medium stiff clay was encountered in the USGS CPT sounding 37. The soft clay is likely estuarine deposits associated with the pre-settlement Estero noted on Plate 2.

Qal5. This unit consisted of a deeper, very stiff to hard fine grained alluvium encountered at depths ranging from approximately 30 to 50 feet below the creekbed in USGS CPT soundings 35 and 36, and Fugro's CPT sounding C-3. This unit is inferred to underlie all other units within the alluvium, to the maximum depth explored, approximately 95 feet below the creekbed in USGS Sounding 35. This unit consists mostly of sediment classified as clay (CL/CH), silty clay (CL-ML), sandy silt (ML), and clayey silt (ML).

3.3 GROUNDWATER CONDITIONS

Groundwater was encountered in C-3 during our July 2008 field exploration program at a depth of approximately 14 feet below the ground surface. The sounding holes created by C-1, C-2, C-4, C-5, and C-6 caved following removal of the CPT probe at approximate depths of 9, 9,



11, 11, and 9½ feet, respectively. Groundwater levels and caved surfaces were typically encountered at approximately the same elevation as the water elevation in Arroyo Grande Creek. Groundwater was encountered at a depth of approximately 3 feet (elevation +17 feet) in the hand auger boring. During our field exploration program, the water in Arroyo Grande Creek was observed to be approximately ½ to 2½ feet deep. Variations in groundwater levels and soil moisture conditions will occur depending on changes in precipitation, runoff, tidal fluctuations, irrigation schedules, and other factors.

3.4 SEISMIC CONDITIONS

3.4.1 Faulting

The locations of the main faults mapped in the Central Coast area are shown on Plate 5 – Regional Fault Map. The majority of the faults within the Coast Ranges province and the Sierra de Salinas belt generally trend north-northwest. The California Geological Survey (CGS 1996, formerly the California Division of Mines and Geology) considers major faulting within the project vicinity to be related to the San Luis Range fault zone (a compilation of several named fault strands), the Los Osos fault, the offshore Hosgri fault, and the San Andreas fault. The CGS fault database consists of active and potentially active faults that are considered by the CGS to be capable of affecting regional seismicity in California.

Fugro utilized the fault search routine in FRISKSP (Blake, 2000) to identify active and potentially active mapped faults and fault segments within a 62-mile radius of the project vicinity. The site coordinates (latitude and longitude) for the Arroyo Grande Creek Waterways Management Plan vicinity were estimated to be 35.0952° latitude and -120.6030° longitude. Summarized below are nine (9) faults and fault segments that were considered to be the most capable of producing high ground motion within the project vicinity. Additional information is presented in the California Geological Survey (CGS, 2002) fault database.

Summary of Fault Characteristics

Fault	Approximate Distance From Site (mile)	Maximum Moment Magnitude (M _w)	Fault or Fault Segment Length (km)	Slip Rate (mm/yr)
San Luis Range (S. Margin)	1.8	7.2	64 ± 6	0.2 ± 0.1
Los Osos	6.2	7.0	44 ± 4	0.5 ± 0.4
Casmalia (Orcutt Frontal Fault)	11	6.5	29 ± 3	0.3 ± 0.2
Hosgri	14	7.5	169 ± 17	2.5 ± 1.0
Rinconada	16	7.5	190 ± 19	1.0 ± 1.0
Lions Head	16	6.6	41 ± 4	0.02 ± 0.02
Los Alamos – Baseline	28	6.9	28 ± 3	0.7 ± 0.7
San Juan	31	7.1	68 ± 7	1.0 ± 1.0
San Andreas (Cholame)	42	7.3	63 ± 6	34 ± 5



San Luis Range Fault System. The San Luis Range fault system is the closest mapped fault to the site. The California Geologic Survey (CGS, 2002) groups the Oceano, Wilmar Avenue and several other faults as the San Luis Range fault system, which they consider to be potentially active. The Wilmar Avenue and Oceano faults, shown on Plate 6 – Local Fault Map, are interpreted by CGS to be a part of the San Luis Range fault system. No known active faults cross the site and the site is not located within a designated Alquist-Priolo Earthquake Fault Zone.

The mapped locations of the Wilmar Avenue and Oceano faults shown on Plate 6 are inferred offsets in well logs and steps in the Franciscan bedrock from geophysical data. Within the Cienega Valley, the inferred locations of the faults are concealed by relatively deep alluvium. It is our opinion that the presence of the faults does not pose a significant fault rupture hazard to the project. However, significant ground motion could impact the site if an earthquake were to occur on the San Luis Range fault system within the life of the project.

3.4.2 Historical Seismicity

The project is located within a seismically active region of Central California. Historical records indicate that the area has been subject to various seismic events over the last 183 years (PG&E, 1988). A summary of Magnitude 2 and greater seismic events recorded from 1933 through March 2008 by the Council of the National Seismic System (CNSS 2008) are presented on Plate 7 - Historical Seismicity Map. Examples of relatively strong ground motion that has reportedly been experienced near the project area are the seismic events of 1830, 1857, 1913, 1916, 1917, 1952, 1966, 1980, and 2003.

The 1830 event is estimated to be an approximately M5.0 earthquake that occurred from a poorly located source near San Luis Obispo. The effects of the 1830 event were generally observed between the Los Osos and Rinconada faults. The 1857 event (the Fort Tejon earthquake) occurred on the Mojave segment of the San Andreas fault, and reportedly resulted in damage in central and southern California. The 1913 event is estimated to be an approximately M5 earthquake that occurred along the southwestern margin of the San Luis/Pismo block near Arroyo Grande. The 1916 event is estimated to be an approximately M5.0 earthquake that occurred near Avila, possibly along the Los Osos fault or faults along the southwestern margin of the San Luis/Pismo block. The 1917 event is estimated to be an approximately M5.0 earthquake that occurred near Lopez Canyon between the Rinconada and West Huasna faults. The 1952 earthquake is estimated to be a M6.0 earthquake occurring within the Nacimiento Fault Zone. The 1966 event (the Parkfield earthquake) is estimated to be an approximately M6.0 earthquake that occurred on the San Andreas fault. The 1980 event is estimated to be an approximately M5.0 earthquake that occurred offshore near Point Sal along the Casmalia fault zone, and near its intersection with the Hosgri fault.

The 2003 event (the San Simeon Earthquake) is estimated to have been a M6.5 earthquake resulting in a ground acceleration of about $0.29 \pm 0.04g$ in the project vicinity (Holzer et al., 2004). The epicenter of the 2003 earthquake was located approximately 51 miles northwest of the site, near the Nacimiento fault zone, and near the previous M6.0 1952 Bryson Earthquake. According to Holzer et al. both the Bryson and San Simeon Earthquakes caused



damage in Oceano. Evidence of liquefaction in the fields along Cardoza Ranch (Plate 2) and displacement of the Arroyo Grande Creek levee were both documented by the Holzer et al. team following the 2003 earthquake.

4. GEOTECHNICAL ANALYSIS

4.1 SEISMIC HAZARD ANALYSIS

A preliminary probabilistic seismic hazard evaluation for the site was performed using the computer program FRISKSP (Blake, 2000) and the USGS Hazard Calculator program based on the 2007 California Building Code (CBC). The current CBC was adopted by the County in January 2008, and was used to define the seismic hazard exposure for this preliminary evaluation. The CBC seismic design code is referenced to the American Society of Civil Engineers ASCE 7-05 report. The program FRISKSP is based on FRISK (McGuire, 1978) and has been modified for the probabilistic estimations of seismic hazards using three-dimensional earthquake sources. The results of our preliminary evaluation are tabulated below.

Our evaluation was used to estimate earthquake effects corresponding to the Maximum Considered Earthquake (MCE). The MCE is defined by the code as an earthquake having a 2 percent chance of being exceeded in 50 years (Statistical Return Period of approximately once every 2,475 years). Design earthquake ground motions for liquefaction and other geotechnical analyses are defined as two-thirds ($2/3$) of the corresponding MCE ground motions.

Based on velocity data estimated in the USGS (Holzer et al., 2004) study and subsurface conditions encountered at the site, the Soil Profile Type selected for our evaluations was Site Class D, "S_D". This soil profile type corresponds to a stiff soil profile with an average shear wave velocity ranging between 600 and 1,200 feet per second (180 and 360 meters per second), according to the CBC (2007). The average velocity for the upper 100 feet was estimated at approximately 224 meters per second (m/s) for explorations SOC035, SOC036 and SOC037. Although liquefaction can be a basis for modifying the site class, only portions of the site were estimated to have a potential for liquefaction and associated loss in strength under the MCE (discussed in Section 4.2 of this report).

FRISKSP was used to estimate the peak horizontal acceleration using the attenuation relationship proposed by Boore et al. (1997) and assuming an average shear wave velocity of 250 m/s in the upper 100 feet. The MCE was estimated to result in an approximately peak horizontal ground acceleration of 0.7g, and is assumed to occur from an M7.0 event on the San Luis Range Fault System for the purposes of our evaluation. The ground motion was reduced by two-thirds to 0.46g as input to our seismic hazards evaluation.

4.2 LIQUEFACTION AND SEISMIC SETTLEMENT

Liquefaction is defined as the loss of soil strength due to an increase in soil pore water pressures that results from seismic ground shaking. In order for liquefaction to occur, three general geotechnical conditions need to occur: 1) groundwater is present within the potentially liquefiable material; 2) the soil is granular and meets a specific range of grain sizes; and 3) the soil is in a loose state of low relative density. If those conditions are present and strong ground



motion occurs, portions of the soil column could liquefy, depending upon the intensity and duration of the strong ground motion. Seismic settlement can occur in relatively loose sands, similar to soil types that are vulnerable to liquefaction, but can also occur in soils that are unsaturated and above the groundwater table.

The manifestation and damage that can be associated with liquefaction is strongly dependent on the duration of the ground motion. Liquefaction and seismic settlement hazards were evaluated using NCEER guidelines (Youd and Idriss, 2001) for the design M7.0 earthquake having a ground acceleration of 0.46g. Earthquakes that occur closer to a site generally result in higher ground motions than a similar magnitude earthquake that could occur away from the site. The design earthquake ground motion (0.46g) is higher than the San Simeon Earthquake ground motion (0.25g, adjusted for site-specific amplification effects). The stronger ground motion from the design earthquake would likely result from a near-field earthquake occurring within only 1 to 6 miles of the site, much closer than the San Simeon Earthquake. For purposes of comparison, we also conducted liquefaction analyses using data from the San Simeon Earthquake effects (M6.5 and 0.25g). The USGS (2004) study reports that liquefaction resulting from the San Simeon Earthquake significantly impacted the south levee within the western limits of the project.

Field data from the CPT soundings were used to estimate liquefaction and seismic settlement for the analysis. These data were then imported into a geographic information system (GIS) to spatially orient the digital information. Liquefaction analyses were subsequently performed using a programmed algorithm. The results of the analyses are presented with the subsurface profiles presented on Plates 4a and 4b, and on logs of the individual CPT soundings in Appendix C. The red lines on these plates are the estimated CPT tip resistance needed to resist liquefaction for the seismic conditions considered. A blue zone between the red line and the CPT tip resistance indicates a zone of potentially liquefiable soil.

Various soil layers within the sandy alluvium units (Qa1 and Qa2 on Plates 4a and 4b) are potentially liquefiable under the design earthquake. The fine-grained units of the alluvium (Qa3, Qa4 and Qa5 on Plates 4a and 4b) consist mostly of clay and are not considered susceptible to liquefaction. The existing levee fill (Af on Plates 4a and 4b), though underlain by the potentially liquefiable foundation support soil, appears to be relatively compact and has a low potential for liquefaction.

The potentially liquefiable soil was encountered within two zones of the sandy alluvium: an approximately 13-foot thickness of sand encountered just below the levee within the Qa1 unit at the west end of the project, and relatively thin, interbedded loose to medium dense sand layers within the Qa1 and Qa2 units encountered at various depths and locations over the site. The first area (near Cordova Ranch) has the greatest potential for liquefaction, and is within the Pre-settlement Estero area where liquefaction resulted in damage to the south levee following the San Simeon Earthquake. Our analysis suggests that the interbedded sandy units identified outside the Pre-settlement Estero area are generally denser and likely did not experience significant liquefaction in response to the San Simeon Earthquake.



Manifestation of liquefaction could impact the existing or proposed levee as settlement, instability, or cracking of the levee. We estimate that approximately 2 to 9 inches of seismic settlement could occur along the levee due to liquefaction under the design earthquake. Seismic settlement is estimated to be approximately 2 to 4 inches upstream of about Creek Road and approximately 3 to 9 inches within the Pre-settlement Estero Area downstream of about Creek Road. An evaluation of potential instability of the levee associated with liquefaction is discussed in the following section. The estimated higher settlement downstream of Creek Road is the same area where instability and settlement of the levee was reported following the December 2003 San Simeon Earthquake.

4.3 SLOPE STABILITY

The purpose of the slope stability analysis was to provide a basis for recommending slope inclinations for the preliminary design of the proposed levee improvements, and to evaluate the stability of the proposed embankments relative to the geotechnical feasibility of raising the levees. Slope stability analyses were evaluated for static loading conditions, pseudostatic (earthquake) loading, and post-liquefaction static loading conditions. The loading conditions analyzed as well as the results of our slope stability analyses are presented in Appendix D.

Slope stability analyses were performed for typical cross sections estimated at a location on the north levee embankment in the vicinity of Sta. 72, and at a location on the south levee embankment near Sta. 30 on the Cardoza Ranch that was destabilized by the 2003 San Simeon Earthquake. For both sections, slope stability was evaluated for the interior (creek side) and exterior (land side) levee slopes. The surface profiles at the cross section locations were selected based on cross sections provided by SH+G (2008b). The stability of the existing levees at these two locations was estimated under the existing static slope conditions, and considering liquefaction of the foundation support soil that reportedly occurred during the 2003 San Simeon Earthquake. The estimated stability of the existing slope levee provides a basis for evaluating the impact raising the levee will have on slope stability.

Two proposed embankment configurations were evaluated, each with six (6) feet of artificial fill placed above the existing embankment crest elevation. The first proposed configuration was evaluated with the raised levee centered on the centerline of the existing levee, and with the exterior and interior slope graded to an inclination of 2h:1v. The second proposed configuration was evaluated with the crest of the raised levee moved landward with a flatter interior slope that would match the existing approximately 3.5h:1v slope inclination. The exterior slope was evaluated using a 2h:1v inclination, the same as the first configuration.

4.3.1 Slope Stability Criteria

For the purpose of evaluating analytical results, the San Luis Obispo County (2005) Guidelines for Engineering Geology Reports considers slopes stable when the estimated factor of safety from slope stability analyses is at least 1.5 under static loading conditions, and at least 1.1 under pseudostatic (earthquake) loading conditions when using a horizontal pseudostatic coefficient of 0.15. These values are consistent with local practice and CDMG (1997) guidelines



for slope stability evaluations. A factor of safety of 1.0 represents the theoretical boundary below which a slope is no longer stable and experiences failure. Factors of safety greater than 1.0, such as those stated above, are typically used to define stable slope conditions in practice to help account for uncertainties in characterizing subsurface conditions and limitations of analyses used to evaluate slope stability. We considered the potential for liquefaction to impact the levee slopes in the analysis. Ground motions and liquefaction generated by the 2003 San Simeon earthquake are reported to have resulted in damage to a portion of the southern levee and sand boils near the Cardoza Ranch (USGS, 2004).

4.3.2 Analysis Methods

The slope stability analyses were performed using the computer program GSTABL7 (Gregory, 2001). GSTABL7 was used with STEDwin (Van Aller 2002) to estimate factors of safety for slope stability under static and pseudostatic loading conditions. GSTABL7 requires the user to input the ground surface profile; subsurface profile; soil properties including unit weight (γ), friction angle (ϕ), and cohesion (c); groundwater levels; and the analysis method to be used. Plots of the output, soil properties, and conditions used for the analyses are presented in Appendix C. Slope stability analyses were performed using the modified Bishop method to estimate factors of safety for circular failure surfaces. A key to the results of our slope stability analyses is presented on Plate C-1 in Appendix C.

4.3.3 Selection of Shear Strength Parameters

For our static load stability analyses, “static” shear strength parameters were assigned to selected subsurface units based on correlations with CPT data. The shear strength of sand units were modeled as cohesionless, based on a phi-only (ϕ) analysis estimated from the CPT data. The shear strength of fine-grained units was modeled as solely cohesive, based on the undrained shear strength estimated from the CPT data (S_u , noted as the cohesion intercept, c). Direct shear strength testing was performed on a relatively thin unit of clayey sand (SC) encountered at the base of levee embankments, because the strength of this unit was found to significantly influence the stability results. The layer was modeled as having both friction (ϕ) and cohesion (c) based on the additional direct shear test.

For our post-liquefaction stability analyses, “static” strength parameters were assigned to compacted fill, alluvium encountered above the groundwater table, medium dense “liquefiable” sand, and fine-grained soil layers because these units were considered as having limited or low potential for strength loss due to liquefaction. Post-liquefaction undrained residual shear strength values ($S_{u,r}$) were assigned to liquefiable soil units using correlations to CPT data and methods recommended by Seed and Harder (1990), which were mainly the loose sand units below the groundwater table (Qa11 on Plates 4a and 4b). The post-liquefaction undrained residual shear strength value was assigned as an equivalent value of cohesion (c) with a frictional angle (ϕ) equal to zero.



4.3.4 Groundwater Conditions

The groundwater levels used in our slope stability analyses were based on our field observations discussed in Section 3.3 of this report. The groundwater level was modeled near or above the existing water level in the creek. Rapid drawdown can occur in poorly drained soil as flood water recedes, typically resulting in surficial instability or slumping of the slope face. Specific analysis for rapid drawdown conditions was not performed, because the existing embankment soil is relatively well-drained sandy material and in our opinion should experience drainage to draw water away from the slope face as the flood water recedes. Additionally, the interior slopes of the existing channel are heavily stabilized by vegetation, except in local areas upstream of Highway 1, where some scouring of the slope has occurred.

4.3.5 Summary of Slope Stability Results

Preliminary plans (SH+G 2008a,b) show that the proposed levees will be raised approximately 3 to 6 feet above the existing top of levee. We estimated factors of safety for the existing and two proposed slope configurations described above. Each configuration was evaluated for two locations: one in the vicinity of Sta. 72 that is upstream of the 22nd Street Bridge, and one in the vicinity of Sta. 30 on the Cardoza Ranch. The estimated factors of safety for the existing and proposed levee slope conditions are generally considered stable under static loads. However, the estimated factors of safety for the existing and proposed embankment conditions are considered unstable when considering post-liquefaction of the underlying foundation support soils (mainly within the Qal1 unit shown on Plates 4a and 4b) in the vicinity of the Cardoza Ranch. Instability of the levee associated with liquefaction mainly occurs because the excess porewater pressure generated by the design earthquake is sufficient to essentially force loosely packed sand particles apart causing the soil to lose strength.

Sta. 72 Vicinity, North Levee Upstream of 22nd Street. The estimated factors of safety for this vicinity exceed those needed for slope stability for the existing and proposed conditions. The estimated factors of safety were greater than 1.7 for static loading conditions, and greater than 1.2 for pseudostatic (earthquake) loading conditions. The soils encountered in this area, although prone to liquefaction and moderate seismic settlement under the design earthquake, do not appear to be prone to significant loss in strength in response to liquefaction that would cause the estimated factor of safety of the slope to be considered unstable. For preliminary design, this evaluation generally suggests that the existing and proposed levee slope configurations considered in our evaluations are relatively stable under static and earthquake loading conditions upstream of about Creek Road (outside the limits of the Pre-settlement Estero noted on Plate 2). A summary of the slope stability results for this vicinity is provided in the following table.



**Summary of Slope Stability Results for Sta. 72 Vicinity
 on North Levee upstream of 22nd Street Bridge**

Condition		Estimated Factor of Safety		
		Static Loading	Pseudostatic (earthquake) Loading	Post-Liquefaction
Existing	Interior 3.5h:1v Slope	2.5	1.5	2.5
	Exterior 2h:1v Slope	1.7	1.2	1.7
Proposed Configuration 1: 6-foot levee raise centered on existing levee	Interior 2h:1v Slope	1.9	1.3	1.8
	Exterior 2h:1v Slope	1.7	1.2	1.7
Proposed Configuration 2: 6-foot levee centered outside existing channel and levee)	Interior 3.5h:1v Slope	2.5	1.5	2.2
	Exterior 2h:1v Slope	1.7	1.2	1.7

Sta. 30 Vicinity, South Levee on Cardoza Ranch. The estimated factors of safety for this vicinity exceed those needed for slope stability for the existing and proposed conditions when considering static loads, but are potentially unstable when considering post-liquefaction conditions associated with the design earthquake. This is essentially the same areas where instability of the levee was reported by the USGS (Holzer et al. 2003) following the December 2003 San Simeon Earthquake. The estimated factors of safety for the existing levee when considering post-liquefaction conditions were approximately 0.8 to 1.1, and generally below the minimum factor of safety of 1.1 considered to be stable by the County guidelines when considering earthquake loading conditions. The estimated factor of safety for post-liquefaction conditions falls to 0.5 to 0.8 when considering the proposed levee configurations. For preliminary design, this evaluation generally suggests that the existing and proposed levee slopes are relatively stable under static loads, and potentially unstable when considering earthquake (post-liquefaction) conditions downstream of about Creek Road (within the limits of the Pre-settlement Estero noted on Plate 2). A summary of the slope results for this vicinity is provided in the following table.



**Slope Stability Results for Sta. 30 Vicinity
 on South Levee on Cardoza Ranch**

Condition		Estimated Factor of Safety		
		Static Loading	Pseudostatic (earthquake) Loading	Post-Liquefaction
Existing	Interior 3.5h:1v Slope	2.6	1.5	0.8
	Exterior 1.5-2h:1v Slope	1.9	1.3	1.1
Proposed Configuration 1: 6-foot levee raise centered on existing levee	Interior 2h:1v Slope	1.9	1.3	0.5
	Exterior 2h:1v Slope	1.9	1.3	0.8
Proposed Configuration 2: 6-foot levee centered outside existing channel and levee)	Interior 3.5h:1v Slope	2.6	1.5	0.7
	Exterior 2h:1v Slope	1.9	1.3	0.8

5. GEOLOGIC HAZARDS AND GEOTECHNICAL CONSIDERATIONS

The following sections present a summary of geologic hazards that were evaluated for the project, our opinion regarding the potential for the hazards to impact the project, and preliminary recommendations for mitigation of the hazard, if needed.

5.1 APPROACH

The County has provided input regarding how potential impacts to the levee that may be related to earthquake/seismic related hazards should be evaluated. Earthquake related hazards and their associated impacts have been evaluated and discussed specific to the project. However, the County has stated that the project will not include potentially costly mitigations for seismic hazards that may damage the levee. We understand that the County's approach to mitigating seismic hazards will generally be to repair damages in response to earthquakes, should they occur. The County feels that given economic constraints, the most beneficial use of the available funds would be to provide increased flood protection. A factor in this decision is the unlikeliness that there would be full flows in Arroyo Grande Creek at the same time as a damaging earthquake. It is anticipated that if an earthquake occurs and damage is realized, that the County would have the opportunity to make repairs to the levee system before high flows would inundate the channel. The County will consider alternatives to mitigate or partially-mitigate seismic hazards if they can be relatively easily accomplished within the economic constraints of project.



The assessment of hazards is therefore discussed relative to potential impacts to the project, relative to the existing levee conditions, the general type of mitigation that may be needed to address seismic related hazards, and whether or not we recommend that potential impacts of the hazard be considered in the County operation, maintenance and emergency response planning for the levee.

5.2 FAULT RUPTURE

Fault rupture is the displacement of the ground surface created by movement along a fault plane during an earthquake. The project vicinity is not located within a designated Alquist-Priolo Earthquake Fault Hazard Zone. The Alquist-Priolo Earthquake Fault Zoning Act identifies areas of known active faults, and the main purpose of the act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. While habitable structures can be sited away from known active faults, uninhabited infrastructure, such as the levees proposed for this project, may not be able to be sited away from faults and therefore would have to cross any fault that were present.

A fault rupture hazard would exist where the levee would cross directly on an active fault, and rupture of that fault could displace the ground surface upon which the levee is located. The closest mapped active fault to the project vicinity is the Oceano fault. The Oceano fault is considered potentially active, and to be a part of the San Luis Range fault system. The Oceano fault is mapped approximately 1,000 feet southwest of the western terminus of the project, as shown on Plate 6. The potential for fault rupture to impact the project site is considered low and no mitigation for fault rupture is recommended.

Mitigation: None anticipated.

5.3 STRONG GROUND MOTION

The potential exists for strong ground motion to affect the project during the design lifetime. Strong ground motion (shaking) can occur in response to local or regional earthquakes. The project site is located within a seismically active area, and has been impacted by historic earthquakes in the recent past (such as the 2003 San Simeon Earthquake). The recency of the San Simeon Earthquake however does not suggest that the project area is more prone to earthquakes, or has a greater frequency of earthquakes, than it did prior to 2003. In general, the primary effects will be those phenomena associated with shaking and/or ground acceleration. Those effects are discussed in subsequent sections of this report regarding liquefaction, seismic settlement, ground lurching, and slope instability.

As discussed in Section 4.1 of this report, the design earthquake for this project is estimated to be a M7.0 event with a corresponding peak ground acceleration of approximately 0.46g. Design earthquake ground motions for liquefaction and other geotechnical analyses are defined as two-thirds ($2/3$) of the corresponding MCE ground motions. The MCE was defined based on the CBC as an earthquake having a 2 percent chance of being exceeded in 50 years (Statistical Return Period of approximately once every 2,475 years).



Mitigation: Seismic data and site classification for the design of levees should be reviewed and updated in the design-level Geotechnical Report in accordance with applicable County codes, ordinances, and guidelines. The report should provide ground motion parameters (magnitude and peak ground acceleration) for use in geotechnical analyses, such as for evaluating slope stability, liquefaction, and seismic settlement.

5.4 LIQUEFACTION AND SEISMIC SETTLEMENT

As discussed in Section 4.2, the existing levee is underlain by geologic units that may contain sediments susceptible to liquefaction. The potentially liquefiable soil was encountered within two zones of the sandy alluvium: 1) an approximately 13-foot thickness of sand encountered just below the levee within the Qal1 unit (see Plate 4a) at the west end of the project, and 2) relatively thin, interbedded loose to medium dense sand layers within the Qal1 and Qal2 units encountered at various depths and locations over the site. The first area (near Cordova Ranch) has the greatest potential for liquefaction, and is within the Pre-settlement Estero area where liquefaction and seismic settlement damaged the southern levee following the San Simeon Earthquake in 2003. Our analysis suggests that the interbedded sandy units identified outside the Pre-settlement Estero area are generally denser and likely did not experience significant liquefaction in response to the San Simeon Earthquake.

Manifestation of liquefaction could impact the existing or proposed levees as settlement, instability, or cracking of the levees. We estimate that approximately 2 to 9 inches of seismic settlement could occur along the levees due to liquefaction under the design earthquake. Seismic settlement is estimated to be approximately 2 to 4 inches upstream of about Creek Road and approximately 3 to 9 inches within the Pre-settlement Estero Area downstream of about Creek Road. An evaluation of potential instability of the levees associated with liquefaction is discussed in the following section. The estimated higher settlement downstream of Creek Road is within the area where instability and settlement of the levees was reported following the December 2003 San Simeon Earthquake.

Mitigation of liquefaction potential can be relatively costly. Mitigation methods for this project could consist of either removal and replacement of potentially liquefiable soils with properly compacted fill (estimated to be at least 13 feet below the existing streambed near Cardoza Ranch), or in-situ ground improvement to deeply compact the soil and thereby reduce the potential for liquefaction and seismic settlement to impact the levees, or widening the crest width and designing the levee with flatter slopes to help limit slope movement associated with liquefaction and slope instability (however, right-of-way and channel constraints may limit the feasibility and practicality of this mitigation method).

Alternatively, liquefaction and seismic hazards can be addressed in an Emergency Response Plan (ERP) for the levee improvements. The ERP should recognize the potential for liquefaction and seismic hazards to impact the levee, and delineate specific high hazard areas that should be inspected for damage following an earthquake.

Mitigation: A design-level geotechnical report should be prepared to evaluate potential mitigation methods for liquefaction and seismic settlement, and/or address geotechnical issues

that should be considered in the ERP. An ERP should be prepared as part of the design to identify high seismic hazard areas along the levees and protocols for responding and inspecting the levee following a damaging earthquake.

5.5 GROUND LURCHING

Ground lurching occurs as the ground is accelerated during a seismic event. As evidenced by the Loma Prieta, Landers, Northridge, and San Simeon Earthquakes, the effects of ground lurching can damage earthen fills. Ground lurching occurs due to detachment of underlying stratigraphic units, allowing near-surface soil to move differentially from underlying soil. The site is within a seismically active region of Central California that is prone to moderate to large earthquakes. It is therefore our opinion that there is a potential for ground lurching to impact the site. Ground lurching is generally not a geologic hazard that can be prevented, and therefore is mitigated by implementing preparedness measures.

Mitigation: Address in ERP with other seismic hazards.

5.6 LANDSLIDING AND SLOPE INSTABILITY

5.6.1 Landslides

The project site is generally on relatively flat terrain and not in areas that would be subject to large-scale landslides. The site is not within an area of mapped landslides, unstable formations, or known instability that would impact the levees or creek.

Mitigation: None anticipated.

5.6.2 Static Slope Stability

Destabilization of a slope occurs when the driving mechanisms associated with the slope exceed the resistance capacity of the soils comprising the slope. We performed preliminary slope stability analyses of selected portions of the slopes to evaluate slope stability and the geotechnical feasibility of raising the levee. The slope stability evaluation is discussed in Section 4.3 of this report. Failure surfaces may be surficial or deep-seated, with varying degrees of soil displacement as a consequence. The estimated factors of safety for the existing slopes and proposed embankment configurations are considered stable under static loading conditions. Design and construction of slopes should be further evaluated in subsequent design-level geotechnical reports. The destabilization of the embankment slopes could also be triggered by bank erosion/scour, undercutting the toe of slopes, grading, animal burrows, or other factors that should be periodically reviewed and maintained following construction.

Mitigation: The design-level geotechnical report should be prepared to recommend final slope inclinations for design of the levee improvements. Periodic review and maintenance of the improved channel and levee should be provided to help maintain vegetation, remove debris, and repair areas of scour, erosion, burrowing, or other changes to the channel slopes (see Scour and Erosion, Section 5.8).



5.6.3 Seismic Slope Stability and Lateral Spreads

We evaluated the stability of existing and proposed levee embankments under pseudo-static (earthquake) load conditions and post-liquefaction conditions, as discussed in Section 4.3 of this report). The destabilization of a slope can be triggered by forces (ground accelerations) associated with seismic activity. Additionally, a reduction in strength (resistance capacity) of constituent soils may be a consequence of seismically-induced liquefaction, potentially resulting in slope instability of the levee slopes and/or stream banks (a type of lateral spreading). Lateral spreading typically develops on sloping ground underlain by liquefiable soils or where free-face conditions can develop in a liquefiable soil, such as along a river bank or drainage. According to the USGS report (Holzer et al. 2004), lateral spreading was observed in areas along the perimeter of the Oceano Lagoon (north of the project site) following the December 2003 San Simeon Earthquake.

For preliminary design, the slope stability evaluation suggests that the existing and proposed levee embankments are generally stable under earthquake loading and post-liquefaction conditions upstream of about Creek Road. However, the existing and proposed embankments for the levee are potentially unstable within the Pre-settlement Estero area downstream of Creek Road (see Plate 2). Our evaluation also suggests that there is a potential for liquefaction and instability to impact the levee within the Pre-settlement Estero area whether the levee is raised or not. Mitigation of liquefaction hazards, as discussed in Section 5.4 of this report, would also help improve the stability of the levee slopes, but likely would be costly.

Mitigation: Address in ERP with other seismic hazards. The main mitigation for slope instability associated with seismic hazards in the ERP will be for the County to respond to earthquakes, and repair areas that may be damaged by these hazards. The design-level geotechnical report should address the potential for slope instability to occur in association with liquefaction, the extent to which the hazard could impact the design of improvements, and whether the hazard can be mitigated by modifying the geometry of the raised levee within the scope, right-of-way, and economic constraints of the project.

5.7 SUBSIDENCE AND COLLAPSE

The project site is not in an area where the withdrawal of subsurface fluids is known to have caused ground subsidence. The greatest potential for subsidence would be if potentially compressible soils were impacted by lowering of the groundwater table during construction dewatering. The buoyancy of the soil above a specific depth decreases as groundwater levels are lowered. Lowering of the groundwater level therefore increases the effective weight of the soil above that depth, which can cause the soil to subside (settle) under the increased weight of the ground above it.

Our subsurface exploration and geologic maps indicate the project area is underlain by heterogeneous alluvium deposits. The alluvium is currently saturated from near the creekbed elevation downward. We do not anticipate that dewatering will be necessary for construction purposes. However, if dewatering is planned, the potential for subsidence in association with lowering of the groundwater table should be evaluated.



Mitigation: None anticipated.

5.8 SCOUR AND EROSION

SH+G is performing the hydraulic analysis and estimating scour depths along Arroyo Grande Creek and Los Berros Creek for this project. As input to their analysis, Fugro obtained samples of selected streambed and stream channel materials within the project extent and performed grain size analysis. The stream channel deposits observed along the streambed consist predominantly of gravel and sand. The bank materials generally consist of interbedded layers of erodable granular and fine-grained soils. Erosion of the channel slopes has occurred in localized areas of scour observed during our July 2008 site visits, particularly in areas upstream of Highway 1.

Graded fill slopes associated with the levee improvements will be subject to sheet and rill erosion. Erosion of soils can be accelerated where soils are exposed directly to runoff and/or areas of concentrated storm runoff, such as at culvert outlets. Site drainage and landscape improvements can be designed to reduce the potential for soil erosion. We observed abundant vegetation along the interior levee slopes and within the creek channel, which likely decreases the susceptibility of surficial soils to erosion.

The stream channel is a dynamic environment that will likely change and respond to changes in flow and rainfall seasonally. The existing levee slopes within the channel of Arroyo Grande are mostly stabilized by vegetation with graded slope inclinations of about 3:1 or flatter. Maintaining vegetation within the channel and maintaining the channel slopes can be used to mitigate the affects of scour and erosion.

Mitigation: On-going maintenance or other measures should be provided to reduce the potential for scour of the levee slopes. Erosion control measures, such as hydro-seeding, erosion control matting, and maintenance, should be provided to reduce the potential for erosion while vegetation is being established on new slopes. On-going maintenance of the slopes should be provided, as-needed, to assist in establishing appropriate vegetation, to repair areas where localized scour and erosion may impact slopes, and to remove debris from the channel that may dam or adversely channel the flow of water within the channel. Energy dissipation and erosion control devices should be provided at outlets of drainage pipes and in areas where there are concentrated flows of runoff to reduce the potential for erosion.

5.9 EXPANSIVE SOILS

Expansive soil generally consists of fine-grained soil of high plasticity (clay) that can damage near-surface improvements in response to shrinking and swelling associated with changes in soil moisture content. The expansion potential of the soil used to construct a levee can influence the strength and permeability of the levee. While clay material near the core of an embankment can help to limit seepage through the embankment, shrinking and swelling of the clay soil can also influence the stability and maintenance of the slope face. The existing levees appear to be constructed of predominantly sandy sediment having a low potential for expansion,



therefore, surficial soils having a high potential for expansion are not anticipated to impact the levee improvements.

Mitigation: The design-level geotechnical report should provide recommendations for fill material that can be used in raising the levee. The recommendations should consider the expansion potential and other geotechnical properties of the soil relative to controlling the seepage and slope stability conditions for the new levees.

5.10 HYDROCOLLAPSE POTENTIAL

Hydrocollapse or hydroconsolidation describes soils that are prone to settling when subjected to wetting or saturation. Hydroconsolidation can result in differential settlement and possible cracking of the levee, particularly if the soils vulnerable to collapse are left in-place below the levee fill. The levee fill itself will be constructed of compacted fill that should not be prone to excessive settlement or collapse due to wetting. Shallow near surface soils, such as expansive clay soil and loose dune sand may be vulnerable to collapse. Near surface soils that may be vulnerable to collapse are typically removed during site preparation and grading and replaced with compacted (engineered) fill. Soils below the groundwater (creekbed) level are not prone to post-construction settlement associated with hydrocollapse.

Mitigation: The design-level geotechnical report should provide recommendations for site preparation and grading to reduce the potential for settlement associated with hydrocollapse to impact the levee.

5.11 TSUNAMIS AND INUNDATION

Tsunamis are long-period sea waves created due to seismic events or submarine landslides and have historically occurred in the project region. Tsunamis can range in height from a few feet to greater than 50 feet, and can result in run-ups, or bores, extending great distances up streams, rivers, and creeks. As evidenced by recent events around the world, tsunamis can have devastating impacts on coastal areas. The project vicinity is located at elevations ranging from approximately el. +11 feet above mean sea level (MSL) to approximately el. +63 feet MSL near the city limits of Arroyo Grande. The County of San Luis Obispo has prepared web-based tsunami inundation maps (<http://www.sloplanning-maps.org/ed.asp?bhcp=1>) that show coastal areas that may be vulnerable to inundation from tsunami below about el. +40 feet MSL. The inundation zones are generally the coastal areas along San Luis Bay, and low lying areas along Arroyo Grande Creek. Nearly the entire project site is located below the estimated tsunami run-up elevation shown on the County website. As a result, tsunami run-ups may be considered a potential hazard to the existing levee and surrounding area. The presence of the levees would not increase the susceptibility of the project vicinity, and may provide moderate protection from smaller events should they occur.

According to Kilbourne and Mualchin (1980), the following historical tsunamis have occurred in the project region:



Historical Tsunami Run-up

Year	Estimated Tsunami Generation Location	Estimated Impact Location	Estimated Tsunami Run-up (feet)
1868 ¹	Unknown	Morro Bay	Unknown
1878 ²	Unknown	Morro Bay	Unknown
1927	Local	Pismo Beach	6 feet
1946	Aleutian Trench	San Luis Obispo Bay	4-5 feet
1960	Chile-Peru Trench	Central Coast	>3 feet
1964	Gulf of Alaska	Central Coast	>3 feet
¹	Speculative		
²	Reportedly overtopped the sand spit that separates the bay from the ocean (SLO County 1999).		

Mitigation: None anticipated. Tsunami hazards are typically addressed by developing warning systems and evacuation plans for coastal areas. The San Luis Obispo County Office of Emergency Services is responsible for the emergency response plan.

5.12 DAM INUNDATION

The project site is located downstream of Lopez Lake and two dams: the Lopez Canyon Dam and the Lopez Terminal Dam. According to the County of San Luis Obispo Safety Element (1999), the entire project extent is subject to inundation due to dam failure.

Mitigation: None anticipated. Dam inundation hazards are typically addressed by developing warning systems and evacuation plans for vulnerable areas. The San Luis Obispo County Office of Emergency Services is responsible for the emergency response plan.

5.13 NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos (NOA) is common in serpentine rock throughout San Luis Obispo County. The California Air Resources Board has identified serpentine rock as having the potential to contain asbestos. Serpentine rock is typically a constituent of Franciscan Formation mélangé, which has not been mapped or encountered within the project limits. The grading for the project should therefore not encounter areas containing serpentine rock. Therefore, it is our opinion that there is a low potential for NOA to impact the project. If encountered, mitigation for NOA typically consists of dust control during earthwork operations to reduce the potential for asbestos dust from being an inhalation hazard.

Mitigation: The County will likely require a letter prepared by a geotechnical professional for the project that specifically identifies whether or not NOA is considered to be a potential hazard for the project.



5.14 RADON GASES

Radon gases are generally associated with Mesozoic granitic rocks and derivative Tertiary sedimentary rocks, and Tertiary marine sedimentary rocks. Radon hazards are generally related to an accumulation of radon gases within homes and housing structures and do not apply to the proposed levee project. The San Luis Obispo County Safety Element (1999) has identified these geologic formations as having high equivalent uranium (eU) concentrations. These formations have not been mapped or encountered within the project site. We do not anticipate components of the project will be planned for areas potentially containing rocks with high eU concentrations, nor would the raising of the levee have any impact on this hazard. Therefore, it is our opinion that there is a low potential for this hazard to impact the project.

Mitigation: None anticipated.

5.15 EMBANKMENT SEEPAGE AND PIPING

During sustained high-flow events, water permeating through the levee embankments may daylight on the exterior levee slopes, resulting in localized erosion of embankment material. Continued seepage and erosion can lead to piping, which generally consists of a tunnel-like void in the embankment that results from erosion of the embankment fill caused by uncontrolled seepage daylighting on the face of the exterior slope of the levee. The existing levee appears to be constructed of compacted sandy material that could be vulnerable to piping in the event that sustained flows at flood levels within the creek occurred.

Steady state seepage refers to the stabilized water level and zone of seepage through the levee at a sustained water level within the flow channel. The potential for steady state seepage to develop within the embankment is generally expected to be relatively low because the storm events for the project are likely to have a short duration (typically only a few hours in duration). We anticipate the typical duration of high-flow events may be short enough that a hydraulic gradient capable of daylighting on the exterior slope is unlikely to develop. We did not observe visual evidence of seepage or erosion of the existing embankment material that would indicate that piping or seepage through the levee has occurred in the past.

Mitigation for seepage and piping can consist of providing low permeability fill materials within the levee embankment to slow the rate of seepage through the embankment and/or providing drainage on the outer slopes of the levee to collect and control seepage. Drainage materials, if used, are designed with graded-granular filters that will help to retain the levee fill where the seepage exits the embankment and prevent piping. The design-level geotechnical study should include a detailed seepage analysis of the levee considering the flood levels and storm durations. It is likely that the design of the new levees can include provisions for using a layer of low-permeability materials within the embankment to control seepage. The near-surface alluvium encountered adjacent to the levees appears suitable for use as low-permeability material but would need to be evaluated for the project.

Mitigation: The design-level geotechnical report should address and evaluate seepage conditions through the embankment for the design storm events and water levels, and address



the need for control of seepage and drainage to avoid piping and seepage from daylighting on the exterior slopes of the levee.

5.16 FOUNDATION SEEPAGE

Foundation seepage refers to underflow beneath the levee that results when the higher water level (high gradient) in the creeks infiltrates the creekbed, and then flows beneath the levee to the lower water level outside the levee (low gradient). Similar to embankment seepage discussed above, uncontrolled seepage daylighting beyond the exterior slope of the levee can result in boils, piping, and instability of the foundation soils where the seepage exits the ground. Piping of the subsurface can erode foundation materials and potentially destabilize the embankment.

A hand auger boring drilled adjacent to the exterior slope of the levee near Creek Road encountered groundwater at a depth of about 3 feet below the ground surface. Water was flowing in Arroyo Grande Creek at the time of the exploration. The water level suggests that the foundation soils beneath the levee embankments are saturated to some extent by the normal dry-season water flow within the creek. As a result, it is possible that rising water levels within the channel may increase the rate of seepage beneath the embankment relatively quickly.

The exit gradient refers to the hydraulic gradient where the foundation seepage will daylight on the outside of the levee slopes. The critical gradient refers to when seepage force exceeds the effective weight of the soil, heaves the soil, and typically causes a boil to form beyond the exterior slope of the levee. For design, exit gradients should be subcritical and are preferred to be 5 to 6 times below critical. We preliminarily evaluated seepage forces beneath the embankment near Creek Road considering the 20-year water surface elevation as defined by SH+G (2008b). The exit gradients were estimated to be subcritical for the raised levee condition, but by a factor of about 2, less than the optimal factor of 5 to 6.

The design-level geotechnical study should include a detailed seepage analysis of the levee foundation considering the flood levels and storm durations. Mitigation for foundation seepage can consist of cutoff walls, impervious blankets, or relief wells or drainage systems to control or reduce exit gradients.

Mitigation: The design-level geotechnical report should address and evaluate seepage conditions through the embankment foundation for the design storm events and water levels, and address the need for control of seepage and drainage to avoid piping and seepage from daylighting beyond the exterior slopes of the levees.

5.17 VEGETATION MANAGEMENT

Vegetation growing within the channel can block flows and reduce flood protection. The existing channel is relatively heavily vegetated with brush and small trees. Management of vegetation can impact seepage conditions if the root systems of dying or cut trees are left in-place to decay within the embankment. The County was performing a vegetation management program with the California Conservation Corps at the time of our field work. The program generally consisted of trimming low limbs from trees within the channel, and cutting smaller



brush and vegetation on the channel slopes. Root holes and voids left from the decayed or pulled roots can shorten seepage paths through the embankment increasing the potential for seepage or piping to extend through the embankment.

Mitigation: Management of the vegetation within the Arroyo Grande Creek channel should include removal of dead trees, and repair of voids left from pulled or decaying roots by filling the voids with properly compacted soil.

5.18 SEDIMENT REMOVAL - DREDGING

Accumulation of sediment within the channel of Arroyo Grande Creek can reduce flood protection by blocking flow within the channel. Sediment will be removed from the existing channel as part of the project. Disposal of sediment will require that the sediments within the channel be characterized to evaluate whether or not the sediments are compatible with the disposal area in accordance with U.S. Army Corps requirements. Characterization typically includes laboratory tests for grain size and chemical compatibility. The properties of the sediment are then compared to potential disposal sites being considered to identify a suitable site for disposal. Typical disposal sites can include beach replenishment with sandy material, agricultural fields to replace lost fine-grained sediment, stockpiles to provide construction material resources, or as on-site fill material for the levee construction.

The sediment observed within the channel appears to be comprised of sand and gravel bars that have formed within the channel. Based on review of the project plans and water level observed during our field observations, most of the sediment that likely will be removed appears to be near or above the water level in the creek. If so, the sediment therefore likely would be removed by mechanical methods (such as by an excavator or other earth moving equipment).

Mitigation: The design-level geotechnical report should include characterization of the channel sediment that will be removed, and evaluate the suitability of the material for on-site use during the levee construction. The report should also discuss anticipated excavation conditions (above or below water) and appropriate excavation methods.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 SUMMARY OF FINDINGS

- ❖ The soils encountered along the project extent consisted of the existing levee fill material founded on alluvial deposits. The levee fill consisted of mostly medium dense to very dense sandy materials. The alluvium was encountered to the maximum depths explored, approximately 100 feet below the ground surface, and consisted of interbedded loose to very dense sandy soils and medium stiff to hard clay materials (see Plates 4a and 4b). Water was observed flowing in the creek at the time of our July 2008 field exploration program. Groundwater was encountered as shallow as approximately 9 feet below the existing top of levee and about 3 feet below the exterior toe of the levee, in explorations advanced for this study.



- ❖ The levees and channel along Arroyo Grande Creek were constructed in the late 1950's as a U.S. Department of Agriculture, Soil Conservation Service project (USDA 1956). The location of the creek is controlled by channels and levees, and portions of the creek were relocated as part of the construction of the levee system. The existing earthen levee is about 3 to 12 feet above adjacent grades. The USDA (1956) plans show the levees were designed with a 15-foot wide crest and side slopes graded to inclinations of 1½ h:1v to 2h:1v on the exterior slopes and 3h:1v on the interior channel slopes. The existing levees are less pronounced and more intermittent upstream of Highway 1, where the design height of the levee is generally less than about 3 feet above adjacent grades as shown on the plans. The existing stream channel upstream of Highway 1 is increasingly incised to the east, with local areas of near vertical creek bank and erosion.
- ❖ Geologic hazards relating to fault rupture, landsliding, subsidence, hydrocollapse, naturally occurring asbestos, and radon gases are unlikely to impact the project. The site is located within the inundation area identified by the County for failure of Lopez Canyon Dam or tsunami. The site is located within a seismically active area, and could be impacted by seismic hazards related to liquefaction, seismic settlement and slope instability. The County stated that their approach to mitigating seismic hazards will be to repair damages in response to earthquakes should they occur, and to focus the project on improving flood protection.
- ❖ Geotechnical considerations relating to scour, erosion, and seepage should be considered in the design, construction, and maintenance of the project. A detailed seepage analysis of the proposed raised levee configuration and design flood conditions should be provided to evaluate whether or not specific measures, such as provisions for drainage, low permeability materials, or flatter slopes will need to be included in the project design.
- ❖ The western limits of the project are located within an area underlain by a Pre-settlement Estero that has subsequently been filled in as a result of development and realignment of the channel. This area was documented by the County and USGS (Holzer et al. 2003) as an area where relatively extensive liquefaction and lateral spreading occurred (including damage to a portion of the southern levee) in response to the 2003 San Simeon Earthquake. The existing and proposed levees in this area have the potential to be impacted by liquefaction of the ground beneath the embankment, incur estimated seismic settlements of up to approximately 9 inches, and result in slope instability for the design earthquake. Upstream of Creek Road, the proposed and existing levees were estimated to be stable under the design earthquake but could experience seismic settlements of approximately 2 to 4 inches. Mitigation for these hazards should be considered in the emergency response and maintenance plan for the project.
- ❖ Slope stability analyses of the preliminary levee configurations suggest that the levee can be raised to the conceptual design height and should be stable under static loading and the anticipated flood levels. However, the stability of the levees likely would be compromised by liquefaction of the foundation soil within the Pre-



Settlement Estero area west of about Creek Road. Because it is unlikely that there would be full flows in Arroyo Grande Creek at the same time as a damaging earthquake, the County anticipates that if an earthquake were to occur and damage is realized, they would have the opportunity to make repairs to the levee system before high flows would inundate the channel. The existing levee is vulnerable to this potential hazard whether the height of the levee is raised to improve flood protection or not.

- ❖ The existing channel is relatively heavily vegetated with brush and small trees. Management of vegetation can impact seepage conditions if the root systems of dying or cut trees are left in-place to decay within the embankment. The County was performing a vegetation management program with the California Conservation Corps at the time of our field work. The program generally consisted of trimming low limbs from trees within the channel, and cutting smaller brush and vegetation on the channel slopes. Root holes and voids left from decayed or pulled roots can shorten seepage paths through the embankment increasing the potential for seepage or piping to extend through the embankment. Management of the vegetation should include removal of dead trees, and repair of voids left from pulled or decaying roots by filling the voids with properly compacted soil.
- ❖ Sediment will be removed from the existing channel as part of the project. The sediment that we observed within the channel is mostly comprised of sand and gravel bars that have formed within the channel. Based on review of the project plans and water level observed during our field observations, most of the sediment that likely will be removed appears to be near or above the water level in the creek. If so, the sediment would likely be removed using mechanical methods (such by an excavator or other earth-moving equipment). If excavation depths are lower, and/or the water levels higher, hydraulic dredging equipment may be used to clear saturated sediment from channels that are below the water level.

6.2 GEOTECHNICAL CONSIDERATIONS FOR CONSTRUCTION

6.2.1 Site Preparation and Grading

Grading for the improvements is likely to consist of placing fill material to raise and widen the existing levees. Prior to grading, the site should be cleared and grubbed. Where relatively small (less than approximately 1 foot) increases in the levee height may occur, the grading will likely be performed within the footprint of the existing levee. Prior to placing fill over the existing levee material, the surface of the existing fill should be scarified and compacted in-place to provide a suitable surface for placing additional fill. Voids or depressions left from clearing and grubbing, or possible rodent holes, should be filled with compacted material. Compacted fill can then be placed to finished grade.

Where higher grade raises are proposed and new fill will be placed beyond the footprint of the existing levee, additional site preparation could be needed prior to placing fill. The near-surface soil within the agricultural fields adjacent to the existing levees is likely loose, and should be removed prior to placing fill material. Site preparation in these areas will likely consist



of removing the existing soil from areas to receive fill to a depth of about 2 to 3 feet below the existing ground surface. The new fill can then be placed on the undisturbed subgrade. Soft or yielding subgrade conditions should be stabilized by placing a mat of dry, compacted fill over the undisturbed subgrade. Where fill is placed over the existing fill, the new fill should be keyed and benched several feet into the existing levee slope to provide a uniform transition with the existing levee fill. The final grading and depth of removal should be evaluated during the design-level geotechnical evaluation.

6.2.2 Use of On-site Soil

Excavated on-site soil that is free of organics and deleterious materials should generally be suitable for use in levee construction. Dredged or wet soil removed from excavations will need to be dried to a moisture content suitable for compaction prior to being placed as compacted fill. Fine-grained soil that appears to be present to a depth of several feet within the agricultural fields may be suitable to provide a blanket of impervious fill within the new levees. The quality of and need for this material should be considered in the design-level geotechnical study.

6.2.3 Groundwater

Groundwater was encountered at approximately 3 feet below the existing ground surface near Creek Road. Groundwater levels will vary depending on the time of construction, and should be considered in the excavation plans for the project. Dewatering and control of groundwater will likely be needed for excavations performed within the existing channel, or extending more than about 2 to 3 feet below the existing ground surface.

6.2.4 Excavation

The existing soil encountered along the levee can likely be excavated using conventional earth-moving equipment. Excavations extending below the levee or within the channel will need to consider the potential for encountering wet and yielding ground. Wet soils within the channel, or below the adjacent grade within the agricultural fields, will likely not support heavy construction traffic, such as self-loading scrapers or haul trucks, without stabilization. Subgrade stabilization and maintenance of haul roads will likely be needed to provide suitable access for construction traffic.

6.3 GEOTECHNICAL CONSIDERATIONS FOR DESIGN

The design of the levee will be geotechnically intensive. This preliminary evaluation identified geotechnical considerations relating to slope stability, seepage, and grading that should be considered in the design of the project. The design-level geotechnical study will likely involve additional slope stability and seepage analyses to provide specific recommendations for design, and to confirm the preliminary slope inclinations provided in this report. The report will also provide material requirements for compacted fill, low-permeability materials, and drainage as needed for the improvements based on the results of the additional analyses.



6.4 COMPARISON OF EXISTING AND PROPOSED CONDITIONS

Because the existing and proposed levees are vulnerable to various geologic hazards, our assessment of hazards is discussed relative to potential impacts to the project and relative to the existing levee conditions. The following table provides a comparison of the existing and proposed raised-levee conditions relative to the geologic hazards and geotechnical considerations that were evaluated for the project.

The following is the ranking of hazards that we used in the comparison.

Low: There is a low potential for the hazard to impact the project, because either review of the hazard suggests there is no potential for it to occur, the hazard has not been documented to be present at the site, the hazard has already been mitigated by the existing levee, or it will be mitigated as part of normal design and construction practice.

Moderate. There is a potential for the hazard to impact the project, the hazard can either only be partially mitigated or mitigation of the hazard reduces the risk of damage but it cannot be completely mitigated, or the site could be impacted by a hazard that has a low or uncertain rate of recurrence.

High. The hazard is likely to impact the project within the design life of the project, or the hazard is present and requires mitigation by applicable design standards and codes.

Comparison of Geologic Impacts to Existing Condition

Hazard	Description of Hazard	Potential to Impact the Existing Levee	Change due to Raising Levee	Comments
Fault Rupture	Rupture of a fault beneath a site or structure that can cause upheaval, cracking, and displacement of ground surface.	Low	Same	There are no known active faults that cross the project.
Seismic Shaking	Ground motion that results from nearby or regional earthquakes. The design earthquake is a M7.0 event resulting in a peak horizontal ground acceleration of about 46% of gravity that should be considered in geotechnical analyses for slope stability and liquefaction.	High	Nearly the same	See liquefaction and slope stability hazards.
Liquefaction and Seismic Settlement	Loss of strength and displacement of ground surface that normally occurs in loose sandy soil below the groundwater table. Portions of the soil column beneath Arroyo Grande Creek are prone to liquefaction and seismic settlement under the design earthquake effects, particularly downstream of about Creek Road.	High	Same	Hazard likely to be addressed by emergency response planning (ERP).
Slope Instability – static loading	The stability of the levee embankment under normal static (not earthquake) loads that may occur at existing or flood level conditions.	Low	Same	Factors of safety above minimums for stability for existing and proposed levee.



Hazard	Description of Hazard	Potential to Impact the Existing Levee	Change due to Raising Levee	Comments
Slope Instability – seismic loading including lateral spreads downstream of Creek Road	The reduced stability of the levee embankment when considering horizontal forces, liquefaction of the foundation support soil, and potential lateral displacement that could occur in response to the design earthquake.	High	Nearly the same	Hazard likely to be addressed by ERP.
Slope Instability – seismic loading including lateral spreads upstream of Creek Road	Same as above.	Low to Moderate	Nearly the same	Factors of safety above minimums for stability for existing and proposed levee. Address in ERP.
Ground Lurching	Detachment of underlying stratigraphic units within the ground, allowing near-surface soil to move differentially from underlying soil, as a result of inertial forces associated with an earthquake.	Moderate	Same	Address in ERP.
Landslides	The potential for a site to be unstable as a result of the location being underlain by existing landslides. The area along Arroyo Grande Creek is flat and not prone to landslides.	Low	Same	No existing landslides.
Subsidence	Settlement of the ground surface due to extraction of fluids, such as may occur due to pumping from an oil field or water well. Subsidence is common where there are highly compressible soils in areas where the groundwater table is artificially lowered causing the effective weight of the soil to increase.	Low	Same	Lowering of the groundwater table is not anticipated.
Scour and Erosion	Removal of sediment within the creek, along its banks, or the surface of the levees due to stream flow. Scour and erosion can cause degradation of the streambed or bank erosion that can cause slopes to be unstable. Vegetation within the existing channel and on the levee slope is the primary protection of the slopes within the existing channel.	Moderate	Same	Scour conditions to be addressed in the design of levees. Maintenance of channel should include debris removal that may cause localized scour.
Expansive Soils	Shrinking and swelling of a soil in response to changes in soil moisture. Shrinking and swelling of soil within a levee could result in fissures or cracks that can lead to seepage.	Low	Same	Levee materials encountered predominantly consisted of granular soils having low expansion potential.
Hydrocollapse	Settlement that occurs within a soil with relatively high porosity in response to wetting of the soil, typically due to irrigation, flooding, or rainfall.	Low	Same	Soils are either not susceptible or will be removed and replaced with compacted fill during normal site preparation and grading.
Tsunami	Long-period sea waves created due to seismic events or submarine landslides, that can bore up coastal rivers and streams causing flooding and destruction due to fast moving water and severe erosion. The project site is located within the coastal inundation zones shown on the County website.	Moderate	Reduced	Some increased flood protection will be provided by higher levees, but final levee height is below the County estimated depth of inundation.



Hazard	Description of Hazard	Potential to Impact the Existing Levee	Change due to Raising Levee	Comments
Dam Inundation	Flooding due to failure or breach of an upstream dam or impoundment. The site is downstream and within the inundation zone for Lopez Dam.	High	Reduced	Some increased flood protection will be provided by higher levees, but the levees will not be designed to retain flooding due to a dam failure.
Naturally Occurring Asbestos	Potential for air-born dust particles to cause an inhalation hazard, particularly to construction workers performing earthwork or causing dust.	Low	Same	Serpentinitic rocks in San Luis Obispo County are known to contain asbestos, but have not been mapped or encountered within project vicinity.
Radon Gases	Potential for geologic formations containing equivalent uranium concentrations to cause inhalation hazards within homes.	Low	Same	Hazard not applicable to levee project, and is not known to be present within the project limits.
Embankment Seepage and Piping	Erosion and potential instability of the levee resulting from uncontrolled seepage through the levee embankment, and subsequent erosion of the levee embankment due to seepage forces daylighting on the outside slope of the levee. Raising the levee can increase the potential hydraulic gradient through the levee, and the severity of this potential hazard.	Low	Increased	<p>The anticipated short duration for anticipated high-flow events may not have sufficient duration to cause steady-state seepage that would impact the levee. Because the impacts of seepage are important to the stability of hydraulic earth structures, seepage and any necessary mitigation should be addressed in the design of the levees.</p> <p>The existing levee does not appear to have been impacted by uncontrolled seepage or piping.</p>
Foundation Seepage	Erosion and potential instability of the levee resulting from uncontrolled seepage beneath the levee embankment, and subsequent piping of the foundation support soil due to seepage forces daylighting outside of the levee footprint. Raising the levee can increase the potential hydraulic gradient through the levee, and the severity of this potential hazard.	Low to moderate	Increased	<p>The anticipated short duration anticipated for high-flow events may not have sufficient duration to cause steady-state seepage that would impact the levee. However, because the impacts of seepage are important to the stability of hydraulic earth structures, seepage and any necessary mitigation should be addressed in the design of levee.</p> <p>The existing levee does not appear to have been impacted by uncontrolled seepage or piping beneath the levee.</p>



Hazard	Description of Hazard	Potential to Impact the Existing Levee	Change due to Raising Levee	Comments
Vegetation Management	Vegetation growing within the channel can block flows and reduce flood protection. The existing channel is relatively heavily vegetated with brush and small trees. Management of vegetation can impact seepage conditions if the root systems of dying or cut trees are left in-place to decay within the embankment. Root holes and voids left from the decayed or pulled roots can shorten seepage paths through the embankment increasing the potential for seepage or piping to extend through the embankment.	High	Same	Management of the vegetation should include removal of dead trees, and repair of voids left from pulled or decaying roots by filling the voids with properly compacted soil for either the existing or proposed levee condition.
Sediment Removal – Dredging	Accumulation of sediment within the channel of Arroyo Grande Creek and reduction of flood protection by blocking flow within the channel. Existing sediment within Arroyo Grande Creek will be removed as part of the project, and will need to be disposed of or re-used onsite.	High	Same	Ongoing maintenance of the channel should include periodic removal of sediment for either the existing or proposed conditions.

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120°37'0"W

120°36'0"W

120°35'0"W

35°6'30"N

35°6'30"N

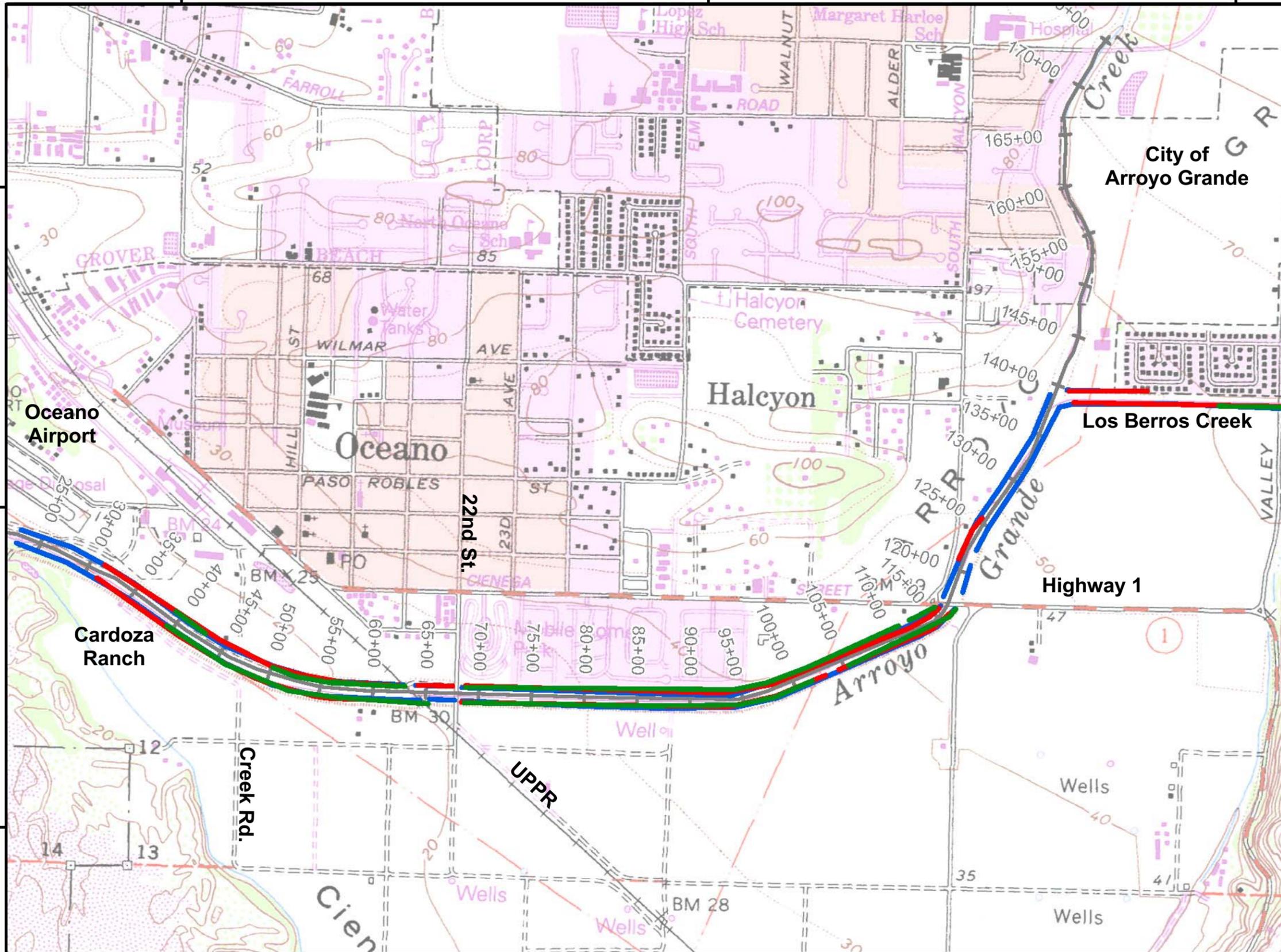
35°6'0"N

35°5'30"N

120°37'0"W

120°36'0"W

120°35'0"W



Legend

- Alt-3a Proposed levees
- Alt-3b Proposed levees
- Alt-3c Proposed levees
- Centerline Along Levee with Stationing



Horizontal Scale: 1:12,000

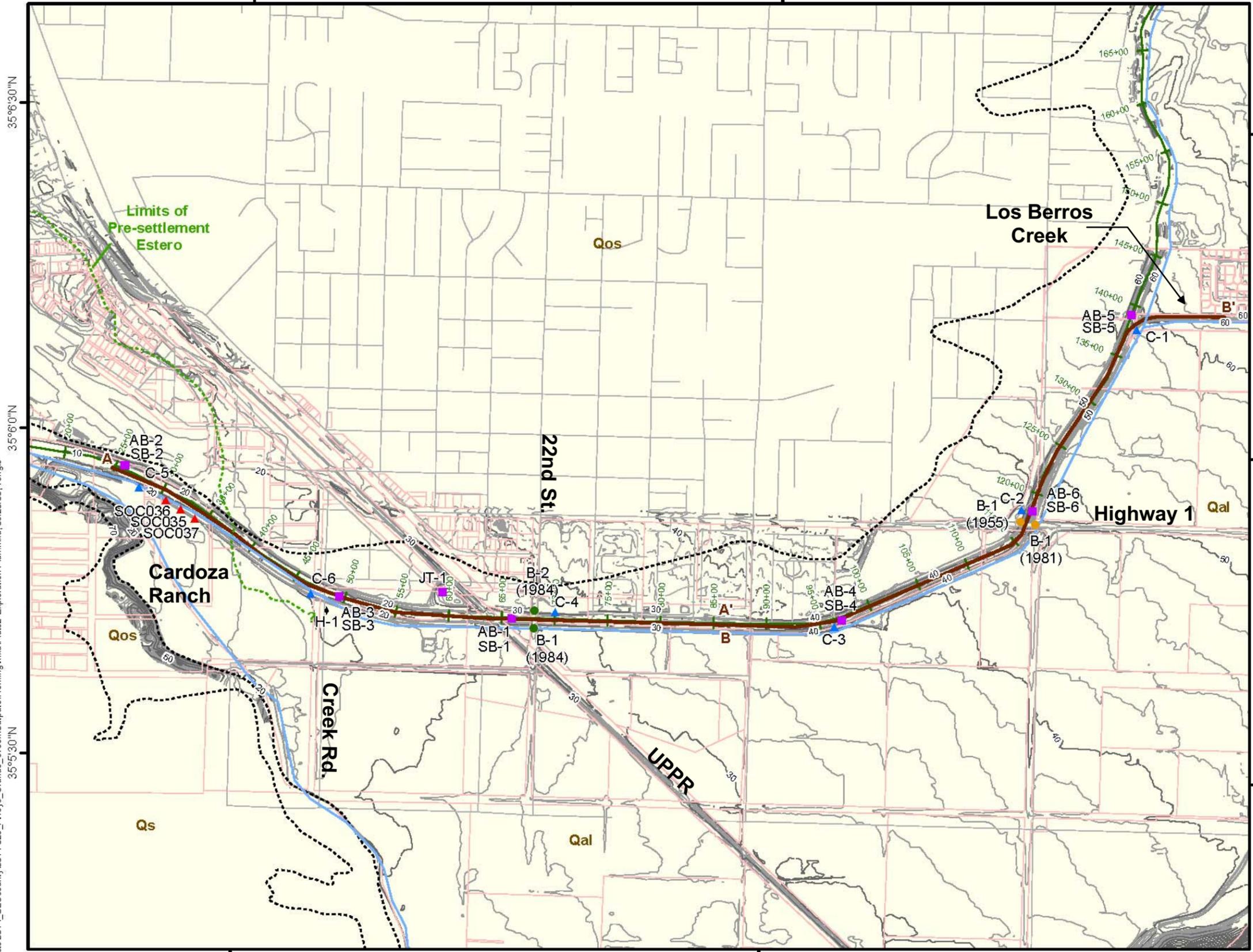


SITE MAP
Arroyo Grande Creek
Waterways Management Plan
San Luis Obispo County, California

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120°37'0"W

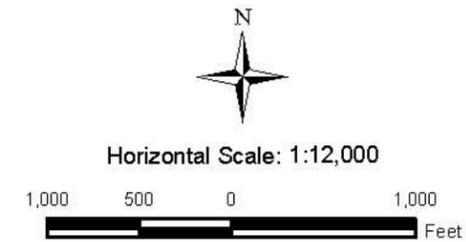
120°36'0"W



Legend

- Approximate Exploration Locations**
- ▲ Fugro CPT
 - ▲ USGS SCPT
 - Caltrans Boring (Year of Study)
 - SLO County Boring (Year of Study)
 - ◆ Hand Auger Boring
 - Hand Samples
 - SB Collected from Streambed
 - AB Collected Above Water Surface
 - JT Collected from J.Taylor's Property
- Geology**
- Contact
 - Limits of Pre-settlement Estero
 - Qal Alluvial Deposits
 - Qs Sand Dune Deposits
 - Qos Older Sand Dune Deposits

- Profile Line
- Centerline Along Levee with Stationing
- Roads
- 10 foot contour
- 2 foot contour
- Parcels within Zones 1 and 1a



FIELD EXPLORATION PLAN
Arroyo Grande Creek
Waterways Management Plan
San Luis Obispo County, California

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120°37'0"W

120°36'0"W

35°6'30"N

35°6'0"N

35°5'30"N

35°6'30"N

35°6'0"N

35°5'30"N



MAP UNITS	
Qal	Alluvial deposits
Qs	Sand Dune deposits
Qos	Older Sand Dune deposits
Qpr	Paso Robles Formation
Tmot	Obispo Formation, white or crystalline tuff
Tmor	Obispo Formation, silicified or zeolitized tuff
Jfcg	Franciscan Rocks, conglomerate
Jfch	Franciscan Rocks, green, white and red chert
Jfcly	Franciscan Rocks, claystone
Jfv	Franciscan Rocks, basalt, pillow basalt
s	Serpentinite

BASE MAP SOURCE: Geology of the Arroyo Grande 15' Quadrangle, San Luis Obispo County (Hall, 1973).

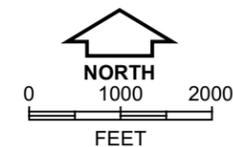
LEGEND

- ?--- Contact - Dashed where approximately located or inferred; queried where doubtful; dotted where concealed
- ?--- High-angle fault - Dashed where approximately located or inferred; dotted where concealed and inferred; queried where uncertain. Arrows show relative direction of movement on cross sections when known; queried where uncertain.
- ?--- Thrust or reverse fault - Dashed where approximately located or inferred, dotted where concealed and inferred; queried where concealed or doubtful. Sawteeth on upper plate. Dip of fault plane between 30° and 80°

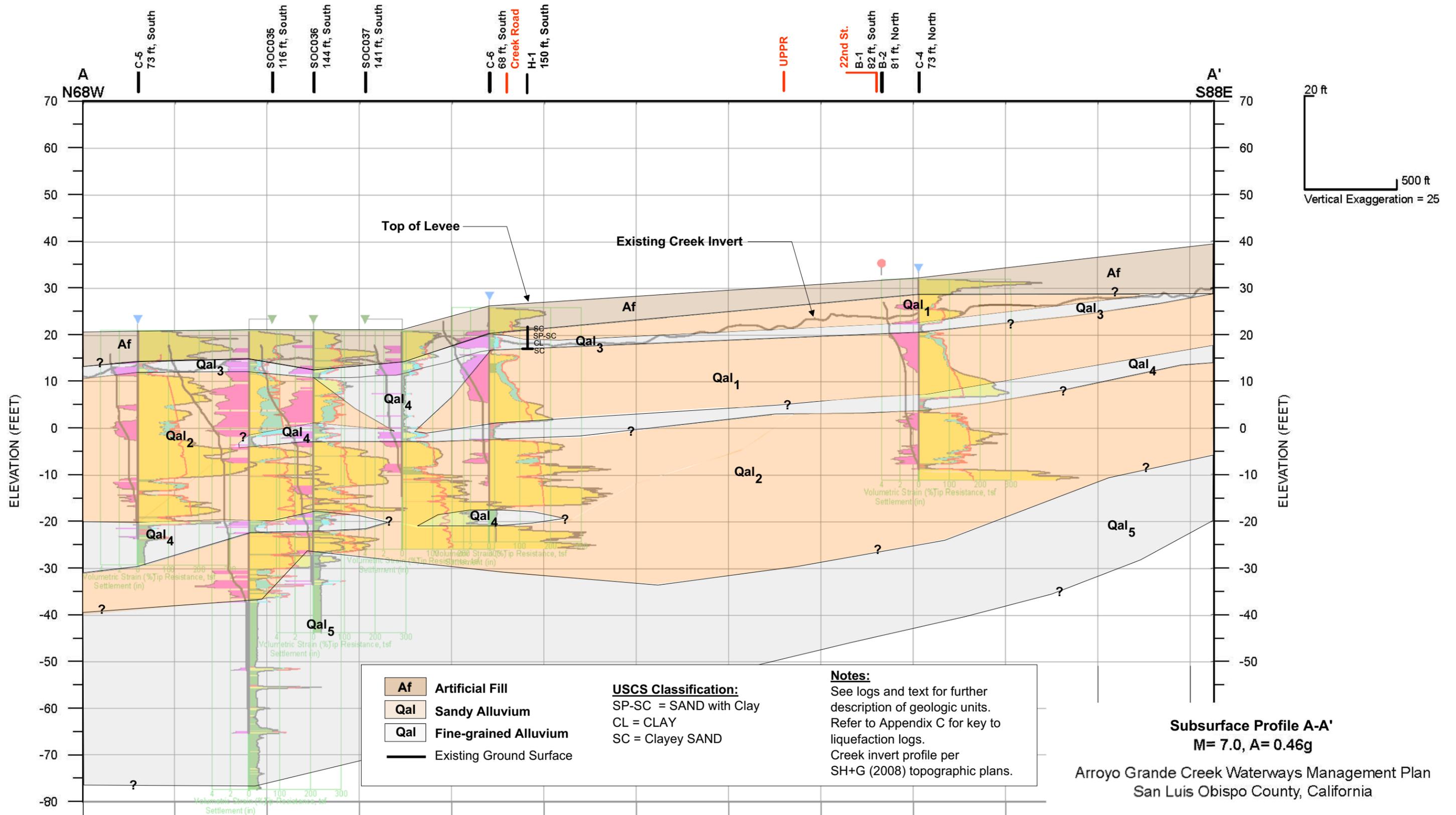
- ?--- Photo lineament - Queried where uncertain
- ?--- Synform - Trace of axis at surface. Dashed where approximately located. Flanks coverate downward in folds and in rocks whose stratigraphic sequence is unknown.
- ?--- Antiform - Trace of axis at surface. Dashed where approximately located. Flanks diverge downward in folds and in rocks whose stratigraphic sequence is unknown.
- ?--- Strike and dip of beds uncertain

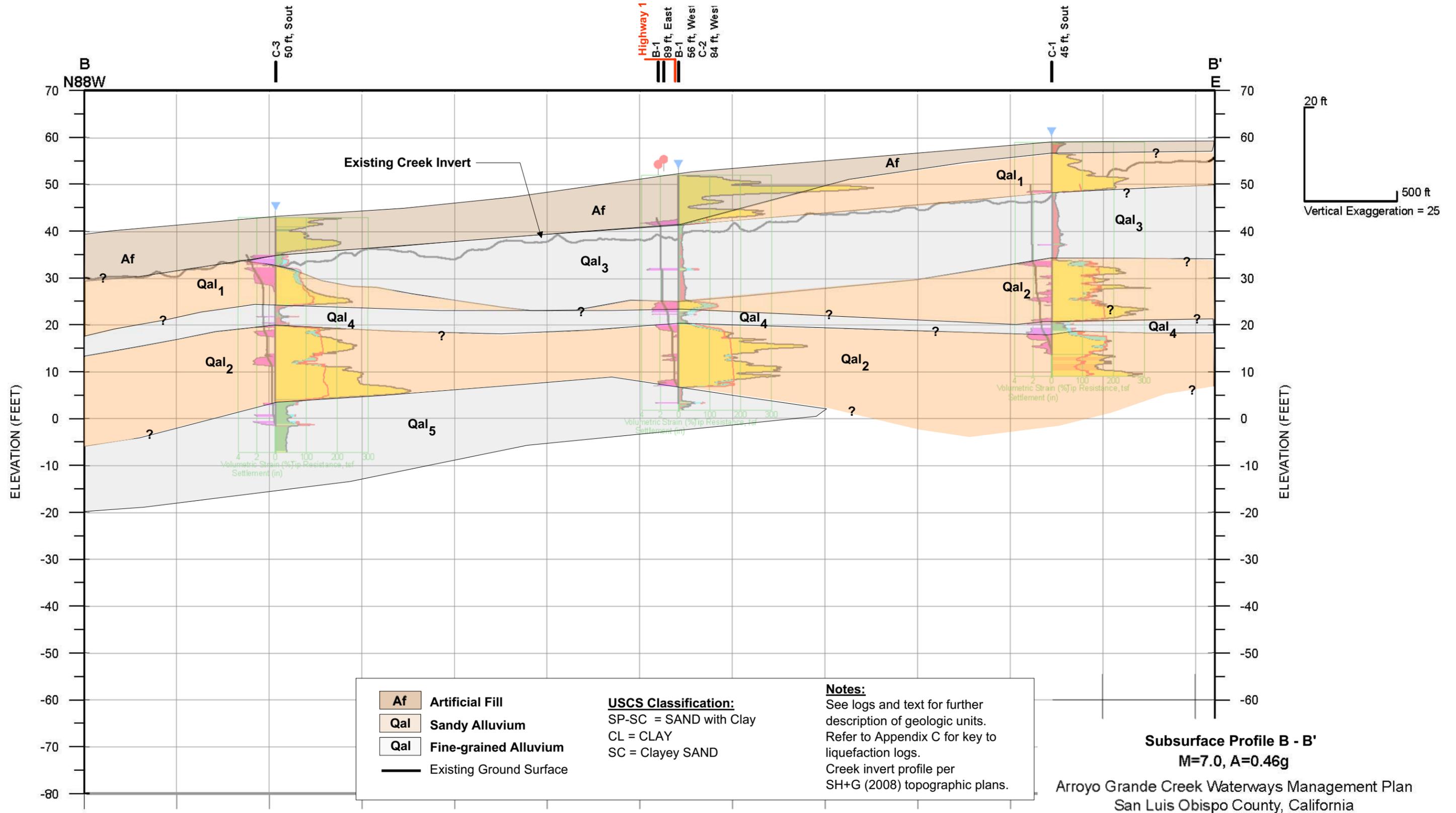
- Marker beds
- Conglomerate or gravel bed
- Sandstone
- Siltstone or diatomaceous siltstone
- ▲-▲-▲-▲-▲ Tuff
- ▲-▲-▲-▲-▲ Breccia

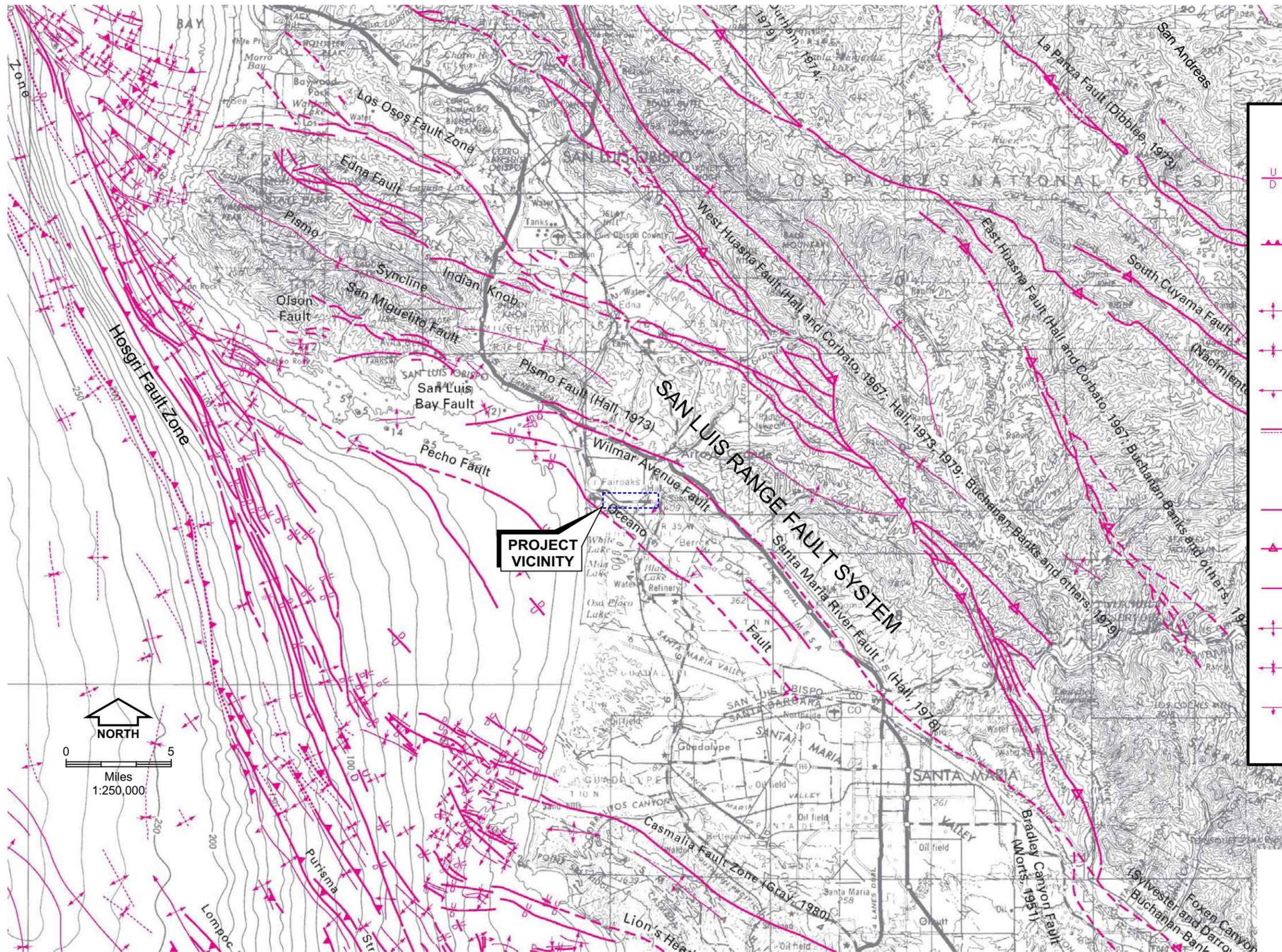
- 30 ↘ Strike and dip of flow banding
- x 6193 Megafossil locality - U.C.L.A. locality number
- Vollmer Ranch name/property owner



REGIONAL GEOLOGIC MAP
Arroyo Grande Creek
Waterways Management Plan
San Luis Obispo County, California







EXPLANATION

OFFSHORE REGION*

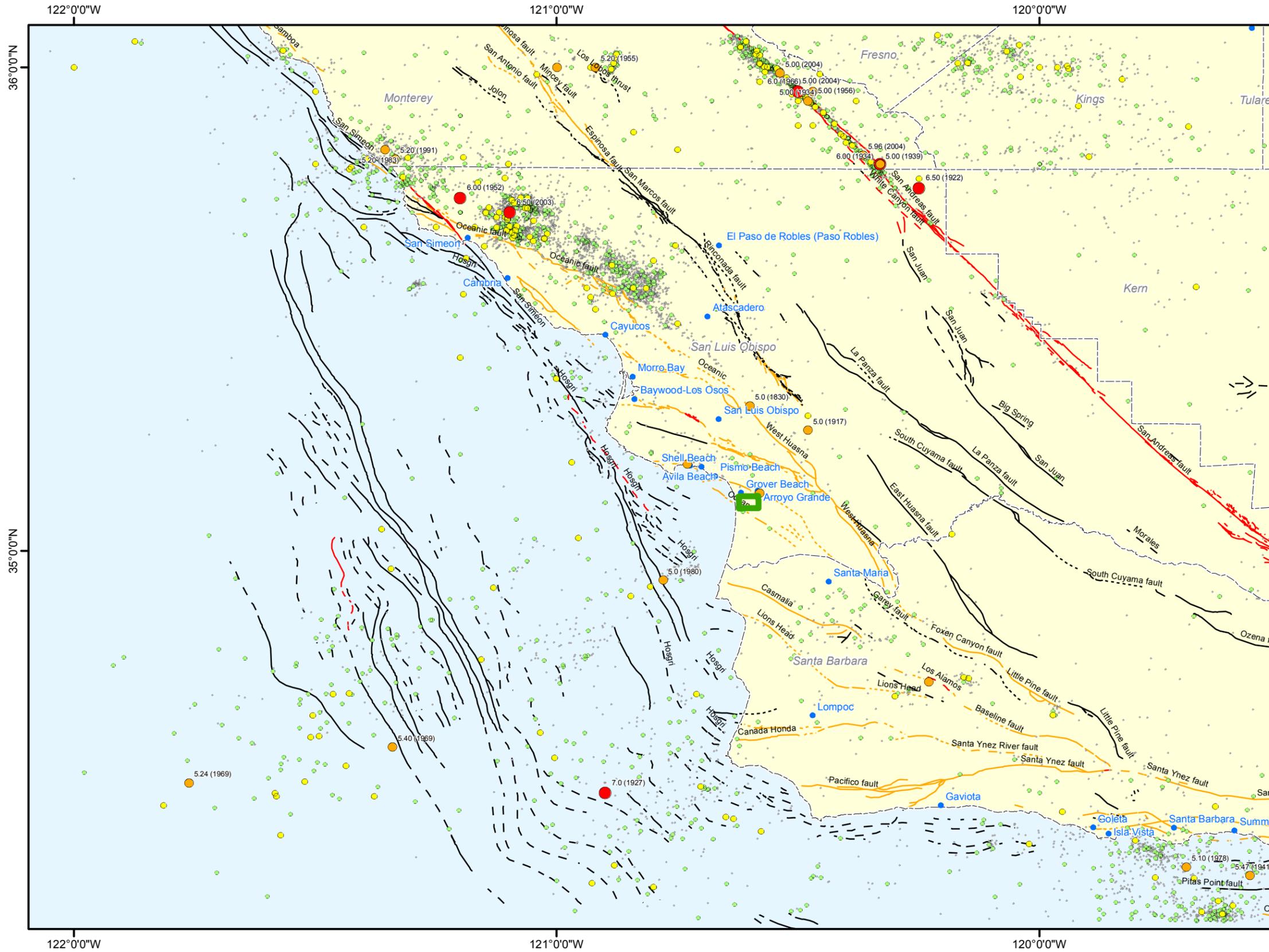
- Active or potentially active high angle fault (sea-floor projection of fault tip where blind or buried)—Deforms early/late Pliocene (2.8–3.4 Ma) unconformity or younger deposits or surfaces; U/D (Up/Down) indicates relative sense of displacement, bar indicates dip direction; dashed where approximately located
- Active or potentially active low angle fault (sea-floor projection of fault tip or leading edge of ramp where blind or buried)—Deforms early/late Pliocene (2.8–3.4 Ma) unconformity or younger deposits or surfaces; teeth indicate dip direction; dashed where approximately located
- Active or potentially active antiline axial trace (sea-floor projection where buried)—Arrow indicates direction of plunge; dashed where approximately located
- Active or potentially active synline axial trace (sea-floor projection where buried)—Arrow indicates direction of plunge; dashed where approximately located
- Active or potentially active monocline axial trace (sea-floor projection where buried)—Arrow indicates direction of plunge; dashed where approximately located
- Inactive fault (bold) or fold (light)—Does not deform early/late Pliocene (2.8–3.4 Ma) unconformity; where this unconformity and (or) younger sediments are absent as a result of erosion, structures are mapped as potentially active

ONSHORE REGION*

- Active fault trace—Deforms deposits or surfaces $\leq 500,000$ ka; dashed where approximately located
- Potentially active fault trace—May deform deposits or surfaces $\leq 500,000$ ka; dashed where approximately located
- Inactive active fault trace—Does not deform deposits or surfaces $\leq 500,000$ ka; dashed where approximately located
- Anticline axial trace—Arrow indicates direction of plunge; solid where active or potentially active; dotted where inactive
- Synline axial trace—Arrow indicates direction of plunge; solid where active or potentially active; dotted where inactive
- Monocline axial trace—Solid where active or potentially active; dotted where inactive

*Note: See text for discussion of mapping techniques and age criteria used to identify fault activity.

REGIONAL FAULT MAP
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California



Legend

- Project Area

Earthquake Magnitude
Magnitudes equal to and greater than 5 are labeled.

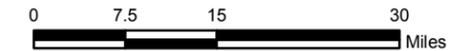
- 2.0 - 2.9
- 3.0 - 3.9
- 4.0 - 4.9
- 5.0 - 5.9
- >6.0

Faults (dashed where inferred, dotted where concealed)

- Active Fault
- Potentially Active Fault
- Inactive Fault

Source:

- 1) Earthquake Data:
Earthquake epicenters from:
a) ANSS Composite Catalog Search, 1933 to 2008, <www.ncedc.org/anss/> (downloaded March 2008)
b) "Seismotectonic framework, coastal central California", Seismotectonics of the Central California Coast Range, Special Paper 292, Geological Society of America, 1994.
- 2) Faults:
a) Bryant, 2005
b) Jennings, 1994



HISTORICAL SEISMICITY MAP
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

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ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLES	BLOW COUNT / REC'D/DRIVE"	LOCATION: The drill hole location referencing local landmarks or coordinates	General Notes
						SURFACE EL: Using local, MSL, MLLW or other datum	Soil Texture Symbol
							Sloped line in symbol column indicates transitional boundary
							Samplers and sampler dimensions (unless otherwise noted in report text) are as follows:
							Symbol for:
							1 SPT Sampler, driven 1-3/8" ID, 2" OD
							2 CA Liner Sampler, driven 2-3/8" ID, 3" OD
							3 CA Liner Sampler, disturbed 2-3/8" ID, 3" OD
							4 Thin-walled Tube, pushed 2-7/8" ID, 3" OD
							5 Bulk Bag Sample (from cuttings)
							6 CA Liner Sampler, Bagged
							7 Hand Auger Sample
							8 CME Core Sample
							9 Pitcher Sample
							10 Lexan Sample
							11 Vibracore Sample
							12 No Sample Recovered
							13 Sonic Soil Core Sample
							SAMPLER DRIVING RESISTANCE
							Number of blows with 140 lb. hammer, falling 30" to drive sampler 1 ft. after seating sampler 6"; for example,
							Blows/ft Description
							25 25 blows drove sampler 12" after initial 6" of seating
							86/11" After driving sampler the initial 6" of seating, 36 blows drove sampler through the second 6" interval, and 50 blows drove the sampler 5" into the third interval
							50/6" 50 blows drove sampler 6" after initial 6" of seating
							Ref/3" 50 blows drove sampler 3" during initial 6" seating interval
							BLOW COUNTS FOR CALIFORNIA LINER SAMPLER
							shown in ()
							LENGTH OF SAMPLE SYMBOL APPROXIMATES RECOVERY LENGTH
							CLASSIFICATION OF SOILS PER ASTM D2487 OR D2488
							Geologic Formation noted in bold font at the top of interpreted interval
							STRENGTH LEGEND
							Q = Unconfined Compression
							u = Unconsolidated Undrained Triaxial
							t = Torvane
							p = Pocket Penetrometer
							m = Miniature Vane
							Water Level Symbols
							▽ Initial or perched water level
							∇ Final ground water level
							⊕ Seepages encountered
							Rock Quality Designation (RQD) is the sum of recovered core pieces greater than 4 inches divided by the length of the cored interval.

KEY TO TERMS & SYMBOLS USED ON LOGS



ELEVATION, ft	DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLERS	SAMPLER BLOW COUNT	LOCATION: Approximately 25' south of South Levee, and approximately 14' east of Creek Road SURFACE EL: 20 ft +/- (rel. MSL datum)	UNIT WET WEIGHT, pcf	UNIT DRY WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX, %	UNDRAINED SHEAR STRENGTH, S _u , ksf
						MATERIAL DESCRIPTION							
						ALLUVIUM (Qal) TOPSOIL: loose, dry							
			1			Clayey SAND (SC): loose to medium dense, dark brown, moist	107	92	12	48			
-18	2		2			Poorly-graded SAND with clay (SP-SC): loose, light brown, moist to wet							
			3			Lean CLAY (CL): soft to medium stiff, moist to wet							
			4			Clayey SAND (SC): medium dense, brown, wet							
-16	4												
-14	6												
-12	8												

The log and data presented are a simplification of actual conditions encountered at the time of drilling at the drilled location. Subsurface conditions may differ at other locations and with the passage of time.

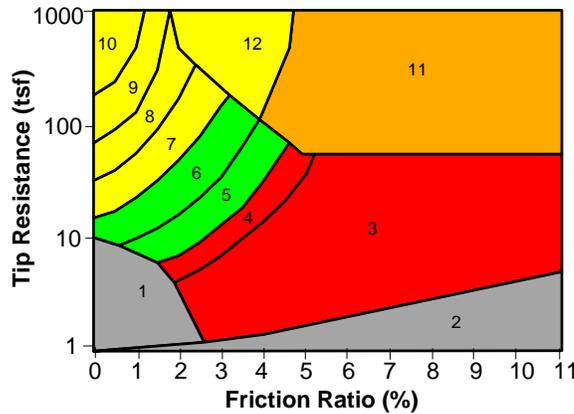
COMPLETION DEPTH: 4.5 ft
DEPTH TO WATER: 3.0 ft
DRILLING DATE: August 14, 2008

DRILLING METHOD: 4-inch-dia. Hand Auger
DRILLED BY: C.Stoehr
LOGGED BY: C.Stoehr

LOG OF BORING NO. H-1
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California



COLOR LEGEND FOR FRICTION RATIO TRACES



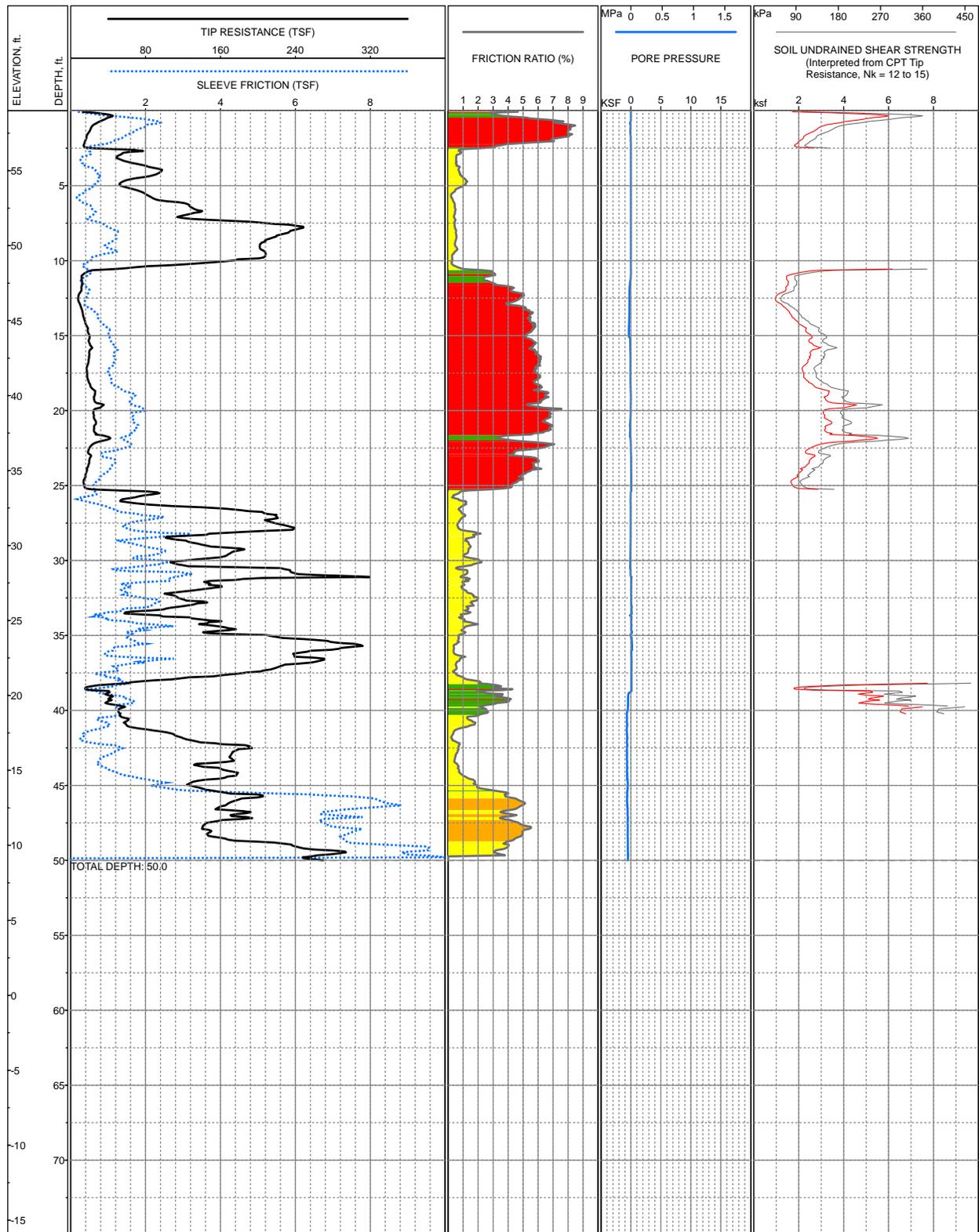
Zone	Soil Behavior Type	U.S.C.S.
1	Sensitive Fine-grained	OL-CH
2	Organic Material	OL-OH
3	Clay	CH
4	Silty Clay to Clay	CL-CH
5	Clayey Silt to Silty Clay	MH-CL
6	Sandy Silt to Clayey Silt	ML-MH
7	Silty Sand to Sandy Silt	SM-ML
8	Sand to Silty Sand	SM-SP
9	Sand	SW-SP
10	Gravelly Sand to Sand	SW-GW
11	Very Stiff Fine-grained *	CH-CL
12	Sand to Clayey Sand *	SC-SM

*overconsolidated or cemented

CPT CORRELATION CHART
(Robertson and Campanella, 1984)

KEY TO CPT LOGS

Arroyo Grande Creek Waterways Management Plan
San Luis Obispo, California

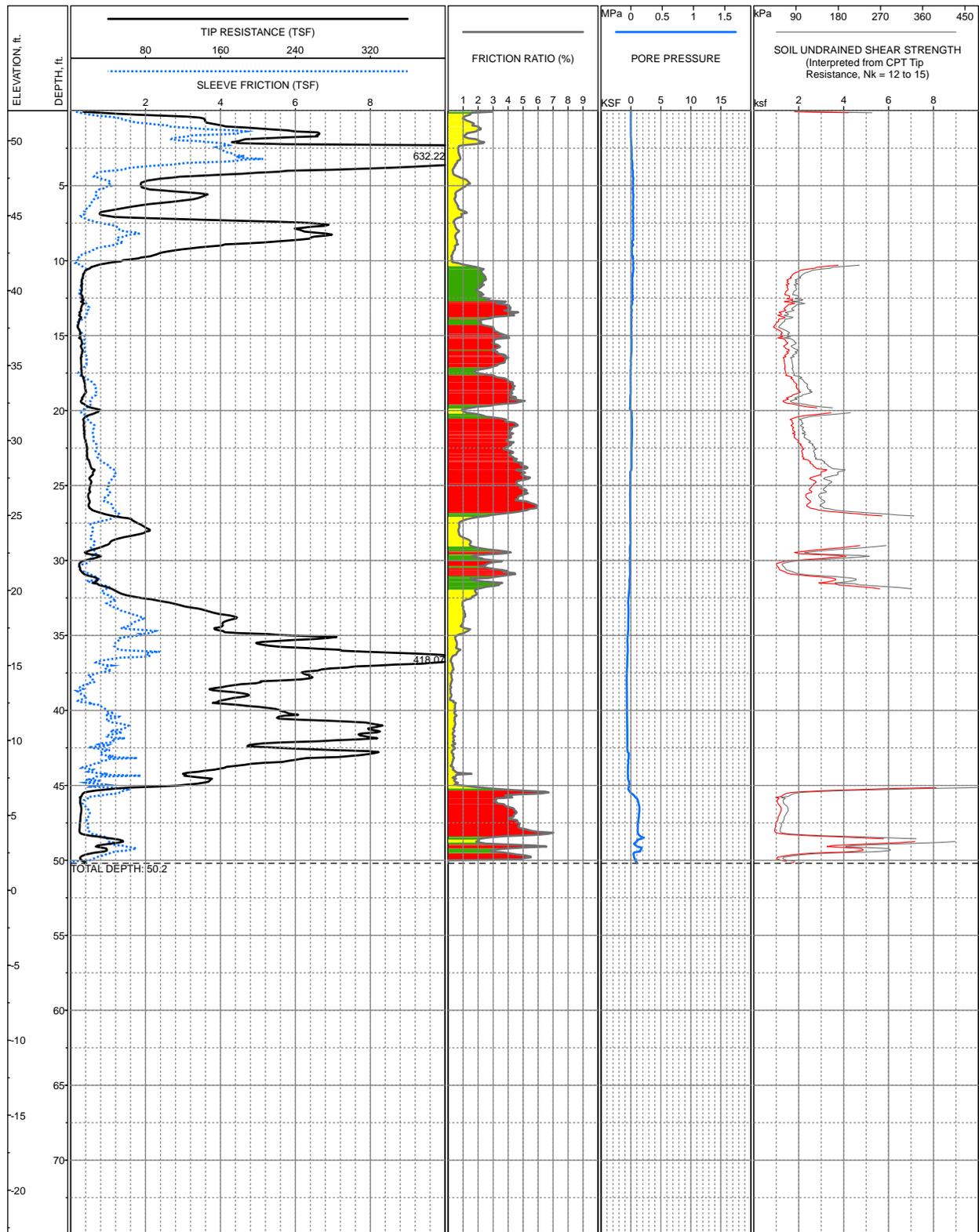


COORDINATES: 2,233,857.20N 5,787,490.08W
 SURFACE EL: 59.0ft +/- (MSL)
 COMPLETION DEPTH: 50.0ft
 TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 REVIEWED BY: J.Blanchard

LOG OF C-1
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo, California

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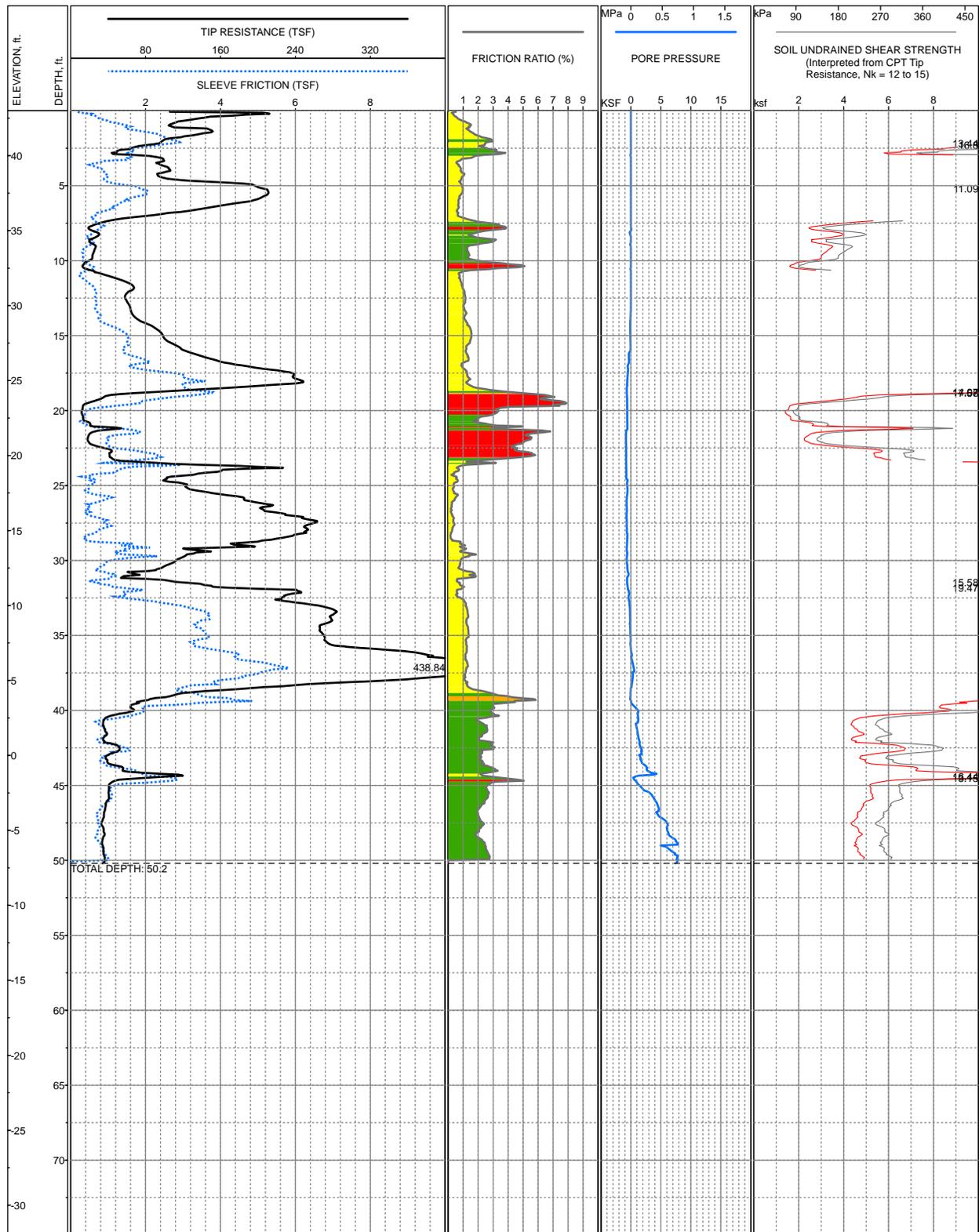


COORDINATES: 2,232,173.97N 5,786,405.43W
SURFACE EL: 52.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J.Blanchard

LOG OF C-2
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo, California

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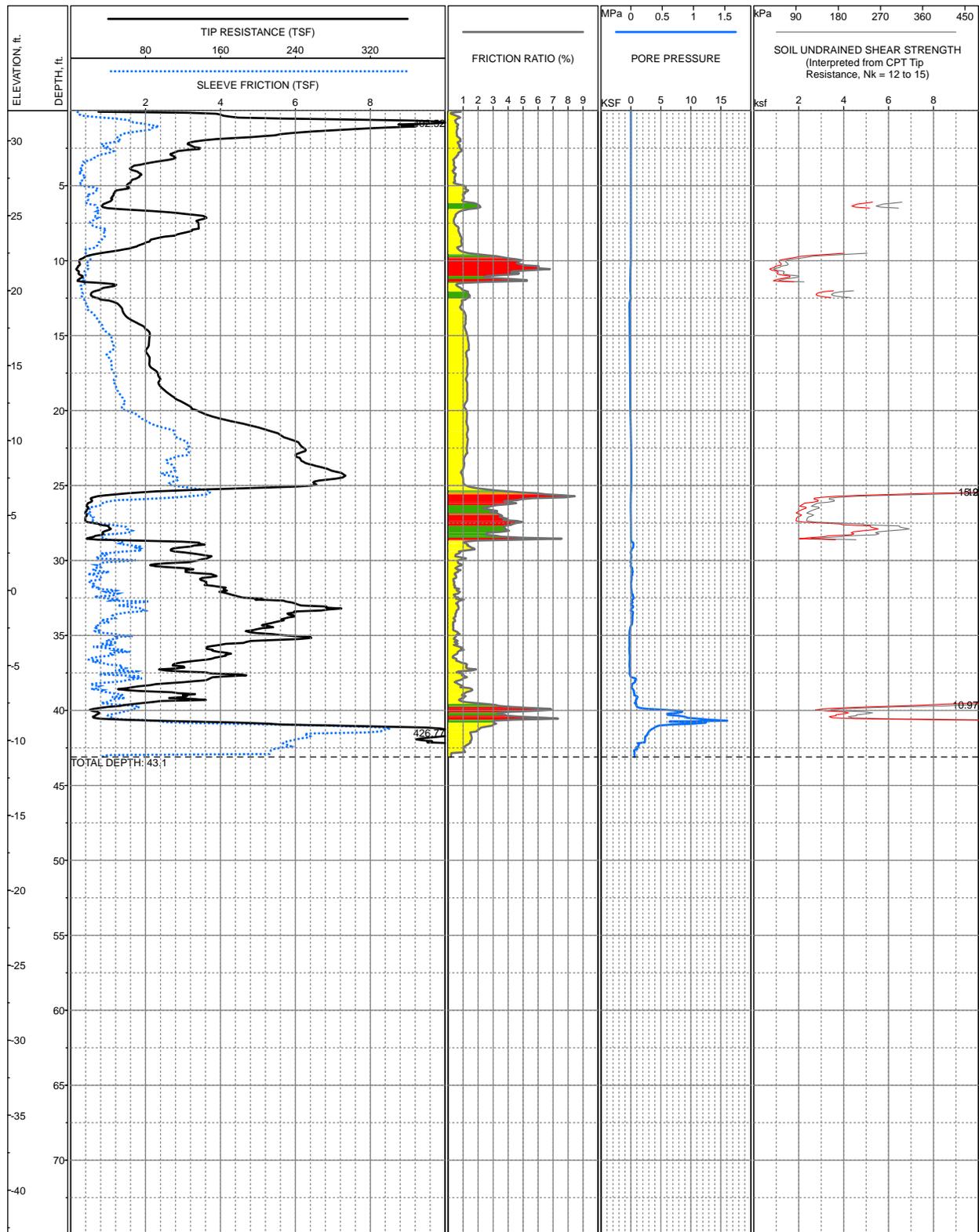


COORDINATES: 2,231,087.37N 5,784,635.85W
SURFACE EL: 43.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J.Blanchard

LOG OF C-3
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo, California

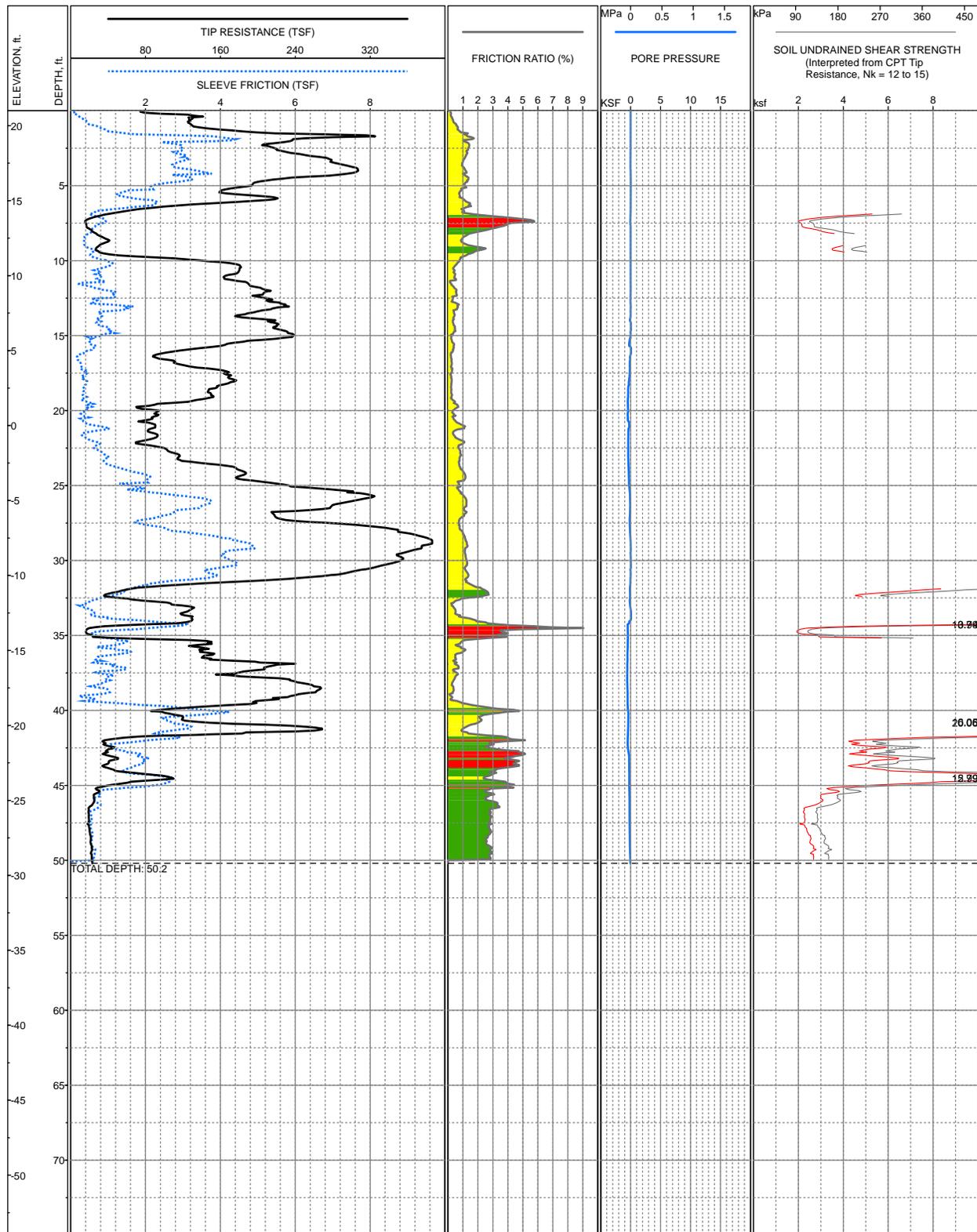
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COORDINATES: 2,231,221.08N 5,782,003.06W
SURFACE EL: 32.0ft +/- (MSL)
COMPLETION DEPTH: 43.1ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J.Blanchard

LOG OF C-4
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo, California

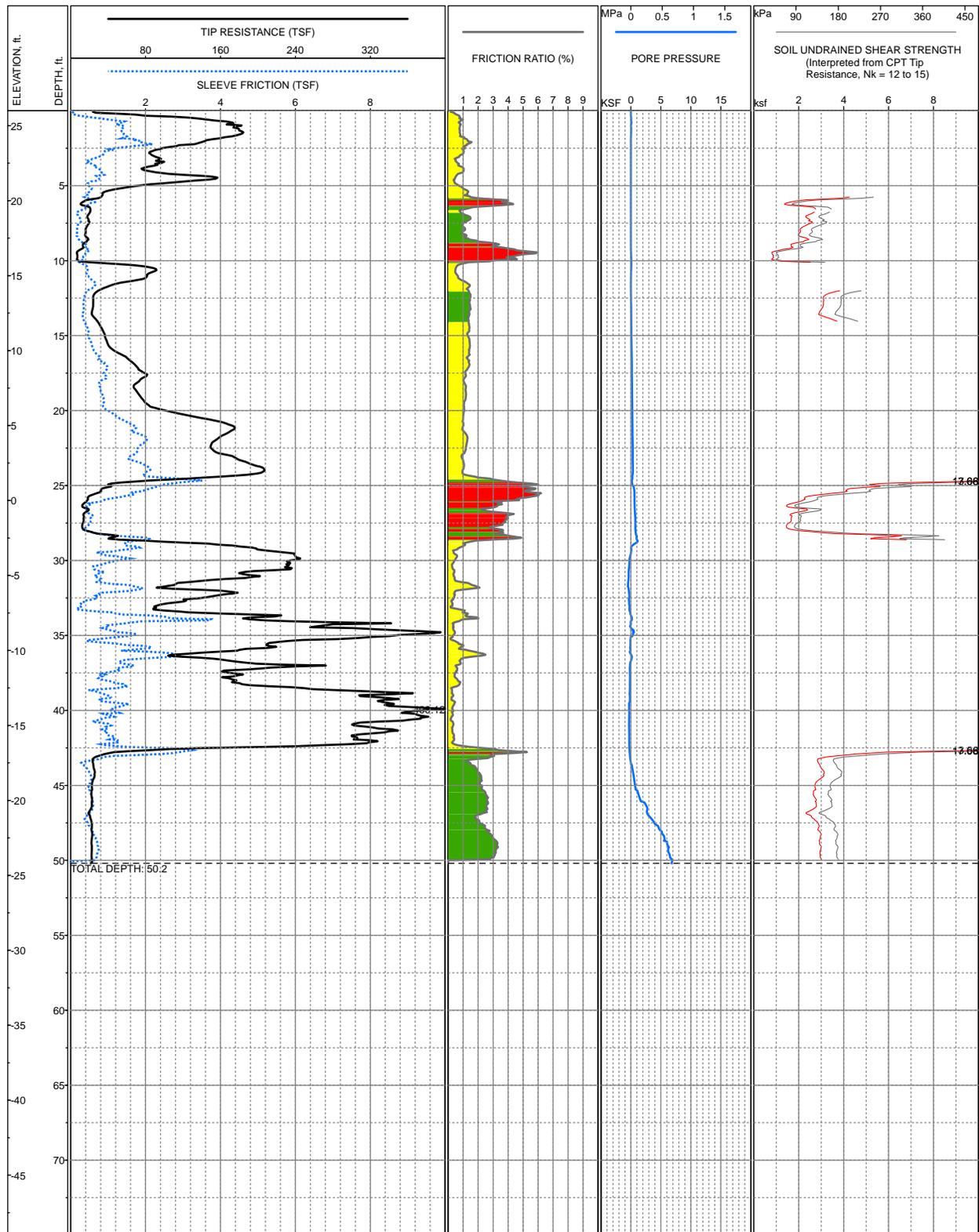


COORDINATES: 2,232,390.00N 5,778,074.64W
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 50.2ft
 TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 REVIEWED BY: J.Blanchard

LOG OF C-5
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo, California

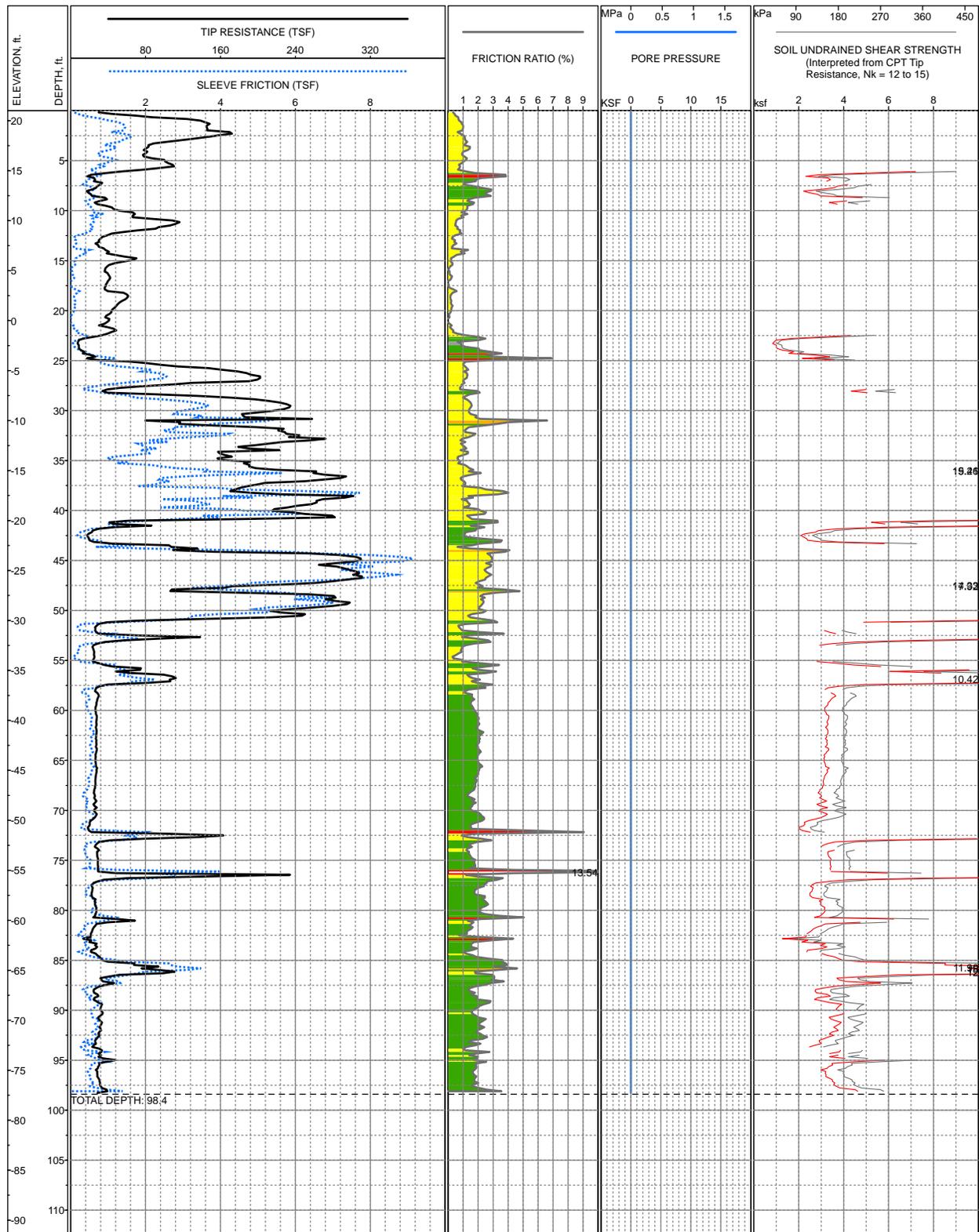
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COORDINATES: 2,231,397.63N 5,779,691.56W
SURFACE EL: 26.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J.Blanchard

LOG OF C-6
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo, California

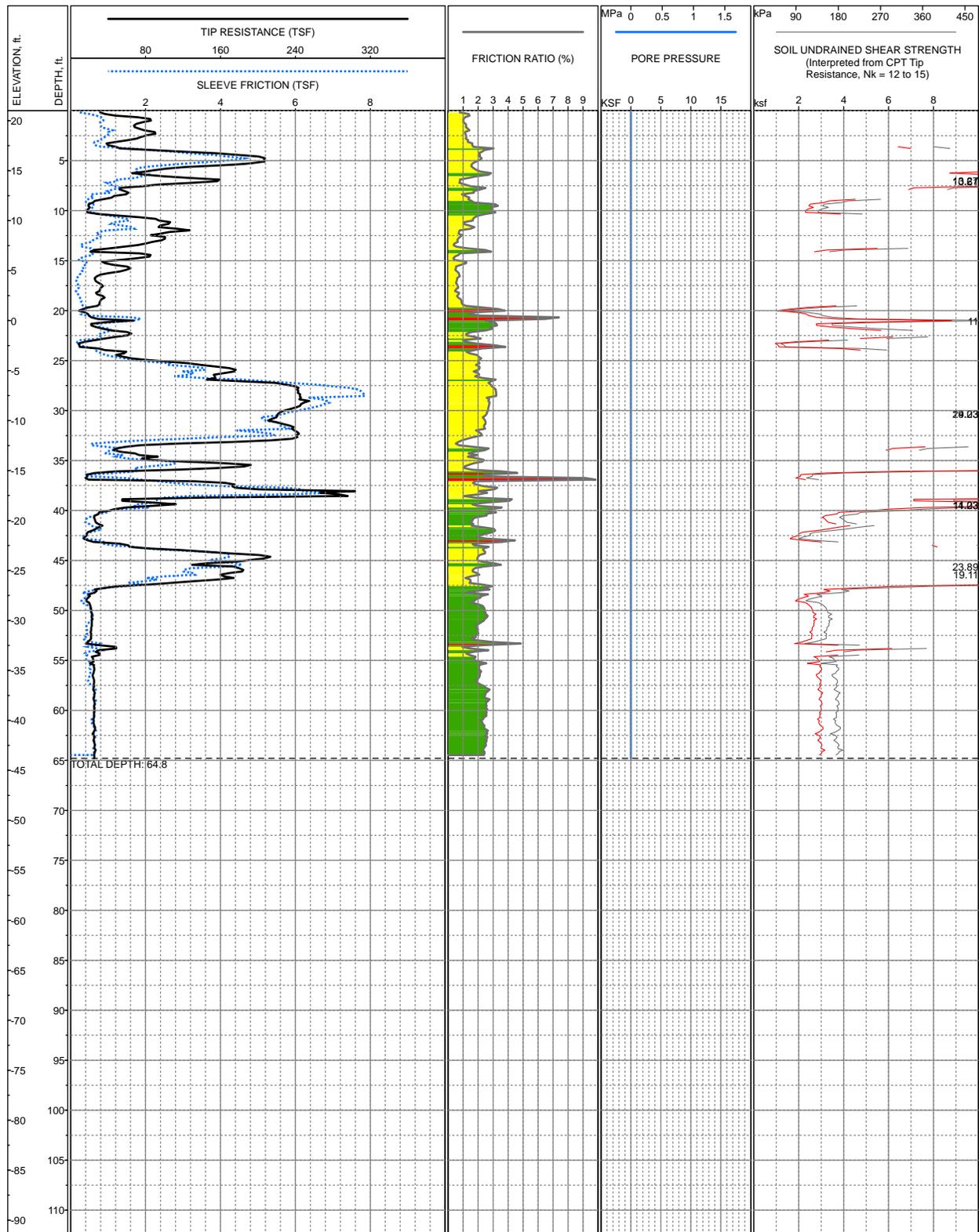


LOCATION: South Levee, Approx. 3350 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 98.4ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
 REVIEWED BY: J.Blanchard

LOG OF SOC035
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo, California

N:\Projects\3014_SLO\County\3014-029_Arroyo_Grande_Creek\Explorations\CPT\USGS_2004\Logs\Logs_Su_2008_Aug\MXD\CPTLog_Su.mxd,08/29/2008,ksheil

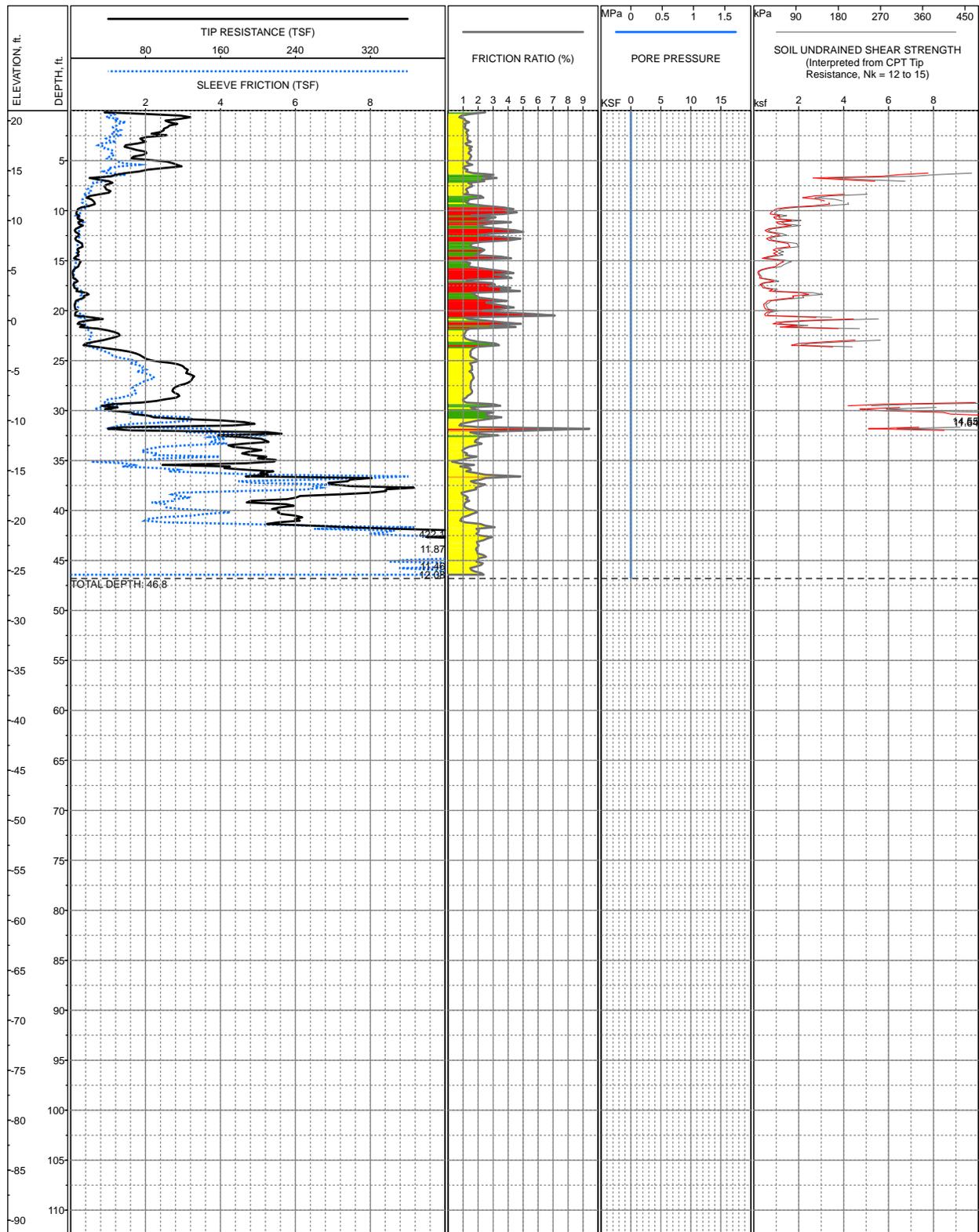


LOCATION: South Levee, Approx. 3500 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 64.8ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
 REVIEWED BY: J.Blanchard

LOG OF SOC036
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo, California

N:\Projects\3014_SLO\county\3014-029_Arroyo_Grande_Creek\Explorations\CPT\USGS_2004\Logs\Logs_Su_2008_Aug\MXD\CPTLog_Su.mxd,08/29/2008,ksheil

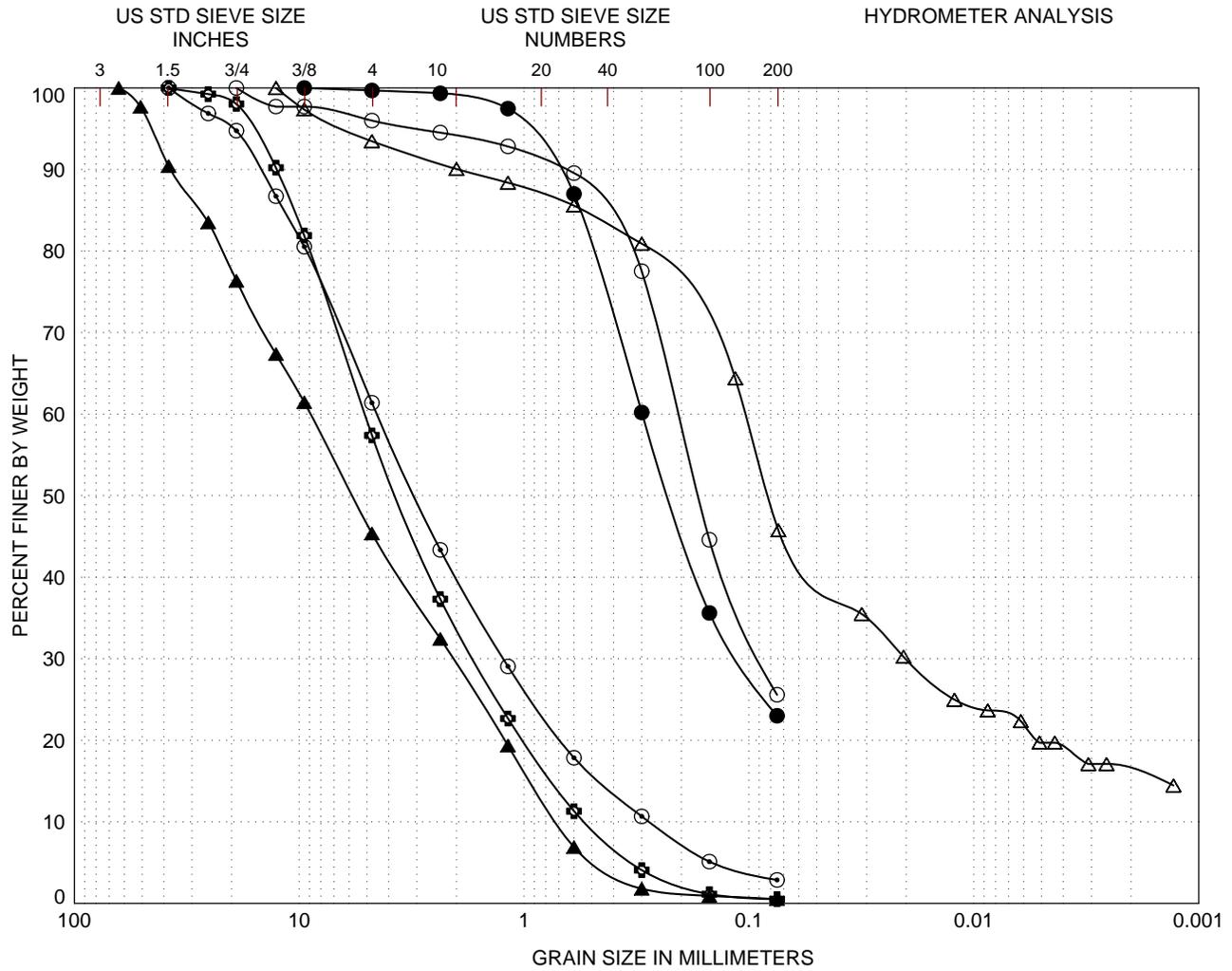


LOCATION: South Levee, Approx. 3250 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 46.8ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
 REVIEWED BY: J.Blanchard

LOG OF SOC037
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo, California

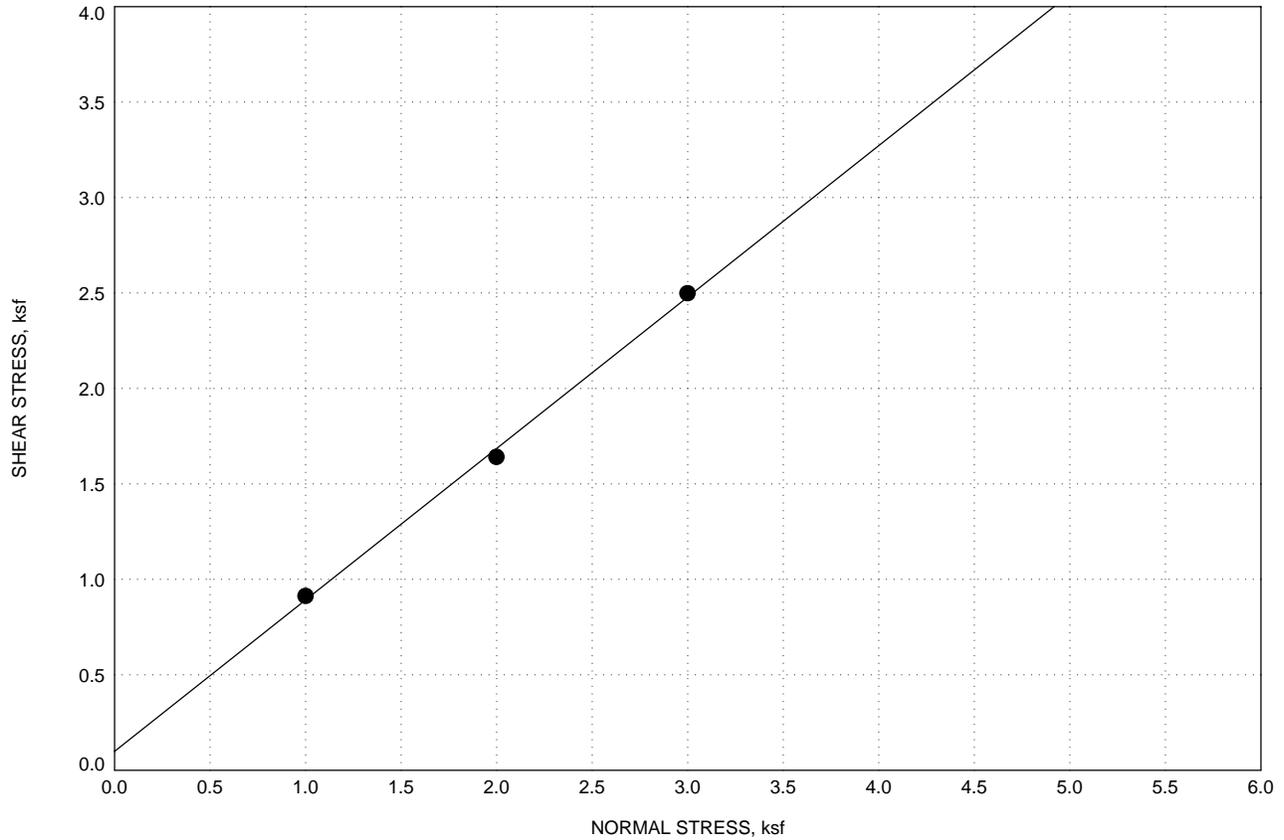
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GRAVEL		SAND			SILT or CLAY
Coarse	Fine	Coarse	Medium	Fine	

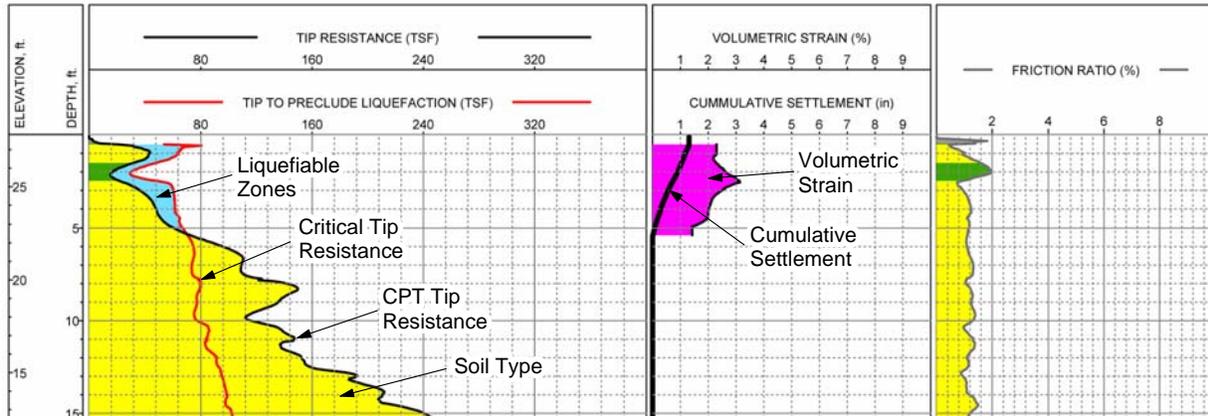
LEGEND			CLASSIFICATION	Cc	Cu
	(location)	(depth,ft)			
○	AB-1	0.0	Silty SAND (SM)		
●	AB-2	0.0	Silty SAND (SM)		
△	AB-6	0.0	Silty SAND (SM)		
▲	SB-1	0.0	Poorly-graded GRAVEL with sand (GP)	0.7	12.6
⊙	SB-2	0.0	Well-graded SAND with gravel (SW)	1.2	16.3
⊕	SB-6	0.0	Well-graded SAND with gravel (SW)	1.0	9.7

GRAIN SIZE CURVES
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

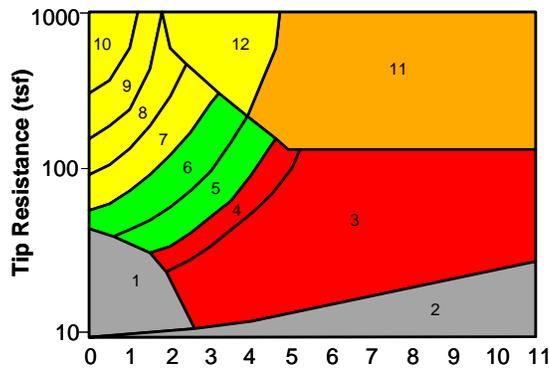


COHESION, ksf	0.1
ANGLE OF INTERNAL FRICTION, deg	38
LOCATION	H-1
DEPTH, ft	1
MOISTURE CONTENT, %	17
UNIT DRY WEIGHT, pcf	92
MATERIAL DESCRIPTION	Clayey SAND (SC)
SAMPLE CONDITION	Ring Sample

DIRECT SHEAR TEST RESULTS
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



COLOR LEGEND FOR FRICTION RATIO TRACES



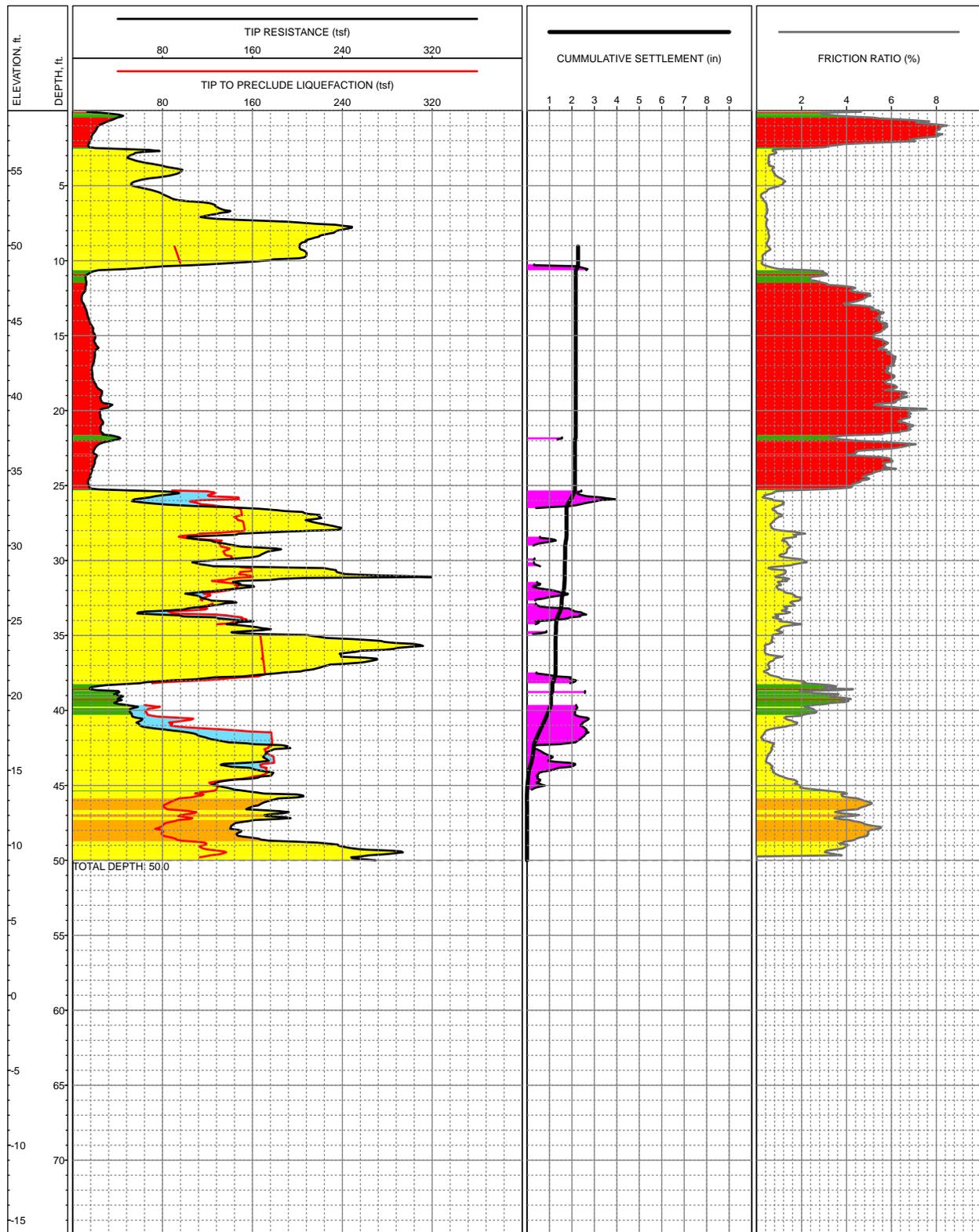
Zone	Soil Behavior Type	U.S.C.S.
1	Sensitive Fine-grained	OL-CH
2	Organic Material	OL-OH
3	Clay	CH
4	Silty Clay to Clay	CL-CH
5	Clayey Silt to Silty Clay	MH-CL
6	Sandy Silt to Clayey Silt	ML-MH
7	Silty Sand to Sandy Silt	SM-ML
8	Sand to Silty Sand	SM-SP
9	Sand	SW-SP
10	Gravelly Sand to Sand	SW-GW
11	Very Stiff Fine-grained *	CH-CL
12	Sand to Clayey Sand *	SC-SM

*overconsolidated or cemented

**CPT CORRELATION CHART
(Robertson and Campanella, 1984)**

KEY TO CPT LOGS

Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

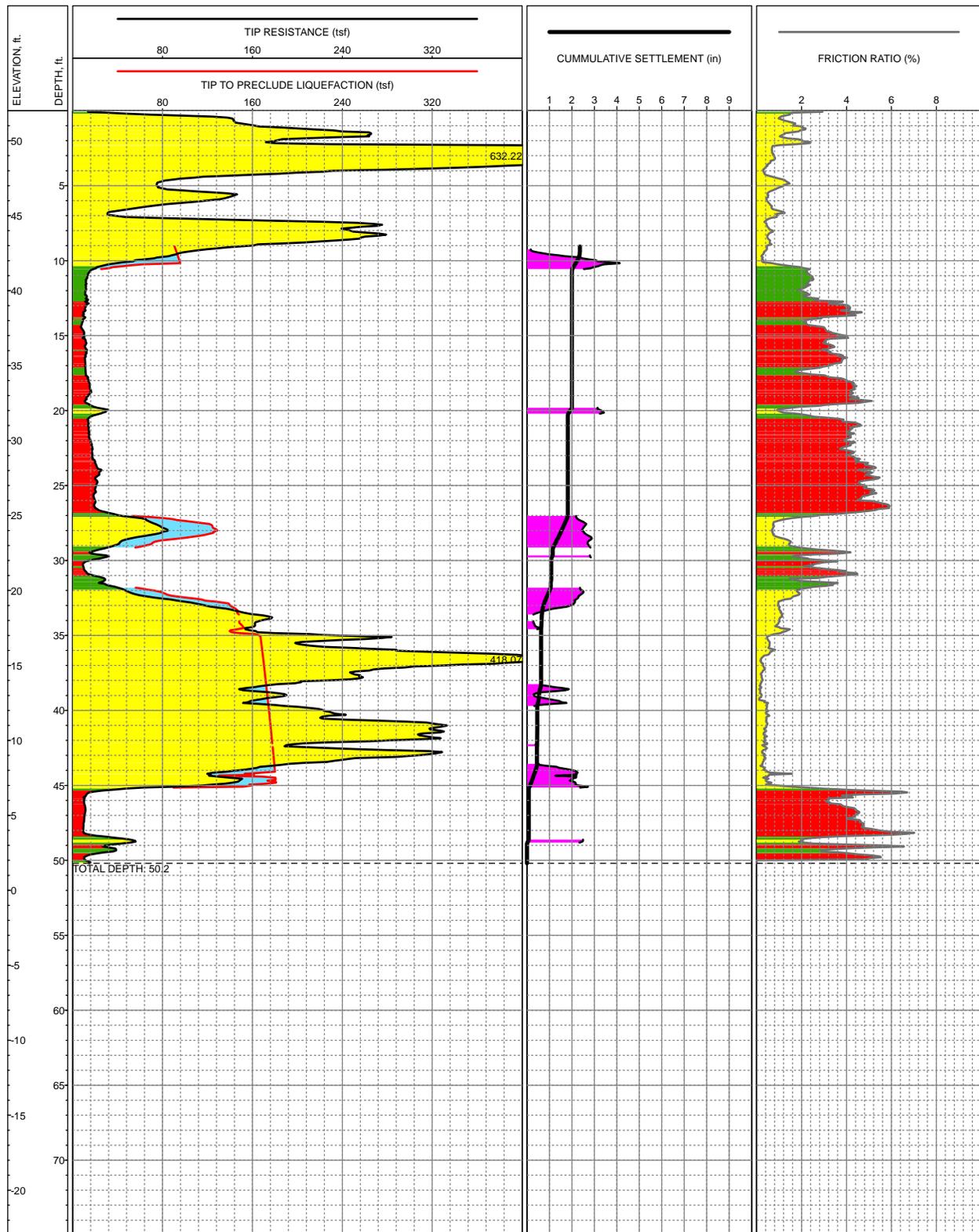


COORDINATES: 2,233,857.20N 5,787,490.08W
SURFACE EL: 59.0ft +/- (MSL)
COMPLETION DEPTH: 50.0ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-1, M7.0, a=0.46
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

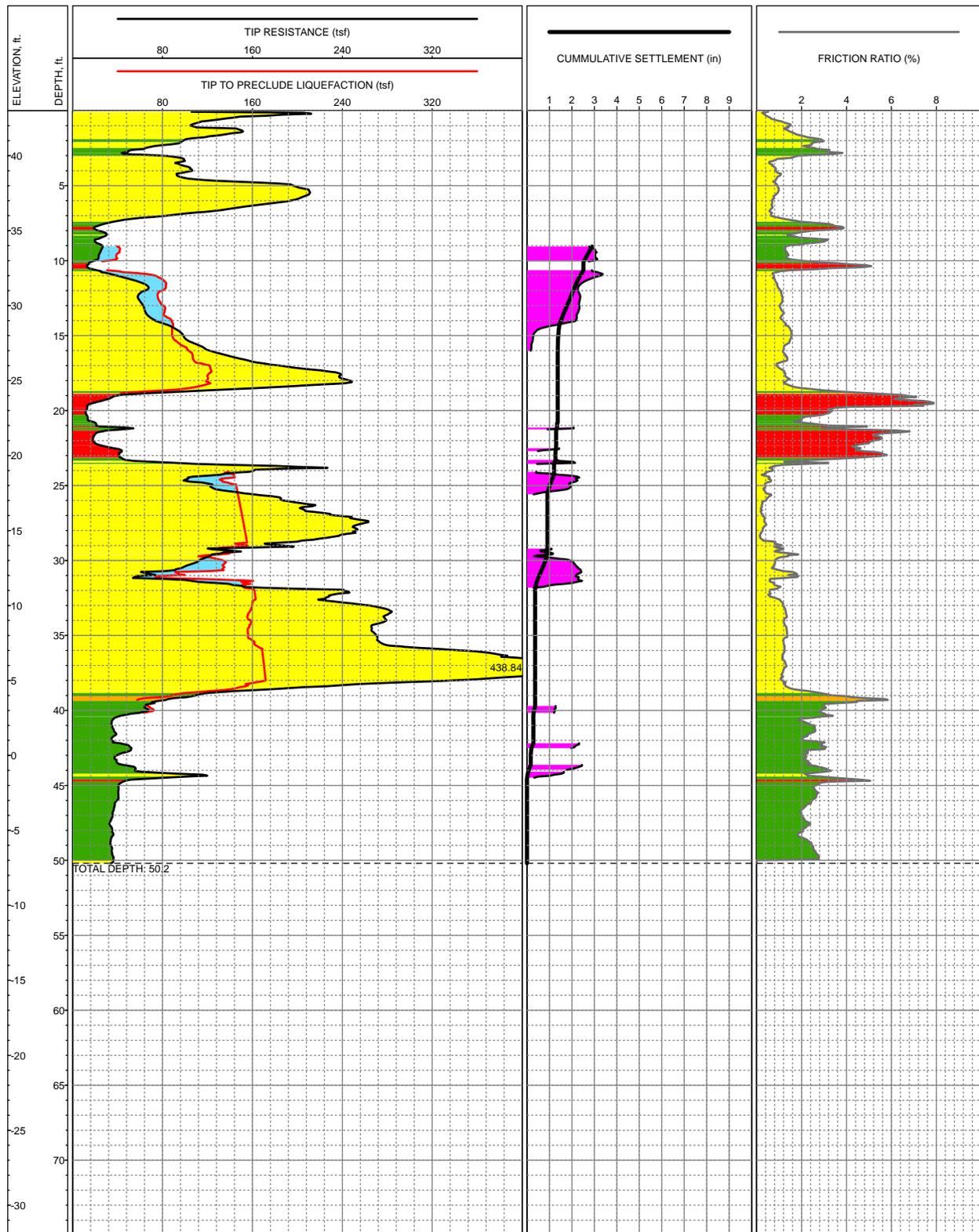
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COORDINATES: 2,232,173.97N 5,786,405.43W
SURFACE EL: 52.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-2, M7.0, a=0.46
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

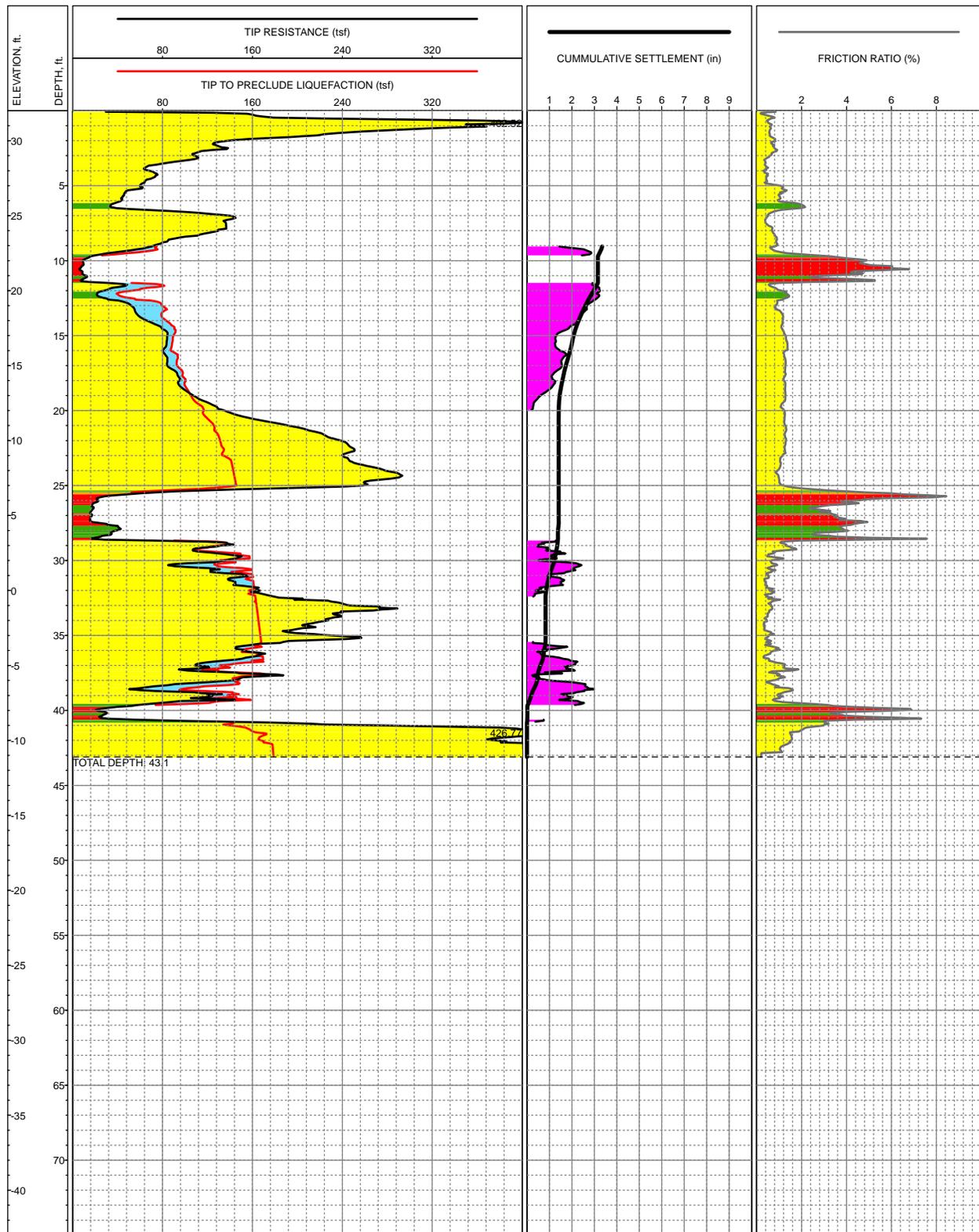


COORDINATES: 2,231,087.37N 5,784,635.85W
SURFACE EL: 43.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-3, M7.0, a=0.46
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

N:\Projects\3014_SLO\county\3014-029_Arroyo_Grande_Creek\Explorations\CPT\2008\Logs\Log_2008_July\MXD\CPTLogs_Liq.mxd,08/29/2008,ksheil

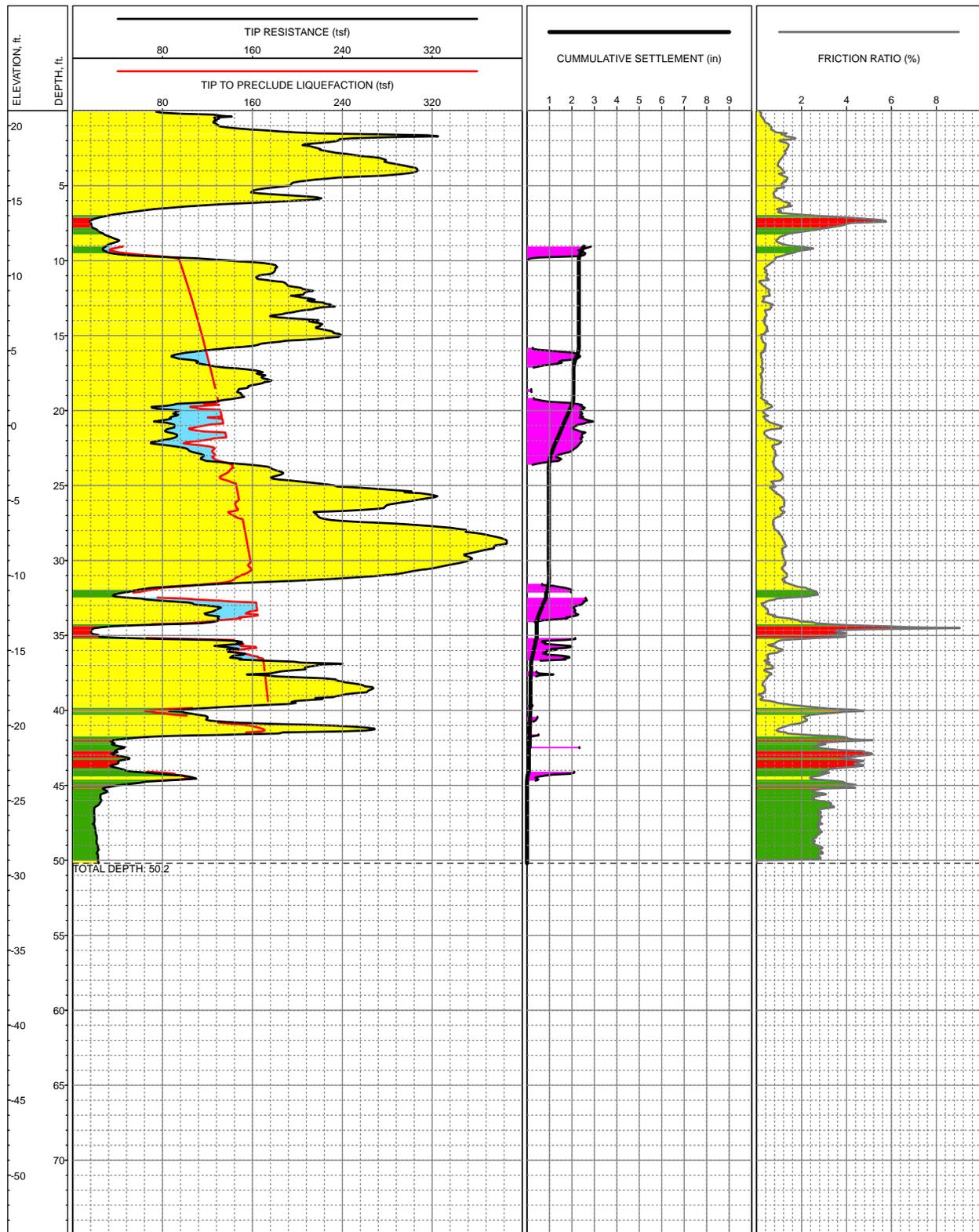


COORDINATES: 2,231,221.08N 5,782,003.06W
SURFACE EL: 32.0ft +/- (MSL)
COMPLETION DEPTH: 43.1ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-4, M7.0, a=0.46
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

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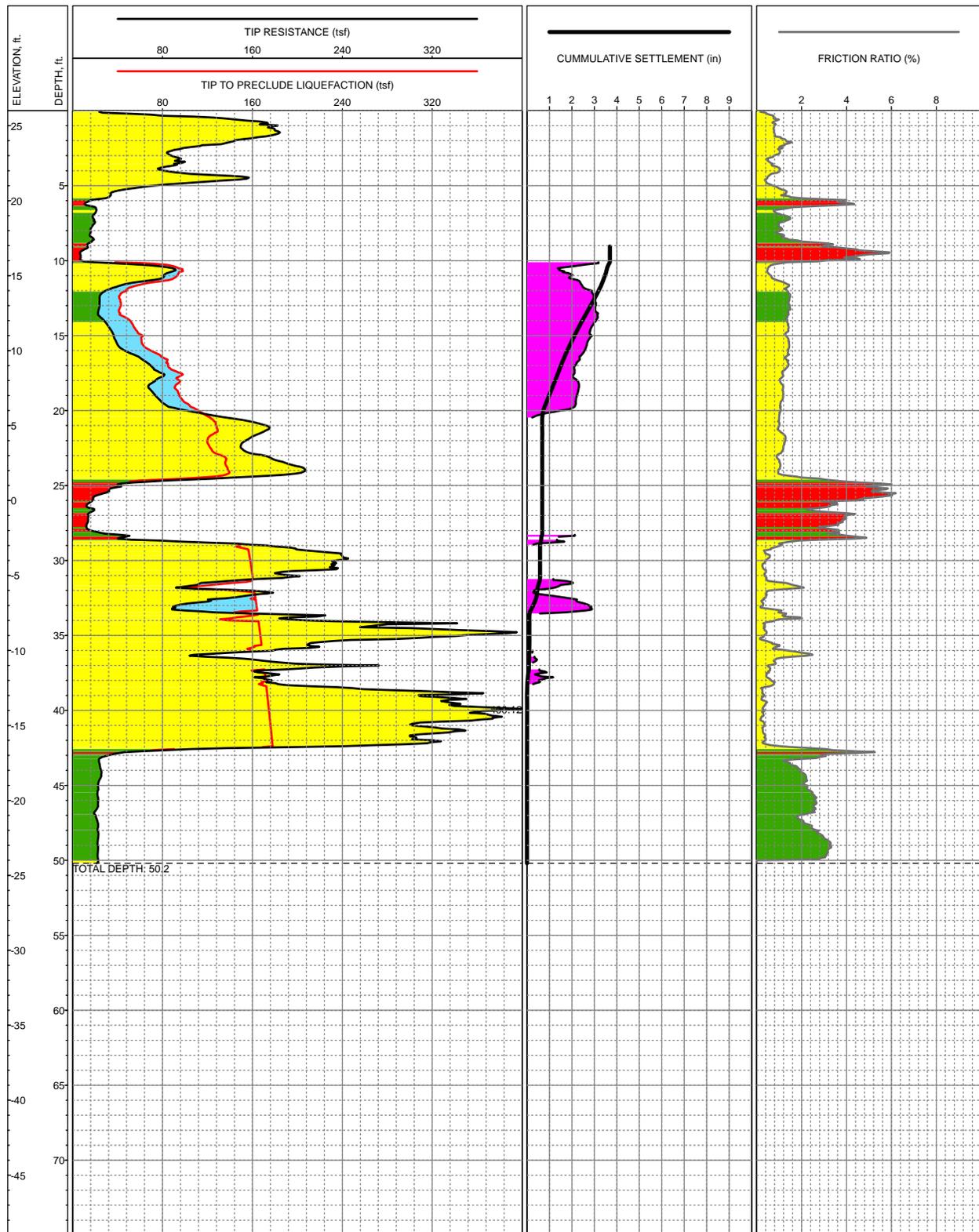


COORDINATES: 2,232,390.00N 5,778,074.64W
SURFACE EL: 21.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-5, M7.0, a=0.46
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

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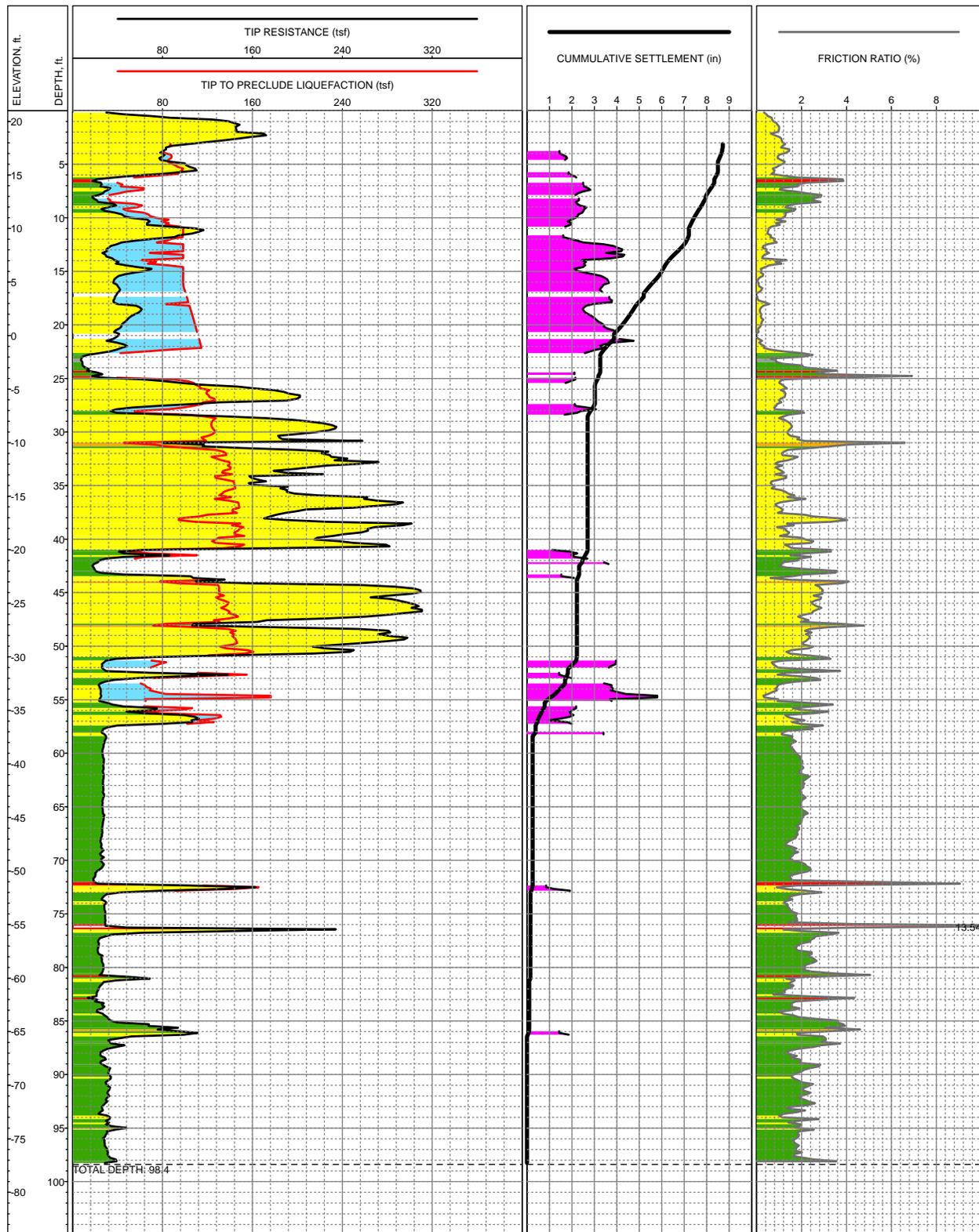


COORDINATES: 2,231,397.63N 5,779,691.56W
SURFACE EL: 26.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-6, M7.0, a=0.46
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

N:\Projects\3014_SLO\county\3014-029_Arroyo_Grande_Creek\Explorations\CPT\2008\Logs\Log_Liq.mxd,08/29/2008,ksheil

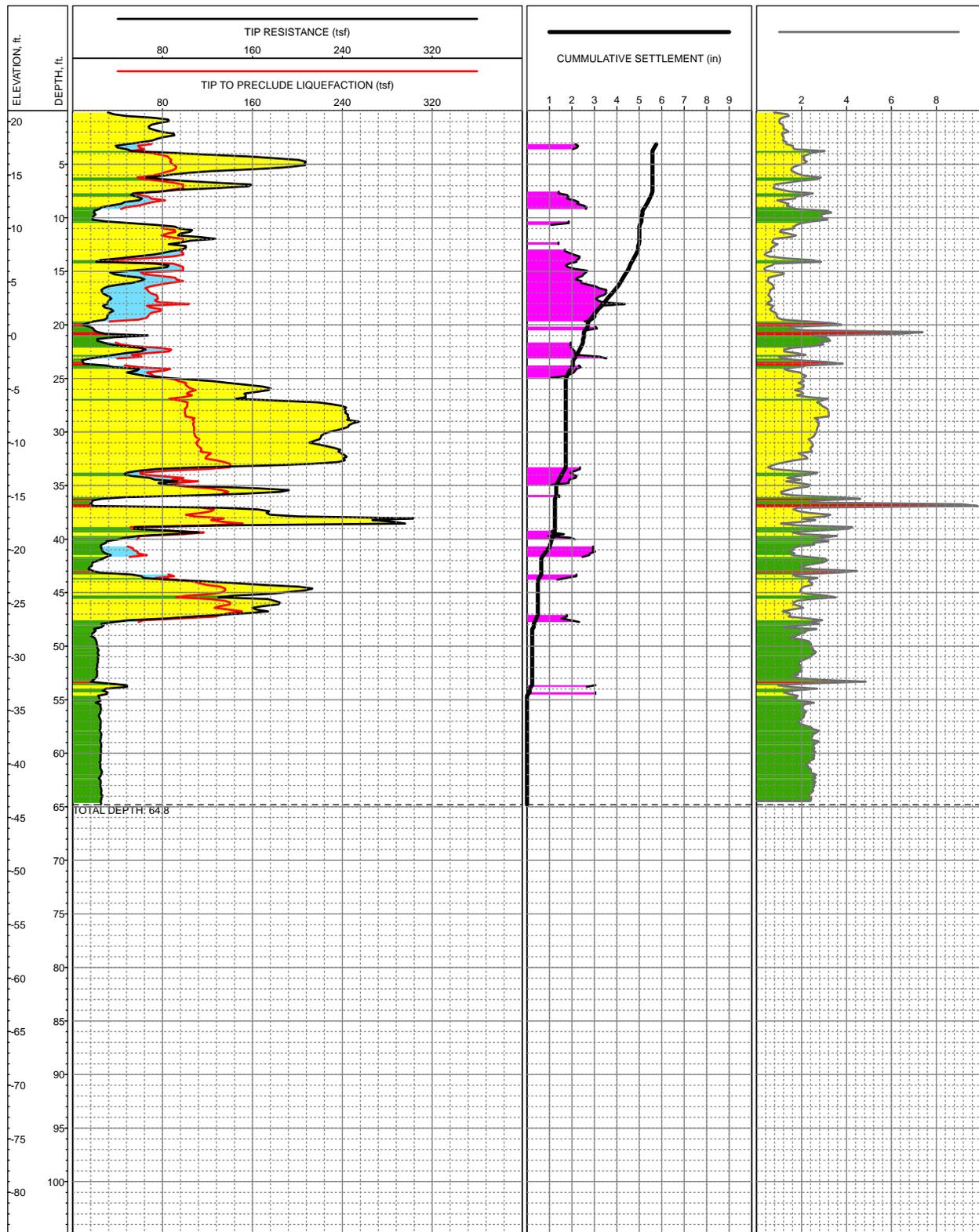


LOCATION: South Levee, Approx. 3350 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 98.4ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
 REVIEWED BY: J Blanchard

LOG OF CPT SOC035, M=7.0, a=0.46
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

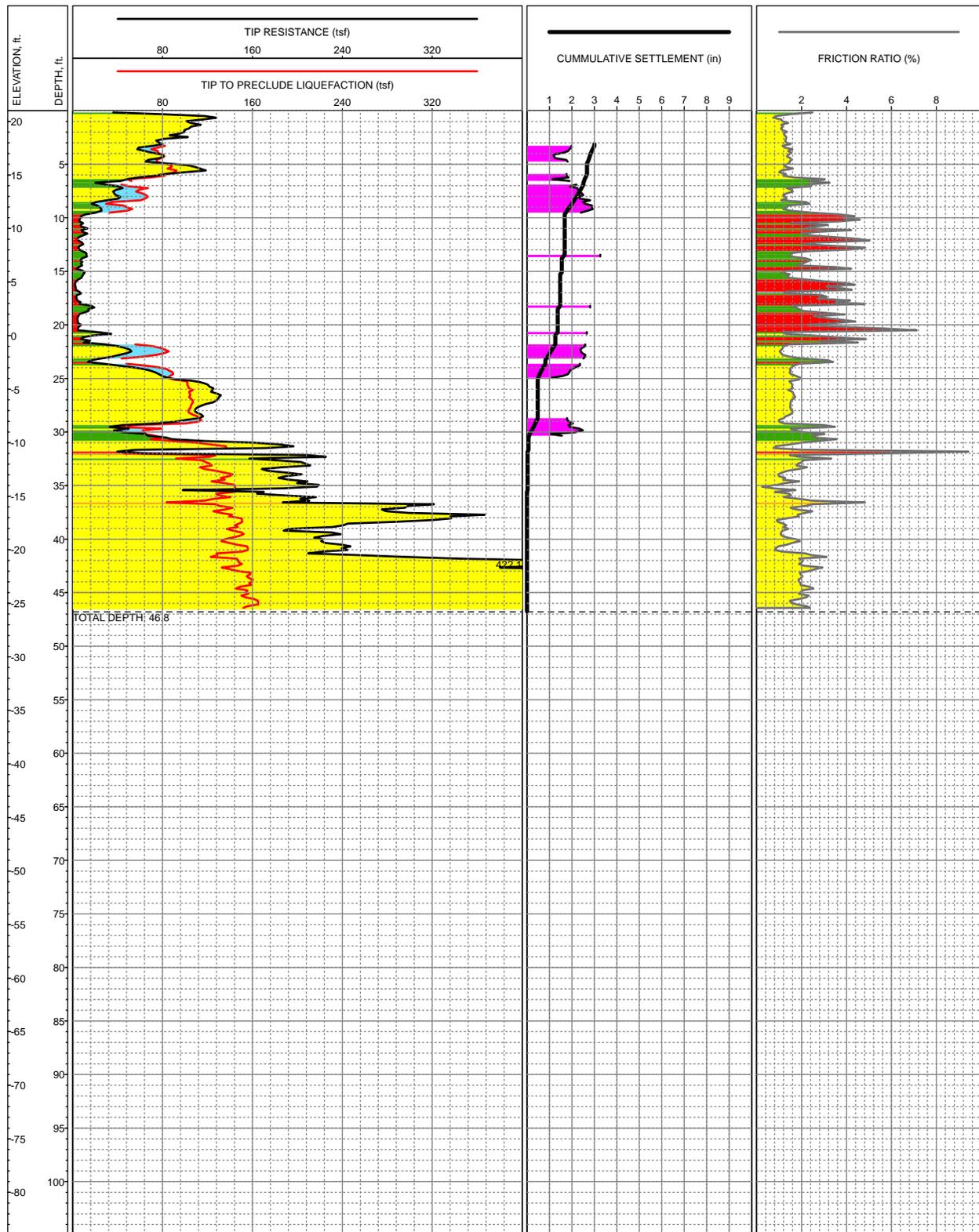
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LOCATION: South Levee, Approx. 3500 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 64.8ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
 REVIEWED BY: J Blanchard

LOG OF CPT SOC036, M=7.0, a=0.46
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

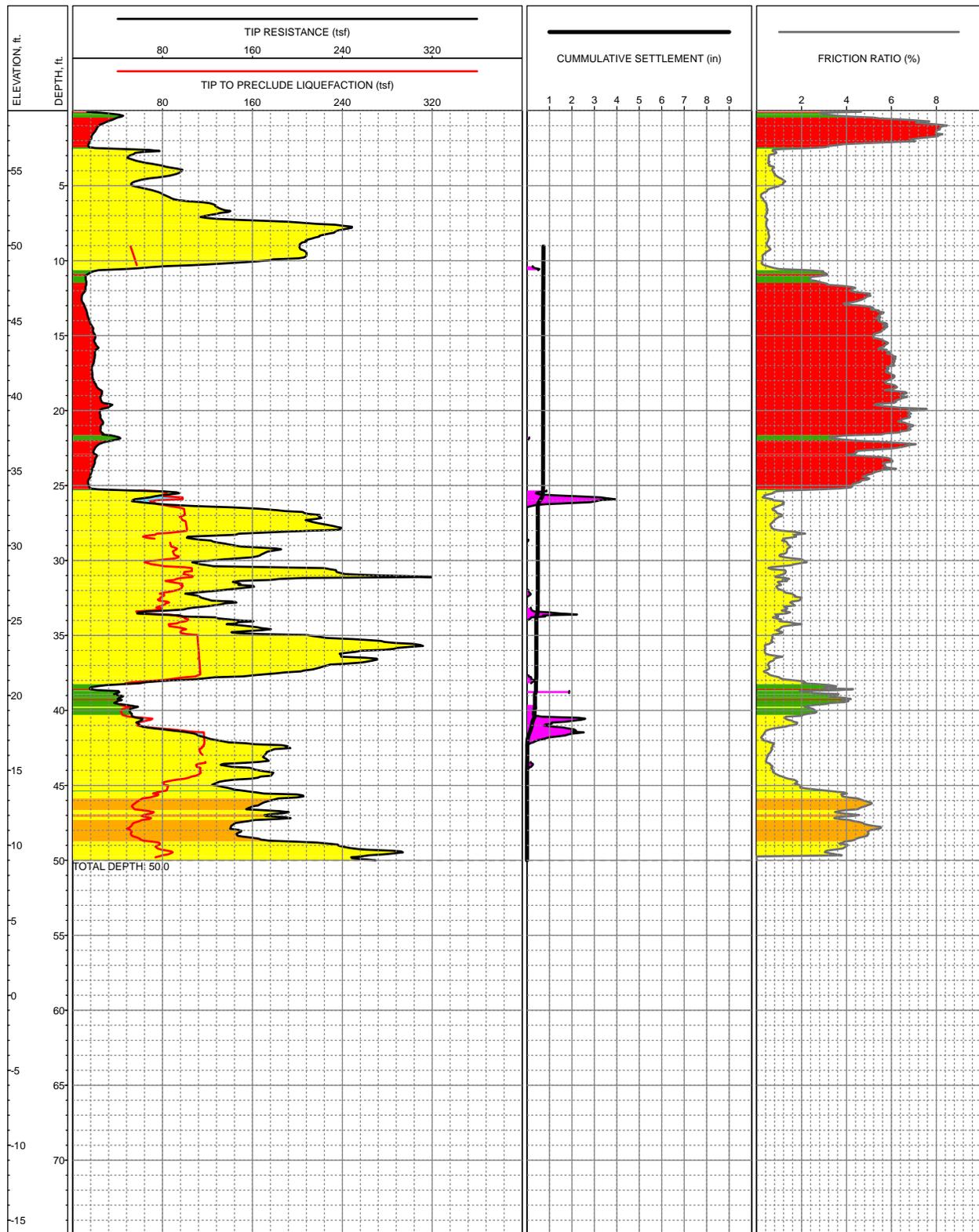


LOCATION: South Levee, Approx. 3250 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 46.8ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
 REVIEWED BY: J Blanchard

LOG OF CPT SOC037, M=7.0, a=0.46
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

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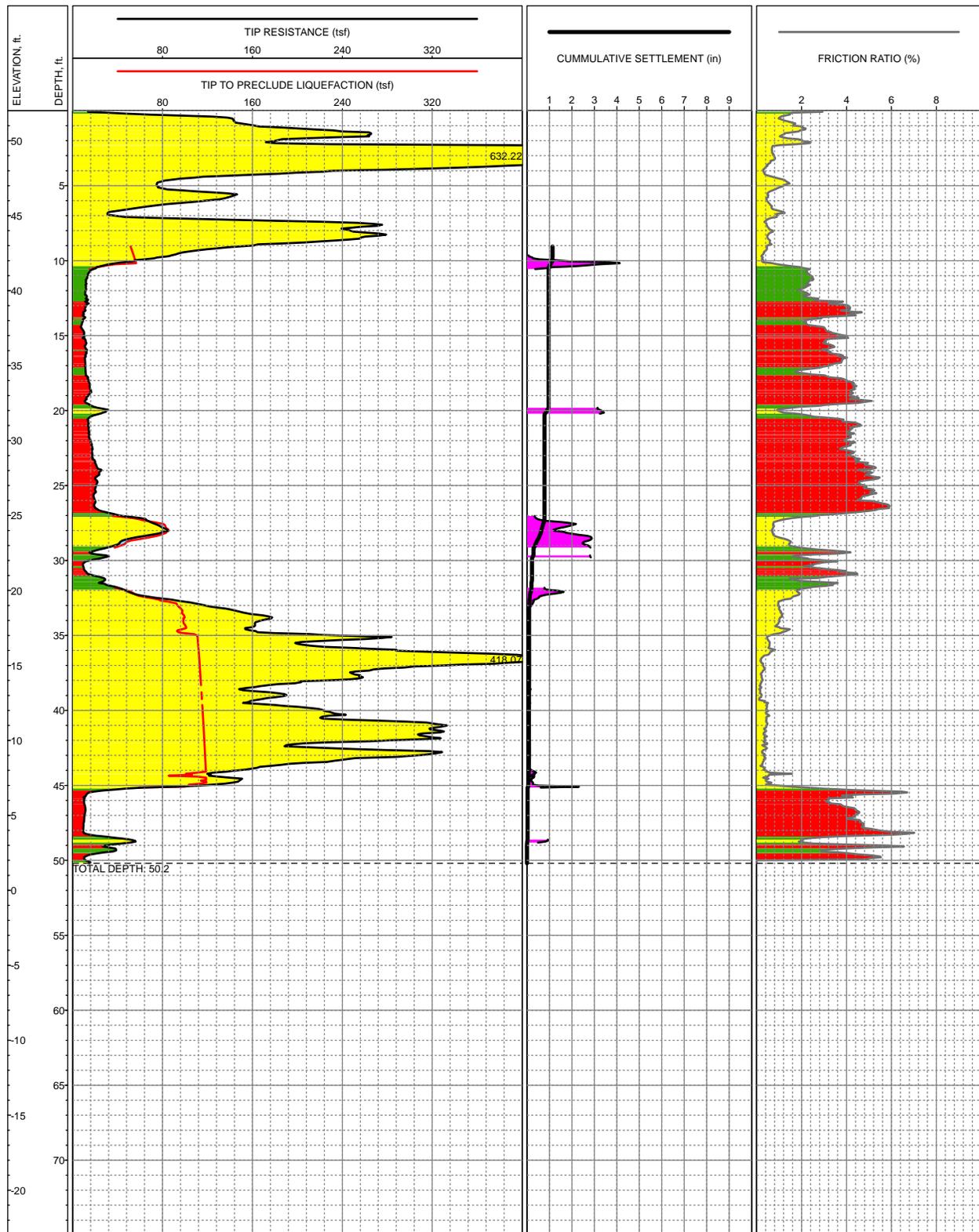


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SURFACE EL: 59.0ft +/- (MSL)
COMPLETION DEPTH: 50.0ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-1, M6.5, a=0.25
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

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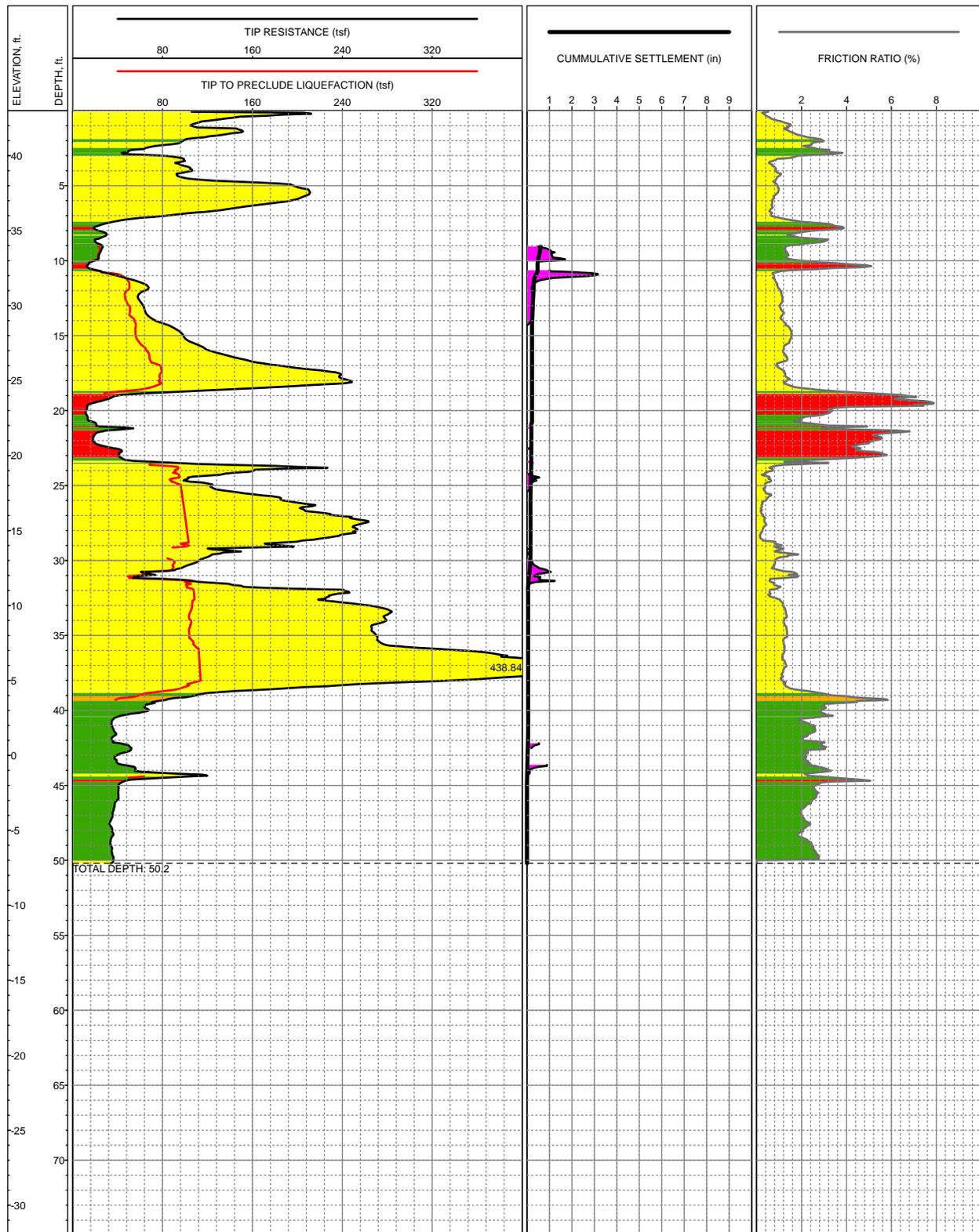


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EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-2, M6.5, a=0.25
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

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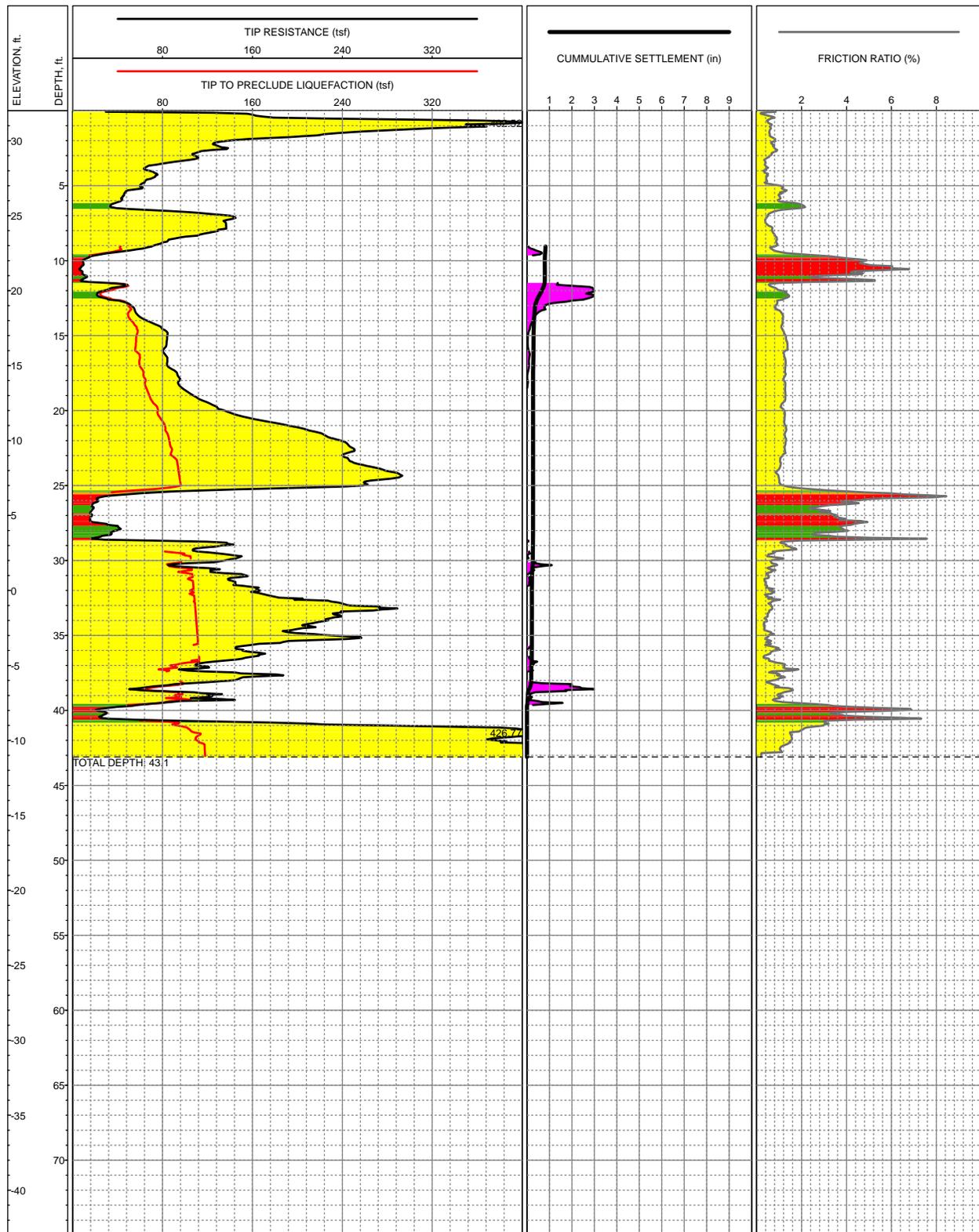


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SURFACE EL: 43.0ft +/- (MSL)
COMPLETION DEPTH: 50.2ft
TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-3, M6.5, a=0.25
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

N:\Projects\3014_SLO\county\3014-029_Arroyo_Grande_Creek\Explorations\CPT\2008\Logs\Log_2008_July\MXD\CPTLogs_Liq.mxd,08/29/2008,ksheil

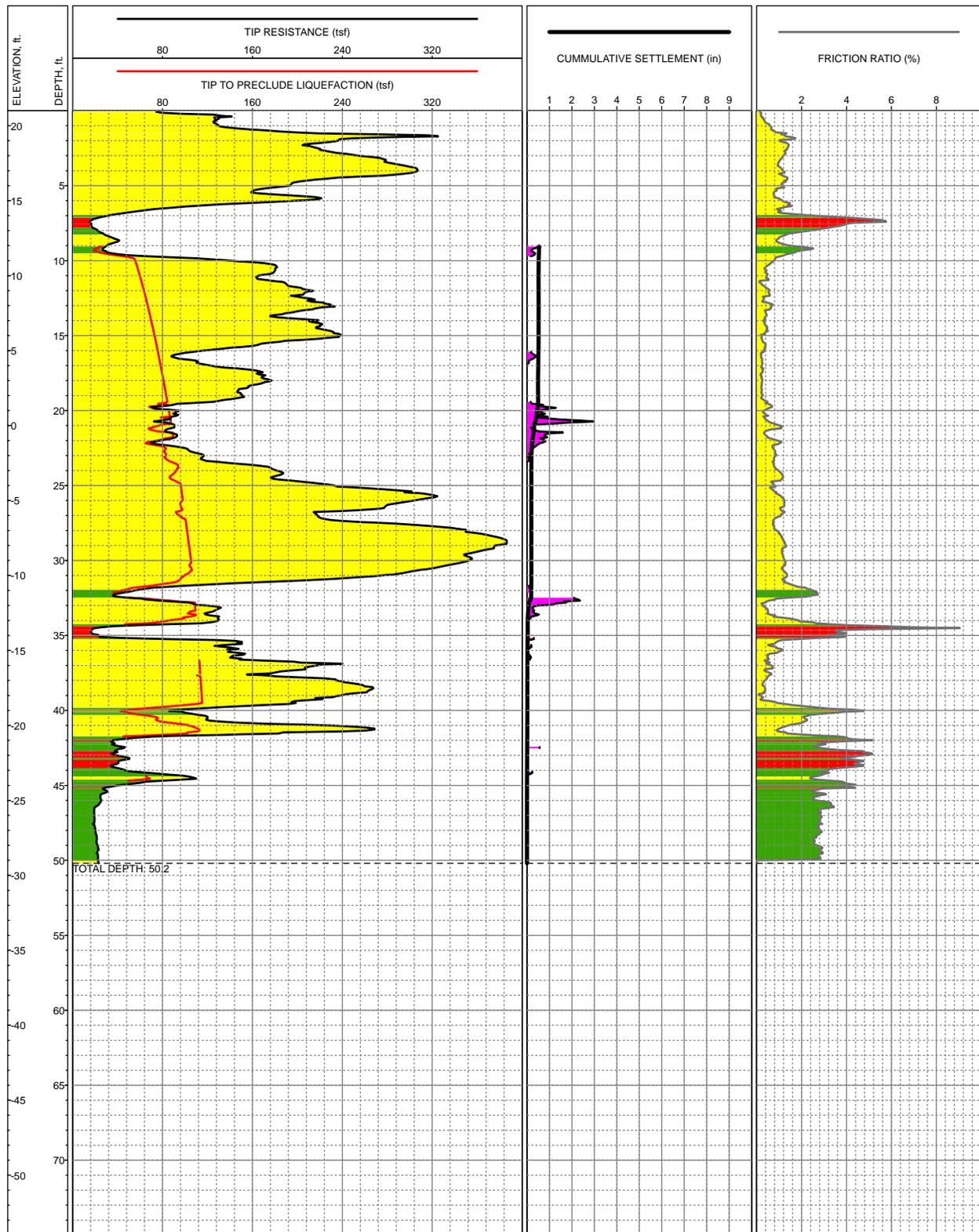


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SURFACE EL: 32.0ft +/- (MSL)
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TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
PERFORMED BY: Fugro Geosciences
REVIEWED BY: J Blanchard

LOG OF CPT C-4, M6.5, a=0.25
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

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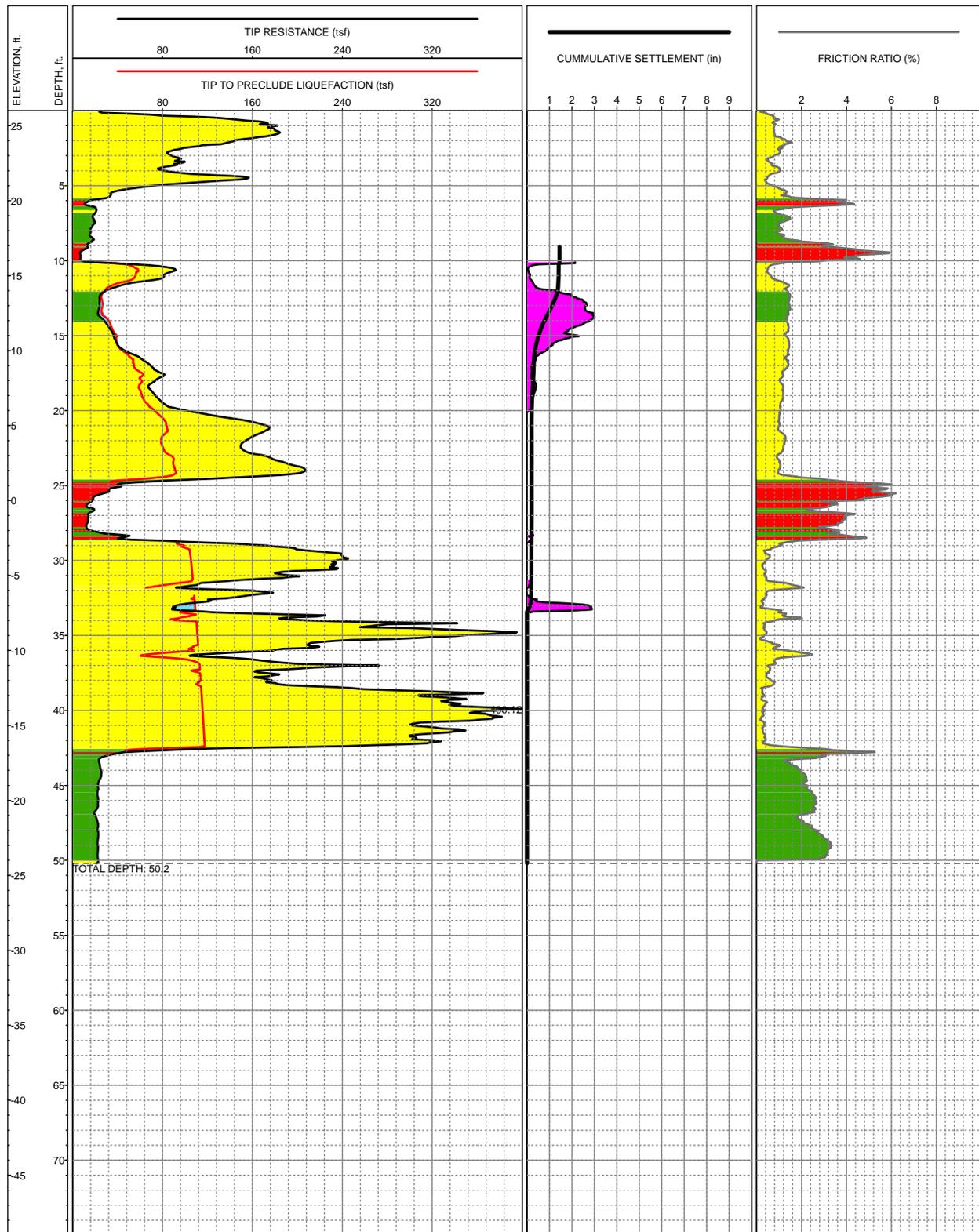


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 COMPLETION DEPTH: 50.2ft
 TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 REVIEWED BY: J Blanchard

LOG OF CPT C-5, M6.5, a=0.25
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

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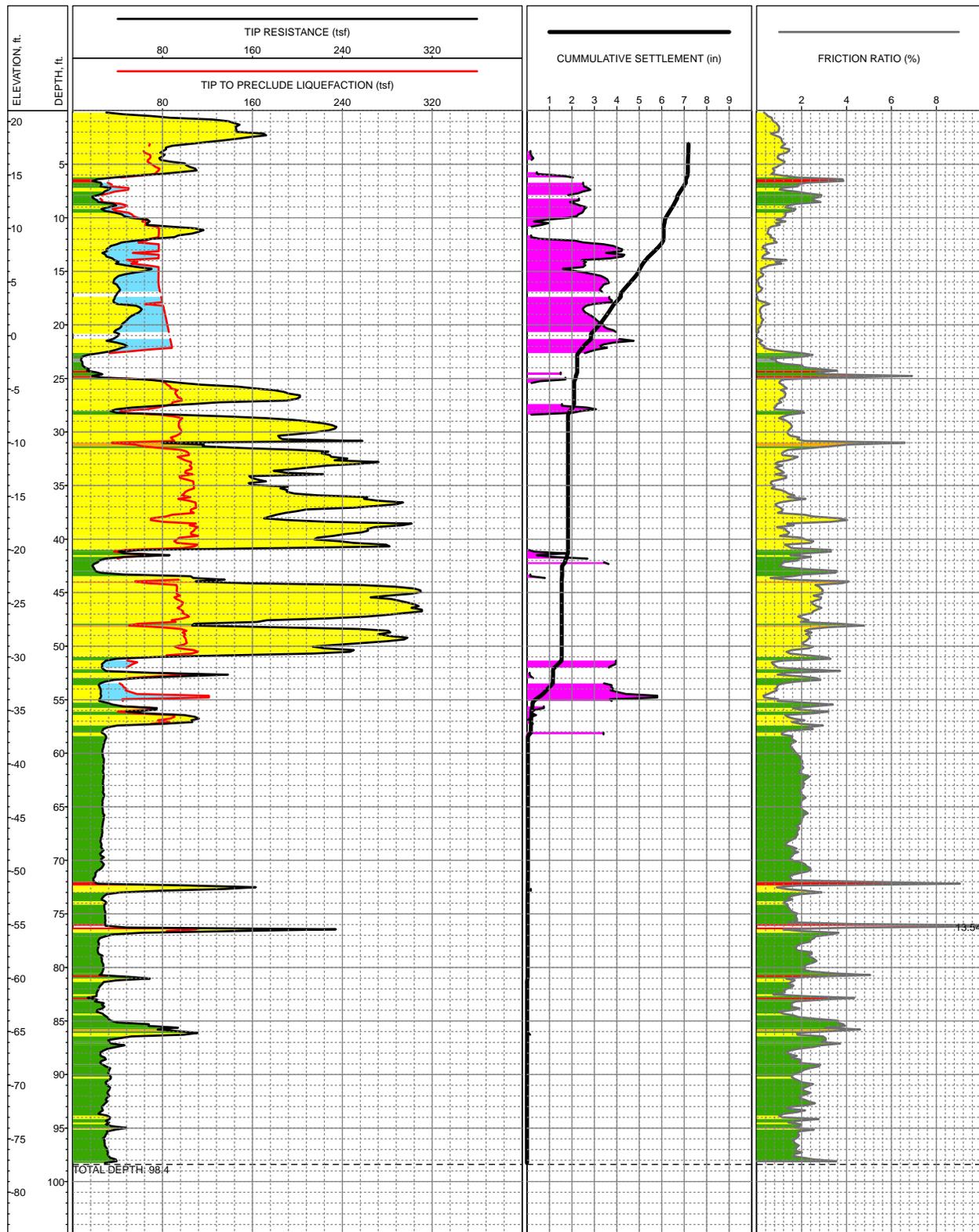


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 COMPLETION DEPTH: 50.2ft
 TESTDATE: 7/22/2008

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: Fugro Geosciences
 REVIEWED BY: J Blanchard

LOG OF CPT C-6, M6.5, a=0.25
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

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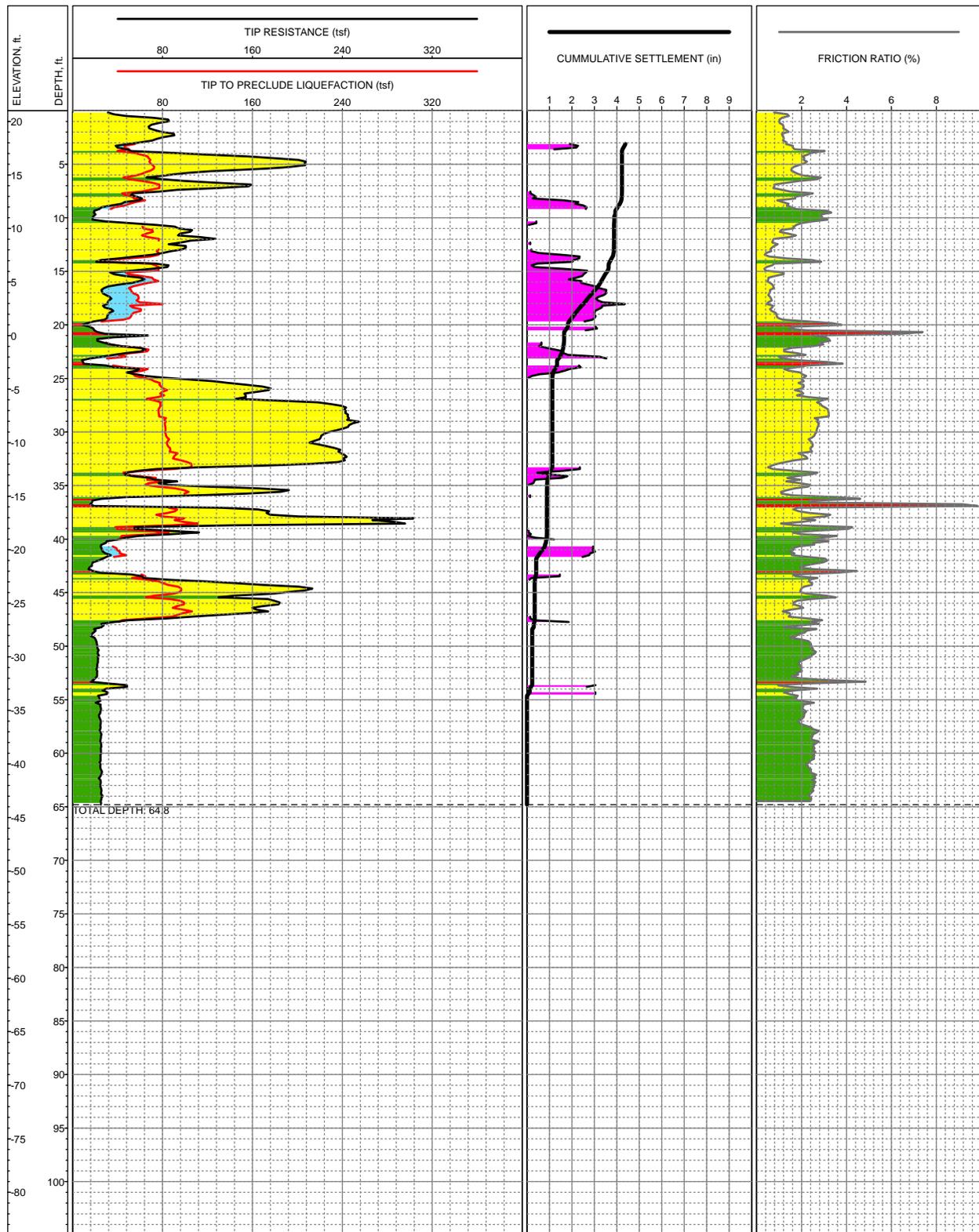


LOCATION: South Levee, Approx. 3350 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 98.4ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
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LOG OF CPT SOC035, M=6.5, a=0.25
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

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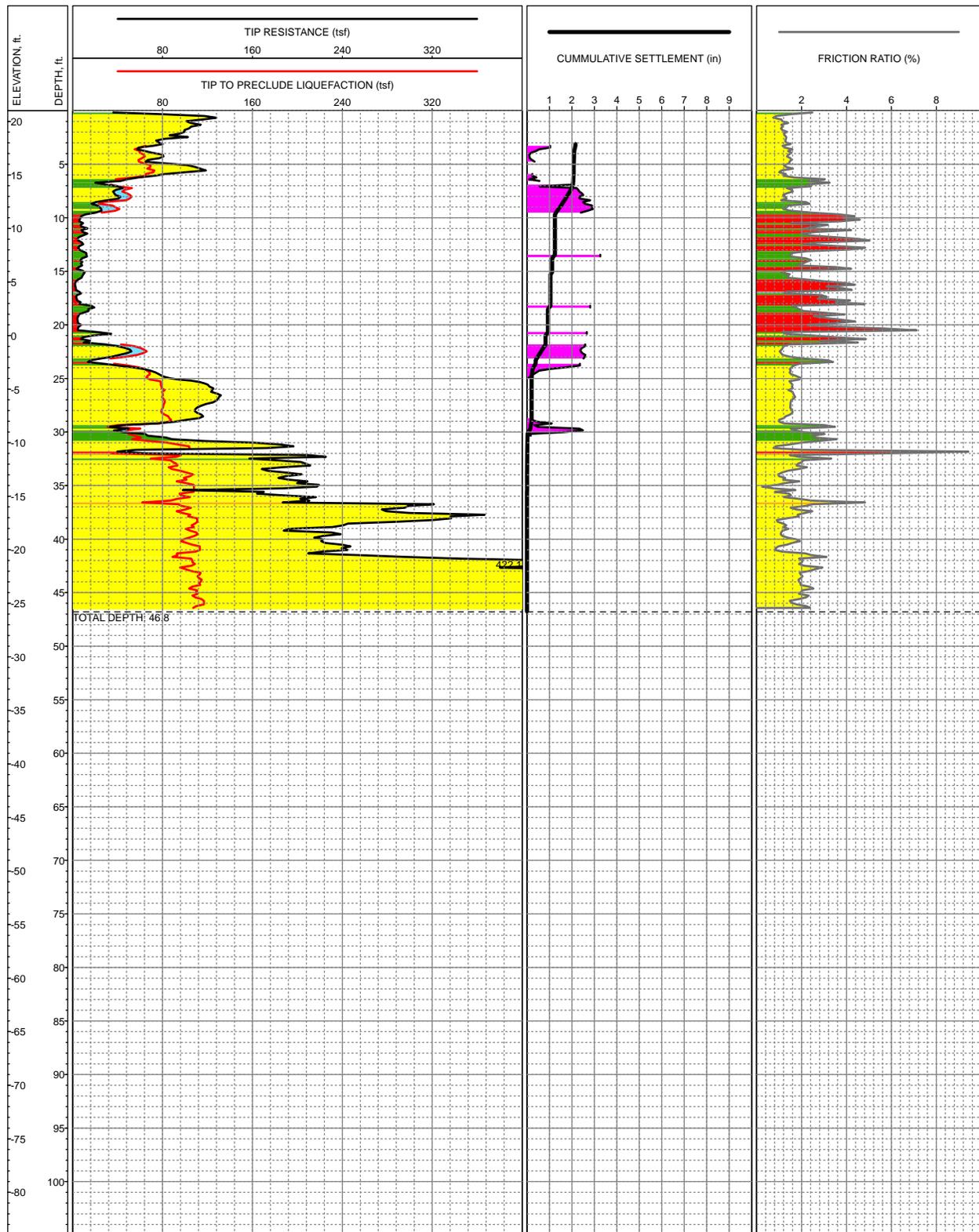


LOCATION: South Levee, Approx. 3500 ft northwest of 22nd St. Bridge
 SURFACE EL: 21.0ft +/- (MSL)
 COMPLETION DEPTH: 64.8ft
 TESTDATE: 3/5/2004

EXPLORATION METHOD: Cone Penetrometer
 PERFORMED BY: USGS
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LOG OF CPT SOC036, M=6.5, a=0.25
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

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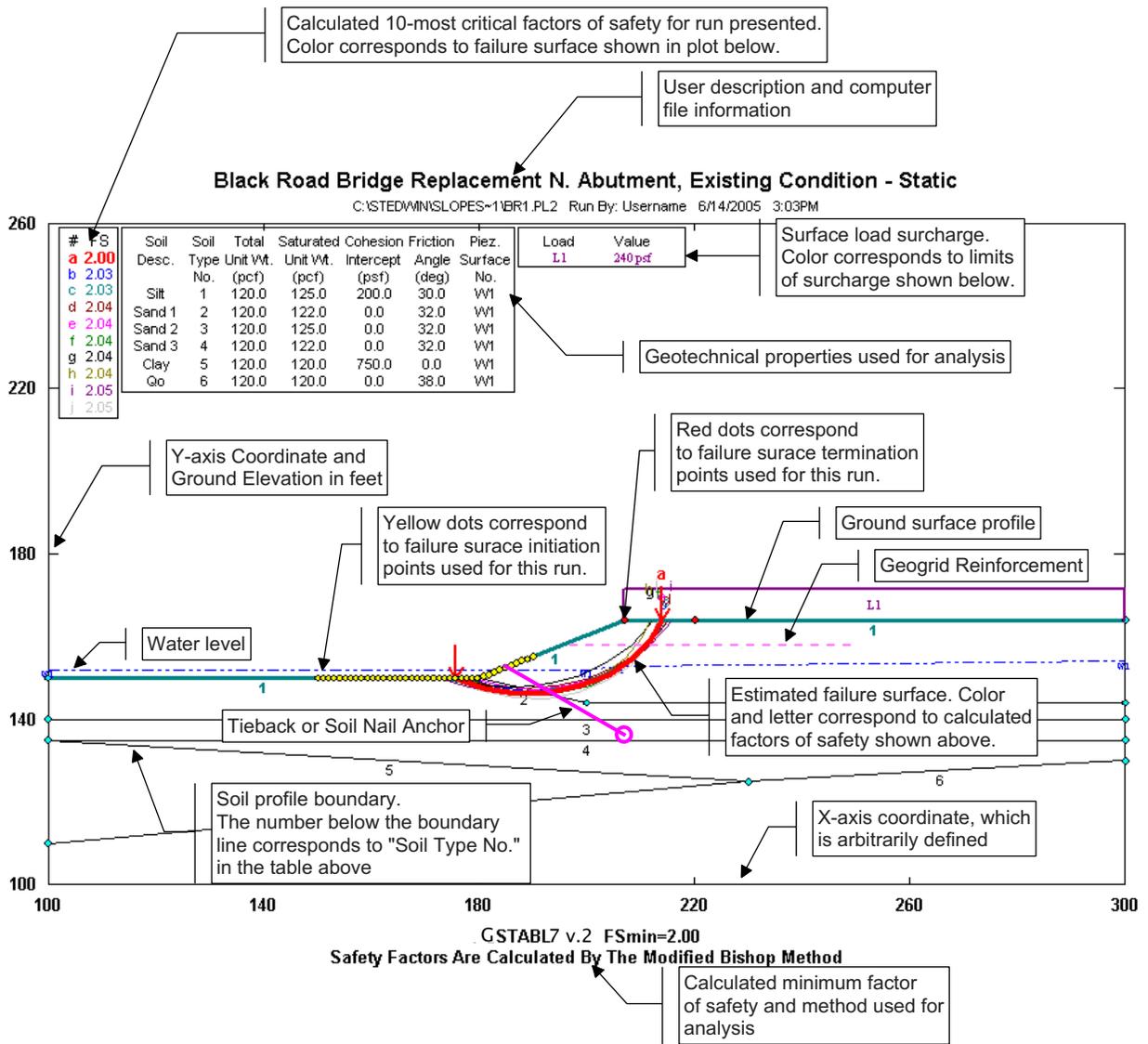


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 SURFACE EL: 21.0ft +/- (MSL)
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EXPLORATION METHOD: Cone Penetrometer
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LOG OF CPT SOC037, M=6.5, a=0.25
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

N:\Projects\3014_SLOcounty\3014-029_Arroyo_Grande_Creek\Explorations\CPT\USGS_2004\Logs\Log7.M7.0_A0.46_2008_08_01\MXD\CPTLogs_Liq7_46.mxd,08/29/2008,ksheil



Notes:

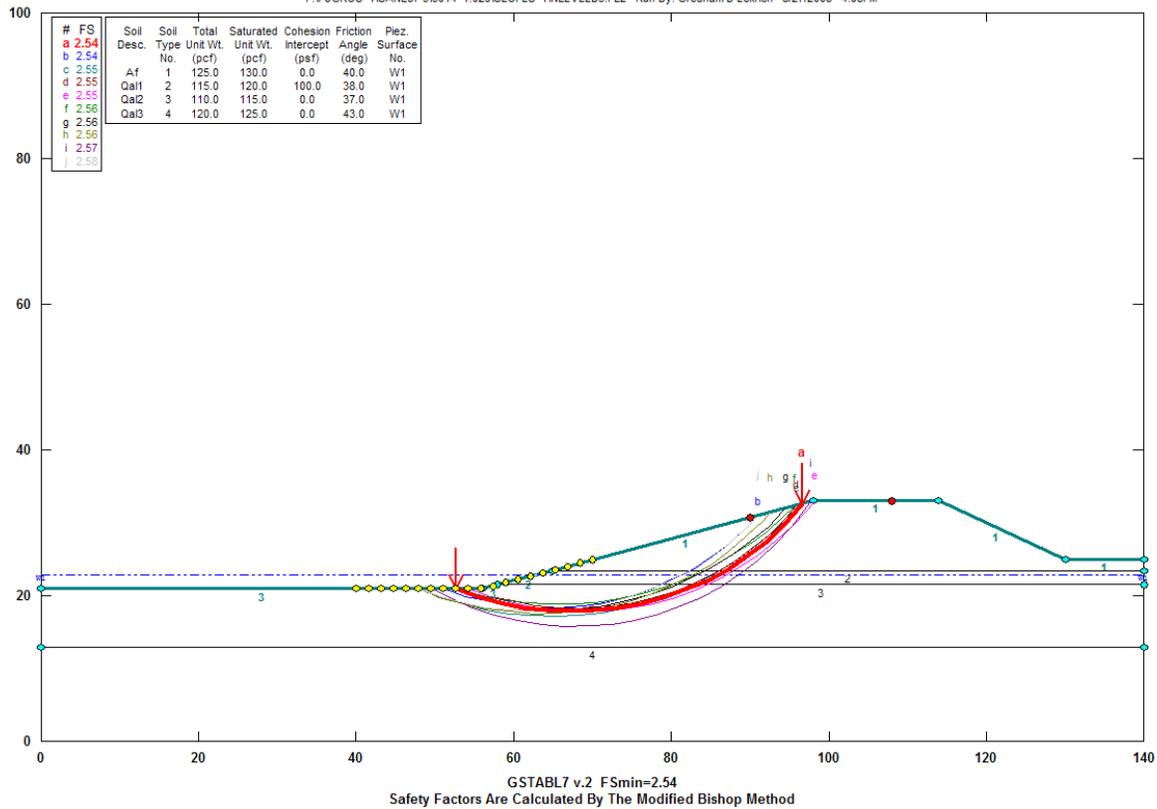
1. Plots are shown for run with least calculated factor of safety. Additional termination and initiation limits may have been considered. Typically over 100 surfaces are calculated for each run.
2. Discussion of the results and methodology is provided in the text of the report.
3. The surface and subsurface boundaries are approximate and represent only a generalization of interpreted and inferred subsurface conditions estimated from limited points of exploration.

KEY TO SLOPE STABILITY PLOTS
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California



Arroyo Grande Creek, North Levee - Interior Slope, Static Strength 2

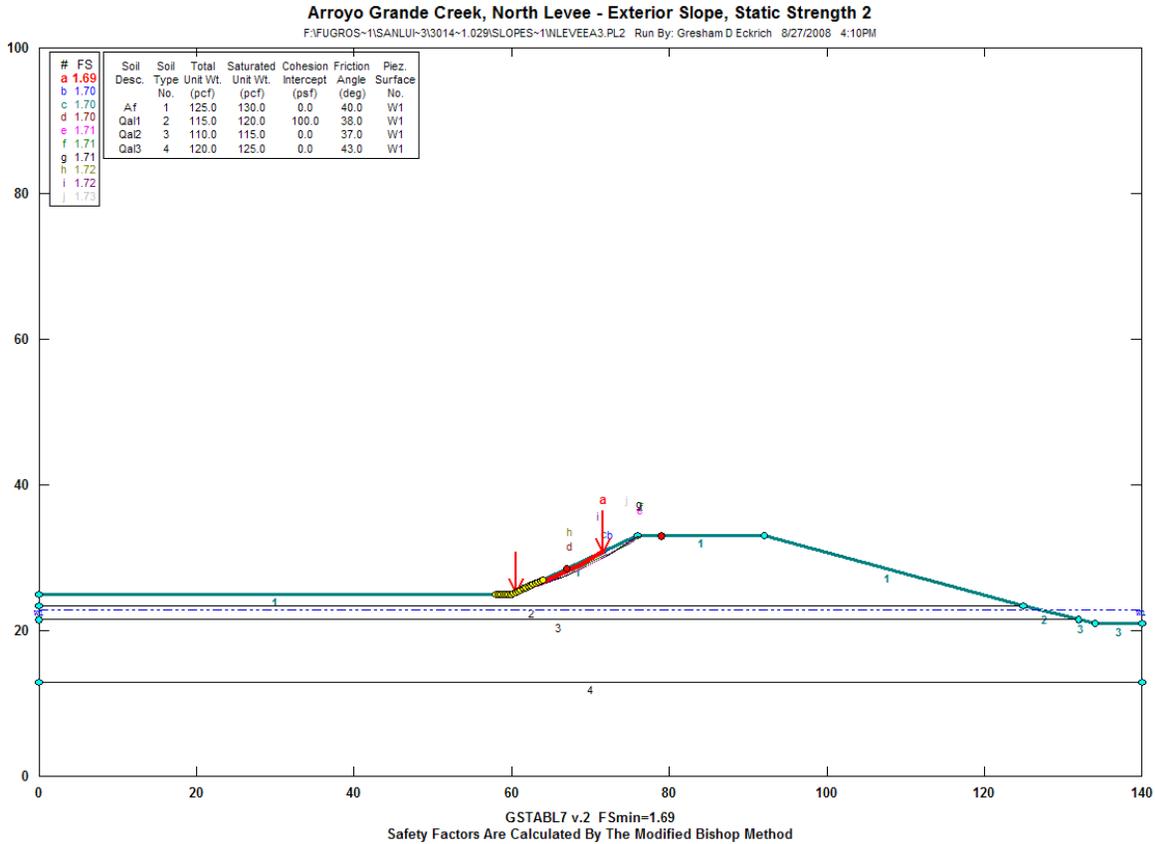
F:\FUGROS-11\SANLUI-313014-1.029\SLOPES-1\NLEVEEB3.PL2 Run By: Gresham D Eckrich 8/27/2008 4:08PM



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 2.5
Pseudostatic Loading Condition: 1.5
Pseudostatic Coefficient: 0.15
Condition: Existing Interior Slope, Static Loading

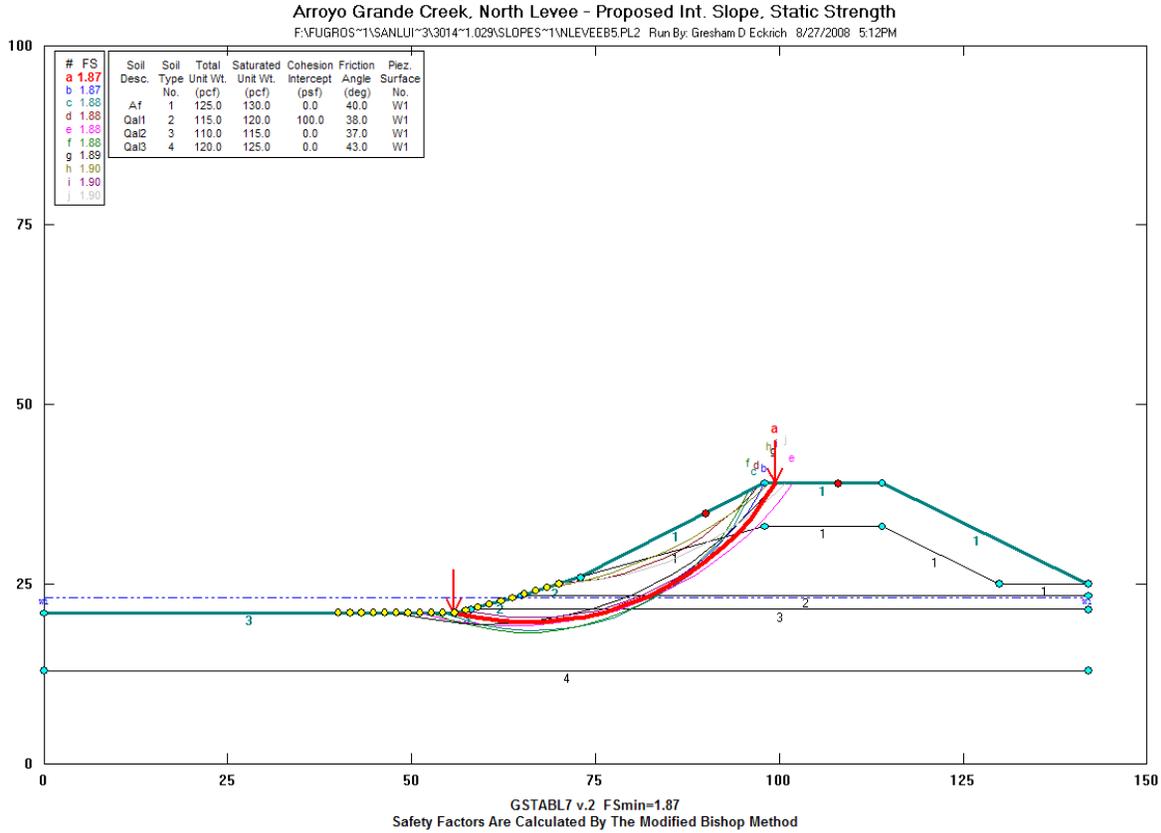
SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 1.7
Pseudostatic Loading Condition: 1.2
Pseudostatic Coefficient: 0.15
Condition: Existing Exterior Slope, Static Loading

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

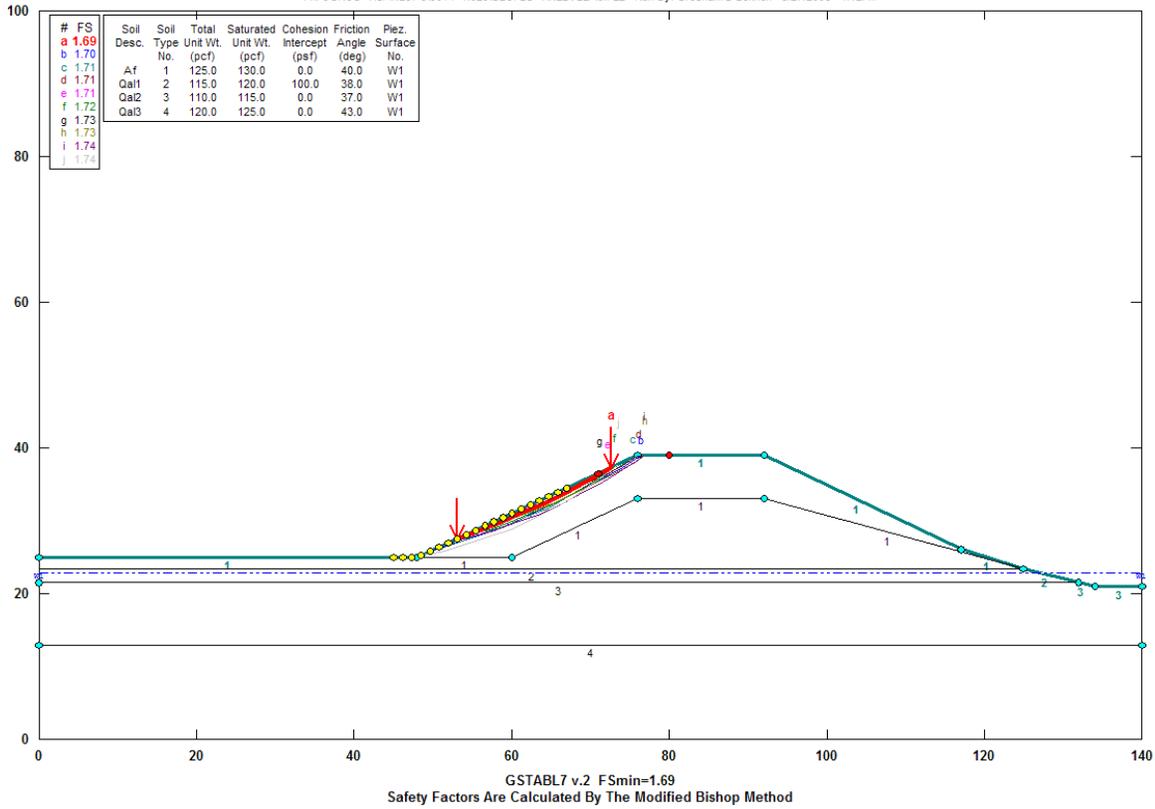
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Pseudostatic Loading Condition: 1.3
Pseudostatic Coefficient: 0.15
Condition: Proposed Interior Slope 1, Static Loading

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



Arroyo Grande Creek, North Levee - Proposed Ext. Slope, Static Strength

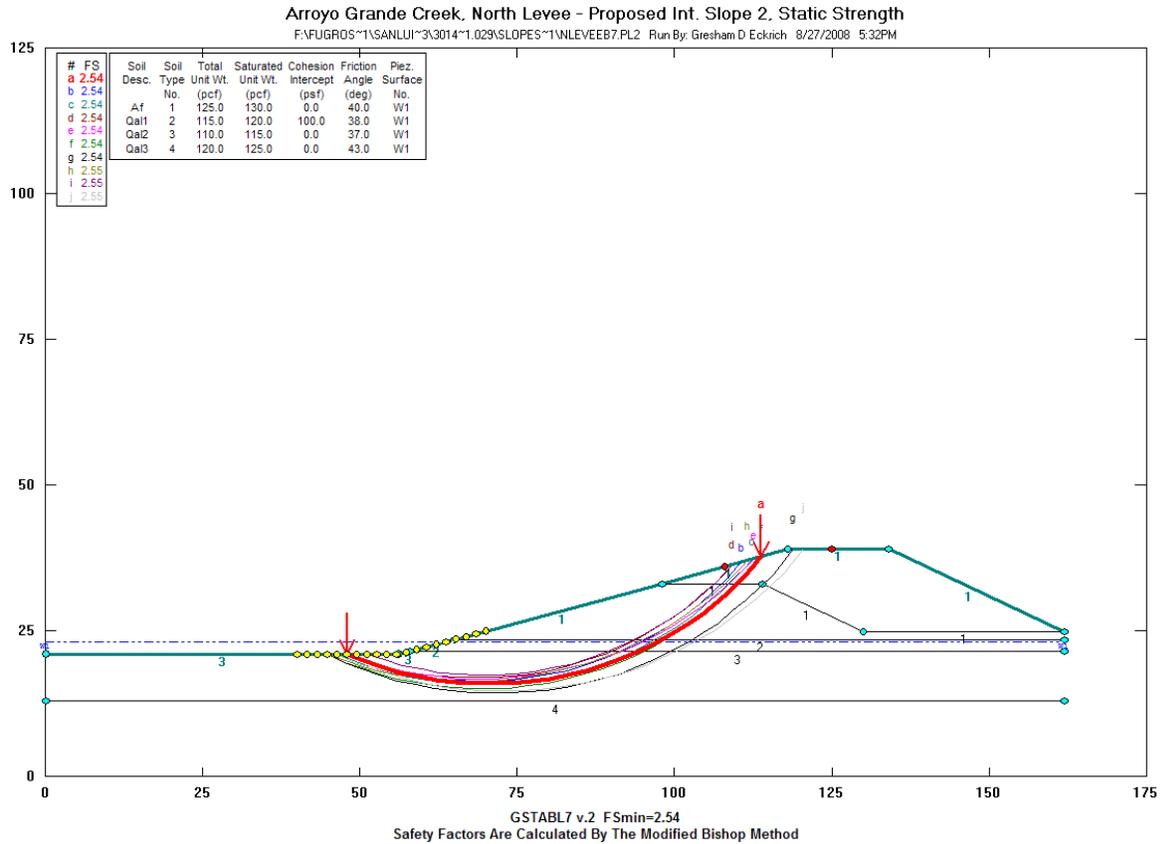
F:\FUGROS-1\SANLUI-3\3014-1.029\SLOPES-1\NLEVEEA5.PL2 Run By: Gresham D Eckrich 8/27/2008 4:12PM



ESTIMATED FACTORS OF SAFETY

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Pseudostatic Coefficient: 0.15
Condition: Proposed Exterior Slope 1, Static Loading

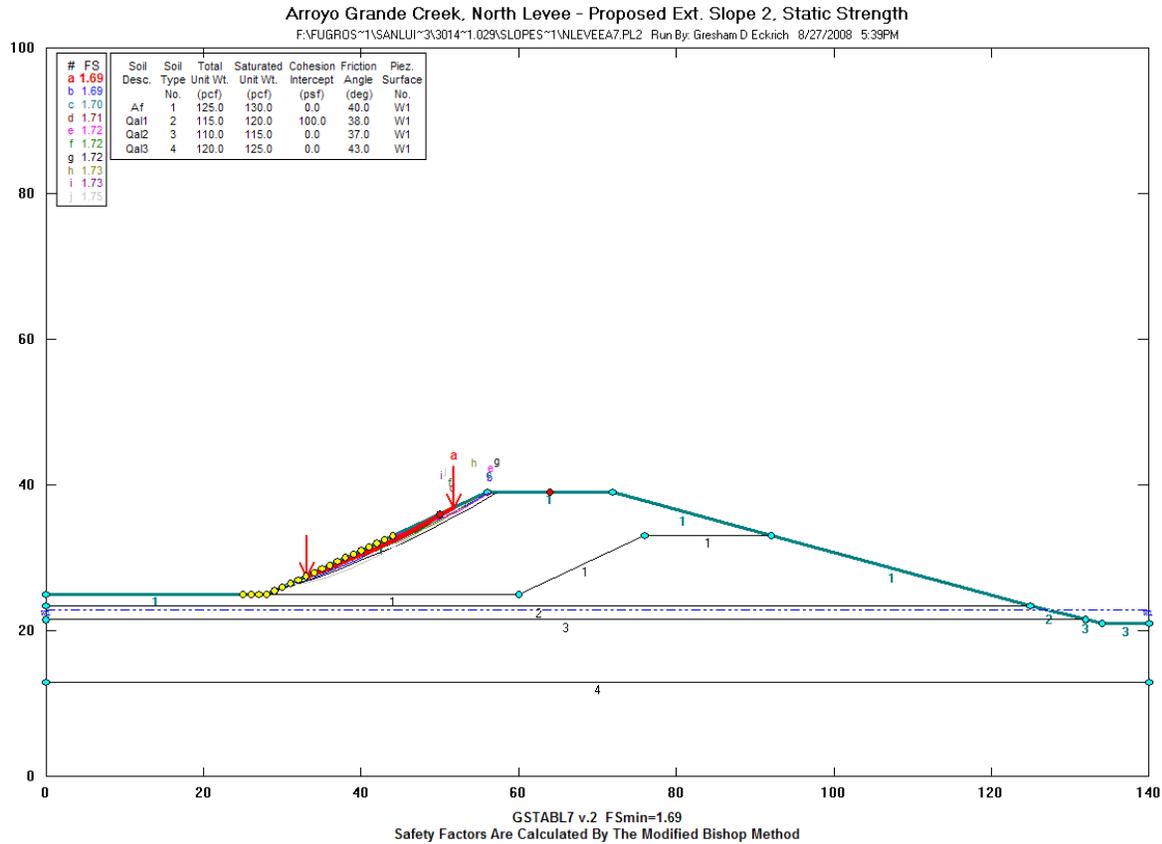
SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

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Pseudostatic Coefficient: 0.15
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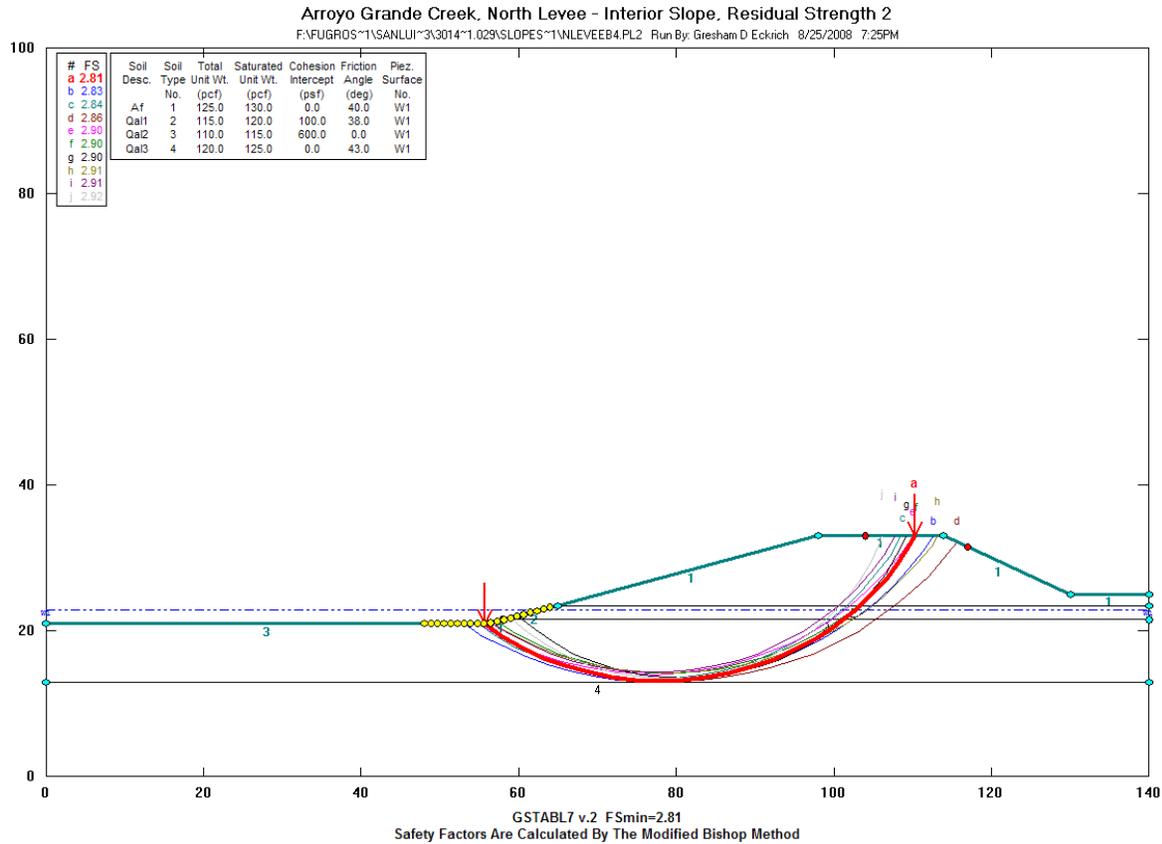
SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 1.7
Pseudostatic Loading Condition: 1.2
Pseudostatic Coefficient: 0.15
Condition: Proposed Exterior Slope 2, Static Loading

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

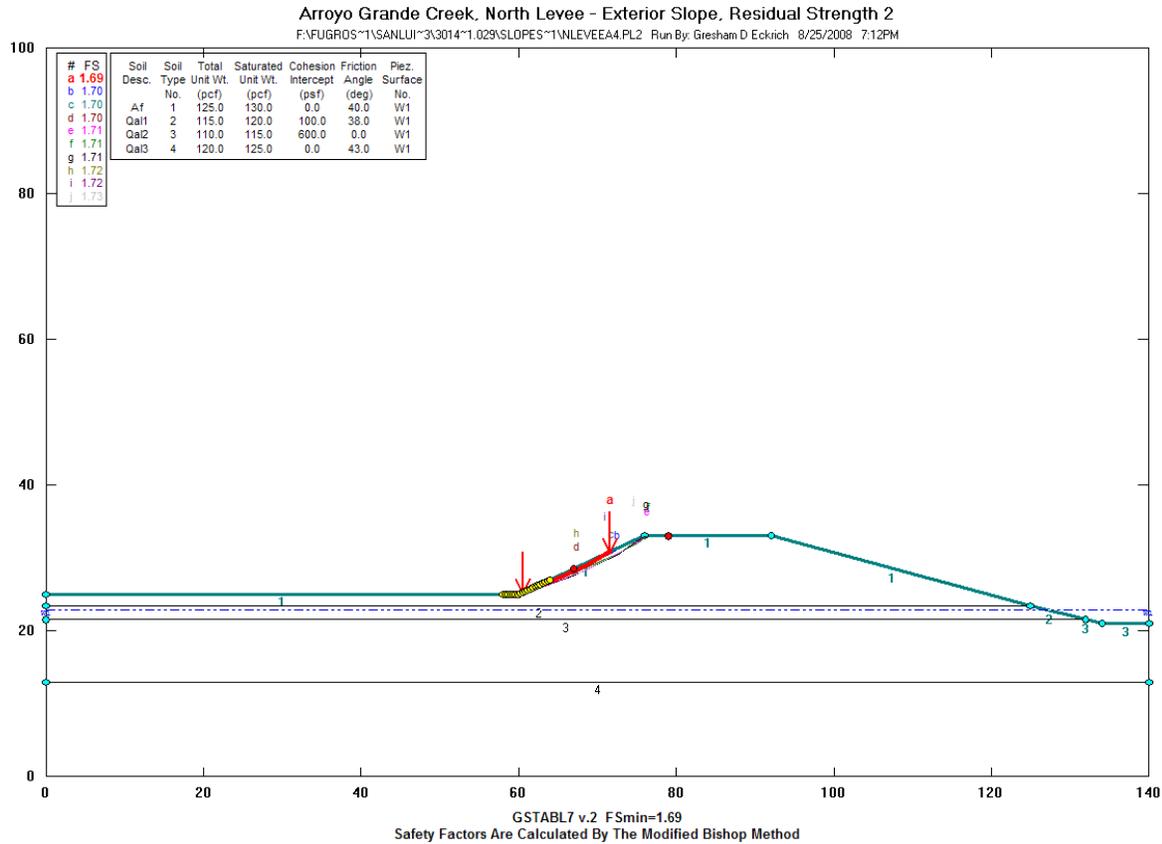


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 2.5

Condition: Existing Interior Slope

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
Arroyo Grande Creek Waterways Management Plan
San Luis Obispo County, California

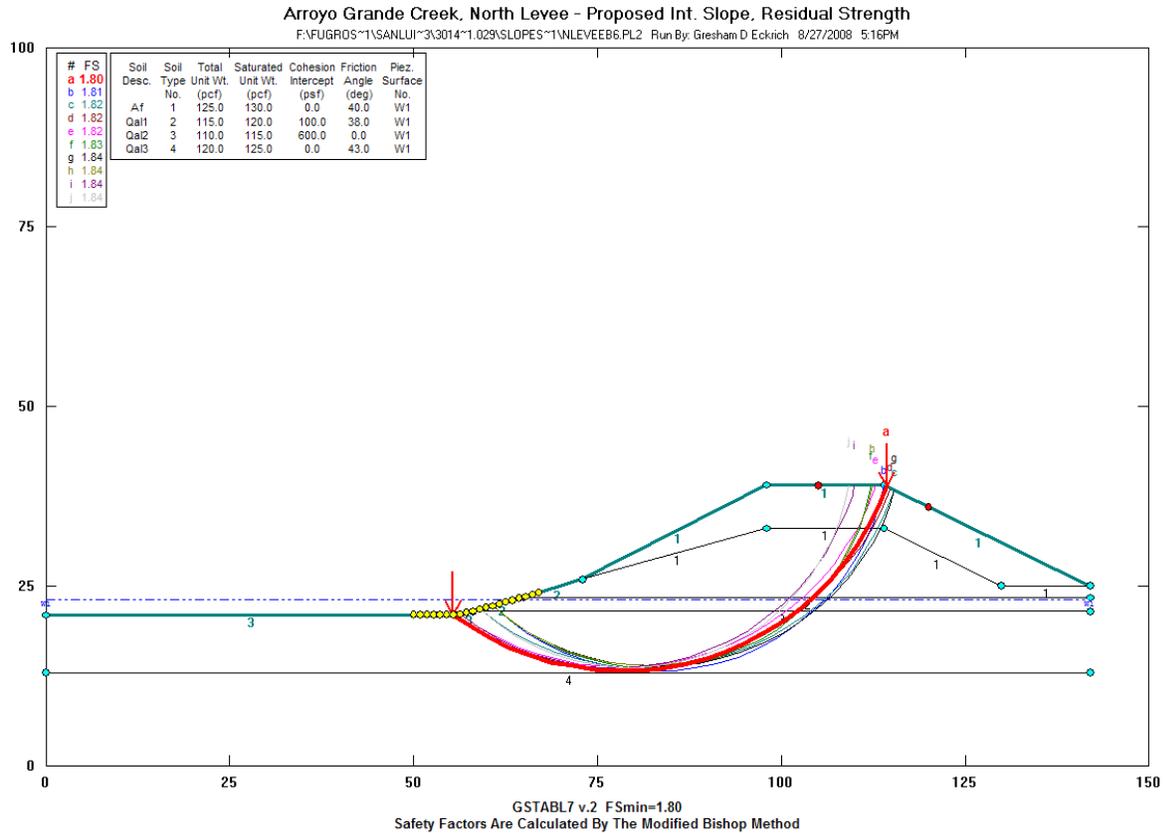


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 1.7

Condition: Existing Exterior Slope

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

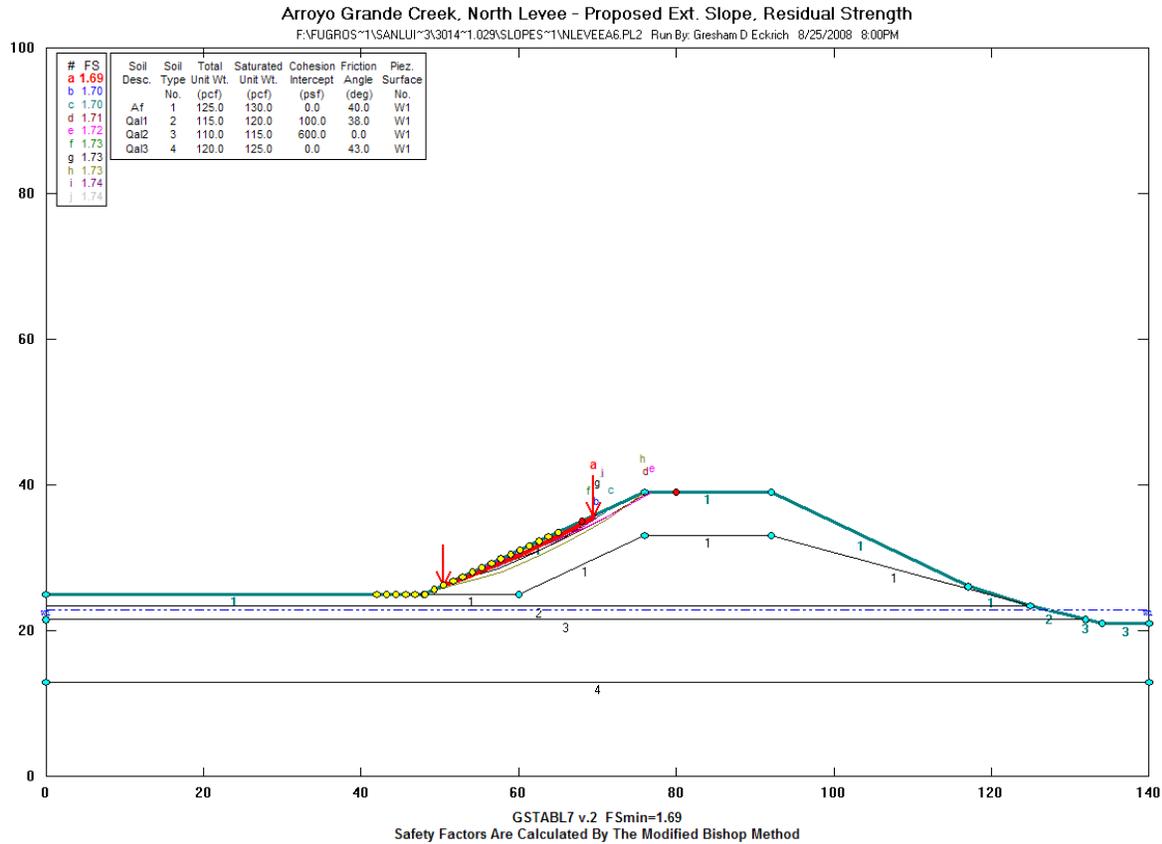


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 1.8

Condition: Proposed Interior Slope 1

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

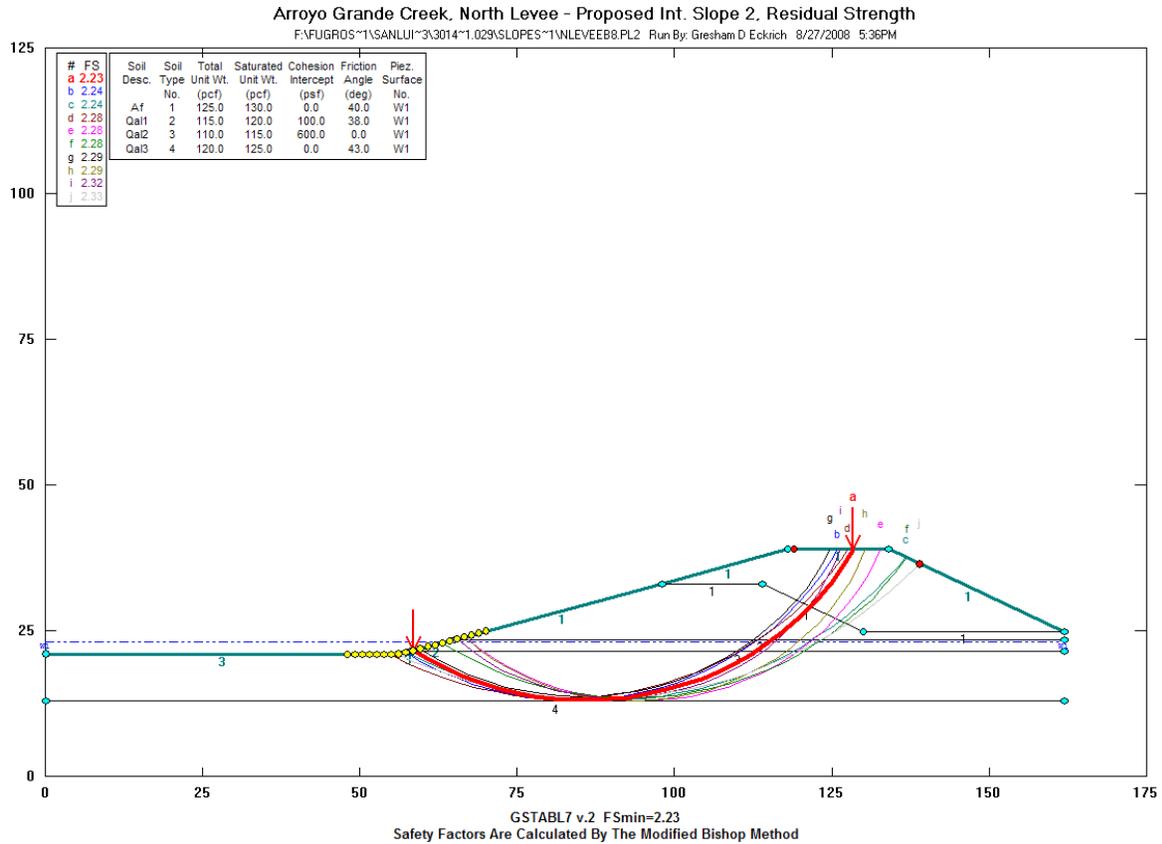


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 1.7

Condition: Proposed Exterior Slope 1

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

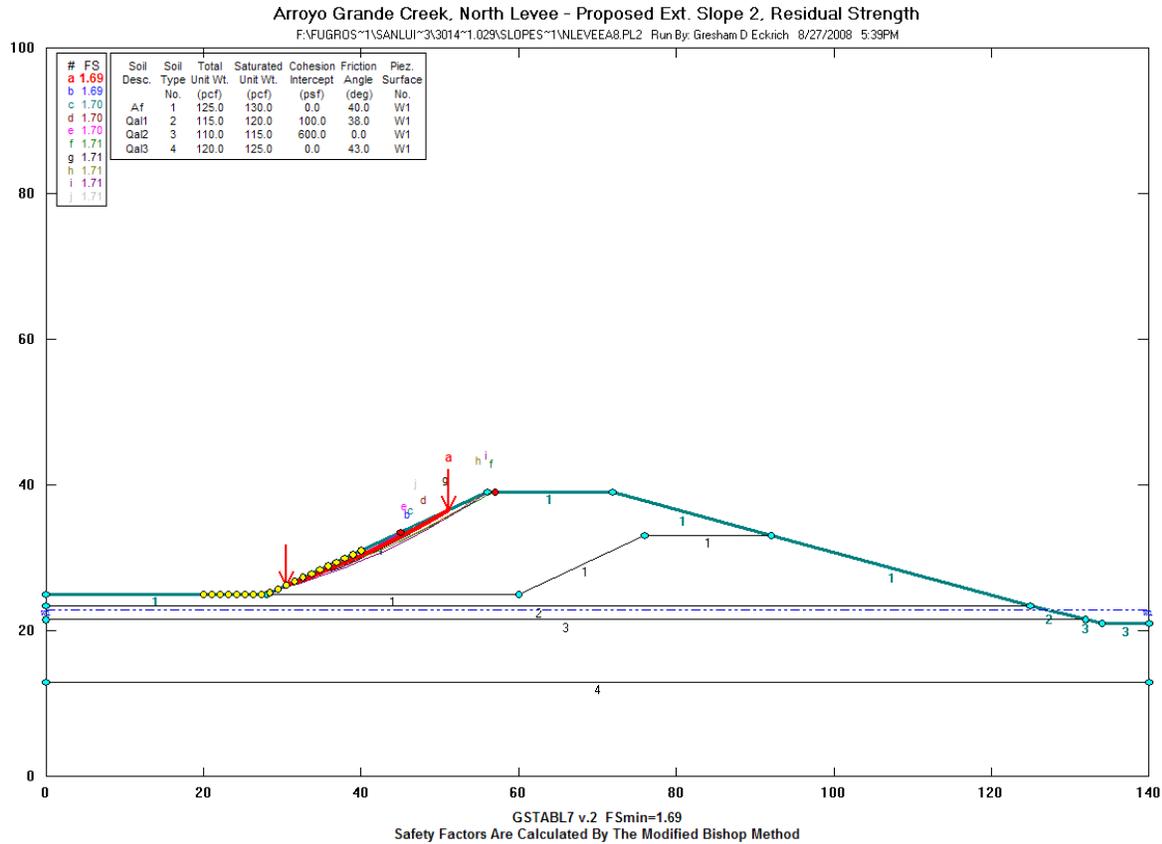


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 2.2

Condition: Proposed Interior Slope 2

SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

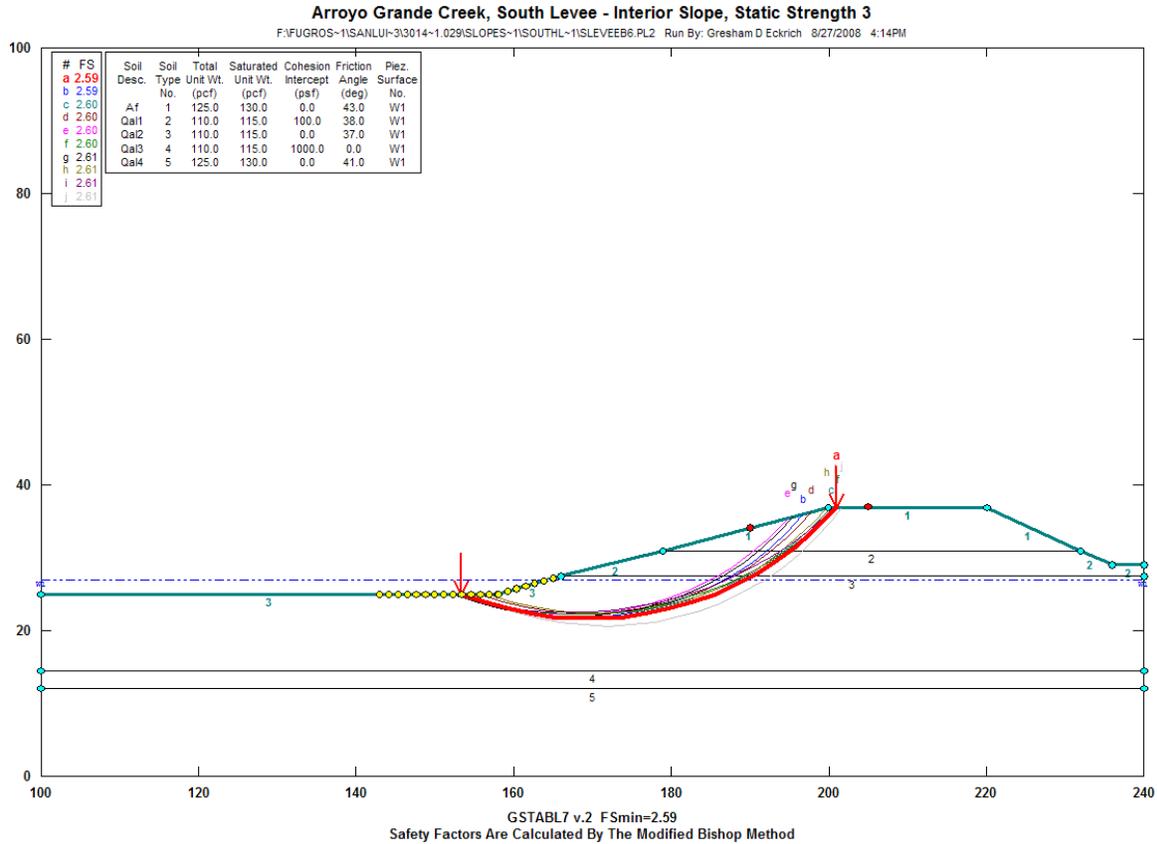


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 1.7

Condition: Proposed Exterior Slope 2

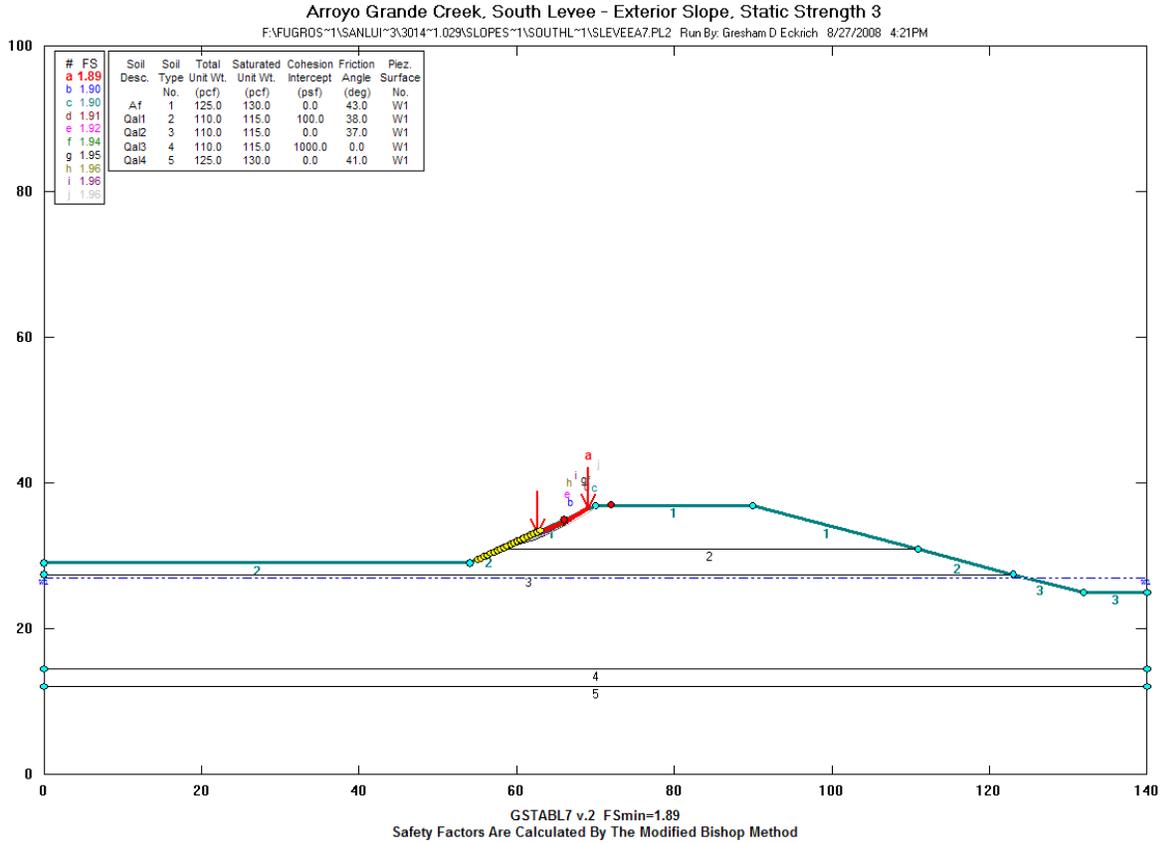
SLOPE STABILITY PLOT FOR NORTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

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Pseudostatic Loading Condition: 1.5
Pseudostatic Coefficient: 0.15
Condition: Existing Interior Slope, Static Loading

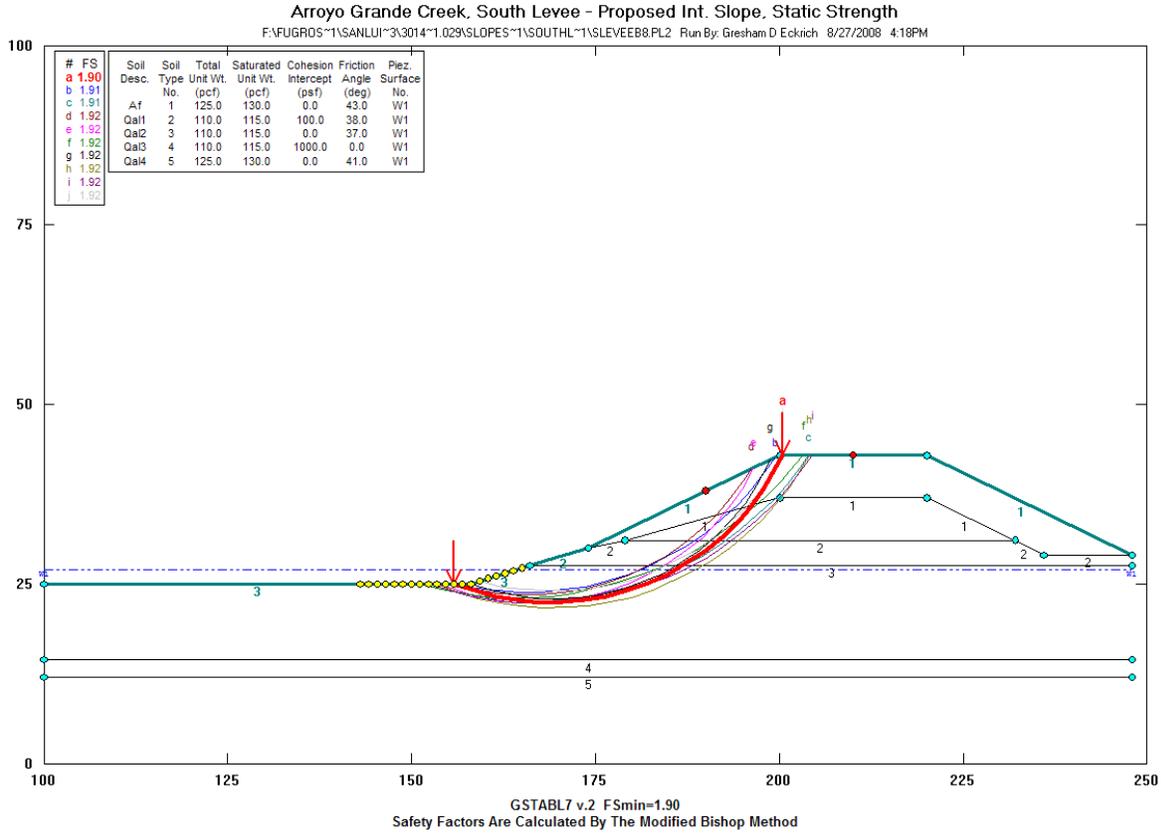
SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 1.9
Pseudostatic Loading Condition: 1.3
Pseudostatic Coefficient: 0.15
Condition: Existing Exterior Slope, Static Loading

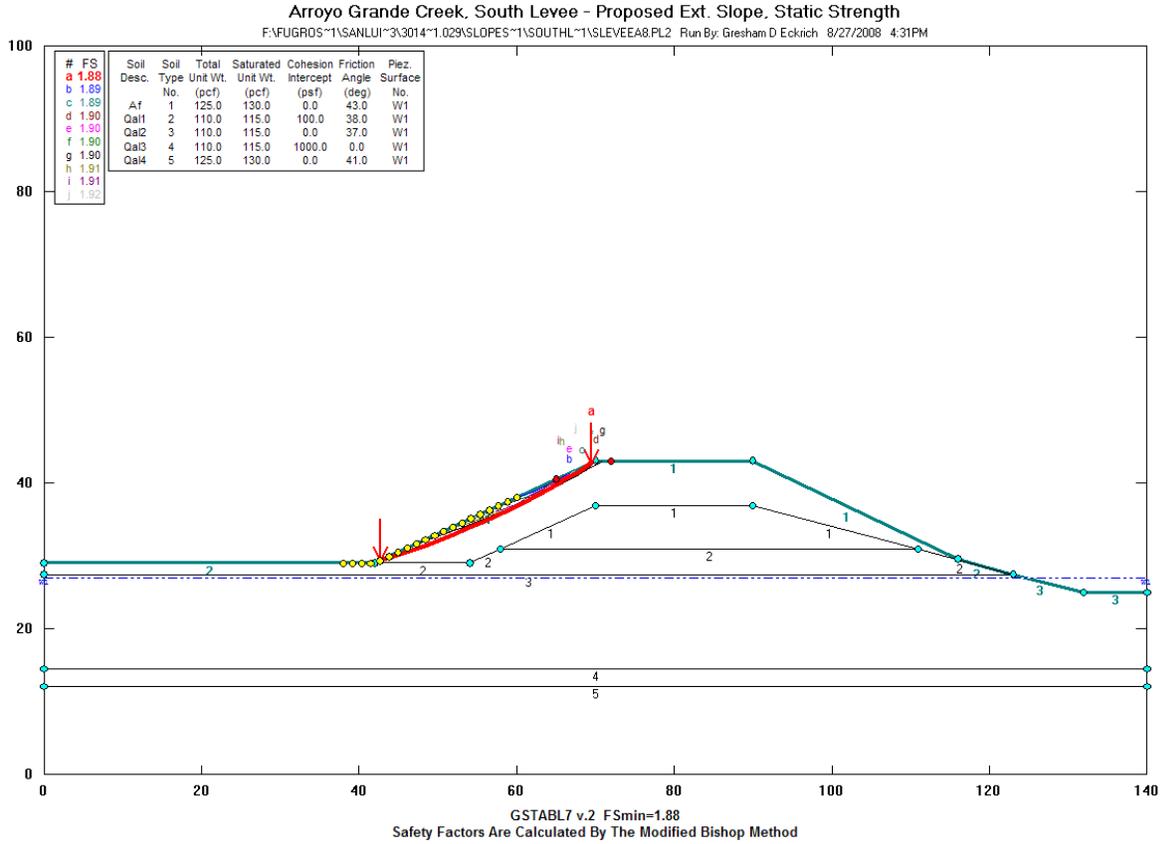
SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 1.9
Pseudostatic Loading Condition: 1.3
Pseudostatic Coefficient: 0.15
Condition: Proposed Interior Slope 1, Static Loading

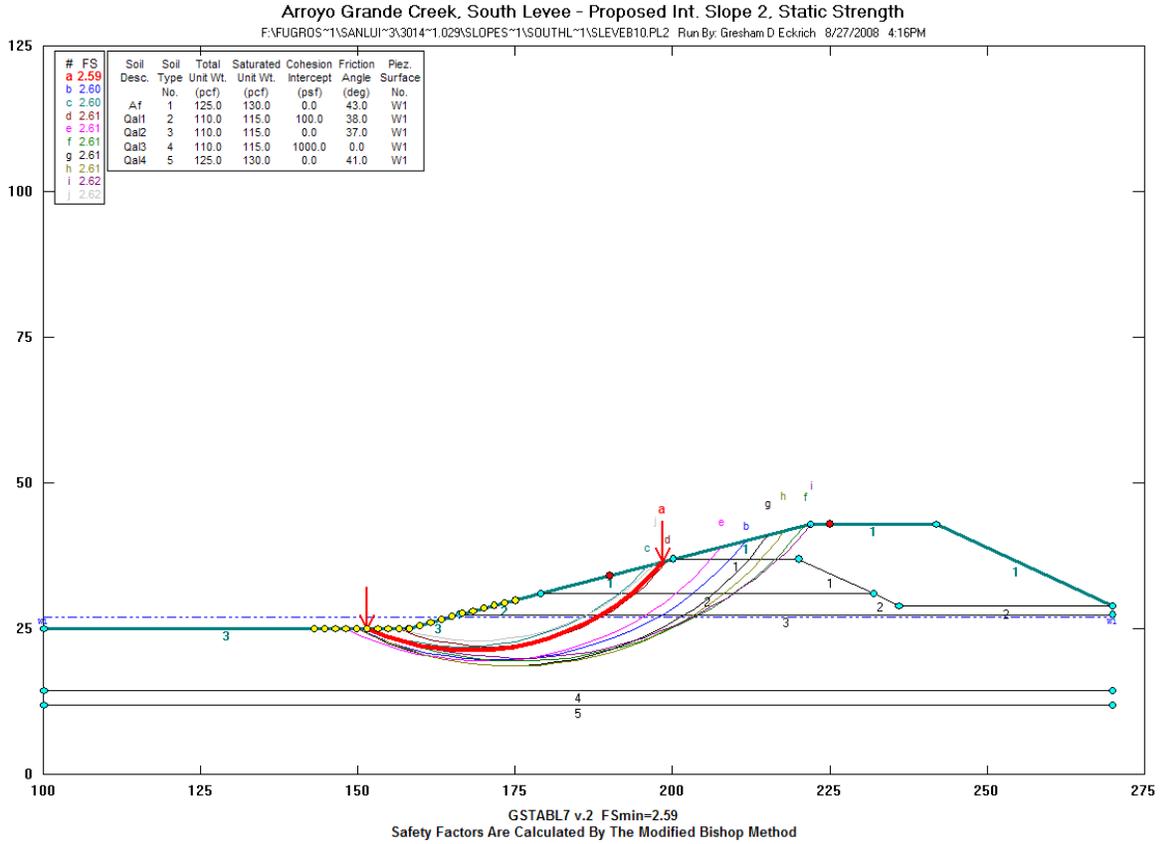
SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 1.9
Pseudostatic Loading Condition: 1.3
Pseudostatic Coefficient: 0.15
Condition: Proposed Exterior Slope 1, Static Loading

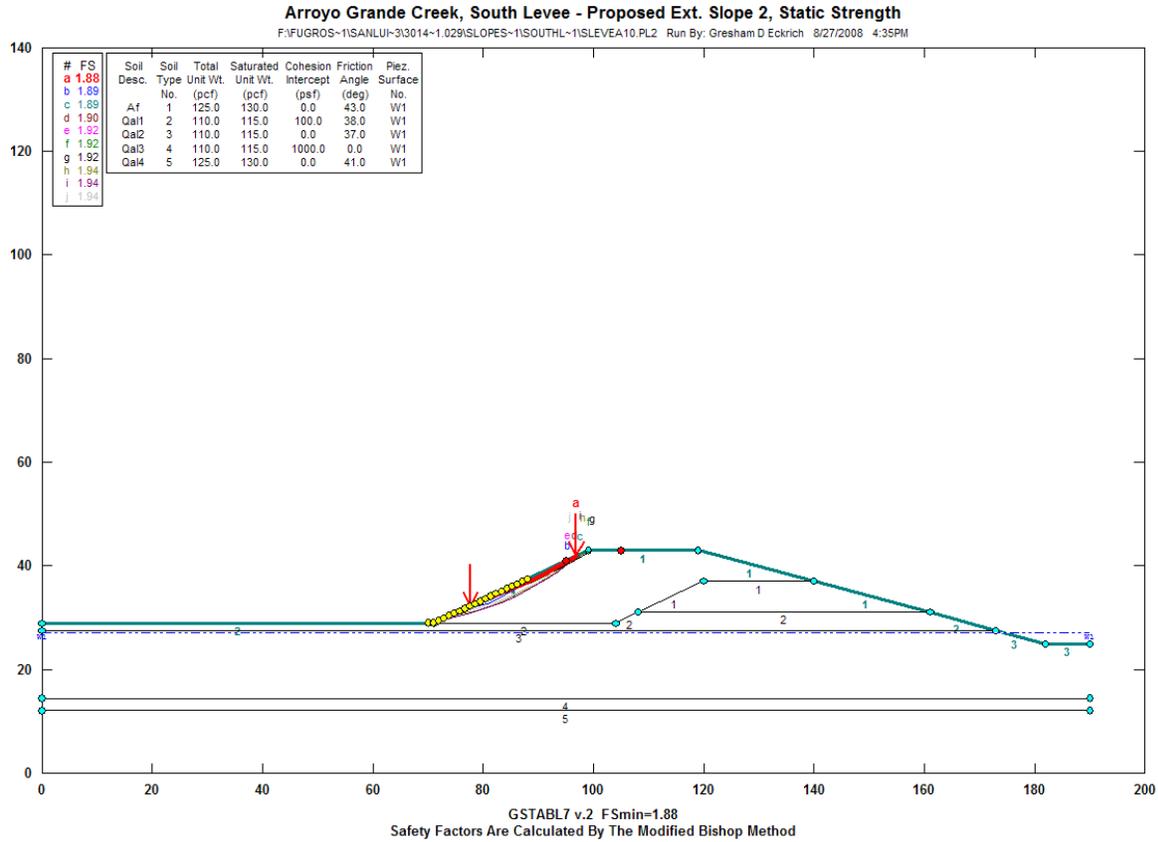
SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 2.6
Pseudostatic Loading Condition: 1.5
Pseudostatic Coefficient: 0.15
Condition: Proposed Interior Slope 2, Static Loading

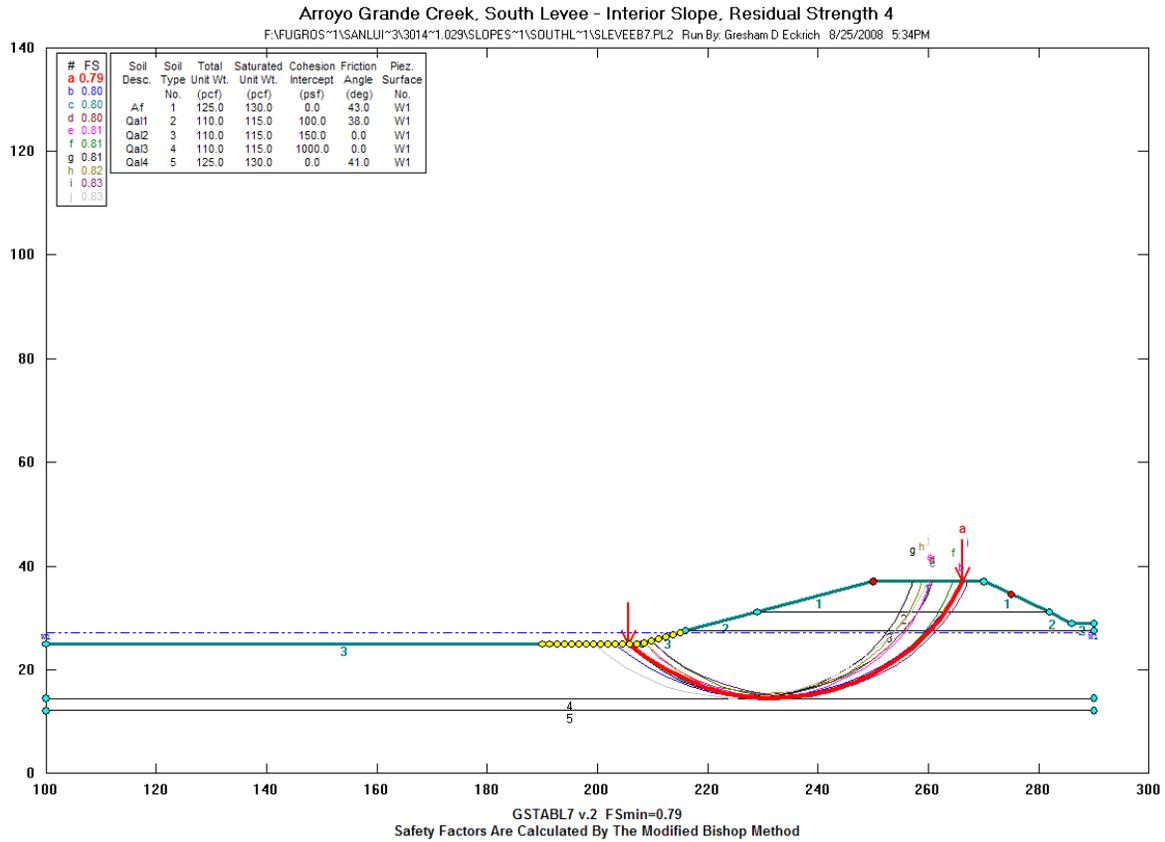
SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTORS OF SAFETY

Static Loading Condition: 1.9
Pseudostatic Loading Condition: 1.3
Pseudostatic Coefficient: 0.15
Condition: Proposed Exterior Slope 2, Static Loading

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

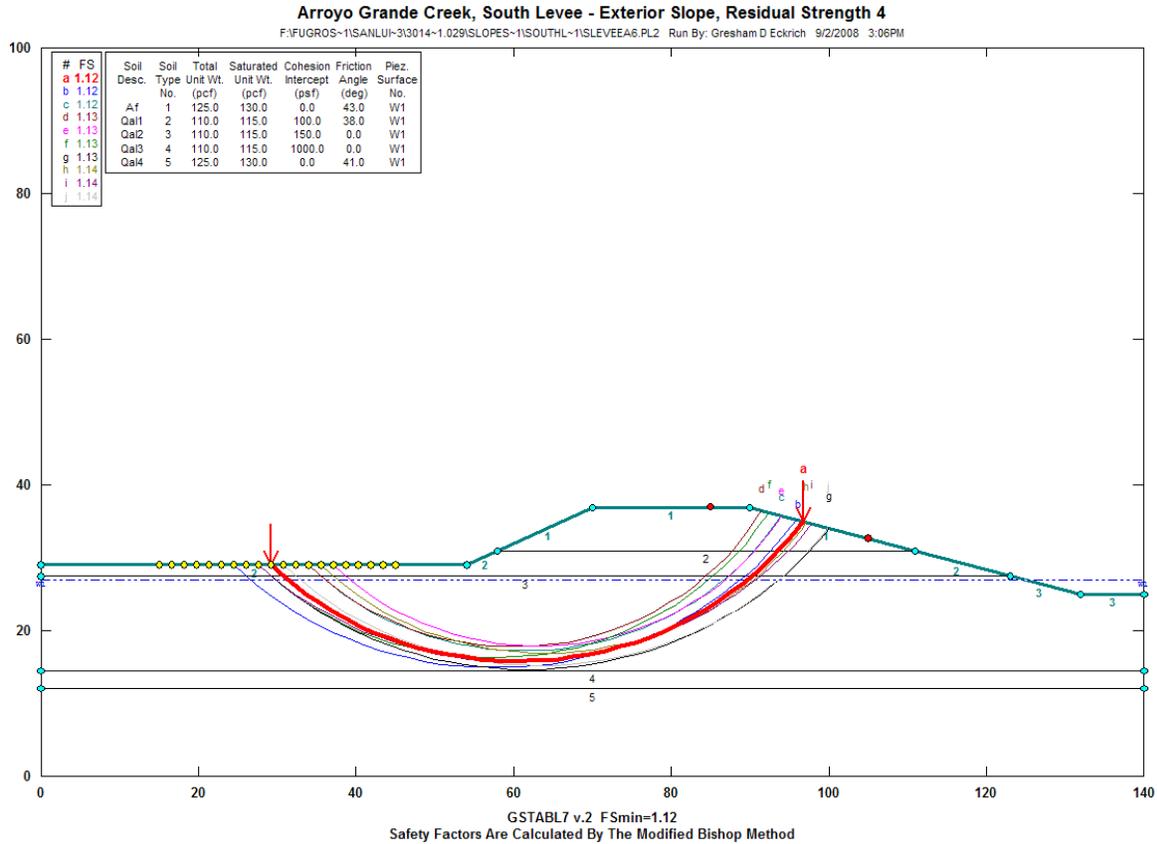


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 0.8

Condition: Existing Interior Slope

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

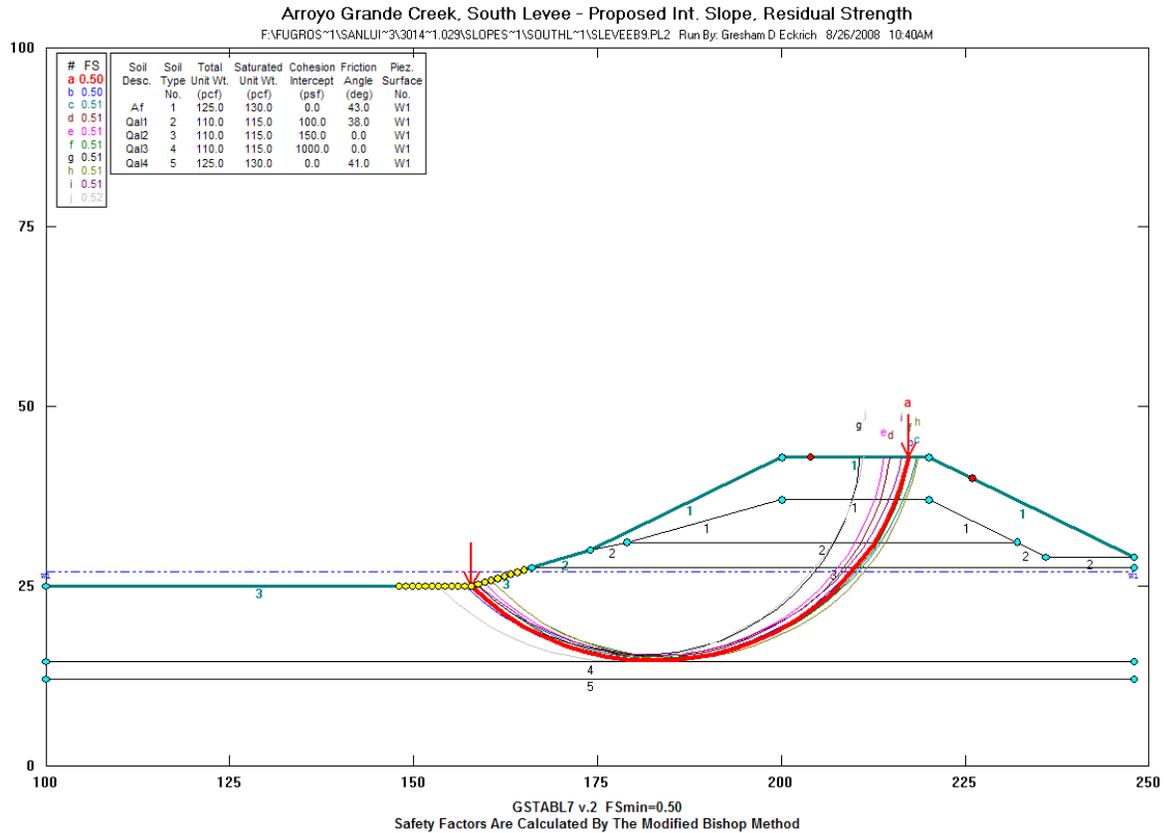


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 1.1

Condition: Existing Exterior Slope

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

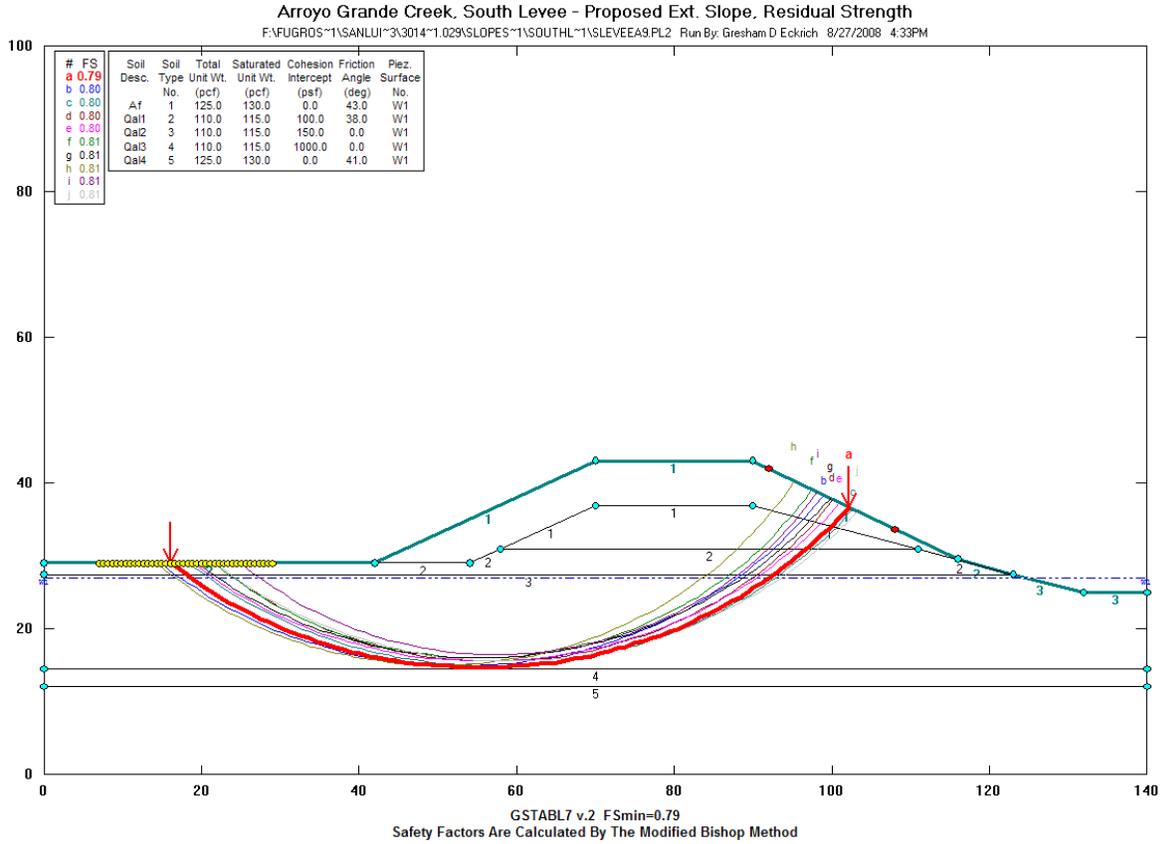


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 0.5

Condition: Proposed Interior Slope 1

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

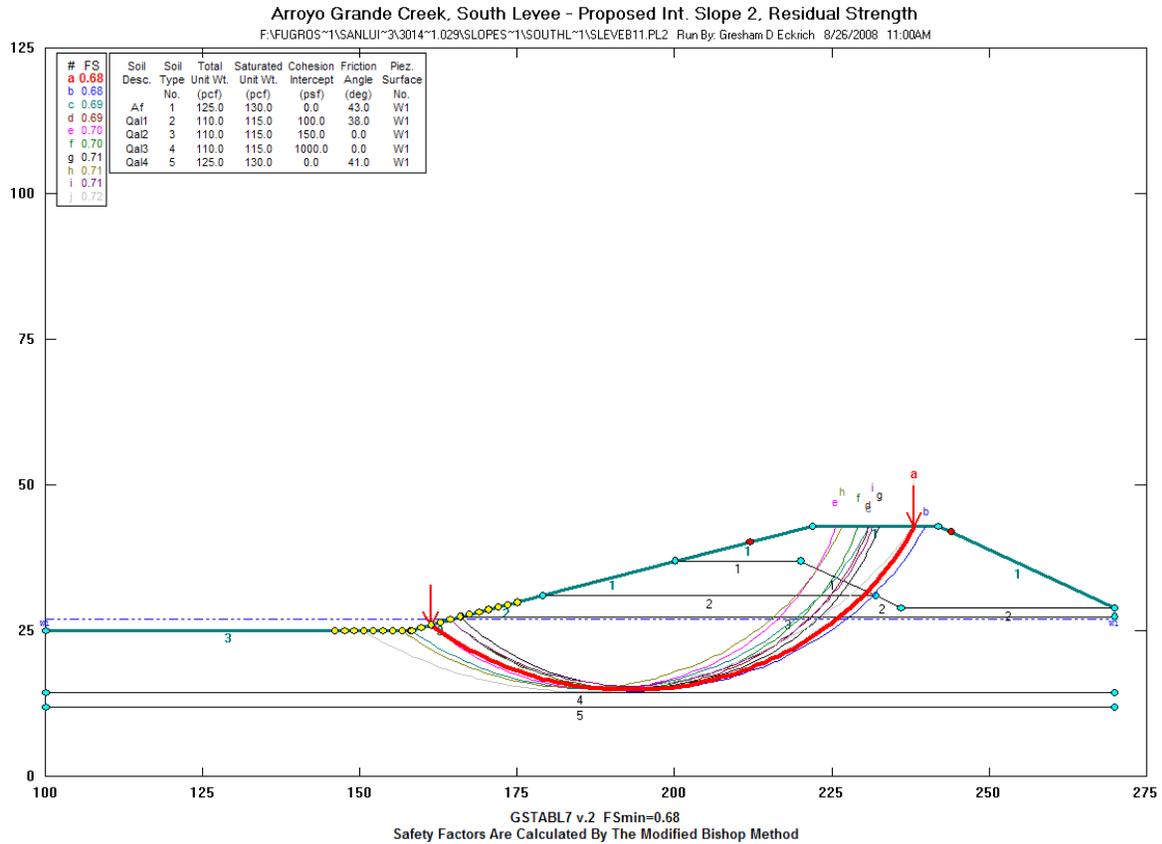


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 0.8

Condition: Proposed Exterior Slope 1

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

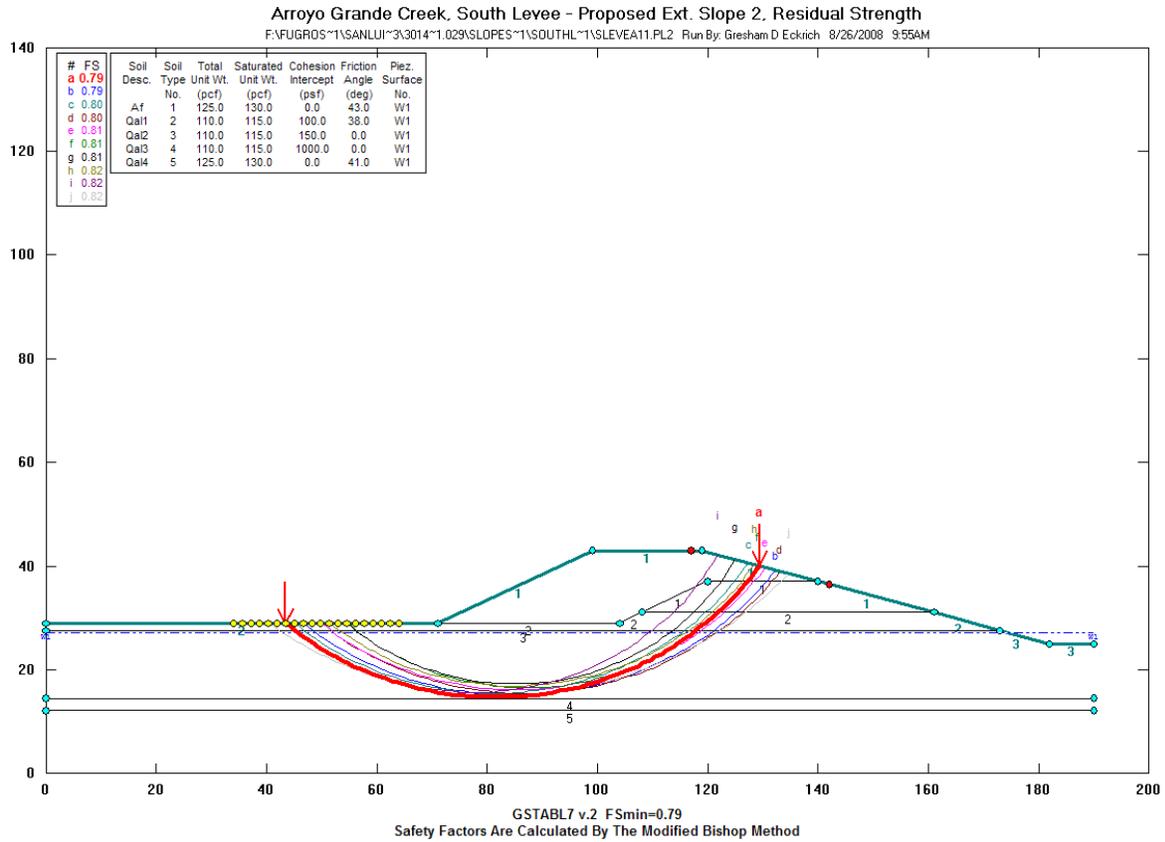


ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 0.7

Condition: Proposed Interior Slope 2

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California



ESTIMATED FACTOR OF SAFETY

Post-Liquefaction Condition: 0.8

Condition: Proposed Exterior Slope 2

SLOPE STABILITY PLOT FOR SOUTH LEVEE EMBANKMENT
 Arroyo Grande Creek Waterways Management Plan
 San Luis Obispo County, California

EXHIBIT R

ARROYO GRANDE CREEK CHANNEL SEDIMENT AND VEGETATION MANAGEMENT PLAN CONCEPTUAL PLANS

**CONCEPTUAL
NOT FOR CONSTRUCTION**

**PREPARED AT THE
REQUEST OF:
SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND
WATER CONSERVATION
DISTRICT**

**COVER
SHEET**

**ARROYO GRANDE CREEK
CHANNEL SEDIMENT
AND VEGETATION
MANAGEMENT PLAN
CONCEPTUAL PLANS**

DESIGNED BY: B.M.S.
DRAWN BY: B.M.S.
CHECKED BY: M.W.W.
DATE: 9/21/09
JOB NO.: 08-707

BAR IS ONE INCH ON
ORIGINAL DRAWING.
ADJUST SCALES FOR
REDUCED PLOTS
0 1"

C1
1 OF 10

PROJECT DESCRIPTION

THESE PLANS PROVIDE DETAILS FOR THE REMOVAL OF SEDIMENT FROM ARROYO GRANDE AND LOS BERROS CREEK CHANNELS IN THE COUNTY OF SAN LUIS OBISPO. CONSTRUCTION ACTIVITIES WILL CONSIST OF EXCAVATION AND DISPOSAL OF SEDIMENT FROM THE CHANNEL FLOODPLAINS AND INSTALLATION OF LOG HABITAT STRUCTURES.

GRADING SUMMARY

TOTAL CUT VOLUME = 21,332 CY
TOTAL FILL VOLUME = 0 CY
NET CUT = 21,332 CY

THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND, AS MAPPED IN 2006, AND THE PROPOSED FINISH GRADE. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED.

THE ABOVE QUANTITIES HAVE BEEN CALCULATED FOR PERMITTING PURPOSES ONLY AND HAVE NOT BEEN FACTORED TO INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF EARTH MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS EARTH MATERIALS.

PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL PERFORM AN UPDATED CROSS SECTION SURVEY TO DETERMINE ACTUAL CONDITIONS.

GENERAL NOTES

- 1) PREPARED AT THE REQUEST OF:
SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND WATER CONSERVATION DISTRICT
- 2) AERIAL MAPPING OF THE PROJECT AREA WAS PERFORMED BY:
CENTRAL COAST AERIAL MAPPING, INC.
710 FIERO LN #24
SAN LUIS OBISPO, CALIFORNIA 93401
(805)543-4307
JOB# 2005-841
PHOTOGRAPHY DATE: 3/10/2005
- 3) ELEVATION DATUM: NAVD 88, BASED ON NGS BENCHMARK X 532, PID "FV0421", ELEVATION= 13.5'
- 4) HORIZONTAL DATUM: HORIZONTAL COORDINATES CONSTRAINED TO NGS MONUMENT HPGN CA 05 05, PID "FV2048", NAD83, CALIFORNIA STATE PLAN ZONE 5
- 5) APN'S: T.B.D.
- 6) ELEVATIONS AND DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF. CONTOUR INTERVAL IS 2 FEET.
- 7) PROPERTY LINES ARE NOT SHOWN HEREON.
- 8) ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE CURRENT EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF LOCAL STREETS AND ROADS (HEREAFTER REFERRED TO AS "STANDARD SPECIFICATIONS", AND SHALL BE SUBJECT TO APPROVAL OF THE OWNER.
- 9) THE COUNTY PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO CONSTRUCTION. A QUALIFIED CIVIL ENGINEER WITH EXPERIENCE IN THE INSTALLATION OF FEATURES OF THE TYPE SHOWN ON THESE PLANS, SHALL PROVIDE INSPECTION SERVICES DURING THE CONSTRUCTION PROCESS.
- 10) CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTION LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL. NEITHER THE PROFESSIONAL ACTIVITIES OF CONSULTANT NOR THE PRESENCE OF CONSULTANT OR HIS OR HER EMPLOYEES OR SUB-CONSULTANTS AT A CONSTRUCTION SITE SHALL RELIEVE THE CONTRACTOR AND ITS SUBCONTRACTORS OF THEIR RESPONSIBILITIES INCLUDING, NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND APPLICABLE HEALTH OR SAFETY REQUIREMENTS OF ANY REGULATORY AGENCY OR OF STATE LAW.

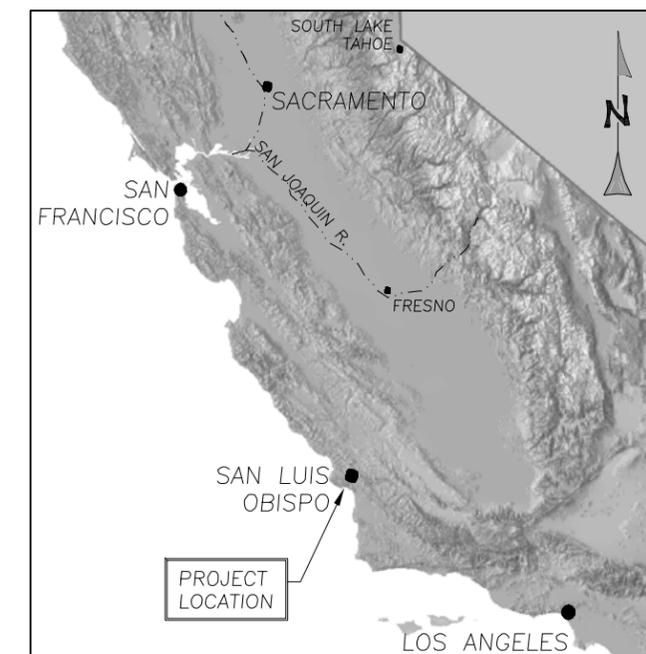
SECTION AND DETAIL CONVENTION

SECTION OR DETAIL IDENTIFICATION
(NUMBER OR LETTER)



REFERENCE SHEET FROM WHICH
DETAIL OR SECTION IS TAKEN.

REFERENCE SHEET ON WHICH
SECTION OR DETAIL IS SHOWN.



REGIONAL MAP
N.T.S.



VICINITY MAP
N.T.S.

SHEET INDEX

C1	COVER SHEET	C6	SITE PLAN 4 OF 5
C2	PROJECT AREA OVERVIEW	C7	SITE PLAN 5 OF 5
C3	SITE PLAN 1 OF 5	C8	TYPICAL SITE PLAN
C4	SITE PLAN 2 OF 5	C9	TYPICAL SECTIONS
C5	SITE PLAN 3 OF 5	C10	DETAILS

GENERAL NOTES CONT'D

11) EXISTING UNDERGROUND UTILITY LOCATIONS:

LOCATIONS SHOWN ARE COMPILED FROM INFORMATION SUPPLIED BY THE APPROPRIATE UTILITY AGENCIES OR FROM FIELD MEASUREMENTS TO ABOVE GROUND FEATURES READILY VISIBLE AT THE TIME OF SURVEY. LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND DEPTH OF UNDERGROUND UTILITIES.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE LOCATION AND/OR PROTECTION OF ALL EXISTING AND PROPOSED PIPING, UTILITIES, TRAFFIC SIGNAL EQUIPMENT (BOTH ABOVE GROUND AND BELOW GROUND), STRUCTURES, AND ALL OTHER EXISTING IMPROVEMENTS THROUGHOUT CONSTRUCTION.

PRIOR TO COMMENCING FABRICATION OR CONSTRUCTION, CONTRACTOR SHALL DISCOVER OR VERIFY THE ACTUAL DIMENSIONS, SIZES, MATERIALS, LOCATIONS, AND ELEVATIONS OF ALL EXISTING UTILITIES AND POTHOLE THOSE AREAS WHERE POTENTIAL CONFLICTS ARE LIKELY OR DATA IS OTHERWISE INCOMPLETE.

CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION OPERATIONS, AND SHALL BE SOLELY RESPONSIBLE FOR THE COST OF REPAIR/REPLACEMENT OF ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. CONTRACTOR TO CALL UNDERGROUND SERVICE ALERT (1-800-642-2444) TO LOCATE ALL UNDERGROUND UTILITY LINES PRIOR TO COMMENCING CONSTRUCTION.

UPON LEARNING OF THE EXISTENCE AND/OR LOCATIONS OF ANY UNDERGROUND FACILITIES NOT SHOWN OR SHOWN INACCURATELY ON THE PLANS OR NOT PROPERLY MARKED BY THE UTILITY OWNER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY BY TELEPHONE AND IN WRITING.

UTILITY RELOCATIONS REQUIRED FOR THE CONSTRUCTION OF THE PROJECT FACILITIES WILL BE PERFORMED BY THE UTILITY COMPANY, UNLESS OTHERWISE NOTED.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL CONTACT ALL UTILITIES COMPANIES WITH REGARD TO WORKING OVER, UNDER, OR AROUND EXISTING FACILITIES AND TO OBTAIN INFORMATION REGARDING RESTRICTIONS THAT ARE REQUIRED TO PREVENT DAMAGE TO THE FACILITIES.

12) SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THESE DRAWINGS, HE SHALL NOTIFY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

13) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN, PERMITTING, INSTALLATION, AND MAINTENANCE OF ANY AND ALL TRAFFIC CONTROL MEASURES DEEMED NECESSARY.

14) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE GENERAL SAFETY DURING CONSTRUCTION. ALL WORK SHALL CONFORM TO PERTINENT SAFETY REGULATIONS AND CODES. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE FOR THE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR COMPLIANCE WITH ALL APPLICABLE PROVISIONS OF OSHA IN THE CONSTRUCTION PRACTICES FOR ALL EMPLOYEES DIRECTLY ENGAGED IN THE CONSTRUCTION OF THIS PROJECT.

15) THE CONTRACTOR SHALL PURSUE WORK IN A CONTINUOUS AND DILIGENT MANNER TO ENSURE A TIMELY COMPLETION OF THE PROJECT.

16) ALL CONSTRUCTION SHALL BE CLOSELY COORDINATED WITH THE ENGINEER SO THAT THE QUALITY OF WORK CAN BE CHECKED FOR APPROVAL.

17) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE SITE IN A NEAT AND ORDERLY MANNER THROUGHOUT THE CONSTRUCTION PROCESS. ALL MATERIALS SHALL BE STORED WITHIN APPROVED CONSTRUCTION AREAS.

18) THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AT HIS EXPENSE, ALL PERMITS AS REQUIRED BY THE LOCAL AGENCIES, INCLUDING BUT NOT LIMITED TO; ENCROACHMENT, GRADING AND LANE CLOSURES NOT PREVIOUSLY OBTAINED BY THE OWNER. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO COMPLY WITH ALL APPLICABLE PERMIT CONDITIONS AND REQUIREMENTS.

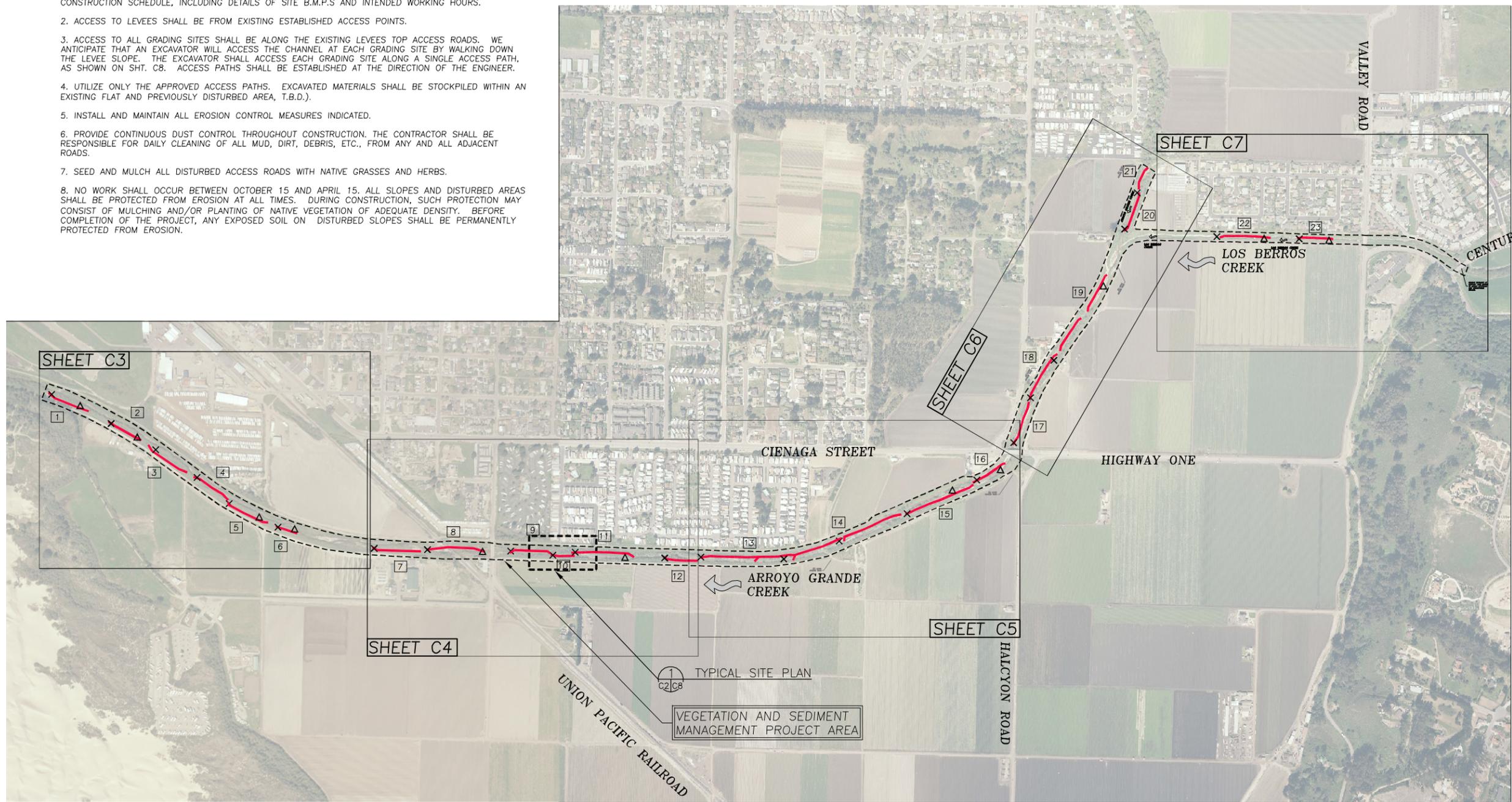
19) CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING AND LAYOUT, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

20) NO CONSTRUCTION SHALL BE STARTED WITHOUT PLANS APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEPARTMENT OF PUBLIC WORKS SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION AND OF THE TIME AND LOCATION OF THE PRE-CONSTRUCTION CONFERENCE. ANY CONSTRUCTION PERFORMED WITHOUT PRIOR NOTIFICATION TO THE DEPARTMENT OF PUBLIC WORKS WILL BE REJECTED AND WILL BE AT THE CONTRACTOR'S RISK.

21) THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION WORK UNTIL THE PROJECT SCHEDULE AND WORK PLAN IS APPROVED BY THE ENGINEER.

EROSION CONTROL AND ACCESS NOTES

1. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A DETAILED CONSTRUCTION SCHEDULE, INCLUDING DETAILS OF SITE B.M.P.S AND INTENDED WORKING HOURS.
2. ACCESS TO LEVEES SHALL BE FROM EXISTING ESTABLISHED ACCESS POINTS.
3. ACCESS TO ALL GRADING SITES SHALL BE ALONG THE EXISTING LEVEES TOP ACCESS ROADS. WE ANTICIPATE THAT AN EXCAVATOR WILL ACCESS THE CHANNEL AT EACH GRADING SITE BY WALKING DOWN THE LEVEE SLOPE. THE EXCAVATOR SHALL ACCESS EACH GRADING SITE ALONG A SINGLE ACCESS PATH, AS SHOWN ON SHT. C8. ACCESS PATHS SHALL BE ESTABLISHED AT THE DIRECTION OF THE ENGINEER.
4. UTILIZE ONLY THE APPROVED ACCESS PATHS. EXCAVATED MATERIALS SHALL BE STOCKPILED WITHIN AN EXISTING FLAT AND PREVIOUSLY DISTURBED AREA, T.B.D.).
5. INSTALL AND MAINTAIN ALL EROSION CONTROL MEASURES INDICATED.
6. PROVIDE CONTINUOUS DUST CONTROL THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANING OF ALL MUD, DIRT, DEBRIS, ETC., FROM ANY AND ALL ADJACENT ROADS.
7. SEED AND MULCH ALL DISTURBED ACCESS ROADS WITH NATIVE GRASSES AND HERBS.
8. NO WORK SHALL OCCUR BETWEEN OCTOBER 15 AND APRIL 15. ALL SLOPES AND DISTURBED AREAS SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF THE PROJECT, ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.



PROJECT AREA OVERVIEW
SCALE: 1"=500'

LEGEND

- △ TYPE "A" LOG HABITAT STRUCTURE (11 TOTAL)
- × TYPE "B" LOG HABITAT STRUCTURE (24 TOTAL)
- 9 GRADING SITE IDENTIFICATION NUMBER
- PROPOSED GRADING SITE (SECONDARY CHANNEL)

CONCEPTUAL
NOT FOR CONSTRUCTION

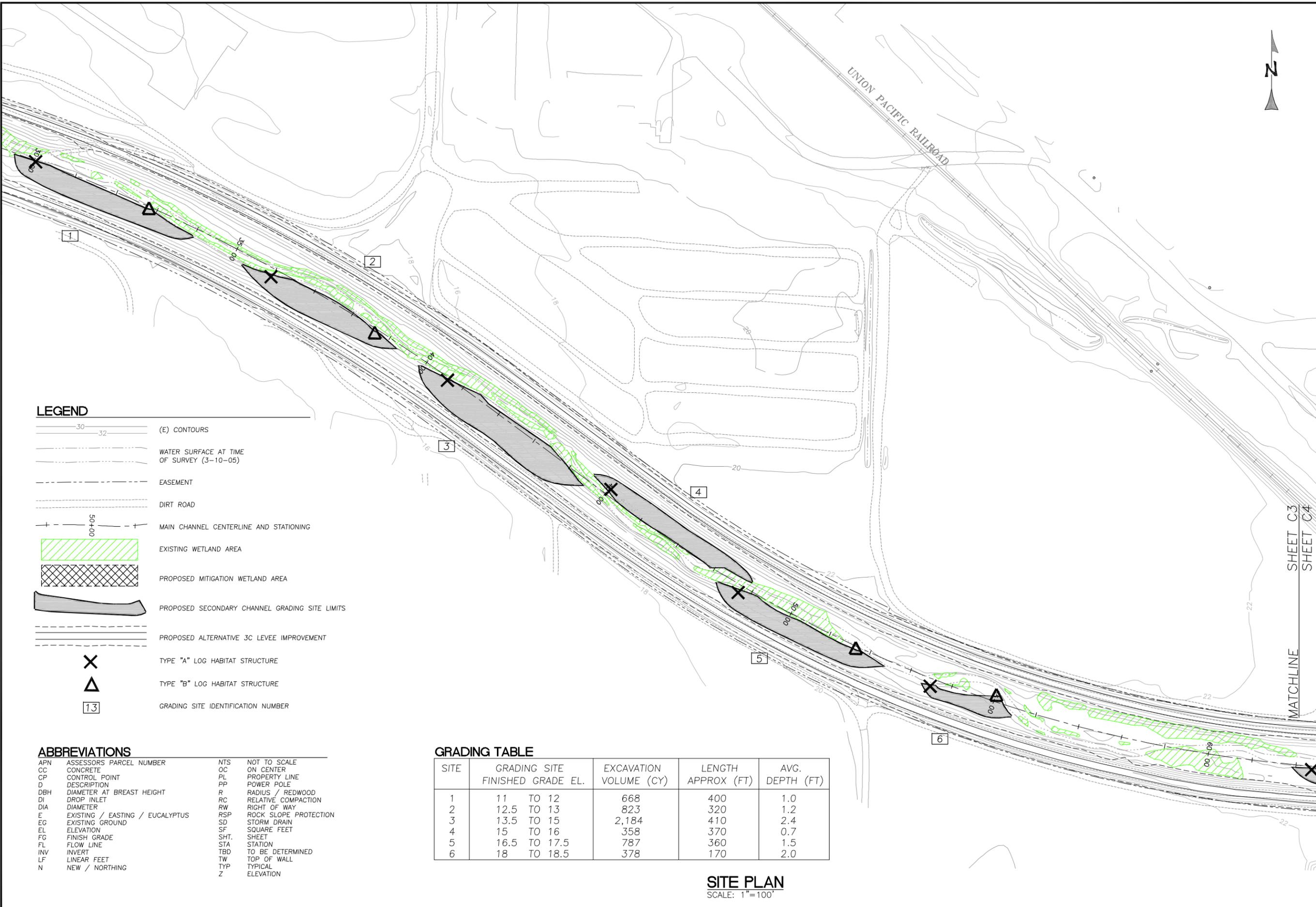
PREPARED AT THE REQUEST OF:
SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND WATER CONSERVATION DISTRICT

PROJECT AREA OVERVIEW

ARROYO GRANDE CREEK CHANNEL SEDIMENT AND VEGETATION MANAGEMENT PLAN CONCEPTUAL PLANS

DESIGNED BY: B.M.S.
DRAWN BY: B.M.S.
CHECKED BY: M.W.W.
DATE: 9/21/09
JOB NO.: 08-707

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS
0 1"



LEGEND

- (E) CONTOURS
- WATER SURFACE AT TIME OF SURVEY (3-10-05)
- EASEMENT
- DIRT ROAD
- MAIN CHANNEL CENTERLINE AND STATIONING
- EXISTING WETLAND AREA
- PROPOSED MITIGATION WETLAND AREA
- PROPOSED SECONDARY CHANNEL GRADING SITE LIMITS
- PROPOSED ALTERNATIVE 3C LEVEE IMPROVEMENT
- TYPE "A" LOG HABITAT STRUCTURE
- TYPE "B" LOG HABITAT STRUCTURE
- GRADING SITE IDENTIFICATION NUMBER

ABBREVIATIONS

APN	ASSESSORS PARCEL NUMBER	NTS	NOT TO SCALE
CC	CONCRETE	OC	ON CENTER
CP	CONTROL POINT	PL	PROPERTY LINE
D	DESCRIPTION	PP	POWER POLE
DBH	DIAMETER AT BREAST HEIGHT	R	RADIUS / REDWOOD
DI	DROP INLET	RC	RELATIVE COMPACTION
DIA	DIAMETER	RW	RIGHT OF WAY
E	EXISTING / EASTING / EUCALYPTUS	RSP	ROCK SLOPE PROTECTION
EG	EXISTING GROUND	SD	STORM DRAIN
EL	ELEVATION	SF	SQUARE FEET
FG	FINISH GRADE	SHT.	SHEET
FL	FLOW LINE	STA	STATION
INV	INVERT	TBD	TO BE DETERMINED
LF	LINEAR FEET	TW	TOP OF WALL
N	NEW / NORTHING	TYP	TYPICAL
		Z	ELEVATION

GRADING TABLE

SITE	GRADING SITE FINISHED GRADE EL.	EXCAVATION VOLUME (CY)	LENGTH APPROX (FT)	AVG. DEPTH (FT)
1	11 TO 12	668	400	1.0
2	12.5 TO 13	823	320	1.2
3	13.5 TO 15	2,184	410	2.4
4	15 TO 16	358	370	0.7
5	16.5 TO 17.5	787	360	1.5
6	18 TO 18.5	378	170	2.0

SITE PLAN
 SCALE: 1"=100'

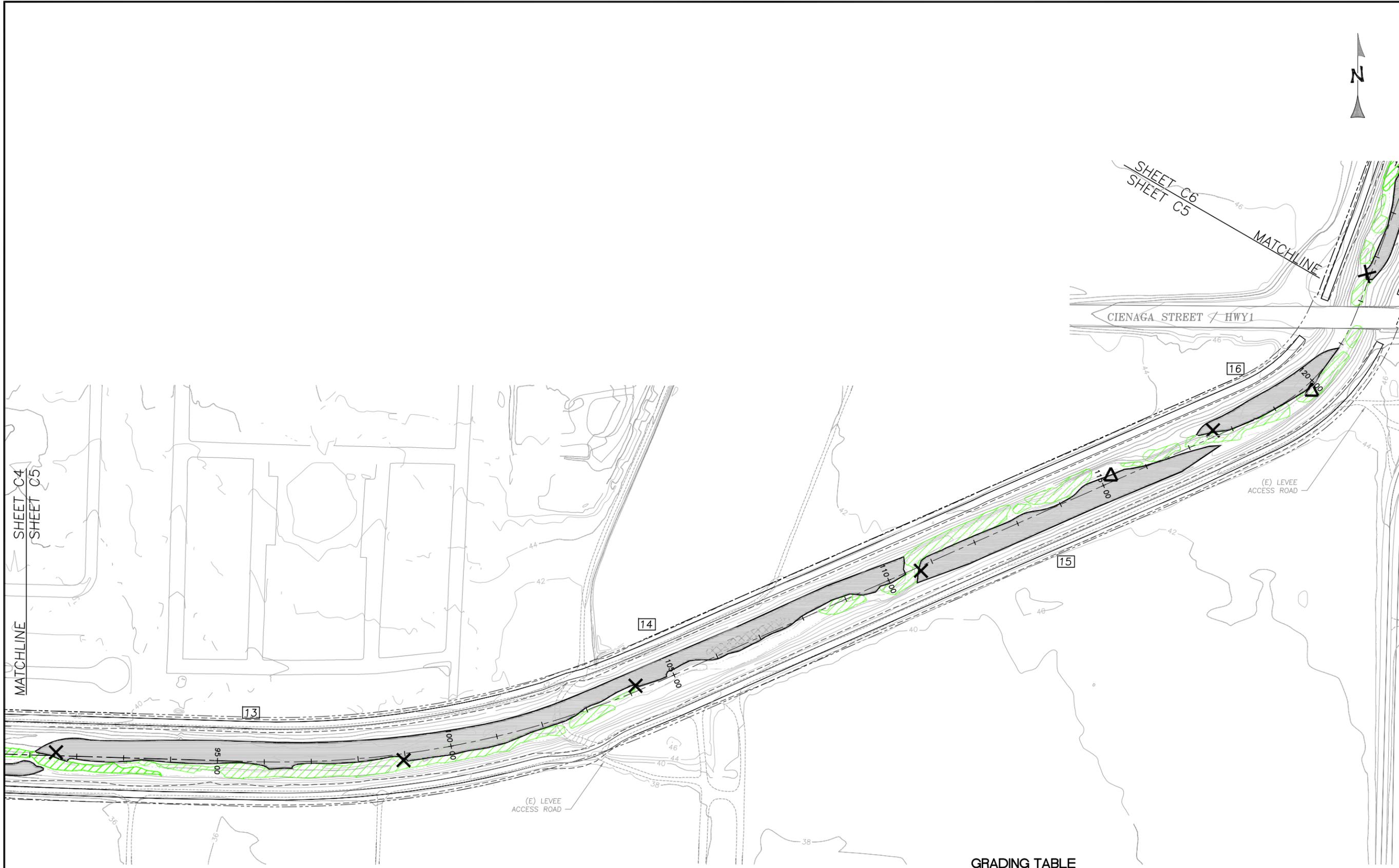
MATCHLINE
 SHEET C3
 SHEET C4



SITE PLAN
SCALE: 1"=100'

GRADING TABLE

SITE	GRADING SITE FINISHED GRADE EL.	EXCAVATION VOLUME (CY)	LENGTH APPROX (FT)	AVG. DEPTH (FT)
7	21 TO 22	193	450	0.3
8	22 TO 24	1,121	560	1.1
9	24.5 TO 25.8	738	400	1.0
10	25.8 TO 26.1	498	210	1.4
11	26.2 TO 28.5	1,262	530	1.3
12	29 TO 29.2	243	300	0.6



SITE PLAN
SCALE: 1"=100'

GRADING TABLE

SITE	GRADING SITE FINISHED GRADE EL.	EXCAVATION VOLUME (CY)	LENGTH APPROX (FT)	AVG. DEPTH (FT)
13	29.5 TO 31.5	2,700	830	1.8
14	31.5 TO 35	3,110	1,030	2.0
15	35.5 TO 37	1,309	660	1.2
16	37.5 TO 38.5	516	310	1.1

DESIGNED BY: B.M.S.
 DRAWN BY: B.M.S.
 CHECKED BY: M.W.W.
 DATE: 9/21/09
 JOB NO.: 08-707

BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES FOR REDUCED PLOTS

0 1"

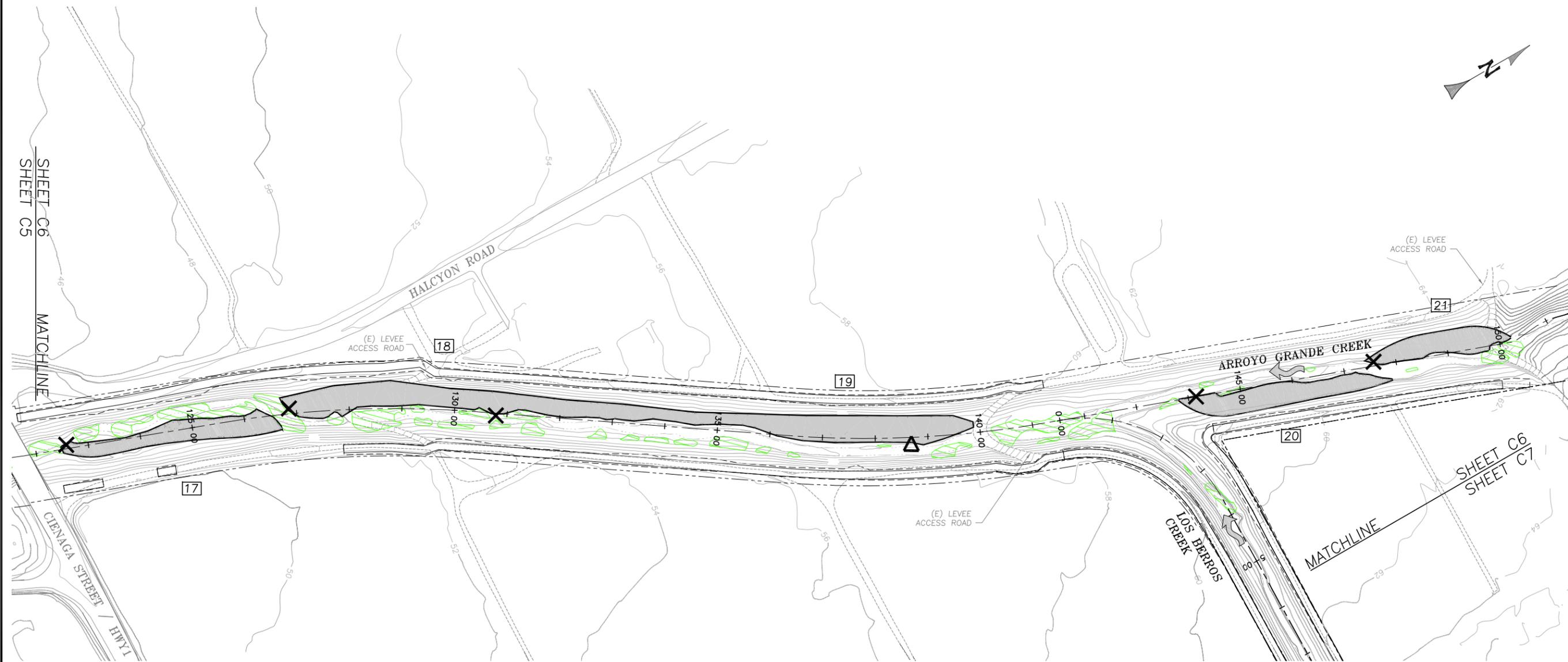
CONCEPTUAL
 NOT FOR CONSTRUCTION

PREPARED AT THE REQUEST OF:
 SAN LUIS OBISPO COUNTY
 FLOOD CONTROL AND
 WATER CONSERVATION
 DISTRICT

SITE PLAN
 3 OF 5

ARROYO GRANDE CREEK
 CHANNEL SEDIMENT
 AND VEGETATION
 MANAGEMENT PLAN
 CONCEPTUAL PLANS

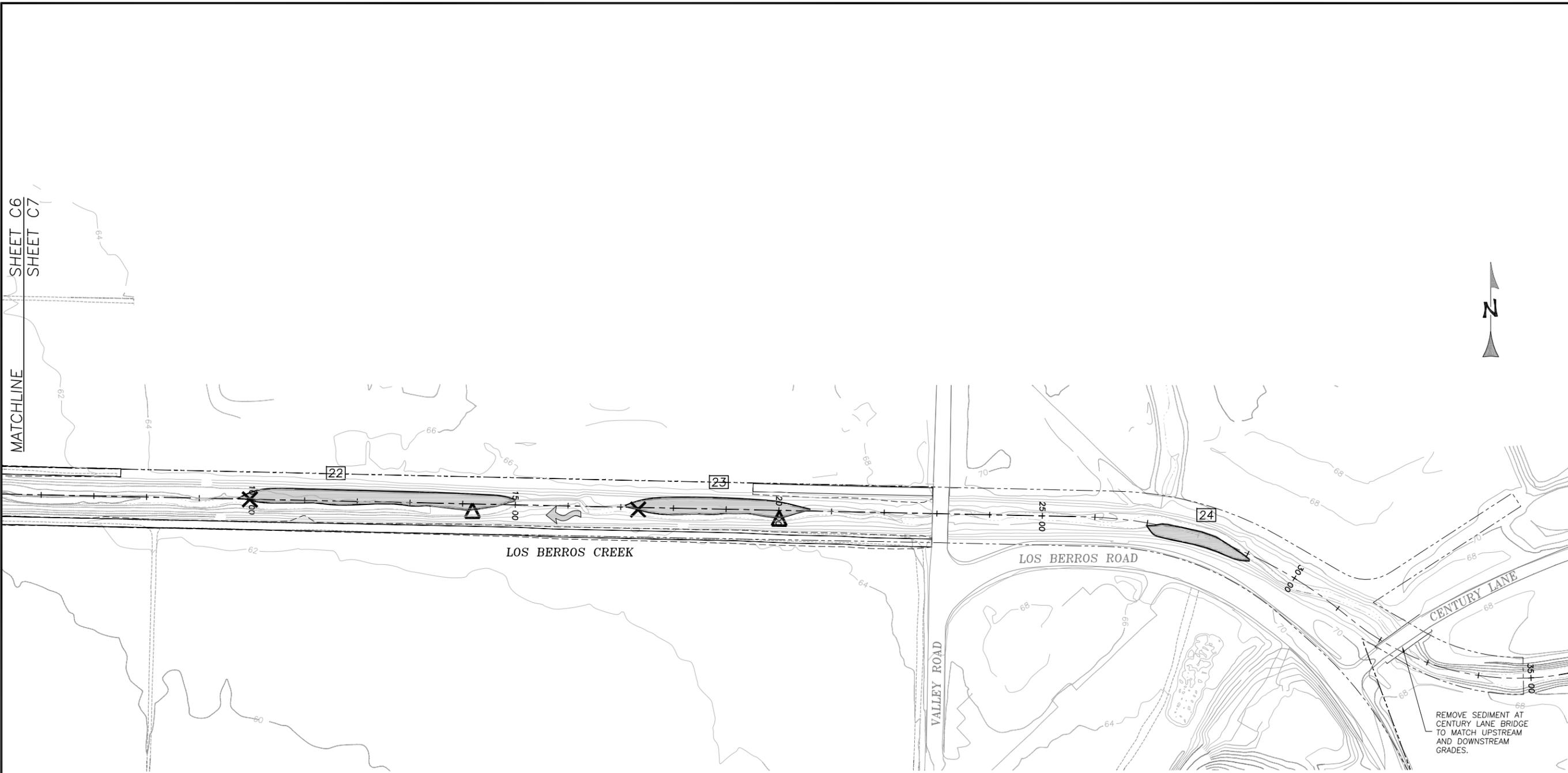
C5
 5 OF 10



SITE PLAN
SCALE: 1"=100'

GRADING TABLE

SITE	GRADING SITE FINISHED GRADE EL.	EXCAVATION VOLUME (CY)	LENGTH APPROX (FT)	AVG. DEPTH (FT)
17	38.5 TO 40.5	605	400	1.2
18	40.5 TO 44	615	490	0.8
19	44 TO 46	504	800	0.5
20	47 TO 48	767	350	1.3
21	48.5 TO 49	532	250	1.3



SITE PLAN
SCALE: 1"=100'

GRADING TABLE

SITE	GRADING SITE FINISHED GRADE EL.	EXCAVATION VOLUME (CY)	LENGTH APPROX (FT)	AVG. DEPTH (FT)
22	52.5 TO 54.5	825	480	1.5
23	55.5 TO 56	592	320	1.7
24	60.2 TO 60.6	106	140	0.7

**CONCEPTUAL
NOT FOR CONSTRUCTION**

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REQUEST OF:
SAN LUIS OBISPO COUNTY
FLOOD CONTROL AND
WATER CONSERVATION
DISTRICT

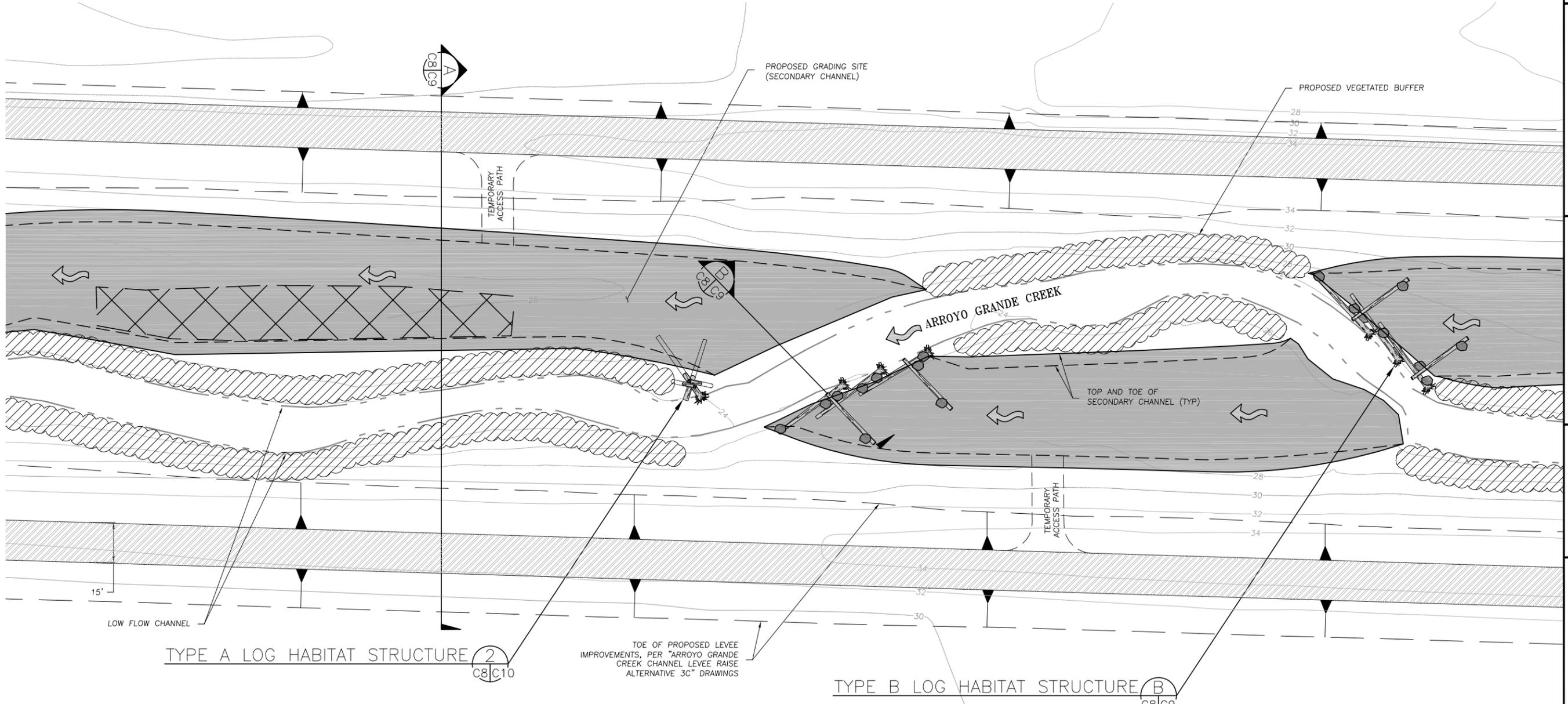
TYPICAL SITE
PLAN

ARROYO GRANDE CREEK
CHANNEL SEDIMENT
AND VEGETATION
MANAGEMENT PLAN
CONCEPTUAL PLANS

DESIGNED BY: B.M.S.
DRAWN BY: B.M.S.
CHECKED BY: M.W.W.
DATE: 9/21/09
JOB NO.: 08-707

BAR IS ONE INCH ON
ORIGINAL DRAWING.
ADJUST SCALES FOR
REDUCED PLOTS

8
OF
10



- LEGEND**
- (E) CONTOURS
 - LOW FLOW CHANNEL AT TIME OF SURVEY (3-10-05)
 - PROPOSED MITIGATION WETLAND AREA
 - PROPOSED VEGETATED BUFFER
 - LEVEE TOP PER ALTERNATIVE 3C

TYPICAL SITE PLAN
SCALE: 1"=20'

15'

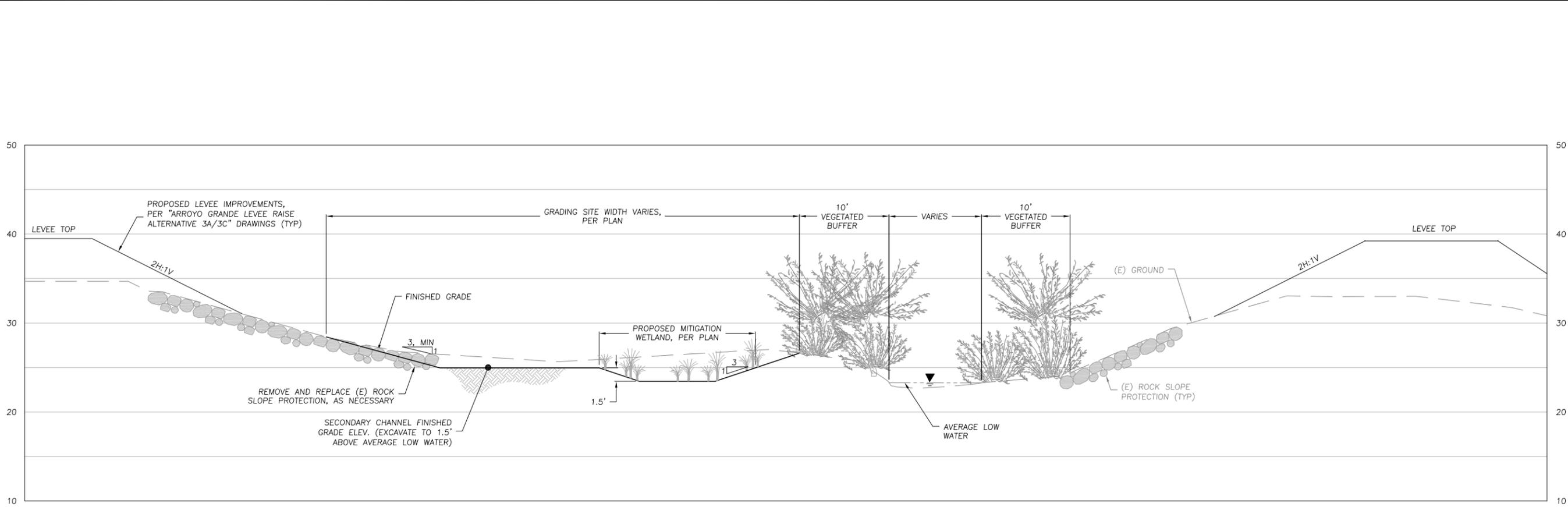
LOW FLOW CHANNEL

TYPE A LOG HABITAT STRUCTURE 2
C8|C9

TOE OF PROPOSED LEVEE IMPROVEMENTS, PER "ARROYO GRANDE CREEK CHANNEL LEVEE RAISE ALTERNATIVE 3C" DRAWINGS

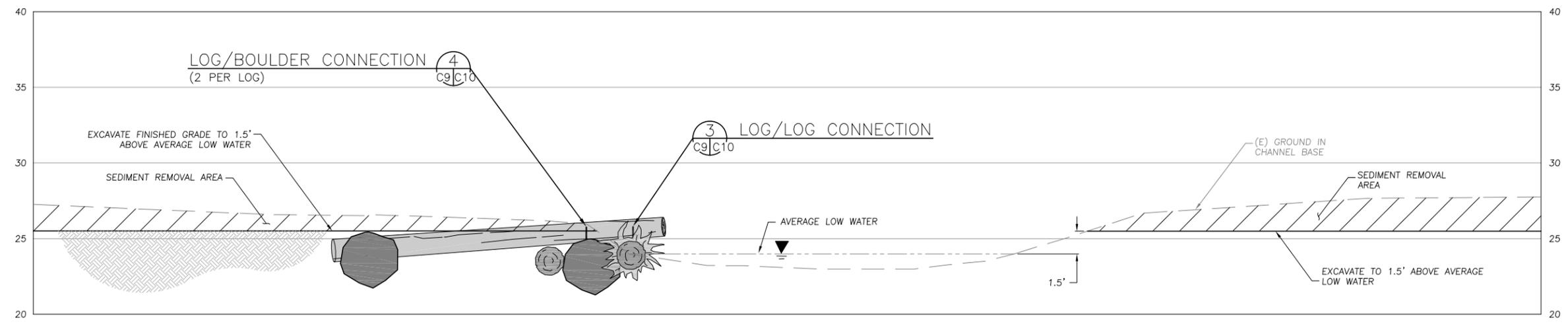
TYPE B LOG HABITAT STRUCTURE B
C8|C9

1
C2|C8

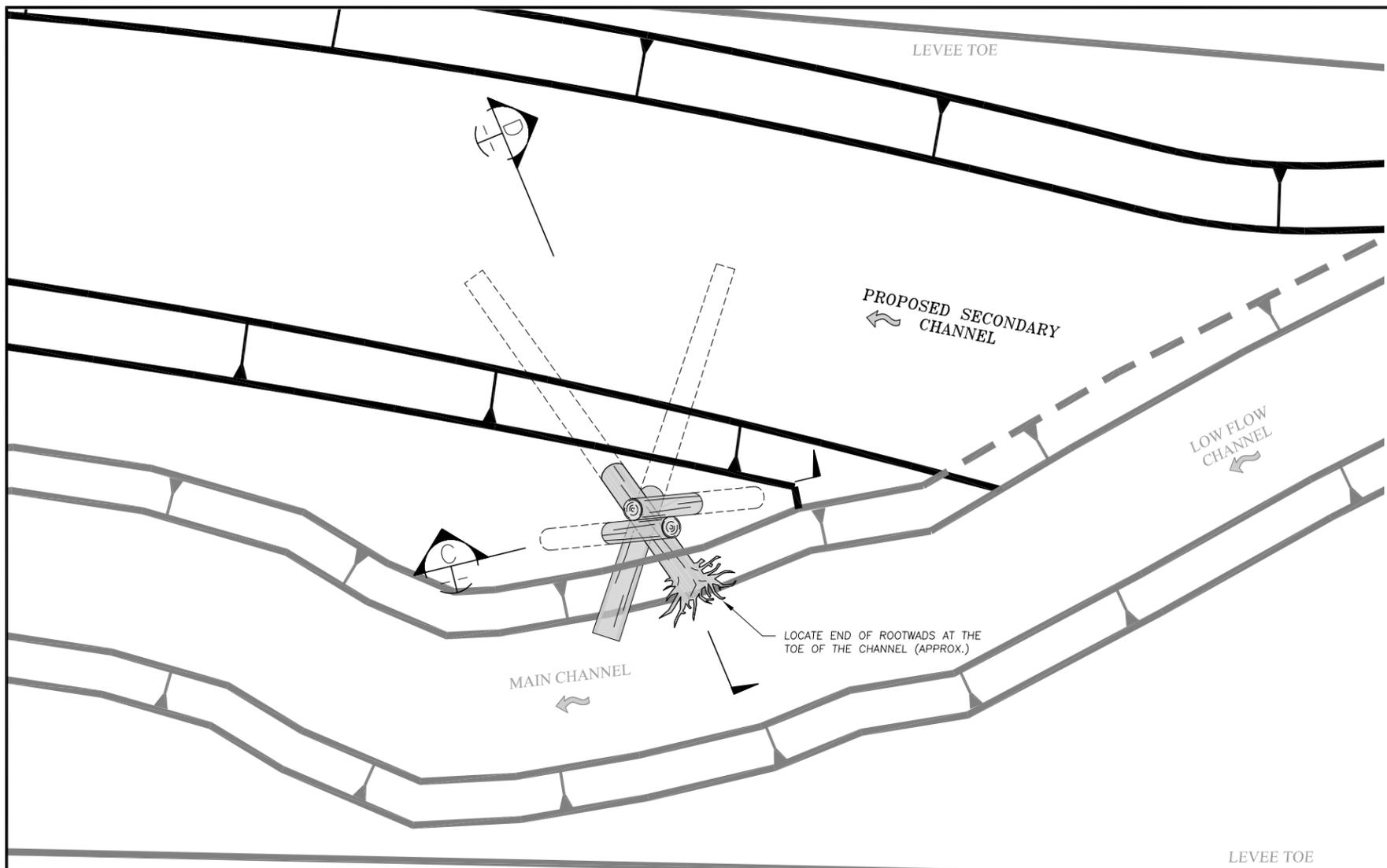


TYPICAL SECTION
SCALE: 1"=6'
A
C8/C9

- NOTES:**
1. REMOVE IMPOUNDED SEDIMENT BETWEEN PROPOSED VEGETATED BUFFER AND LEVEE TOE. EXCAVATED SLOPES SHALL NOT EXCEED 3H:1V. EXCAVATE TO 1.5 FEET ABOVE AVERAGE LOW WATER. DO NOT DISTURB EXISTING LOW FLOW CHANNEL.
 2. REMOVE VEGETATION FROM OUTSIDE OF VEGETATED BUFFER TO TOP OF LEVEE.



TYPE B LOG HABITAT STRUCTURE SECTION
SCALE: 1"=4'
B
C8/C9



TYPE A LOG HABITAT STRUCTURE
SCALE: 1"=5' 2
C8 | C10

