

**FOR CONTRACT NO.: 11-2T1804
PROJECT ID. 1100020049**

INFORMATION HANDOUT

WATER QUALITY

STATE WATER RESOURCES CONTROL BOARD

BOARD ORDER NO. 99 - 06
NPDES PERMIT NO. CAS000003

MATERIALS INFORMATION

AERIALY DEPOSITED LEAD,SUMMARY REPORT, DATED MAY 27, 2011
STRUCTURAL SECTION RECOMMENDATION, DATED JUNE 20, 2011
STRUCTURAL SECTION RECOMMENDATION (REVISED), DATED JULY 25, 2011
PRELIMINARY GEOTECHNICAL REPORT, DATED SEPTEMBER 29, 2008
UNDERGROUND CLASSIFICATION NUMBERS: C013-073-12T & C014-073-12T
CULVERT RECOMMENDATION, DATED AUGUST 22, 2011

ROUTE: 11-SD-805-9.4/13.8 (PM)

**STATE WATER RESOURCES CONTROL BOARD
901 P STREET
SACRAMENTO, CALIFORNIA
JULY 15, 1999**

**FACT SHEET
FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PERMIT FOR
STORM WATER DISCHARGES
FROM THE STATE OF CALIFORNIA, DEPARTMENT OF
TRANSPORTATION (CALTRANS)
PROPERTIES, FACILITIES, AND ACTIVITIES
(ORDER NO. 99 – 06 - DWQ)**

BACKGROUND

In 1972, The Federal Water Pollution Control Act [also referred to as the Clean Water Act (CWA)] was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful, unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added section 402(p) which directs that storm water discharges are point source discharges and establishes a framework for regulating municipal and industrial storm water discharges under the NPDES program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) promulgated final regulations that establish the storm water permit requirements.

Pursuant to these regulations, storm water permits are required for discharges from a municipal separate storm sewer system (MS4) serving a population of 100,000 or more. USEPA defined MS4 to include road systems owned by states which are in an area with a population greater than 100,000. The regulations also specified a requirement for storm water permits from 11 categories of industry, including construction activities where the construction activity disturbs five acres or more.

In California, the MS4s were issued individual NPDES permits by the Regional Water Quality Control Boards (RWQCB). Caltrans is currently under permit in all of the areas of California that have been determined to require an MS4 permit with the exception of the Salinas area. Industrial activities are covered by General Permits that have been adopted by the State Water Resources Control Board (SWRCB). Caltrans currently seeks coverage under the NPDES General Permit for Construction Activities (Construction General Permit) for construction activities that are over five acres. The exception to this is in the Lake Tahoe area, where the RWQCB adopted its own Construction General Permit for projects over five acres and Waste Discharge Requirements (WDRs) for projects under five acres.

In 1996, Caltrans requested that the SWRCB, consider adopting a single NPDES permit for storm water discharges from all Caltrans properties, facilities, and activities that would cover both the MS4 requirements and the statewide Construction General Permit requirements. The federal regulations allow for the issuance of system-wide MS4 NPDES permits. Caltrans submitted an application for a permit with a draft Storm Water Management Plan (SWMP) in August 1996. The SWRCB gave Caltrans comments on the SWMP and received a revised SWMP from Caltrans in March 1997. Because the RWQCBs have issued NPDES storm water permits to all of the areas currently requiring a permit, with the exception of the Salinas area, this permit was not considered a new storm water permit, and a Part I and Part II application were not required.

The “Interpretative Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems” issued by USEPA on May 17, 1996 outlines the requirements for permittees seeking a second Municipal NPDES Storm Water Permit. The requirements are: (1) name and address of the applicant; (2) name and title of primary administrative and technical contacts; and (3) proposed changes or improvements to the storm water management program and monitoring activities for the upcoming five-year term of the permit. In addition, USEPA recommends that the applicant provide identification of any previously unidentified water bodies and a summary of any known water quality impacts.

This permit is intended to cover all municipal storm water activities by Caltrans in California, both in areas that require an MS4 permit and areas that do not currently require a permit. It is also intended to cover all Caltrans construction activities that require a permit under the federal regulations. It directs that all existing storm water permits for discharges from Caltrans properties, facilities, and activities should be rescinded. RWQCBs may in the future issue individual storm water permits for Caltrans construction activities, as explained below.

This permit shall be implemented and enforced by the nine RWQCBs.

PROHIBITIONS

This permit authorizes storm water and authorized nonstorm water discharges from Caltrans properties, facilities, and activities. This permit prohibits discharges of material other than storm water (nonstorm water discharges) that are not authorized by this permit.

EFFLUENT LIMITATIONS

NPDES permits for storm water discharges must meet all applicable provisions of sections 301 and 402 of the CWA. These provisions require control of pollutant discharges to the Maximum Extent Practicable (MEP) for the MS4 permit requirements and to the standard of Best Available Technology Economically Achievable/Best Conventional Technology (BAT/BCT) for Construction General Permit requirements. It also requires dischargers to implement more stringent controls, if necessary, to meet water quality standards.

It is not feasible at this time to establish numeric effluent limitations for storm water. The reasons why establishment of numeric effluent limitations is not feasible are discussed in detail in SWRCB Orders No. WQ 91-03 and WQ 91-04. Therefore, this permit allows Caltrans to implement Best Management Practices (BMPs) to comply with the requirements of this permit.

RECEIVING WATER LIMITATIONS

Storm water discharges shall not cause or contribute to a violation of an applicable water quality standard. This permit requires Caltrans to reduce or prevent pollutants in storm water discharges and authorized nonstorm water discharges through the development and implementation of BMPs which constitutes compliance with either MEP or BAT/BCT, whichever is applicable. Storm water discharges must also be in compliance with water quality standards. If receiving water quality standards are exceeded, Caltrans is required to submit a written report providing additional BMPs or other measures to be taken that will be implemented to achieve water quality standards.

MS4 PERMIT REQUIREMENTS

MS4 permit requirements are to be implemented to MEP. These requirements are addressed in the SWMP that is an integral and enforceable component of this NPDES Permit. However, the SWMP also refers to other documents that Caltrans has prepared which give the detailed discussion of how the program elements are to be implemented. Where the SWMP was determined to be inadequate, further requirements are outlined in the permit. Caltrans will submit changes to the SWMP on an annual basis. Substantive changes to the SWMP will require approval by the SWRCB.

The SWMP which was submitted in August 1996 defined terms in the development of the program in a way that is inconsistent with the definitions in Title 40 of the Code of Federal Regulations Section 122.22 (40 CFR 122.22). Caltrans is required to rewrite the SWMP in a manner that is consistent with the definitions in the regulations. Caltrans also uses terms such as “winter season” and “significant erodible slope” which are not used in the regulations. Caltrans uses terms such as these to determine the scope of the program, with the understanding that Caltrans is responsible for discharges at all times during the year, and that if implementation of the program using these terms leads to discharge of pollutants, the terms will have to be redefined.

Caltrans is required to submit a revised SWMP within 90 days of the adoption of this permit. Because the SWMP is an integral and enforceable part of this permit, this revised SWMP will be presented to the State Board for approval. The incorporation of this revised SWMP into the permit will be made pursuant to the federal regulations for NPDES permit modification found at 40 CFR Section 122.62 and 40 CFR Section 124.

Caltrans has developed a BMP program for control of pollutants from existing facilities and for new and reconstructed facilities as part of the SWMP. This BMP program must be revised to reflect the definition of pollutant in the federal requirements, including a reevaluation of BMPs. The evaluation of the feasibility of structural BMPs in the SWMP does not reflect the current state of knowledge among other transportation agencies. BMPs are rejected that are routinely used by other transportation agencies. Therefore, the BMP selection in the SWMP does not meet MEP. The federal regulations require the consideration of structural BMPs where they are appropriate. MEP cannot be met without the consideration of structural BMPs. The fact that a BMP has not been used before is not an adequate reason to reject its use if other factors make it appropriate

In addition to the annual submittal of the SWMP, this permit also requires Caltrans to submit a workplan that explains how the program will be implemented in each Region. The purpose of the workplan is to bring the theoretical and proposed program of the SWMP to the practical and implementable level at the regional, watershed and water body level. Through the workplan process, Caltrans will be able to discuss the implementation of the program and show how their priorities will address specific local needs.

The MS4 permit requirements include:

Coordination with Local Agencies

This permit requires Caltrans to develop a program for communication with local agencies and coordination with other MS4 programs where the programs overlap geographically with Caltrans facilities.

Legal Authority

In the April 1998 SWMP, Caltrans submitted a certification of adequate legal authority to implement the program. Through implementation of a storm water program, Caltrans may find that the legal authority is, in fact, not adequate. This permit requires Caltrans to reevaluate the legal authority each year and recertify that it is adequate. Caltrans must submit the analysis of the legal authority as part of the Annual Report each year. If it becomes clear that the legal authority is not adequate to fully implement the SWMP and the requirements of the permit, Caltrans must seek the authority necessary for implementation of the program.

Fiscal Analysis

Caltrans must maintain adequate funding to implement an effective storm water program and must submit an analysis of the funding each year. This includes a report on the funding that is dedicated to storm water as well as an estimate of the funding that has been allocated to various program elements that is not included in the storm water program funding. An example of this would be to estimate the funding that has been made available to the Maintenance Program to implement the development of Maintenance

Facility Pollution Prevention Program Plans (FPPP) and to implement the BMPs that are necessary for water quality. In addition, Caltrans is required to seek adequate funding from the legislature for an effective storm water program.

Vegetation Control Program

This permit requires Caltrans to develop a program for vegetation control that minimizes the use of agricultural chemicals and maximizes the use of appropriate native and adapted vegetation for erosion control and filtering of runoff.

Storm Water System Management

This permit requires Caltrans to develop a program to monitor and clean storm drain inlets. For storm water structures that contain excessive material on a regular basis, Caltrans must determine if an Illicit Connection/Illegal Discharge (IC/ID) Detection investigation is warranted or if an enhanced BMP program is required for the drainage area. Vegetation in storm channels may reduce erosion from these channels and provide filtration and may be subject to sections 401 and 404 of the CWA.

Accidental Spills

This permit requires Caltrans to notify the MS4 permittee of any spills that may have an impact on the MS4's ability to comply with its municipal storm water permit. This means any spill that could reach the MS4 permittee's storm drain system in a large enough quantity to impact the system. Caltrans must also notify the RWQCB of any spill that may reach a receiving water and have an adverse effect on the receiving water. Generally, this notification would be limited to spills that are large enough to require cleanup or lane closure, but only if the spill could have an impact on water quality.

Illicit Connection/Illegal Discharge (IC/DC) Detection

This permit requires Caltrans to have a program to detect and investigate IC/IDs. Because Caltrans is different from a typical municipality, it is not intended that Caltrans should do routine inspections of their system for illicit connections. It is unlikely that a discharger would have access to the Caltrans storm drain system to make an illicit connection. It is also not intended that Caltrans would do routine field screening for illegal discharges. The Caltrans system is too large and spread out for this to be effective. However, Caltrans is required to train field maintenance personnel to recognize IC/IDs and to respond to them. Caltrans is also required to have a method for receiving and responding to public complaints.

Characterization of Discharges

In the areas which require an MS4 permit, Caltrans is required to characterize discharges as specified in 40 CFR 122.26(iv)(d)(1) and (2) over the life of the permit. This requirement was to be done as part of the Part II application for the initial permits that Caltrans received in these areas; so for most areas, this data should already be available. The purpose of this requirement is to provide Caltrans with adequate information about the storm drain system to effectively implement the program. This characterization is a one time requirement. If adequate information was submitted under the original Part II application, this requirement is satisfied and the data should be used as the basis for the Regional Workplans.

Maintenance Facilities

This permit requires Caltrans to prepare FPPP for all maintenance facilities, implement BMP programs at each facility as necessary and periodically inspect each facility. Monitoring is only required as part of the overall monitoring program to determine the effectiveness of the BMP program.

Training and Public Education

The Training and Public Education component consists of three parts to address the three major audiences that Caltrans must address. The three audiences are Caltrans employees, Caltrans contractors, and the general public. Caltrans has prioritized these three parts and has developed and implemented programs for the first two audiences. The program for the final part, which addresses the general public, will be developed and implemented during this permit period.

The detailed requirements in the permit outlining what is to be included in a public education component were recommended by the Public Information/Public Participation Subcommittee of the California Storm Water Quality Task Force. The members of this committee are all responsible for public education programs throughout the State and have experience in developing public education programs.

Program Evaluation and Monitoring

This permit requires Caltrans to evaluate the effectiveness and adequacy of the storm water program on an annual basis. This includes both monitoring and a self-audit of the program. Caltrans has submitted a three-year monitoring strategy that will be updated annually. Caltrans will also be required to submit a detailed monitoring program prior to the upcoming rainy season for each year. The monitoring is intended to demonstrate the effectiveness of its storm water and nonstorm water programs and specifically to achieve the following objectives:

1. Characterization of storm water discharges, including pollutant concentrations and mass loadings, from locations representative of Caltrans owned properties, facilities, and activities. Of particular interest is the discharge of high volume systems which discharge to areas subject to or sensitive to beach closures;
2. Evaluation of effectiveness of maintenance activity control measures;
3. Evaluation of effectiveness of maintenance facility pollution prevention plans;
4. Evaluation of effectiveness of construction erosion prevention and control measures;
5. Evaluation of effectiveness of permanent control measures; and
6. Evaluation of effectiveness of highway operation control measures.

Caltrans has also submitted a Guidance Manual for Stormwater Monitoring Protocols which specifies the manner in which monitoring is to be undertaken.

In addition to monitoring, Caltrans must perform a program audit each year to determine how well the program is being implemented and whether the program is actually adequate. Caltrans must submit an outline of this audit six months in advance of the Annual Report so that the SWRCB can evaluate the methods to be used to perform the audit.

Region Specific Concerns

Each of the RWQCBs was given the opportunity to specify specific water quality concerns in their Region that required special conditions. At this time, these requirements are limited to items that Caltrans is currently responsible for either under a current NPDES permit or under a RWQCB Basin Plan. Region-specific concerns have been identified in the Lahontan RWQCB. Some of the requirements are specific to the Lake Tahoe Hydrologic Unit and are based on the unique quality of the resource. Other requirements are applicable to the entire region.

To accommodate the concerns about the Lake Tahoe Hydrologic Unit, the Lahontan RWQCB has placed requirements in the RWQCB Basin Plan that are, therefore, requirements of this permit. They include (1) numeric effluent limits for storm water, (2) nonstorm water discharge prohibitions, (3) a requirement for the capture and treatment of all storm water from the 20-year storm, (4) erosion control guidelines for high mountain areas, (5) construction site and maintenance facility inspection requirements, and (6) a winter ban on soil disturbance throughout the Lake Tahoe Hydrologic Unit and other high mountain portions of the Region. If the Basin Plan requirements that are referenced in this NPDES Permit are changed during the life of this NPDES Permit, Caltrans can request that the terms of this permit be changed to reflect the changes in the Basin Plan.

In addition, the Lahontan RWQCB requires Caltrans to meet some specific requirements in their construction program. These include involving the RWQCB in the design of the project and early submittal of Storm Water Pollution Prevention Plans (SWPPP).

The Lahontan RWQCB requires that Caltrans submit information to them about the program to control snow and ice throughout the Region. This requirement includes the submittal of information about the use of abrasives and deicing agents throughout the Region, including the location of the use, the source and chemistry of the deicing agents and abrasives, and the volume of abrasive and deicing agents used on individual highway segments. For example, Caltrans must report separately on abrasives and deicing agents use within the Lake Tahoe Hydrologic Unit by volume of material used on State Route 50, State Route 89, State Route 28, and State Route 267, rather than providing only the total volume used in the Lake Tahoe Hydrologic Unit or within a specific Caltrans District. In the Truckee River Hydrologic Unit, the reports would be volume of material used on State Route 89S, State Route 89N, State Route 267, and Interstate 80.

Caltrans is required to develop a monitoring program that evaluates the effectiveness of BMPs used to recover abrasives and deicing materials and that evaluates the impacts of abrasives and deicing materials on surface waters within the Lake Tahoe Hydrologic Unit. A report on the use of deicing agents and abrasives is required each year as part of the Annual Report.

CONSTRUCTION PERMIT REQUIREMENTS

Construction activities which disturb five acres or more outside of the Lake Tahoe Hydrologic Area are currently required to be covered by the Construction General Permit. The current Construction General Permit is SWRCB Order 99- DWQ.

The Lahontan RWQCB has developed an NPDES Storm Water Permit for construction projects that involve more than five acres of soil disturbance and non-NPDES waste discharge requirements for construction projects for projects less than five acres within the Lake Tahoe Hydrologic Unit. The current Lahontan Construction Permit is Lahontan RWQCB Board Order 6-93-63. The WDRs for small projects are contained in Lahontan RWQCB Board Order 6-91-31. All projects within the Lake Tahoe Hydrologic Area are currently subject to one of these two Board Orders depending on the size of the project.

Storm water discharges from all Caltrans construction projects will be covered by this permit except for those projects that the RWQCB determines should be covered by an individual permit. Caltrans will be required to notify the RWQCB that a project is to be covered under this permit at least 30-days prior to the onset of construction. This 30-day notification under this permit is the equivalent of filing a Notice of Intent (NOI) under the Construction General Permit.

The RWQCB can require submittal of the SWPPP up to 30 days prior to the onset of soil disturbance, require changes to the SWPPP, perform inspections, and take enforcement action. Caltrans can negotiate an alternative process with the appropriate RWQCB if an alternative method of complying with the requirement for early submittal of the SWPPP is appropriate.

The permit requires Caltrans to implement an effective construction storm water program. The program that Caltrans plans to implement is contained in their SWMP. This plan, in turn, refers to BMP manuals and the Standard Specifications that contain the details of the BMP implementation.

Caltrans must implement an effective construction storm water program during the entire year throughout the State. Because the construction storm water program will be implemented year round, regardless of whether or not Caltrans elects to implement baseline or more advanced erosion control measures, any discharges of material not authorized by this permit is a violation.

Caltrans construction projects may involve soils that contain lead in quantities that meet the State definition of hazardous waste but not the federal definition. The Department of Toxic Substances Control (DTSC) has issued waivers allowing Caltrans to use these soils in construction projects under a narrow range of conditions. In addition to the waivers, Caltrans also needs authorization from the RWQCB to allow the use of these soils. Caltrans is required to obtain WDRs from the RWQCB for the use of these soils.

ANNUAL REPORT

This permit requires Caltrans to submit an Annual Report each April. The Annual Report will contain (1) an evaluation of the previous year's program, (2) the results of the program audit, including information about compliance with the construction requirements and maintenance facility requirements, (3) a vegetation management report, (4) an IC/ID report, (5) a nonstorm water discharge report, (6) an analysis of the legal authority, (7) an analysis of the fiscal resources for the coming year, (8) a report on the training and public education program, and (9) reports on the regional requirements. The Annual Report must also contain a monitoring report and a monitoring plan for the upcoming year and workplans for each of the regions. There is a one year lag in the reporting of the monitoring program and the program audit in the Annual Report. This lag is intended to allow Caltrans the time to adequately analyze the data that has been generated.

STATE WATER RESOURCES CONTROL BOARD

ORDER NO. 99 - 06 - DWQ
NPDES NO. CAS000003

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
STATEWIDE STORM WATER PERMIT
AND
WASTE DISCHARGE REQUIREMENTS (WDRs)
FOR THE
STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS)

The State Water Resources Control Board (SWRCB) finds that:

- 1. NPDES PERMIT APPLICATION:** On September 5, 1996, Caltrans, located at 1120 N Street, Sacramento, California 95814 submitted an NPDES Permit application for storm water discharges from the Caltrans highways, properties, facilities, and activities throughout the State of California for Caltrans headquarters and for the District offices including: the North Coast region (District 1), Northern Central Valley and Far Northeastern region (District 2), Sacramento area (District 3), San Francisco Bay area (District 4), Central Coast (District 5), Lower Central Valley (District 6), Los Angeles Basin (District 7), San Bernardino area (District 8), Mono/Inyo area (District 9), Middle Central Valley (District 10), San Diego area (District 11), and Orange County (District 12). The application was accepted on October 4, 1996. As part of the application, Caltrans submitted a Storm Water Management Plan (SWMP) and Monitoring Plan. The SWMP and Monitoring Plan were amended in March 1997 and again in April 1998. The application is considered an application for permit reissuance because Caltrans is currently under permit in all of the parts of the State for which a Municipal Separate Storm Sewer System (MS4) permit is currently required. The MS4 permits that Caltrans holds, the permitting agency, the adoption date, and expiration date are shown in Table 1.

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TABLE 1
CURRENT CALTRANS STORM WATER PERMITS

RWQCB	Caltrans District	Board Order	NPDES Permit Number	Adoption Date	Expiration Date
North Coast	4	97-119	CA0025038	10/22/97	10/22/02
San Francisco Bay	4 and 10	94-098	CAS029998	8/17/94	8/27/99
Los Angeles	7	90-079	CA0061654	6/18/90	6/18/95
Central Valley	6	94-244	CA0083500	9/16/94	9/1/99
Central Valley	3, 4, 6 and 10	95-001	CA0083640	1/27/95	1/1/00
Lahontan	3	6-93-62	CAS616002	6/11/93	6/11/98
Colorado River Basin	8 and 11	94-038	CAS617001	11/15/94	11/17/99
Santa Ana River	8 and 12	94-5	CA8000279	7/8/94	7/8/99
San Diego	8,11, and 12	97-08	CAS029998	3/12/97	3/12/02

2. **FEDERAL AUTHORITY:** In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with an NPDES Permit. The 1987 amendments to the CWA added section 402(p) that establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Permit Program.

3. **STATE AUTHORITY:** California Water Code section 13376 provides that any person discharging or proposing to discharge pollutants to waters of the United States must apply for and obtain WDRs. (For this permit, the State term "WDRs" is equivalent to the federal term "NPDES permits" as used in the CWA). Furthermore, municipal and industrial storm water discharges are discharges of waste that could affect the quality of the waters of the State. Applicable State of California regulations are contained in the California Code of Regulations (CCR), Title 23, Division 3, Chapter 9.

4. **CALTRANS DISCHARGES SUBJECT TO MUNICIPAL STORM WATER PERMIT REGULATIONS:** On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) promulgated final regulations that establish application requirements for storm water permits codified at Title 40 of the Code of Federal Regulations (CFR), Section 122.26 (40 CFR 122.26). Federal regulations 40 CFR 122.26(a)(iii) and (iv) require that NPDES storm water permits be issued for discharges from large and medium MS4s. The regulations define "municipal separate storm sewer" to mean "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (i) owned or operated by a State, city, town, borough, county, . . .". Caltrans, as the owner of an MS4, is subject to an NPDES Permit in those areas of the State subject to an MS4 storm water permit. Caltrans performs activities that impact storm water quality. These activities include operation of roads and highways, construction activities, and maintenance activities.

To enable Caltrans to implement a uniform storm water program, this NPDES Permit will cover storm water discharges from all Caltrans highways, properties, activities and facilities throughout the State.

5. **CALTRANS DISCHARGES SUBJECT TO CONSTRUCTION STORM WATER PERMIT REGULATIONS:** Federal regulations (40 CFR 122.26) require discharges of storm water associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than five acres of total land area and which are not part of a larger common plan of development or sale) to obtain an NPDES Permit and to implement Best Management Practices (BMPs) that achieve the performance standards of Best Available Technology economically achievable/Best Conventional Pollutant Control Technology (BAT/BCT) to reduce or eliminate storm water pollution.
6. **STORM WATER DISCHARGE DEFINITION:** Storm water discharges consist only of those discharges that originate from precipitation events. Storm water is defined in 40 CFR 122.26(b)(13) as storm water runoff, snowmelt runoff, and surface runoff and drainage. During precipitation events, storm water picks up and transports pollutants into and through municipal storm water conveyance systems and ultimately to waters of the United States.
7. **NONSTORM WATER DISCHARGE DEFINITION:** Nonstorm water discharges consist of all discharges from a municipal storm water conveyance system which do not originate from precipitation events (i.e., all discharges from a conveyance system other than storm water). Nonstorm water discharges include illicit discharges, nonprohibited discharges, and NPDES permitted discharges. An illicit discharge is defined in 40 CFR 122.26(b)(2) as "any discharge to a municipal storm sewer that is not composed entirely of storm water except discharges pursuant to an NPDES Permit (other than the NPDES Permit for discharges from the MS4) and discharges resulting from fire fighting activities." Nonstorm water discharges are addressed in Provision B of this permit.
8. **PERFORMANCE STANDARDS:** CWA section 402(p) establishes two different performance standards for storm water discharges. NPDES permits issued for MS4 storm water discharges require controls to reduce the discharge of pollutants to the Maximum Extent Practicable (MEP). Caltrans can reduce pollutants to MEP through the effective implementation of BMPs. NPDES Permits issued for industrial storm water discharges (including construction activities) must meet BAT for toxic pollutants and BCT for conventional pollutants. In addition, storm water discharges may not cause or contribute to exceedance of water quality standards. The requirements for compliance with water quality standards are described in Provision C., Receiving Water Limitations.
9. **CALTRANS ACTIVITIES:** Caltrans is primarily responsible for the design, construction, management, and maintenance of the State highway system, including freeways, bridges, tunnels, maintenance facilities, and related properties, and facilities.
10. **CALTRANS BUDGET:** Caltrans derives funding from federal, State, and local government sources. The annual operating budget for Caltrans is determined through the

State's financial planning process. The final determination on the budget is made by the Legislature and the Governor.

11. **REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) BASIN PLANS:** Each RWQCB has adopted a Basin Plan containing the policies, prohibitions and requirements that apply to that Region. Caltrans is subject to the policies and prohibitions and requirements contained in these Basin Plans in the Region in which the Basin Plan is applicable.
12. **CALTRANS DISCHARGES:** Caltrans discharges consist of storm water and nonstorm water runoff generated from (a) maintenance and operation of State-owned highways, freeways, and roads; (b) maintenance facilities; (c) other properties, facilities, activities, and construction projects; (d) permanent discharges from subsurface dewatering, and (e) temporary construction related dewatering which discharge directly or through municipal storm water conveyance systems to surface water bodies in the State. These surface water bodies include creeks, rivers, reservoirs, lakes, wetlands, lagoons, estuaries, bays, and the Pacific Ocean and tributaries thereto. These surface waters are waters of the United States as defined in 40 CFR 122.2. This permit regulates storm water discharges on Caltrans highways, properties, and facilities.
13. **POTENTIAL POLLUTANTS IN CALTRANS DISCHARGES:** Discharges of storm water from the Caltrans owned rights-of-way, properties, facilities, and activities, including storm water management activities in construction, maintenance, and operation of State-owned highways within the State of California have been shown to be contributors of pollutants to waters of the United States. As such, the discharge of storm water may be causing or threatening to cause violations of water quality objectives. The quality and quantity of these discharges vary considerably and are affected by hydrology, geology, land use, season, and sequence and duration of hydrologic events. Pollutants occur in both the storm water discharges and nonstorm water discharges. Pollutant sources from Caltrans rights-of-way, properties, facilities, and activities include motor vehicles, highway maintenance, construction site runoff, maintenance facility runoff, illegal dumping, spills, and landscaping care. Pollutant categories include metals (such as copper, lead, and zinc), synthetic organics (petroleum products and pesticides), sediment, nutrients (nitrogen and phosphorus fertilizers), debris, oxygen demanding substances (decaying vegetation, animal waste, and other organic matter), and other pollutants which may cause aquatic toxicity in the receiving waters.
14. **STORM WATER MANAGEMENT PLAN (SWMP):** The SWMP submitted by Caltrans describes a framework for management of storm water discharges during the term of this permit. The title page and table of contents of the SWMP are attached to this NPDES Permit. The SWMP describes the Caltrans facilities, the institutional arrangements within Caltrans, legal authorities, funding, training and public education and participation, the annual reporting program evaluation process, and monitoring studies to be undertaken. The SWMP includes a discussion of activities to be implemented by each of the Divisions within Caltrans, including programs for design and construction, maintenance, and additional region-specific programs to be undertaken. Revisions to the SWMP for subsequent years will be submitted to the SWRCB as part of the Annual Reporting and Program Evaluation Process. This NPDES Permit directs Caltrans to implement its SWMP.

Where the SWMP was found to be inadequate, this NPDES Permit directs Caltrans to fulfill additional requirements and specifies what these requirements are.

Caltrans SWMP must be revised in accordance with the Provisions of this NPDES Permit to address concerns about the scope, detail of proposed actions, and time frame for implementation.

Caltrans began implementation of this SWMP in March 1997.

15. **ENFORCEABILITY OF THE SWMP:** The SWMP and modifications or revisions to the SWMP that are approved, in accordance with Provision F.1 of this NPDES Permit, and future year workplans to be submitted, in accordance with the SWMP and Provision F.1 of this NPDES Permit, are integral to and an enforceable component of this NPDES Permit.
16. **LOCAL MUNICIPALITIES:** The RWQCBs have issued NPDES Permits for the discharge of storm water from municipal storm water conveyance systems to municipalities in California which require these permits. Caltrans operates highways and highway-related properties, activities, and facilities that cross through all of these permitted areas. Some storm water discharges from Caltrans-owned rights-of-way, properties, facilities, and activities discharge to storm water conveyance systems managed by these municipalities. Some storm water discharges from these municipalities discharge to storm water conveyance systems managed by Caltrans.
17. **LOCAL CONTROL:** This NPDES Permit does not preempt or supersede the authority of local municipal agencies to prohibit, restrict, or control storm water discharges and authorized nonstorm water discharges to storm drain systems or other watercourses within their jurisdictions as allowed by State and federal law.
18. **CALTRANS CONSTRUCTION PROGRAM:** Caltrans performs construction activities that are required to have NPDES Permits for storm water discharges from the construction site. This NPDES Permit will effectively regulate storm water discharges from construction projects within the Caltrans rights-of-way. Caltrans will not be required to obtain coverage under the State NPDES General Permit for Construction Activities (Construction General Permit), SWRCB Board Order 92-08 DWQ.
19. **DREDGE AND FILL MATERIALS:** This NPDES Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA section 404 and does not constitute a waiver of water quality certification under CWA section 401.
20. **RECEIVING WATER LIMITATIONS:** The impact of storm water runoff from highway facilities on the water quality of receiving waters is highly variable. For this reason, this NPDES Permit does not include numeric effluent limitations. Instead, this NPDES Permit will emphasize the use of BMPs to control storm water pollution and the establishment of a monitoring program to determine the impact of storm water runoff from highways on receiving water bodies. The Lahontan RWQCB does have numeric effluent limits for storm water discharges for the Tahoe Basin in the Basin Plan. These numeric effluent limits also appear in their Regional Construction Permits (RWQCB Board Orders 6-91-31 and 6-93-

63) and the Caltrans MS4 Permit RWQCB Board Order No. 6-93-62) for the Tahoe Basin, and these limits apply to this NPDES Permit in that area.

It is the SWRCBs intent that this NPDES Permit shall ensure attainment of applicable water quality objectives and protection of the beneficial uses of receiving waters. This NPDES Permit, therefore, includes standard requirements to the effect that discharges shall not cause or contribute to violations of water quality objectives nor shall they cause certain conditions to occur which create a condition of nuisance or water quality impairment in receiving waters. "Standard" language is the standard for storm water permits; it is not the same as the "standard" language for other NPDES permits. Accordingly, the SWRCB is requiring that these standard requirements be addressed through the implementation of control measures to reduce pollutants in storm water discharges.

Receiving water limitations in this NPDES Permit are based on the federal CWA, RWQCB Basin Plans and policies, USEPA Guidance, Best Professional Judgement, and BMPs.

21. **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA):** The action to adopt an NPDES Permit is exempt from Provisions of the CEQA (CEQA: Public Resources Code section 21100, et. seq.), pursuant to section 13389 of the California Water Code.
22. **PUBLIC NOTIFICATION:** The SWRCB has notified Caltrans and all known interested agencies and persons of its intent to prescribe an NPDES Permit and WDRs for said discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.
23. **PUBLIC HEARING:** The SWRCB in a public meeting held on June 9, 1998 heard and considered all comments pertaining to this NPDES Permit. The permit was adopted at a public meeting held on July 15, 1999.
24. **RWQCB ENFORCEMENT:** Following adoption of this NPDES Permit, the RWQCBs shall enforce the Provisions.
25. **IMPLEMENTATION:** This NPDES permit is in compliance with section 402 of the CWA and shall take effect upon adoption by the SWRCB.
26. **ANTI-DEGRADATION:** This NPDES Permit is consistent with the anti-degradation Provision, section 40 CFR 131.12 and SWRCB Resolution 68-16.

IT IS HEREBY ORDERED that all MS4 storm water permits issued to Caltrans by RWQCBs shall be rescinded insofar as they apply to Caltrans.

IT IS HEREBY ORDERED that in order to meet the Provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the Provisions of the Federal CWA and the regulations and guidelines adopted thereunder, Caltrans shall comply with the following: (*REPORTING REQUIREMENTS ARE SHOWN IN ITALICS WITH ALL CAPITAL LETTERS*):

A. GENERAL DISCHARGE PROHIBITIONS

1. Any discharge from Caltrans rights-of-way or Caltrans properties, facilities, and activities within those rights-of-way that is not composed entirely of “storm water” to waters of the United States is prohibited unless authorized pursuant to Section B of this NPDES Permit. For some discharges, Caltrans may also need to obtain Water Quality Certification under CWA S2. The discharge of runoff from Caltrans owned rights-of-way or Caltrans properties, facilities, and activities to waters of the United States which have not been reduced to the MEP is prohibited. The discharge of runoff from construction sites containing pollutants which have not been reduced using BAT for toxic pollutants and BCT for conventional pollutants to waters of the United States is prohibited.
2. The discharge of pollutants or dredged or fill material to waters of the United States, except as authorized by an NPDES Permit or a dredged or fill material permit (subject to the exemption described in California Water Code (CWC) section 13376), is prohibited.
3. The discharge of waste to waters of the State in a manner causing or threatening to cause a condition of pollution or nuisance defined in CWC section 13050, is prohibited.
4. The dumping, deposition, or discharge of waste by Caltrans directly into waters of the State or adjacent to such waters in any manner that may allow its being transported into the waters is prohibited unless authorized by the RWQCB.
5. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited. The discharge shall not contain toxic substances in concentrations that are toxic to or that produce detrimental physiological responses in human, plant, animal, or aquatic life.
6. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity, or discoloration in waters of the State or which unreasonably affect or threaten to affect beneficial uses of such waters, is prohibited.
7. Wastes or wastewater from road sweeping vehicles or from other maintenance or construction activities shall not be discharged to any surface waters or to any storm drain leading to surface water bodies.

Caltrans shall achieve the pollutant reductions described in General Discharge Prohibitions A.2. above through implementation of the SWMP described in General Requirements, Provision E., below.

B. NONSTORM WATER DISCHARGE PROHIBITIONS

1. Caltrans shall effectively prohibit nonstorm water discharges into its storm water conveyance system unless such discharges are either:
 - a. authorized by a separate NPDES permit; or
 - b. authorized in accordance with Nonstorm Water Discharge Prohibition B.2. of this NPDES Permit.
2. Exempted Discharges.

In carrying out nonstorm Water Discharge Prohibition B.1. of this NPDES Permit, the following nonstorm water discharges need not be prohibited unless they are identified as sources of pollutants to receiving waters:

- a. flows from riparian habitats or wetlands;
- b. diverted stream flows;
- c. springs;
- d. rising ground waters; and
- e. uncontaminated ground water infiltration.

If any of the above categories of discharges or sources of such discharges are identified as sources of pollutants to receiving waters, then such categories or sources shall be addressed as conditionally exempted discharges in accordance with Prohibition B.3.

3. Conditionally Exempted Discharges

The following nonstorm water discharges need not be prohibited if identified by either Caltrans or the Executive Director as not being sources of pollutants to receiving waters or if appropriate control measures to minimize the adverse impacts of such sources are developed and implemented under the SWMP in accordance with Prohibition B.4.:

- a. uncontaminated pumped ground water;
- b. foundation drains;
- c. water from crawl space pumps;
- d. footing drains;
- e. air conditioning condensate;
- f. irrigation water;
- g. landscape irrigation;
- h. lawn or garden watering;
- i. planned and unplanned discharges from potable water sources;
- j. water line and hydrant flushing;
- k. individual residential car washing; and
- l. discharges or flows from emergency fire fighting activities.

4. Caltrans shall identify and describe the categories of discharges 3.a through 3.1 that are to be exempt from Prohibition B.1 in the Annual Report. For each such category, Caltrans shall identify and describe as necessary and appropriate to the category either documentation that the discharges are not sources of pollutants to receiving waters or circumstances in which they are not found to be sources of pollutants to receiving waters. Otherwise, Caltrans shall describe (a) control measures to reduce pollutants to the maximum extent practicable and minimize the adverse impacts of such sources, (b) procedures and Performance Standards for their implementation, (c) procedures for notifying the SWRCB of these discharges, and (d) procedures for monitoring and record management. Such submissions shall be deemed to be incorporated into the SWMP unless disapproved by the Executive Director. If necessary, on a case-by-case basis, Caltrans shall prohibit any individual or class of nonstorm water discharge(s) listed above that is determined by Caltrans to be a significant source of pollutants to waters of the United States.
5. Permit Authorization for Exempted Discharges
 - a. Discharges of nonstorm water from sources owned or operated by Caltrans are authorized and permitted by this Order, if they are in accordance with the conditions of this Provision and the SWMP.
 - b. Any RWQCB may require dischargers of nonstorm water other than Caltrans to apply for and obtain coverage under an NPDES permit and comply with the control measures developed by Caltrans pursuant to Provision B. Nonstorm water discharges that are in compliance with such control measures may be accepted by Caltrans and are not subject to Prohibition B.1. Caltrans may refer nonstorm water dischargers to the Caltrans system to the RWQCB for permitting or enforcement.
 - c. Caltrans may propose additional categories of nonstorm water discharges to be included in the exemption to Discharge Prohibition B.1. Such proposals are subject to approval in accordance with the NPDES permit regulations.
6. If a RWQCB Executive Officer determines that any individual or class of nonstorm water discharge(s) listed in Nonstorm Water Discharge Prohibition B.2 or B.3. above may be a significant source of pollutants to waters of the United States in that region, the RWQCB Executive Officer may require Caltrans to monitor and submit a report on the discharge and to follow the procedures outlined in Nonstorm Water Prohibition B.4. The RWQCB may require that discharge cease in the event that nonstorm water discharges are a significant source of pollutants to waters of the United States.
7. Caltrans shall examine all illicit connection/illegal discharge (IC/ID) investigation results for the presence of elevated levels of pollutants (e.g., chlorine, sediments, or surfactants) which may be the result of one or more classes of nonprohibited nonstorm water discharge(s) identified in Nonstorm Water Discharge Prohibition B.2. or B.3. above. If such elevated levels of pollutants are commonly present, Caltrans shall conduct a follow-up investigation to identify the source of the elevated pollutants.

8. Discharges or flows from health and safety emergencies, such as fire fighting activities and accident response, shall be addressed only when such flows are identified by Caltrans to be significant sources of pollutants to waters of the United States. *(It is not the intention of the SWRCB for Caltrans to prohibit, under any circumstances, the discharge of water or other fire retardants that flow into storm water conveyance systems as a result of their use for protection of life and public or private property. However, there may be instances when specified BMPs are appropriate for fire fighting flows).* Although this NPDES Permit does not prohibit these discharges, they may still be subject to regulation under the federal and/or State law.
9. Caltrans shall submit a **COMPREHENSIVE NONSTORM WATER REPORT** each year as part of the Annual Report. This report shall include the analysis of each category of discharge, and the BMPs to be implemented for each category. Caltrans must also periodically evaluate the effectiveness of the modified BMPs by examining illicit discharge/illegal dumping investigation results and take any further action necessary to reduce such pollutant concentrations.

C. RECEIVING WATER LIMITATIONS

C-1- RECEIVING WATER LIMITATIONS FOR MUNICIPAL ACTIVITIES:

1. The discharge of storm water from a facility or activity that causes or contributes to the violation of water quality standards or water quality objectives (collectively WQSs) is prohibited.
2. The discharges shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the State:
 - a. Floating, suspended solids, or deposited macroscopic particulate matter, or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin, and /or;
 - e. Toxic or deleterious substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

3. Caltrans shall comply with Parts C-1.1. and 2. of this permit through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications; the SWMP shall be designed to achieve compliance with Parts C-1.1. and 2. of this permit; if exceedance(s) of WQsS persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittee shall assure compliance with Parts C-1.1. and 2. of this permit by complying with the following procedure:
 - a. Upon a determination by either Caltrans or the RWQCB that discharges are causing or contributing to an exceedance of an applicable WQS, Caltrans shall promptly notify and thereafter submit a report to the appropriate RWQCB. The report shall describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the SWMP unless the RWQCB directs an earlier submittal. The report shall include an implementation schedule. The RWQCB may require modifications to the report;
 - b. Submit any modifications to the report required by the RWQCB within 30 days of notification;
 - c. Within 30 days following approval of the report described above by the RWQCB, Caltrans shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required; and
 - d. Implement the revised SWMP and monitoring program in accordance with the approved schedule.
4. So long as Caltrans has complied with the procedures set forth in Receiving Water Limitations C-1-3. above and are implementing the revised SWMP, Caltrans does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the RWQCB to develop additional BMPs.

C-2-RECEIVING WATER LIMITATIONS FOR CONSTRUCTION ACTIVITIES:

1. Storm water discharges and authorized nonstorm water discharges to any surface or ground water shall not adversely impact human health or the environment.
2. The SWPPP developed for the construction activity covered by this NPDES Permit shall be designed and implemented such that storm water discharges and authorized nonstorm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control

Plan and/or the applicable RWQCB's Basin Plan.

3. Should it be determined by Caltrans, SWRCB or RWQCB staff that storm water discharges and/or authorized nonstorm water discharges are causing or contributing to an exceedance of an applicable water quality standard, Caltrans shall:
 - a. Implement corrective measures immediately following discovery that water quality standards were exceeded, followed by notification of the RWQCB by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. This notification shall be followed by a report within 14 days to the appropriate RWQCB, unless otherwise directed by the RWQCB, describing (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; and (4) any maintenance or repair of BMPs. This report shall include an implementation schedule for corrective actions and shall describe the actions taken to reduce the pollutants causing or contributing to the exceedance.
 - b. Caltrans shall revise its SWPPP and monitoring program immediately after the report to the RWQCB to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.
 - c. Nothing in this section shall prevent the appropriate RWQCB from enforcing any provisions of this permit while Caltrans prepares and implements the above report.

D. RWQCB AUTHORITIES

1. Following adoption of this permit, RWQCBs shall implement the Provisions of this permit. Implementation of this permit may include, but is not limited to, reviewing SWPPPs, reviewing Maintenance Facility Pollution Prevention Plans (FPPPs), reviewing monitoring reports, conducting compliance inspections, conducting monitoring, reviewing the Annual Reports and taking enforcement actions.
2. RWQCBs may require submittal of, require changes to, specify a format for, and enforce Provisions of SWPPPs and FPPPs. RWQCBs may also designate projects which do not meet the acreage requirements based upon water quality concerns and require SWPPPs. RWQCBs may require that Caltrans submit all SWPPPs automatically up to 30 days in advance of the onset of construction.
3. RWQCBs may require retention of records for more than three years.
4. RWQCBs may require additional monitoring and reporting program requirements and may provide guidance on monitoring plan implementation.

5. RWQCBs may require Caltrans to conduct additional site inspections, submit reports and certifications, to perform water quality sampling and analysis of discharges from construction sites, roadways and maintenance facilities.
6. RWQCB staff may inspect Caltrans facilities and construction sites.
7. The RWQCB Executive Officer may require Caltrans to monitor and submit a report on nonstorm water discharges that have been determined to be a source of pollutants in the region.
8. RWQCB may issue Caltrans other individual storm water NPDES permits, particularly for large construction projects or other discharges beyond the scope of this permit.

E. GENERAL REQUIREMENTS

In order to meet the federal requirements contained in the CWA and the corresponding regulations contained in the 40 CFR 122.26, Caltrans shall:

1. Maintain and implement an effective SWMP. The SWMP shall identify and describe the BMPs used to control or reduce pollutants to waters of the United States to MEP for the Municipal Storm Water Management activities (all activities except construction). For the Construction Management Program, the SWMP shall identify and describe BMPs used to control or reduce pollutants to waters of the United States that meet BAT/BCT. BMP development is a fluid and dynamic process, and the menu of BMPs contained in the SWMP may require changes over time as experience is gained and/or the state of the art progresses. The SWMP shall be reviewed annually and modified as necessary to maintain an effective program. The SWMP shall reflect the principles that storm water management is to be a year-round proactive program to eliminate or control pollutants at their source or to reduce them from the discharge by either structural or nonstructural means when elimination at the source is not possible. The **REVISED SWMP** shall be submitted to the SWRCB's Executive Director by April 1 as part of the Annual Report (40 CFR 122.26 (d)(vi)) each year. In accordance with NPDES Permit regulations, significant changes to the program will be taken to the SWRCB for approval. Caltrans shall change all other appropriate manuals to reflect modifications to the SWMP.
2. In addition to the revised SWMP, Caltrans shall submit **REGIONAL WORKPLANS** (workplans) each year for each region by April 1 as part of the Annual Report each year. The workplans will be forwarded to the appropriate RWQCB's Executive Officer for approval. The workplan shall cover all activities to be undertaken by the Districts in the region and shall address the water bodies in the region, the impact of the Caltrans discharge on the water body and the BMPs and monitoring program to be implemented in the region, and changes that are to be made to the previous year's program. The workplan shall also include identification of high risk areas, such as locations where spills from Caltrans owned rights-of-way, activities or facilities can discharge directly to municipal or domestic water supply reservoirs or ground water percolation facilities, and consideration of appropriate spill containment and spill

prevention control measures for these new areas. Because the BMP programs and monitoring program are described in other documents, this workplan shall describe how the various programs will be implemented in the Region.

3. The SWMP shall define terms in a manner that is consistent with the definitions in 40 CFR 122.2. This includes, but is not limited to, the definitions for pollutant, waters of the United States, and point source. Where there is a conflict between the SWMP and the permit language, the permit language shall govern.

4. The SWMP shall include or describe procedures for implementing the following:

CHAPTER 1.	PROGRAM OVERVIEW (Provision F)
CHAPTER 2.	PROGRAM MANAGEMENT (Provision G)
CHAPTER 3.	CONSTRUCTION PROGRAM MANAGEMENT (Provision H)
CHAPTER 4.	MAINTENANCE PROGRAM MANAGEMENT (Provision I)
CHAPTER 5.	TRAINING AND PUBLIC EDUCATION (Provision J)
CHAPTER 6.	PROGRAM EVALUATION/REPORTING (Provision K)
CHAPTER 7.	LOCATION SPECIFIC REQUIREMENTS (Provision L)

F. PROGRAM OVERVIEW

Caltrans shall implement the program specified in the SWMP. Caltrans shall also implement any additional requirements contained in this Provision F.

1. Caltrans must reevaluate and revise the BMP program in the SWMP to reflect the definition of pollutant in the federal regulations. The selection of BMPs must reflect the need to meet MEP, or where appropriate, BAT/BCT and water quality standards. It is appropriate to address pollutants known to be in a waste stream, even if there is not yet any documented evidence of adverse effect. Decisions regarding storm water management should be made in response to site-specific circumstances, depending on the location and nature of the activity in question and the local receiving water conditions. In geographic areas in which the requirements in effect prior to adoption of this permit are more stringent than the requirements of this permit, Caltrans will specify in the SWMP and regional workplans, a program which is at least as stringent as the prior requirements for that area. In no event shall the BMP program in any part of the State be less stringent than it was under the prior requirements.
2. The revised SWMP shall be submitted within 90 days of the adoption of the permit. Until such time as Caltrans has an approved SWMP, Caltrans will continue to meet the requirements that were in effect under the permits adopted by RWQCBs.
3. Caltrans shall include an analysis of the feasibility of structural controls in the BMP selection process. At a minimum, a consideration of structural controls for water quality improvement shall be included in the design of any new construction or major reconstruction or repair projects.

The SWMP shall be updated each year as part of the Annual Report and shall contain the following elements:

- a. A listing of appropriate control measures, including design, operation, and maintenance specifications, referenced by facility type, location, and other suitable factors. (Suitable factors may include prevention and control of erosion and sedimentation, source control of potential pollutants, control of pathogens, control and treatment of runoff, spill containment, and protection of wetlands and water quality resources);
 - b. An effective operation and maintenance program for BMPs;
 - c. Consideration of pollution prevention and pollutant removal factors, including spill containment and corresponding operation and maintenance requirements in the design of facility drainage structures and other features;
 - d. Development and implementation of policies, programs, procedures, and standards to improve pollutant removal and water quality benefits of landscape design after construction is completed;
 - e. A description of how these BMPs will be developed, constructed and maintained by the Environmental Engineering, Project Development, Construction, and Maintenance Branches and other affected functional offices and branches;
 - f. A **BMP SELECTION REPORT** which presents the revisions to the BMP programs (including both structural and nonstructural BMP candidates) to be implemented in the coming year along with the process used for evaluating the revised BMPs. The process shall include a mechanism for public input and review during the BMP selection process; and
 - g. A mechanism for evaluating new treatment and control technologies and for considering these technologies as part of the BMP programs. A **NEW TECHNOLOGY REPORT** is required as part of the Annual Report each year.
4. Storm Water Drainage System Retrofitting: In urban areas subject to a MS4 permit, Caltrans shall seek opportunities to retrofit the Storm Water Drainage System for water quality improvement whenever a section of the rights-of-way undergoes significant construction or reconstruction. Permanent control measures shall be implemented, both to control erosion and to control runoff of pollutants resulting from normal use of Caltrans facilities such as highways.
- a. Controls that shall be considered: Techniques that capture and or reduce the amount of pollutants, especially sediment from entering the storm drain system or receiving water. Cost effectiveness is a factor in the consideration of controls.
 - b. Treatment controls that have proven to be cost prohibitive to date and therefore need not be considered for most situations include reverse osmosis, ion exchange, and granular activated carbon.

G. PROGRAM MANAGEMENT

Caltrans shall implement the program specified in their SWMP. Caltrans shall also implement any additional requirements contained in this Provision G.

1. Coordination with MS4 Permittees

- a. Caltrans is expected to comply with lawful requirements of municipalities, counties, drainage districts, and other local and or regional agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under the jurisdiction of the local and or regional agencies. These include, but are not limited to applicable requirements in MS4 storm water programs developed to comply with NPDES Permits issued by the RWQCBs to local agencies.
- b. Caltrans shall submit a **MUNICIPAL COORDINATION PLAN** to the SWRCB Executive Director within 90 days of the adoption of the Permit for approval. The plan shall describe the approach that Caltrans will take in establishing communication, coordination, cooperation, and collaboration of Caltrans storm water management activities and other pertinent activities with MS4 storm water management programs including establishing agreements with municipalities, flood control departments, or districts as necessary or appropriate. Caltrans shall report on the progress of this interagency cooperation in each Annual Report.

2. Legal Authority

- a. Caltrans shall establish and maintain adequate legal authority through ordinance, statute, permit, contract or other means to control discharges to and from Caltrans properties, facilities and activities pursuant to 40 CFR 122.26(d)(2)(i)(A-F).
- b. Caltrans has provided a statement certified by its chief legal counsel that Caltrans has adequate legal authority to implement and enforce each of the key regulatory requirements contained in 40 CFR 122.26(d)(2)(i)(A-F). Caltrans shall submit annually, as part of the Annual Report, an **ANALYSIS OF THE ADEQUACY OF LEGAL AUTHORITY** based on Caltrans experiences during the previous year and explain and justify whatever conclusions are reached in the annual certification of legal authority.

3. Fiscal Resources

- a. Caltrans shall maintain adequate fiscal resources to maintain compliance with this NPDES Permit. This includes but is not limited to:
 - (1) implementing and maintaining all BMPs identified in the SWMP,
 - (2) maintaining an effective storm water monitoring program, and

- (3) retaining adequate trained personnel to manage the storm water program.
 - b. Caltrans shall submit a **FISCAL ANALYSIS** of the storm water program expenditures within 90 days of the adoption of this permit and shall include one for the 3rd year and 5th year of the Permit period in the Annual Report submitted April 1. At a minimum, the fiscal analysis shall show the allocation of funds to the Districts for compliance with this permit; the funding of the program elements; and a comparison of actual past year expenditures with the current year's expenditures and next year's proposed expenditures. The 3rd year report shall show how Caltrans funding met the goals set out for the program in the first two years. The 5th year report shall contain the budget analysis for the next permit period.
4. Policies: Caltrans shall identify policies needed to resolve conflicts between implementation of the storm water program and current standard practices and policies.
 5. Inspection Program: Caltrans shall have an inspection program to insure actions are implemented and facilities are constructed, operated, and maintained in accordance with this NPDES Permit and the SWMP. The program shall include training for inspection personnel, documentation of field activities, a reporting system that can be used to track effectiveness of control measures, enforcement procedures (or referral for enforcement) for noncompliance, and responsibilities and responsible personnel of all affected functional offices and branches.

H. CONSTRUCTION PROGRAM MANAGEMENT

Caltrans shall implement the program specified in the SWMP. Caltrans shall also implement any additional requirements contained in this Provision H.

1. Caltrans shall have a program to control all construction in the rights-of-way. This includes both construction by Caltrans, construction done under contract for Caltrans, and construction done by local government agencies or other third parties on Caltrans or nonCaltrans projects. The program must include:
 - a. review of construction site plans;
 - b. requirement of structural and nonstructural BMPs;
 - c. site inspections and enforcement; and
 - d. education of construction site operators.

The program must be implemented year round on all construction projects in all parts of the State. The SWMP must be revised to address these requirements and have a program and a schedule for inspections.

2. The Construction Management Program shall be in compliance with requirements of the NPDES General Permit for Construction Activities (Construction General Permit) not including NOI filing. The current Construction General Permit is SWRCB Board Order 92-08--DWQ.

Terms that are defined in the Construction General Permit will have the same definition for the construction portion of this NPDES Permit.

3. The Lahontan RWQCB has adopted an NPDES Storm Water Permit for construction projects that involve more than five acres of soil disturbance and nonNPDES WDRs for construction projects for projects less than five acres within the Lake Tahoe Hydrologic Unit. The current nonNPDES Lahontan Construction Permit is Board Order 6-93-63. The WDRs for small projects are contained in Lahontan RWQCB Board Order 6-91-31. Projects in the Lake Tahoe Hydrologic Unit must be in compliance with the Provisions of the Lahontan RWQCB Order that is applicable to the project. The Lahontan RWQCB has also developed erosion control guidelines for high mountain areas throughout the region. Caltrans shall follow these guidelines in the appropriate parts of the region.
4. Caltrans shall plan, site, and develop roads and highways in a manner that protects water quality, beneficial uses of water and minimizes erosion and sedimentation .
5. Caltrans shall site, design, and maintain bridge structures so that sensitive and valuable aquatic ecosystems and areas providing water quality benefits are protected from adverse effects.
6. Caltrans shall limit the application, generation, and migration of toxic substances from construction sites.
7. Caltrans shall implement adequate erosion and sediment control BMPs during the interim period between completion of construction and final landscaping activities.
8. The following items apply to construction activities:
 - a. A report of **NOTIFICATION OF CONSTRUCTION** for all construction projects shall be submitted to the appropriate RWQCB at least 30 days prior to the start of construction. The tentative start date, tentative duration, location of construction, description of project, an estimate of the number of affected acres, resident engineer in charge of the project, and telephone number of the resident engineer shall be reported. If a resident engineer has not been assigned at the time of notification, information about the construction field office should be provided and the resident engineer information provided when the assignment is made.
 - b. A site specific SWPPP shall be developed and implemented for each construction project as required by the State Construction General Permit (or the appropriate Lahontan RWQCB Permit). The RWQCBs can designate projects under five acres which pose a threat to water quality as being subject to the conditions of

this permit and can require the development and implementation of an SWPPP from these projects. For projects that may have a significant potential water quality impact, Caltrans is encouraged to involve the RWQCB staff in the planning stages. The SWPPP shall contain a BMP program that meets the performance standards of BAT/BCT. The resident engineer shall approve the SWPPP prior to construction and ensure that the SWPPP is effectively implemented. The SWPPP shall contain all of the elements required by the Construction General Permit. Caltrans is responsible for having an effective SWPPP at all times and for implementing the SWPPP at an appropriate level through the entire year. RWQCB staff has the authority to require the submittal of an **SWPPP** at any time, including up to 30 days prior to commencement of significant soil disturbance activities; to require changes to the SWPPP; and to enforce the provisions of the SWPPP.

The SWPPP shall contain a BMP program for any mobile operations that are used in the construction project. This includes operations such as asphalt recycling, concrete mixing, crushing, and storage of materials that are established by the contractor within the construction site or on other property specifically arranged for and provided by Caltrans for execution of the project.

The SWPPP shall apply to all areas that are directly related to the construction activity, including but not limited to staging areas, storage yards, material borrow areas and storage areas, access roads, etc., whether or not they reside within the Caltrans rights-of-way.

- c. Monitoring and inspection of construction sites shall be done in accordance with the Provisions of the Construction General Permit. Noncompliance shall be reported in accordance with the plan to be submitted under Program Evaluation and Reporting Provision K.2.a.
 - d. A **NOTICE OF COMPLETION** shall be submitted to the RWQCB upon completion of the construction and stabilization of the site. A project will be considered complete when the criteria for final stabilization in the Construction General Permit are met.
9. Caltrans has applied for and received variances from the California Department of Toxic Substances Control (DTSC) for the reuse of some soils that contain lead. Notification that projects involve soils that are subject to this variance shall be provided to the appropriate RWQCB(s) in writing 30 days prior to advertisement for bids to allow a determination by the RWQCB(s) of the need for development of WDRs.

I. MAINTENANCE PROGRAM MANAGEMENT

Caltrans shall implement the program specified in the SWMP. Caltrans shall also implement any additional requirements contained in this Provision I.

1. Highway Maintenance Activities

- a. Caltrans shall develop and implement runoff management programs and systems for existing roads, highways, and bridges to reduce runoff pollutant concentrations and volumes entering surface waters.
 - (1) Identify priority and watershed pollutant reduction opportunities (e.g., improvements to existing urban runoff control structures).
 - (2) Establish schedules for implementing appropriate controls.
 - (3) Identify road segments with slopes that are prone to erosion and discharge of sediment and stabilize these slopes to the extent possible.
- b. Vegetation Control: Caltrans shall revise the Vegetative Control Program to reflect the following elements:
 - (1) Enhancement of the use of appropriate native and adapted vegetation throughout all Caltrans rights-of way for the purpose of preventing erosion and removing pollutants in storm water and nonstorm water runoff.
 - (2) Application of herbicides in a manner that minimizes or eliminates the discharge of herbicides to receiving waters. Factors to be considered include timing in relation to expected precipitation events, proximity to water bodies, and the effects of using combinations of chemicals.
 - (3) Caltrans shall apply nutrients at rates necessary to establish and maintain vegetation without causing significant nutrient runoff to surface water.
 - (4) In places where Caltrans has already developed vegetation control management plans, Caltrans shall continue to implement these plans and integrate them into their overall statewide plan. In instances where elements of these plans are to be changed or dropped, Caltrans shall discuss the changes in the workplan portion of the Annual Report.
- c. Storm Water Drainage System Facilities Maintenance
 - (1) Caltrans shall remove all waste from those inlets that pose a significant threat to water quality on an annual basis prior to the winter season each year. All waste removed from drain inlets shall be managed in accordance with all applicable laws and regulations, including CCR Title 27, Division 2, Subdivision 1.
 - (2) Drain inlets which contain significant materials must be considered for an IC/ID investigation and considered for an enhanced BMP program focused on reducing the sources of the material found in the inlet.

2. Highway Surveillance Activities

a. Accidental Spills

- (1) Caltrans will follow Office of Emergency Services (OES) procedures for reporting highway spills.
- (2) A report of ***DISCHARGE OR THREAT OF DISCHARGE NOTIFICATION*** will be made under the following conditions: Caltrans will notify the owner/operator of the MS4 or the principal permittee as soon as practicable, but no later than 24 hours after onset of or threat of discharge of any discharge or threat of discharge which can cause adverse conditions to the storm sewer system or the receiving water that is not covered by OES procedures from a highway to a storm sewer system subject to an MS4 permit.
- (3) A report of ***DISCHARGE OR THREAT OF DISCHARGE NOTIFICATION*** will be made immediately to the RWQCB of any discharge which can cause adverse conditions to the storm sewer system or the receiving water, with a follow up in writing within 24 hours. Adverse conditions include but are not limited to serious violations or serious threatened violations of WDRs, significant spills of petroleum products or toxic chemicals, or serious damage to control facilities that could affect compliance. Caltrans shall perform follow-up monitoring of major spills and/or perform confirmation sampling to ensure that threats to waters of the United States have been eliminated as determined by the local RWQCB. (This Provision applies to highway operation, not construction projects. Provisions for reporting discharges are contained in the Construction General Permit).

b. IC/ID Detection Program: Caltrans shall implement the IC/ID Detection Element described in the SWMP in conjunction with the legal authority with the following changes:

- (1) Detection of IC/IDs: Caltrans shall develop procedures for receiving and investigating public complaints including establishing telephone numbers which the public can use to report IC/IDs and shall post these numbers in places where illegal dumping is found to be a problem.
- (2) Investigation of each IC/ID: Caltrans shall develop procedures to conduct investigations of every IC/ID to identify the source. These procedures may include further field screening (observations and field analyses), collection and laboratory analysis of samples (upstream and downstream), smoke or dye tests, video taping with a remote control camera, or other appropriate means.
- (3) Elimination of IC/IDs: Caltrans shall eliminate all identified IC/IDs as expeditiously as possible. In addition to reporting IC/IDs to the municipal

authorities and to the RWQCBs, Caltrans shall use its own legal authority to eliminate IC/IDs.

- (4) Caltrans shall develop a procedure to track all reports of IC/IDs and the action taken on them. A **REPORT ON THE IC/ID PROGRAM** will be required each year as part of the Annual Report.
- (5) Caltrans shall report on the program developed under this Provision as part of the April 2000 Annual Report. (**DEVELOPMENT OF IC/ID PROGRAM**).

3. Program for Highway Maintenance Facilities

- a. Caltrans shall prepare Maintenance FPPPs for all maintenance facilities. Because these facilities are considered municipal activities rather than industrial activities, these FPPPs must have BMP programs that reduce pollutants to MEP.
- b. Generic FPPP elements can be used for activities that are performed at more than one maintenance facility; however, each site must be evaluated separately and provided with appropriate site specific BMPs.
- c. RWQCB staff has the authority to require the submittal of a FPPP at any time, to require changes to a FPPP, and to require the implementation of the Provisions of a FPPP.

J. TRAINING AND PUBLIC EDUCATION

Caltrans shall implement the program specified in the SWMP. Caltrans shall also implement any additional requirements contained in this Provision J.

In areas where Caltrans is already participating in an areawide Public Education Program, Caltrans will continue participation. The Public Education Program shall address the three main audiences that impact Caltrans storm water discharges. The three audiences are: Caltrans Employees; Caltrans Construction Contractors, and the General Public. The program shall contain the following elements for each of these groups:

1. Caltrans Employees
 - a. Caltrans shall implement the program specified in the SWMP.
 - b. Caltrans shall provide frequent educational reminders to employees to reinforce the training.
2. Caltrans Construction Contractors
 - a. Caltrans shall implement the program specified in the SWMP.

- b. Caltrans shall provide outreach to contractors to raise their awareness of the problems and causes of storm water pollution and to reinforce their training.
3. General Public
- a. **PLAN FOR DEVELOPMENT AND IMPLEMENTATION OF A PUBLIC EDUCATION PROGRAM:** Caltrans shall submit a plan for approval by the SWRCB Executive Director within 180 days of adoption of this NPDES permit for development and implementation of a Public Education Program that includes education of the general public and commercial and industrial entities whose actions may impair storm water quality discharged from Caltrans properties, facilities and activities. In areas where a Caltrans is already part of a Public Education Program with other MS4 permittees, Caltrans must continue with their participation in the program. (**PLAN FOR DEVELOPMENT AND IMPLEMENTATION OF A PUBLIC EDUCATION PROGRAM**)
 - b. The plan shall include the following elements:
 - (1) Research--A plan for conducting research on public behavior that affects the quality of Caltrans runoff. The information gathered will form the foundation for all the public education conducted.
 - (2) Public Education Strategy--Develop a three-year public education strategy. The strategy should be based on the research conducted and must include goals and objectives to be achieved regarding changing behaviors.
 - (3) Mass Media Advertising--Develop and conduct an advertising campaign as a focal point of the public education strategy. The campaign should focus on the behaviors of concern and should be designed to motivate the public to change those behaviors. The public education campaigns may be done as a cooperative effort with other MS4 permittees.
 - c. Upon approval of the submitted plan, Caltrans shall implement the plan to develop a Public Education Program. The **PUBLIC EDUCATION PROGRAM PROGRESS REPORT** on the progress made on the public education program development will be made as part of the Annual Report each year. A proposed **PUBLIC EDUCATION PROGRAM** will be submitted with the Annual Report in 2001. The **PUBLIC EDUCATION PROGRAM** shall be submitted with the Annual Report in 2002. Caltrans will begin implementation of the plan in April 2002.

K. PROGRAM EVALUATION AND REPORTING

Caltrans shall implement the program specified in the SWMP. Caltrans shall also implement any additional requirements contained in this Provision K.

1. Characterization of Discharges: Caltrans shall develop a plan to identify and describe existing major discharges and points of discharge, as defined in 40 CFR 122.26(iv)(d)(1 and 2), to surface water bodies in areas subject to the MS4 permit requirements and to identify and describe other discharge points as funding allows. Caltrans shall also provide information concerning major existing structural controls (such as the location of detention basins, infiltration basins, etc.). Characterization should be done in phases with the highest priority given to discharge points that are part of BMP studies and in areas where these discharges fit into ongoing watershed characterization studies. For discharges that contain pollutants, Caltrans shall investigate the source of the pollutants and, where appropriate, eliminate the IC/ID or implement BMP programs. The plan shall also identify procedures for notifying the RWQCB and affected municipal storm water management agencies of these discharges and future planned discharges and procedures for monitoring and record management. Discharges which Caltrans cannot control, such as discharges from other parties over which Caltrans has no authority, shall be referred to the appropriate regulatory agency for appropriate action. The **PLAN FOR CHARACTERIZATION STUDIES**, describing how the studies shall be carried out, shall be submitted with the 1999 Annual Report. Characterization studies shall be completed by April 1, 2003.

2. Receiving Water Monitoring: Caltrans has submitted a three-year monitoring strategy that outlines the research monitoring that it intends to undertake in the next three years. The **MONITORING STRATEGY REPORT UPDATE** will be updated annually based on the results of previous years' monitoring and in response to the needs of the program and the funding available. The updated Monitoring Strategy Report will be submitted as part of each Annual Report.
 - a. Caltrans shall submit to the SWRCB by April 1, 2000 and each April 1 thereafter a **MONITORING AND REPORTING PROGRAM** acceptable to the Executive Director that shall identify and justify sampling locations, frequencies, and methods, suite of pollutants to be analyzed, analytical methods, and quality assurance procedures. Alternative monitoring methods (special projects, literature review, visual observations, use of indicator parameters, etc.) may be proposed with justification. Current MS4 Permits for Caltrans have monitoring requirements. Results of the monitoring efforts undertaken under RWQCB MS4 Permits may be submitted to fulfill these monitoring requirements.

The RWQCB Executive Officers are authorized to require additional monitoring and reporting by Caltrans when additional information is needed to assess existing or potential adverse impacts by storm water discharges, to evaluate effectiveness of storm water pollution prevention or control measures, or to demonstrate compliance with permit requirements.

3. Compliance Monitoring and Evaluation
 - a. Caltrans shall prepare a plan to be submitted as part of the Annual Report due April 1, 2000 explaining how the RWQCBs will be notified about noncompliance. The plan shall include the identification in each Office and Region, the parties to notify and receive the notification. The notification shall

identify the type(s) of noncompliance, describe the actions necessary to achieve compliance, and include a time schedule, subject to the modifications by the RWQCB indicating when compliance will be achieved. Noncompliance notifications must be submitted verbally within 5 working days, with written followup within 30 days of identification of noncompliance. (**REPORTING OF NONCOMPLIANCE**)

- b. Construction site monitoring and inspections shall be carried out as required by the Construction General Permit or the applicable Lahontan RWQCB Permit.
- c. Maintenance Facility Compliance Monitoring
 - (1) Caltrans is required to conduct periodic inspections. The purpose of the inspections is to identify areas contributing to a discharge of storm water associated with the maintenance facility activities and to evaluate whether control practices to reduce pollutant loadings identified in the FPPP are adequate and properly implemented or whether additional control practices are needed. A record of the inspections must include the date of the inspection, the individual(s) who performed the inspection, and the observations.
 - (2) Any noncompliance shall be reported to the RWQCB in accordance with the plan to be submitted under Program Evaluation and Reporting Provision K.3.a.
 - (3) The RWQCB may require Caltrans to conduct additional site inspections, to submit reports and certifications, or to perform sampling and analysis.
 - (4) Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years. With the exception of noncompliance reporting, Caltrans is not required to submit these records unless otherwise requested.
 - (5) Monitoring at all maintenance facilities is not required.
- d. Overall Management Program Effectiveness:

Caltrans shall perform a self-audit of the storm water program each year to determine (1) if the program is being implemented as required by this NPDES Permit, the SWMP, and the guidance documents prepared by Caltrans; and (2) if the program specified by the SWMP and the guidance documents is adequate. The results of this **SELF-AUDIT** shall be submitted by April 1, 2000 and as a part of the Annual Report thereafter to the SWRCB Executive Director. Caltrans may use any method to evaluate program effectiveness and shall identify the direct and indirect measurements that will be used to track the long-term

effectiveness. An outline of the proposed audit is to be submitted by February 1 of each year so that the SWRCB and RWQCBs can evaluate the measures to be used.

4. Reporting

Caltrans shall submit 13 copies of an **ANNUAL REPORT** to the SWRCB Executive Director by April 1 each year starting on April 1, 2000. The Annual Report shall contain the data and a summary and analysis of the data collected in the previous year. The report due on April 1, 2000 will cover data collected during the winter of 1998-1999. Reports that are required from Caltrans include the items listed in Table 2.

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**TABLE 2
COMPILATION OF REPORTING REQUIREMENTS**

<u>Provision</u>	<u>Requirement</u>	<u>Date Required</u>
B.9.....	Comprehensive Nonstorm Water Report.....	Every Annual Report
E.1, F.1.....	Revised SWMP, including Revisions to the BMP Programs with Justification and Public Input.....	Every Annual Report
E.2.....	Regional Workplans.....	Every Annual Report
F.2.f.....	BMP Selection Report.....	Every Annual Report
F.2.g.....	New Technology Report.....	Every Annual Report
G.1.b.....	Municipal Coordination Plan.....	April 1, 2000
G.1.b.....	Municipal Coordination Program Report.....	Every Annual Report
G.2.b.....	Analysis of the Adequacy of Legal Authority.....	Every Annual Report
G.3.b.....	Fiscal Analysis.....	90 days from adoption
G.3.b.....	Fiscal Analysis.....	3 rd and 5 th year Annual Report
H.8.a.....	Notification of Construction.....	At least 30 days prior to construction
H.8.b.....	SWPPP.....	Request by RWQCB
H.8.d.....	Notice of Completion.....	Upon final stabilization
I.2.a.(2).....	Discharge or Threat of Discharge Notification to MS4 Permittee.....	Upon discharge or threat of discharge
I.2.a.(3).....	Discharge or Threat of Discharge Notification to RWQCB.....	Upon discharge or threat of discharge
I.2.b.(4).....	Report on the IC/ID Program.....	Every Annual Report
I.2.b.(5).....	Development of IC/ID Program.....	April 1, 2000
I.3.c.....	FPPP.....	Request by RWQCB
J.3.a.....	Plan for Development and Implementation of a Public Education Program.....	April 1, 2000
J.3.c.....	Public Education Program Progress Report.....	Every Annual Report
J.3.c.....	Public Education Program.....	April 1, 2003
K.1.....	Plan for Characterization Studies.....	April 1, 2000
K.2.....	Monitoring Strategy Report Update.....	Every Annual Report
K.2.a.....	Monitoring and Reporting Program.....	Every Annual Report
K.3.a.....	Reporting of Noncompliance.....	April 1, 2000
K.3.d.....	Self Audit.....	Every Annual Report
L.10.a.....	De-icer Monitoring Proposal.....	Every Annual Report
L.10.b.....	De-icer Report.....	June 1, 2000
M.7.....	Report of Waste Discharge.....	180 days prior to expiration of permit

These reporting requirements are contained in the text of the NPDES Permit. If there is a discrepancy between the text of the NPDES Permit and this table, the text of the NPDES Permit contains the requirement.

L. LOCATION SPECIFIC REQUIREMENTS

Caltrans shall implement the program specified in the SWMP. Caltrans shall also implement any additional requirements contained in this Provision L.

Lahontan Region: The Water Quality Control Plan for the Lahontan Region (Basin Plan) has additional requirements which have been historically applied to Caltrans permits and which apply to this NPDES Permit in the Lahontan Region. These requirements include:

1. Numerical effluent limitations for storm water discharges within the Lake Tahoe Hydrologic Unit, as specified in Table 5.6-1 on page 5.6-4 of the Basin Plan.
2. Caltrans shall comply with all Waste Discharge Prohibitions specified in sections 4.1 and 5.2 of the Basin Plan.
3. The following nonstorm water discharges which are permitted under Nonstorm Water Provision B.2. of this NPDES permit are prohibited within the Lahontan Region:
 - a. Water line-flushing discharges.
 - b. Ground or surface water pumping discharges associated with construction activities that would violate numerical effluent limitations within the Lake Tahoe Hydrologic Unit or receiving water objectives throughout the Lahontan Region, as specified on pages 3-3 through 3-56 of the Basin Plan.
 - c. Potable water resource discharges.
 - d. Uncontaminated pumped ground water discharges that would violate numerical effluent limitations within the Lake Tahoe Hydrologic Unit or receiving water objectives throughout the Lahontan Region, as specified on pages 3-3 through 3-56 of the Basin Plan.
 - e. Air conditioning condensate discharges (not applicable to vehicles).
4. Storm water/urban runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, one-hour design storm (1) within the Lake Tahoe Hydrologic Unit (one inch of rain), (2) within the Truckee River Hydrologic Unit (3/4-inch of rain), (3) within the East Fork Carson River and West Fork Carson River Hydrologic Units (one inch of rain), and (4) within the Mammoth Creek Hydrologic Unit above the 7,000-foot elevation (one inch of rain). All Caltrans facilities within the Lake Tahoe Hydrologic Unit must be retrofitted to comply with this requirement by the Year 2008. If site conditions do not allow for adequate on site disposal, all site runoff must be treated to meet applicable Effluent Limits and/or Receiving Water Limitations specified in the Basin Plan. Runoff in excess of the design storm and generated by the facility or within the project site shall only be discharged to a storm drain or stabilized drainage adequate to convey the 100-year 24-hour flow. The RWQCB Executive Officer may approve alternative mitigation measures.

All Caltrans facilities within the Lake Tahoe Hydrologic Unit must be retrofitted to comply with this provision by the Year 2008. Caltrans shall continue to participate in the Capital Improvement Program (CIP), as described in volume IV of the CWA Section 208 Water Quality Management Plan (208 Plan). The purpose of the CIP is to identify projects, develop an implementation program, and develop a funding mechanism for storm water runoff and erosion control projects in the Lake Tahoe Hydrologic Unit.

5. All construction/maintenance projects shall comply with Erosion Control Guidelines for the Lake Tahoe Hydrologic Unit, Erosion Control Guidelines for the Truckee River Hydrologic Unit, and Erosion Control Guidelines for the North Lahontan Region where applicable.
6. Caltrans shall inspect active project sites and maintenance facilities prior to, during, and after storms to ensure that BMPs are functioning adequately and preventing the discharge of pollutants to surface waters or storm water conveyance systems that discharge to surface waters.
7. Unless granted a variance by the RWQCB Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition period applies to the Lake Tahoe, Truckee River, East Fork Carson River, and West Fork Carson River Hydrologic Units and above the 5,000-foot elevation in the portions of Mono and Inyo Counties within the Lahontan Region.
8. Project Review Requirements
 - a. Caltrans shall participate in early project design consultation for all projects within the Lake Tahoe, Truckee River, and Mammoth Creek Hydrologic Units. This requirement also applies to projects involving more than five acres of soil disturbance or that require a CWA section 404 permit throughout the Lahontan Region. Caltrans shall solicit RWQCB staff review when project development/design is at the 50 percent design level. Consultation with RWQCB staff shall continue throughout the remainder of the design development and environmental review process.
 - b. Caltrans shall submit an SWPPP or a Water Pollution Control Plan for RWQCB staff review and approval no later than 30 days prior to beginning construction activities. RWQCB staff's proposed modifications shall be included within the plans prior to beginning construction activities.
9. Snow and Ice Control

Where abrasives and/or de-icing agents are used on highways within the Lahontan Region, the following shall be recorded:

 - a. Location of the source of abrasives materials.
 - b. Types and chemistry of de-icing agents.
 - (1) Deicing salt shall be analyzed for: total phosphorus, total nitrogen, iron, and percent NaCl.

- (2) Alternative deicers shall be analyzed for: total nitrogen, and total phosphorus.
- c. Type and chemistry of abrasives with the gradation and percent organic matter. Gradation and percent organic matter shall be determined from composite samples. The composite samples shall be taken from one stockpile that represents all deliveries from the originating source. Composite samples shall be taken from every new delivery from a new originating source.
 - (1) Abrasives shall be analyzed for: volatile solids, iron, total nitrogen, total phosphorus, and total reactive phosphorus.
- d. Volume of abrasives and deicing agents used on individual highway's segments.

10. Reporting/Notification Issues

- a. Caltrans shall submit a monitoring program proposal that evaluates the effectiveness of BMPs used to recover abrasives and deicing materials and that evaluates the impacts of abrasives and deicing materials on surface waters within the Lake Tahoe Hydrologic Unit. The proposal shall include monitoring locations and sampling and analysis methodologies. The proposal shall be submitted within 180 days of adoption of this NPDES Permit for review and approval by the Lahontan RWQCB Executive Officer. (***DEICER MONITORING PROPOSAL***)
 - b. A report shall be submitted, as part of the Annual Report each year describing the results of the abrasives and deicing materials analysis and the annual results of the above-referenced monitoring program involving BMP effectiveness and surface water impacts. The report shall also include a summary of Caltrans CIP activities, including progress on implementing the CIP, and project effectiveness. Project effectiveness has historically been documented with photographs including preproject photographs, photographs taken during the spring following project completion, and photographs taken two years following project completion. If photographs or project site inspections indicate that the project is not fully meeting project objectives, Caltrans shall include within the report a corrective action plan and a schedule that will meet the project objectives. (***DEICER REPORT***)
11. Caltrans shall immediately notify the RWQCB by telephone, not later than 24 hours, whenever an adverse condition occurs as a result of a discharge with written confirmation following within two weeks. An adverse condition includes, but is not limited to, a serious violation or a serious threatened violation of conditions specified in this NPDES Permit, significant discharges of spills of petroleum products or toxic chemicals, or serious damage to control facilities that could affect compliance.

M. OTHER PROVISIONS

1. Caltrans shall ensure that all personnel whose decisions or activities could affect storm water quality are familiar with the contents of this NPDES Permit.
2. Caltrans shall comply with all conditions and limitations of this NPDES Permit upon adoption of this NPDES Permit. Any NPDES Permit noncompliance constitutes a violation of the CWA and the CWC and is grounds for enforcement action pursuant to the CWA and CWC, NPDES Permit termination, or denial of a renewal application.
3. This NPDES Permit does not authorize violation of any federal, State, or local law or regulation.
4. Caltrans shall properly operate and maintain at all times any facilities and systems of treatment and control (and related appurtenances) which are installed or used by Caltrans to achieve compliance with the conditions of this NPDES Permit and with the requirements of SWPPPs. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures.
5. This NPDES Permit does not convey any property rights of any sort or any exclusive privileges, authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations.
6. Caltrans shall comply with the Standard Provisions for NPDES Permit found at 40 CFR 122.41 and 40 CFR 122.42(c).
7. This NPDES Permit expires five years from date of adoption, 2004, and Caltrans shall file a complete Report of Waste Discharge in accordance with Title 23, CCR, at least 180 days in advance of such date as an application for issuance of a new Board Order. (***REPORT OF WASTE DISCHARGE***)
8. This Board Order shall serve as an NPDES Permit pursuant to section 402 of the Federal CWA, as amended, and shall become effective at the end of ten (10) days from the date of the Board Meeting which this NPDES Permit was adopted by the SWRCB, provided that the Regional Administrator, USEPA, has no objections.
9. This NPDES Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by Caltrans for an NPDES Permit modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any NPDES Permit condition. Causes for modification include the promulgation of new regulations or adoption of new regulations by the SWRCB or the RWQCBs, including revisions to the RWQCB Basin Plans.

10. Signatory Requirements

- a. All permit applications, reports, or information submitted to the RWQCB, SWRCB, and/or USEPA shall be signed by either a principal Executive Officer, Executive Director, or ranking elected official. [40 CFR 122.22(a)]
- b. All reports required by this NPDES Permit and other information requested by the RWQCB, SWRCB, or US EPA shall be signed by a person described in Other Provisions 10.a. of this Provision or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - (1) The authorization is made in writing by a person described in Other Provisions 10.a. of this Provision;
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - (3) The written authorization is submitted to the RWQCB. [40 CFR 122.22(b)]
- c. Changes to authorization: If an authorization under Other Provisions 10.b. of this Provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Other Provisions 10.b. of this Provision must be submitted to the RWQCB prior to or together with any reports, information, or applications to be signed by an authorized representative. [40 CFR 122.22(c)].
- d. Certification: Any person signing a document under Other Provisions 10.a. or b. of this Provision shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I

am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations. [40 CFR 122.22(d)]

- e. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this NPDES Permit, including monitoring reports or reports of compliance or noncompliance, upon conviction, shall be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years per violation, or by both.

CERTIFICATION

The undersigned, Administrative Assistant to the SWRCB, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on July 15, 1999.

AYE: James M. Stubchaer
Mary Jane Forster
John W. Brown
Arthur G. Baggett, Jr.

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

**AERIALY DEPOSITED LEAD
SURVEY REPORT
INTERSTATE 805 HOV, GENERAL USE,
AUXILIARY LANES BETWEEN PALOMAR STREET
OVER CROSSING AND LANDIS STREET
OVER CROSSING ALONG I-805**

CALTRANS EA 11-081610

Project: 115813

May 27, 2011

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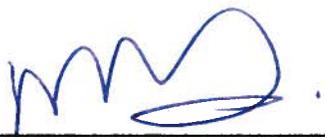
**Only the client or its designated representatives may use this document and
only for the specific project for which this report was prepared.**

A report prepared for:
Ms. Diane Vermeulen, P.E.
State of California Department of Transportation
Environmental Division, MS 242
4050 Taylor Street
San Diego, California 92110

**AERIALY DEPOSITED LEAD SURVEY REPORT
INTERSTATE 805 HOV, GENERAL USE, AUX LANES BETWEEN
PALOMAR STREET OVER CROSSING AND
LANDIS STREET OVER CROSSING ALONG I-805
CALTRANS EA 11-081610**

Kleinfelder Project No. 115813

Prepared by:

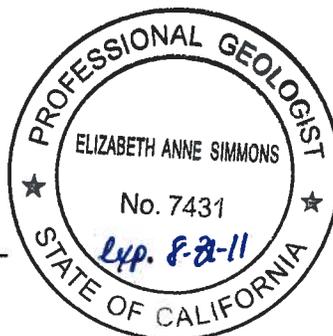


Meghan Hearne
Staff Geologist

Reviewed by:



Lizanne Simmons, P.G. 7431
Principal Geologist



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May 27, 2011

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1 INTRODUCTION

1.1 PROJECT DESCRIPTION

This report has been prepared to summarize procedures and results of an Aerially Deposited Lead (ADL) survey conducted along Interstate 805 (I-805) in the Cities of San Diego and Chula Vista, California for the State of California Department of Transportation (Caltrans). Caltrans is proposing to construct High Occupancy Vehicle (HOV)/Bus Rapid Transit (BRT) lanes along I-805 between 0.32 mile south of Palomar Street over crossing (OC) and Landis Street OC (Site/Project). It is anticipated that the Project will result in the reconstruction of existing interchanges and improvement of existing connectors. Major work will require removal, replacement, and widening of bridge overcrossings. The Project limits are in the Cities of San Diego and Chula Vista, San Diego County, California (Plate 1). This work was performed for Caltrans, consistent with Contract No. EA-11-081610, Task Order No. 19 (TO19). This report summarizes soil sampling for ADL conducted during February and March 2011 in the unpaved shoulders and median areas along I-805 from 0.32 mile south of the Palomar Street OC to the Landis Street OC (Site, Plates 2 through 14).

1.2 PROJECT OBJECTIVES AND SCOPE OF WORK

Based on historical Site use (freeway), there is the potential that ADL is present within soil adjacent to the existing traveled ways; therefore, Caltrans needs to evaluate the presence, concentration, and distribution of lead in soil in anticipation of future grading/construction activities. The data will be used to evaluate soil within the proposed construction area to assess the potential for reuse on Site. It will also be used to evaluate disposal options for potentially lead-impacted soil, and to evaluate health and safety issues for future on-site workers.

The objective of the ADL study was to provide data for evaluation to allow for management of ADL-impacted soils associated with a Caltrans project based on project design information known at this time. Samples were collected to provide information about lead containing soils along the freeway medians and unpaved shoulders (Caltrans right-of-way) within the project boundaries relative to the variance granted to Caltrans by the Department of Toxic Substance Control (DTSC) (DTSC, 2009).

This report describes the procedures, results, and recommendations from the ADL study performed within the project limits. The scope of work was provided to Kleinfelder by Caltrans in the Task Order description. Consistent with the Task Order, and as described in the *Aerially Deposited Lead Survey Work Plan* (Kleinfelder, 2011a), Kleinfelder performed the tasks listed below:

- Provided project management and coordination.
- Prepared a Site-specific work plan and prepared a Site-specific health and safety plan (SSHSP) (Kleinfelder, 2011b).
- Coordinated traffic control for median closure, as necessary.
- Advanced 240 borings using hand auger methods, to a depth of approximately 3 feet below ground surface (bgs) or until refusal. Three soil samples were collected from each hand auger boring that was advanced to 3 feet bgs. Shallower borings meeting refusal had fewer samples collected.
- Obtained global positioning system (GPS) location readings at each boring location.
- Submitted 684 soil samples (including 36 field duplicate samples) to Calscience Environmental Laboratories, Inc. (Calscience) of Garden Grove, a state-certified laboratory, for analysis of total lead by United States Environmental Protection Agency (U.S. EPA) Method 6010B.
- Analyzed 684 soil samples, including 36 duplicate samples, for Soluble Threshold Limit Concentration (STLC), or leachable lead, using the California waste extraction test (WET) method.
- Analyzed 91 soil samples, including 8 duplicate samples for STLC by the modified WET method using deionized (DI) water as the extractant.
- Analyzed 50 soil samples, including 4 duplicate samples, for leachable lead by the Toxicity Characteristic Leaching Procedure (TCLP).
- Analyzed 174 soil samples, including 6 duplicate samples for hydrogen ion index (pH) by U.S. EPA Method 9045C.
- Collected and analyzed 21 equipment blanks for total lead by U.S. EPA Method 6010B. Equipment blanks were collected each day of soil sampling. One equipment blank was collected for each hand auger used during each day of sampling.

- Prepared this report, including a summary of the assessment methods and field observations, data evaluation and discussion, findings, conclusions and recommendations.

1.3 REPORT ORGANIZATION

This report is organized into the following sections and appendices. Tables are located behind a tab at the end of the report.

- Section 1 describes the Site, discusses the Project objectives and the purpose of the report, presents the scope of work, and discusses the organization of the report;
- Section 2 discusses pertinent Site background information;
- Section 3 describes sampling activities;
- Section 4 describes field observations and the investigation results, including laboratory analytical data;
- Section 5 presents the statistical analysis of the data;
- Section 6 presents the conclusions and recommendations;
- Section 7 presents the limitations of the report;
- Section 8 lists references;
- Plates;
- Tables;
- Appendix A includes a table with the coordinates of the samples;
- Appendix B includes the analytical reports from the laboratory; and,
- Appendix C presents the evaluation and results of the statistical analysis.

2 BACKGROUND

2.1 SITE IMPROVEMENTS

Improvements are planned for unpaved shoulders and median areas along I-805 between 0.32 mile south of Palomar Street OC and Landis Street OC. Major elements of the project include (but are not limited to):

- Addition of HOV/BRT lanes
- Reconstruction of existing interchanges;
- Improvement of existing connectors; and
- Removal, replacement, and relocation of bridge overcrossings.

These improvements will result in soil being disturbed and, depending on analytical results and project requirements, potentially re-used on Site.

2.2 WASTE CLASSIFICATION, ADL VARIANCE, AND SOIL REUSE CRITERIA

Due to the historic use of lead in gasoline formulations, lead contamination is common in surface soils found along roadways. ADL-impacted soils are regulated at both the federal and state levels for the following reasons:

- They may be classified as hazardous waste.
- They are subject to state regulations when not classified as hazardous waste.
- They may represent an occupational safety and health risk.

According to Title 22, California Code of Regulations (CCR), solid wastes with total lead concentrations equal to or exceeding 1,000 milligrams per kilogram (mg/kg), the Total Threshold Limit Concentration (TTLC), are classified as California hazardous waste. Assembly Bill 2784 (AB 2784), effective January 1, 1999, amended California Health and Safety Code (HSC) Section 25157.8 (a) and Title 22 CCR by reducing the practical disposal limit for non-hazardous solid waste to 350 mg/kg total lead until the California Regional Water Quality Control Board (RWQCB) amends a disposal facility's waste discharge requirements.

Solid wastes with soluble lead concentrations (assessed using California WET procedures) equal to or exceeding 5.0 milligrams per liter (mg/L), the STLC, are

classified as California hazardous under California law. California hazardous materials must be transported under a hazardous waste manifest and disposed of at an appropriately permitted facility. Wastes with lead concentrations less than both the TTLC and the STLC are not a California hazardous waste, and may be disposed of at a Class II or III facility, provided that site-specific disposal facility requirements are satisfied. Furthermore, according to federal law, as stipulated in the Resource Conservation and Recovery Act (RCRA), wastes that exceed 5.0 mg/L soluble lead, extracted using the federal TCLP, are classified as RCRA hazardous waste. This material must be disposed of as RCRA hazardous waste if transported off Site.

In September 2000, the DTSC issued a 5-year variance to Caltrans specifying that ADL-impacted soil within a highway right-of-way could be used as fill material within the right-of-way during earth moving and road construction activities provided that the waste met specific criteria (DTSC, 2000). The DTSC modified the variance for the second time in September 2003; which replaced and superseded the first modification. The variance, originally scheduled to expire on September 22, 2005, was granted extensions by DTSC that allowed Caltrans to keep working under the variance and its modifications until June 30, 2009 (DTSC, 2008). This extension was granted by the DTSC with the expectation that a good faith effort is shown by Caltrans to proceed with the variance renewal. In July 2009, the DTSC issued the current 5-year variance (DTSC, 2009). The following are the current DTSC variance conditions:

- For Variance Condition 9.c, “lead-contaminated” soil containing 1.5 mg/L or less soluble lead (using a modified WET with DI water as the extractant rather than an acidic, buffered sodium citrate solution) and 1,411 mg/kg or less total lead may be reused in a Caltrans right-of-way provided this soil is placed a minimum of five (5) feet above the maximum water table elevation and is covered by 1 foot of clean soil.
- For Variance Condition 9.d, “lead-contaminated” soil containing less than 150 mg/L soluble lead (DI-WET) and 3,397 mg/kg or less total lead may be reused as fill soil in a Caltrans right-of-way provided that it is placed a minimum of 5 feet above the maximum water table elevation and is covered by a pavement structure which will be maintained by Caltrans.
- For Variance Condition 9.e, “lead-contaminated” soil with a pH less than 5.5, but greater than 5.0 can only be used as fill material under the paved portion of the

roadway. "Lead-contaminated" soil with a pH at or less than 5.0 shall be managed as hazardous waste.

Other reuse conditions, soil handling procedures, and notifications are specified in the variance. Soil that exceeds 3,397 mg/kg total lead or 150 mg/L soluble lead (DI-WET) cannot be reused within a Caltrans right-of-way and must be properly disposed of off at an approved facility. Solid wastes with lead concentrations less than both the TTLC and the STLC may be disposed of at a Class II or III facility provided that site-specific disposal facility requirements are satisfied. Similarly, solid waste that exceeds 5.0 mg/L soluble lead by TCLP is considered to be a federal or RCRA-hazardous waste and cannot be reused within a Caltrans right-of-way.

The information described above is summarized in a soils management flow chart (Plate 15) to evaluate the applicability of the DTSC variance. The flow chart is an updated version of Figure 1 from the *2007 Caltrans ADL Guidance Document* (Caltrans, 2007). Based on information on the flow chart (Plate 15), soils with a 95 percent UCL on the mean for total lead less than 1,000 mg/kg and with a 95 percent UCL for soluble lead by WET-DI less than 1.5 mg/L are considered non-hazardous and can be released to the contractor for use in accordance with project specifications.

3 SAMPLING ACTIVITIES

3.1 PRE-FIELD ACTIVITIES

An encroachment permit was prepared by a representative of Caltrans and submitted on January 12, 2010. The permit (11-11-NSV-0023) was approved February 17, 2011. Prior to the start of work, Caltrans was notified of the planned work on the unpaved shoulders and median of I-805.

Kleinfelder prepared and submitted a work plan (Kleinfelder, 2011a) and a SSHSP (Kleinfelder, 2011b). The health and safety plan was reviewed daily with field personnel for potential hazards, emergency contact information, and hospital routes.

Prior to ground-disturbance activities, Kleinfelder visited each sample point to mark excavation locations with 3-foot lathes and flagging material. Underground Service Alert (USA) was notified 48 hours in advance of subsurface sampling activities. The following twelve (12) ticket numbers were issued by USA:

- **A10490850** (Shoulders and center median on north and southbound I-805 freeway from southbound Interstate 15 (I-15) south to Federal Boulevard);
- **A10490852** (Shoulders and center median on the north and southbound I-805 freeway from Federal Boulevard south to San Diego Trolley tracks, approximately 0.5 mile south of Federal Boulevard);
- **A10490844** (Shoulders and center median on north and southbound I-805 freeway from Swift Avenue south for approximately 1 mile);
- **A10490859** (Shoulders and center median on north and southbound I-805 freeway from San Diego Trolley tracks south to Slola Avenue);
- **A10490862** (Shoulders and center median on north and southbound I-805 freeway from Slola Avenue south to 8th Street);
- **A10490864** (Shoulders and center median on north and southbound I-805 freeway from 8th Street south to 24th Street);
- **A10490866** (Shoulders and center median on north and southbound I-805 freeway from 24th Street south to eastbound 54 freeway);

- **A10490870** (Shoulders and center median on north and southbound I-805 freeway from eastbound 54 freeway south to Bonita Road);
- **A10490873** (Shoulders and center median on north and southbound I-805 freeway from Bonita Road south for approximately 1 mile to approximately 0.4 mile south of East H Street);
- **A10490876** (Shoulders and center median on north and southbound I-805 freeway from approximately 0.4 mile south of East H Street south to Telegraph Canyon Road);
- **A10490879** (Shoulders and center median on north and southbound I-805 freeway from Telegraph Canyon Road south to East Naples Street); and,
- **A10490881** (Shoulders and center median on north and southbound I-805 freeway from East Naples Street south to approximately 1000 feet south of East Palomar Street).

3.2 ADL SAMPLING LOCATIONS AND GPS SURVEY

Two-hundred and forty (240) sampling locations were selected and spaced approximately 200 to 800 feet apart, based upon accessibility, and/or in select locations at interchanges, along the unpaved shoulders and medians. When possible, for the safety of the field crew, the borings were located near guardrails. Up to three soil samples were collected from each boring location at depths of approximately 0 to 0.5 foot bgs, 1 to 1.5 feet bgs, and 2.5 to 3 feet bgs, or until refusal. Site conditions (i.e., refusal) dictated sample retrieval; therefore, the number and depth of samples collected at each location was occasionally modified.

Fifty-five (55) of the 240 boring locations met refusal at depths shallower than 3.0 feet bgs. Refusal was primarily due to two lithologic factors: 1) The presence of areas consisting of fill material composed of gravel and cobbles; and 2) Locations in areas composed of Very Old Paralic Deposits (Qvop) and materials of the San Diego Formation (Tsdss). As described by Kennedy and Tan (2008), Qvop generally consists of siltstone, sandstone, or a combination. Materials of the San Diego Formation generally consist of a marine and non-marine pebble and cobble conglomerate to marine sandstone.

Sample locations were recorded during utility identification using a Trimble global positioning system (GPS) unit, capable of providing accuracy to approximately 3 feet. The sample location names, along with their respective latitude and longitude coordinates (x and y coordinates) are included in Table A-1 (Appendix A). The approximate locations of these borings are shown on Plates 2 through 14.

3.3 HAND AUGER DRILLING AND SOIL SAMPLING METHODS

Hand auger borings were advanced from February 28 to March 17, 2011 at locations shown on Plates 2 through 14. Borings were advanced using a manually operated, pre-cleaned, stainless steel hand auger. Kleinfelder retained the services of CO's Traffic Control to provide closure of the freeway median and shoulder areas. Work was performed in the unpaved shoulder and median areas from 9:00 AM to 4:00 PM, as stipulated in the encroachment permit.

Soil samples were collected from the hand auger and placed into laboratory-supplied, 8-ounce jars with Teflon lids. The sample jars were labeled with a sample identification number and Z (depth) value, along with the date and time of the sample location, and placed in a secured, chilled ice chest. Standard chain-of-custody (COC) procedures were used during sampling and transportation to Calscience (by courier), the laboratory subcontracted by Kleinfelder.

3.4 EQUIPMENT BLANKS

An equipment blank, consisting of distilled water poured over the sampling equipment that had been cleaned, was collected during each day of field sampling. The equipment blank was collected to document the condition of the sampling equipment following decontamination. Equipment blank samples were collected in a laboratory-supplied, nitric acid-preserved bottle. Sample bottles were labeled with a unique sample identifier, date, time, project number and samplers' initials. Equipment blank samples were placed in the chilled cooler along with the soil samples and transported to Calscience (by courier) for analysis.

3.5 ANALYTICAL METHODS

A total of 684 soil samples, including 36 duplicate samples, were analyzed for total lead by U.S. EPA Method 6010B and for soluble lead by the California WET method (STLC). A modified California WET procedure, using DI water extraction, was performed on 91

soil samples (13.3 percent of total samples), which included the samples with total lead concentrations above 50 mg/kg. Soluble lead was analyzed by TCLP for 50 samples (7.3 percent of total samples), which included the samples with total lead concentrations above 100 mg/kg. Additionally, 174 samples were measured for pH using U.S. EPA Method 9045D.

3.6 DECONTAMINATION AND BORING ABANDONMENT

Sampling equipment (i.e., hand auger cutter head, soil sampler, etc.) was washed with a solution of Alconox® detergent and rinsed with tap water and DI water, in buckets, prior to each use. Generation of wash water was minimized. Wash water was contained in 5-gallon pails for disposal. At the end of each day, wash water was disposed at the surface in Caltrans right-of-way, in an area that did not cause runoff of fluid or sediment into receptors (i.e., storm drain, creek, or other surface water bodies), consistent with the work plan. Soil cuttings originating from each boring were placed back within the original borehole as described in the work plan.

4 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

This section includes a summary of the Site conditions observed during the field work, a summary of the analytical results, and a discussion of the data quality assessment. The summary of analytical results for the soil samples collected are presented in Table 1. Certified Level II laboratory reports from Calscience are included in Appendix B.

4.1 SITE CONDITIONS

Daily field logs, prepared under the supervision of a California registered geologist, include a description of the soil conditions. Fill and native material consisting of Very Old Paralic Deposits (middle to early Pleistocene) and materials of the San Diego Formation were encountered in the borings from ground surface to 3 feet bgs. Fill material generally consisted of a dry to damp, medium dense to dense, silty sand with fine to coarse gravel and cobbles up to approximately 7 to 8 inches in diameter. Native material of the San Diego Formation generally consisted of a damp, moderately to well-cemented sandstone or conglomerate. Refusal was encountered in a total of 55 boreholes, from approximately 0.5 to 3.0 feet throughout the Site. Refusal was due to the presence of cobbles, coarse gravel, and moderately to well-cemented sandstone or conglomerate. Groundwater was not encountered in the borings.

4.2 SOIL SAMPLE RESULTS

4.2.1 Total Lead

Total lead (TOTAL) was detected in 627 of the 684 soil samples analyzed, including 35 of the duplicate samples, and ranged in concentration from 0.502 to 1,180 mg/kg (Table 1 and Plates 2 through 14). Of those 627 samples, 91 samples, including 8 duplicate samples, contained total lead concentrations that equaled or exceeded the 50 mg/kg screening criterion for analyzing the sample using the modified California WET procedure, using DI water extraction, ranging from 50.5 to 1,180 mg/kg. Additionally, 50 samples, including 4 duplicate samples, contained total lead concentrations that equaled or exceeded the 100 mg/kg screening criterion for TCLP analysis, ranging from 102 to 1,180 mg/kg. The maximum total lead concentration was 1,180 mg/kg, reported in the surface sample collected at 805N-013-0.5. As expected, near surface samples generally contained higher concentrations of total lead compared to the deeper samples.

4.2.2 California WET Soluble Lead

California WET soluble lead (citrate extraction) was reported at concentrations above 5.0 mg/L (the STLC action level) in 60 (including 3 duplicate samples) of the 684 samples analyzed. The maximum WET soluble lead concentration was 66.5 mg/L, reported in the sample collected at 805N-126-1.5; however, this sample did not contain the highest total lead concentration or DI-WET soluble lead concentration.

4.2.3 DI-WET Soluble Lead

DI-WET soluble lead was reported in 35 (including 2 duplicate samples) of the 91 samples tested, which included 8 duplicate samples. Samples analyzed for DI-WET soluble lead were not reported to contain concentrations greater than 150 mg/L, the maximum threshold concentration for DTSC Variance Condition 9.d. The maximum concentration for DI-WET soluble lead was 0.916 mg/L, reported in the sample collected at 805N-126-1.5, which corresponded to a total lead concentration of 966 mg/kg and a standard-WET soluble lead concentration of 66.5 mg/L. This sample contained the second highest total lead concentration and the highest soluble lead concentrations using both WET and DI-WET soluble analyses.

4.2.4 TCLP Soluble Lead

TCLP soluble lead was analyzed on approximately 7.3 percent of the total lead samples (50 soil samples including 4 duplicate samples). TCLP analysis is performed to evaluate if soils do not qualify for reuse due to designation as a RCRA hazardous waste. The maximum concentration for TCLP soluble lead was 2.42 mg/L, reported in the sample collected at 805N-126-1.5, which corresponded with the sample depth with the second highest total lead concentration and highest soluble lead concentration using WET soluble lead concentration. The maximum concentration for TCLP soluble was reported below the RCRA hazardous waste limit of 5.0 mg/L.

4.2.5 Hydrogen Ion Concentration

The hydrogen ion concentration (pH) of the 174 soil samples analyzed, including 6 duplicate samples, ranged from 4.38 to 9.03 (Table 1 and Plates 2 through 6). A total of 59 of the samples collected had reported pH concentrations greater than the criterion of 5.5 listed in the DTSC variance; therefore, soil in these locations is not limited to reuse in covered areas (DTSC, 2009). Six soil samples, collected at 805S-018-3.0, 805N-

122-1.5, 805N-168-3.0, 805N-194-1.5, 805S-197-1.5, and 805N-224-0.5, had concentrations reported between the criterion of 5.0 and 5.5 listed in the DTSC variance for soils that may be used under paved roadways (Variance Condition 9.e). Concentrations less than the criterion of 5.0 listed in the DTSC variance were reported in two soil samples, collected at 805N-101-3.0 and 805N-196-1.5.

4.3 DATA QUALITY ASSESSMENT

The following section summarizes the quality assurance (QA) and quality control (QC) program and data quality assessment. The data quality assessment process consisted of a review, verification, validation, and evaluation of the analytical data generated during the I-805 HOV ADL project. The limited data quality assessment was performed using the U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (U.S. EPA, 2004a) as a reference.

A total of 705 samples, including primary, duplicate and equipment blank samples, were collected and submitted to Calscience for one or more of the following analyses:

- Total lead by U.S. EPA Method 6010B;
- pH by U.S. EPA Method 9045D;
- TCLP Soluble lead by U.S. EPA Method 6010B/1311;
- WET Method; and
- DI-WET Method.

One hundred percent of the data generated for this project underwent a data quality review by a Kleinfelder project chemist, independent of project activities. A total of 12 Level II data deliverable reports (Work Orders) were evaluated during the data quality assessment, which consisted of evaluating the following parameters:

- Technical holding times and temperature;
- COCs;
- Sample results and analytical methods selected;
- Field and laboratory blanks;

- Laboratory control sample (LCS) spike results; and
- Matrix spike (MS) and matrix spike duplicate (MSD) results.

Field and laboratory personnel implemented QA/QC procedures consistent with the QA criteria specified in the *Aerially-Deposited Lead Survey Workplan* (Kleinfelder, 2011a) during the soil sampling events. Technical holding times and preservation of samples met the method-specific requirements. Additionally, all samples were analyzed for the correct analytical methods requested on the COC forms. Field QC consisted of collecting daily equipment blanks. Lead was not reported above the laboratory reporting limit in either the laboratory or field blank samples, so no qualifications were applied due to blank contamination. Laboratory QC samples (method blanks, matrix spikes, and laboratory control spikes) were also analyzed consistent with the analytical method requirements. A majority of the laboratory QC sample recoveries were within the laboratory's acceptable QC criteria (i.e., control limits), with a few exceptions discussed below.

During the data quality assessment, the following discrepancies are observed:

- One matrix spike for total lead analysis (U.S EPA Method 6010B), in Work Order #11-03-0286, was reported with low spike recovery, which were outside the laboratory control limits of 75-125%. As a result, the associated samples were qualified as estimated, low bias ("J"/"UJ" qualified).
- One matrix spike duplicate for total lead analysis (U.S EPA Method 6010B), in Wok Order #11-03-0806, was reported with high spike recoveries, which was outside the laboratory control limits of 75-125%. As a result, the associated samples with detections of total lead were qualified as estimated, high bias ("J" qualified).

Based on the data quality assessment findings, there are no data that have been rejected. A total of 1,704 sample results were collected under the Interstate 805 ADL survey, with 55 results qualified as estimated ("J"/"UJ" qualified) as a result of the Level II data quality assessment. The project achieved a completeness goal of 100% for the analytical data. The I-805 ADL data are considered acceptable for the intended use of the project.

5 STATISTICAL EVALUATION

The data was analyzed to identify the appropriate handling of soil affected by ADL under the terms of the variance granted by DTSC to Caltrans District 11 for highway construction projects. During the course of construction, this soil is likely to be excavated, stockpiled, and relocated using methods that tend to homogenize soil constituent concentrations.

Caltrans has prepared an ADL guidance document to support the implementation of the DTSC variance (Caltrans, 2007). Kleinfelder has modified this table based upon the current DTSC ADL variance (DTSC, 2009), which is included in this report as Plate 15. The guidance document provides a flow chart/decision diagram to address DTSC variance applicability based on the various analyses. The decision points for evaluation of the lead data were as follows: If the 95 percent upper confidence limit (UCL) on mean total lead is less than 1,000 mg/kg, and if the 95 percent UCL on mean soluble lead (DI-WET) is less than 1.5 mg/L, then the soil is considered non-hazardous and can be released to the contractor for reuse on Site in accordance with project specifications.

The U.S. EPA statistical analysis package, ProUCL (version 4.0, April 2007) was used to complete the statistical evaluation (U.S. EPA, 2004b). ProUCL allows the computation of a reliable, stable, and conservative 95 percent UCL of the mean concentration in an environmental data set and offers 3 different methods of computing a 95 percent UCL depending on the distribution of a given data set.

Aggregated data, averaging lead concentrations over variable data sets within the project area to reflect the construction process, was used for the analysis. These data sets are summarized in Table 2A of the report, and statistical evaluations of the data are included in Appendix C. Results below laboratory detection limits for total lead and DI-WET soluble lead were handled in the statistical analysis by taking the value of the laboratory detection limit. The mean of both lead concentrations and pH values for the Site are presented in Table 2B.

Table 2A provides a summary of the 95 percent UCLs calculated for total lead and soluble lead concentrations reported for soil samples from the subject Site. Based on a comparison of the 95 percent UCL value generated by ProUCL, the data set for total lead passes the first criterion established in the Caltrans ADL guidance: "Is the 95 percent UCL for total lead less than 1,000 mg/kg?"

A statistical analysis of soluble lead calculated using the results of the DI-WET procedure was also performed to address the second criterion from the Caltrans ADL flow chart/decision diagram (Appendix C, Table 2A).

Statistical analyses were performed on the 50 sample results for soluble lead by TCLP (Appendix C). The 95 percent UCL for the TCLP procedure was below the Federal waste limit of 5.0 mg/L for all data sets. Composite material generated during grading and excavation would be expected to have TCLP concentrations below the RCRA hazardous waste limit. Therefore the soils are not excluded for reuse at the Site under the DTSC variance.

Under the DTSC variance and federal and state hazardous waste classifications, soil can be placed into specific ADL Soil Management Types. Based on the results of the analysis, the represented soil units for the project can be placed into one of three ADL Soil Management Types. Soil classified as "X" is not restricted for on-Site use but requires a lead compliance plan for worker safety. Surplus soil classified as "X" can be disposed of as non-hazardous waste at a Class III facility. Soil classified as "Y1" requires (at a minimum) one foot of clean soil cover if used on Site in addition to health and safety requirements. Surplus soil classified as "Y1" is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility. Soil classified as "Y2" requires (at a minimum) cover with pavement if used on Site in addition to health and safety requirements. Surplus soil classified as "Y2" is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility. The ADL Soil Management Types for soil units "X" and "Y1" for the project are shown in Table 3 below.

Table 3
ADL Soil Management Types
I-805 HOV ADL Survey
Caltrans EA-11-081610

Highway Lanes	All Depths (0-3 feet)	Surface (0.5-1 feet)	Shallow (1.5-2 feet)	Intermediate (<2 feet)	Deep (≥ 2 feet)
I-805 North and South Bound Lanes (Entire Project Corridor)	X ¹	Y1 ²	X	X	X
I-805 North and South Bound Lanes (South Phase ³)	X	Y1	X	X	X
I-805 North and South Bound Lanes (North Phase ⁴)	Y1	Y1	X	Y1	X

Notes:

1. "X" is not restricted for on-Site use, but requires a lead compliance plan for worker safety. Surplus soil can be disposed of as non-hazardous waste at a Class III facility.
2. "Y1" requires (at a minimum) one foot of clean soil cover if used on Site in addition to health and safety requirements. Surplus soil is to be disposed of as California-hazardous (non RCRA) waste at a Class I facility.
3. South Phase includes the soil sample locations along the Project Corridor from Palomar Street, north, to State Route (SR) 94.
4. North Phase includes the soil sample locations along the Project Corridor from SR 94, north, to the Landis Street over crossing.

In conclusion, based on Caltrans ADL guidance criteria, the soil addressed in this analysis is classified as hazardous in the specific areas listed above (Y1 classification only); however, it can be released to the contractor for use on the project Site in accordance with project specifications and the current DTSC variance. The basis for this conclusion is as follows:

- For these soils, the 95 percent UCL for total lead was less than 1,000 mg/kg for all data sets at all depths (48.4 mg/kg, Table 2A).
- The 95 percent UCL for DI-WET procedure is less than 1.5 mg/L for all data sets at all depths (0.9 mg/L, Table 2A).

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 VARIANCE CONCLUSIONS

Although certain individual samples have lead concentrations above the maximum soluble lead concentrations allowed by the DTSC Variance, based on statistical analysis of the analytical results of this ADL Survey, soil tested within the Caltrans right-of-way does not contain total lead or DI-WET soluble lead concentrations that would apply to the DTSC Variance conditions (Appendix C). As such, soil within the Site to a depth of 3.5 feet bgs may be released to the contractor as non-hazardous soil (STLC 95% UCL is above California hazardous levels) and reused on Site in accordance with project specifications.

Fifty-nine (59) soil samples had reported pH values above the variance criterion of 5.5. Six samples had values reported between the criterion of 5.0 and 5.5 listed in the DTSC variance. Values less than the criterion of 5.0 listed in the DTSC variance were reported in two samples. Although certain individual samples have pH values below the minimum allowed by the DTSC Variance, based on statistical analysis of the analytical results of this ADL Survey (95% UCL for pH is 7.4), soil tested within the Caltrans right-of-way does not contain a pH value below that which would apply to the DTSC Variance conditions (Appendix C).

Should off-Site disposal be required because of excess soil, the soil should be handled based on the criteria described in Section 6.2.

6.2 WASTE CHARACTERIZATION CONCLUSIONS

Based on the analytical results of this ADL Survey, one soil sample collected at the 240 sample locations along the unpaved shoulders and medians does contain total lead in excess of the California TTLC of 1,000 mg/kg. The standard-WET soluble lead test results indicate that soil concentrations are in excess of the California STLC of 5 mg/L in 60 (including 3 duplicate samples) of the 684 samples analyzed for soluble lead by WET at various locations along the Site.

Based on the results of soil sampling (95% UCL for all depths) at locations along the South Phase of the I-805 unpaved shoulders and medians, soils from this area are considered non-hazardous in comparison to California TTLC and STLC limits for depths from the surface to 3.5 feet bgs. In addition, soil samples analyzed for TCLP soluble

lead concentrations in the South Phase were less than the 5.0 mg/L criterion for RCRA hazardous waste.

Based on the results of soil sampling (95% UCL for all depths) at locations along the North Phase of the I-805 unpaved shoulders and medians, soils from this area are considered non-hazardous in comparison to California TTLC for depths from the surface to 3.5 feet bgs; however, soil is considered hazardous for off-Site disposal in comparison to STLC limits for depths 0 to 3.5 feet bgs. In addition, soil samples analyzed for TCLP soluble lead concentrations in the North Phase were less than the 5.0 mg/L criterion for RCRA hazardous waste.

6.3 RECOMMENDATIONS

Based on the results of the soil sampling activities conducted, current and future uses of the Site, and anticipated general construction activities that may be associated with proposed construction along the unpaved shoulders and medians of the subject corridor, the general recommendations listed below are provided.

- Due to the presence of lead-impacted soil, construction activities should be performed in accordance with a Site-specific health and safety plan and a soil management plan.
- If excavations are planned deeper than 3.5 feet bgs, additional sampling and laboratory analytical testing should be conducted to characterize the area of excavation.
- Soil subject to export should be characterized to assess the appropriate waste classification in accordance with the requirements of the permitted disposal facility.

7 LIMITATIONS

This work was performed in a manner consistent with that level of care and skill ordinarily exercised by other members of Kleinfelder's profession practicing in the same locality, under similar conditions and at the date the services are provided. Our conclusions, opinions and recommendations are based on a limited number of observations and data. It is possible that conditions could vary between or beyond the data evaluated. Kleinfelder makes no other representation, guarantee or warranty, express or implied, regarding the services, communication (oral or written), report, opinion, or instrument of service provided.

This report may be used only by the Client and the registered design professional in responsible charge and only for the purposes stated for this specific engagement within a reasonable time from its issuance, but in no event later than two (2) years from the date of the report.

The work performed was based on project information provided by Client. If the Client does not retain Kleinfelder to review any plans and specifications, including any revisions or modifications to the plans and specifications, Kleinfelder assumes no responsibility for the suitability of our recommendations. In addition, if there are any changes in the field to the plans and specifications, the Client must obtain written approval from Kleinfelder's engineer that such changes do not affect our recommendations. Failure to do so will vitiate Kleinfelder's recommendations.

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs 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 due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves 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, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that the Client 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 have been discovered. Kleinfelder assumes 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, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. The Client is solely responsible for directing notification of 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. The Client is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services.

8 REFERENCES

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- Department of Toxic Substances Control (DTSC), 2000. Variance No. 00-H-VAR-06. Granted to State of California Department of Transportation, District 11. September 22.
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PLATES



All dimensions and locations are approximate

Imagery: Bing Maps, ESRI

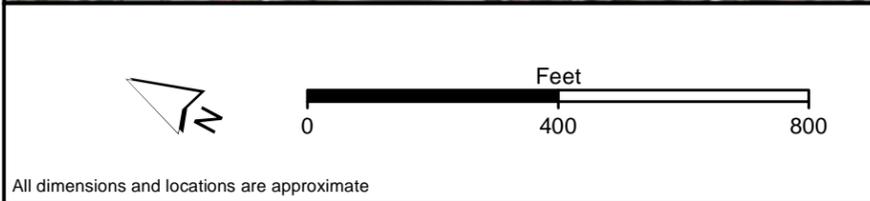
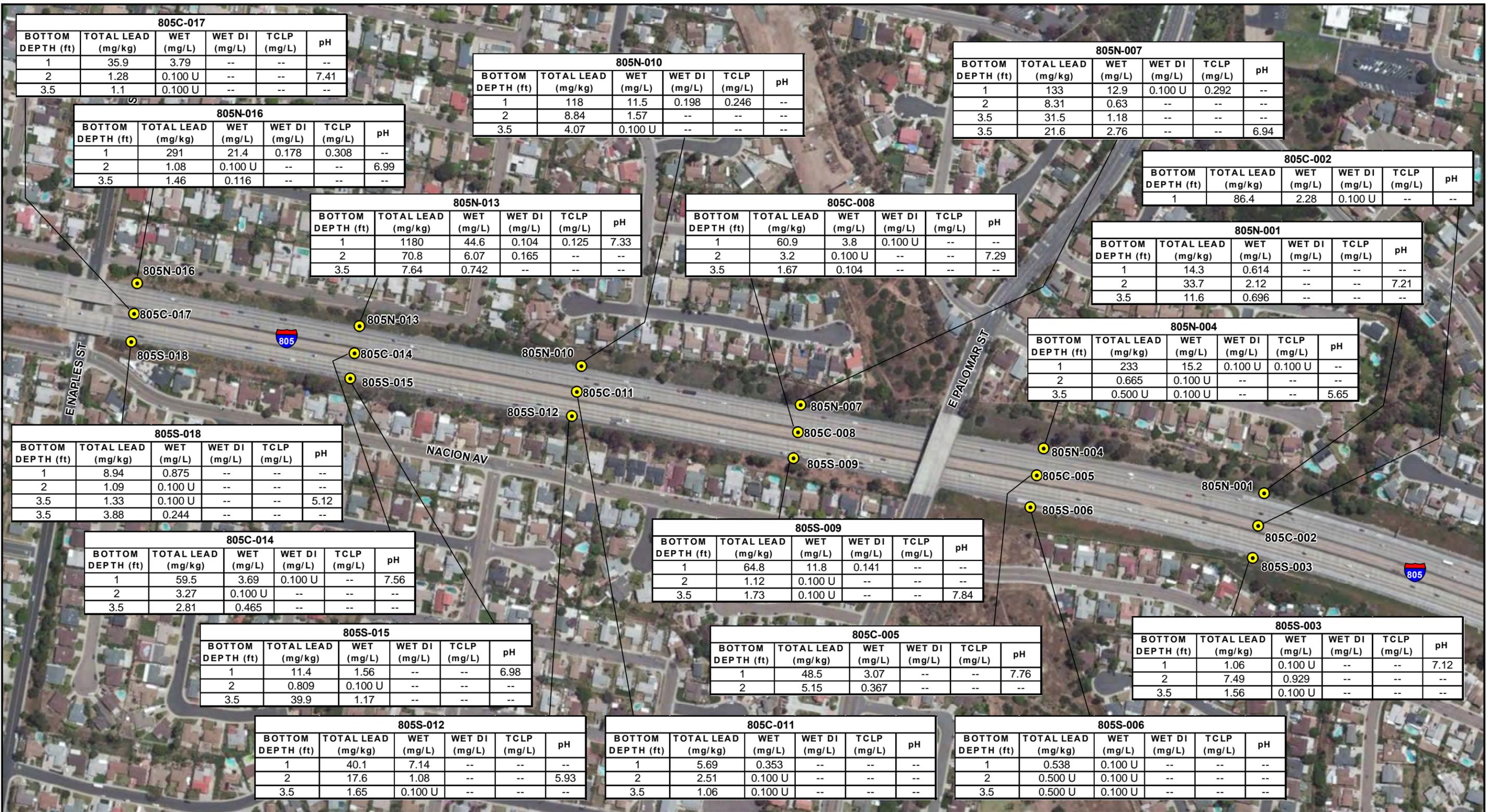


PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



SITE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 1



LEGEND
 805N-103
 ● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 2

All dimensions and locations are approximate
 Imagery: Bing Maps, ESRI

805N-037					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	174	16.7	0.125	0.393	--
2	39.4	2.08	--	--	--
3.5	82.4 J	5.01	0.100 U	--	7.88

805C-033					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	155	19.5	0.100 U	0.100 U	7.29
2	3.64	0.100 U	--	--	--
3.5	1.63	0.100 U	--	--	--

805N-025					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	134	17.6	0.131	0.382	--
2	0.6	0.100 U	--	--	--
3.5	0.669	0.100 U	--	--	8.39

805C-038					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.711	0.100 U	--	--	--
2	0.604	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	7.55

805N-031					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	180	17.2	0.138	0.121	7.42
2	1.17	0.216	--	--	--
3.5	3.16	0.396	--	--	--

805N-028					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	69.3	7.13	0.100 U	--	--
2	1.07	0.100 U	--	--	--
3.5	0.718	0.100 U	--	--	--

805C-023					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	31	1.27	--	--	--
2	9.74	1.71	--	--	--
3.5	1.61	0.100 U	--	--	--

805N-034					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	224	13.5	0.100 U	0.242	--
2	6.45	0.100 U	--	--	7.54
3.5	0.725	0.100 U	--	--	--

805C-035					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.500 U	0.100 U	--	--	--

805C-029					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	8.19 J	0.361	--	--	--
2	0.667 J	0.100 U	--	--	8.24
3.5	2.97 J	0.100 U	--	--	--

805N-022					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	369	17.3	0.218	0.255	--
2	12.1	4.45	--	--	6.94
3.5	123	7.09	0.100 U	0.111	--

805S-019					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	20.9	1.18	--	--	7.69
2	1.26	0.100 U	--	--	--
3.5	0.988	0.100 U	--	--	--

805N-037
805C-038
805S-039

805N-034
805C-035
805S-036

805N-031
805C-032
805S-033

805N-028
805C-029
805S-030

805N-025
805C-026
805S-027

805N-022
805C-023
805S-024

805N-019
805C-020
805S-021

805S-039					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	92.6	10.1	0.100 U	--	--
2	0.500 U	0.12	--	--	7.25
3.5	0.500 U	0.100 U	--	--	--

805C-026					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	40.1	2.47	--	--	--
2	3.51	0.100 U	--	--	7.54
3.5	0.824	0.100 U	--	--	--

805S-036					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	6.27	0.397	--	--	--
2	2.79	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805S-030					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	31.1	2.4	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	0.567	0.100 U	--	--	--

805S-027					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	8.28	0.799	--	--	7.68
1.5	1.25	0.100 U	--	--	--
3.5	8.09	0.100 U	--	--	--

805S-021					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	5.87	0.412	--	--	--
2	0.864	0.104	--	--	--
3.5	0.500 U	0.100 U	--	--	6.18

805C-033					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	155	19.5	0.100 U	0.100 U	7.29
2	3.64	0.100 U	--	--	--
3.5	1.63	0.100 U	--	--	--

805S-024					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	12.4	0.347	--	--	--
2	2.34	0.100 U	--	--	5.63
3.5	5.42	0.256	--	--	--

805C-020					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	102	6.26	0.114	0.243	7.98
2	97.7	3.66	0.100 U	--	--
3.5	3.92	0.269	--	--	--
3.5	0.500 U	0.100 U	--	--	--

TELEGRAPH CANYON RD



LEGEND
805N-103
● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



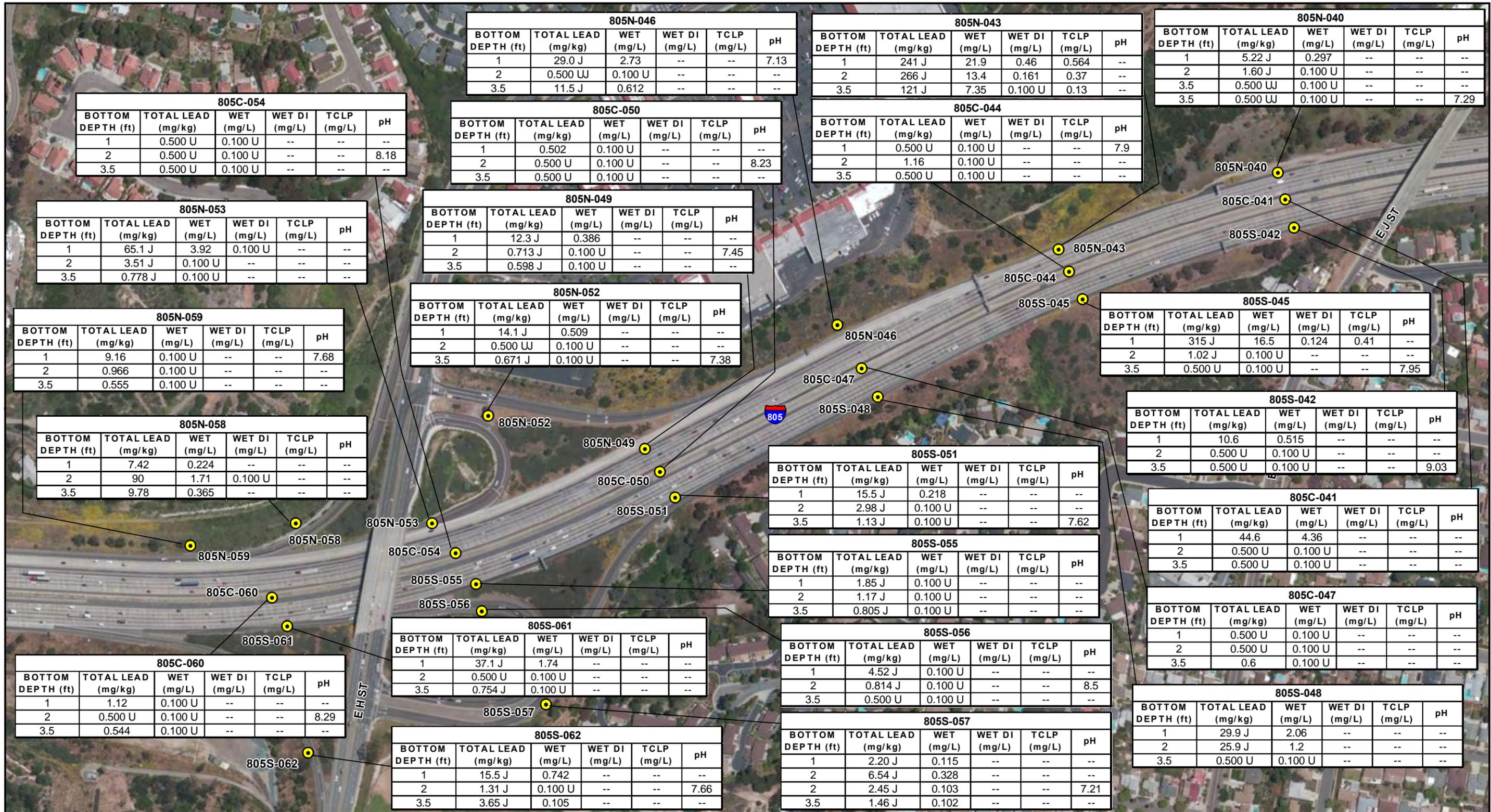
PROJECT NO: 115813
DRAWN BY: E D GOFF
CHECKED BY: J JANUSZIEWICZ
DATE: APRIL 2011



SAMPLE LOCATION MAP
Aerially Deposited Lead Survey
I-805 HOV, Caltrans EA 11-081610
San Diego, California

PLATE
3

All dimensions and locations are approximate
Imagery: Bing Maps, ESRI



805N-046					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	29.0 J	2.73	--	--	7.13
2	0.500 UJ	0.100 U	--	--	--
3.5	11.5 J	0.612	--	--	--

805N-043					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	241 J	21.9	0.46	0.564	--
2	266 J	13.4	0.161	0.37	--
3.5	121 J	7.35	0.100 U	0.13	--

805N-040					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	5.22 J	0.297	--	--	--
2	1.60 J	0.100 U	--	--	--
3.5	0.500 UJ	0.100 U	--	--	--
3.5	0.500 UJ	0.100 U	--	--	7.29

805C-054					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.500 U	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	8.18
3.5	0.500 U	0.100 U	--	--	--

805C-050					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.502	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	8.23
3.5	0.500 U	0.100 U	--	--	--

805C-044					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.500 U	0.100 U	--	--	7.9
2	1.16	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805N-053					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	65.1 J	3.92	0.100 U	--	--
2	3.51 J	0.100 U	--	--	--
3.5	0.778 J	0.100 U	--	--	--

805N-049					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	12.3 J	0.386	--	--	--
2	0.713 J	0.100 U	--	--	7.45
3.5	0.598 J	0.100 U	--	--	--

805N-059					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	9.16	0.100 U	--	--	7.68
2	0.966	0.100 U	--	--	--
3.5	0.555	0.100 U	--	--	--

805N-052					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	14.1 J	0.509	--	--	--
2	0.500 UJ	0.100 U	--	--	--
3.5	0.671 J	0.100 U	--	--	7.38

805S-045					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	315 J	16.5	0.124	0.41	--
2	1.02 J	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	7.95

805N-058					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	7.42	0.224	--	--	--
2	90	1.71	0.100 U	--	--
3.5	9.78	0.365	--	--	--

805S-042					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	10.6	0.515	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	9.03

805S-051					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	15.5 J	0.218	--	--	--
2	2.98 J	0.100 U	--	--	--
3.5	1.13 J	0.100 U	--	--	7.62

805S-061					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	37.1 J	1.74	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	0.754 J	0.100 U	--	--	--

805S-055					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.85 J	0.100 U	--	--	--
2	1.17 J	0.100 U	--	--	--
3.5	0.805 J	0.100 U	--	--	--

805C-041					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	44.6	4.36	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805C-060					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.12	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	8.29
3.5	0.544	0.100 U	--	--	--

805C-047					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.500 U	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	0.6	0.100 U	--	--	--

805S-056					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.52 J	0.100 U	--	--	--
2	0.814 J	0.100 U	--	--	8.5
3.5	0.500 U	0.100 U	--	--	--

805S-048					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	29.9 J	2.06	--	--	--
2	25.9 J	1.2	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805S-062					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	15.5 J	0.742	--	--	--
2	1.31 J	0.100 U	--	--	7.66
3.5	3.65 J	0.105	--	--	--

805S-057					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	2.20 J	0.115	--	--	--
2	6.54 J	0.328	--	--	--
3.5	2.45 J	0.103	--	--	7.21
3.5	1.46 J	0.102	--	--	--



LEGEND
 805N-103
 ● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



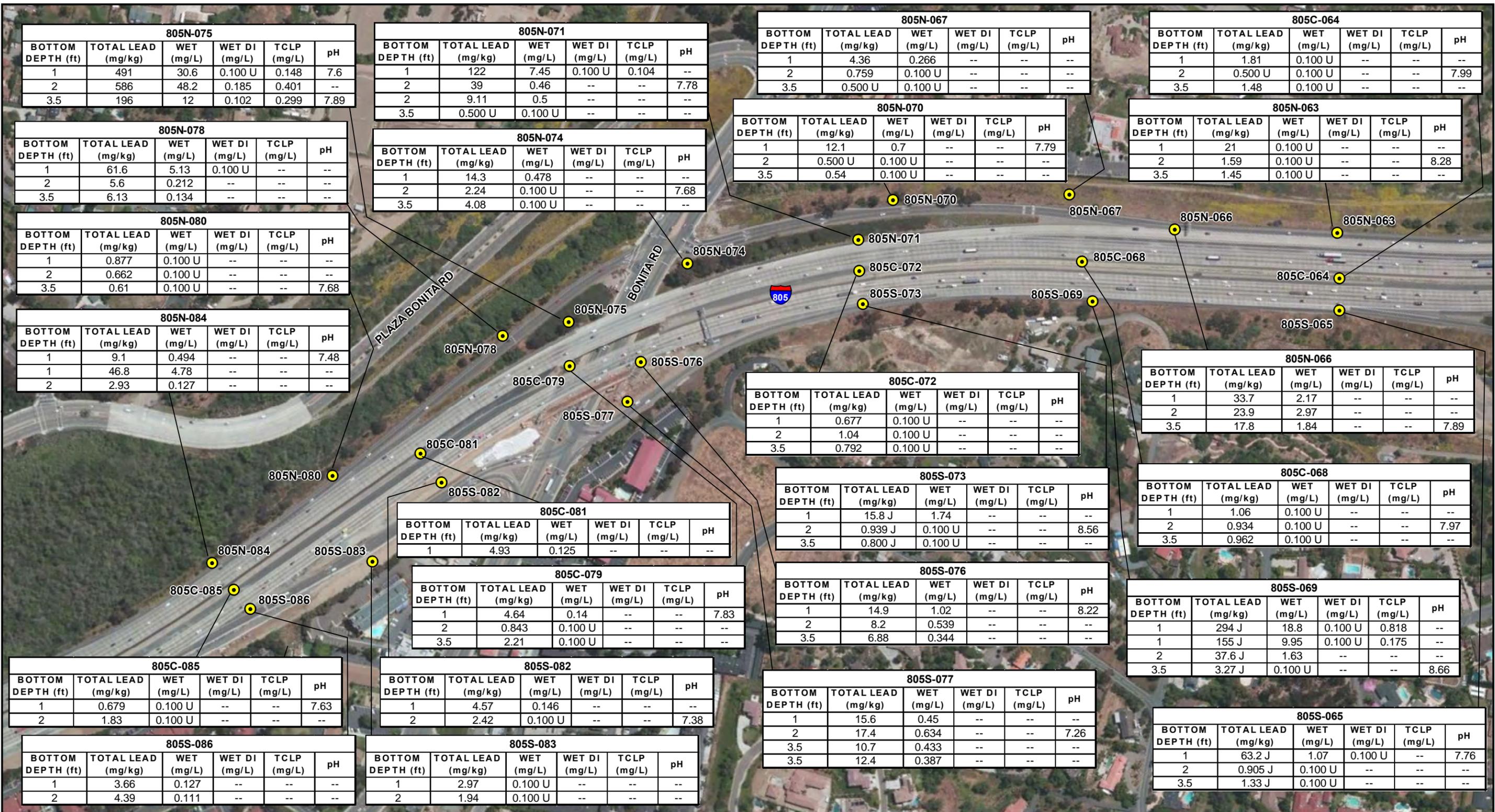
PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 4

All dimensions and locations are approximate
 Imagery: Bing Maps, ESRI



805N-075					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	491	30.6	0.100 U	0.148	7.6
2	586	48.2	0.185	0.401	--
3.5	196	12	0.102	0.299	7.89

805N-071					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	122	7.45	0.100 U	0.104	--
2	39	0.46	--	--	7.78
2	9.11	0.5	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805N-067					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.36	0.266	--	--	--
2	0.759	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805C-064					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.81	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	7.99
3.5	1.48	0.100 U	--	--	--

805N-078					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	61.6	5.13	0.100 U	--	--
2	5.6	0.212	--	--	--
3.5	6.13	0.134	--	--	--

805N-074					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	14.3	0.478	--	--	--
2	2.24	0.100 U	--	--	7.68
3.5	4.08	0.100 U	--	--	--

805N-070					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	12.1	0.7	--	--	7.79
2	0.500 U	0.100 U	--	--	--
3.5	0.54	0.100 U	--	--	--

805N-063					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	21	0.100 U	--	--	--
2	1.59	0.100 U	--	--	8.28
3.5	1.45	0.100 U	--	--	--

805N-080					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.877	0.100 U	--	--	--
2	0.662	0.100 U	--	--	--
3.5	0.61	0.100 U	--	--	7.68

805N-084					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	9.1	0.494	--	--	7.48
1	46.8	4.78	--	--	--
2	2.93	0.127	--	--	--

805C-072					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.677	0.100 U	--	--	--
2	1.04	0.100 U	--	--	--
3.5	0.792	0.100 U	--	--	--

805N-066					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	33.7	2.17	--	--	--
2	23.9	2.97	--	--	--
3.5	17.8	1.84	--	--	7.89

805C-081					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.93	0.125	--	--	--

805S-073					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	15.8 J	1.74	--	--	--
2	0.939 J	0.100 U	--	--	8.56
3.5	0.800 J	0.100 U	--	--	--

805C-068					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.06	0.100 U	--	--	--
2	0.934	0.100 U	--	--	7.97
3.5	0.962	0.100 U	--	--	--

805C-079					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.64	0.14	--	--	7.83
2	0.843	0.100 U	--	--	--
3.5	2.21	0.100 U	--	--	--

805S-076					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	14.9	1.02	--	--	8.22
2	8.2	0.539	--	--	--
3.5	6.88	0.344	--	--	--

805S-069					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	294 J	18.8	0.100 U	0.818	--
1	155 J	9.95	0.100 U	0.175	--
2	37.6 J	1.63	--	--	--
3.5	3.27 J	0.100 U	--	--	8.66

805C-085					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.679	0.100 U	--	--	7.63
2	1.83	0.100 U	--	--	--

805S-082					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.57	0.146	--	--	--
2	2.42	0.100 U	--	--	7.38

805S-077					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	15.6	0.45	--	--	--
2	17.4	0.634	--	--	7.26
3.5	10.7	0.433	--	--	--
3.5	12.4	0.387	--	--	--

805S-086					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	3.66	0.127	--	--	--
2	4.39	0.111	--	--	--

805S-083					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	2.97	0.100 U	--	--	--
2	1.94	0.100 U	--	--	--

805S-065					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	63.2 J	1.07	0.100 U	--	7.76
2	0.905 J	0.100 U	--	--	--
3.5	1.33 J	0.100 U	--	--	--

All dimensions and locations are approximate
Imagery: Bing Maps, ESRI

LEGEND

805N-103
● APPROXIMATE SAMPLE LOCATION AND LOCATION ID

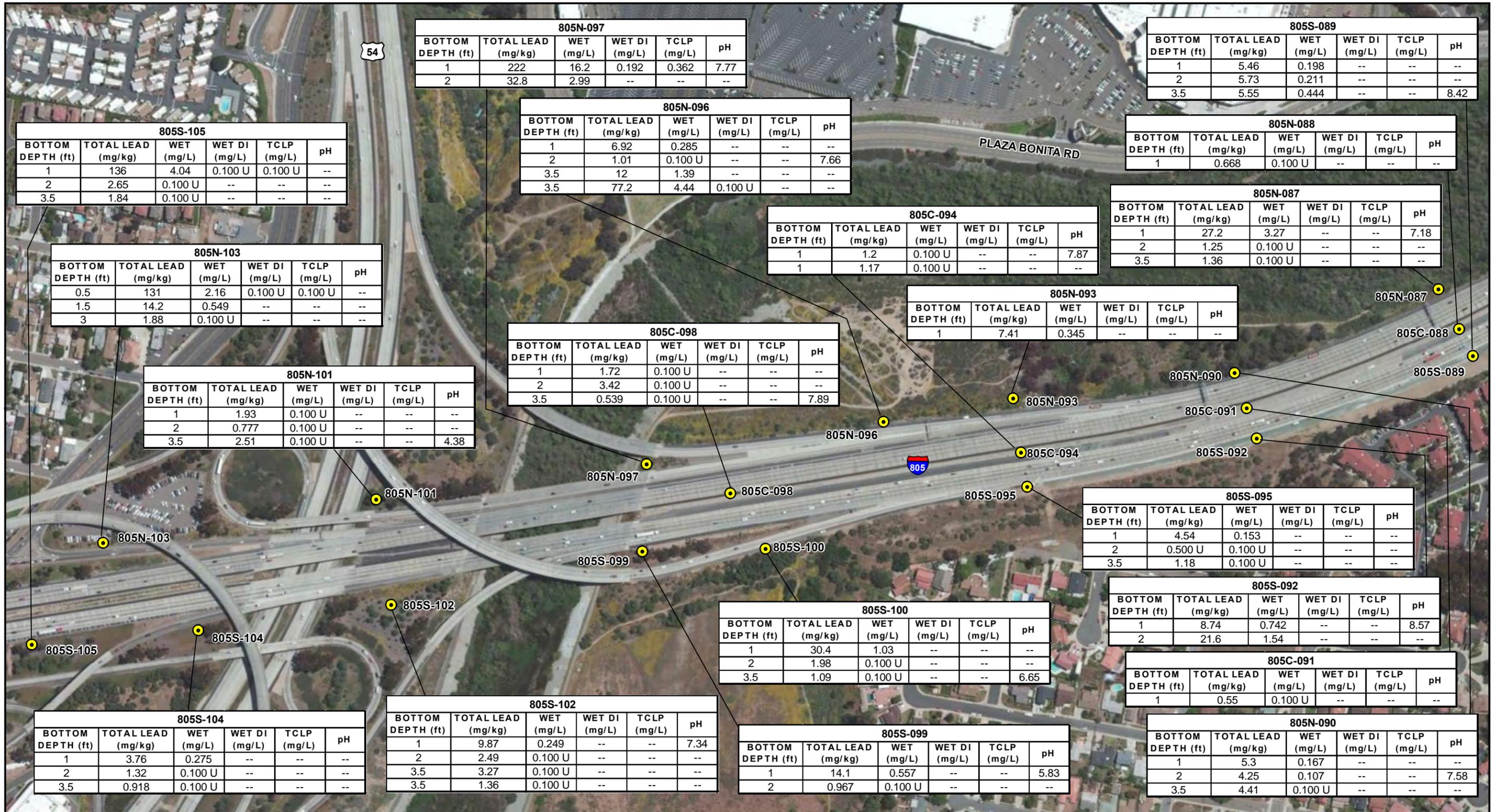
PROJECT NO: 115813
DRAWN BY: E D GOFF
CHECKED BY: J JANUSZIEWICZ
DATE: APRIL 2011

KLEINFELDER
Bright People. Right Solutions.

GeomorphIS

SAMPLE LOCATION MAP
Aerially Deposited Lead Survey
I-805 HOV, Caltrans EA 11-081610
San Diego, California

PLATE
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805N-097					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	222	16.2	0.192	0.362	7.77
2	32.8	2.99	--	--	--

805S-089					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	5.46	0.198	--	--	--
2	5.73	0.211	--	--	--
3.5	5.55	0.444	--	--	8.42

805S-105					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	136	4.04	0.100 U	0.100 U	--
2	2.65	0.100 U	--	--	--
3.5	1.84	0.100 U	--	--	--

805N-096					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	6.92	0.285	--	--	--
2	1.01	0.100 U	--	--	7.66
3.5	12	1.39	--	--	--
3.5	77.2	4.44	0.100 U	--	--

805N-088					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.668	0.100 U	--	--	--

805N-087					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	27.2	3.27	--	--	7.18
2	1.25	0.100 U	--	--	--
3.5	1.36	0.100 U	--	--	--

805C-094					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.2	0.100 U	--	--	7.87
1	1.17	0.100 U	--	--	--

805N-103					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	131	2.16	0.100 U	0.100 U	--
1.5	14.2	0.549	--	--	--
3	1.88	0.100 U	--	--	--

805N-093					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	7.41	0.345	--	--	--

805C-098					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.72	0.100 U	--	--	--
2	3.42	0.100 U	--	--	--
3.5	0.539	0.100 U	--	--	7.89

805N-101					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.93	0.100 U	--	--	--
2	0.777	0.100 U	--	--	--
3.5	2.51	0.100 U	--	--	4.38

805S-095					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.54	0.153	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	1.18	0.100 U	--	--	--

805S-092					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	8.74	0.742	--	--	8.57
2	21.6	1.54	--	--	--

805S-100					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	30.4	1.03	--	--	--
2	1.98	0.100 U	--	--	--
3.5	1.09	0.100 U	--	--	6.65

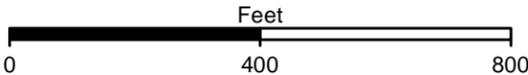
805C-091					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.55	0.100 U	--	--	--

805S-104					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	3.76	0.275	--	--	--
2	1.32	0.100 U	--	--	--
3.5	0.918	0.100 U	--	--	--

805S-102					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	9.87	0.249	--	--	7.34
2	2.49	0.100 U	--	--	--
3.5	3.27	0.100 U	--	--	--
3.5	1.36	0.100 U	--	--	--

805S-099					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	14.1	0.557	--	--	5.83
2	0.967	0.100 U	--	--	--

805N-090					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	5.3	0.167	--	--	--
2	4.25	0.107	--	--	7.58
3.5	4.41	0.100 U	--	--	--



LEGEND
 805N-103
 ● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



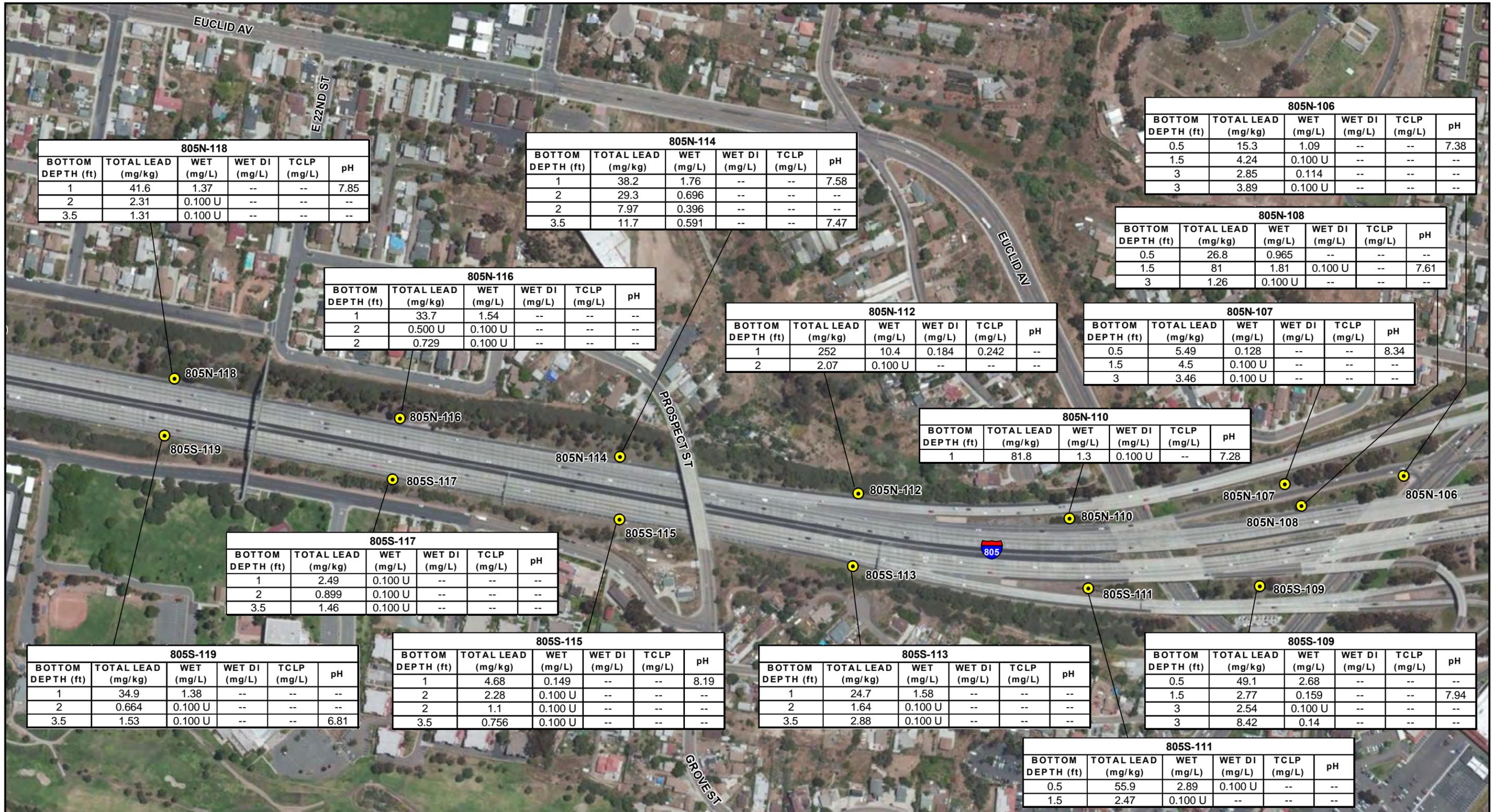
SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 6

All dimensions and locations are approximate

Imagery: Bing Maps, ESRI

File: Projects\Caltrans\I805_2011\FinalResults



805N-118					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	41.6	1.37	--	--	7.85
2	2.31	0.100 U	--	--	--
3.5	1.31	0.100 U	--	--	--

805N-114					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	38.2	1.76	--	--	7.58
2	29.3	0.696	--	--	--
2	7.97	0.396	--	--	--
3.5	11.7	0.591	--	--	7.47

805N-106					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	15.3	1.09	--	--	7.38
1.5	4.24	0.100 U	--	--	--
3	2.85	0.114	--	--	--
3	3.89	0.100 U	--	--	--

805N-116					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	33.7	1.54	--	--	--
2	0.500 U	0.100 U	--	--	--
2	0.729	0.100 U	--	--	--

805N-112					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	252	10.4	0.184	0.242	--
2	2.07	0.100 U	--	--	--

805N-108					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	26.8	0.965	--	--	--
1.5	81	1.81	0.100 U	--	7.61
3	1.26	0.100 U	--	--	--

805N-107					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	5.49	0.128	--	--	8.34
1.5	4.5	0.100 U	--	--	--
3	3.46	0.100 U	--	--	--

805N-110					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	81.8	1.3	0.100 U	--	7.28

805S-117					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	2.49	0.100 U	--	--	--
2	0.899	0.100 U	--	--	--
3.5	1.46	0.100 U	--	--	--

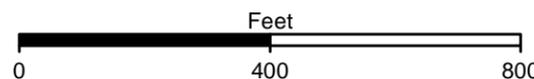
805S-119					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	34.9	1.38	--	--	--
2	0.664	0.100 U	--	--	--
3.5	1.53	0.100 U	--	--	6.81

805S-115					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	4.68	0.149	--	--	8.19
2	2.28	0.100 U	--	--	--
2	1.1	0.100 U	--	--	--
3.5	0.756	0.100 U	--	--	--

805S-113					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	24.7	1.58	--	--	--
2	1.64	0.100 U	--	--	--
3.5	2.88	0.100 U	--	--	--

805S-109					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	49.1	2.68	--	--	--
1.5	2.77	0.159	--	--	7.94
3	2.54	0.100 U	--	--	--
3	8.42	0.14	--	--	--

805S-111					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	55.9	2.89	0.100 U	--	--
1.5	2.47	0.100 U	--	--	--



LEGEND

- 805N-103
- APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



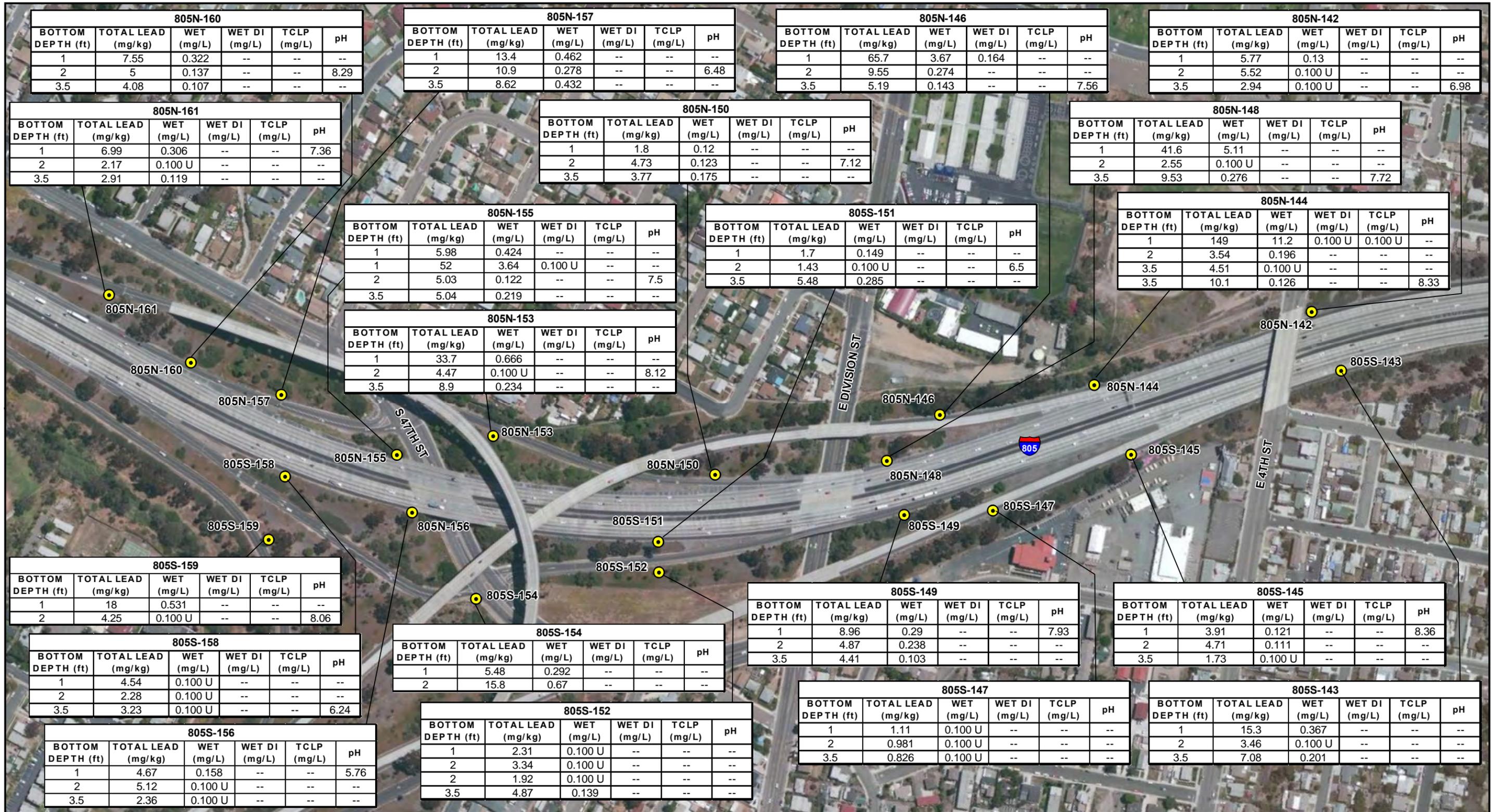
SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 7

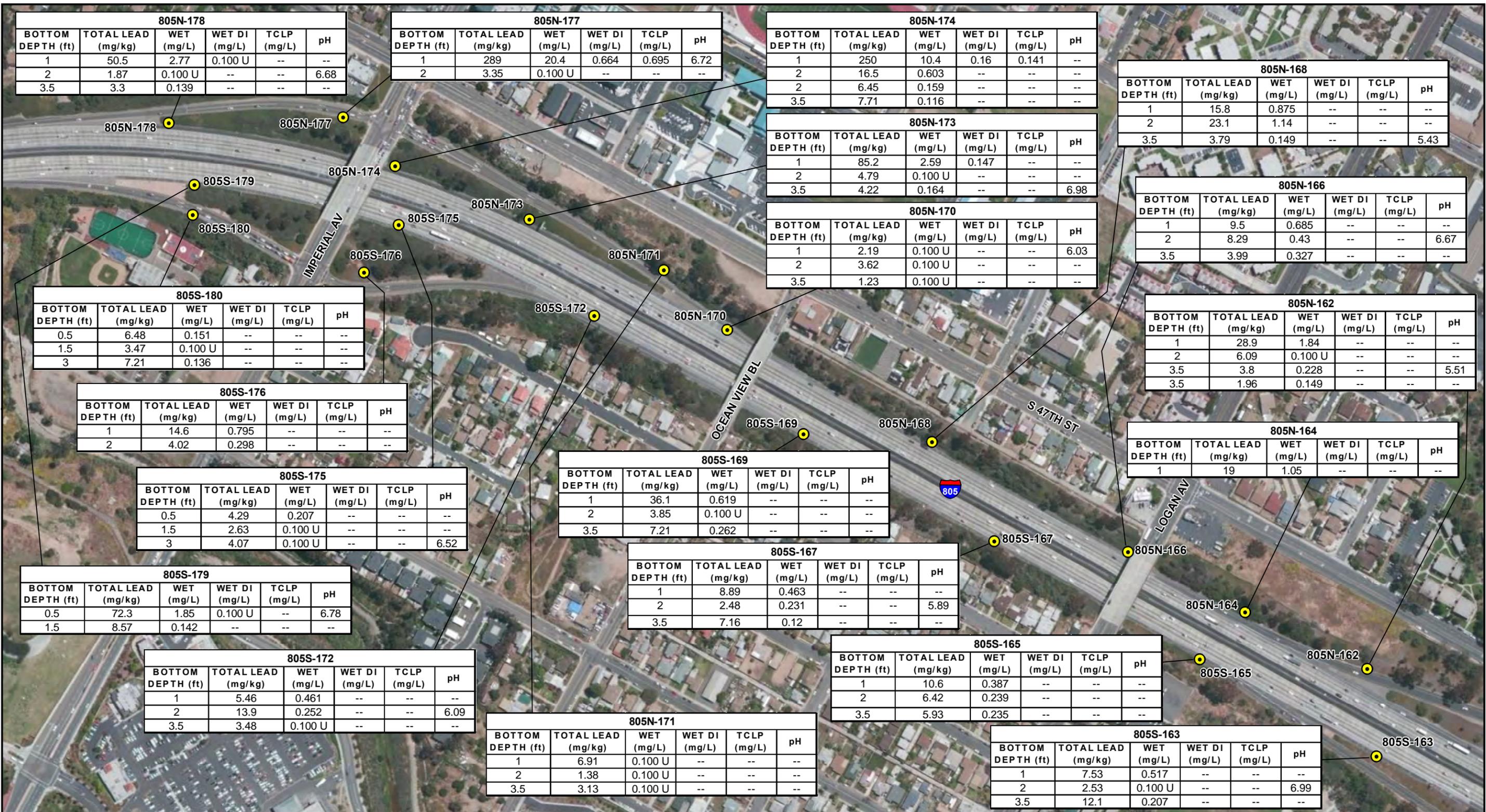
All dimensions and locations are approximate

Imagery: Bing Maps, ESRI

File: Projects\Caltrans\I805_2011\FinalResults



  <p style="text-align: center;">Feet</p>	<p>LEGEND</p> <p>805N-103</p> <p>● APPROXIMATE SAMPLE LOCATION AND LOCATION ID</p>		<p>PROJECT NO: 115813 DRAWN BY: E D GOFF CHECKED BY: J JANUSZIEWICZ DATE: APRIL 2011</p>	<p>SAMPLE LOCATION MAP Aerially Deposited Lead Survey I-805 HOV, Caltrans EA 11-081610 San Diego, California</p>	<p>PLATE 9</p>
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805N-178					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	50.5	2.77	0.100 U	--	--
2	1.87	0.100 U	--	--	6.68
3.5	3.3	0.139	--	--	--

805N-177					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	289	20.4	0.664	0.695	6.72
2	3.35	0.100 U	--	--	--

805N-174					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	250	10.4	0.16	0.141	--
2	16.5	0.603	--	--	--
3.5	6.45	0.159	--	--	--
3.5	7.71	0.116	--	--	--

805N-168					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	15.8	0.875	--	--	--
2	23.1	1.14	--	--	--
3.5	3.79	0.149	--	--	5.43

805N-173					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	85.2	2.59	0.147	--	--
2	4.79	0.100 U	--	--	--
3.5	4.22	0.164	--	--	6.98

805N-166					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	9.5	0.685	--	--	--
2	8.29	0.43	--	--	6.67
3.5	3.99	0.327	--	--	--

805N-170					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	2.19	0.100 U	--	--	6.03
2	3.62	0.100 U	--	--	--
3.5	1.23	0.100 U	--	--	--

805N-162					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	28.9	1.84	--	--	--
2	6.09	0.100 U	--	--	--
3.5	3.8	0.228	--	--	5.51
3.5	1.96	0.149	--	--	--

805S-180					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	6.48	0.151	--	--	--
1.5	3.47	0.100 U	--	--	--
3	7.21	0.136	--	--	--

805S-176					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	14.6	0.795	--	--	--
2	4.02	0.298	--	--	--

805S-175					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	4.29	0.207	--	--	--
1.5	2.63	0.100 U	--	--	--
3	4.07	0.100 U	--	--	6.52

805S-169					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	36.1	0.619	--	--	--
2	3.85	0.100 U	--	--	--
3.5	7.21	0.262	--	--	--

805N-164					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	19	1.05	--	--	--

805S-167					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	8.89	0.463	--	--	--
2	2.48	0.231	--	--	5.89
3.5	7.16	0.12	--	--	--

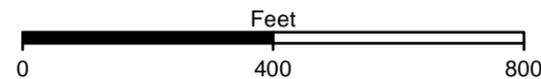
805S-179					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	72.3	1.85	0.100 U	--	6.78
1.5	8.57	0.142	--	--	--

805S-172					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	5.46	0.461	--	--	--
2	13.9	0.252	--	--	6.09
3.5	3.48	0.100 U	--	--	--

805S-165					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	10.6	0.387	--	--	--
2	6.42	0.239	--	--	--
3.5	5.93	0.235	--	--	--

805N-171					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	6.91	0.100 U	--	--	--
2	1.38	0.100 U	--	--	--
3.5	3.13	0.100 U	--	--	--

805S-163					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	7.53	0.517	--	--	--
2	2.53	0.100 U	--	--	6.99
3.5	12.1	0.207	--	--	--



LEGEND

- 805N-103
- APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



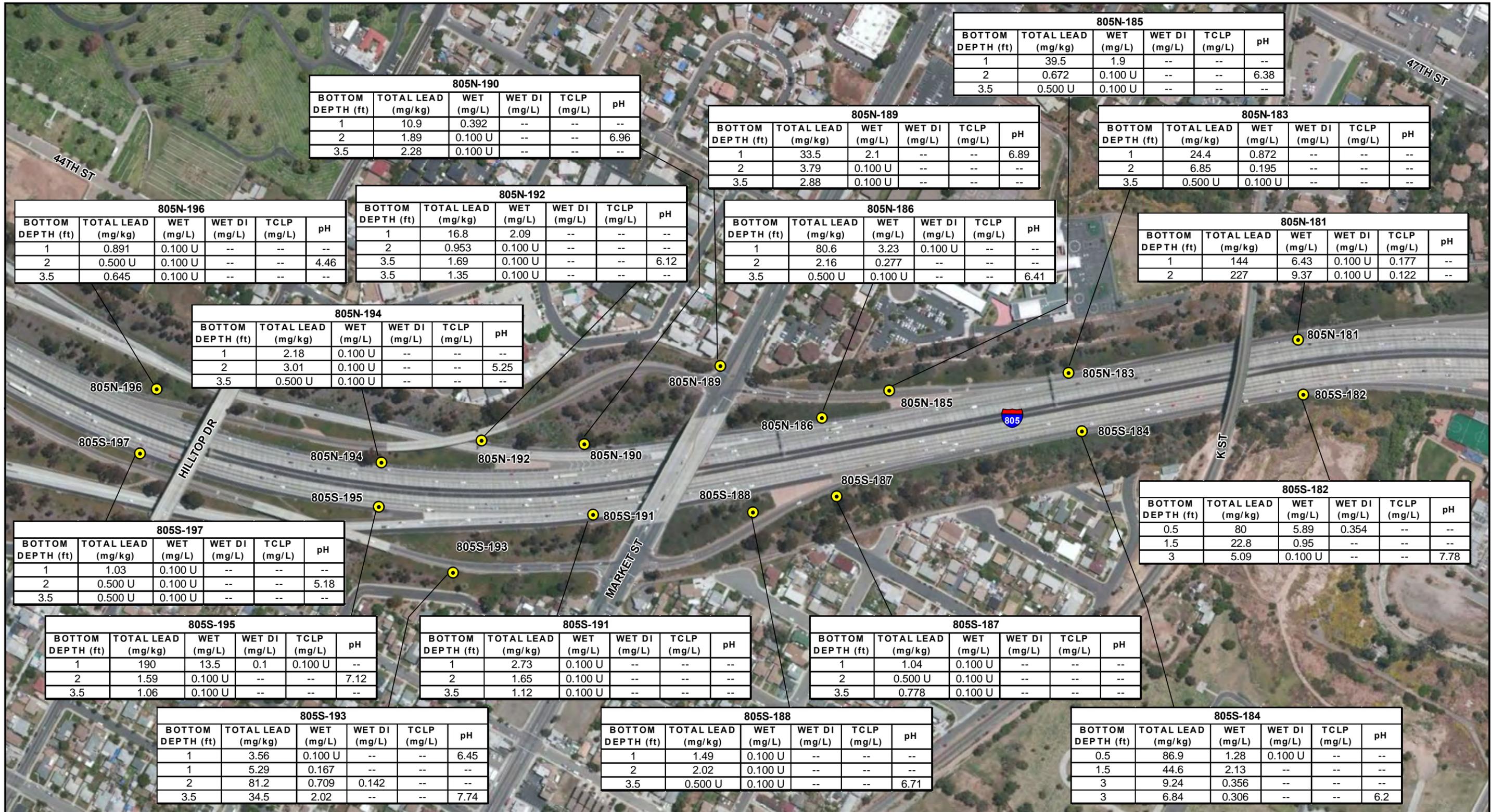
SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 10

All dimensions and locations are approximate

Imagery: Bing Maps, ESRI

File: Projects\Caltrans\I805_2011\FinalResults



805N-190					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	10.9	0.392	--	--	--
2	1.89	0.100 U	--	--	6.96
3.5	2.28	0.100 U	--	--	--

805N-185					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	39.5	1.9	--	--	--
2	0.672	0.100 U	--	--	6.38
3.5	0.500 U	0.100 U	--	--	--

805N-189					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	33.5	2.1	--	--	6.89
2	3.79	0.100 U	--	--	--
3.5	2.88	0.100 U	--	--	--

805N-183					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	24.4	0.872	--	--	--
2	6.85	0.195	--	--	--
3.5	0.500 U	0.100 U	--	--	--

805N-196					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	0.891	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	4.46
3.5	0.645	0.100 U	--	--	--

805N-192					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	16.8	2.09	--	--	--
2	0.953	0.100 U	--	--	--
3.5	1.69	0.100 U	--	--	6.12
3.5	1.35	0.100 U	--	--	--

805N-186					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	80.6	3.23	0.100 U	--	--
2	2.16	0.277	--	--	--
3.5	0.500 U	0.100 U	--	--	6.41

805N-181					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	144	6.43	0.100 U	0.177	--
2	227	9.37	0.100 U	0.122	--

805N-194					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	2.18	0.100 U	--	--	--
2	3.01	0.100 U	--	--	5.25
3.5	0.500 U	0.100 U	--	--	--

805S-197					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.03	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	5.18
3.5	0.500 U	0.100 U	--	--	--

805S-182					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	80	5.89	0.354	--	--
1.5	22.8	0.95	--	--	--
3	5.09	0.100 U	--	--	7.78

805S-195					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	190	13.5	0.1	0.100 U	--
2	1.59	0.100 U	--	--	7.12
3.5	1.06	0.100 U	--	--	--

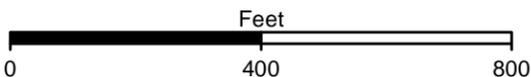
805S-191					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	2.73	0.100 U	--	--	--
2	1.65	0.100 U	--	--	--
3.5	1.12	0.100 U	--	--	--

805S-187					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.04	0.100 U	--	--	--
2	0.500 U	0.100 U	--	--	--
3.5	0.778	0.100 U	--	--	--

805S-193					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	3.56	0.100 U	--	--	6.45
1	5.29	0.167	--	--	--
2	81.2	0.709	0.142	--	--
3.5	34.5	2.02	--	--	7.74

805S-188					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	1.49	0.100 U	--	--	--
2	2.02	0.100 U	--	--	--
3.5	0.500 U	0.100 U	--	--	6.71

805S-184					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	86.9	1.28	0.100 U	--	--
1.5	44.6	2.13	--	--	--
3	9.24	0.356	--	--	--
3	6.84	0.306	--	--	6.2



LEGEND
 805N-103
 ● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



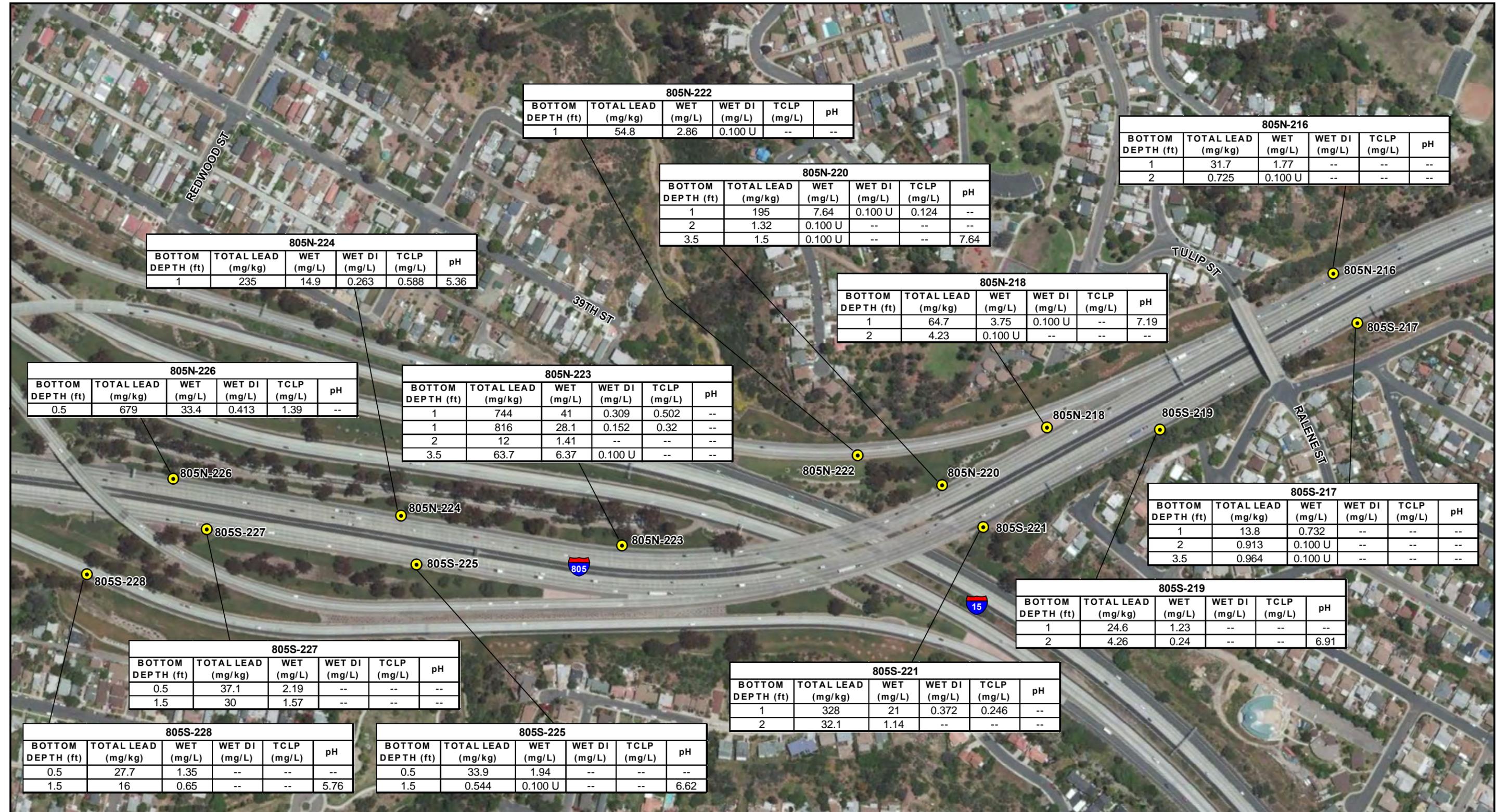
SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 11

All dimensions and locations are approximate

Imagery: Bing Maps, ESRI

File: Projects\Caltrans\I805_2011\FinalResults



805N-222					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	54.8	2.86	0.100 U	--	--

805N-216					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	31.7	1.77	--	--	--
2	0.725	0.100 U	--	--	--

805N-220					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	195	7.64	0.100 U	0.124	--
2	1.32	0.100 U	--	--	--
3.5	1.5	0.100 U	--	--	7.64

805N-224					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	235	14.9	0.263	0.588	5.36

805N-218					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	64.7	3.75	0.100 U	--	7.19
2	4.23	0.100 U	--	--	--

805N-226					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	679	33.4	0.413	1.39	--

805N-223					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	744	41	0.309	0.502	--
1	816	28.1	0.152	0.32	--
2	12	1.41	--	--	--
3.5	63.7	6.37	0.100 U	--	--

805S-217					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	13.8	0.732	--	--	--
2	0.913	0.100 U	--	--	--
3.5	0.964	0.100 U	--	--	--

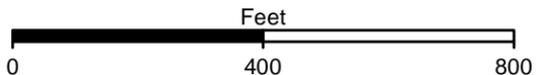
805S-219					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	24.6	1.23	--	--	--
2	4.26	0.24	--	--	6.91

805S-227					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	37.1	2.19	--	--	--
1.5	30	1.57	--	--	--

805S-221					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	328	21	0.372	0.246	--
2	32.1	1.14	--	--	--

805S-228					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	27.7	1.35	--	--	--
1.5	16	0.65	--	--	5.76

805S-225					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	33.9	1.94	--	--	--
1.5	0.544	0.100 U	--	--	6.62



LEGEND
 805N-103
 ● APPROXIMATE SAMPLE LOCATION AND LOCATION ID



PROJECT NO: 115813
 DRAWN BY: E D GOFF
 CHECKED BY: J JANUSZIEWICZ
 DATE: APRIL 2011



SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
 San Diego, California

PLATE
 13

All dimensions and locations are approximate

Imagery: Bing Maps, ESRI

File: Projects\Caltrans\I805_2011\FinalResults



805N-229					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
1	23.2	1.33	--	--	--
2	127	8.46	0.100 U	0.113	--

805N-237					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	55	2.48	0.21	--	--
1.5	10.4	0.363	--	--	6.06

805N-233					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	11.6	1.11	--	--	--

805N-230					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	4.51	0.173	--	--	6.36
1.5	0.503	0.100 U	--	--	--

805N-239					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	323	13.1	0.12	0.100 U	--

805N-235					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	4.9	0.100 U	--	--	--
1.5	0.545	0.100 U	--	--	--

805N-231					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	96.9	3.5	0.12	--	--
1.5	20.3	0.695	--	--	--

805N-239

805N-237

805N-235

805N-233

805N-231

805S-240

805S-238

805S-236

805S-234

805S-232

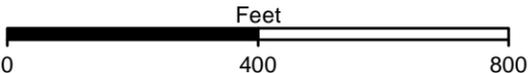
805S-236					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	22.7	1.19	--	--	--
1.5	46	2.02	--	--	--

805S-232					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	38.2	4.8	--	--	6.31
1.5	46.7	0.517	--	--	--

805S-240					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	4.39	0.494	--	--	--
1.5	1.41	0.100 U	--	--	6.66
3	4.42	0.269	--	--	6.68

805S-238					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	193	23.8	0.448	0.527	--
1.5	11	0.391	--	--	--
0.5	265	24.5	0.232	0.367	--

805S-234					
BOTTOM DEPTH (ft)	TOTAL LEAD (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	pH
0.5	4.08	0.100 U	--	--	7.13
1.5	6.77	0.167	--	--	--
0.5	5.7	0.115	--	--	--



LEGEND
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SAMPLE LOCATION MAP
 Aerially Deposited Lead Survey
 I-805 HOV, Caltrans EA 11-081610
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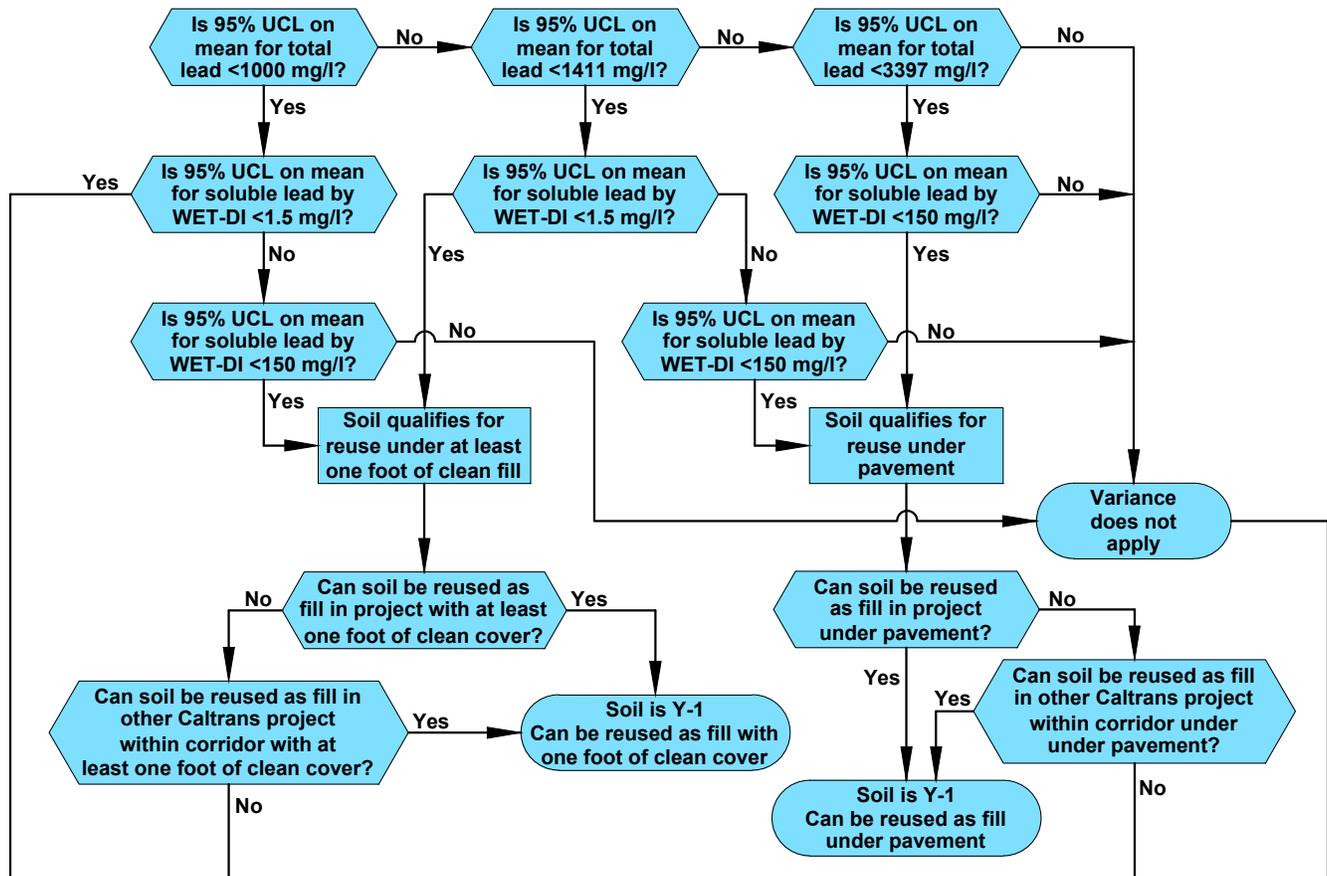
PLATE
 14

All dimensions and locations are approximate

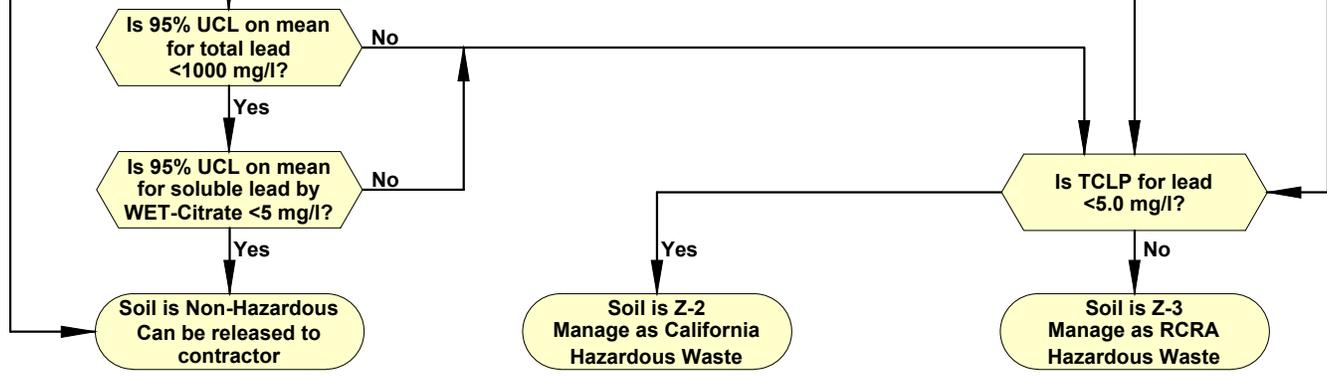
Imagery: Bing Maps, ESRI

File: Projects\Caltrans\I805_2011\FinalResults

DTSC Variance Applicability Determination



Waste Classification Determination



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SOURCE:
CALTRANS AERIALLY DEPOSITED LEAD GUIDANCE, JUNE 2007. UPDATE BASED ON VARIANCE NUMBER V09HQSCD006 (DTSC, JULY 2009)

<p>KLEINFELDER Bright People. Right Solutions. www.kleinfelder.com</p>	PROJECT NO. 115813 DRAWN: 5/9/11 DRAWN BY: JP CHECKED BY: MH FILE NAME: 115813flow.dwg	ADL-IMPACTED SOILS MANAGEMENT FLOW CHART	PLATE 15
	AERIALLY DEPOSITED LEAD SURVEY I-805 HOV, CALTRANS EA 11-081610 SAN DIEGO, CALIFORNIA		

TABLES

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-001	805N-001-0.5	N	3/1/2011	0.5	No	14.3	0.614	--	--	--
	805N-001-1.5	N	3/1/2011	1.5	No	33.7	2.12	--	--	7.21
	805N-001-3.0	N	3/1/2011	3	No	11.6	0.696	--	--	--
805C-002	805C-002-0.5	N	3/9/2011	0.5	Yes	86.4	2.28	0.100 U	--	--
805S-003	805S-003-0.5	N	3/1/2011	0.5	No	1.06	0.100 U	--	--	7.12
	805S-003-1.5	N	3/1/2011	1.5	No	7.49	0.929	--	--	--
	805S-003-3.0	N	3/1/2011	3	No	1.56	0.100 U	--	--	--
805N-004	805N-004-0.5	N	3/1/2011	0.5	No	233	15.2	0.100 U	0.100 U	--
	805N-004-1.5	N	3/1/2011	1.5	No	0.665	0.100 U	--	--	--
	805N-004-3.0	N	3/1/2011	3	No	0.500 U	0.100 U	--	--	5.65
805C-005	805C-005-0.5	N	3/9/2011	0.5	No	48.5	3.07	--	--	7.76
	805C-005-1.5	N	3/9/2011	1.5	Yes	5.15	0.367	--	--	--
805S-006	805S-006-0.5	N	3/1/2011	0.5	No	0.538	0.100 U	--	--	--
	805S-006-1.5	N	3/1/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-006-3.0	N	3/1/2011	3	No	0.500 U	0.100 U	--	--	--
805N-007	805N-007-0.5	N	3/1/2011	0.5	No	133	12.9	0.100 U	0.292	--
	805N-007-1.5	N	3/1/2011	1.5	No	8.31	0.630	--	--	--
	805N-007-3.0	N	3/1/2011	3	No	31.5	1.18	--	--	--
	805N-007-100	FD	3/1/2011	3	No	21.6	2.76	--	--	6.94
805C-008	805C-008-0.5	N	3/9/2011	0.5	No	60.9	3.80	0.100 U	--	--
	805C-008-1.5	N	3/9/2011	1.5	No	3.20	0.100 U	--	--	7.29
	805C-008-3.0	N	3/9/2011	3	No	1.67	0.104	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-009	805S-009-0.5	N	3/1/2011	0.5	No	64.8	11.8	0.141	--	--
	805S-009-1.5	N	3/1/2011	1.5	No	1.12	0.100 U	--	--	--
	805S-009-3.0	N	3/1/2011	3	No	1.73	0.100 U	--	--	7.84
805N-010	805N-010-0.5	N	3/1/2011	0.5	No	118	11.5	0.198	0.246	--
	805N-010-1.5	N	3/1/2011	1.5	No	8.84	1.57	--	--	--
	805N-010-3.0	N	3/1/2011	3	No	4.07	0.100 U	--	--	--
805C-011	805C-011-0.5	N	3/9/2011	0.5	No	5.69	0.353	--	--	--
	805C-011-1.5	N	3/9/2011	1.5	No	2.51	0.100 U	--	--	--
	805C-011-3.0	N	3/9/2011	3	No	1.06	0.100 U	--	--	--
805S-012	805S-012-0.5	N	3/1/2011	0.5	No	40.1	7.14	--	--	--
	805S-012-1.5	N	3/1/2011	1.5	No	17.6	1.08	--	--	5.93
	805S-012-3.0	N	3/1/2011	3	No	1.65	0.100 U	--	--	--
805N-013	805N-013-0.5	N	3/1/2011	0.5	No	1180	44.6	0.104	0.125	7.33
	805N-013-1.5	N	3/1/2011	1.5	No	70.8	6.07	0.165	--	--
	805N-013-3.0	N	3/1/2011	3	No	7.64	0.742	--	--	--
805C-014	805C-014-0.5	N	3/9/2011	0.5	No	59.5	3.69	0.100 U	--	7.56
	805C-014-1.5	N	3/9/2011	1.5	No	3.27	0.100 U	--	--	--
	805C-014-3.0	N	3/9/2011	3	No	2.81	0.465	--	--	--
805S-015	805S-015-0.5	N	3/1/2011	0.5	No	11.4	1.56	--	--	6.98
	805S-015-1.5	N	3/1/2011	1.5	No	0.809	0.100 U	--	--	--
	805S-015-3.0	N	3/1/2011	3	No	39.9	1.17	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e		1.50		5.5
						Condition 9.d/9.e		150.00		5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-016	805N-016-0.5	N	3/1/2011	0.5	No	291	21.4	0.178	0.308	--
	805N-016-1.5	N	3/1/2011	1.5	No	1.08	0.100 U	--	--	6.99
	805N-016-3.0	N	3/1/2011	3	No	1.46	0.116	--	--	--
805C-017	805C-017-0.5	N	3/9/2011	0.5	No	35.9	3.79	--	--	--
	805C-017-1.5	N	3/9/2011	1.5	No	1.28	0.100 U	--	--	7.41
	805C-017-3.0	N	3/9/2011	3	No	1.10	0.100 U	--	--	--
805S-018	805S-018-0.5	N	2/28/2011	0.5	No	8.94	0.875	--	--	--
	805S-018-1.5	N	2/28/2011	1.5	No	1.09	0.100 U	--	--	--
	805S-018-3.0	N	2/28/2011	3	No	1.33	0.100 U	--	--	5.12
	805S-018-100	FD	2/28/2011	3	No	3.88	0.244	--	--	--
805N-019	805N-019-0.5	N	3/2/2011	0.5	No	20.9	1.18	--	--	7.69
	805N-019-1.5	N	3/2/2011	1.5	No	1.26	0.100 U	--	--	--
	805N-019-3.0	N	3/2/2011	3	No	0.988	0.100 U	--	--	--
805C-020	805C-020-0.5	N	3/9/2011	0.5	No	102	6.26	0.114	0.243	7.98
	805C-020-100	FD	3/9/2011	0.5	No	97.7	3.66	0.100 U	--	--
	805C-020-1.5	N	3/9/2011	1.5	No	3.92	0.269	--	--	--
	805C-020-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	--
805S-021	805S-021-0.5	N	2/28/2011	0.5	No	5.87	0.412	--	--	--
	805S-021-1.5	N	2/28/2011	1.5	No	0.864	0.104	--	--	--
	805S-021-3.0	N	2/28/2011	3	No	0.500 U	0.100 U	--	--	6.18
805N-022	805N-022-0.5	N	3/2/2011	0.5	No	369	17.3	0.218	0.255	--
	805N-022-1.5	N	3/2/2011	1.5	No	12.1	4.45	--	--	6.94
	805N-022-3.0	N	3/2/2011	3	No	123	7.09	0.100 U	0.111	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805C-023	805C-023-0.5	N	3/9/2011	0.5	No	31.0	1.27	--	--	--
	805C-023-1.5	N	3/9/2011	1.5	No	9.74	1.71	--	--	--
	805C-023-3.0	N	3/9/2011	3	No	1.61	0.100 U	--	--	--
805S-024	805S-024-0.5	N	2/28/2011	0.5	No	12.4	0.347	--	--	--
	805S-024-1.5	N	2/28/2011	1.5	No	2.34	0.100 U	--	--	5.63
	805S-024-3.0	N	2/28/2011	3	No	5.42	0.256	--	--	--
805N-025	805N-025-0.5	N	3/2/2011	0.5	No	134	17.6	0.131	0.382	--
	805N-025-1.5	N	3/2/2011	1.5	No	0.600	0.100 U	--	--	--
	805N-025-3.0	N	3/2/2011	3	No	0.669	0.100 U	--	--	8.39
805C-026	805C-026-0.5	N	3/9/2011	0.5	No	40.1	2.47	--	--	--
	805C-026-1.5	N	3/9/2011	1.5	No	3.51	0.100 U	--	--	7.54
	805C-026-3.0	N	3/9/2011	3	No	0.824	0.100 U	--	--	--
805S-027	805S-027-0.5	N	2/28/2011	0.5	No	8.28	0.799	--	--	7.68
	805S-027-1.0	N	2/28/2011	1	No	1.25	0.100 U	--	--	--
	805S-027-3.0	N	2/28/2011	3	No	8.09	0.100 U	--	--	--
805N-028	805N-028-0.5	N	3/2/2011	0.5	No	69.3	7.13	0.100 U	--	--
	805N-028-1.5	N	3/2/2011	1.5	No	1.07	0.100 U	--	--	--
	805N-028-3.0	N	3/2/2011	3	No	0.718	0.100 U	--	--	--
805C-029	805C-029-0.5	N	3/10/2011	0.5	No	8.19 J	0.361	--	--	--
	805C-029-1.5	N	3/10/2011	1.5	No	0.667 J	0.100 U	--	--	8.24
	805C-029-3.0	N	3/10/2011	3	No	2.97 J	0.100 U	--	--	--
805S-030	805S-030-0.5	N	2/28/2011	0.5	No	31.1	2.40	--	--	--
	805S-030-1.5	N	2/28/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-030-3.0	N	2/28/2011	3	No	0.567	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0				
RCRA Hazardous Waste Criteria ²									5.0		
CALTRANS Variance Criteria ³						Condition 9.c/9.e		1.50		5.5	
						Condition 9.d/9.e	1,411	150.00		5.0 - 5.5	
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH	
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D	
Preparation						TTLIC	WET	WET_DI	TCLP		
Units						mg/kg	mg/l	mg/l	mg/l	pH units	
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)						
805N-031	805N-031-0.5	N	3/2/2011	0.5	No	180	17.2	0.138	0.121	7.42	
	805N-031-1.5	N	3/2/2011	1.5	No	1.17	0.216	--	--	--	
	805N-031-3.0	N	3/2/2011	3	No	3.16	0.396	--	--	--	
805C-032	805C-032-0.5	N	3/9/2011	0.5	No	0.571	0.100 U	--	--	--	
	805C-032-100	FD	3/9/2011	0.5	No	422	17.6	0.100 U	0.674	--	
	805C-032-1.5	N	3/9/2011	1.5	No	0.805	0.100 U	--	--	7.93	
805C-032	805C-032-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	--	
	805S-033-0.5	N	2/28/2011	0.5	No	155	19.5	0.100 U	0.100 U	7.29	
	805S-033-1.5	N	2/28/2011	1.5	No	3.64	0.100 U	--	--	--	
805S-033	805S-033-3.0	N	2/28/2011	3	No	1.63	0.100 U	--	--	--	
	805N-034-0.5	N	3/2/2011	0.5	No	224	13.5	0.100 U	0.242	--	
	805N-034-1.5	N	3/2/2011	1.5	No	6.45	0.100 U	--	--	7.54	
805N-034	805N-034-3.0	N	3/2/2011	3	No	0.725	0.100 U	--	--	--	
	805C-035	805C-035-0.5	N	3/10/2011	0.5	Yes	0.500 U	0.100 U	--	--	--
	805S-036	805S-036-0.5	N	2/28/2011	0.5	No	6.27	0.397	--	--	--
805S-036-1.5		N	2/28/2011	1.5	No	2.79	0.100 U	--	--	--	
805S-036-3.0		N	2/28/2011	3	No	0.500 U	0.100 U	--	--	--	
805N-037	805N-037-0.5	N	3/2/2011	0.5	No	174	16.7	0.125	0.393	--	
	805N-037-1.5	N	3/2/2011	1.5	No	39.4	2.08	--	--	--	
	805N-037-3.0	N	3/2/2011	3	No	82.4 J	5.01	0.100 U	--	7.88	
805C-038	805C-038-0.5	N	3/9/2011	0.5	No	0.711	0.100 U	--	--	--	
	805C-038-1.5	N	3/9/2011	1.5	No	0.604	0.100 U	--	--	--	
	805C-038-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	7.55	

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-039	805S-039-0.5	N	2/28/2011	0.5	No	92.6	10.1	0.100 U	--	--
	805S-039-1.5	N	2/28/2011	1.5	No	0.500 U	0.120	--	--	7.25
	805S-039-3.0	N	2/28/2011	3	No	0.500 U	0.100 U	--	--	--
805N-040	805N-040-0.5	N	3/2/2011	0.5	No	5.22 J	0.297	--	--	--
	805N-040-1.5	N	3/2/2011	1.5	No	1.60 J	0.100 U	--	--	--
	805N-040-3.0	N	3/2/2011	3	No	0.500 UJ	0.100 U	--	--	--
	805N-040-100	FD	3/2/2011	3	No	0.500 UJ	0.100 U	--	--	7.29
805C-041	805C-041-0.5	N	3/9/2011	0.5	No	44.6	4.36	--	--	--
	805C-041-1.5	N	3/9/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805C-041-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	--
805S-042	805S-042-0.5	N	2/28/2011	0.5	No	10.6	0.515	--	--	--
	805S-042-1.5	N	2/28/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-042-3.0	N	2/28/2011	3	No	0.500 U	0.100 U	--	--	9.03
805N-043	805N-043-0.5	N	3/2/2011	0.5	No	241 J	21.9	0.460	0.564	--
	805N-043-1.5	N	3/2/2011	1.5	No	266 J	13.4	0.161	0.370	--
	805N-043-3.0	N	3/2/2011	3	No	121 J	7.35	0.100 U	0.130	--
805C-044	805C-044-0.5	N	3/9/2011	0.5	No	0.500 U	0.100 U	--	--	7.90
	805C-044-1.5	N	3/9/2011	1.5	No	1.16	0.100 U	--	--	--
	805C-044-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	--
805S-045	805S-045-0.5	N	3/10/2011	0.5	No	315 J	16.5	0.124	0.410	--
	805S-045-1.5	N	3/10/2011	1.5	No	1.02 J	0.100 U	--	--	--
	805S-045-3.0	N	3/10/2011	3	No	0.500 U	0.100 U	--	--	7.95

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I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-046	805N-046-0.5	N	3/2/2011	0.5	No	29.0 J	2.73	--	--	7.13
	805N-046-1.5	N	3/2/2011	1.5	No	0.500 UJ	0.100 U	--	--	--
	805N-046-3.0	N	3/2/2011	3	No	11.5 J	0.612	--	--	--
805C-047	805C-047-0.5	N	3/9/2011	0.5	No	0.500 U	0.100 U	--	--	--
	805C-047-1.5	N	3/9/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805C-047-3.0	N	3/9/2011	3	No	0.600	0.100 U	--	--	--
805S-048	805S-048-0.5	N	3/10/2011	0.5	No	29.9 J	2.06	--	--	--
	805S-048-1.5	N	3/10/2011	1.5	No	25.9 J	1.20	--	--	--
	805S-048-3.0	N	3/10/2011	3	No	0.500 U	0.100 U	--	--	--
805N-049	805N-049-0.5	N	3/2/2011	0.5	No	12.3 J	0.386	--	--	--
	805N-049-1.5	N	3/2/2011	1.5	No	0.713 J	0.100 U	--	--	7.45
	805N-049-3.0	N	3/2/2011	3	No	0.598 J	0.100 U	--	--	--
805C-050	805C-050-0.5	N	3/9/2011	0.5	No	0.502	0.100 U	--	--	--
	805C-050-1.5	N	3/9/2011	1.5	No	0.500 U	0.100 U	--	--	8.23
	805C-050-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	--
805S-051	805S-051-0.5	N	3/10/2011	0.5	No	15.5 J	0.218	--	--	--
	805S-051-1.5	N	3/10/2011	1.5	No	2.98 J	0.100 U	--	--	--
	805S-051-3.0	N	3/10/2011	3	No	1.13 J	0.100 U	--	--	7.62
805N-052	805N-052-0.5	N	3/2/2011	0.5	No	14.1 J	0.509	--	--	--
	805N-052-1.5	N	3/2/2011	1.5	No	0.500 UJ	0.100 U	--	--	--
	805N-052-3.0	N	3/2/2011	3	No	0.671 J	0.100 U	--	--	7.38
805N-053	805N-053-0.5	N	3/2/2011	0.5	No	65.1 J	3.92	0.100 U	--	--
	805N-053-1.5	N	3/2/2011	1.5	No	3.51 J	0.100 U	--	--	--
	805N-053-3.0	N	3/2/2011	3	No	0.778 J	0.100 U	--	--	--

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Soil Analytical Results Summary
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CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e		1.50		5.5
						Condition 9.d/9.e	1,411	150.00		5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805C-054	805C-054-0.5	N	3/9/2011	0.5	No	0.500 U	0.100 U	--	--	--
	805C-054-1.5	N	3/9/2011	1.5	No	0.500 U	0.100 U	--	--	8.18
	805C-054-3.0	N	3/9/2011	3	No	0.500 U	0.100 U	--	--	--
805S-055	805S-055-0.5	N	3/10/2011	0.5	No	1.85 J	0.100 U	--	--	--
	805S-055-1.5	N	3/10/2011	1.5	No	1.17 J	0.100 U	--	--	--
	805S-055-3.0	N	3/10/2011	3	No	0.805 J	0.100 U	--	--	--
805S-056	805S-056-0.5	N	3/10/2011	0.5	No	4.52 J	0.100 U	--	--	--
	805S-056-1.5	N	3/10/2011	1.5	No	0.814 J	0.100 U	--	--	8.50
	805S-056-3.0	N	3/10/2011	3	No	0.500 U	0.100 U	--	--	--
805S-057	805S-057-0.5	N	3/10/2011	0.5	No	2.20 J	0.115	--	--	--
	805S-057-1.5	N	3/10/2011	1.5	No	6.54 J	0.328	--	--	--
	805S-057-100	FD	3/10/2011	1.5	No	2.45 J	0.103	--	--	7.21
	805S-057-3.0	N	3/10/2011	3	No	1.46 J	0.102	--	--	--
805N-058	805N-058-0.5	N	3/2/2011	0.5	No	7.42	0.224	--	--	--
	805N-058-1.5	N	3/2/2011	1.5	No	90.0	1.71	0.100 U	--	--
	805N-058-3.0	N	3/2/2011	3	No	9.78	0.365	--	--	--
805N-059	805N-059-0.5	N	3/2/2011	0.5	No	9.16	0.100 U	--	--	7.68
	805N-059-1.5	N	3/2/2011	1.5	No	0.966	0.100 U	--	--	--
	805N-059-3.0	N	3/2/2011	3	No	0.555	0.100 U	--	--	--
805C-060	805C-060-0.5	N	3/9/2011	0.5	No	1.12	0.100 U	--	--	--
	805C-060-1.5	N	3/9/2011	1.5	No	0.500 U	0.100 U	--	--	8.29
	805C-060-3.0	N	3/9/2011	3	No	0.544	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-061	805S-061-0.5	N	3/10/2011	0.5	No	37.1 J	1.74	--	--	--
	805S-061-1.5	N	3/10/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-061-3.0	N	3/10/2011	3	No	0.754 J	0.100 U	--	--	--
805S-062	805S-062-0.5	N	3/10/2011	0.5	No	15.5 J	0.742	--	--	--
	805S-062-1.5	N	3/10/2011	1.5	No	1.31 J	0.100 U	--	--	7.66
	805S-062-3.0	N	3/10/2011	3	No	3.65 J	0.105	--	--	--
805N-063	805N-063-0.5	N	3/2/2011	0.5	No	21.0	0.100 U	--	--	--
	805N-063-1.5	N	3/2/2011	1.5	No	1.59	0.100 U	--	--	8.28
	805N-063-3.0	N	3/2/2011	3	No	1.45	0.100 U	--	--	--
805C-064	805C-064-0.5	N	3/9/2011	0.5	No	1.81	0.100 U	--	--	--
	805C-064-1.5	N	3/9/2011	1.5	No	0.500 U	0.100 U	--	--	7.99
	805C-064-3.0	N	3/9/2011	3	No	1.48	0.100 U	--	--	--
805S-065	805S-065-0.5	N	3/10/2011	0.5	No	63.2 J	1.07	0.100 U	--	7.76
	805S-065-1.5	N	3/10/2011	1.5	No	0.905 J	0.100 U	--	--	--
	805S-065-3.0	N	3/10/2011	3	No	1.33 J	0.100 U	--	--	--
805N-066	805N-066-0.5	N	3/2/2011	0.5	No	33.7	2.17	--	--	--
	805N-066-1.5	N	3/2/2011	1.5	No	23.9	2.97	--	--	--
	805N-066-3.0	N	3/2/2011	3	No	17.8	1.84	--	--	7.89
805N-067	805N-067-0.5	N	3/2/2011	0.5	No	4.36	0.266	--	--	--
	805N-067-1.5	N	3/2/2011	1.5	No	0.759	0.100 U	--	--	--
	805N-067-3.0	N	3/2/2011	3	No	0.500 U	0.100 U	--	--	--
805C-068	805C-068-0.5	N	3/9/2011	0.5	No	1.06	0.100 U	--	--	--
	805C-068-1.5	N	3/9/2011	1.5	No	0.934	0.100 U	--	--	7.97
	805C-068-3.0	N	3/9/2011	3	No	0.962	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e		1.50		5.5
						Condition 9.d/9.e		150.00		5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-069	805S-069-0.5	N	3/10/2011	0.5	No	294 J	18.8	0.100 U	0.818	--
	805S-069-100	FD	3/10/2011	0.5	No	155 J	9.95	0.100 U	0.175	--
	805S-069-1.5	N	3/10/2011	1.5	No	37.6 J	1.63	--	--	--
	805S-069-3.0	N	3/10/2011	3	No	3.27 J	0.100 U	--	--	8.66
805N-070	805N-070-0.5	N	3/2/2011	0.5	No	12.1	0.700	--	--	7.79
	805N-070-1.5	N	3/2/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805N-070-3.0	N	3/2/2011	3	No	0.540	0.100 U	--	--	--
805N-071	805N-071-0.5	N	3/3/2011	0.5	No	122	7.45	0.100 U	0.104	--
	805N-071-1.5	N	3/3/2011	1.5	No	39.0	0.460	--	--	7.78
	805N-071-100	FD	3/3/2011	1.5	No	9.11	0.500	--	--	--
	805N-071-3.0	N	3/3/2011	3	No	0.500 U	0.100 U	--	--	--
805C-072	805C-072-0.5	N	3/9/2011	0.5	No	0.677	0.100 U	--	--	--
	805C-072-1.5	N	3/9/2011	1.5	No	1.04	0.100 U	--	--	--
	805C-072-3.0	N	3/9/2011	3	No	0.792	0.100 U	--	--	--
805S-073	805S-073-0.5	N	3/10/2011	0.5	No	15.8 J	1.74	--	--	--
	805S-073-1.5	N	3/10/2011	1.5	No	0.939 J	0.100 U	--	--	8.56
	805S-073-3.0	N	3/10/2011	3	No	0.800 J	0.100 U	--	--	--
805N-074	805N-074-0.5	N	3/3/2011	0.5	No	14.3	0.478	--	--	--
	805N-074-1.5	N	3/3/2011	1.5	No	2.24	0.100 U	--	--	7.68
	805N-074-3.0	N	3/3/2011	3	No	4.08	0.100 U	--	--	--
805N-075	805N-075-0.5	N	3/2/2011	0.5	No	491	30.6	0.100 U	0.148	7.60
	805N-075-1.5	N	3/2/2011	1.5	No	586	48.2	0.185	0.401	--
	805N-075-3.0	N	3/2/2011	3	No	196	12.0	0.102	0.299	7.89

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e		1.50		5.5
						Condition 9.d/9.e	1,411	3,397	150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-076	805S-076-0.5	N	3/8/2011	0.5	No	14.9	1.02	--	--	8.22
	805S-076-1.5	N	3/8/2011	1.5	No	8.20	0.539	--	--	--
	805S-076-3.0	N	3/8/2011	3	No	6.88	0.344	--	--	--
805S-077	805S-077-0.5	N	3/8/2011	0.5	No	15.6	0.450	--	--	--
	805S-077-1.5	N	3/8/2011	1.5	No	17.4	0.634	--	--	7.26
	805S-077-3.0	N	3/8/2011	3	No	10.7	0.433	--	--	--
	805S-077-100	FD	3/8/2011	3	No	12.4	0.387	--	--	--
805N-078	805N-078-0.5	N	3/3/2011	0.5	No	61.6	5.13	0.100 U	--	--
	805N-078-1.5	N	3/3/2011	1.5	No	5.60	0.212	--	--	--
	805N-078-3.0	N	3/3/2011	3	No	6.13	0.134	--	--	--
805C-079	805C-079-0.5	N	3/9/2011	0.5	No	4.64	0.140	--	--	7.83
	805C-079-1.5	N	3/9/2011	1.5	No	0.843	0.100 U	--	--	--
	805C-079-3.0	N	3/9/2011	3	No	2.21	0.100 U	--	--	--
805N-080	805N-080-0.5	N	3/3/2011	0.5	No	0.877	0.100 U	--	--	--
	805N-080-1.5	N	3/3/2011	1.5	No	0.662	0.100 U	--	--	--
	805N-080-3.0	N	3/3/2011	3	No	0.610	0.100 U	--	--	7.68
805C-081	805C-081-0.5	N	3/9/2011	0.5	Yes	4.93	0.125	--	--	--
805S-082	805S-082-0.5	N	3/8/2011	0.5	No	4.57	0.146	--	--	--
	805S-082-1.5	N	3/8/2011	1.5	Yes	2.42	0.100 U	--	--	7.38
805S-083	805S-083-0.5	N	3/8/2011	0.5	No	2.97	0.100 U	--	--	--
	805S-083-1.5	N	3/8/2011	1.5	Yes	1.94	0.100 U	--	--	--
805N-084	805N-084-0.5	N	3/3/2011	0.5	No	9.10	0.494	--	--	7.48
	805N-084-100	FD	3/3/2011	0.5	No	46.8	4.78	--	--	--
	805N-084-1.5	N	3/3/2011	1.5	No	2.93	0.127	--	--	--

Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805C-085	805C-085-0.5	N	3/9/2011	0.5	No	0.679	0.100 U	--	--	7.63
	805C-085-1.5	N	3/9/2011	1.5	Yes	1.83	0.100 U	--	--	--
805S-086	805S-086-0.5	N	3/16/2011	0.5	No	3.66	0.127	--	--	--
	805S-086-1.5	N	3/16/2011	1.5	Yes	4.39	0.111	--	--	--
805N-087	805N-087-0.5	N	3/3/2011	0.5	No	27.2	3.27	--	--	7.18
	805N-087-1.5	N	3/3/2011	1.5	No	1.25	0.100 U	--	--	--
	805N-087-3.0	N	3/3/2011	3	No	1.36	0.100 U	--	--	--
805C-088	805C-088-0.5	N	3/9/2011	0.5	Yes	0.668	0.100 U	--	--	--
805S-089	805S-089-0.5	N	3/8/2011	0.5	No	5.46	0.198	--	--	--
	805S-089-1.5	N	3/8/2011	1.5	No	5.73	0.211	--	--	--
	805S-089-3.0	N	3/8/2011	3	No	5.55	0.444	--	--	8.42
805N-090	805N-090-0.5	N	3/3/2011	0.5	No	5.30	0.167	--	--	--
	805N-090-1.5	N	3/3/2011	1.5	No	4.25	0.107	--	--	7.58
	805N-090-3.0	N	3/3/2011	3	No	4.41	0.100 U	--	--	--
805C-091	805C-091-0.5	N	3/9/2011	0.5	Yes	0.550	0.100 U	--	--	--
805S-092	805S-092-0.5	N	3/8/2011	0.5	No	8.74	0.742	--	--	8.57
	805S-092-1.5	N	3/8/2011	1.5	Yes	21.6	1.54	--	--	--
805N-093	805N-093-0.5	N	3/3/2011	0.5	Yes	7.41	0.345	--	--	--
805C-094	805C-094-0.5	N	3/9/2011	0.5	No	1.20	0.100 U	--	--	7.87
	805C-094-100	FD	3/9/2011	0.5	Yes	1.17	0.100 U	--	--	--
805S-095	805S-095-0.5	N	3/8/2011	0.5	No	4.54	0.153	--	--	--
	805S-095-1.5	N	3/8/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-095-3.0	N	3/8/2011	3	No	1.18	0.100 U	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-096	805N-096-0.5	N	3/3/2011	0.5	No	6.92	0.285	--	--	--
	805N-096-1.5	N	3/3/2011	1.5	No	1.01	0.100 U	--	--	7.66
	805N-096-3.0	N	3/3/2011	3	No	12.0	1.39	--	--	--
	805N-096-100	FD	3/3/2011	3	No	77.2	4.44	0.100 U	--	--
805N-097	805N-097-0.5	N	3/17/2011	0.5	No	222	16.2	0.192	0.362	7.77
	805N-097-1.5	N	3/17/2011	1.5	No	32.8	2.99	--	--	--
805C-098	805C-098-0.5	N	3/9/2011	0.5	No	1.72	0.100 U	--	--	--
	805C-098-1.5	N	3/9/2011	1.5	No	3.42	0.100 U	--	--	--
	805C-098-3.0	N	3/9/2011	3	No	0.539	0.100 U	--	--	7.89
805S-099	805S-099-0.5	N	3/8/2011	0.5	No	14.1	0.557	--	--	5.83
	805S-099-1.5	N	3/8/2011	1.5	Yes	0.967	0.100 U	--	--	--
805S-100	805S-100-0.5	N	3/8/2011	0.5	No	30.4	1.03	--	--	--
	805S-100-1.5	N	3/8/2011	1.5	No	1.98	0.100 U	--	--	--
	805S-100-3.0	N	3/8/2011	3	No	1.09	0.100 U	--	--	6.65
805N-101	805N-101-0.5	N	3/10/2011	0.5	No	1.93	0.100 U	--	--	--
	805N-101-1.5	N	3/10/2011	1.5	No	0.777	0.100 U	--	--	--
	805N-101-3.0	N	3/10/2011	3	No	2.51	0.100 U	--	--	4.38
805S-102	805S-102-0.5	N	3/8/2011	0.5	No	9.87	0.249	--	--	7.34
	805S-102-1.5	N	3/8/2011	1.5	No	2.49	0.100 U	--	--	--
	805S-102-3.0	N	3/8/2011	3	No	3.27	0.100 U	--	--	--
	805S-102-100	FD	3/8/2011	3	No	1.36	0.100 U	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-103	805N-103-0.5	N	3/16/2011	0.5	No	131	2.16	0.100 U	0.100 U	--
	805N-103-1.5	N	3/16/2011	1.5	No	14.2	0.549	--	--	--
	805N-103-3.0	N	3/16/2011	3	No	1.88	0.100 U	--	--	--
805S-104	805S-104-0.5	N	3/8/2011	0.5	No	3.76	0.275	--	--	--
	805S-104-1.5	N	3/8/2011	1.5	No	1.32	0.100 U	--	--	--
	805S-104-3.0	N	3/8/2011	3	No	0.918	0.100 U	--	--	--
805S-105	805S-105-0.5	N	3/17/2011	0.5	No	136	4.04	0.100 U	0.100 U	--
	805S-105-1.5	N	3/17/2011	1.5	No	2.65	0.100 U	--	--	--
	805S-105-3.0	N	3/17/2011	3	No	1.84	0.100 U	--	--	--
805N-106	805N-106-0.5	N	3/16/2011	0.5	No	15.3	1.09	--	--	7.38
	805N-106-1.5	N	3/16/2011	1.5	No	4.24	0.100 U	--	--	--
	805N-106-3.0	N	3/16/2011	3	No	2.85	0.114	--	--	--
	805S-106-100	FD	3/16/2011	3	No	3.89	0.100 U	--	--	--
805N-107	805N-107-0.5	N	3/16/2011	0.5	No	5.49	0.128	--	--	8.34
	805N-107-1.5	N	3/16/2011	1.5	No	4.50	0.100 U	--	--	--
	805N-107-3.0	N	3/16/2011	3	No	3.46	0.100 U	--	--	--
805N-108	805N-108-0.5	N	3/16/2011	0.5	No	26.8	0.965	--	--	--
	805N-108-1.5	N	3/16/2011	1.5	No	81.0	1.81	0.100 U	--	7.61
	805N-108-3.0	N	3/16/2011	3	No	1.26	0.100 U	--	--	--
805S-109	805S-109-0.5	N	3/16/2011	0.5	No	49.1	2.68	--	--	--
	805S-109-1.5	N	3/16/2011	1.5	No	2.77	0.159	--	--	7.94
	805S-109-3.0	N	3/16/2011	3	No	8.42	0.140	--	--	--
	805S-109-100	FD	3/16/2011	3	No	2.54	0.100 U	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-110	805N-110-0.5	N	3/2/2011	0.5	Yes	81.8	1.30	0.100 U	--	7.28
805S-111	805S-111-0.5	N	3/16/2011	0.5	No	55.9	2.89	0.100 U	--	--
	805S-111-1.5	N	3/16/2011	1.5	Yes	2.47	0.100 U	--	--	--
805N-112	805N-112-0.5	N	3/17/2011	0.5	No	252	10.4	0.184	0.242	--
	805N-112-1.5	N	3/17/2011	1.5	Yes	2.07	0.100 U	--	--	--
805S-113	805S-113-0.5	N	3/10/2011	0.5	No	24.7	1.58	--	--	--
	805S-113-1.5	N	3/10/2011	1.5	No	1.64	0.100 U	--	--	--
	805S-113-3.0	N	3/10/2011	3	No	2.88	0.100 U	--	--	--
805N-114	805N-114-0.5	N	3/17/2011	0.5	No	38.2	1.76	--	--	7.58
	805N-114-1.5	N	3/17/2011	1.5	No	29.3	0.696	--	--	--
	805N-114-100	FD	3/17/2011	1.5	No	7.97	0.396	--	--	--
	805N-114-3.0	N	3/17/2011	3	No	11.7	0.591	--	--	7.47
805S-115	805S-115-0.5	N	3/10/2011	0.5	No	4.68	0.149	--	--	8.19
	805S-115-1.5	N	3/10/2011	1.5	No	2.28	0.100 U	--	--	--
	805S-115-100	FD	3/10/2011	1.5	No	1.10	0.100 U	--	--	--
	805S-115-3.0	N	3/10/2011	3	No	0.756	0.100 U	--	--	--
805N-116	805N-116-0.5	N	3/14/2011	0.5	No	33.7	1.54	--	--	--
	805N-116-1.5	N	3/14/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805N-116-100	FD	3/14/2011	1.5	Yes	0.729	0.100 U	--	--	--
805S-117	805S-117-0.5	N	3/10/2011	0.5	No	2.49	0.100 U	--	--	--
	805S-117-1.5	N	3/10/2011	1.5	No	0.899	0.100 U	--	--	--
	805S-117-3.0	N	3/10/2011	3	No	1.46	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-118	805N-118-0.5	N	3/14/2011	0.5	No	41.6	1.37	--	--	7.85
	805N-118-1.5	N	3/14/2011	1.5	No	2.31	0.100 U	--	--	--
	805N-118-3.0	N	3/14/2011	3	No	1.31	0.100 U	--	--	--
805S-119	805S-119-0.5	N	3/10/2011	0.5	No	34.9	1.38	--	--	--
	805S-119-1.5	N	3/10/2011	1.5	No	0.664	0.100 U	--	--	--
	805S-119-3.0	N	3/10/2011	3	No	1.53	0.100 U	--	--	6.81
805N-120	805N-120-0.5	N	3/14/2011	0.5	No	30.5	1.33	--	--	--
	805N-120-1.5	N	3/14/2011	1.5	No	3.05	0.100 U	--	--	--
	805N-120-3.0	N	3/14/2011	3	No	8.84	0.315	--	--	--
805S-121	805S-121-0.5	N	3/10/2011	0.5	No	5.70 J	0.427	--	--	--
	805S-121-1.5	N	3/10/2011	1.5	No	1.04	0.100 U	--	--	8.25
	805S-121-3.0	N	3/10/2011	3	No	1.06	0.100 U	--	--	--
805N-122	805N-122-0.5	N	3/14/2011	0.5	No	12.8	0.321	--	--	--
	805N-122-1.5	N	3/14/2011	1.5	No	2.08	0.100 U	--	--	5.47
	805N-122-3.0	N	3/14/2011	3	No	2.96	0.100 U	--	--	--
805S-123	805S-123-0.5	N	3/14/2011	0.5	No	6.16	0.100 U	--	--	--
	805S-123-1.5	N	3/14/2011	1.5	No	5.05	0.100 U	--	--	--
	805S-123-3.0	N	3/14/2011	3	No	2.80	0.100 U	--	--	7.54
805N-124	805N-124-0.5	N	3/14/2011	0.5	No	35.5	0.865	--	--	--
	805N-124-1.5	N	3/14/2011	1.5	No	2.11	0.100 U	--	--	--
	805N-124-3.0	N	3/14/2011	3	No	3.25	0.100 U	--	--	7.35
805S-125	805S-125-0.5	N	3/14/2011	0.5	No	9.25	0.364	--	--	5.77
	805S-125-1.5	N	3/14/2011	1.5	No	2.48	0.100 U	--	--	--
	805S-125-3.0	N	3/14/2011	3	No	2.15	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-126	805N-126-0.5	N	3/14/2011	0.5	No	152	8.31	0.100 U	0.100 U	7.57
	805N-126-100	FD	3/14/2011	0.5	No	81.0	4.84	0.100 U	--	--
	805N-126-1.5	N	3/14/2011	1.5	No	966	66.5	0.916	2.42	--
	805N-126-3.0	N	3/14/2011	3	No	24.2	1.00	--	--	--
805S-127	805S-127-0.5	N	3/14/2011	0.5	No	30.9	0.927	--	--	--
	805S-127-1.5	N	3/14/2011	1.5	No	10.2	0.565	--	--	--
	805S-127-3.0	N	3/14/2011	3	No	10.2	0.149	--	--	--
805N-128	805N-128-0.5	N	3/14/2011	0.5	No	12.7	0.836	--	--	--
	805N-128-1.5	N	3/14/2011	1.5	No	1.28	0.100 U	--	--	--
	805N-128-3.0	N	3/14/2011	3	No	0.831	0.100 U	--	--	--
805S-129	805S-129-0.5	N	3/14/2011	0.5	No	45.5	1.20	--	--	--
	805S-129-1.5	N	3/14/2011	1.5	No	2.88	0.100 U	--	--	--
	805S-129-3.0	N	3/14/2011	3	No	2.34	0.100 U	--	--	7.15
805N-130	805N-130-0.5	N	3/14/2011	0.5	No	175	9.62	0.100 U	0.232	--
	805N-130-1.5	N	3/14/2011	1.5	No	251	17.1	0.100 U	0.439	7.47
	805N-130-3.0	N	3/14/2011	3	No	89.5	4.91	0.100 U	--	--
805S-131	805S-131-0.5	N	3/14/2011	0.5	No	8.20	0.192	--	--	--
	805S-131-1.5	N	3/14/2011	1.5	Yes	3.59	0.100 U	--	--	7.95
805N-132	805N-132-0.5	N	3/14/2011	0.5	No	125	7.06	0.100 U	0.122	--
	805N-132-1.5	N	3/14/2011	1.5	No	99.9	3.07	0.100 U	--	--
	805N-132-3.0	N	3/14/2011	3	No	4.87	0.182	--	--	7.95

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-133	805S-133-0.5	N	3/14/2011	0.5	No	4.86	0.242	--	--	7.59
	805S-133-1.5	N	3/14/2011	1.5	No	0.724	0.100 U	--	--	--
	805S-133-3.0	N	3/14/2011	3	No	0.885	0.100 U	--	--	--
805N-134	805N-134-0.5	N	3/14/2011	0.5	No	23.8	0.739	--	--	7.86
	805N-134-1.5	N	3/14/2011	1.5	No	4.29	0.100 U	--	--	--
	805N-134-3.0	N	3/14/2011	3	No	1.45	0.100 U	--	--	--
805S-135	805S-135-0.5	N	3/14/2011	0.5	No	13.9	0.794	--	--	7.80
	805S-135-1.5	N	3/14/2011	1.5	No	0.728	0.100 U	--	--	--
	805S-135-3.0	N	3/14/2011	3	No	0.798	0.100 U	--	--	--
805N-136	805N-136-0.5	N	3/14/2011	0.5	No	24.3	2.29	--	--	8.17
	805N-136-1.5	N	3/14/2011	1.5	No	6.22	0.257	--	--	--
	805N-136-3.0	N	3/14/2011	3	No	4.41	0.100 U	--	--	--
805S-137	805S-137-0.5	N	3/14/2011	0.5	No	16.8	0.389	--	--	--
	805S-137-1.5	N	3/14/2011	1.5	No	2.20	0.100 U	--	--	--
	805S-137-3.0	N	3/14/2011	3	No	2.57	0.100 U	--	--	--
805N-138	805N-138-0.5	N	3/14/2011	0.5	No	73.6	2.19	0.100 U	--	--
	805N-138-1.5	N	3/14/2011	1.5	No	8.99	1.14	--	--	7.86
	805N-138-3.0	N	3/14/2011	3	No	8.01	0.193	--	--	--
805S-139	805S-139-0.5	N	3/14/2011	0.5	No	57.9	1.45	0.100 U	--	--
	805S-139-100	FD	3/14/2011	0.5	No	32.5	1.21	--	--	--
	805S-139-1.5	N	3/14/2011	1.5	Yes	5.92	0.244	--	--	8.48

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e		1.50		5.5
						Condition 9.d/9.e		150.00		5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-140	805N-140-0.5	N	3/14/2011	0.5	No	56.7	3.18	0.100 U	--	--
	805N-140-1.5	N	3/14/2011	1.5	No	3.58	0.143	--	--	--
	805N-140-100	FD	3/14/2011	1.5	No	4.67	0.155	--	--	7.84
	805N-140-3.0	N	3/14/2011	3	No	3.72	0.148	--	--	--
805S-141	805S-141-0.5	N	3/14/2011	0.5	No	31.6	1.61	--	--	7.83
	805S-141-1.5	N	3/14/2011	1.5	No	96.7	3.09	0.100 U	--	--
	805S-141-3.0	N	3/14/2011	3	No	30.9	1.21	--	--	--
805N-142	805N-142-0.5	N	3/14/2011	0.5	No	5.77	0.130	--	--	--
	805N-142-1.5	N	3/14/2011	1.5	No	5.52	0.100 U	--	--	--
	805N-142-3.0	N	3/14/2011	3	No	2.94	0.100 U	--	--	6.98
805S-143	805S-143-0.5	N	3/14/2011	0.5	No	15.3	0.367	--	--	--
	805S-143-1.5	N	3/14/2011	1.5	No	3.46	0.100 U	--	--	--
	805S-143-3.0	N	3/14/2011	3	No	7.08	0.201	--	--	--
805N-144	805N-144-0.5	N	3/14/2011	0.5	No	149	11.2	0.100 U	0.100 U	--
	805N-144-1.5	N	3/14/2011	1.5	No	3.54	0.196	--	--	--
	805N-144-3.0	N	3/14/2011	3	No	4.51	0.100 U	--	--	--
	805N-144-100	FD	3/14/2011	3	No	10.1	0.126	--	--	8.33
805S-145	805S-145-0.5	N	3/14/2011	0.5	No	3.91	0.121	--	--	8.36
	805S-145-1.5	N	3/14/2011	1.5	No	4.71	0.111	--	--	--
	805S-145-3.0	N	3/14/2011	3	No	1.73	0.100 U	--	--	--
805N-146	805N-146-0.5	N	3/14/2011	0.5	No	65.7	3.67	0.164	--	--
	805N-146-1.5	N	3/14/2011	1.5	No	9.55	0.274	--	--	--
	805N-146-3.0	N	3/14/2011	3	No	5.19	0.143	--	--	7.56

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-147	805S-147-0.5	N	3/14/2011	0.5	No	1.11	0.100 U	--	--	--
	805S-147-1.5	N	3/14/2011	1.5	No	0.981	0.100 U	--	--	--
	805S-147-3.0	N	3/14/2011	3	No	0.826	0.100 U	--	--	--
805N-148	805N-148-0.5	N	3/17/2011	0.5	No	41.6	5.11	--	--	--
	805N-148-1.5	N	3/17/2011	1.5	No	2.55	0.100 U	--	--	--
	805N-148-3.0	N	3/17/2011	3	No	9.53	0.276	--	--	7.72
805S-149	805S-149-0.5	N	3/8/2011	0.5	No	8.96	0.290	--	--	7.93
	805S-149-1.5	N	3/8/2011	1.5	No	4.87	0.238	--	--	--
	805S-149-3.0	N	3/8/2011	3	No	4.41	0.103	--	--	--
805N-150	805N-150-0.5	N	3/17/2011	0.5	No	1.80	0.120	--	--	--
	805N-150-1.5	N	3/17/2011	1.5	No	4.73	0.123	--	--	7.12
	805N-150-3.0	N	3/17/2011	3	No	3.77	0.175	--	--	--
805S-151	805S-151-0.5	N	3/8/2011	0.5	No	1.70	0.149	--	--	--
	805S-151-1.5	N	3/8/2011	1.5	No	1.43	0.100 U	--	--	6.50
	805S-151-3.0	N	3/8/2011	3	No	5.48	0.285	--	--	--
805S-152	805S-152-0.5	N	3/8/2011	0.5	No	2.31	0.100 U	--	--	--
	805S-152-1.5	N	3/8/2011	1.5	No	3.34	0.100 U	--	--	--
	805S-152-100	FD	3/8/2011	1.5	No	1.92	0.100 U	--	--	--
805S-152	805S-152-3.0	N	3/8/2011	3	No	4.87	0.139	--	--	--
	805N-153-0.5	N	3/17/2011	0.5	No	33.7	0.666	--	--	--
	805N-153-1.5	N	3/17/2011	1.5	No	4.47	0.100 U	--	--	8.12
805N-153	805N-153-3.0	N	3/17/2011	3	No	8.90	0.234	--	--	--
	805S-154-0.5	N	3/11/2011	0.5	No	5.48	0.292	--	--	--
	805S-154-1.5	N	3/11/2011	1.5	Yes	15.8	0.670	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-155	805N-155-0.5	N	3/11/2011	0.5	No	5.98	0.424	--	--	--
	805N-155-100	FD	3/11/2011	0.5	No	52.0	3.64	0.100 U	--	--
	805N-155-1.5	N	3/11/2011	1.5	No	5.03	0.122	--	--	7.50
	805N-155-3.0	N	3/11/2011	3	No	5.04	0.219	--	--	--
805S-156	805S-156-0.5	N	3/8/2011	0.5	No	4.67	0.158	--	--	5.76
	805S-156-1.5	N	3/8/2011	1.5	No	5.12	0.100 U	--	--	--
	805S-156-3.0	N	3/8/2011	3	No	2.36	0.100 U	--	--	--
805N-157	805N-157-0.5	N	3/11/2011	0.5	No	13.4	0.462	--	--	--
	805N-157-1.5	N	3/11/2011	1.5	No	10.9	0.278	--	--	6.48
	805N-157-3.0	N	3/11/2011	3	No	8.62	0.432	--	--	--
805S-158	805S-158-0.5	N	3/8/2011	0.5	No	4.54	0.100 U	--	--	--
	805S-158-1.5	N	3/8/2011	1.5	No	2.28	0.100 U	--	--	--
	805S-158-3.0	N	3/8/2011	3	No	3.23	0.100 U	--	--	6.24
805S-159	805S-159-0.5	N	3/17/2011	0.5	No	18.0	0.531	--	--	--
	805S-159-1.5	N	3/17/2011	1.5	Yes	4.25	0.100 U	--	--	8.06
805N-160	805N-160-0.5	N	3/11/2011	0.5	No	7.55	0.322	--	--	--
	805N-160-1.5	N	3/11/2011	1.5	No	5.00	0.137	--	--	8.29
	805N-160-3.0	N	3/11/2011	3	No	4.08	0.107	--	--	--
805N-161	805N-161-0.5	N	3/11/2011	0.5	No	6.99	0.306	--	--	7.36
	805N-161-1.5	N	3/11/2011	1.5	No	2.17	0.100 U	--	--	--
	805N-161-3.0	N	3/11/2011	3	No	2.91	0.119	--	--	--

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Soil Analytical Results Summary
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CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-162	805N-162-0.5	N	3/11/2011	0.5	No	28.9	1.84	--	--	--
	805N-162-1.5	N	3/11/2011	1.5	No	6.09	0.100 U	--	--	--
	805N-162-3.0	N	3/11/2011	3	No	3.80	0.228	--	--	5.51
	805N-162-100	FD	3/11/2011	3	No	1.96	0.149	--	--	--
805S-163	805S-163-0.5	N	3/8/2011	0.5	No	7.53	0.517	--	--	--
	805S-163-1.5	N	3/8/2011	1.5	No	2.53	0.100 U	--	--	6.99
	805S-163-3.0	N	3/8/2011	3	No	12.1	0.207	--	--	--
805N-164	805N-164-0.5	N	3/11/2011	0.5	Yes	19.0	1.05	--	--	--
805S-165	805S-165-0.5	N	3/8/2011	0.5	No	10.6	0.387	--	--	--
	805S-165-1.5	N	3/8/2011	1.5	No	6.42	0.239	--	--	--
	805S-165-3.0	N	3/8/2011	3	No	5.93	0.235	--	--	--
805N-166	805N-166-0.5	N	3/11/2011	0.5	No	9.50	0.685	--	--	--
	805N-166-1.5	N	3/11/2011	1.5	No	8.29	0.430	--	--	6.67
	805N-166-3.0	N	3/11/2011	3	No	3.99	0.327	--	--	--
805S-167	805S-167-0.5	N	3/8/2011	0.5	No	8.89	0.463	--	--	--
	805S-167-1.5	N	3/8/2011	1.5	No	2.48	0.231	--	--	5.89
	805S-167-3.0	N	3/8/2011	3	No	7.16	0.120	--	--	--
805N-168	805N-168-0.5	N	3/11/2011	0.5	No	15.8	0.875	--	--	--
	805N-168-1.5	N	3/11/2011	1.5	No	23.1	1.14	--	--	--
	805N-168-3.0	N	3/11/2011	3	No	3.79	0.149	--	--	5.43
805S-169	805S-169-0.5	N	3/8/2011	0.5	No	36.1	0.619	--	--	--
	805S-169-1.5	N	3/8/2011	1.5	No	3.85	0.100 U	--	--	--
	805S-169-3.0	N	3/8/2011	3	No	7.21	0.262	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-170	805N-170-0.5	N	3/11/2011	0.5	No	2.19	0.100 U	--	--	6.03
	805N-170-1.5	N	3/11/2011	1.5	No	3.62	0.100 U	--	--	--
	805N-170-3.0	N	3/11/2011	3	No	1.23	0.100 U	--	--	--
805N-171	805N-171-0.5	N	3/11/2011	0.5	No	6.91	0.100 U	--	--	--
	805N-171-1.5	N	3/11/2011	1.5	No	1.38	0.100 U	--	--	--
	805N-171-3.0	N	3/11/2011	3	No	3.13	0.100 U	--	--	--
805S-172	805S-172-0.5	N	3/8/2011	0.5	No	5.46	0.461	--	--	--
	805S-172-1.5	N	3/8/2011	1.5	No	13.9	0.252	--	--	6.09
	805S-172-3.0	N	3/8/2011	3	No	3.48	0.100 U	--	--	--
805N-173	805N-173-0.5	N	3/15/2011	0.5	No	85.2	2.59	0.147	--	--
	805N-173-1.5	N	3/15/2011	1.5	No	4.79	0.100 U	--	--	--
	805N-173-3.0	N	3/15/2011	3	No	4.22	0.164	--	--	6.98
805N-174	805N-174-0.5	N	3/15/2011	0.5	No	250	10.4	0.160	0.141	--
	805N-174-1.5	N	3/15/2011	1.5	No	16.5	0.603	--	--	--
	805N-174-100	FD	3/15/2011	1.5	No	6.45	0.159	--	--	--
	805N-174-3.0	N	3/15/2011	3	No	7.71	0.116	--	--	--
805S-175	805S-175-0.5	N	3/16/2011	0.5	No	4.29	0.207	--	--	--
	805S-175-1.5	N	3/16/2011	1.5	No	2.63	0.100 U	--	--	--
	805S-175-3.0	N	3/16/2011	3	No	4.07	0.100 U	--	--	6.52
805S-176	805S-176-0.5	N	3/8/2011	0.5	No	14.6	0.795	--	--	--
	805S-176-1.5	N	3/8/2011	1.5	Yes	4.02	0.298	--	--	--
805N-177	805N-177-0.5	N	3/11/2011	0.5	No	289	20.4	0.664	0.695	6.72
	805N-177-1.5	N	3/11/2011	1.5	Yes	3.35	0.100 U	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-178	805N-178-0.5	N	3/11/2011	0.5	No	50.5	2.77	0.100 U	--	--
	805N-178-1.5	N	3/11/2011	1.5	No	1.87	0.100 U	--	--	6.68
	805N-178-3.0	N	3/11/2011	3	No	3.30	0.139	--	--	--
805S-179	805S-179-0.5	N	3/16/2011	0.5	No	72.3	1.85	0.100 U	--	6.78
	805S-179-1.5	N	3/16/2011	1.5	Yes	8.57	0.142	--	--	--
805S-180	805S-180-0.5	N	3/16/2011	0.5	No	6.48	0.151	--	--	--
	805S-180-1.5	N	3/16/2011	1.5	No	3.47	0.100 U	--	--	--
	805S-180-3.0	N	3/16/2011	3	No	7.21	0.136	--	--	--
805N-181	805N-181-0.5	N	3/11/2011	0.5	No	144	6.43	0.100 U	0.177	--
	805N-181-1.5	N	3/11/2011	1.5	Yes	227	9.37	0.100 U	0.122	--
805S-182	805S-182-0.5	N	3/16/2011	0.5	No	80.0	5.89	0.354	--	--
	805S-182-1.5	N	3/16/2011	1.5	No	22.8	0.950	--	--	--
	805S-182-3.0	N	3/16/2011	3	No	5.09	0.100 U	--	--	7.78
805N-183	805N-183-0.5	N	3/11/2011	0.5	No	24.4	0.872	--	--	--
	805N-183-1.5	N	3/11/2011	1.5	No	6.85	0.195	--	--	--
	805N-183-3.0	N	3/11/2011	3	No	0.500 U	0.100 U	--	--	--
805S-184	805S-184-0.5	N	3/16/2011	0.5	No	86.9	1.28	0.100 U	--	--
	805S-184-1.5	N	3/16/2011	1.5	No	44.6	2.13	--	--	--
	805S-184-3.0	N	3/16/2011	3	No	6.84	0.306	--	--	6.20
	805S-184-100	FD	3/16/2011	3	No	9.24	0.356	--	--	--
805N-185	805N-185-0.5	N	3/11/2011	0.5	No	39.5	1.90	--	--	--
	805N-185-1.5	N	3/11/2011	1.5	No	0.672	0.100 U	--	--	6.38
	805N-185-3.0	N	3/11/2011	3	No	0.500 U	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-186	805N-186-0.5	N	3/11/2011	0.5	No	80.6	3.23	0.100 U	--	--
	805N-186-1.5	N	3/11/2011	1.5	No	2.16	0.277	--	--	--
	805N-186-3.0	N	3/11/2011	3	No	0.500 U	0.100 U	--	--	6.41
805S-187	805S-187-0.5	N	3/15/2011	0.5	No	1.04	0.100 U	--	--	--
	805S-187-1.5	N	3/15/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-187-3.0	N	3/15/2011	3	No	0.778	0.100 U	--	--	--
805S-188	805S-188-0.5	N	3/15/2011	0.5	No	1.49	0.100 U	--	--	--
	805S-188-1.5	N	3/15/2011	1.5	No	2.02	0.100 U	--	--	--
	805S-188-3.0	N	3/15/2011	3	No	0.500 U	0.100 U	--	--	6.71
805N-189	805N-189-0.5	N	3/11/2011	0.5	No	33.5	2.10	--	--	6.89
	805N-189-1.5	N	3/11/2011	1.5	No	3.79	0.100 U	--	--	--
	805N-189-3.0	N	3/11/2011	3	No	2.88	0.100 U	--	--	--
805N-190	805N-190-0.5	N	3/11/2011	0.5	No	10.9	0.392	--	--	--
	805N-190-1.5	N	3/11/2011	1.5	No	1.89	0.100 U	--	--	6.96
	805N-190-3.0	N	3/11/2011	3	No	2.28	0.100 U	--	--	--
805S-191	805S-191-0.5	N	3/15/2011	0.5	No	2.73	0.100 U	--	--	--
	805S-191-1.5	N	3/15/2011	1.5	No	1.65	0.100 U	--	--	--
	805S-191-3.0	N	3/15/2011	3	No	1.12	0.100 U	--	--	--
805N-192	805N-192-0.5	N	3/11/2011	0.5	No	16.8	2.09	--	--	--
	805N-192-1.5	N	3/11/2011	1.5	No	0.953	0.100 U	--	--	--
	805N-192-3.0	N	3/11/2011	3	No	1.69	0.100 U	--	--	6.12
	805N-192-100	FD	3/11/2011	3	No	1.35	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-193	805S-193-0.5	N	3/15/2011	0.5	No	3.56	0.100 U	--	--	6.45
	805S-193-100	FD	3/15/2011	0.5	No	5.29	0.167	--	--	--
	805S-193-1.5	N	3/15/2011	1.5	No	81.2	0.709	0.142	--	--
	805S-193-3.0	N	3/15/2011	3	No	34.5	2.02	--	--	7.74
805N-194	805N-194-0.5	N	3/11/2011	0.5	No	2.18	0.100 U	--	--	--
	805N-194-1.5	N	3/11/2011	1.5	No	3.01	0.100 U	--	--	5.25
	805N-194-3.0	N	3/11/2011	3	No	0.500 U	0.100 U	--	--	--
805S-195	805S-195-0.5	N	3/15/2011	0.5	No	190	13.5	0.100	0.100 U	--
	805S-195-1.5	N	3/15/2011	1.5	No	1.59	0.100 U	--	--	7.12
	805S-195-3.0	N	3/15/2011	3	No	1.06	0.100 U	--	--	--
805N-196	805N-196-0.5	N	3/11/2011	0.5	No	0.891	0.100 U	--	--	--
	805N-196-1.5	N	3/11/2011	1.5	No	0.500 U	0.100 U	--	--	4.46
	805N-196-3.0	N	3/11/2011	3	No	0.645	0.100 U	--	--	--
805S-197	805S-197-0.5	N	3/15/2011	0.5	No	1.03	0.100 U	--	--	--
	805S-197-1.5	N	3/15/2011	1.5	No	0.500 U	0.100 U	--	--	5.18
	805S-197-3.0	N	3/15/2011	3	No	0.500 U	0.100 U	--	--	--
805N-198	805N-198-0.5	N	3/11/2011	0.5	No	33.7	1.93	--	--	--
	805N-198-100	FD	3/11/2011	0.5	No	31.8	0.693	--	--	--
	805N-198-1.5	N	3/11/2011	1.5	No	2.96	0.108	--	--	--
805S-199	805N-198-3.0	N	3/11/2011	3	No	4.84	0.142	--	--	5.90
	805S-199-0.5	N	3/15/2011	0.5	No	445	52.5	0.212	1.01	--
	805S-199-1.5	N	3/15/2011	1.5	No	9.54	0.817	--	--	--
	805S-199-3.0	N	3/15/2011	3	No	1.46	0.100 U	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-200	805N-200-0.5	N	3/11/2011	0.5	Yes	2.18	0.132	--	--	6.92
805S-201	805S-201-0.5	N	3/15/2011	0.5	No	14.9	0.646	--	--	--
	805S-201-1.5	N	3/15/2011	1.5	Yes	0.500 U	0.100 U	--	--	8.82
805N-202	805N-202-0.5	N	3/11/2011	0.5	No	11.2	1.04	--	--	6.97
	805N-202-1.5	N	3/11/2011	1.5	No	3.05	0.100 U	--	--	--
	805N-202-100	FD	3/11/2011	1.5	No	3.85	0.155	--	--	--
	805N-202-3.0	N	3/11/2011	3	No	1.53	0.100 U	--	--	7.24
805S-203	805S-203-0.5	N	3/15/2011	0.5	No	39.4	9.56	--	--	--
	805S-203-1.5	N	3/15/2011	1.5	Yes	1.37	0.100 U	--	--	--
805S-204	805S-204-0.5	N	3/15/2011	0.5	No	3.19	0.247	--	--	--
	805S-204-1.5	N	3/15/2011	1.5	No	0.630	0.100 U	--	--	--
	805S-204-3.0	N	3/15/2011	3	No	0.500 U	0.100 U	--	--	--
805N-205	805N-205-0.5	N	3/11/2011	0.5	No	30.2	1.83	--	--	--
	805N-205-1.5	N	3/11/2011	1.5	No	1.92	0.100 U	--	--	--
	805N-205-3.0	N	3/11/2011	3	No	1.06	0.100 U	--	--	8.18
	805N-205-100	FD	3/11/2011	3	No	1.08	0.100 U	--	--	--
805S-206	805S-206-0.5	N	3/15/2011	0.5	No	67.8	3.59	0.100 U	--	--
	805S-206-1.5	N	3/15/2011	1.5	No	2.10	0.100 U	--	--	--
	805S-206-3.0	N	3/15/2011	3	No	0.794	0.100 U	--	--	6.66
805S-207	805S-207-0.5	N	3/15/2011	0.5	No	45.9	3.42	--	--	--
	805S-207-1.5	N	3/15/2011	1.5	Yes	11.0	0.228	--	--	7.89
805N-208	805N-208-0.5	N	3/15/2011	0.5	No	83.9	3.18	0.100 U	--	7.31
	805N-208-1.5	N	3/15/2011	1.5	Yes	2.70	0.100 U	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-209	805S-209-0.5	N	3/15/2011	0.5	No	22.0	1.30	--	--	--
	805S-209-100	FD	3/15/2011	0.5	No	2.17	0.100 U	--	--	8.18
	805S-209-1.5	N	3/15/2011	1.5	Yes	1.54	0.100 U	--	--	--
805N-210	805N-210-0.5	N	3/15/2011	0.5	No	2.88	0.100 U	--	--	7.84
	805N-210-1.5	N	3/15/2011	1.5	Yes	1.06	0.100 U	--	--	--
805S-211	805S-211-0.5	N	3/15/2011	0.5	No	0.500 U	0.100 U	--	--	7.20
	805S-211-1.5	N	3/15/2011	1.5	No	0.500 U	0.100 U	--	--	--
	805S-211-3.0	N	3/15/2011	3	No	0.500 U	0.100 U	--	--	--
805N-212	805N-212-0.5	N	3/15/2011	0.5	No	4.27	0.100 U	--	--	--
	805N-212-1.5	N	3/15/2011	1.5	No	0.500 U	0.100 U	--	--	8.16
	805N-212-3.0	N	3/15/2011	3	No	0.500 U	0.100 U	--	--	--
805S-213	805S-213-0.5	N	3/15/2011	0.5	No	21.0	2.03	--	--	--
	805S-213-1.5	N	3/15/2011	1.5	No	0.500 U	0.100 U	--	--	7.32
	805S-213-3.0	N	3/15/2011	3	No	0.500 U	0.100 U	--	--	--
805N-214	805N-214-0.5	N	3/15/2011	0.5	No	3.13	0.143	--	--	--
	805N-214-1.5	N	3/15/2011	1.5	No	11.7	0.543	--	--	--
	805N-214-3.0	N	3/15/2011	3	No	14.4	0.492	--	--	7.55
805S-215	805S-215-0.5	N	3/15/2011	0.5	No	56.5	5.20	0.100 U	--	7.58
	805S-215-1.5	N	3/15/2011	1.5	No	8.56	0.395	--	--	--
	805S-215-3.0	N	3/15/2011	3	No	0.881	0.100 U	--	--	--
805N-216	805N-216-0.5	N	3/15/2011	0.5	No	31.7	1.77	--	--	--
	805N-216-1.5	N	3/15/2011	1.5	Yes	0.725	0.100 U	--	--	--

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Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation Units						TTLIC mg/kg	WET mg/l	WET_DI mg/l	TCLP mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-217	805S-217-0.5	N	3/15/2011	0.5	No	13.8	0.732	--	--	--
	805S-217-1.5	N	3/15/2011	1.5	No	0.913	0.100 U	--	--	--
	805S-217-3.0	N	3/15/2011	3	No	0.964	0.100 U	--	--	--
805N-218	805N-218-0.5	N	3/15/2011	0.5	No	64.7	3.75	0.100 U	--	7.19
	805N-218-1.5	N	3/15/2011	1.5	Yes	4.23	0.100 U	--	--	--
805S-219	805S-219-0.5	N	3/15/2011	0.5	No	24.6	1.23	--	--	--
	805S-219-1.5	N	3/15/2011	1.5	Yes	4.26	0.240	--	--	6.91
805N-220	805N-220-0.5	N	3/15/2011	0.5	No	195	7.64	0.100 U	0.124	--
	805N-220-1.5	N	3/15/2011	1.5	No	1.32	0.100 U	--	--	--
	805N-220-3.0	N	3/15/2011	3	No	1.50	0.100 U	--	--	7.64
805S-221	805S-221-0.5	N	3/15/2011	0.5	No	328	21.0	0.372	0.246	--
	805S-221-1.5	N	3/15/2011	1.5	Yes	32.1	1.14	--	--	--
805N-222	805N-222-0.5	N	3/17/2011	0.5	Yes	54.8	2.86	0.100 U	--	--
805N-223	805N-223-0.5	N	3/15/2011	0.5	No	744	41.0	0.309	0.502	--
	805N-223-100	FD	3/15/2011	0.5	No	816	28.1	0.152	0.320	--
	805N-223-1.5	N	3/15/2011	1.5	No	12.0	1.41	--	--	--
	805N-223-3.0	N	3/15/2011	3	No	63.7	6.37	0.100 U	--	--
805N-224	805N-224-0.5	N	3/15/2011	0.5	Yes	235	14.9	0.263	0.588	5.36
805S-225	805S-225-0.5	N	3/16/2011	0.5	No	33.9	1.94	--	--	--
	805S-225-1.5	N	3/16/2011	1.5	Yes	0.544	0.100 U	--	--	6.62
805N-226	805N-226-0.5	N	3/16/2011	0.5	Yes	679	33.4	0.413	1.39	--
805S-227	805S-227-0.5	N	3/16/2011	0.5	No	37.1	2.19	--	--	--
	805S-227-1.5	N	3/16/2011	1.5	Yes	30.0	1.57	--	--	--

**Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610**

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805S-228	805S-228-0.5	N	3/16/2011	0.5	No	27.7	1.35	--	--	--
	805S-228-1.5	N	3/16/2011	1.5	Yes	16.0	0.650	--	--	5.76
805N-229	805N-229-0.5	N	3/15/2011	0.5	No	23.2	1.33	--	--	--
	805N-229-1.5	N	3/15/2011	1.5	Yes	127	8.46	0.100 U	0.113	--
805N-230	805N-230-0.5	N	3/16/2011	0.5	No	4.51	0.173	--	--	6.36
	805N-230-1.5	N	3/16/2011	1.5	Yes	0.503	0.100 U	--	--	--
805N-231	805N-231-0.5	N	3/16/2011	0.5	No	96.9	3.50	0.120	--	--
	805N-231-1.5	N	3/16/2011	1.5	Yes	20.3	0.695	--	--	--
805S-232	805S-232-0.5	N	3/16/2011	0.5	No	38.2	4.80	--	--	6.31
	805S-232-1.5	N	3/16/2011	1.5	Yes	46.7	0.517	--	--	--
805N-233	805N-233-0.5	N	3/16/2011	0.5	Yes	11.6	1.11	--	--	--
805S-234	805S-234-0.5	N	3/16/2011	0.5	No	4.08	0.100 U	--	--	7.13
	805S-234-100	FD	3/16/2011	0.5	No	5.70	0.115	--	--	--
	805S-234-1.5	N	3/16/2011	1.5	Yes	6.77	0.167	--	--	--
805N-235	805N-235-0.5	N	3/16/2011	0.5	No	4.90	0.100 U	--	--	--
	805N-235-1.5	N	3/16/2011	1.5	Yes	0.545	0.100 U	--	--	--
805S-236	805S-236-0.5	N	3/16/2011	0.5	No	22.7	1.19	--	--	--
	805S-236-1.5	N	3/16/2011	1.5	Yes	46.0	2.02	--	--	--
805N-237	805N-237-0.5	N	3/16/2011	0.5	No	55.0	2.48	0.210	--	--
	805N-237-1.5	N	3/16/2011	1.5	Yes	10.4	0.363	--	--	6.06
805S-238	805S-238-0.5	N	3/16/2011	0.5	No	193	23.8	0.448	0.527	--
	805S-238-100	FD	3/16/2011	0.5	No	265	24.5	0.232	0.367	--
	805S-238-1.5	N	3/16/2011	1.5	Yes	11.0	0.391	--	--	--

Table 1
Soil Analytical Results Summary
I-805 HOV ADL SURVEY
CALTRANS EA 11-081610

California Hazardous Waste Criteria ¹						1,000	5.0			
RCRA Hazardous Waste Criteria ²									5.0	
CALTRANS Variance Criteria ³						Condition 9.c/9.e	1,411		1.50	5.5
						Condition 9.d/9.e	3,397		150.00	5.0 - 5.5
Chemical Name						Lead ^{5,6}	Lead	Lead	Lead	pH
Method						SW6010B	SW6010B	SW6010B	SW6010B	SW9045D
Preparation						TTLIC	WET	WET_DI	TCLP	
Units						mg/kg	mg/l	mg/l	mg/l	pH units
Location Name	Sample Name	Sample Type	Date	Depth (feet)	Refusal ⁴ (Yes / No)					
805N-239	805N-239-0.5	N	3/16/2011	0.5	Yes	323	13.1	0.120	0.100 U	--
805S-240	805S-240-0.5	N	3/16/2011	0.5	No	4.39	0.494	--	--	--
	805S-240-1.5	N	3/16/2011	1.5	No	1.41	0.100 U	--	--	6.66
	805S-240-3.0	N	3/16/2011	3	No	4.42	0.269	--	--	6.68

Notes:

- 1 - California hazardous waste criteria from California Code of Regulations 66261.21-24
- 2 - RCRA hazardous waste criteria from California Code of Federal Regulations, Title 40, Part 261.24
- 3 - CALTRANS specific criteria for ADL impacted soil and re-use within CALTRANS right-of-way (CALEPA Variance V09HQSCD006, dated July 1, 2009)
- 4 - Refusal was noted from approximately 0.5 to 1 foot below the sample depth

5 - DI WET analysis if total lead was equal to or greater than 50 mg/kg

6 - Soluble lead (TCLP) analysis if total lead is equal to or greater than 100 mg/kg

Bold and Italicized text denotes a concentration above the hazardous waste limits

FD - field duplicate sample

J - result is considered an estimated value (see Section xxx)

mg/kg - milligrams per kilogram

mg/L - milligrams per liter

N - normal environmental sample

TCLP - USEPA toxicity characteristic leaching procedure

TTLIC - total threshold limit concentration

U - chemical was not detected at or above the value listed

WET - California waste extraction test using citric acid

WET-DI - California waste extraction test using deionized water

Highlighted values indicate sample results not applicable under the CALTRANS variance

Table 2A
Summary of the 95 Percent Upper Confidence Limits

Data Set	All Depths (0-3 feet)	Surface (0.5-1 feet)	Shallow (1.5-2 feet)	Intermediate (<2 feet)	Deep (≥2 feet)
All Data Sets (Entire Project Corridor)					
Total Lead (mg/kg)	48.4	106.2	42.3	64.1*	14.9**
Leaching Lead (WET) (mg/L)	2.9	6.0	2.8	3.9*	0.9**
Leaching Lead (WET-DI) (mg/L)	0.9	0.7	0.9	0.9*	0.1**
Leaching Lead (TCLP) (mg/L)	2.4	1.4	2.4	2.4*	0.3**
pH	7.4	7.5	7.5	7.4*	7.4**
I-805 North and South Bound Lanes (South Phase)					
Total Lead (mg/kg)	45.8	100.2	47.7	62.1*	15.3**
Leaching Lead (WET) (mg/L)	2.8	5.7	3.2	3.9*	0.9**
Leaching Lead (WET-DI) (mg/L)	0.9	0.7	0.9	0.9*	0.1**
Leaching Lead (TCLP) (mg/L)	2.4	1.0	2.4	2.4*	0.3**
pH	7.4	7.6	7.5	7.5*	7.4**

Notes:

* indicates data was analyzed for depths 2-feet and shallower

** indicates data was analyzed for depths 2-feet and deeper

Highlighted data denotes the 95% Upper Confidence Level (UCL) for a particular data set is outside of either hazardous waste criteria or non-paved DTSC variance criteria.

bgs – below ground surface

mg/kg – milligrams per kilogram

mg/L – milligrams per liter

NA – insufficient data needed to calculate a 95% UCL for a particular data set

TCLP – toxicity characteristic leaching procedure

WET – waste extraction test

WET-DI – waste extraction test using deionized water as the extractant

Table 2A (Continued)
Summary of the 95 Percent Upper Confidence Limits

Data Set	All Depths (0-3 feet)	Surface (0.5-1 feet)	Shallow (1.5-2 feet)	Intermediate (<2 feet)	Deep (≥2 feet)
I-805 North and South Bound Lanes (North Phase)					
Total Lead (mg/kg)	120.1	251.7	29.4	146.7*	28.1**
Leaching Lead (WET) (mg/L)	6.2	11.9	1.7	7.1*	2.7**
Leaching Lead (WET-DI) (mg/L)	0.4	0.4	0.1	0.4*	0.1**
Leaching Lead (TCLP) (mg/L)	1.4	1.4	0.1	1.4*	NA**
pH	7.4	7.5	7.5	7.4*	7.4**

Notes:

* indicates data was analyzed for depths 2-feet and shallower

** indicates data was analyzed for depths 2-feet and deeper

Highlighted data denotes the 95% Upper Confidence Level (UCL) for a particular data set is outside of either hazardous waste criteria or non-paved DTSC variance criteria.

bgs – below ground surface

mg/kg – milligrams per kilogram

mg/L – milligrams per liter

NA – insufficient data needed to calculate a 95% UCL for a particular data set

TCLP – toxicity characteristic leaching procedure

WET – waste extraction test

WET-DI – waste extraction test using deionized water as the extractant

Table 2B
Summary of Mean Values
I-805 HOV ADL Study
Caltrans EA-11-081610

Data Set	All Depths (0-3 feet)	Surface (0.5-1 feet)	Shallow (1.5-2 feet)	Intermediate (<2 feet)	Deep (≥2 feet)
All Data Sets (Entire Project Corridor)					
Total Lead (mg/kg)	32.2	63.6	18.6	41.9	7.8
Leaching Lead (WET) (mg/L)	1.9	3.9	1.1	2.5	0.4
pH	7.3	7.4	7.3	7.3	7.2
I-805 North and South Bound Lanes (South Phase)					
Total Lead (mg/kg)	29.4	57.2	19.9	38.9	7.9
Leaching Lead (WET) (mg/L)	1.8	3.5	1.2	2.4	0.4
pH	7.3	7.5	7.3	7.4	7.2
I-805 North and South Bound Lanes (North Phase)					
Total Lead (mg/kg)	49.6	93.1	12.0	56.7	7.0
Leaching Lead (WET) (mg/L)	3.0	5.7	0.6	3.4	0.6
pH	7.1	6.9	7.1	7.0	7.3

Notes:

bgs – below ground surface

mg/kg – milligrams per kilogram

mg/L – milligrams per liter

TCLP – toxicity characteristic leaching procedure

WET – waste extraction test

WET-DI – waste extraction test using deionized water as the extractant

APPENDIX A

Sample Location Coordinates (Table A-1)

Table A-1
Sample Location Coordinates
I-805 HOV ADL Study
Caltrans EA-11-081610

Sample Location Name	X-Coordinate (Latitude in decimal degrees)	Y-Coordinate (Longitude in decimal degrees)
805N-001	6319401.897	1803465.239
805C-002	6319304.893	1803433.72
805S-003	6319209.952	1803402.872
805N-004	6319205.155	1804126.932
805C-005	6319122.65	1804106.97
805S-006	6319027.039	1804078.185
805N-007	6318973.176	1804847.912
805C-008	6318894.694	1804815.567
805S-009	6318818.329	1804790.754
805N-010	6318761.934	1805498.048
805C-011	6318685.569	1805473.236
805S-012	6318612.661	1805451.828
805N-013	6318550.073	1806157.111
805C-014	6318469.58	1806130.957
805S-015	6318395.279	1806106.815
805N-016	6318345.798	1806820.92
805C-017	6318259.061	1806785.892
805S-018	6318178.515	1806752.876
805N-019	6318134.608	1807477.918
805C-020	6318052.721	1807449.03
805S-021	6317972.899	1807420.813
805N-022	6317928.268	1808141.057
805C-023	6317822.546	1808136.369
805S-024	6317718.112	1808120.691
805N-025	6317690.195	1808782.475
805C-026	6317608.927	1808744.661
805S-027	6317535.244	1808711.592
805N-028	6317461.892	1809382.978
805C-029	6317356.578	1809393.144
805S-030	6317261.835	1809393.301
805N-031	6317181.164	1810084.477
805C-032	6317098.851	1810056.827
805S-033	6317018.023	1810025.098
805N-034	6316922.882	1810743.339
805C-035	6316841.687	1810699.929
805S-036	6316764.757	1810651.145
805N-037	6316544.461	1811389.65
805C-038	6316466.789	1811342.905
805S-039	6316402.837	1811296.534
805N-040	6316102.759	1811943.556
805C-041	6316041.378	1811885.245

**Table A-1 (Continued)
Sample Location Coordinates
I-805 HOV ADL Study
Caltrans EA-11-081610**

Sample Location Name	X-Coordinate (Latitude in decimal degrees)	Y-Coordinate (Longitude in decimal degrees)
805S-042	6315976.928	1811820.795
805N-043	6315579.488	1812426.93
805C-044	6315534.987	1812367.084
805S-045	6315479.744	1812290.358
805N-046	6315057.436	1812917.026
805C-047	6314974.887	1812789.077
805S-048	6314921.179	1812704.678
805N-049	6314445.478	1813260.174
805C-050	6314405.58	1813186.518
805S-051	6314358.01	1813108.257
805N-052	6314309.521	1813732.088
805N-053	6313938.07	1813729.234
805C-054	6313891.933	1813622.794
805S-055	6313837.536	1813522.969
805S-056	6313772.357	1813468.278
805S-057	6313612.912	1813161.11
805N-058	6313742.054	1814098.434
805N-059	6313529.742	1814351.366
805C-060	6313507.048	1814055.654
805S-061	6313451.262	1813973.627
805S-062	6313139.901	1813734.946
805N-063	6313300.158	1814746.731
805C-064	6313181.31	1814676.305
805S-065	6313094.843	1814630.842
805N-066	6313076.738	1815189.962
805N-067	6313019.76	1815523.775
805C-068	6312857.37	1815393.282
805S-069	6312765.989	1815308.476
805N-070	6312752.457	1815990.856
805N-071	6312595.444	1816027.541
805C-072	6312513.269	1815980.584
805S-073	6312429.627	1815923.354
805N-074	6312287.077	1816454.183
805N-075	6311959.99	1816690.066
805S-076	6311955.653	1816438.416
805S-077	6311829.456	1816417.872
805N-078	6311827.988	1816847.823
805C-079	6311842.663	1816624.777
805N-080	6311208.479	1817106.93
805C-081	6311394.369	1816901.384
805S-082	6311346.678	1816803.801
805S-083	6311034.853	1816876.438
805N-084	6310801.534	1817306.389
805C-085	6310760.447	1817209.54

**Table A-1 (Continued)
Sample Location Coordinates
I-805 HOV ADL Study
Caltrans EA-11-081610**

Sample Location Name	X-Coordinate (Latitude in decimal degrees)	Y-Coordinate (Longitude in decimal degrees)
805S-086	6310732.566	1817137.637
805N-087	6310281.337	1817657.834
805C-088	6310203.565	1817544.844
805S-089	6310150.738	1817468.538
805N-090	6309761.874	1818089.253
805C-091	6309684.101	1818005.611
805S-092	6309616.6	1817935.175
805N-093	6309374.514	1818651.898
805C-094	6309239.476	1818552.955
805S-095	6309155.833	1818486.921
805N-096	6309125.017	1818969.7
805N-097	6308669.284	1819549.584
805C-098	6308710.961	1819281.23
805S-099	6308427.51	1819436.091
805S-100	6308611.761	1819106.677
805N-101	6308184.732	1820231.184
805S-102	6307921.402	1820039.349
805N-103	6307674.723	1820908.144
805S-104	6307575.092	1820524.984
805S-105	6307297.208	1820955.022
805N-106	6307336.612	1821291.556
805N-107	6307143.301	1821601.557
805N-108	6307108.712	1821525.586
805S-109	6306831.825	1821522.672
805N-110	6306740.538	1822134.809
805S-111	6306579.184	1821983.735
805N-112	6306504.575	1822742.762
805S-113	6306299.785	1822652.79
805N-114	6306260.389	1823439.915
805S-115	6306090.842	1823351.527
805N-116	6306047.567	1824090.975
805S-117	6305872.418	1824023.109
805N-118	6305830.77	1824758.209
805S-119	6305662.31	1824703.473
805N-120	6305605.136	1825418.92
805S-121	6305439.979	1825365.257
805N-122	6305368.697	1826100.255
805S-123	6305237.263	1826041.114
805N-124	6305256.748	1826545.961
805S-125	6305034.572	1826394.651
805N-126	6305172.465	1826729.486
805S-127	6304965.219	1826667.626
805N-128	6305102	1826996.935

**Table A-1 (Continued)
Sample Location Coordinates
I-805 HOV ADL Study
Caltrans EA-11-081610**

Sample Location Name	X-Coordinate (Latitude in decimal degrees)	Y-Coordinate (Longitude in decimal degrees)
805S-129	6304859.928	1826688.197
805N-130	6304881.344	1827338.843
805S-131	6304721.664	1827248.612
805N-132	6304783.963	1827593.803
805S-133	6304518.639	1827308.644
805N-134	6304621.321	1828029.52
805S-135	6304452.984	1827848.59
805N-136	6304497.155	1828276.781
805S-137	6304323.344	1828061.439
805N-138	6304335.029	1828624.011
805S-139	6304163.149	1828554.469
805N-140	6304029.543	1829294.439
805S-141	6303876.178	1829167.913
805N-142	6303566.238	1829902.631
805S-143	6303449.66	1829738.755
805N-144	6303055.85	1830385.962
805S-145	6302921.139	1830186.371
805N-146	6302753.068	1830761.445
805S-147	6302570.519	1830480.265
805N-148	6302552.646	1830838.757
805S-149	6302431.426	1830714.459
805N-150	6302268.072	1831283.642
805S-151	6302004.696	1831341.548
805S-152	6301922.899	1831295.383
805N-153	6302052.617	1831939.882
805S-154	6301588.405	1831752.22
805N-155	6301863.263	1832173.661
805S-156	6301729.09	1832049.485
805N-157	6301859.093	1832572.355
805S-158	6301643.83	1832445.152
805S-159	6301449.385	1832398.789
805N-160	6301815.672	1832863.609
805N-161	6301881.21	1833182.01
805N-162	6301859.733	1833596.158
805S-163	6301636.327	1833445.677
805N-164	6301837.153	1834008.633
805S-165	6301644.316	1834064.225
805N-166	6301830.877	1834412.65
805S-167	6301667.064	1834790.567
805N-168	6301846.255	1835102.127
805S-169	6301682.138	1835461.622
805N-170	6301854.07	1835818.511

**Table A-1 (Continued)
Sample Location Coordinates
I-805 HOV ADL Study
Caltrans EA-11-081610**

Sample Location Name	X-Coordinate (Latitude in decimal degrees)	Y-Coordinate (Longitude in decimal degrees)
805N-171	6301924.406	1836076.41
805S-172	6301700.373	1836198.847
805N-173	6301868.159	1836513.355
805N-174	6301818.829	1836954.245
805S-175	6301664.844	1836859.388
805S-176	6301485.773	1836885.539
805N-177	6301875.954	1837164.942
805N-178	6301609.198	1837629.217
805S-179	6301478.432	1837470.961
805S-180	6301395.373	1837432.186
805N-181	6301242.684	1838224.911
805S-182	6301101.829	1838132.061
805N-183	6300823.206	1838798.555
805S-184	6300683.917	1838678.553
805N-185	6300517.268	1839258.28
805N-186	6300346.075	1839401.115
805S-187	6300155.437	1839248.646
805S-188	6299991.962	1839452.423
805N-189	6300340.63	1839751.206
805N-190	6299933.649	1840006.603
805S-191	6299755.251	1839881.9
805N-192	6299795.192	1840290.093
805S-193	6299397.47	1840177.955
805N-194	6299591.699	1840529.288
805S-195	6299467.97	1840473.166
805N-196	6299466.841	1841243.495
805S-197	6299268.563	1841196.215
805N-198	6299388.596	1841770.289
805S-199	6299221.874	1841744.239
805N-200	6299466.747	1842590.875
805S-201	6299315.655	1842583.06
805N-202	6299546.309	1843296.654
805S-203	6299344.31	1843291.629
805S-204	6299169.773	1843604.234
805N-205	6299521.453	1844021.039
805S-206	6299352.31	1843997.643
805S-207	6299279.184	1844216.417
805N-208	6299451.808	1844655.976
805S-209	6299259.064	1844591.181
805N-210	6299604.247	1845025.114
805S-211	6298951.298	1844986.901
805N-212	6299156.785	1845317.407

Table A-1 (Continued)
Sample Location Coordinates
I-805 HOV ADL Study
Caltrans EA-11-081610

Sample Location Name	X-Coordinate (Latitude in decimal degrees)	Y-Coordinate (Longitude in decimal degrees)
805S-213	6298961.479	1845242.004
805N-214	6298655.102	1845915.178
805S-215	6298550.235	1845800.453
805N-216	6298110.764	1846368.142
805S-217	6298011.072	1846231.769
805N-218	6297282.797	1846921.894
805S-219	6297439.666	1846613.058
805N-220	6296975.939	1847123.536
805S-221	6296921.955	1846952.008
805N-222	6296934.736	1847394.257
805N-223	6296352.523	1847903.373
805N-224	6296114.96	1848544.405
805S-225	6296005.02	1848432.543
805N-226	6295886.636	1849213.666
805S-227	6295798.649	1849050.624
805S-228	6295503.901	1849310.581
805N-229	6296185.621	1850511.575
805N-230	6295836.687	1850142.241
805N-231	6295665.373	1849865.859
805S-232	6295555.55	1849712.212
805N-233	6295347.789	1850509.711
805S-234	6295235.711	1850354.762
805N-235	6295032.393	1851097.674
805S-236	6294877.169	1850980.983
805N-237	6294612.118	1851679.216
805S-238	6294474.317	1851565.463
805N-239	6294207.085	1852258.582
805S-240	6294067.352	1852152.836

Notes:

Coordinate system is NAD 83 State Plane System (CA Zone VI)

APPENDIX B

**Laboratory Analytical Reports and
Chain-of-Custody Documentation
(on attached CD)**

APPENDIX C
Statistical Data Evaluation

1. INTRODUCTION

Caltrans is proposing to construct managed and high occupancy vehicle (HOV) lanes along Interstate 805 (I-805) between 0.32 mile south of the Palomar Street Over Crossing (OC) to the Landis Street OC. The construction will result in soil disturbance, excavation, and reuse of excavated soil along the shoulders and median of the project corridor. In the more urbanized highway corridors, including the I-805 corridor where construction is planned, shallow soil is typically contaminated with aerially-deposited lead (ADL) caused by historic emissions from vehicle exhausts. The lead concentrations in shallow soil may exceed State and Federal hazardous waste criteria or may be at concentrations that require special handling and placement.

The California Department of Toxic Substances Control (DTSC) issued a variance to Caltrans (Variance, No. V09HQSCD006) for the management of soil contaminated with ADL. The variance requires the comparison of representative concentrations of lead (soluble and total) and pH with hazardous waste and other criteria for appropriate classification of soil. Based on the classification, soil could be managed for reuse within the project or removed for disposal at an off-site in-State permitted facility.

The Caltrans Task Order manager indicated that the project area will be constructed in two phases. The first phase will consist of construction of the Palomar Street Direct Access Ramp and HOV lanes from Palomar Street to State Route (SR) 94. This phase is referred to as the "South" phase for the analysis (Figure 1). The second phase will consist of construction of improvements from SR-94 to the Landis Street OC and is referred to as the "North" phase (Figure 2).

2. OBJECTIVE

Statistically analyze the data set as one sample area, the South and North sub-areas with sample depth intervals as sub-strata for proper soil classification under the Variance.

3. ANALYSIS

Soil samples were collected at depths of 0.5 feet, 1.5 feet, and 3.0 feet below ground surface (bgs) from 240 locations along the project corridor (with the exception of 805S-027 where a sample was collected from 1 feet bgs). The samples were analyzed for concentrations of total lead (TOTAL) and soluble lead extracted and analyzed by the Waste Extraction Test (WET). Select samples were also analyzed soil pH, soluble lead extracted with the Toxicity Characteristic Leaching Procedure (TCLP), and soluble lead extracted with a modified WET using de-ionized water (WET-DI). Lead concentrations that were not detected were substituted with the method reporting limit. Field duplicates were collected at the rate of 5% (of the field samples) for TOTAL and WET, 8% for WET DI, 6% for TCLP, and 4% for pH analyses. The larger of the field and field duplicate concentration was used. Any uncertainty in the difference between the field and field duplicate concentration was biased toward protecting the environment and human health by selecting the higher concentration.

For each data set, parametric procedures were used to evaluate if the true mean concentrations were below the criteria specified in the Variance. That is, the null hypothesis states that the mean concentration is less than the Variance criterion for a false positive rate (α) of 0.05 and a false negative rate (β) of 0.20.

The procedures required certain assumptions about the underlying distribution of the data set or subset being analyzed. Goodness-of-fit tests were used to test the assumptions regarding the underlying distribution. Based on the underlying distribution (or lack of), the appropriate procedure was selected to calculate the representative mean concentration. Since the true mean concentration is not known, a value that would not be exceeded 95 percent of the time (95 percent upper confidence limit or 95 UCL) was calculated for the selected α and β values.

The WET-DI and TCLP concentrations were plotted against TOTAL and WET concentrations to evaluate if there were meaningful correlations that could be used to extrapolate soluble lead concentrations not analyzed by the laboratory. The plots showed that there was no correlation between WET-DI, TCLP, TOTAL and WET concentrations. However, there are sufficient data for classification of the soil without extrapolation of soluble lead concentrations.

3.1. Project Corridor Sample Area

The analysis considered the project corridor as one sample area. The sub-strata (depth-intervals) consisted of 0-3 feet (entire data set), 0.5-1, 1.5-2, less than 2 feet (combined 0.5-1 and 1.5-2), and greater than 2 feet (3-3.5). The table below summarizes the results of the parametric procedures for each sub-strata.

			Total Concentrations (mg/kg)					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	653	9%	0.5	1180.0	32.2	4.4	95.2	48.4
0.5-1	242	2%	0.5	1180.0	63.6	17.4	128.1	106.2
1.5-2	224	10%	0.5	966.0	18.6	2.7	81.2	42.3
< 2	467	6%	0.5	1180.0	41.9	6.1	110.2	64.1
> 2 (3-3.5)	186	16%	0.5	196.0	7.8	1.9	22.1	14.9

			WET Concentrations (mg/L)					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	654	46%	0.1	66.5	1.9	0.1	5.9	2.9
0.5-1	242	17%	0.1	52.5	3.9	0.9	7.5	6.0
1.5-2	224	62%	0.1	66.5	1.1	0.1	5.7	2.8
< 2	467	39%	0.1	66.5	2.5	0.2	6.8	3.9
> 2 (3-3.5)	187	65%	0.1	12.0	0.4	0.1	1.4	0.9

Depth (ft)	Number of Samples	% of Non Detect	Soil pH					
			Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	167	N/A	4.4	9.0	7.3	7.5	0.9	7.4
0.5-1	59	N/A	5.4	8.6	7.4	7.6	0.7	7.5
1.5-2	63	N/A	4.5	8.8	7.3	7.5	0.9	7.5
<2	122	N/A	4.5	8.8	7.3	7.5	0.8	7.4
> 2 (3-3.5)	45	N/A	4.4	9.0	7.2	7.5	0.9	7.4

The representative values of TOTAL, WET, and pH concentrations were compared with Variance criteria to evaluate soil classification. Although not all the samples were analyzed for WET-DI and TCLP, there were sufficient data for comparison with Variance criteria. The maximum possible values of WET-DI and TCLP did not exceed Variance criteria as shown in the table below.

Parameter	0-3	0.5-1	1.5-2	<2	>2 (3-3.5)
TOTAL 95% UCL	48.4	106.2	42.3	64.1	14.9
WET 95% UCL	2.9	6.0	2.8	3.9	0.9
pH (95% UCL)	7.4	7.5	7.5	7.4	7.4
WET DI (maximum)	0.9	0.7	0.9	0.9	0.1
TCLP (maximum)	2.4	1.4	2.4	2.4	0.3
Soil Classification	X	Y1	X	X	X

The Variance defines non-hazardous soil that has no restrictions for reuse within the project (but requires notification and lead compliance plan for worker safety) as soil type "X." Soil that is California hazardous (non-RCRA) but has total concentrations below 1,411 mg/kg and WET-DI concentrations below 1.5 mg/kg is defined as "Y1." Soil with Y1 classification can be reused within the project below a minimum cover of 1 foot of clean soil. If soil classified as Y1 is removed from the project site, it would have to be disposed of as hazardous waste at a Class 1 landfill facility.

If soil from the surface to a depth of 3 feet within the project area were to be treated as one stockpile, then the soil would be classified as X. If soil from various depth intervals were managed separately, then soil shallower than 1 foot bgs would be classified as Y1 with all other depth strata classified as X.

3.1. Phase 1 (South) Sub-Area

The analysis was repeated for the Phase 1 (South) sub-area. The approximate Phase 1 sub-area corridor length is 45,687 feet, which represents approximately 79% of the total project corridor length. Of the 240 locations sampled for the entire project, 199 were sampled in the South sub-area. The data set for the sub-area were analyzed for TOTAL and WET lead concentrations and soil pH data for the sub-strata corresponding to depth intervals 0.5-1 feet, 1.5-2 feet, less than 2 feet, and greater than 2 feet.

			TOTAL Concentrations (mg/kg)					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	562	8%	0.5	1180.0	29.4	4.2	89.4	45.8
0.5-1	199	2%	0.5	1180.0	57.2	15.5	116.6	100.2
1.5-2	189	10%	0.5	966.0	19.9	2.7	87.8	47.7
< 2	389	6%	0.5	1180.0	38.9	5.6	105.0	62.1
> 2 (3-3.5)	173	14%	0.5	196.0	7.9	2.3	22.5	15.3

			WET Concentrations (mg/L)					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	563	48%	0.1	66.5	1.8	0.1	5.7	2.8
0.5-1	199	19%	0.1	52.5	3.5	0.7	7.0	5.7
1.5-2	189	63%	0.1	66.5	1.2	0.1	6.2	3.2
< 2	389	41%	0.1	66.5	2.4	0.2	6.7	3.9
> 2 (3-3.5)	174	64%	0.1	12.0	0.4	0.1	1.3	0.9

			Soil pH					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	141	NA	4.4	9.0	7.3	7.5	0.9	7.4
0.5-1	48	NA	5.8	8.6	7.5	7.6	0.7	7.6
1.5-2	54	NA	4.5	8.6	7.3	7.5	0.9	7.5
< 2	102	NA	4.5	8.6	7.4	7.6	0.8	7.5
> 2 (3-3.5)	39	NA	4.4	9.0	7.2	7.5	1.0	7.4

Parameter	0-3	0.5-1	1.5-2	<2	>2 (3-3.5)
TOTAL 95% UCL	45.8	100.2	47.7	62.1	15.3
WET 95% UCL	2.8	5.7	3.2	3.9	0.9
pH (95% UCL)	7.4	7.6	7.5	7.5	7.4
WET DI (maximum)	0.9	0.7	0.9	0.9	0.1
TCLP (maximum)	2.4	1.0	2.4	2.4	0.3
Soil Classification	X	Y1	X	X	X

Similar to results of statistical analysis for the entire project area, if soil from the surface to a depth of 3 feet within the Phase 1 (South) sub-area were to be treated as one stockpile, then the soil would be classified as X. If soil from various depth intervals were managed separately, then soil shallower than 1 foot bgs would be classified as Y1 with all other depth strata classified as X.

3.1. Phase 2 (North) Sub-Area

The analysis was repeated for the Phase 2 (North) sub-area. The approximate Phase 2 sub-area corridor length is 11,842 feet, which represents approximately 21% of the total project corridor length. Of the 240 locations sampled for the entire project, 41 were sampled in the North sub-area. Results are summarized in the table below.

			TOTAL Concentrations (mg/kg)					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	91	10%	0.5	816.0	49.6	10.4	124.4	120.1
0.5-1	43	2%	0.5	816.0	93.1	30.2	170.1	251.7
1.5-2	35	11%	0.5	127.0	12.0	2.7	23.5	29.4
< 2	78	6%	0.5	816.0	56.7	11.7	132.9	146.7
> 2 (3-3.5)	13	31%	0.5	63.7	7.0	1.0	17.5	28.1

			WET Concentrations (mg/L)					
Depth (ft)	Number of Samples	% of Non Detect	Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	91	37%	0.1	41.0	3.0	0.4	7.0	6.2
0.5-1	43	12%	0.1	41.0	5.7	1.8	9.4	11.9
1.5-2	35	54%	0.1	8.5	0.6	0.1	1.4	1.7
< 2	78	31%	0.1	41.0	3.4	0.6	7.5	7.1
> 2 (3-3.5)	13	77%	0.1	6.4	0.6	0.1	1.7	2.7

Depth (ft)	Number of Samples	% of Non Detect	Soil pH					
			Minimum value	Maximum value	Mean	Median	Standard Deviation	95% UCL
0-3	26	NA	5.4	8.8	7.1	7.2	0.8	7.4
0.5-1	11	NA	5.4	7.8	6.9	7.1	0.7	7.3
1.5-2	9	NA	5.8	8.8	7.1	6.9	1.0	7.8
< 2	20	NA	5.4	8.8	7.0	7.1	0.8	7.3
> 2 (3-3.5)	6	NA	6.7	8.2	7.3	7.4	0.6	7.8

Parameter	0-3	0.5-1	1.5-2	<2	>2 (3-3.5)
TOTAL 95% UCL	120.1	251.7	29.4	146.7	28.1
WET 95% UCL	6.2	11.9	1.7	7.1	2.7
pH (95% UCL)	7.4	7.3	7.8	7.3	7.8
WET DI (maximum)	0.4	0.4	0.1	0.4	0.1
TCLP (max)	1.4	1.4	0.1	1.4	NA
Soil Classification	Y1	Y1	X	Y1	X

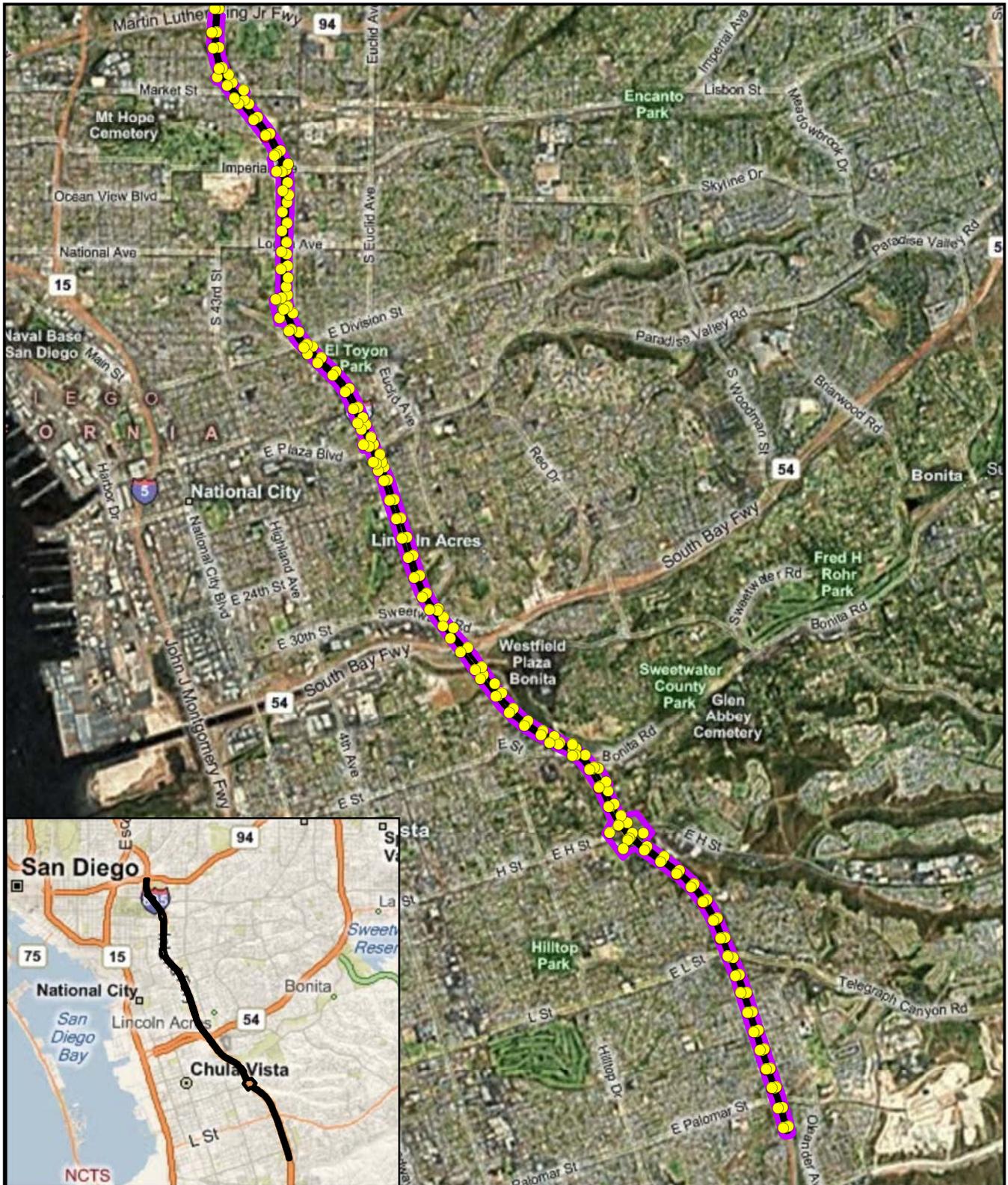
If soil from the surface to a depth of 3 feet within the Phase 2 (North) sub-area were to be treated as one stockpile, then the soil would be classified as Y1. If soil from various depth intervals were managed separately, then soil shallower than 2 feet bgs would be classified as Y1 and soil deeper than 2 feet would be classified as X.

4. SUMMARY

The statistical evaluation indicates that the shallow soil from the surface to 1 foot bgs would be classified as Y1 regardless of whether the entire project area or sub-area is considered. Soil above 1 foot bgs would be classified as Y1 and below 1 foot bgs would be classified as X for the entire project area and for the Phase 1 sub-area. Soil above 2 feet bgs would be classified as Y1 and below 2 feet bgs as X in the Phase 2 sub-area.

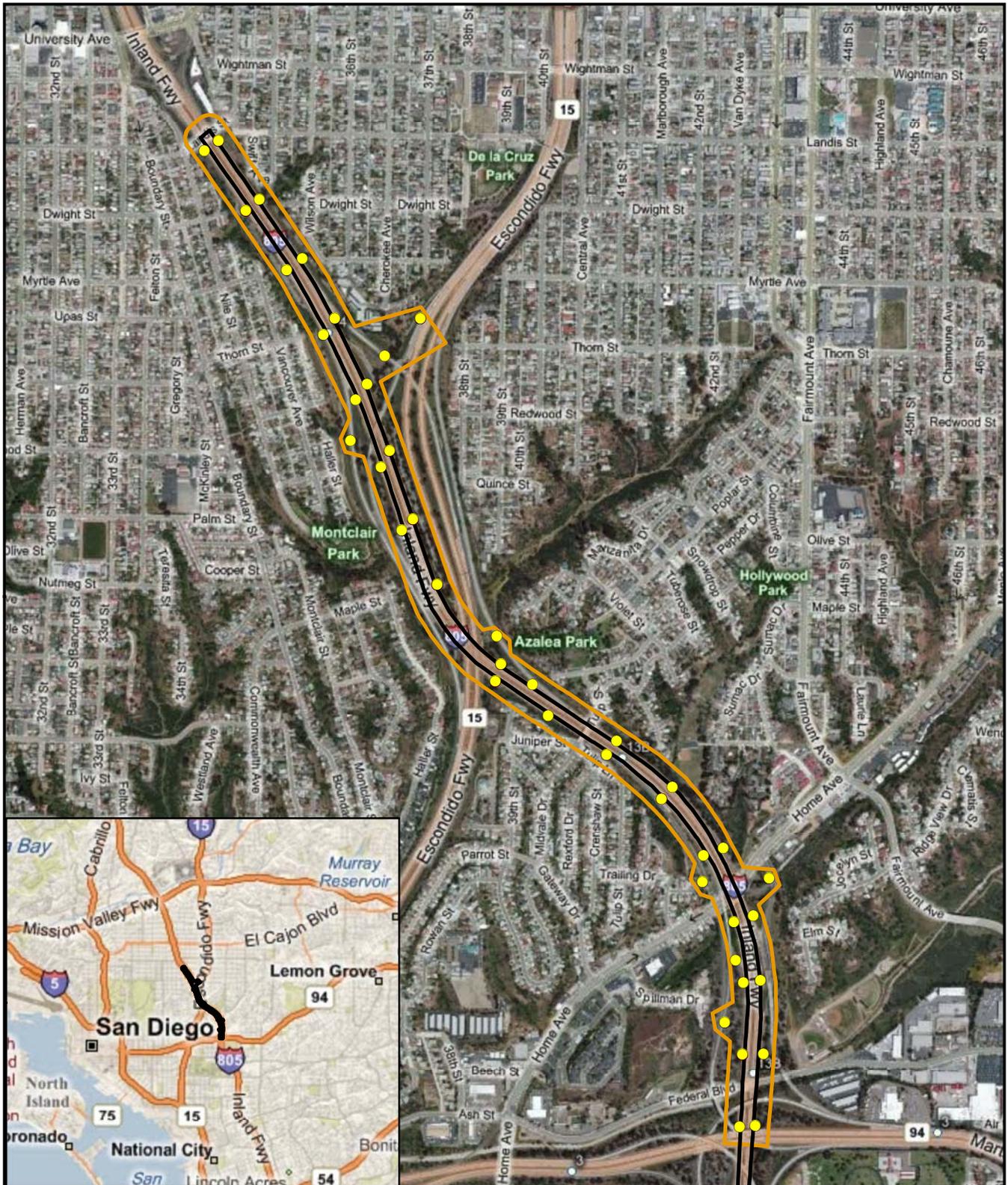
If the construction plans call for different sub-areas than those considered in this study, the data set should be re-analyzed using soil sample data from those sub-areas.

FIGURES



			State Route 94 to Palomar Street	Figure
	Project No.	Date	I-805 IMPROVEMENTS SAN DIEGO, CALIFORNIA	1
	9049	04/2011		

0 2,500 5,000 Feet



0 700 1,400 Feet



Landis Street Crossing to State Route 94

Figure

Project No.
9049

Date
04/2011

**I-805 IMPROVEMENTS
SAN DIEGO, CALIFORNIA**

2

Memorandum

To : HANH-DUNG KHUU (MS 340)
Project Engineer
Design

Date: June 20, 2011

File: 11-SD-805
PM 9.4/13.8
EA 2T1801
ID 1100020049

From : DEPARTMENT OF TRANSPORTATION - DISTRICT 11
PAVEMENT ENGINEERING AND PLANT SERVICES

Subject: **STRUCTURAL SECTION RECOMMENDATIONS (REVISED POST MILES)**

In accordance with your request dated June 21, 2011 we have revised the June 14, 2010 structural sections for the proposed HOV lanes in the median, the proposed outside lane widening, interchange ramps, and freeway to freeway connectors. The design is based on an R-Value of 15 from previous memorandum dated May 6, 2005 and the Traffic Indices provided by the Traffic Forecasting Branch.

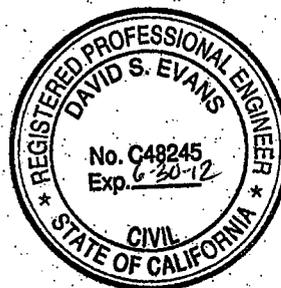
If you have questions or comments about this subject, please telephone R. Avila at 858-467-4069 or FAX at 858-467-4063.



Ruben Avila
Transportation Engineer, CT/Civil



David Evans
District Pavement Engineer



1 attachment
P File

11-SD-805
 PM 9.4/13.8
 EA 11-2T1801
 June 2011
 sheet 1 of 1

STRUCTURAL SECTION DESIGN - ft

LOCATION OR LINE	R- VALUE DESIGN	TRAF. INDEX	JPCP (ft)	HMA-A (ft)	AB CL2 (ft)
MAIN LANES 1 & 2 OF RTE. 805.*	15	12.5	0.85	0.25	0.65
INSIDE SHOULDER OF RTE 805.*	15	8.0	0.85	0.25	0.65
MAIN LANES 3 & 4 OF RTE. 805.*	15	15.0	0.90	0.25	0.65
OUTSIDE SHOULDER OF RTE 805.*	15	9.5	0.90	0.25	0.65
FREEWAY TO FREEWAY CONNECTOR RAMPS TRAVELED WAY AND SHOULDER.*	15	13.0	0.85	0.25	0.65
INTERCHANGE RAMPS TRAVELED WAY AND SHOULDER:	15	11.0		0.60	1.75
HOV/ MANAGED LANES.*	15	11.5	0.80	0.25	0.55

*These designs are based on laterally supported JPCP. For details, see Table 623.1D of HDM dated 9/1/2006

JPCP = Jointed Plain Concrete Pavement
 HMA-A= Hot Mixed Asphalt Type A
 AB CL2 = Aggregate Base Class 2

Memorandum

To : HANH-DUNG KHUU (MS 340)
Project Engineer
Design

Date: July 25, 2011

File: 11-SD-805
PM 9.4/13.8
EA 2T1801
ID 1100020049

From : DEPARTMENT OF TRANSPORTATION - DISTRICT 11
PAVEMENT ENGINEERING AND PLANT SERVICES

Subject: **STRUCTURAL SECTION RECOMMENDATIONS (REVISED)**

In accordance with your request dated July 19, 2011 we have revised the June 20, 2010 structural section recommendations by adding a temporary HMA structural section for the proposed HOV lanes in the median. The design is based on an estimated service life of 5 years or less. Additional money may be needed to maintain and/or repair the section during its service life. The June 21, 2011 structural section recommendations for the HOV lanes in the median, outside lane widening, interchange ramps, and freeway to freeway connectors remain unchanged.

If you have questions or comments about this subject, please telephone R. Avila at 858-467-4069 or FAX at 858-467-4063.



Ruben Avila
Transportation Engineer, CT/Civil



David Evans
District Pavement Engineer



1 attachment
P File

STRUCTURAL SECTION DESIGN - ft

LOCATION OR LINE	R- VALUE DESIGN	TRAF. INDEX	JPCP (ft)	HMA-A (ft)	AB CL 2 (ft)	
MAIN LANES 1 & 2 OF RTE. 805:*	15	12.5	0.85	0.25	0.65	
INSIDE SHOULDER OF RTE 805:*	15	8.0	0.85	0.25	0.65	
MAIN LANES 3 & 4 OF RTE. 805:*	15	15.0	0.90	0.25	0.65	
OUTSIDE SHOULDER OF RTE 805:*	15	9.5	0.90	0.25	0.65	
FREEWAY TO FREEWAY CONNECTOR RAMPS TRAVELED WAY AND SHOULDER:*	15	13.0	0.85	0.25	0.65	
INTERCHANGE RAMPS TRAVELED WAY AND SHOULDER:	15	11.0		0.60	1.75	
HOV/ MANAGED LANES:*	15	11.5	0.80	0.25	0.55	
TEMPORARY HOV/ MANAGED LANES:**	15	11.0		0.60	1.75	

*These designs are based on laterally supported JPCP. For details, see Table 623.1D of HDM dated 9/1/2006

**Additional money may be needed to maintain and/or repair the temporary section during its service life

JPCP = Jointed Plain Concrete Pavement
 HMA-A= Hot Mixed Asphalt Type A
 AB CL2 = Aggregate Base Class 2

**PRELIMINARY
GEOTECHNICAL REPORT**

**INTERSTATE 805 MANAGED LANES
SOUTH PROJECT, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA
11-SD-805, PM 9.0±/12.0±**



GEOCON
INCORPORATED

GEOTECHNICAL
CONSULTANTS

PREPARED FOR

**KIMLEY-HORN & ASSOCIATES
SAN DIEGO, CALIFORNIA**

**SEPTEMBER 29, 2008
PROJECT NO. 07907-22-02**



Project No. 07907-22-02
September 29, 2008

Kimley-Horn & Associates
517 Fourth Avenue, Suite 301
San Diego, California 92101

Attention: Mr. Dennis Landaal

Subject: INTERSTATE 805 MANAGED LANES SOUTH PROJECT, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA
11-SD-805, PM 9.0±/12.0±
PRELIMINARY GEOTECHNICAL REPORT

Dear Mr. Landaal:

In accordance with your authorization of our proposal LG-07093 dated March 20, 2007, we herein submit our Preliminary Geotechnical Report for the proposed improvements along Interstate 805 in southern San Diego County, California. The accompanying report presents the findings and conclusions from our study.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned at your convenience.

Very truly yours,

GEOCON INCORPORATED


Yong Wang
GE 2775



YW:JJV:dmc

(6/del) Addressee
(e-mail) Kimley-Horn & Associates
Attention: Mr. Michael Ross


Joseph J. Vettel
GE 2401



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APPENDIX A

LOG OF TEST BORING SHEETS

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PRELIMINARY GEOTECHNICAL REPORT

1. INTRODUCTION

This report presents the results of a geotechnical study for the proposed Interstate 805 (I-805) Managed Lanes South Project, Unit 3 in the cities of San Diego and National City in San Diego County, California, as shown on Figure 1, Vicinity Map. The purpose of this study was to identify the general subsurface, geologic, and construction conditions along the proposed alignment, and the need for additional investigations and studies.

The existing I-805 corridor in this area was constructed in 1970's. The proposed improvements are parts of the I-805 Managed Lanes South project to accommodate the rapidly increasing traffic demand generated by residential and commercial developments in the region. Based on the current plans and alternatives, the approximate 2.7 miles freeway corridor will be widened along both sides and approximate 26 retaining walls will be constructed. In addition, a dozen of the existing overcrossing and undercrossing structures along the Unit 3 alignment will be widened and/or replaced with new structures.

Geotechnical studies for the replacement and/or widening of overcrossing and undercrossing structures are presented in separated reports prepared by Geocon Incorporated. For the proposed roadway improvements and associated new retaining walls, a two-phased geotechnical investigation including a Preliminary Geotechnical Report (PGR) and a Geotechnical Design Report (GDR) is expected to be required by Caltrans. This report addresses only the issues relevant to the PGR in accordance with the Guidelines for Preliminary Geotechnical Report (draft version dated January 29, 2004) established by Caltrans' Geotechnical Services. Specifically, this report is prepared to document anticipated subsurface conditions based upon site reconnaissance and available sources of data for the various alignments and/or alternatives under consideration. It contains geotechnical information needed during the planning phase for preparation of the Project Study Report. Additional field and laboratory work recommended to develop a GDR for retaining walls and roadway are discussed in this report.

2. PERTINENT REPORTS AND INVESTIGATIONS

The regional geologic maps, aerial photographs, and site topographic maps used in current study are listed in Section 9 (References) of this report. We also reviewed the following project plans and reports that contain general information for the proposed improvements within the Unit 3 alignment and the preliminary geotechnical conditions at the existing overcrossing and undercrossing structures:

1. *I-805 Managed lanes South Project, Unit 3, Typical Sections, Sheets X-1 through X-12*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.

2. *I-805 Managed lanes South Project, Unit 3, Feature Maps, Sheets L-1 through L-6*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
3. *I-805 Managed lanes South Project, Unit 3, Layout and Profiles, Sheets L-7 through L-34*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
4. *I-805 Managed lanes South Project, Unit 3, Plaza Boulevard B.R.T. Station, Sheets C-1 and C-2*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
5. *I-805 Managed lanes South Project, Unit 3, Park and Ride Location Details, Sheets C-3 and C-4*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
6. *I-805 Managed lanes South Project, Unit 3, 43rd street Ramp Configuration Detail, Sheets C-5 through C-8*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
7. *I-805 Managed lanes South Project, Unit 3, Profiles, Sheets P-1 through P-10*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
8. *I-805 Managed lanes South Project, Unit 3, Retaining Wall Layout, Sheets R-1 through R-24*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
9. *I-805 Managed lanes South Project, Unit 3, Cross Sections, 76 Sheets*, prepared by Kimley-Horn and Associates, Inc., dated May 6, 2008.
10. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, Logan Avenue Overcrossing, Bridge No. 57-648, San Diego, California*, prepared by Geocon Incorporated, dated July 25, 2008 (Project No. 07907-22-02).
11. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, Direct Connection Overcrossing, Bridge No. 57-789, San Diego, California*, prepared by Geocon Incorporated, dated July 31, 2008 (Project No. 07907-22-02).
12. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, 47th Street Undercrossing, Bridge No. 57-647, San Diego, California*, prepared by Geocon Incorporated, dated July 31, 2008 (Project No. 07907-22-02).
13. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, Division Street Undercrossing, Bridge No. 57-646, National City, California*, prepared by Geocon Incorporated, dated July 31, 2008 (Project No. 07907-22-02).
14. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, New Division Street Undercrossing, National City, California*, prepared by Geocon Incorporated, dated July 31, 2008 (Project No. 07907-22-02).
15. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, 4th Street Overcrossing, Bridge No. 57-645, National City, California*, prepared by Geocon Incorporated, dated August 1, 2008 (Project No. 07907-22-02).
16. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, 8th Street Undercrossing, Bridge No. 57-644, National City, California*, prepared by Geocon Incorporated, dated August 1, 2008 (Project No. 07907-22-02).

17. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, Plaza Boulevard Undercrossing, Bridge No. 57-643, National City, California*, prepared by Geocon Incorporated, dated August 4, 2008 (Project No. 07907-22-02).
18. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, 16th Street Overcrossing, Bridge No. 57-642, National City, California*, prepared by Geocon Incorporated, dated August 8, 2008 (Project No. 07907-22-02).
19. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, 18th Street Overcrossing, Bridge No. 57-641, National City, California*, prepared by Geocon Incorporated, dated August 8, 2008 (Project No. 07907-22-02).
20. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, 22nd Street Pedestrian Overcrossing, Bridge No. 57-788, National City, California*, prepared by Geocon Incorporated, dated August 12, 2008 (Project No. 07907-22-02).
21. *Preliminary Foundation Report, Interstate 805 Managed Lanes South Project, Unit 3, Grove Street Overcrossing, Bridge No. 57-751, National City, California*, prepared by Geocon Incorporated, dated August 8, 2008 (Project No. 07907-22-02).

The information presented in this report is based only on surficial reconnaissance and literature studies. As subsurface conditions have not been investigated through specific subsurface exploration, actual conditions may vary from those assumed herein.

3. EXISTING FACILITIES AND PROPOSED IMPROVEMENTS

3.1 Existing Facilities

The existing Interstate 805 corridor is an eight-lane freeway constructed in the 1970's utilizing significant cut-and-fill grading operations. The Unit 3 alignment extends approximate 2.7 miles from the southern terminus at approximate Station 527+25 in the County of San Diego, through the City of National City to its northern terminus at approximate Station 669+27 in the City of San Diego. The approximately 150- to 250-foot-wide freeway is currently paved with Portland cement concrete with asphalt concrete shoulders. Approximate 11 overcrossing and undercrossing structures exist along the Unit 3 alignment as listed below:

- Grove Street Overcrossing, Bridge No. 57-751
- 22nd Street Pedestrian Overcrossing, Bridge No. 57-788
- 18th Street Overcrossing, Bridge No. 57-641
- 16th Street Overcrossing, Bridge No. 57-642
- Plaza Boulevard Undercrossing, Bridge No. 57-643
- 8th Street Undercrossing, Bridge No. 57-644
- 4th Street Overcrossing, Bridge No. 57-645
- Division Street Undercrossing, Bridge No. 57-646

- Direct Connector Overcrossing, Bridge No. 57-789
- 47th Street Undercrossing, Bridge No. 57-647
- Logan Avenue Overcrossing, Bridge No. 57-648

Geotechnical data obtained from the as-built of these structures were incorporated into this report.

3.2 Proposed Improvements

Construction of Unit 3 improvements will create an approximately 250- to 300-foot-wide freeway. According to the current project plans and alternatives provided by Kimley-Horn and Associates, we understand that the proposed roadway will generally be graded as listed in Table 3.2.1.

**TABLE 3.2.1
SUMMARY OF PROPOSED ROADWAY GRADING**

From Approximate Stationing	To Approximate Stationing	Grading along Southbound Lanes of I-805	Grading along Northbound Lanes of I-805
527+25	528+20	Cuts up to approximately 30 feet in height	Minor fills
528+20	570+00	Cuts up to approximately 35 feet in height	Cuts up to approximately 70 feet in height and minor fills
570+00	578+00	Fills up to 25 feet in height	Fills up to 25 feet in height and cuts up to 15 feet
578+00	588+20	Cuts up to 30 feet in height and fills up to 15 feet	Cuts up to 26 feet in height and fills up to 15 feet
588+20	598+00	Fills up to 20 feet in height	Fills up to 25 feet in height
598+00	610+00	Cuts up to approximately 35 feet in height	Cuts up to approximately 30 feet in height and minor fill
610+00	615+50	Minor cuts and fills	Fills up to 20 feet in height
615+50	619+00	Fills up to 15 feet in height	Fills up to 26 feet in height and minor cuts
619+00	625+50	Fills up to 45 feet in height	Cuts up to 30 feet in height and minor fills
625+50	631+50	Fills up to 50 feet in height	Minor fills
631+50	637+50	Fills up to 40 feet in height	Fills up to 30 feet in height
637+50	639+50	Minor cuts and fills	Minor cuts and fills
639+50	641+50	Minor cuts and fills	Fills up to 10 feet in height
641+50	644+50	Minor cuts and fills	Cuts up to 26 feet in height and minor fills
644+50	648+00	Minor cuts and fills	Cuts up to 12 feet in height and fills up to 26 feet
648+00	669+27	Cuts up to 25 feet in height	Cuts up to 40 feet in height

Approximately 26 retaining walls will be constructed in association with the proposed roadway improvements. The combined length of these retaining walls is approximately 16,300 lineal feet (3.1 miles). The approximate locations and configurations of the proposed retaining walls are listed in Table 3.2.2. In addition, soundwalls may be constructed between the new corridor and adjacent residential properties along several segments of the alignment. The general configuration of soundwalls is not available to Geocon at this time. The proposed improvements and surficial geologic conditions are shown on Site Plans/Geologic Maps, Figures 3 through 8.

**TABLE 3.2.2
SUMMARY OF PROPOSED RETAINING WALLS**

Item No.	Structure No.	Line	Origin Stationing	End Stationing	Length (feet)	Maximum Height (feet)	Maximum Height at Station
1	RW 524	11-SD-805	524+90.34	525+66.18	75.84	18.0	524+90.34
2	RW 526	11-SD-805	525+82.95	531+05.99	523.04	31.5	528+02.87
3	RW 531	11-SD-805	530+24.70	532+41.18	216.48	19.6	531+62.48
4	RW 532	11-SD-805	531+53.30	558+24.25	2,670.95	25.3	556+11.85
5	RW 533	11-SD-805	532+91.93	555+47.97	2,256.04	43.0	544+99.03
6	RW 558	11-SD-805	558+75.29	565+08.78	633.49	27.0	564+43.79
7	RW 559	11-SD-805	558+73.84	564+83.39	609.55	30.4	564+29.19
8	RW 565	11-SD-805	565+34.26	566+15.95	81.69	12.2	565+34.26
9	RW 566	11-SD-805	565+61.20	569+59.83	398.63	22.3	566+81.81
10	RW 569	11-SD-805	568+94.20	570+80.72	186.52	7.3	569+95.36
11	RW 572	11-SD-805	571+60.44	571+94.15	33.71	9.1	571+80.44
12	RW 577	11-SD-805	577+89.74	585+72.93	783.19	26.5	584+14.31
13	RW 580	11-SD-805	580+22.92	587+70.54	747.62	19.8	584+14.52
14	RW 587	11-SD-805	586+22.95	591+02.89	479.94	21.0	588+68.07
15	RW 588	11-SD-805	588+30.34	591+29.17	298.83	22.7	589+76.36
16	RW 591	11-SD-805	592+25.33	596+78.01	452.68	24.8	593+50.36
17	RW 592	11-SD-805	592+50.71	596+02.40	351.69	21.8	592+50.71
18	RW 598	11-SD-805	598+26.01	605+94.74	768.73	23.3	605+32.58
19	RW 601	11-SD-805	600+25.47	604+35.18	409.71	22.3	601+13.98
20	RW 605	11-SD-805	605+15.21	608+52.82	337.61	12.8	607+30.73
21	RW 611	11-SD-805	610+36.05	615+77.24	541.19	21.0	611+91.06
22	RW 631	11-SD-805	630+46.08	631+74.75	128.67	6.2	630+93.94
23	RW 647	11-SD-805	647+65.15	648+09.09	43.94	12.6	647+65.15
24	RW 649	11-SD-805	648+22.44	655+57.67	735.23	24.1	653+59.35
25	RW 656	11-SD-805	656+31.43	669+00.95	1,269.52	20.9	662+24.09
26	RW 657	11-SD-805	656+32.22	669+00.90	1,268.68	36.1	664+64.38
				Subtotal	16,303		

Other significant improvements include widening and/or replacement of the existing 11 overcrossing and undercrossing structures and associated interchanges. A new bridge will also be constructed adjacent to the existing Division Street Undercrossing. Geotechnical considerations regarding these structures are addressed in separated reports by Geocon Incorporated.

4. PHYSICAL SETTING

4.1 Climate

Monthly climate data near the project site are presented in Table 4.1. These data were obtained from information published by the Scripps Institution of Oceanography for 1850-1999 (monthly precipitation) and 1849-1966 (monthly temperature). The recording station used was identified as San Diego, California.

**TABLE 4.1
MONTHLY CLIMATE SUMMARY**

Climate Data	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Avg. Total Precipitation (mm)	11	25	46	50	49	42	18	7	2	1	2	4	255
Avg. Max (°C)	16.3	17.5	18.0	19.4	20.1	22.7	25.1	25.2	26.0	22.4	19.3	17.4	20.8
Avg. Min (°C)	8.8	10.2	11.1	12.8	14.1	15.4	17.5	18.6	17.1	15.0	13.2	9.4	13.6

As can be seen in the table, the average precipitation for a calendar year is about 10 inches (255 mm). The majority of this precipitation (over 94 percent) falls between January and July. The average maximum and minimum annual air temperatures are approximately 69°F (20.8°C) and 57°F (13.6°C) with the highest average monthly maximum of 79°F (26.0°C) in September and the lowest average monthly minimum of 48°F (8.8°C) in January.

4.2 Topography and Drainage

The general configuration of the Interstate 805 Unit 3 consists of a raised or excavated freeway corridor as compared with the surrounding area. Existing roadway grades range from a high of approximately 118 feet above mean sea level (MSL) at approximate Station 624+00 to a low of approximately 72 feet (MSL) at approximate Station 557+00. The proposed grades are generally within 2 feet of the existing roadway grades. Existing roadside slopes are inclined approximately 1V:2H (vertical:horizontal). These slopes were created via cuts and fills up to 75 and 50 feet in height, respectively. Flatter fill slopes of approximately 1V:2.5H may be present in a few areas.

On-site rainfall and runoff water is collected by existing drainage facilities including roadside drains, drainage channel, buried conduits and culverts. Current project plans depict drainage conduits crossing beneath the freeway at multiple locations. Major drainage facilities crossing the roadway alignment are mapped in two locations including (a) A culvert box and concrete lined channel near Station 572+00 south of Plaza Boulevard Undercrossing, and (b) Two buried culverts and one concrete lined channel near Station 644+00 between 47th Street Undercrossing and Logan Avenue Overcrossing. Both drainage facilities convey collected water from the east side of the roadway to the west.

4.3 Man-Made and Natural Features of Engineering and Construction Significance

The area surrounding Interstate 805 Unit 3 alignment is generally occupied by schools, recreational facilities, and residential and commercial properties. Earthwork consisting of cuts and fills in the project area are anticipated to accommodate the proposed improvements. Man-made features may be impacted by the project including the existing highway, Newell Street, undercrossing and overcrossing structures, on/off-ramps, landscaping, underground utilities, and surface drainages. In addition, residential and commercial structures will likely be impacted by the proposed constructions for retaining walls and on/off ramps are listed below:

- West side of southbound I-805 between Stations 558+80 and 567+00, and 579+00 and 587+50
- East side of northbound I-805 between Stations 565+50 and 571+00, and 578+00 and 586+00

The potential for impact on natural features by the project is considered minimal.

5. REGIONAL GEOLOGY AND SUBSURFACE CONDITIONS

5.1 Regional Geology

The project study area is situated in a western portion of the Peninsular Ranges geomorphic province and lies between the coastal plain and the western foothill slopes. The Unit 3 alignment and near vicinity are located in the area underlain by Pleistocene-age, Bay Point Formation and unnamed, near-shore marine sandstone (undifferentiated) as mapped by M. P. Kennedy and S. S. Tan (1977). A Regional Geologic Map is shown on Figure 2. Alluvial deposits were also mapped at two relatively narrow drainage courses. The Bay Point Formation is predominantly composed of poorly consolidated, fine- and medium-grained, pale-brown, fossiliferous sandstone. The unnamed, near-shore marine sandstone is generally composed of light-brown, fine-grained, well sorted, and poorly sorted sandstone. Much of the Bay Point Formation (Qbp) that underlies the lowland area surrounding San

Diego Bay has not been differentiated from the unnamed, near-shore marine deposits (Qn) and together they are labeled Qbp+Qn in accordance with the 1977 map by Kennedy and Tan. The recently published *Geologic Map of the San Diego 30'x60' Quadrangle* by Kennedy and Tan in 2005 has identified the area underlain by middle to early Pleistocene-age, very old paralic deposits (Qvop). For the purpose of this report, we refer to the site geology as underlain by Bay Point Formation.

We reviewed the open-file report by California Department of Conservation, Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*, dated August 2000. According to the report and associated map, the site is not in an area of naturally occurring asbestos.

5.2 Subsurface Conditions

Construction records, including the compaction data of road fills along the Interstate 805 corridor, was not available to Geocon Incorporated at this time. Our preliminary characterization of the subsurface conditions along the Unit 3 alignment is based on: (a) A comparison of the existing site topographic data with the original topographic data prior to the construction of the Interstate 805 corridor; (b) A review of the As-Built LOTB sheets of the existing overcrossing and undercrossing structures within the Unit 3 alignment; and (c) Our current and past experiences and/or testing of similar materials.

A summary of previous borings drilled at the existing overcrossing and undercrossing sites is shown in Table 5.2. Approximately 21 rotary borings and 34 penetration borings were advanced between depths of 12 and 71 feet below the original grades. These borings were apparently terminated within the dense to very dense Bay Point Formation. The penetration borings consisted of driving a 2¼-inch-diameter cone penetrometer using an air hammer, with monitoring of the penetration rate in seconds per foot. As-Built LOTB sheets of these overcrossing and undercrossing structures are attached to this report. The approximate areas of major fill placed during the construction of freeway are depicted on Figures 3 through 8.

**TABLE 5.2
SUMMARY OF AS-BUILT BORINGS FOR UNIT 3
OVERCROSSING AND UNDERCROSSING STRUCTURES**

Structure ID	Previous Borings	Approx Depth of Rotary Borings
Grove Street Overcrossing, Bridge No. 57-751	1 rotary and 2 penetration	70 feet
22 nd Street Pedestrian Overcrossing, Bridge No. 57-788	3 rotary and 4 penetration	41 to 61 feet
18 th Street Overcrossing, Bridge No. 57-641	1 rotary and 4 penetration	71 feet
16 th Street Overcrossing, Bridge No. 57-642	1 rotary and 3 penetration	61 feet
Plaza Boulevard Undercrossing, Bridge No. 57-643	1 rotary and 4 penetration	51 feet
8 th Street Undercrossing, Bridge No. 57-644	2 rotary and 2 penetration	47 to 57 feet
4 th Street Overcrossing, Bridge No. 57-645	1 rotary and 2 penetration	60 feet
Division Street Undercrossing, Bridge No. 57-646	3 rotary and 2 penetration	12 to 41 feet
Direct Connector Overcrossing, Bridge No. 57-789	4 rotary and 4 penetration	36 to 46 feet
47 th Street Undercrossing, Bridge No. 57-647	2 rotary and 3 penetration	36 to 46 feet
Logan Avenue Overcrossing, Bridge No. 57-648	2 rotary and 4 penetration	42 to 61 feet

The subsurface materials encountered in these borings generally consist of compact to very dense, light brown to brown, silty, fine sand, sand, gravelly sand, sandy gravel and very stiff to hard, brown, clay and silt with varying amounts of sand. A majority of the Standard Penetration Tests (SPT) blowcounts performed during borings was between 20 to more than 70 blows per foot based on the available As-Built LOTB sheets. No groundwater was encountered in these borings.

Based on the available as-built data, the existing overcrossing and undercrossing structures are supported by spread footings and/or piles in structure backfill, compact Bay Point Formation, and dense Bay Point Formation. Structure backfill was likely derived from excavations of the dense Bay Point Formation during construction of the bridge. In general, the allowable bearing capacities for spread footings supported by structure backfill, compact Bay Point Formation, and Bay Point Formation are 4,000 pounds per square foot (psf), 4,000 to 6,000 psf, and 6,000 to 8,000 psf, respectively. The 16-inch-diameter Cast-in-Drilled-Hole (CIDH) concrete piles are likely extended into dense Bay Point Formation with a design capacity of 70 tons.

5.3 Faulting and Seismicity

The site is not located within an Alquist-Priolo Earthquake Study Zone as established by the State Geologist around known active faults. Review of available literature and field reconnaissance revealed no active fault trace through or near the alignment.

The portion of the Caltrans California Seismic Hazard Map (Mualchin, 1996) for this area is shown on Figure 9 as a Regional Seismic Map. Earthquakes originating on the Newport-Inglewood-Rose Canyon/East (NIE) Fault that is located approximately 5 kilometers (3 miles) to the west of the project site are expected to have the greatest potential effects on new structures. The NIE Fault is a strike-slip fault, and a maximum credible earthquake (MCE) magnitude of 7.0 has been estimated for this fault. A maximum earthquake event along the NIE Fault is expected to generate an horizontal peak bedrock acceleration (PBA) at the project site of approximately 0.5g, where “g” represents the acceleration due to gravity.

The known active faults within a 50-mile (80-kilometer) radius of the site identified by *EQFAULT* (2000) are also listed in Table 5.3. Associated maximum earthquake magnitudes and site accelerations obtained using attenuation relationships prepared by Sadigh, *et al.*, are also presented. A peak acceleration of 0.45 to 0.49g at the project site that is in general agreement with the value obtained from the data presented on Caltrans California Seismic Hazard Map.

**TABLE 5.3
DETERMINISTIC SITE PARAMETERS FOR SELECTED ACTIVE FAULTS**

Fault	Distance From Site	Maximum Earthquake Magnitude	Peak Site Acceleration (g)
Rose Canyon Fault Zone	4-5 mile (6-8 km)	7.2	0.45-0.49
Coronado Bank	15-16 mile (25 km)	7.6	0.24
Newport – Inglewood (Offshore)	37-40 mile (60-64 km)	7.1	0.06
Elsinore (Julian)	41-42 mile (65-67 km)	7.1	0.05
Earthquake Valley	45-46 mile (72-74 km)	6.5	0.03
Elsinore (Coyote Mountain)	47 mile (75 km)	6.8	0.03
Elsinore (Temecula)	47-49 mile (76-79 km)	6.8	0.03

The main strand of the La Nación Fault is located several thousand feet east of the subject site. The La Nación Fault has been determined in studies such as Elliot and Hart (1977) to have pre-Holocene movement and is considered “potentially active” by the State of California. Several smaller strands of the La Nación Fault are mapped in the near vicinity of the proposed improvements. The potential for ground rupture or other seismic hazards associated with the La Nación Fault is considered very low and not expected to affect the proposed improvements.

It is our opinion that the site could be subject to severe ground shaking in the event of an earthquake along any of the faults listed in Table 5.3 or other faults in the southern California/northern Baja California region. However, we do not consider the site to possess any greater risk than that of the

surrounding developments. Preliminary seismic design parameters in accordance with the Caltrans' seismic design procedures are provided in Section 6.3 of this report.

6. GEOTECHNICAL CONSIDERATIONS

6.1 Groundwater

Groundwater was not encountered in the borings drilled during previous investigations. Perched water may be encountered within sandy layers of the Bay Point Formation or on top of the Bay Point Formation. We do not anticipate groundwater will significantly impact project development as presently proposed. However, it is not uncommon for groundwater or seepage conditions to develop where none previously existed. Proper surface drainage will be critical to future performance of the project.

6.2 Erosion

A visual observation of the inlet and/or outlet of two major drainage crossings near Stations 572+00 and 644+00 did not indicate a significant erosion potential that may adversely affect the proposed improvements in these areas. Erosion on existing slopes in the project areas typically consisted of minor rilling of cut slopes in sandy portions of Bay Point Formation.

6.3 Seismic Hazards

We identified active faults near the site in accordance with the *Caltrans California Seismic Hazard Map* (1996) and *A Technical Report to Accompany the Caltrans California Seismic Hazard Map* (1996). Earthquakes originating on the Newport-Inglewood-Rose Canyon/East (NIE) Fault which is located approximately 5 kilometers (3 miles) to the west of the project site are expected to have the greatest potential effects on the new structure.

The NIE Fault is a strike-slip fault, and a maximum credible earthquake (MCE) magnitude of 7.0 has been estimated for this fault. A maximum earthquake event along the NIE Fault is expected to generate a horizontal peak bedrock acceleration (PBA) at the project site of approximately 0.5g, where "g" represents the acceleration due to gravity.

Liquefaction is a phenomenon in which loose, saturated, and relatively cohesionless soil deposits located beneath the groundwater table lose strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground accelerations, characteristics of the subsurface soil, in situ stress conditions, and depth to groundwater. The potential for liquefaction at

the site is considered low due to the presence of relatively shallow dense materials and the lack of permanent, near-surface groundwater.

Preliminary seismic design parameters are provided in accordance with *Caltrans Seismic Design Criteria* (Version 1.4, June 2006). Because it appears that the alignment is underlain by dense Bay Point Formation and compacted fill, we recommend that the Soil Profile Type be taken as Type C for areas without thick fill and Type D for area with thick fill, respectively. Table 6.3 summarizes the recommended seismic design parameters in accordance with Caltrans procedures:

**TABLE 6.3
SEISMIC DESIGN PARAMETERS**

Parameters	Recommended for Design
Controlling Fault	Newport-Inglewood-Rose Canyon/East (NIE)
Style of Fault	Strike-Slip
Distance from Fault to Site	Approximately 5 km west
Maximum Credible Earthquake Magnitude (MCE)	7.0
Peak Bedrock Acceleration (PBA)	0.5g
Soil Profile Type	C or D

6.4 Slope Stability

The existing roadway corridor was graded through cut and fill operations. The side slopes, ranging from approximately 1V:2H to 1V:2.5H, generally appear to be in good condition.

The planned earthwork will include new cut and fill slopes along project alignment. Assuming that fill materials meeting Caltrans Specification for structure backfill are used in the embankment, we expect that the proposed cut and fill slopes with an inclination of 1V:2H should have a factor of safety greater than 1.5 against deep-seated and shallow failures under static loading and a factor of safety greater than 1.1 under pseudo-static loading. Slope paving should be considered in areas steeper than 1V:2H. All slopes should be planted, drained, and maintained to reduce erosion. Slope irrigation should be kept to a minimum to just support the vegetation cover. Surface drainage should not be allowed to flow over the top of the slopes.

6.5 Excavations Characteristics

The existing fill soils and natural surficial soils can be excavated with moderate to heavy effort with conventional heavy duty grading equipment. Heavy effort may be necessary if very dense or hard materials are encountered. Difficult excavation may be encountered in very dense or cemented Bay

Point Formation. Hydraulic breakers and blasting may be necessary to excavate more resistance zones within the Bay Point Formation.

Excavation depths greater than 5 feet will need to be sloped and shored in accordance with Cal-OSHA guidelines. Existing fill can be considered as OSHA Type B soil for excavation purposes (Type C where seepage is freely flowing). For temporary construction purposes, a slope ratio of 1V:1H may be used for cuts in existing fill not exceeding 20 feet to a depth five feet above the water table. Bay Point Formation can likely be considered a Type A soil with a slope ratio of 1V: $\frac{3}{4}$ H. The top of the excavation should be a minimum of 15 feet from the edge of existing improvements. Excavations steeper than those recommended or closer than 15 feet from an existing improvement should be shored in accordance with applicable OSHA codes and regulations.

6.6 Embankments

The majority of new embankment fills will be placed along southbound lanes between approximate Stations 570+00 and 598+00, 615+50 and 637+00; and along the northbound lanes between approximate Stations 570+00 and 598+00, 610+00 and 619+00, 631+50 and 637+50, 639+50 and 641+50, and 644+50 and 648+00. Based on the current project plan, the fill slopes will be constructed with an approximate inclination of 1V:2H. Portions of the new embankment fills will be placed as retaining wall backfill along southbound lanes between approximate Stations 589+00 and 596+00, and along northbound lanes between approximate Stations 587+00 and 596+00, and 612+00 and 615+00. In addition, embankment fills will be placed at abutment approaches. The anticipated cuts and fills along the Unit 3 alignment are summarized in Table 3.2A of this report.

Embankment fills derived from adjacent excavations are expected to be predominantly granular in nature but some clay and silt may be encountered as well. For areas to receive new fills, surface settlement will occur due to the compression in the existing surficial soils and new fills. The magnitude of surface settlement will be related to the thickness of the new fill and the compressive characters of the subsurface soils. Because the on-site materials are basically granular in nature, compression settlement is expected to be essentially complete in a short period of time following the placement of the new fill. Specific settlement periods are not considered necessary.

7. HAZARDOUS WASTE POTENTIAL

The project information and as-built data that currently available to Geocon Incorporated do not indicate an hazardous waste potential which may affect the geotechnical aspect of the proposed improvements.

8. PRELIMINARY RECOMMENDATIONS AND CONCLUSIONS

8.1 Future Exploration and Investigations

For the proposed roadway improvements, a field investigation is recommended with borings along the proposed widening, retaining wall and soundwall alignments where no borings were previously drilled. Borings for retaining walls and soundwalls should be drilled at intervals of approximately 250 to 300 feet to a depth at least 10 feet into the dense formational materials or 10 feet below the estimated bottom of foundation/pile tip, whichever is deeper. Shallow borings for pavement design should be drilled at intervals of approximately 500 to 1,000 feet along the proposed roadway/ramp alignments to a depth of approximately 10 feet below the finish grade. Additional deep borings may be drilled to evaluate slope stability in areas planned to receive slopes steeper than 1V:2H. Standard Penetration Test (SPT) and modified California split-spoon/barrel sampling should be performed in each boring at 5- to 10-foot intervals to evaluate Soil Profile Type. Boring may be terminated when at least 20 feet of sampler refusal is encountered. Extra sampling will be needed within the structure backfill to evaluate settlement potential.

Laboratory testing should include shear strength and consolidation testing of the existing fills and native Bay Point Formation to evaluate soil bearing capacity for spread footings, pile foundations, soil nails and/or tiebacks, as well as slope stability. Expansion, compaction and index testing should also be performed to evaluate suitability of on-site materials for backfill. R-value tests should be performed on near surface soil samples in pavement areas. In addition, corrosion testing should be performed on soils expected to be in contact with proposed structures.

Up the completion of field investigation and laboratory testing, a GDR with LOTB sheets should be prepared in accordance with current Caltrans guidelines for GDR.

8.2 Embankments

The areas planned to receive new fill should be cleared and grubbed in accordance with Caltrans Standard Specification, Section 16. Embankment fill placement and compaction should be performed in accordance with Caltrans Standard Specification, Section 19. New fill will be placed over existing slopes at some locations to bring the ground surface to final planned grades. New fill should be keyed and benched into the existing slopes in accordance with Section 19-6.01 of the Standard Specifications.

Assuming fill materials meeting Caltrans Specification for structure backfill are used in the embankment, the 1V:2H final fill slopes should have an adequate factor of safety against deep-seated and shallow failure. Consideration should be given to the use of jute mesh or other surface treatments

to minimize soil transport by run-off until adequate erosion-resistant vegetation can become established. All roadway drainage should be directed to appropriate collection and discharge facilities so that run-off does not flow over the tops of slopes.

8.3 Excavations

Structures in proximity to expected deep excavations should be protected from damage due to lateral movement during excavation. Adequate bracing should be provided to resist lateral loads and to eliminate movements during construction. Underpinning, or other stabilization methods, may be necessary if the excavation intrudes upon the zone of influence of the existing structures.

For calculation of earthwork quantity, the fill soils are estimated to have a coefficient of shrinkage of about 5 to 10 percent for comparison of compacted in-place volumes to existing volumes. This coefficient of shrinkage is a rough estimate and will vary based on the actual relative compaction achieved in the field. Approximately 3 percent bulking to 3 percent shrinkage should be used if Bay Point Formation is excavated and used as compacted fill.

8.4 Retaining Wall Alternatives

Currently, 26 retaining walls ranging from 6 to 43 feet in height are planned along both sides of Unit 3 alignment to accommodate the proposed roadway improvements. The general configuration of proposed retaining walls is provided in Section 3.2 of this report. The feasible foundation options include Caltrans standard retaining wall Type 1 with spread footing and/or pile footing, tieback walls, soil nail walls and MSE walls, depending upon the design loads, subsurface conditions, access conditions, and the limits of right-of-way or easements. For the purposes of initial planning and alignment study, the following preliminary soil parameters may be appropriate for wall design:

**TABLE 8.4
PRELIMINARY SOIL PARAMETERS FOR RETAINING WALL DESIGN**

Description	Unit Weight	Cohesion	Friction Angle	Allowable Bearing Capacity
Structure Backfill	115-125 pcf	200-400 psf	31-33 degrees	3-4 ksf
Medium Dense Bay Point Formation	115-125 pcf	300-400 psf	32-34 degrees	4-6 ksf
Dense Bay Point Formation	120-130 pcf	400-600 psf	35-36 degrees	6-8 ksf

If tieback walls are selected, the tieback anchors should be designed to support the lateral pressures behind the active zone. Lateral support should not be expected within the active zone and the tiebacks

should be designed to transfer load behind the active zone. For the preliminary design of soil nail walls, an ultimate bond stress of 15 pounds per square inch (psi) is recommended. In general, the soil nails are usually extended from the face of wall 1.25 to 1.5 time of the wall height. In addition to active and passive earth pressures, lateral earth pressure due to the surcharging effects of adjacent structures or traffic loads should be considered, where appropriate, during design of the retaining wall system.

8.5 Dewatering

Groundwater was not encountered in the borings drilled during previous investigations. Significant dewatering is not expected during the project development as presently proposed.

9. LIMITATIONS AND UNIFORMITY OF CONDITIONS

- 9.1 The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon Incorporated should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon Incorporated.
- 9.2 This report is issued with the understanding that it is the responsibility of the owner or his representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.
- 9.3 The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

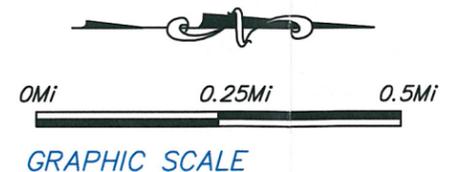
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15. City of San Diego, *Topographic Survey, Sheet No. 182-1743, Scale - 1 inch = 200 feet, Contour Interval 5 feet, dated 1960 (revised 11/10/65)*.
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I-805 MANAGED LANES SOUTH, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA

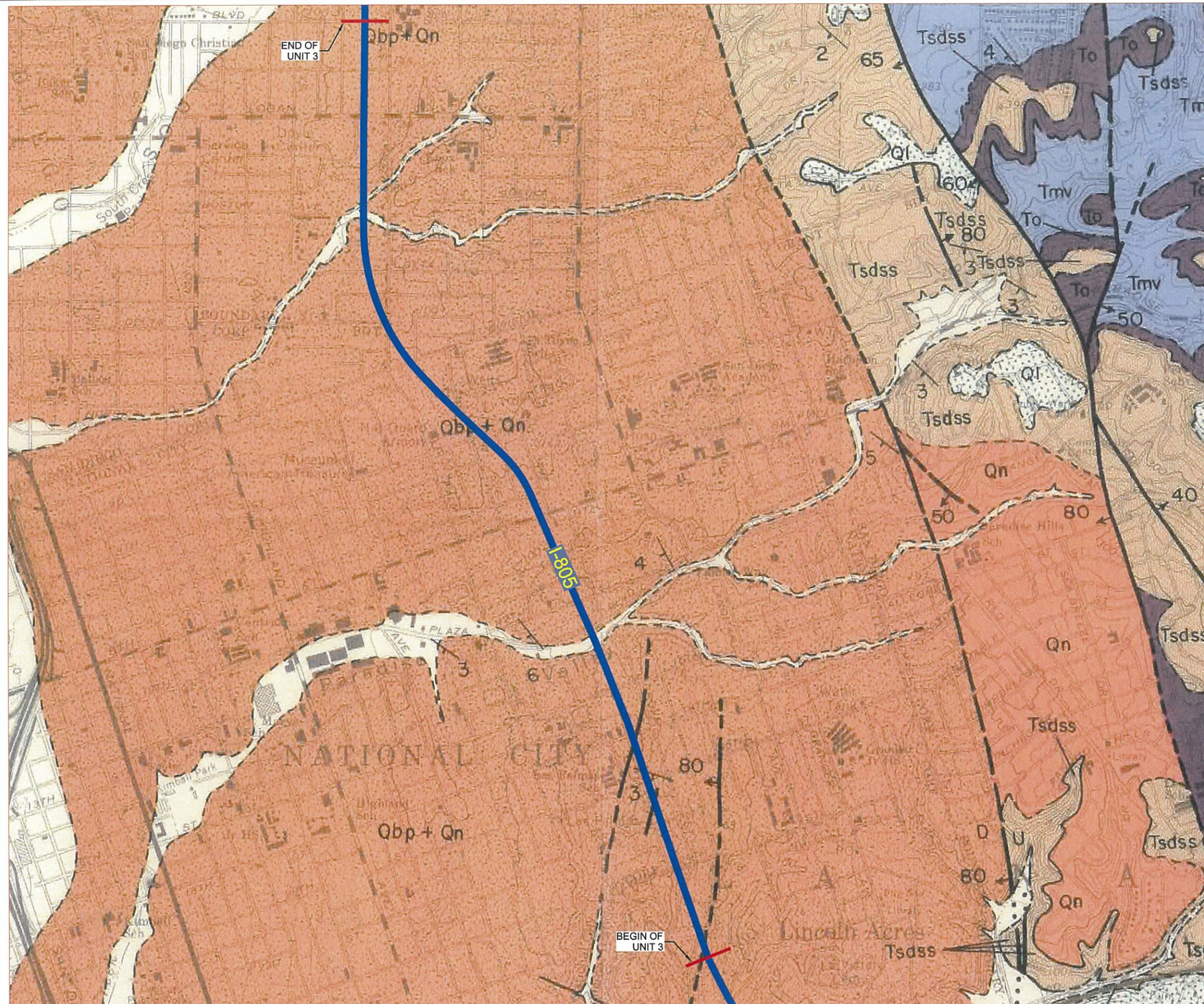
PRELIMINARY DESIGN
SUBJECT TO CHANGE



VICINITY MAP

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PROJECT NO. 07907 - 22 - 02
FIGURE 1
DATE 09 - 29 - 2008

I-805 MANAGED LANES SOUTH, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA



REFERENCE: KENNEDY AND TAN, 1977

EXPLANATION	
Qaf	Artificial fill
Qb	Beach deposits
Qal+Qaw	Alluvium and slope wash undifferentiated
Qls	Landslide deposit
Qt	Stream-terrace deposits
Qbp+Qn Qbo+Qn	Bay Point Formation and unnamed, nearshore, marine sandstone Qbp, Bay Point Formation; Qn, unnamed, nearshore, marine sandstone; Qbp+Qn, Bay Point Formation and unnamed, nearshore marine sandstone undifferentiated.
Ql	Lindavista Formation
Tsdsg Tsdss	San Diego Formation Tsdsg, conglomerate part; Tsdss, sandstone part.
To	Otay Formation
Tfg	Unnamed fanglomerate deposits
Tp	Pomerado Conglomerate
Tmv	Mission Valley Formation
Ts	Stadium Conglomerate
Tsp	Santiago Peak Volcanics

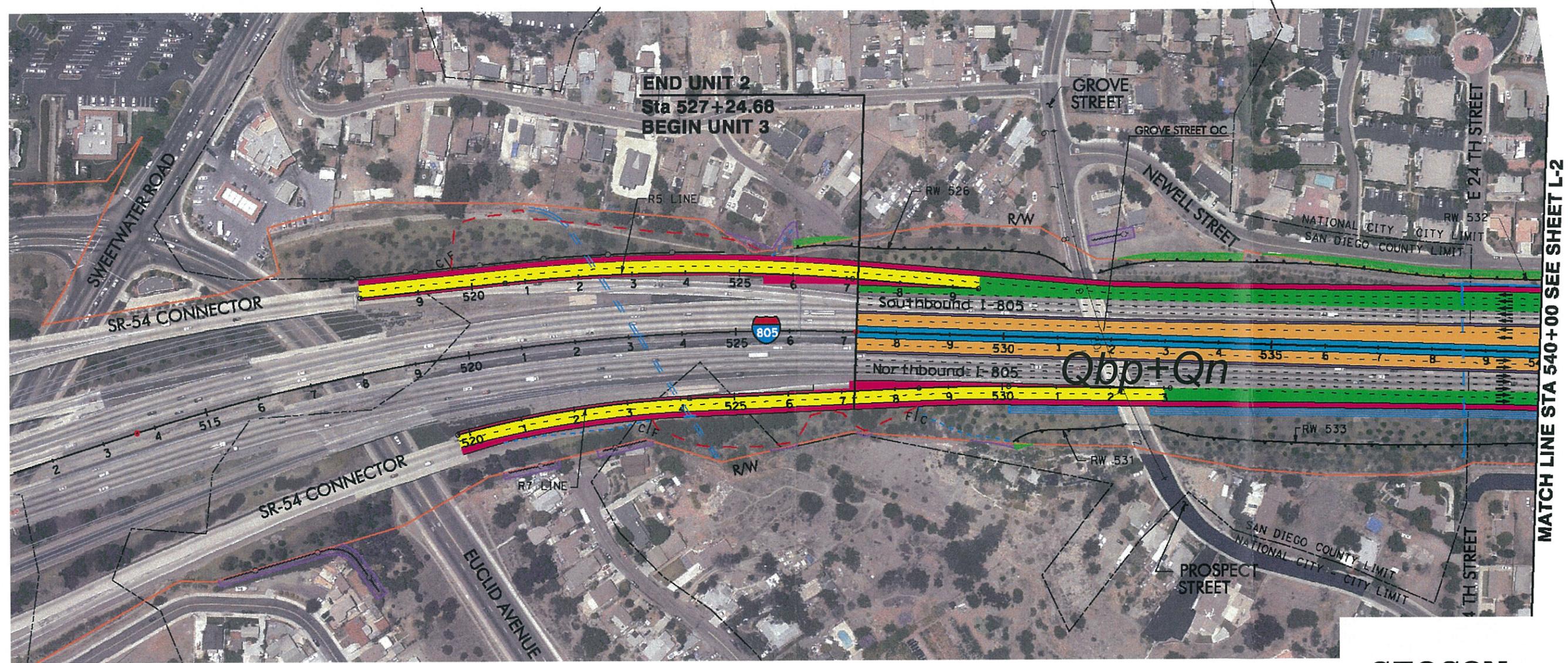
↑
N
APPROX. SCALE: 1" = 1500'

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FIGURE 2
DATE 09 - 29 - 2008

REGIONAL GEOLOGIC MAP

I-805 MANAGED LANES SOUTH, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA

- LEGEND:**
-  - HOV Lanes
 -  - HOV Shoulder
 -  - Buffer
 -  - Outside Lane Widening (PCC)
 -  - Outside Shoulder Widening (AC)
 -  - Ramp Realignment (AC)
 -  - Bridge Widening/Replacement (PCC)
 -  - Park and Ride/Transit Station
 -  - Local Street Improvement
 -  - Wall Footing Easement
 -  - Construction Easement
 -  - R/W Aquisition
-  - Traffic Direction
 -  - Possible Soundwall
 -  - Retaining Wall (Preliminary Assumption)
 -  - Cut Limits
 -  - Fill Limits
 -  - City Limits
 -  - Proposed R/W
 -  - Construction Easement Limit
 -  - Bioswale
 -  - Proposed Drainage Facility
 -  - Exist Drainage Facility



MATCH LINE STA 540+00 SEE SHEET L-2

GEOCON LEGEND

Qbp+Qn.....BAYPOINT FORMATION AND UNNAMED, NEARSHORE,
MARINE SANDSTONE

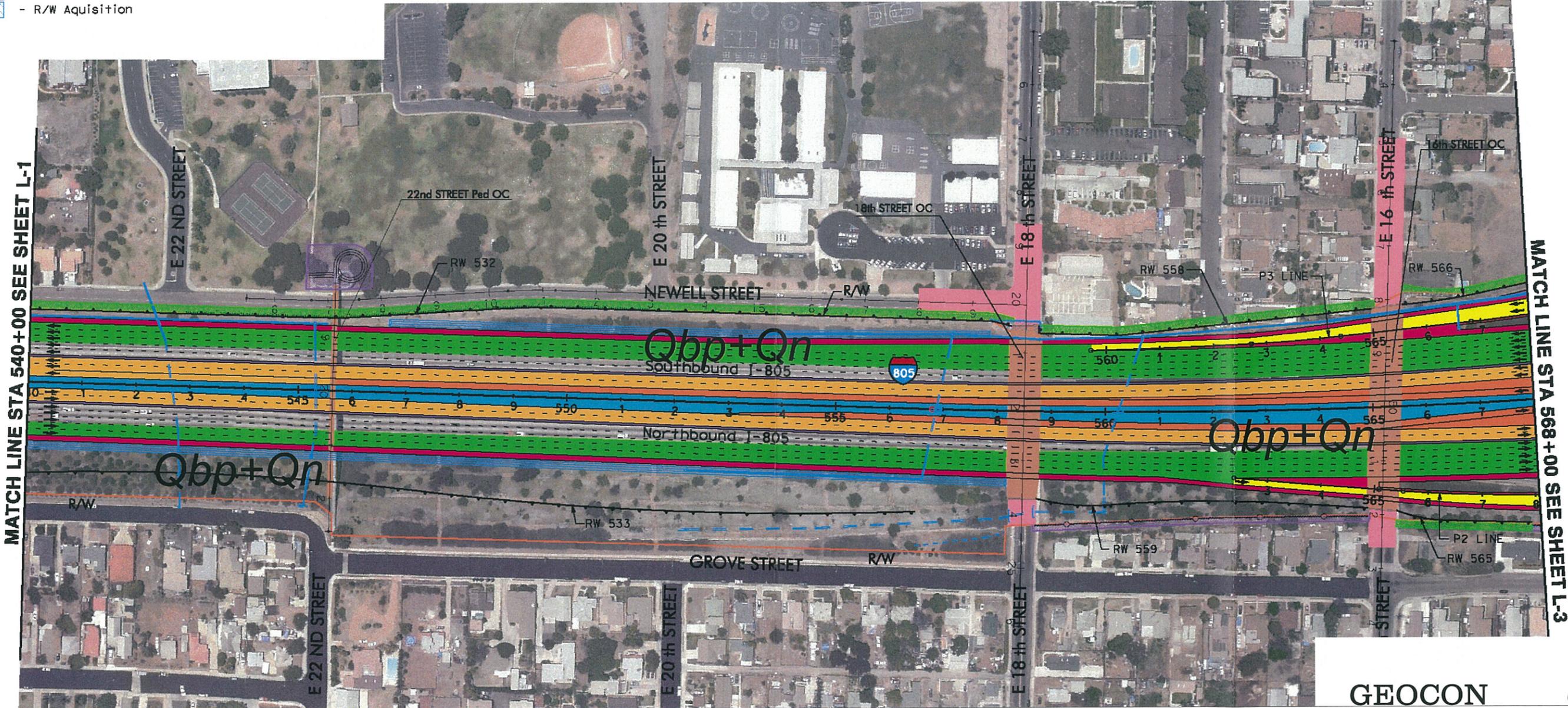
SITE PLAN / GEOLOGIC MAP

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PROJECT NO. 07907 - 22 - 02
FIGURE 3
DATE 09 - 29 - 2008



I-805 MANAGED LANES SOUTH, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA

- LEGEND:**
-  - HOV Lanes
 -  - HOV Shoulder
 -  - Buffer
 -  - Outside Lane Widening (PCC)
 -  - Outside Shoulder Widening (AC)
 -  - Ramp Realignment (AC)
 -  - Bridge Widening/Replacement (PCC)
 -  - Park and Ride/Transit Station
 -  - Local Street Improvement
 -  - Wall Footing Easement
 -  - Construction Easement
 -  - R/W Aquisition
-  - Traffic Direction
 -  - Possible Soundwall
 -  - Retaining Wall (Preliminary Assumption)
 -  - Cut Limits
 -  - Fill Limits
 -  - City Limits
 -  - Proposed R/W
 -  - Construction Easement Limit
 -  - Bioswale
 -  - Proposed Drainage Facility
 -  - Exist Drainage Facility



GEOCON LEGEND
Qbp+Qn.....BAYPOINT FORMATION AND UNNAMED, NEARSHORE,
 MARINE SANDSTONE

SITE PLAN / GEOLOGIC MAP

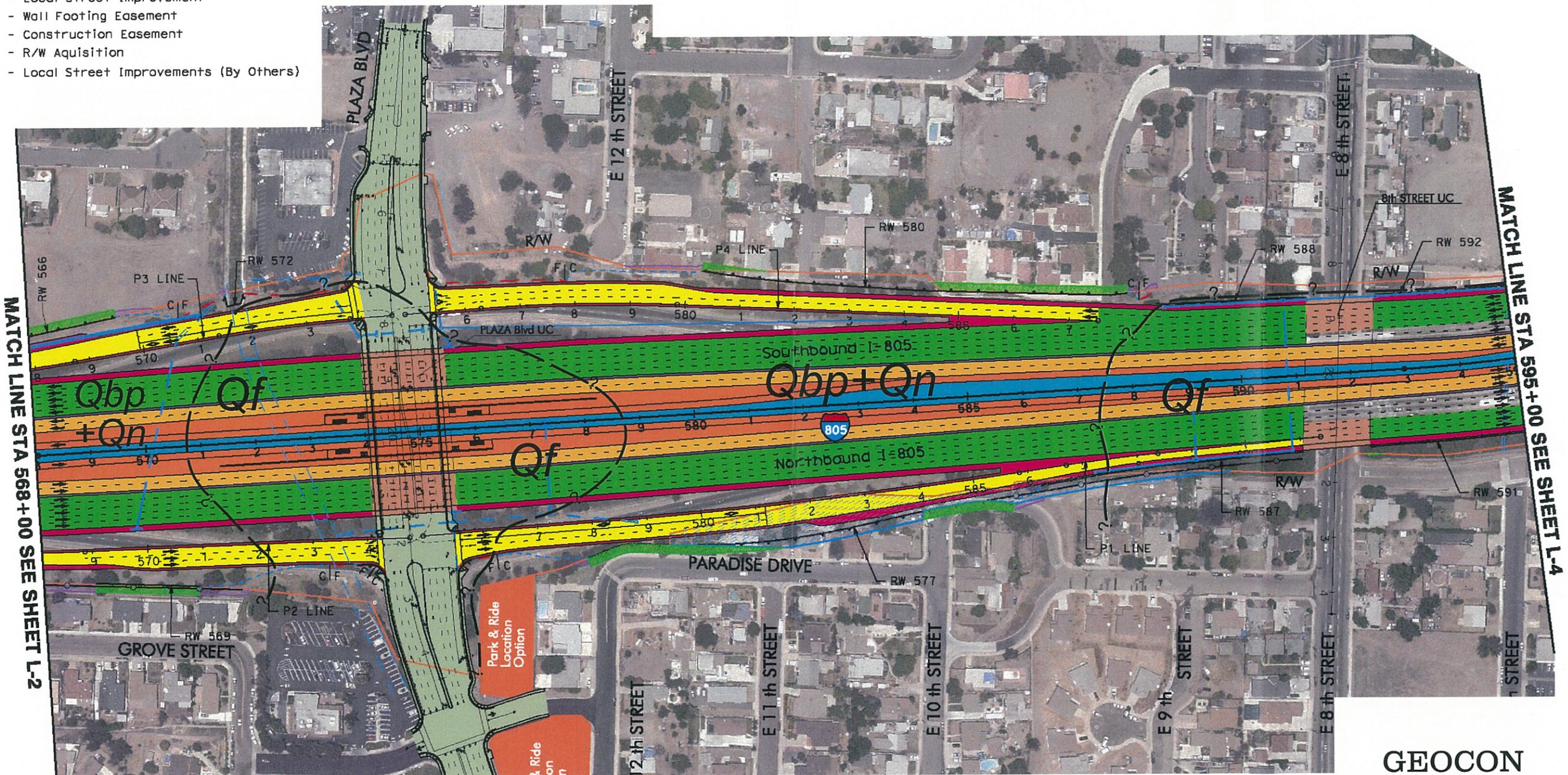
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 PROJECT NO. 07907 - 22 - 02
 FIGURE 4
 DATE 09 - 29 - 2008

I-805 MANAGED LANES SOUTH, UNIT 3
SAN DIEGO COUNTY, CALIFORNIA

- LEGEND:**
- HOV Lanes
 - HOV Shoulder
 - Buffer
 - Outside Lane Widening (PCC)
 - Outside Shoulder Widening (AC)
 - Ramp Realignment (AC)
 - Bridge Widening/Replacement (PCC)
 - Park and Ride/Transit Station
 - Local Street Improvement
 - Wall Footing Easement
 - Construction Easement
 - R/W Aquisition
 - Local Street Improvements (By Others)

- Traffic Direction
- Possible Soundwall
- Retaining Wall (Preliminary Assumption)
- Cut Limits
- Fill Limits
- City Limits
- Proposed R/W
- Construction Easement Limit
- Bioswale
- Proposed Drainage Facility
- Exist Drainage Facility

SCALE: 1" = 200'



MATCH LINE STA 568+00 SEE SHEET L-2

MATCH LINE STA 595+00 SEE SHEET L-4

GEOCON LEGEND

Qf.....FILL
 Qbp+Qn.....BAYPOINT FORMATION AND UNNAMED,
 NEARSHORE, MARINE SANDSTONE
 ~~~~~APPROX. LOCATION OF GEOLOGIC CONTACT

SITE PLAN / GEOLOGIC MAP

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 PROJECT NO. 07907 - 22 - 02  
 FIGURE 5  
 DATE 09 - 29 - 2008



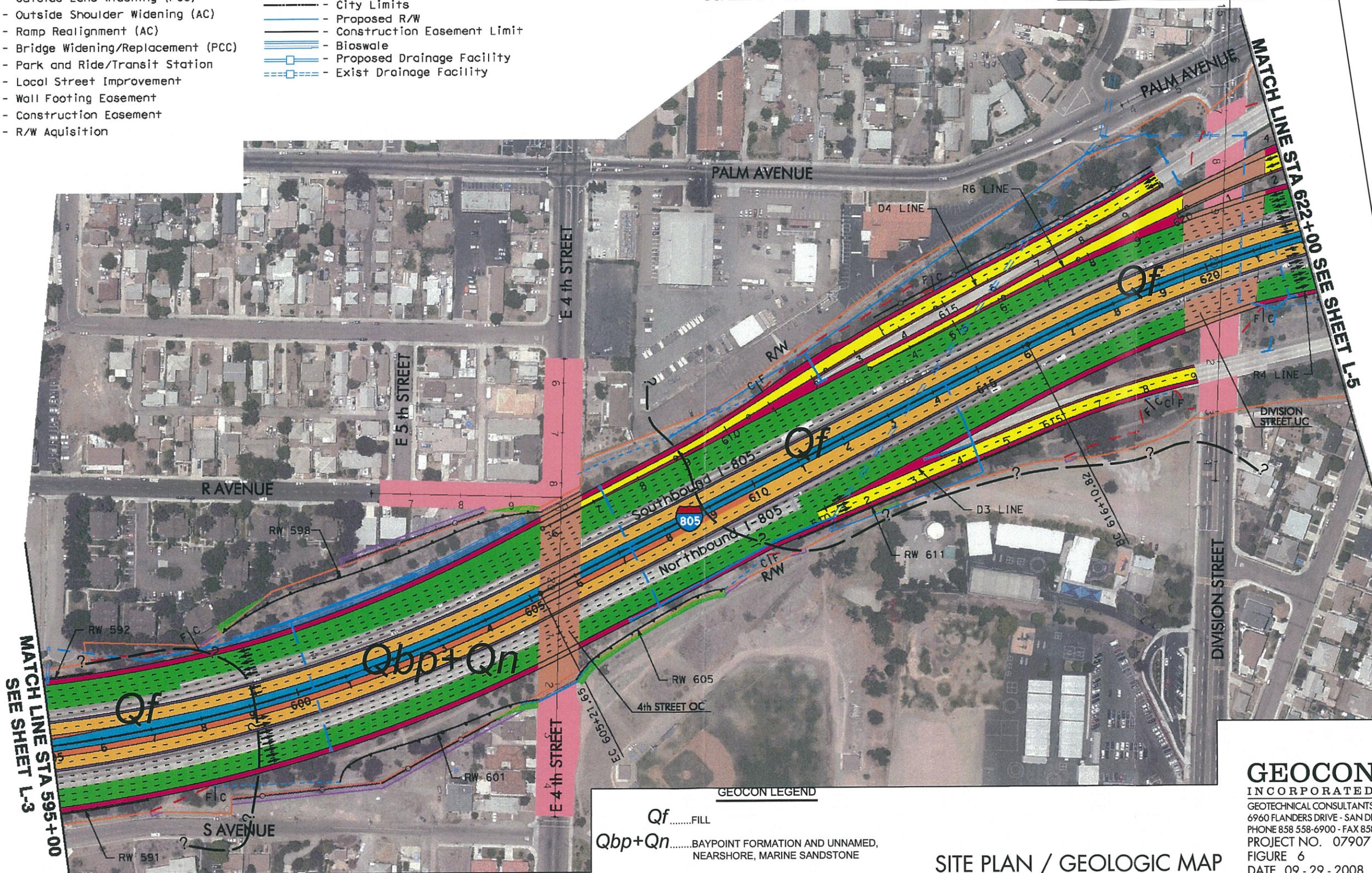
I-805 MANAGED LANES SOUTH, UNIT 3  
SAN DIEGO COUNTY, CALIFORNIA

**LEGEND:**

- HOV Lanes
- HOV Shoulder
- Buffer
- Outside Lane Widening (PCC)
- Outside Shoulder Widening (AC)
- Ramp Realignment (AC)
- Bridge Widening/Replacement (PCC)
- Park and Ride/Transit Station
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- Proposed Drainage Facility
- Exist Drainage Facility

SCALE: 1" = 200'



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FIGURE 6  
DATE 09 - 29 - 2008

SITE PLAN / GEOLOGIC MAP

**GEOCON LEGEND**

Qf.....FILL

Qbp+Qn.....BAYPOINT FORMATION AND UNNAMED,  
NEARSHORE, MARINE SANDSTONE

~.....APPROX. LOCATION OF GEOLOGIC CONTACT

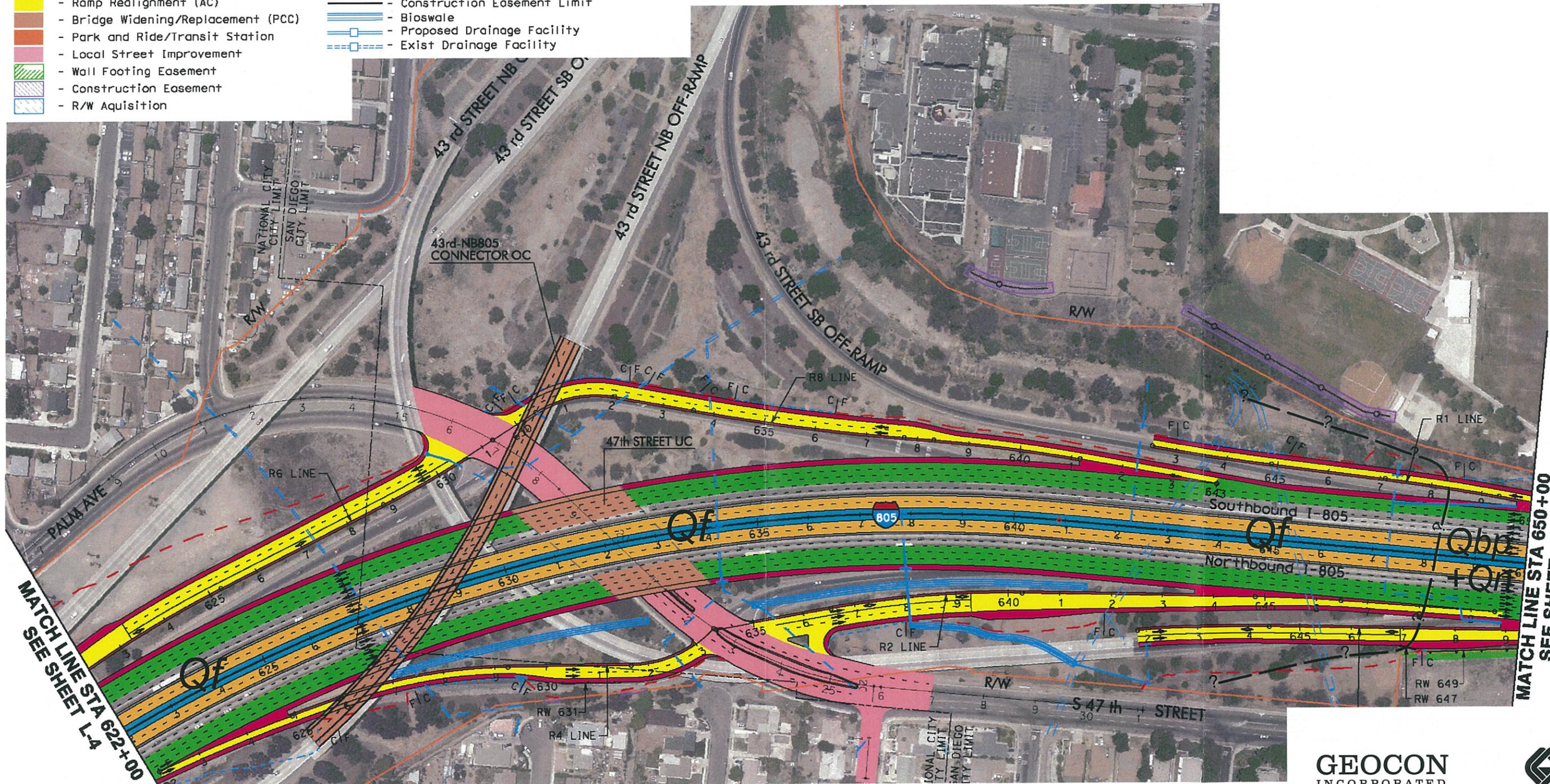
I-805 MANAGED LANES SOUTH, UNIT 3  
SAN DIEGO COUNTY, CALIFORNIA

**LEGEND:**

- HOV Lanes
- HOV Shoulder
- Buffer
- Outside Lane Widening (PCC)
- Outside Shoulder Widening (AC)
- Ramp Realignment (AC)
- Bridge Widening/Replacement (PCC)
- Park and Ride/Transit Station
- Local Street Improvement
- Wall Footing Easement
- Construction Easement
- R/W Aquisition

- Traffic Direction
- Possible Soundwall
- Retaining Wall (Preliminary Assumption)
- Cut Limits
- Fill Limits
- City Limits
- Proposed R/W
- Construction Easement Limit
- Bioswale
- Proposed Drainage Facility
- Exist Drainage Facility

SCALE: 1" = 200'



MATCH LINE STA 622+00  
SEE SHEET L-4

MATCH LINE STA 650+00  
SEE SHEET L-6

**GEOCON LEGEND**

- Qf .....FILL
- Qbp+Qn .....BAYPOINT FORMATION AND UNNAMED, NEARSHORE, MARINE SANDSTONE
- .....APPROX. LOCATION OF GEOLOGIC CONTACT

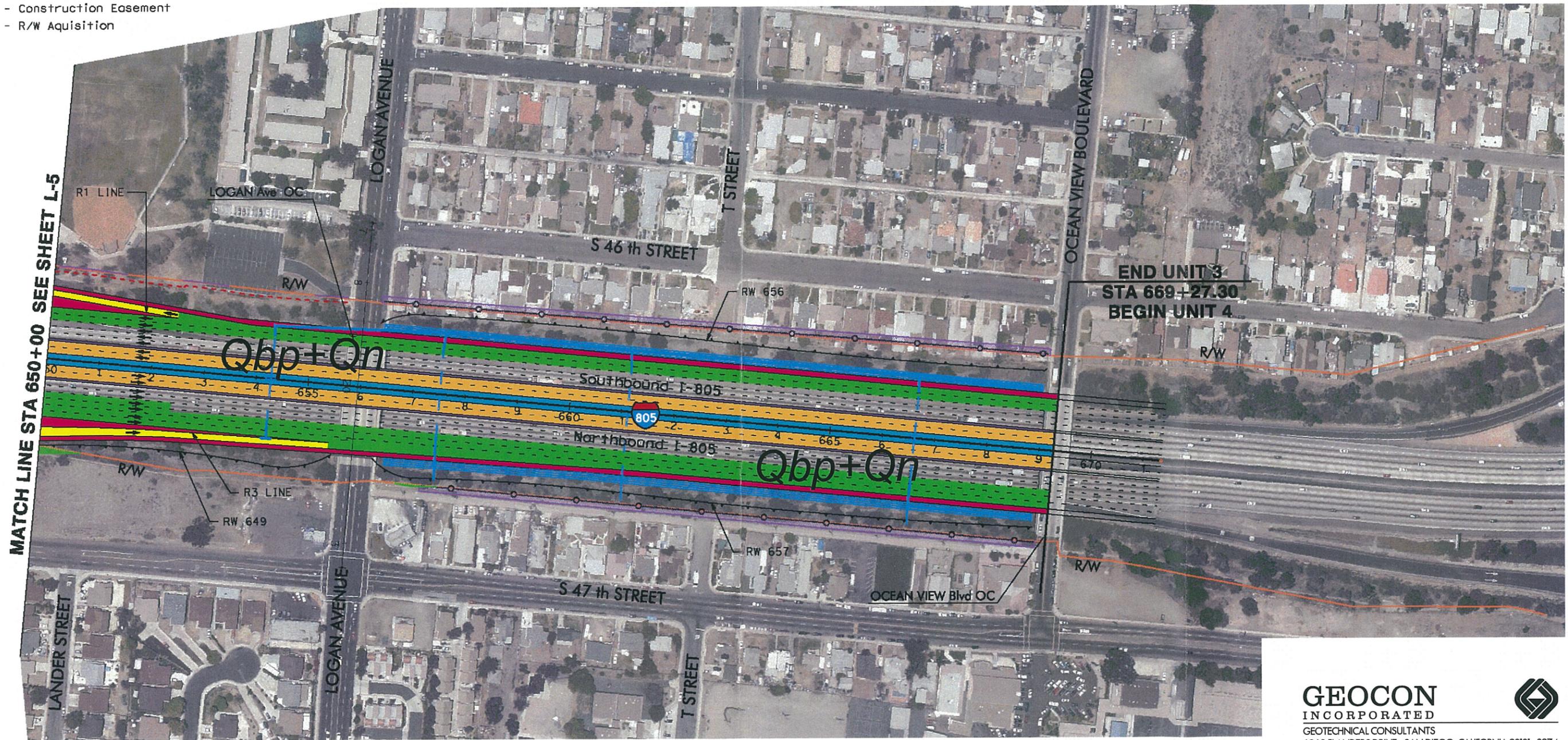
**SITE PLAN / GEOLOGIC MAP**

**GEOCON**  
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PROJECT NO. 07907 - 22 - 02  
FIGURE 7  
DATE 09 - 29 - 2008

I-805 MANAGED LANES SOUTH, UNIT 3  
SAN DIEGO COUNTY, CALIFORNIA

- LEGEND:**
- HOV Lanes
  - HOV Shoulder
  - Buffer
  - Outside Lane Widening (PCC)
  - Outside Shoulder Widening (AC)
  - Ramp Realignment (AC)
  - Bridge Widening/Replacement (PCC)
  - Park and Ride/Transit Station
  - Local Street Improvement
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  - Construction Easement
  - R/W Aquisition
  - Traffic Direction
  - Possible Soundwall
  - Retaining Wall (Preliminary Assumption)
  - Cut Limits
  - Fill Limits
  - City Limits
  - Proposed R/W
  - Construction Easement Limit
  - Bioswale
  - Proposed Drainage Facility
  - Exist Drainage Facility

SCALE: 1" = 200'



MATCH LINE STA 650+00 SEE SHEET L-5

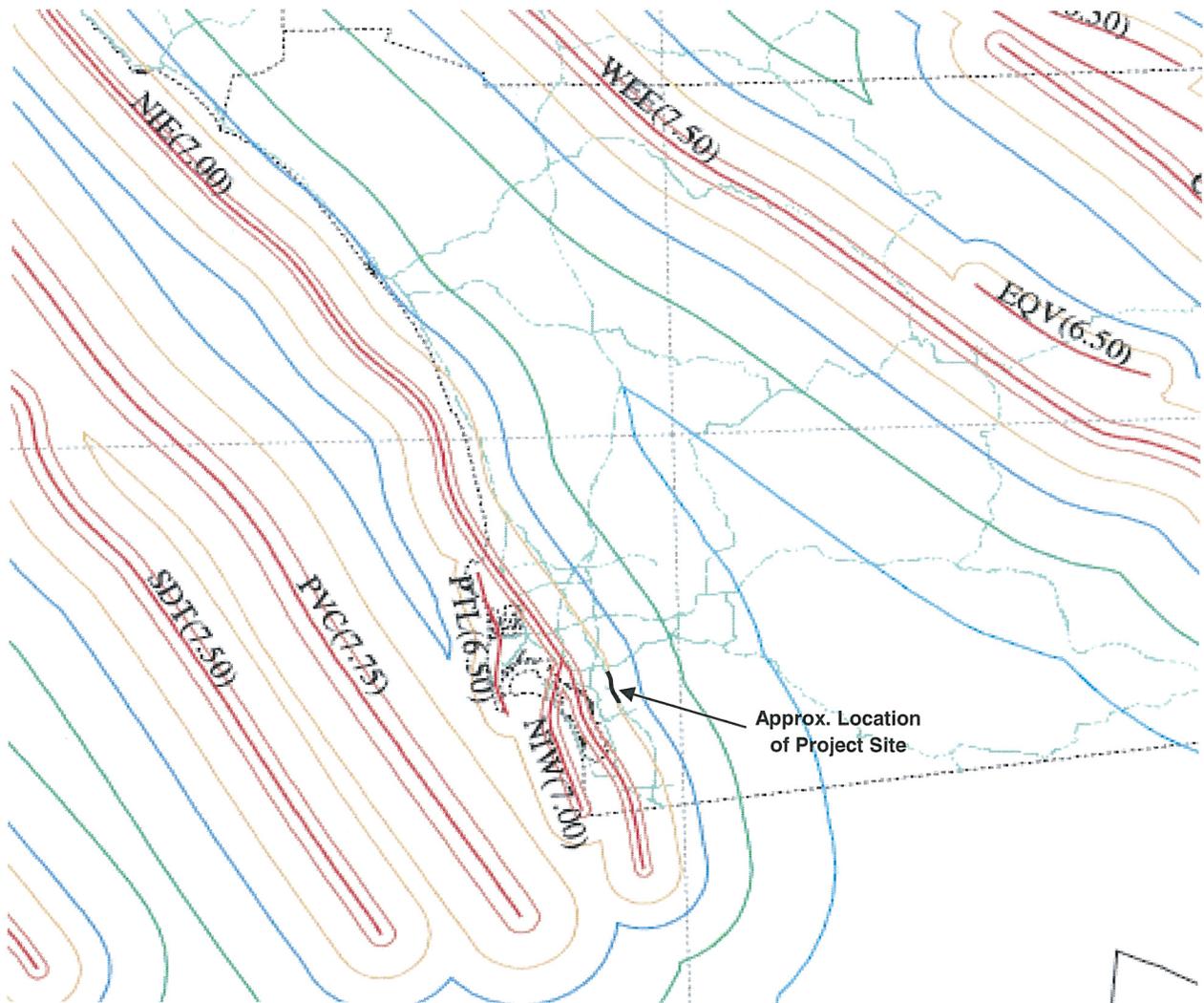
END UNIT 3  
STA 669+27.30  
BEGIN UNIT 4

GEOCON LEGEND

Qbp+Qn.....BAYPOINT FORMATION AND UNNAMED, NEARSHORE,  
MARINE SANDSTONE

SITE PLAN / GEOLOGIC MAP

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FIGURE 8  
DATE 09 - 29 - 2008



**LEGEND:**

- 0.7g Peak Acceleration Contour
- 0.6g Peak Acceleration Contour
- 0.5g Peak Acceleration Contour
- 0.4g Peak Acceleration Contour
- 0.3g Peak Acceleration Contour
- 0.2g Peak Acceleration Contour
- 0.1g Peak Acceleration Contour
- Special Seismic Source (SSS)
- Faults with Fault Codes (MCE)
- State Highways
- County Boundary
- Latitude & Longitude



NOT TO SCALE

Ref: California Seismic hazards Map 1996, Lalliana, Mulachin

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**REGIONAL SEISMIC MAP**

I-805 MANAGED LANES SOUTH, UNIT 3  
SAN DIEGO COUNTY, CALIFORNIA

DATE 9-29-2008

PROJECT NO. 07907-22-02

FIG. 9

APPENDIX

A

**APPENDIX A**

**LOG OF TEST BORING SHEETS**

**FOR**

**INTERSTATE 805 MANAGED LANES SOUTH, UNIT 3  
SAN DIEGO COUNTY, CALIFORNIA  
11-SD-805, PM 9.0±/12.0±**

**PROJECT NO. 07907-22-02**

| DIST. | COUNTY | ROUTE    | POST MILES-TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|-------|--------|----------|--------------------------|-----------|--------------|
| 11    | SD     | 805, 282 | 10.212/24; 13/17         | 216       | 359          |

DATE APPROVED: March 5, 1973

**BRIDGE DEPARTMENT  
ENGINEERING GEOLOGY SECTION**

216

**LEGEND OF EARTH MATERIALS**

**CLASSIFICATION OF NATURAL BODIES OR STRATIFIED GEOTECHNICAL LIMITS**

Gravel, Sand, Silt, Clay, Organic Matter, etc.

**LEGEND OF OPERATIONS**

Test Pit, Core Sample, etc.

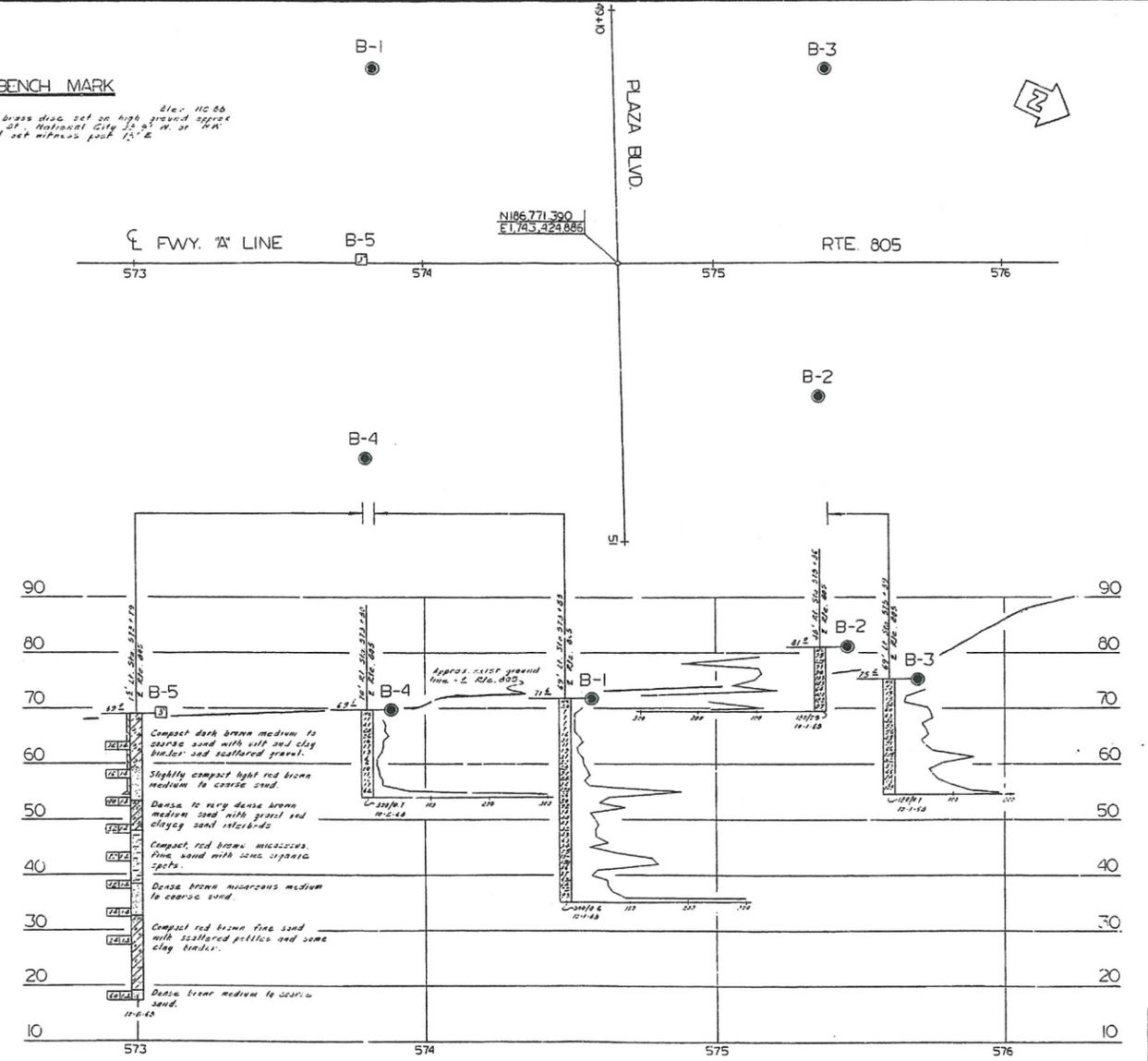
**EXPLANATION BORING**

Symbol for various boring types and soil types.

**BENCH MARK**

B.M. 84, 206  
 2 1/2" x 1 1/4" well brass disc set on high ground approx  
 150' N or 144' S of National City Ia 21' N of NW  
 corner old shed set witness post 15' E

Blav. HC 86



**PLAN**

Scale 1" = 20'

**PF**

Scale Vert 1" = 10'  
 Horiz 1" = 20'

NO GROUND WATER ENCOUNTERED DURING THE INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE 10/26/68-1973

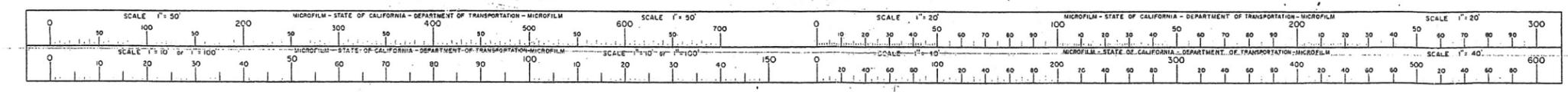
**AS BUILT** NO CHANGES  
 CORRECTIONS BY DR. DIMONIAK  
 CONTRACT NO. 11-110134  
 DATE 9-3-75 CRW 12123/75

|                                                                                                    |               |             |                                |
|----------------------------------------------------------------------------------------------------|---------------|-------------|--------------------------------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |               |             |                                |
| PLAZA BOULEVARD UNDERCROSSING                                                                      |               |             |                                |
| LOG OF TEST BORINGS                                                                                |               |             |                                |
| BRIDGE NO. <u>57-643</u>                                                                           | POST MILE NO. | DRAWING NO. | SHEET NO. <u>3</u> OF <u>3</u> |
| REVISION DATES (PRELIMINARY STAGE ONLY)                                                            |               |             |                                |

**AS BUILT PLANS**  
 Contract No. 11-110134  
 Date Completed  
 Document No. A0006303

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 2/4/76 Neil Headman Michael Sanner



**FIELD STUDY** W.C.G. 10/15/50  
**DESIGNED** W.C.G. 10/23/50  
**CHECKED** W.C.G. 12/21/50  
 Approved & Recommended by *[Signature]*  
 Engineering Geologist

**LEGEND OF EARTH MATERIALS**

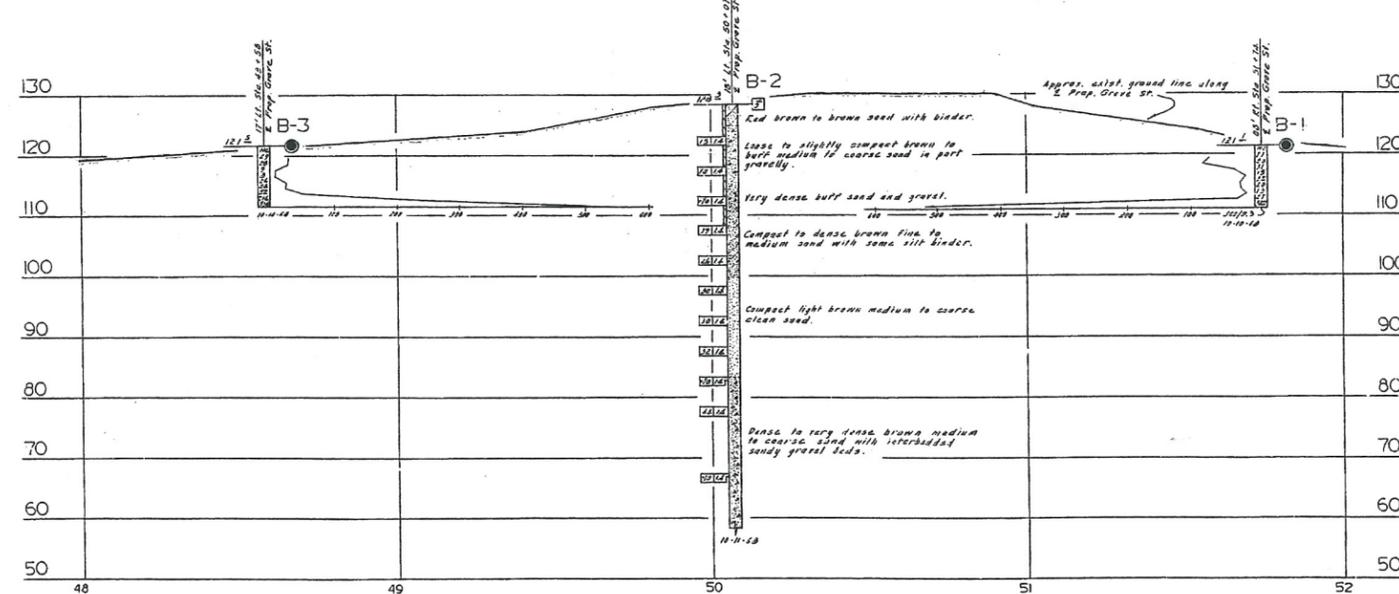
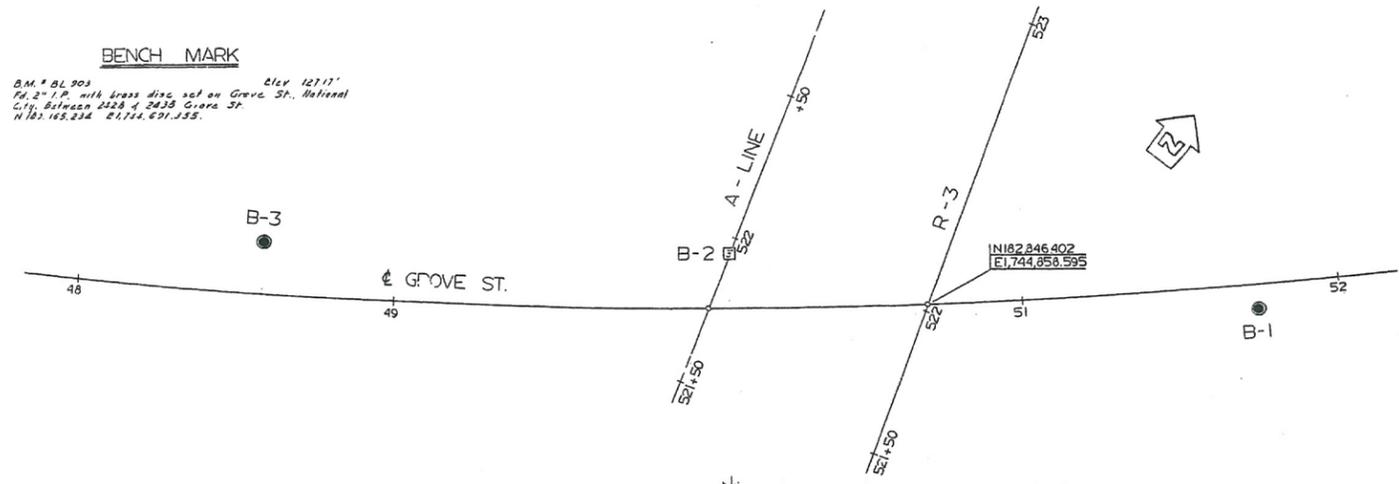
**CLASSIFICATION OF MATERIAL BASED ON STANDARD BORING LOGS**

**NOTE:** Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

**BRIDGE DEPARTMENT**  
**ENGINEERING GEOLOGY SECTION**

349

**BENCH MARK**  
 B.M. # BL 303 Elev 121.11'  
 1.2" I.P. with brass disc set on Grove St. National City, between 2428 & 2438 Grove St.  
 N 163.165.236 S 27.124.671.255



| EST. | COUNTY | ROUTE  | POST MILES-TOTAL PROJECT | POST MILE | DATE |
|------|--------|--------|--------------------------|-----------|------|
| 11   | 50     | 305 FA | 89/MS, 20/LS             | 349       | 395  |

DATE APPROVED: November 9, 1951

**PLAN**  
 Scale: 1" = 20'

**PROFILE**  
 Scale: Vert. 1" = 10'  
 Horiz. 1" = 20'

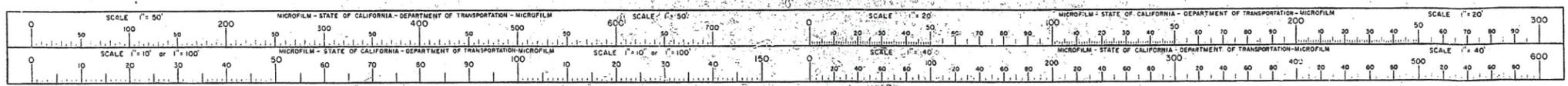
NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE October 1950

NO CHANGES  
**AS BUILT**  
 CORRECTIONS BY G.F. CARVER  
 CONTRACT NO. 11-110184  
 DATE 5-30-74  
 CMW 6/2/75

|                                                                                                    |           |                     |                |
|----------------------------------------------------------------------------------------------------|-----------|---------------------|----------------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |           |                     |                |
| GROVE STREET OVERCROSSING                                                                          |           |                     |                |
| LOG OF TEST BORINGS                                                                                |           |                     |                |
| BRIDGE NO. 57-751                                                                                  | POST MILE | DRAWING NO. 57751-9 | SHEET 10 OF 10 |
| REVISION DATES (PRELIMINARY STAGE ONLY)                                                            |           |                     |                |

**AS BUILT PLANS**  
 Contract No. 11-110184  
 Date Completed 4-30-75  
 Document No. H 000 6264

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL, ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.  
 DATE 5-7-75  
 SIGNATURE *[Signature]* TITLE R.M.S.I.



| SHEET | COUNTY | ROUTE  | POST MILES-TOTAL PROJECT | POST MILES | DATE |
|-------|--------|--------|--------------------------|------------|------|
| 11    | SD     | 805 FH | 89/112.24/25             | 261        | 1975 |

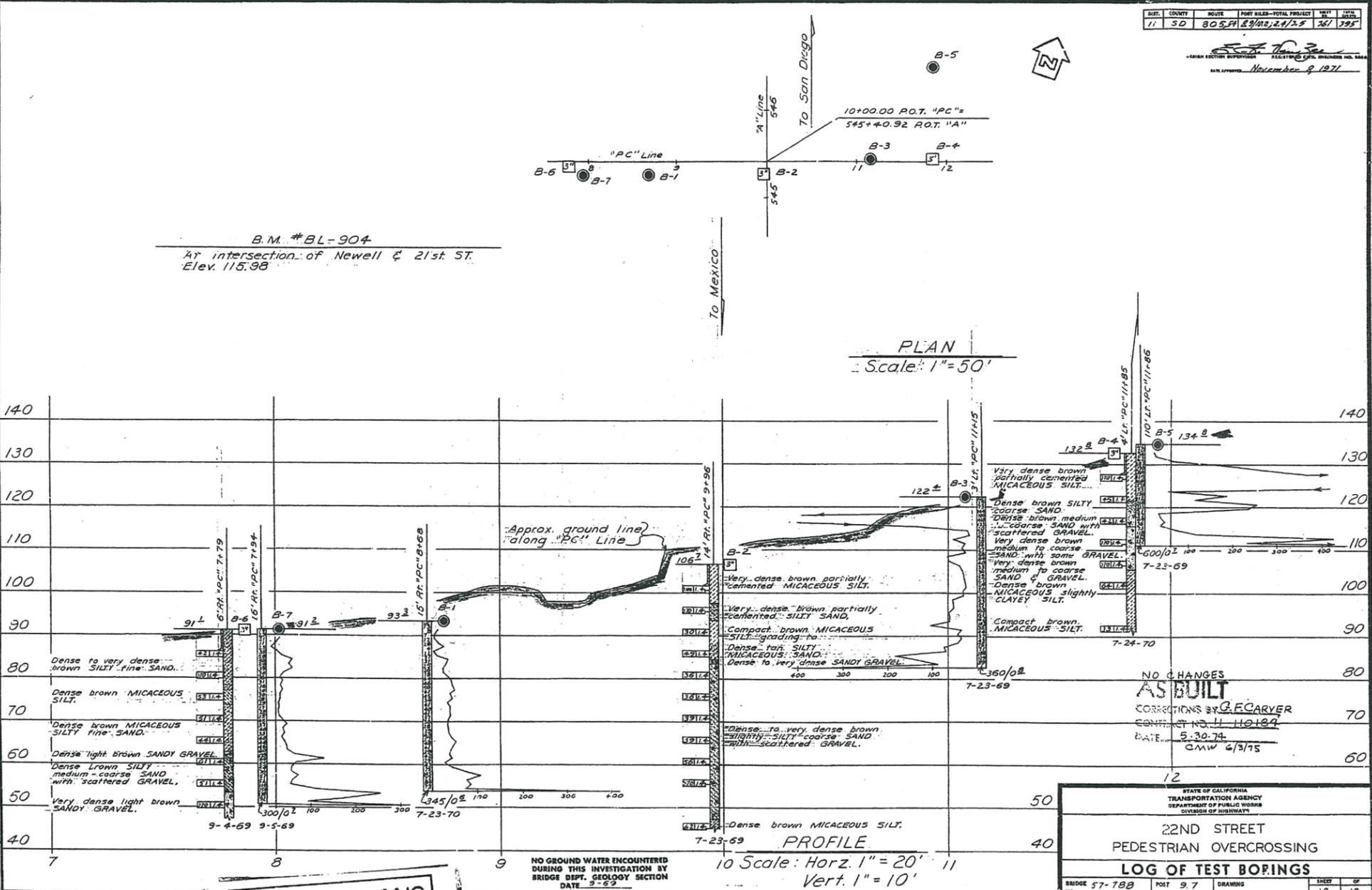
DATE APPROVED November 9, 1971

**LEGEND OF BORING OPERATIONS**

**LEGEND OF SOIL MATERIALS**

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS**

**NOTE:** Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.



NO CHANGES  
**AS BUILT**  
CORRECTIONS BY G.E. CARVER  
CONTRACT NO. 11-110184  
DATE 5-30-74  
GAW 6/3/75

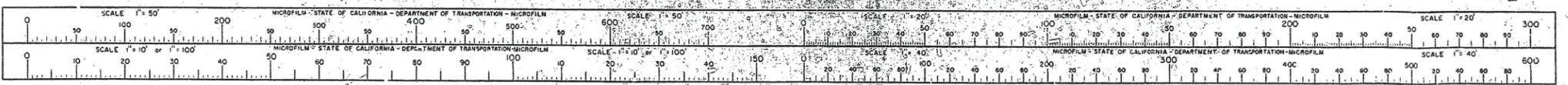
|                                                                                                    |           |             |                          |
|----------------------------------------------------------------------------------------------------|-----------|-------------|--------------------------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |           |             |                          |
| 22ND STREET<br>PEDESTRIAN OVERCROSSING                                                             |           |             |                          |
| <b>LOG OF TEST BORINGS</b>                                                                         |           |             |                          |
| BRIDGE NO.                                                                                         | POST MILE | DRAWING NO. | SHEET OF                 |
| 57-78B                                                                                             | 9.7       | 9           | 12                       |
| REVISION DATES                                                                                     |           |             | (PRELIMINARY STAGE ONLY) |

**AS BUILT PLANS**  
Contract No. 11-110184  
Date Completed 4-30-75  
Document No. H-0006264

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE 8-7-75 SIGNATURE [Signature] TITLE RMSI

361



**BRIDGE DEPARTMENT  
ENGINEERING GEOLOGY SECTION**

370

**LEGEND OF EARTH MATERIALS**

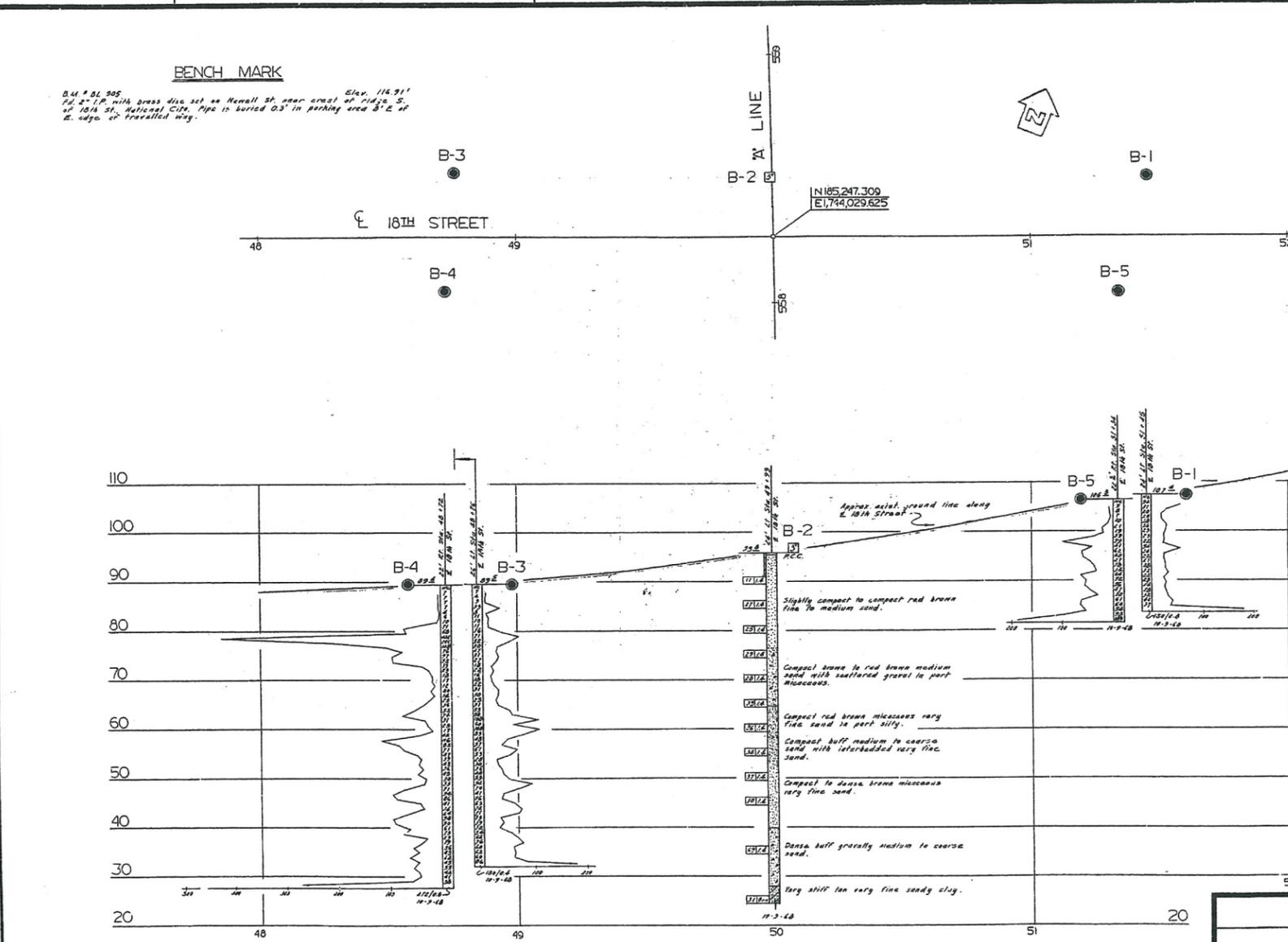
CLASSIFICATION OF MATERIAL BASED ON STANDARD GROUND SIZE LIMITS

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

**FIELD CHECKED BY:** G. E. CARVER  
**DRAWN BY:** C. D. STANLEY

**LEGEND OF SYMBOLS:**

- Penetration
- 24" Cone Penetration
- Standard Penetration (SPT)
- Blow Count (BC)
- Blow Count (BC) - Corrected
- Blow Count (BC) - Corrected - 15 ft
- Blow Count (BC) - Corrected - 30 ft
- Blow Count (BC) - Corrected - 45 ft
- Blow Count (BC) - Corrected - 60 ft
- Blow Count (BC) - Corrected - 75 ft
- Blow Count (BC) - Corrected - 90 ft
- Blow Count (BC) - Corrected - 105 ft
- Blow Count (BC) - Corrected - 120 ft
- Blow Count (BC) - Corrected - 135 ft
- Blow Count (BC) - Corrected - 150 ft
- Blow Count (BC) - Corrected - 165 ft
- Blow Count (BC) - Corrected - 180 ft
- Blow Count (BC) - Corrected - 195 ft
- Blow Count (BC) - Corrected - 210 ft
- Blow Count (BC) - Corrected - 225 ft
- Blow Count (BC) - Corrected - 240 ft
- Blow Count (BC) - Corrected - 255 ft
- Blow Count (BC) - Corrected - 270 ft
- Blow Count (BC) - Corrected - 285 ft
- Blow Count (BC) - Corrected - 300 ft
- Blow Count (BC) - Corrected - 315 ft
- Blow Count (BC) - Corrected - 330 ft
- Blow Count (BC) - Corrected - 345 ft
- Blow Count (BC) - Corrected - 360 ft
- Blow Count (BC) - Corrected - 375 ft
- Blow Count (BC) - Corrected - 390 ft
- Blow Count (BC) - Corrected - 405 ft
- Blow Count (BC) - Corrected - 420 ft
- Blow Count (BC) - Corrected - 435 ft
- Blow Count (BC) - Corrected - 450 ft
- Blow Count (BC) - Corrected - 465 ft
- Blow Count (BC) - Corrected - 480 ft
- Blow Count (BC) - Corrected - 495 ft
- Blow Count (BC) - Corrected - 510 ft
- Blow Count (BC) - Corrected - 525 ft
- Blow Count (BC) - Corrected - 540 ft
- Blow Count (BC) - Corrected - 555 ft
- Blow Count (BC) - Corrected - 570 ft
- Blow Count (BC) - Corrected - 585 ft
- Blow Count (BC) - Corrected - 600 ft
- Blow Count (BC) - Corrected - 615 ft
- Blow Count (BC) - Corrected - 630 ft
- Blow Count (BC) - Corrected - 645 ft
- Blow Count (BC) - Corrected - 660 ft
- Blow Count (BC) - Corrected - 675 ft
- Blow Count (BC) - Corrected - 690 ft
- Blow Count (BC) - Corrected - 705 ft
- Blow Count (BC) - Corrected - 720 ft
- Blow Count (BC) - Corrected - 735 ft
- Blow Count (BC) - Corrected - 750 ft
- Blow Count (BC) - Corrected - 765 ft
- Blow Count (BC) - Corrected - 780 ft
- Blow Count (BC) - Corrected - 795 ft
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- Blow Count (BC) - Corrected - 930 ft
- Blow Count (BC) - Corrected - 945 ft
- Blow Count (BC) - Corrected - 960 ft
- Blow Count (BC) - Corrected - 975 ft
- Blow Count (BC) - Corrected - 990 ft
- Blow Count (BC) - Corrected - 1005 ft
- Blow Count (BC) - Corrected - 1020 ft
- Blow Count (BC) - Corrected - 1035 ft
- Blow Count (BC) - Corrected - 1050 ft
- Blow Count (BC) - Corrected - 1065 ft
- Blow Count (BC) - Corrected - 1080 ft
- Blow Count (BC) - Corrected - 1095 ft
- Blow Count (BC) - Corrected - 1110 ft
- Blow Count (BC) - Corrected - 1125 ft
- Blow Count (BC) - Corrected - 1140 ft
- Blow Count (BC) - Corrected - 1155 ft
- Blow Count (BC) - Corrected - 1170 ft
- Blow Count (BC) - Corrected - 1185 ft
- Blow Count (BC) - Corrected - 1200 ft
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- Blow Count (BC) - Corrected - 1275 ft
- Blow Count (BC) - Corrected - 1290 ft
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- Blow Count (BC) - Corrected - 1320 ft
- Blow Count (BC) - Corrected - 1335 ft
- Blow Count (BC) - Corrected - 1350 ft
- Blow Count (BC) - Corrected - 1365 ft
- Blow Count (BC) - Corrected - 1380 ft
- Blow Count (BC) - Corrected - 1395 ft
- Blow Count (BC) - Corrected - 1410 ft
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- Blow Count (BC) - Corrected - 1470 ft
- Blow Count (BC) - Corrected - 1485 ft
- Blow Count (BC) - Corrected - 1500 ft
- Blow Count (BC) - Corrected - 1515 ft
- Blow Count (BC) - Corrected - 1530 ft
- Blow Count (BC) - Corrected - 1545 ft
- Blow Count (BC) - Corrected - 1560 ft
- Blow Count (BC) - Corrected - 1575 ft
- Blow Count (BC) - Corrected - 1590 ft
- Blow Count (BC) - Corrected - 1605 ft
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- Blow Count (BC) - Corrected - 1635 ft
- Blow Count (BC) - Corrected - 1650 ft
- Blow Count (BC) - Corrected - 1665 ft
- Blow Count (BC) - Corrected - 1680 ft
- Blow Count (BC) - Corrected - 1695 ft
- Blow Count (BC) - Corrected - 1710 ft
- Blow Count (BC) - Corrected - 1725 ft
- Blow Count (BC) - Corrected - 1740 ft
- Blow Count (BC) - Corrected - 1755 ft
- Blow Count (BC) - Corrected - 1770 ft
- Blow Count (BC) - Corrected - 1785 ft
- Blow Count (BC) - Corrected - 1800 ft
- Blow Count (BC) - Corrected - 1815 ft
- Blow Count (BC) - Corrected - 1830 ft
- Blow Count (BC) - Corrected - 1845 ft
- Blow Count (BC) - Corrected - 1860 ft
- Blow Count (BC) - Corrected - 1875 ft
- Blow Count (BC) - Corrected - 1890 ft
- Blow Count (BC) - Corrected - 1905 ft
- Blow Count (BC) - Corrected - 1920 ft
- Blow Count (BC) - Corrected - 1935 ft
- Blow Count (BC) - Corrected - 1950 ft
- Blow Count (BC) - Corrected - 1965 ft
- Blow Count (BC) - Corrected - 1980 ft
- Blow Count (BC) - Corrected - 1995 ft
- Blow Count (BC) - Corrected - 2010 ft
- Blow Count (BC) - Corrected - 2025 ft
- Blow Count (BC) - Corrected - 2040 ft
- Blow Count (BC) - Corrected - 2055 ft
- Blow Count (BC) - Corrected - 2070 ft
- Blow Count (BC) - Corrected - 2085 ft
- Blow Count (BC) - Corrected - 2100 ft
- Blow Count (BC) - Corrected - 2115 ft
- Blow Count (BC) - Corrected - 2130 ft
- Blow Count (BC) - Corrected - 2145 ft
- Blow Count (BC) - Corrected - 2160 ft
- Blow Count (BC) - Corrected - 2175 ft
- Blow Count (BC) - Corrected - 2190 ft
- Blow Count (BC) - Corrected - 2205 ft
- Blow Count (BC) - Corrected - 2220 ft
- Blow Count (BC) - Corrected - 2235 ft
- Blow Count (BC) - Corrected - 2250 ft
- Blow Count (BC) - Corrected - 2265 ft
- Blow Count (BC) - Corrected - 2280 ft
- Blow Count (BC) - Corrected - 2295 ft
- Blow Count (BC) - Corrected - 2310 ft
- Blow Count (BC) - Corrected - 2325 ft
- Blow Count (BC) - Corrected - 2340 ft
- Blow Count (BC) - Corrected - 2355 ft
- Blow Count (BC) - Corrected - 2370 ft
- Blow Count (BC) - Corrected - 2385 ft
- Blow Count (BC) - Corrected - 2400 ft
- Blow Count (BC) - Corrected - 2415 ft
- Blow Count (BC) - Corrected - 2430 ft
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- Blow Count (BC) - Corrected - 2475 ft
- Blow Count (BC) - Corrected - 2490 ft
- Blow Count (BC) - Corrected - 2505 ft
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- Blow Count (BC) - Corrected - 2640 ft
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- Blow Count (BC) - Corrected - 2670 ft
- Blow Count (BC) - Corrected - 2685 ft
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- Blow Count (BC) - Corrected - 2715 ft
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- Blow Count (BC) - Corrected - 2745 ft
- Blow Count (BC) - Corrected - 2760 ft
- Blow Count (BC) - Corrected - 2775 ft
- Blow Count (BC) - Corrected - 2790 ft
- Blow Count (BC) - Corrected - 2805 ft
- Blow Count (BC) - Corrected - 2820 ft
- Blow Count (BC) - Corrected - 2835 ft
- Blow Count (BC) - Corrected - 2850 ft
- Blow Count (BC) - Corrected - 2865 ft
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- Blow Count (BC) - Corrected - 2895 ft
- Blow Count (BC) - Corrected - 2910 ft
- Blow Count (BC) - Corrected - 2925 ft
- Blow Count (BC) - Corrected - 2940 ft
- Blow Count (BC) - Corrected - 2955 ft
- Blow Count (BC) - Corrected - 2970 ft
- Blow Count (BC) - Corrected - 2985 ft
- Blow Count (BC) - Corrected - 3000 ft



DIST. COUNTY ROUTE POST MILES-TOTAL PROJECT

11 30 105.24 2.3/10.2/2.1/2.5 370 330

STATE OF CALIFORNIA  
TRANSPORTATION AGENCY  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

18TH STREET OVERCROSSING

**LOG OF TEST BORINGS**

BRIDGE NO. 57-641 POST MILE NO. DRAWING NO. SHEET 7 OF 7

REVISION DATES (PRELIMINARY STAGE ONLY)

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE October 1963

NO CHANGES AS BUILT  
CORRECTIONS BY G.E. CARVER  
CONTRACT NO. 11-110184  
DATE 5-30-74  
GMW 6/3/75

**AS BUILT PLANS**  
Contract No. 11-110184  
Date Completed 4-30-75  
Document No. H 000 62 64

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

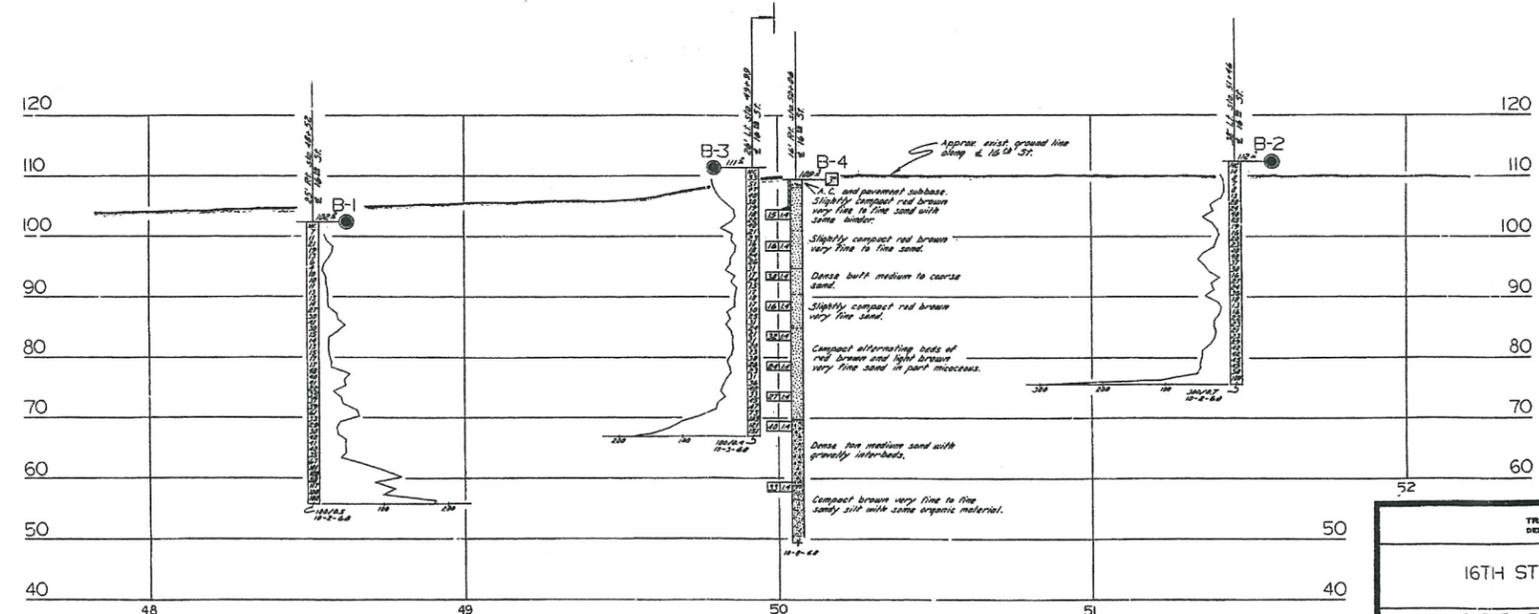
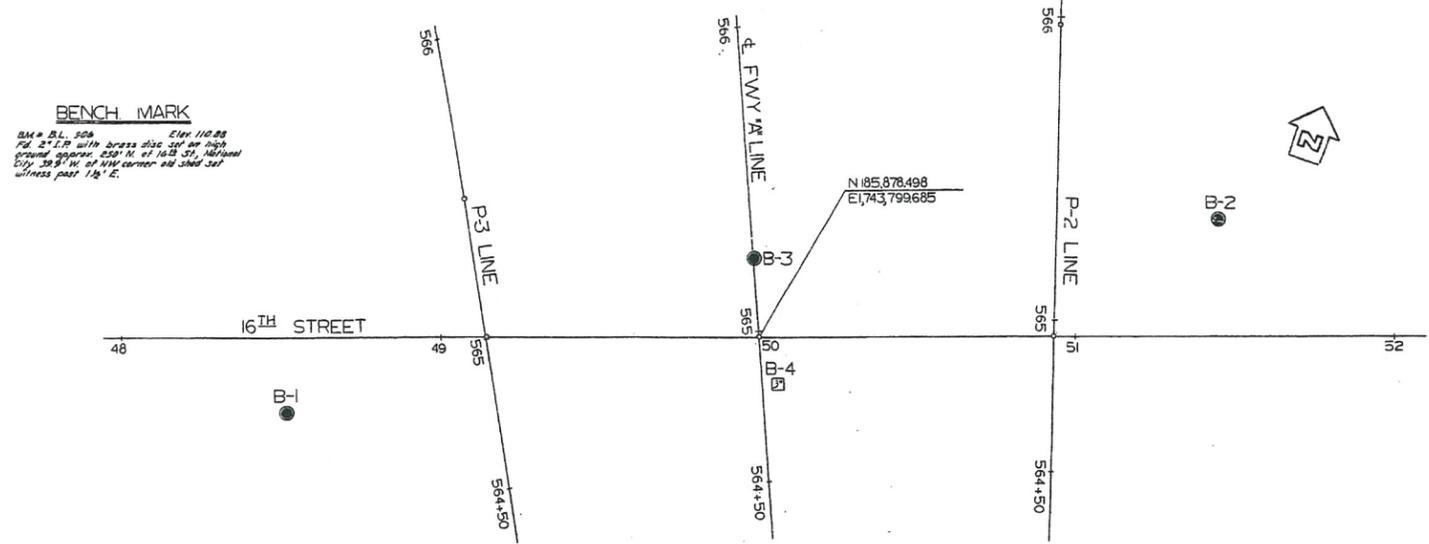
DATE 8-7-75 SIGNATURE [Signature] TITLE R.M.S.I.



| DATE | COUNTY | ROUTE  | POST MILES-TOTAL PROJECT | POST MILE | SPR. NO. |
|------|--------|--------|--------------------------|-----------|----------|
| 11   | SD     | 805.87 | 8.9/10.3/2.4/3.5/3.7/9   | 3.7       | 334      |

  
 G. F. CARVER  
 CIVIL ENGINEER  
 LICENSE NO. 1017  
 REGISTERED PROFESSIONAL ENGINEER IN CALIFORNIA

**PLAN**  
 Scale: 1" = 20'



**PROFILE**  
 Scale: v.f. 1" = 10'  
 Horiz. 1" = 20'

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE OCTOBER 1966

NO CHANGES AS BUILT  
 CORRECTIONS BY G.F. CARVER  
 CONTRACT NO. 11-110184  
 DATE 5-30-74  
 GAWW G/3/75

**LEGEND OF EARTH MATERIALS**

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE TEST METHODS**

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

|                 |                 |                 |                   |                   |                   |
|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|
| Gravel          | Clayey Sand     | Clayey Silt     | Clayey Silty Sand | Clayey Silty Clay | Clayey Silty Clay |
| Sand            | Silt            | Silt            | Silt              | Silt              | Silt              |
| Clay            | Clay            | Clay            | Clay              | Clay              | Clay              |
| Stiff Clay      | Stiff Clay      | Stiff Clay      | Stiff Clay        | Stiff Clay        | Stiff Clay        |
| Very Stiff Clay | Very Stiff Clay | Very Stiff Clay | Very Stiff Clay   | Very Stiff Clay   | Very Stiff Clay   |

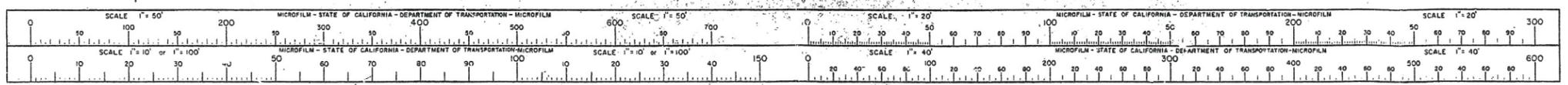
|                |                  |          |
|----------------|------------------|----------|
| FIELD ENGINEER | W. S. SUTHERLAND | 10-27-66 |
| DRAWN          | H. C. BERRY      | 10-25-66 |
| CHECKED        | H. C. BERRY      | 10-25-66 |

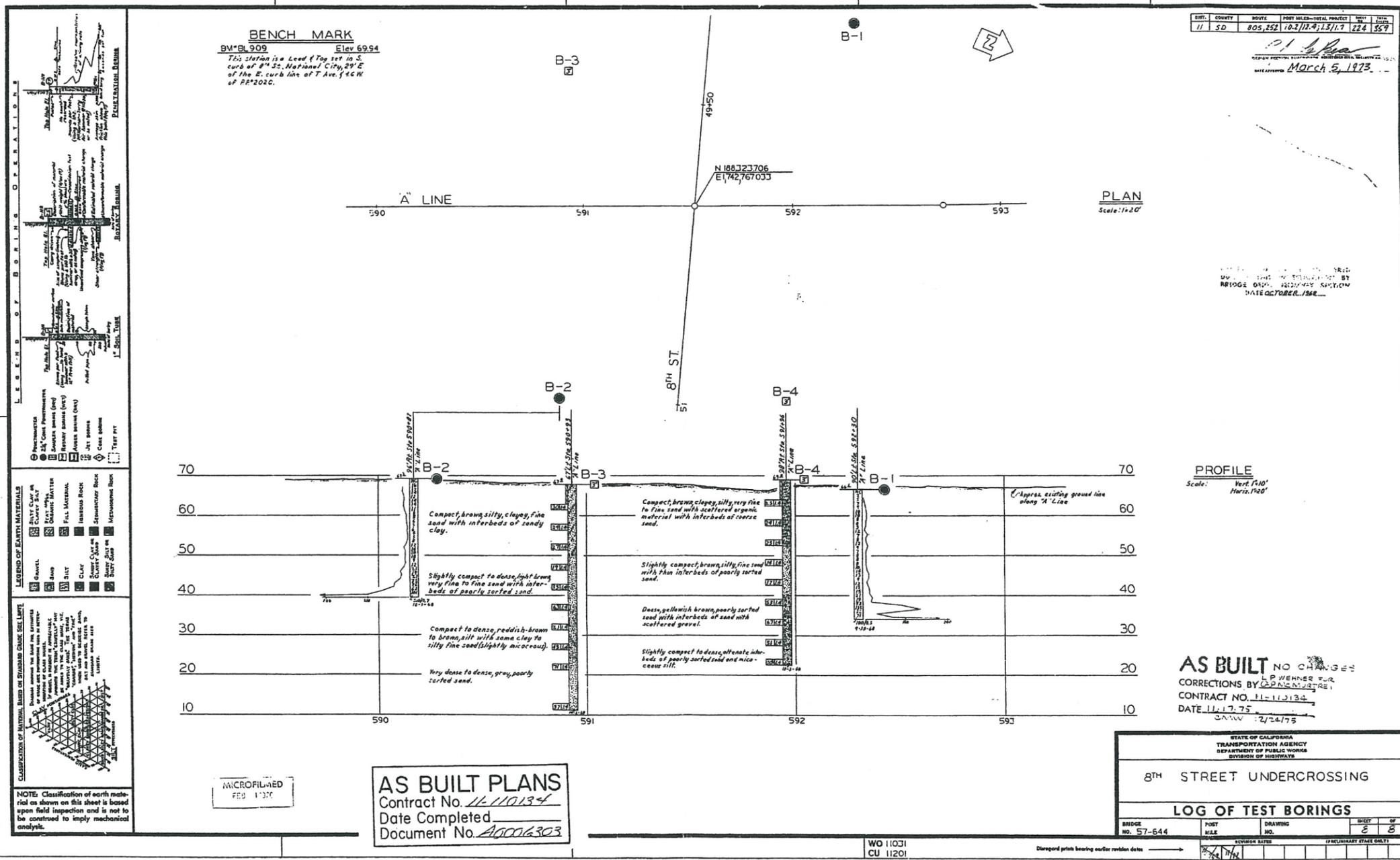
BRIDGE DEPARTMENT  
 ENGINEERING GEOLOGY SECTION

379

**AS BUILT PLANS**  
 Contract No. 11-110184  
 Date Completed 4-30-76  
 Document No. H. 000 6264

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.  
 DATE 4-7-75 SIGNATURE *Emmett M. Moore* TITLE RMSI





**BENCH MARK**  
 BM\*BL 909 Elev 69.94  
 This station is a Lead & Top set in S. curb of 8th St. National City, 89°E of the E. curb line of T Ave 146 W. of P\*202C.

| DIST. | COUNTY | ROUTE    | POST MILES-TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|-------|--------|----------|--------------------------|-----------|--------------|
| 11    | SD     | 805, 252 | 102/114/13/17            | 224       | 359          |

*[Signature]*  
 DATE: March 5, 1975

**PLAN**  
 Scale: 1"=20'

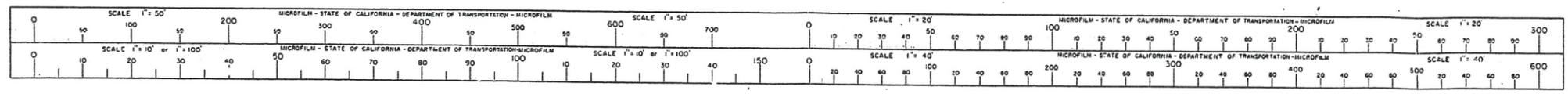
**PROFILE**  
 Scale: Vert 1"=10'  
 Horiz 1"=20'

**AS BUILT** NO CHANGES  
 CORRECTIONS BY *[Signature]*  
 CONTRACT NO. 11-110134  
 DATE 11-17-75  
 DRAWN 2/24/75

**AS BUILT PLANS**  
 Contract No. 11-110134  
 Date Completed  
 Document No. 10006303

|                                                                                                    |               |             |                            |
|----------------------------------------------------------------------------------------------------|---------------|-------------|----------------------------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |               |             |                            |
| 8th STREET UNDERCROSSING                                                                           |               |             |                            |
| LOG OF TEST BORINGS                                                                                |               |             |                            |
| BRIDGE NO. 57-644                                                                                  | POST MILE NO. | DRAWING NO. | SHEET OF 2 8               |
|                                                                                                    |               |             | (IF NECESSARY STATE SHEET) |

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL, ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.  
 11/20 *[Signature]*



FIELD BOOK BY *[Signature]*  
 CHECKED BY *[Signature]*  
 APPROVAL AUTHORITY *[Signature]*

BRIDGE DEPARTMENT  
 ENGINEERING GEOLOGY SECTION

**LEGEND OF EARTH MATERIALS**  
 Symbols for Gravel, Sand, Silt, Clay, etc.  
**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE TEST LIMITS**  
 NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

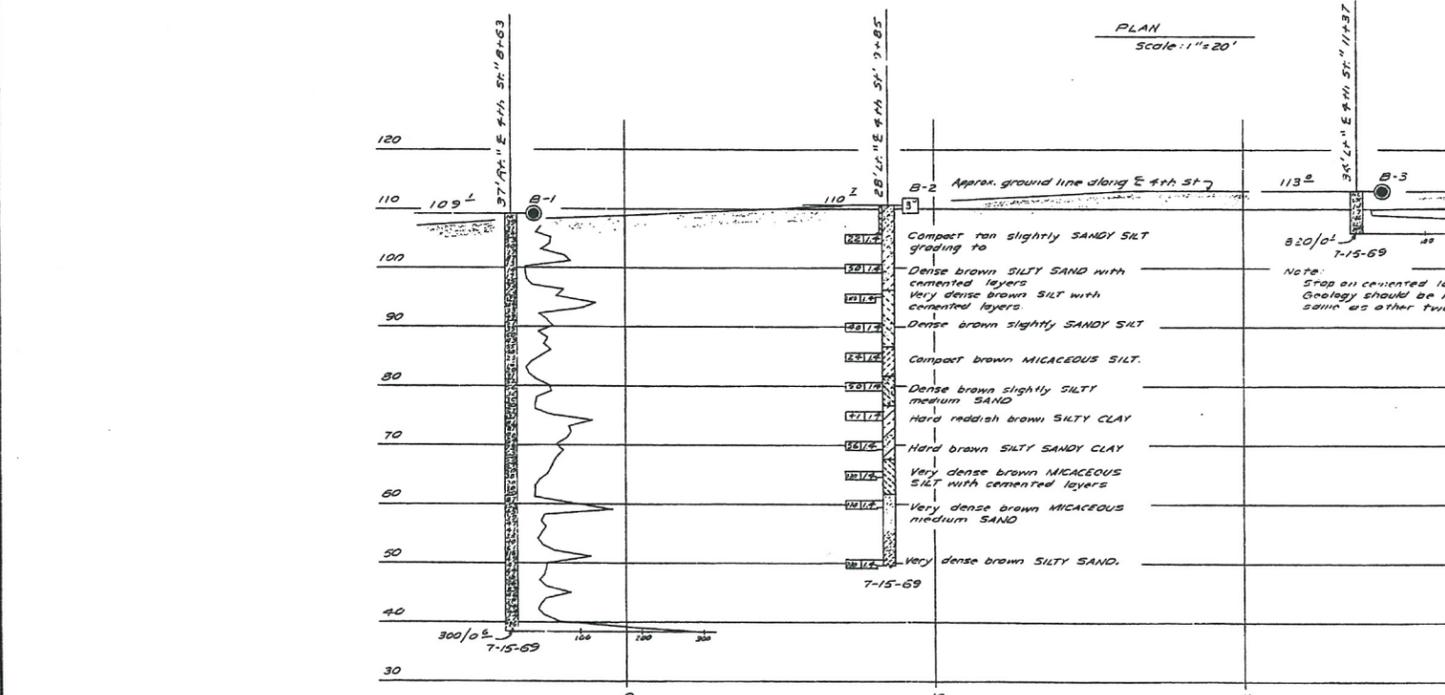
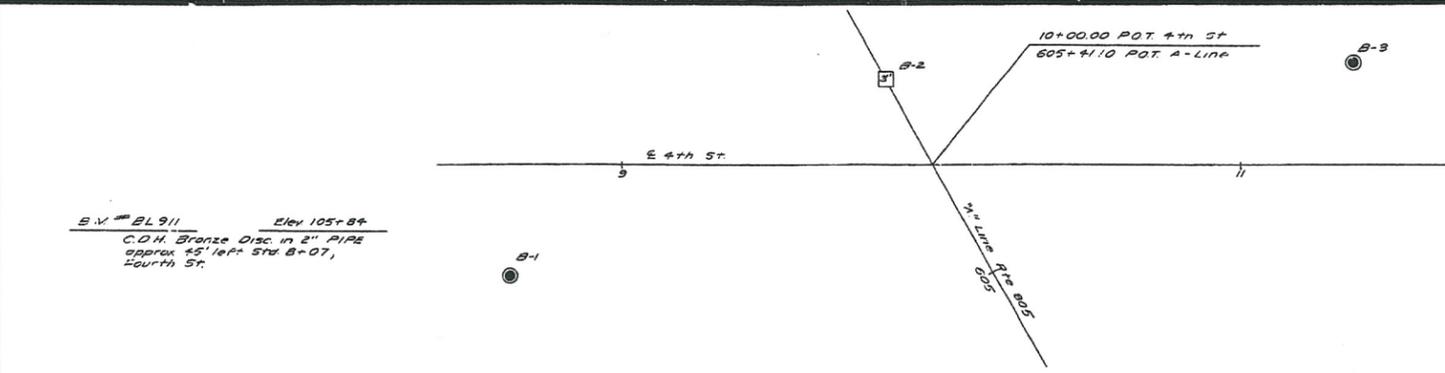
**LEGEND OF EARTH MATERIALS**

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS**

**NOTE:** Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

**BRIDGE DEPARTMENT  
ENGINEERING GEOLOGY SECTION**

236



|       |        |          |                          |       |      |
|-------|--------|----------|--------------------------|-------|------|
| SHEET | COUNTY | ROUTE    | POST MILES-TOTAL PROJECT | SHEET | DATE |
| 17    | SD     | 805, 252 | 16.2/12.4; 1.3/1.7       | 236   | 1959 |

DATE DRAWN: March 5, 1973

**NO CHANGES AS BUILT**

STATE OF CALIFORNIA  
TRANSPORTATION AGENCY  
DEPARTMENT OF PUBLIC WORKS  
DIVISION OF HIGHWAYS

**4TH STREET OVERCROSSING**

**LOG OF TEST BORINGS**

|            |           |             |          |
|------------|-----------|-------------|----------|
| BRIDGE NO. | POST MILE | DRAWING NO. | SHEET OF |
| 57-645     | 108       |             | 12 / 12  |

VISION DATE: 7/15/69

WO 110131  
CU 11201  
PR 57645-2

**AS BUILT PLANS**  
Contract No. 11-110134  
Date Completed  
Document No. A0006303

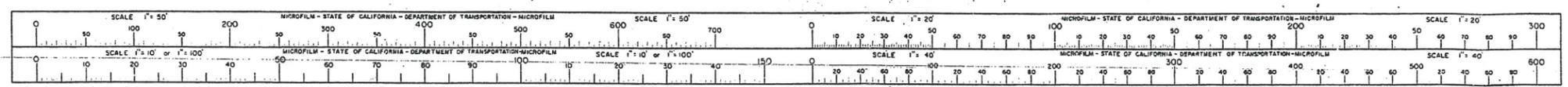
MICROFILMED  
FEB 1987

NO GROUND WATER ENCOUNTERED  
DURING THIS INVESTIGATION BY  
BRIDGE DEPT. GEOLOGY SECTION  
DATE 4/27/69

PROFILE  
Scale: Horz. 1"=20'  
Vert. 1"=10'

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

DATE: 11/20/70  
SIGNATURE: [Signature]



| DIST. | COUNTY | ROUTE    | POST MILES-TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|-------|--------|----------|--------------------------|-----------|--------------|
| 11    | SD     | 805, 152 | 10.2/12.7/13.1/17        | 250       | 359          |

DATE: March 5, 1973

**LEGEND OF SYMBOLS**

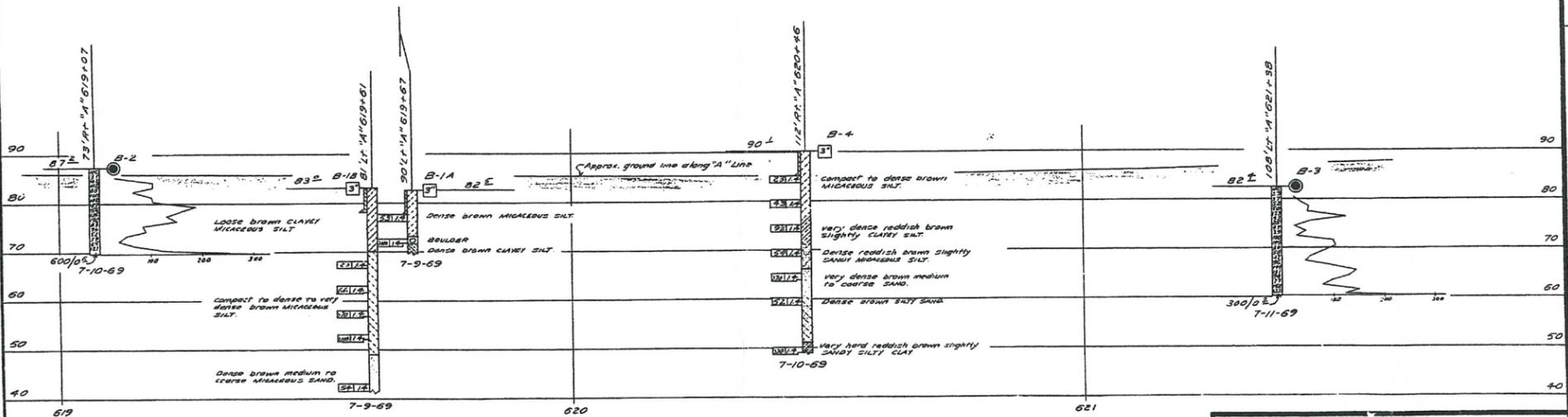
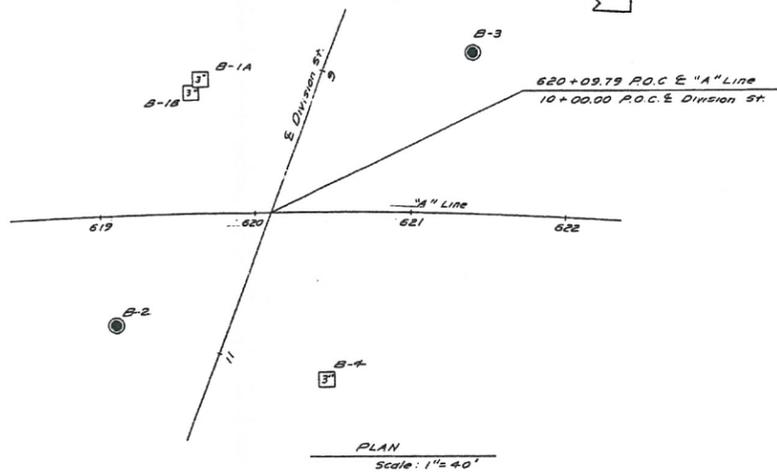
**PERMANENT**

24" Core Penetration  
 Standard Penetration Test  
 Jet Test  
 Cone Penetration Test  
 Standard Penetration Test  
 Jet Test  
 Cone Penetration Test

**TEMPORARY**

24" Core Penetration  
 Standard Penetration Test  
 Jet Test  
 Cone Penetration Test

B.M. # 21913 Elev 6953  
 This station is a 2" iron pipe with std brass disc set approx. 315' W. of center line of Palm Ave. in shoulder near Bus Stop approx 140' S. of intersection of Division St. & Palm Ave. 60' S. of Bus Stop Sign



|             |         |
|-------------|---------|
| FIELD STUDY | 7-10-69 |
| CHECKED     | 7-10-69 |

BRIDGE DEPARTMENT  
 ENGINEERING GEOLOGY SECTION

**LEGEND OF MATERIALS**

General  
 Sand  
 Silt  
 Clay  
 Clayey Silt  
 Silty Clay  
 Silty Sand  
 Sandey Silt  
 Silty Sand

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SPT VALUE**

1-4: Very loose  
 5-15: Loose  
 16-30: Medium dense  
 31-50: Dense  
 51-70: Very dense  
 71-100: Extremely dense

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

AS BUILT PLANS  
 Contract No. 11-110134  
 Date Completed  
 Document No. 4006303

MICROFILMED  
 FEB 1976

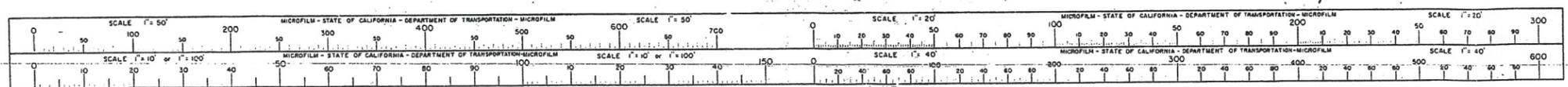
NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE July 1969

PROFILE Scale: 1" = 10'  
 AS BUILT NO CHANGES  
 CORRECTIONS BY: [Signature]  
 CONTRACT NO. 11-110134  
 DATE 11-12-75  
 CMW 1/6/76

|                                                                                                    |           |                   |          |
|----------------------------------------------------------------------------------------------------|-----------|-------------------|----------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |           |                   |          |
| DIVISION STREET UNDERCROSSING                                                                      |           |                   |          |
| LOG OF TEST BORINGS                                                                                |           |                   |          |
| BRIDGE NO.                                                                                         | POST MILE | DRAWING NO.       | SHEET OF |
| 57-646                                                                                             |           |                   | 9 9      |
| REVISION DATES                                                                                     |           | PRELIMINARY SHEET |          |

WO 110131 PR 57646-2

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.  
 DATE 2/4/76 [Signature]





**LEGEND OF OPERATIONS**

**PERFORMANCES**

- 24" Core Drilling
- Soil Sampling
- Soil Testing
- Soil Classification
- Soil Logging
- Soil Description
- Soil Profile
- Soil Map
- Soil Section
- Soil Diagram
- Soil Chart
- Soil Table
- Soil Form
- Soil Book
- Soil Paper
- Soil Card
- Soil Tag
- Soil Label
- Soil Marker
- Soil Indicator
- Soil Sign
- Soil Symbol
- Soil Icon
- Soil Image
- Soil Photo
- Soil Video
- Soil Audio
- Soil Data
- Soil Record
- Soil Report
- Soil Document
- Soil File
- Soil Folder
- Soil Cabinet
- Soil Shelf
- Soil Table
- Soil Bench
- Soil Counter
- Soil Desk
- Soil Chair
- Soil Stool
- Soil Box
- Soil Case
- Soil Bag
- Soil Sack
- Soil Bundle
- Soil Package
- Soil Container
- Soil Vessel
- Soil Jar
- Soil Can
- Soil Bottle
- Soil Beaker
- Soil Cup
- Soil Glass
- Soil Pitcher
- Soil Tumbler
- Soil Mug
- Soil Bottle
- Soil Jar
- Soil Can
- Soil Bottle
- Soil Beaker
- Soil Cup
- Soil Glass
- Soil Pitcher
- Soil Tumbler
- Soil Mug
- Soil Bottle
- Soil Jar
- Soil Can
- Soil Bottle
- Soil Beaker
- Soil Cup
- Soil Glass
- Soil Pitcher
- Soil Tumbler
- Soil Mug

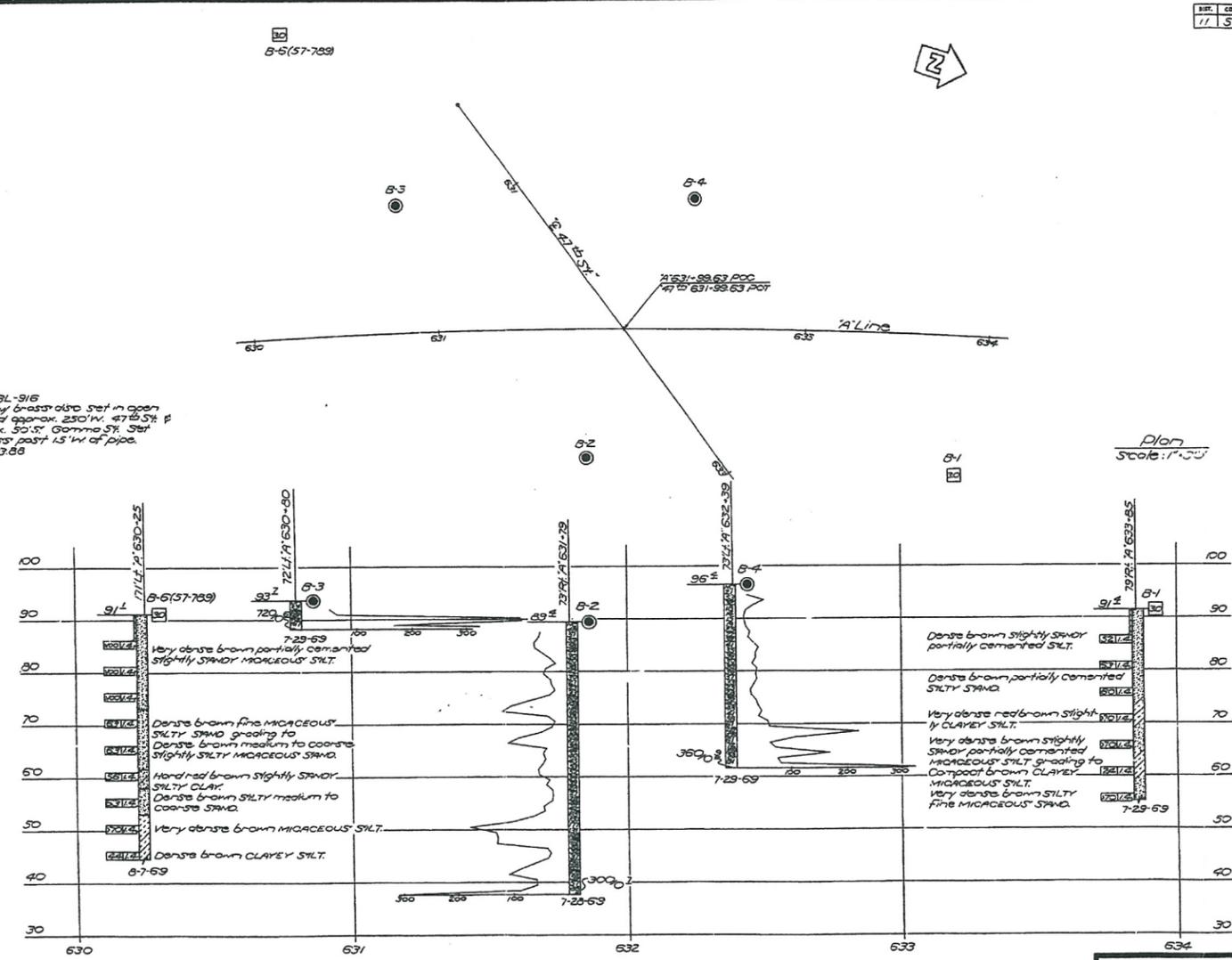
|           |             |
|-----------|-------------|
| FIELD NO. | 57-547      |
| DATE      | 11-22-75    |
| BY        | L.P. Wehner |
| APPROVED  | L.P. Wehner |

**BRIDGE DEPARTMENT**  
ENGINEERING GEOLOGY SECTION

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

**AS BUILT PLANS**  
Contract No. 11-110134  
Date Completed  
Document No. A0006303

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY BRIDGE DEPT. GEOLOGY SECTION DATE 7-25-69



**Profile**  
Scale: Hor. 1"=20'  
Ver. 1"=10'

| DIST. | COUNTY | ROUTE    | POST MILES-TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|-------|--------|----------|--------------------------|-----------|--------------|
| 11    | 57     | 805, 152 | 10.2/12.4; 1.3/1.7       | 322       | 359          |

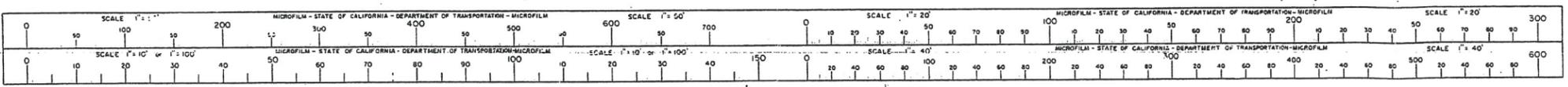
DATE APPROVED: March 5, 1973

**AS BUILT** NO CHANGES  
CORRECTIONS BY L.P. WEHNER FOR  
CONTRACT NO. 11-110134  
DATE 11-22-75  
GMW 1/20/76

|                                                                                                    |           |             |          |
|----------------------------------------------------------------------------------------------------|-----------|-------------|----------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |           |             |          |
| 47 TH STREET UNDERCROSSING                                                                         |           |             |          |
| LOG OF TEST BORINGS                                                                                |           |             |          |
| BRIDGE NO.                                                                                         | POST MILE | DRAWING NO. | SHEET OF |
| 57-547                                                                                             | 11.3      | 57547-      | 12 12    |
| REVISION DATES                                                                                     |           |             |          |

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.

2/14/76 Debra Headman



SD 808, 252 1102124 1317 1531359

March 5, 1976

**LEGEND**

**PERMANENT MARKS**

1. ALL CORNER STAKES  
2. ALL CENTER LINE STAKES  
3. ALL BENCH MARKS  
4. ALL ELEVATION POINTS  
5. ALL POINTS OF INTEREST  
6. ALL POINTS OF CONSTRUCTION  
7. ALL POINTS OF ADJACENT PROPERTY  
8. ALL POINTS OF ADJACENT HIGHWAYS  
9. ALL POINTS OF ADJACENT UTILITIES  
10. ALL POINTS OF ADJACENT WATERWAYS

**LEGEND OF EARTH MATERIALS**

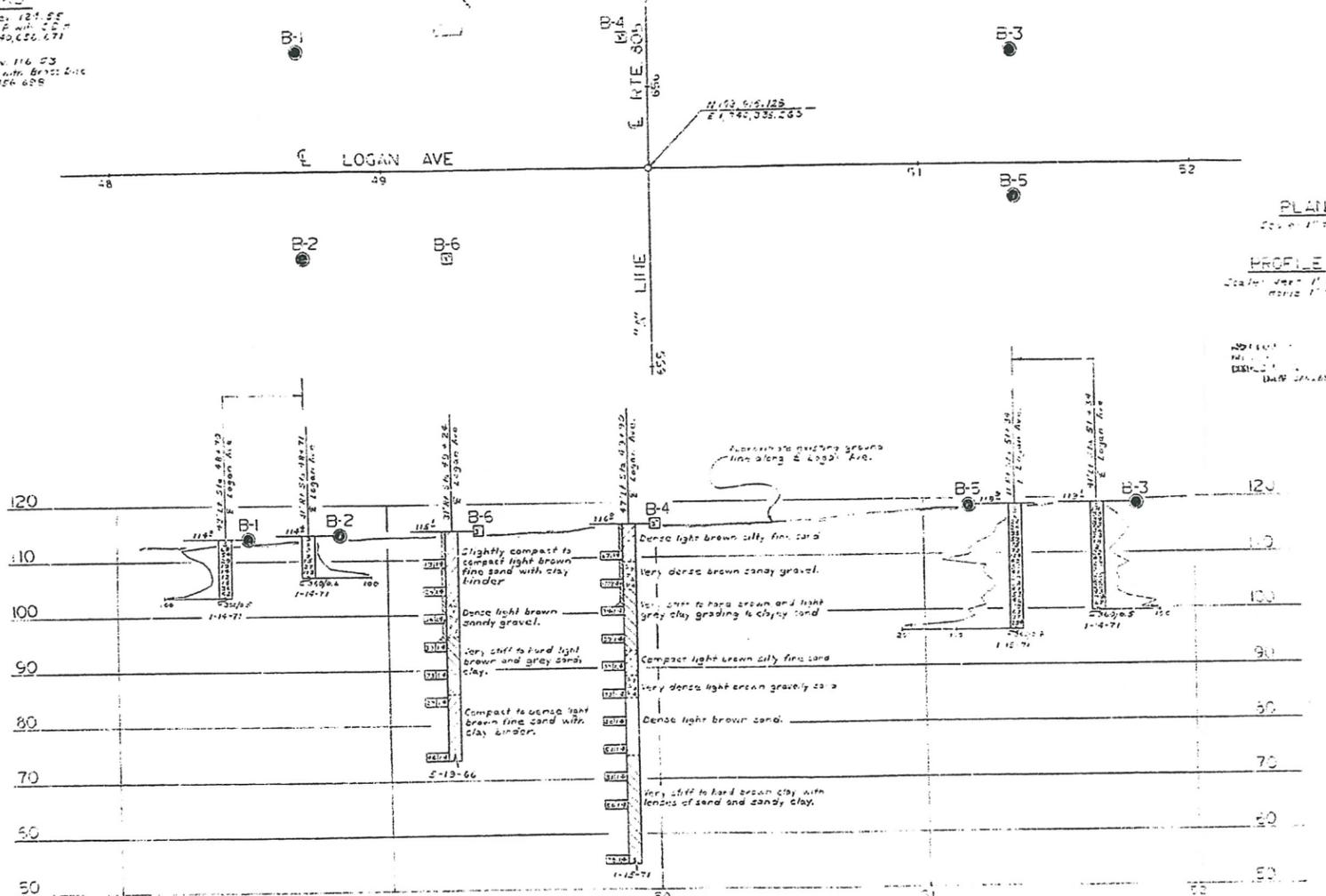
1. Gravel  
2. Sand  
3. Silt  
4. Clay  
5. Organic Matter  
6. Hardness Rock  
7. Cementation  
8. Consolidation  
9. Structure  
10. Color

**CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMIT**

Gravel: 4.75 to 75 mm  
Sand: 75 to 4.75 mm  
Silt: 4.75 to 0.075 mm  
Clay: 0.075 to 0.0075 mm

**BENCH MARKS**

1. 116.53  
2. 116.53  
3. 116.53



**PLAN**  
Scale 1" = 20'

**PROFILE**  
Scale 1" = 20'

FIELD STUDY  
CHECKED  
DATE

BRIDGE DEPARTMENT  
ENGINEERING GEOLOGY SECTION

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

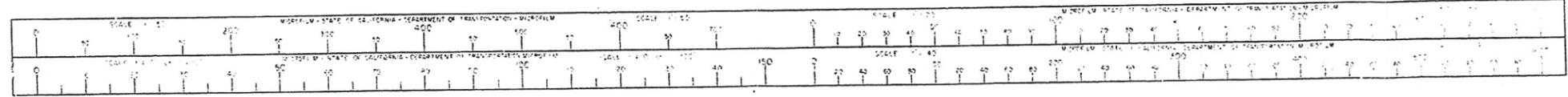
**AS BUILT PLANS**  
Contract No. 11-110134  
Date Completed  
Document No. ACC-6303

NO  
L  
CONTRACT NO. 11-110134  
DATE 1/21/76

|                                                                                                    |         |        |           |
|----------------------------------------------------------------------------------------------------|---------|--------|-----------|
| STATE OF CALIFORNIA<br>TRANSPORTATION AGENCY<br>DEPARTMENT OF PUBLIC WORKS<br>DIVISION OF HIGHWAYS |         |        |           |
| LOGAN AVENUE OVERPASSING                                                                           |         |        |           |
| LOG OF TEST BORINGS                                                                                |         |        |           |
| NO.                                                                                                | DATE    | DEPTH  | TESTER    |
| 11-110134                                                                                          | 1-12-71 | 116.53 | W. J. ... |

WO 1012  
CU 11201

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ORIGINAL RECORDS  
UNDER MY SUPERVISION AND CONTROL ON THIS DATE IN SACRAMENTO, CALIFORNIA  
12/1/76 *Neil Meador* *Michael ...*



DEPARTMENT OF INDUSTRIAL RELATIONS  
**DIVISION OF OCCUPATIONAL SAFETY  
AND HEALTH ADMINISTRATION**  
MINING AND TUNNELING UNIT  
6150 VAN NUYS BOULEVARD, SUITE 310  
VAN NUYS, CA 91401-3333  
(818) 901-5420 FAX (818) 901-5579



August 10, 2011

Caltrans District 11  
4050 Taylor Street MS 321  
San Diego, CA 92110

Attention: Todd Traunero

Subject: Underground Classification Numbers: C013-073-12T & C014-073-12T  
Highway 805 / Drainage Culverts

Dear Mr. Traunero,

The information provided to this office regarding the above project has been reviewed. On the basis of this analysis, an Underground Classification of "Potentially Gassy" has been assigned to the tunnel(s) identified in your submittal. Please provide a true and accurate copy of the Classification(s) to the Drilling/Excavation/Construction Contractor and insure that copies of the Classification are posted at the job site.

Kindly insure that the Sub-Contractor notify this office to schedule the mandated Pre-job Safety Conference with the Division prior to commencing any activity associated with the project.

Also, be advised that, whenever an employee enters any bore or shaft being constructed under 30-inches in diameter, the Mining and Tunneling Unit then has immediate jurisdiction over that job. Please contact us prior to entering such spaces.

If you have any questions on these subjects, please contact this office at your earliest convenience.

Sincerely,

  
James Wittry  
District Manager

c: file



State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH  
MINING AND TUNNELING UNIT

C013-073-12T

Van Nuys Office R5D2

# Underground Classification

Drainage Culvert - Interstate 805 Managed Lanes South Project  
Caltrans, District 11 / Hwy 805 / Post Mile 9.4 / 13.8

(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of California Department of Transportation - District 11  
4050 Taylor St, San Diego, CA 92110

(MAILING ADDRESS)

at Highway 805, between Post Mile 9.4 and Post Mile 13.8  
San Diego, California

(LOCATION)

has been classified as **\*\*\* POTENTIALLY GASSY \*\*\***  
(CLASSIFICATION)

as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

A 30 inch diameter steel casing (to accommodate a 24 inch diameter RCP), approximately 73 feet in length to be installed under Highway 805 at Drainage System # 21 - Unit q (Location # 1 at "A" Line Station 628+55 / 3' LT), City of San Diego.

August 10, 2011

Reference: 1) Caltrans Plans prepared by CH2M HILL, undated.  
2) Preliminary Geotechnical Report by GEOCON dated September 28, 2008.



State of California

Department of Industrial Relations

DIVISION OF OCCUPATIONAL SAFETY AND HEALTH  
MINING AND TUNNELING UNIT

C014-073-12T

Van Nuys Office R5D2

# Underground Classification

**Drainage Culvert - Interstate 805 Managed Lanes South Project**

(NAME OF TUNNEL OR MINE AND COMPANY NAME)

of **California Department of Transportation - District 11**

**4050 Taylor St, San Diego, CA 92110**

(MAILING ADDRESS)

at **Highway 805, between Post Mile 9.4 and Post Mile 13.8**

**San Diego, California**

(LOCATION)

has been classified as **\*\*\* POTENTIALLY GASSY \*\*\***

(CLASSIFICATION)

as required by the California Labor Code Section 7955.

The Division shall be notified if sufficient quantities of flammable gas or vapors have been encountered underground. Classifications are based on the California Labor Code Part 9, Tunnel Safety Orders and Mine Safety Orders.

A 30 inch diameter steel casing (to accommodate a 24 inch diameter RCP), approximately 72 feet in length to be installed under Highway 805 at Drainage System # 21 - Unit e (Location # 2 at "A" Line Station 630+76 / 73' RT), City of San Diego.

August 10, 2011

Reference: 1) Caltrans Plans prepared by CH2M HILL, undated.

2) Preliminary Geotechnical Report by GEOCON dated September 28, 2008.

# Memorandum

To : HANH-DUNG KHUU (MS 340)  
Project Engineer  
Design

Date: August 22, 2011

File: 11-SD-805  
PM 9.4/13.8  
EA 2T1801  
ID 1100020049

From : DEPARTMENT OF TRANSPORTATION - DISTRICT 11  
PAVEMENT ENGINEERING AND PLANT SERVICES

Subject: **CULVERT RECOMMENDATIONS**

In accordance with your request, we have developed culvert recommendations for the above project. The recommendations are based on previous materials reports. These reports show the project soils to be moderate to highly corrosive to metal.

## Recommendations for New Culverts

1. The following Plastic Pipe Culverts meeting the minimum and maximum fill height requirements: Corrugated High Density Polyethylene (HDPE) -Type S and Type C, Ribbed HDPE, Ribbed Polyvinyl Chloride (PVC), and Corrugated PVC.
2. Reinforced Concrete Pipe (RCP) using the standard design.
3. The following Steel Pipe Culverts meeting the minimum and maximum fill height requirements: Corrugated Steel Pipe with bituminous coating and paved invert, Steel Spiral Rib Pipes with Polymerized Asphalt Invert, and Spiral Rib Pipes with Polymeric Sheet Coating.

If you have questions or comments about this subject, please telephone R. Avila at 858-467-4069 or FAX at 858-467-4063.



Ruben Avila  
Transportation Engineer, CT/Civil



David Evans  
District Pavement Engineer



cc: APadilla (MS 63)  
P File