FOR CONTRACT NO.: 11-261604

INFORMATION HANDOUT

MATERIALS INFORMATION

GEOTECHNICAL DESIGN REPORT DATED FEBRUARY 13, 2014

HAZARDOUS MATERIALS AERIALLY DEPOSITED LEAD DATA DATED JUNE 26, 2014

CITY OF SAN DIEGO WATER AVAILABILITY LETTER DATED JUNE 30, 2014

ROUTE: 11-SD-5-4.0/R22.3
PROJECT ID: 1100020310

CALIFORNIA DEPARTMENT OF TRANSPORTATION

GEOTECHNICAL DESIGN REPORT

Concrete Barriers at Various Locations on Interstate 5

11-SD-5-VAR

EA 11-261601
EFIS 1100020310

February 13, 2014

Prepared By:

OFFICE OF GEOTECHNICAL DESIGN-SOUTH 2 BRANCH D
7177 OPPORTUNITY ROAD
SAN DIEGO, CA 92111

State of California Business, Transportation and Housing Agency

Memorandum

To: Laura Espinoza
District 11 Design

Date: February 13, 2014

File: 11-SD-5-VAR
EA: 11-261601
EFIS: 1100020310

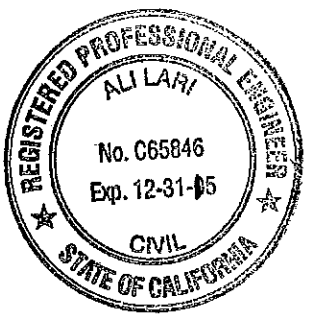
From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 2 Branch D

Subject: Geotechnical Design Report for Proposed Concrete Barriers at Various Locations on Interstate 5

Pursuant to your request, the Office of Geotechnical Design-South 2 (OGDS2) has prepared this Geotechnical Design Report (GDR) for the proposed concrete barriers at various locations on Interstate 5. This report presents the geotechnical conditions as evaluated from field reconnaissance, research of archives, and engineering analyses. This report provides recommendations relevant to project design and construction.

OGDS2 staff will be available for further assistance. Should you have any questions or comments regarding this report, please contact Ali Lari at (760) 929-5945.

Ali Lari, P.E.
Transportation Engineer (Civil)
Office of Geotechnical Design - South 2



CC:

Art Padilla
Abbas Abghari
Shawn Wei
District Construction RE Pending File

District Materials Engineer
Office Chief, OGDS2
Branch Chief, Branch D, OGDS2
It is the responsibility of the Project Design Manager to include this document in the District Construction RE Pending File.

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TABLES

1.0 INTRODUCTION

Pursuant to your request, the Office of Geotechnical Design-South 2 (OGDS2) is providing this Geotechnical Design Report (GDR) to be used for project design and construction. The proposed project includes construction of two retaining walls at two Maintenance Vehicle Pullout (MVP) locations, and fourteen concrete barriers along Interstate 5 (I-5) at various post miles as presented in the Figures 1 through 13. This GDR provides geotechnical evaluations and recommendations for the concrete barriers. Geotechnical recommendations for proposed retaining walls will be provided in a separate Foundation Report.

The purpose of this GDR is to document subsurface geotechnical conditions, provide engineering evaluation of site conditions, and provide recommendations relevant to the design and construction of the project features. This report establishes a geotechnical baseline to be used in assessing the existence and scope of changed site conditions. The geotechnical information, evaluation, recommendations, and advisories contained in this GDR supersede any information that may have been previously conveyed through correspondences or documents concerning the project features addressed herein.

2.0 EXPLORATION

A surface and subsurface investigation was conducted to help characterize the soil conditions present within the project alignment such as the presence of ground water, depth and quality of artificial fills, and other conditions that could impact the design or construction of the proposed project features. To accomplish the above purposes, we performed the following:

- Review of the archived and published data pertaining to the project site. This includes review of reports, as-built plans, and published geologic literatures.
- Site reconnaissance to visually observe and document the existing site conditions.
- Subsurface exploration consisting of drilling with hand auger.

2.1 Drilling and Sampling

On December 30, 2013, six 3-inch diameter hand auger borings (HA-13-003, HA-13-004, HA-13-005, HA-13-006, HA-13-007, and HA-13-008) were drilled at the proposed concrete barrier locations, 600, 610, 620, 650, 660, and 680. The soil borings were advanced into ground up to eight feet (8 ft) below existing ground surface. Description of the subsurface soils encountered is presented in later sections of this report. Bulk samples were collected from auger cuttings and delivered to the Sacramento Laboratory for corrosion test.

2.2 Geologic Mapping

No geologic mapping was prepared for this project. The project sites geologic maps are from California Divisions of Mines and Geology maps by Michael P. Kennedy as follows:

- Southern San Diego Metropolitan Area, California, Map sheet 29, 1977

- Geology of the point Loma Quadrangle, Plate 3A
- Geology of the La Jolla Quadrangle, Plate 2A

3.0 GEOTECHNICAL CONDITIONS

The following subsections describe the geotechnical conditions that will affect the project.

3.1 Site Geology

The project sites lie within the San Diego Embayment section of the Peninsular Ranges Geomorphic Province of California. Relatively flat lying tertiary-age sedimentary formations of the San Diego embayment overlie much of the basement rock. These formations include the Bay Point Formation and San Diego Formation. Artificial fill has been placed atop these natural formations.

The geologic units are described below:

Artificial Fill (Qf): Artificial fill appears to be derived from material excavated from nearby cuts in the sandstone and conglomerate.

Alluvium and Slope Wash (Qal and Qsw): Poorly consolidated stream and slope raveling deposits of silt and sand and cobble sized particles.

Bay Point Formation (Qbp+Qn): This formation consists of dense to very dense, fine-grained sand with variable amounts of clay. The Bay Point Formation underlies the majority of the fill soils and or alluvium or is exposed at the surface in the absence of fill or alluvium.

San Diego Formation (Sandstone Part), (Tsd): Fine to medium grained, yellowish brown, poorly indurated, locally cemented, near-shore marine and non-marine sedimentary deposits. Well-cemented lenses and concretions are present within the San Diego formation in addition to beds of cobble conglomerate, bentonite, marl, and brown mudstone.

3.1.1 Slope Stability of the Existing Slopes

The slopes adjacent to the large portions of the proposed concrete barriers are inclined as steep as two horizontal to one vertical (2:1). Field reconnaissance revealed that the slopes exhibit satisfactory long-term performance. Therefore, no slope stability analysis has been conducted for the existing slopes.

3.2 Subsurface Conditions

The following subsections describe geotechnical characteristics of the project site that may influence design and construction.

3.2.1 Soil

The project features are primarily underlain by embankment fill, San Diego Formation and Bay point Formation. The embankment fill primarily consists of silty sand with variable amounts of gravel.and cobbles.

The data obtained from the archived LOTB and the subsurface investigations were used to develop soil strength parameters. These strength parameters have been used in evaluations of the proposed project features. The pertinent geologic units and the geotechnical strength parameters used in the evaluations are presented in Table 2.

3.2.2 Ground Water

Ground water was not encountered during the subsurface exploration program, Known or suspected occurrences of groundwater are located at a significant depth relative to the proposed construction and consequently groundwater is not anticipated to impact the project.

3.3 Surface Water

Permanent surface water bodies do not exist in proximity to the project features. Urban storm runoff and landscape irrigation runoff are the primary sources of surface water in proximity to project features.

3.3.1 Erosion

Existing slopes are generally well vegetated and performing well. It is anticipated that some slopes may be disturbed and re-graded during construction. Newly graded areas will be prone to erosion.

3.4 Site Seismicity

The project is located in proximity to the Newport Inglewood-Rose Canyon Fault Zone trending in a northwesterly direction and laying roughly two-miles (2.0mi) west of most project features. Numerous other fault zones including the Elsinore, San Jacinto, and San Andreas lay to the northeast. Ground motion caused by nearby and distant seismic events should be anticipated during the life of the facilities.

Several potentially active and inactive fault traces cross the project alignment and appear to cross the alignments of some of the proposed retaining walls, however, ground surface rupture caused by active faulting is considered unlikely within the project alignment because of the absence of any known active fault traces. The project does not lie within any Alquist-Priolo special study zone.

3.5 Corrosion Potential

The corrosion potential of the on-site materials was evaluated based on corrosivity tests performed on selected samples obtained from the borings HA-13-004 and HA-13-006. These tests included PH, minimum resistivity, sulfate and chloride determinations. The test results are included in the Table 4.

Laboratory test results indicate that the PH of the tested samples ranged from 7.42 to 8.11, minimum resistivity from 1107 to 1642 ohm-cm, chloride content from 119 to 213 ppm and sulfate content from 63 to 112 ppm. The results of these tests indicate that in general, the on-site subsurface materials along the alignment of concrete barriers Type 736SB are not potentially corrosive.

4.0 GEOTECHNICAL ANALYSIS AND DESIGN

The following sections describe the geotechnical analyses, parameters, and design criteria for concrete barriers that should be utilized by project designers in the continued development of the project.

Fourteen concrete barriers are proposed to be constructed at different locations along I-5. The proposed concrete barriers may be designed and constructed utilizing Caltrans Standard Plan Type 60, Type 736SV, and Type 60 modified concrete barriers. A Type 60 barrier is appropriate where three feet (3 ft) or more of level shoulder backing exists between the barrier and a descending slope inclined no steeper than 2:1. Type 736 SV concrete barrier without soundwall is appropriate where little or no shoulder backing exists between the barrier and descending slope. For the Type 736 SV barrier, varying dimensions of barrier stem "He", pile spacing "S", and pile length "L" are appropriate depending on the soil strength and adjoining slope geometry. A Type 60 Modified barrier is appropriate at locations where three feet (3 ft) of level shoulder backing exists adjacent to slopes inclined more steeply than 2:1. Also a Type 60 Modified barrier is appropriate at locations where concrete barrier will retain soil at the toe of slope. A Type 60 modified concrete barrier is similar to a Caltrans Standard Plan Concrete Barrier Type 60 Section B (sheet A76B), except that the embedment depth should be a minimum of twenty four inches (24 in) to provide sufficient lateral resistance to forces that will act on the barrier. Two illustrative sketches of a Type 60 modified concrete barrier are provided in Figure 14.

At the time of preparation of this report no cross sections were developed showing the slope geometry and position of the concrete barriers relative to the top/toe of the slopes. The proposed concrete barriers will replace existing metal beam guardrails. The recommendations for the concrete barrier types in this report are on the basis of field observations of the slope geometry and conditions at each barrier location. At some locations, due to minimal shoulder backing, it will be necessary to construct portions of the concrete barriers on pile foundations, utilizing Type 736SV concrete barriers, in order to provide the necessary lateral resistance to counteract forces that will act on the barriers.

At some locations, due to various amounts of shoulder backing, two different type of concrete barriers are recommended. The recommended concrete barriers and relevant design parameters are presented in the Table.3.

The following sections describe all the concrete barriers involve in the project.

4.1 Concrete Barrier at Location 480

The proposed concrete barrier is located at I-5 between stations 681+20 and 687+20 in the gore between northbound I-5 and the northbound SR-15 connector. The site is flat and is underlain by engineered fill predominantly comprised of fine and medium grained sand derived from materials excavated from nearby cuts in the Bay Point Formation. A Type 60 concrete barrier is recommended for this location.

4.2 Concrete Barrier at Location 490

The proposed concrete barrier is located at the northbound I-5 connector from southbound SR-15 at left shoulder, between stations I-5, 703+50 and 705+00. The concrete barrier will be constructed at the toe of the existing fill slope. The slope is inclined as steep as two horizontal to one vertical (2:1)

and the height of the slope is approximately ten feet (10 ft). The slope is well vegetated and performing well. The site is underlain by engineered fill predominantly comprised of fine and medium grained sand derived from materials excavated from nearby cuts in the Bay Point Formation. A Type 60 concrete barrier is recommended for this location.

4.3 Concrete Barrier at Location 491

The proposed concrete barrier is located at the northbound I-5 connector from southbound SR-15 at the right shoulder, between stations I-5, 703+50 and 705+00. The concrete barrier is located between approximately four feet (4 ft) to six feet (6 ft) from top of the existing slope. The slope is inclined as steep as two horizontal to one vertical (2:1) and the height of slope is approximately twenty five feet (25 ft). The slope is well vegetated and performing well. The site is underlain by engineered fill predominantly comprised of fine and medium grained sand derived from materials excavated from nearby cuts in the Bay Point Formation. A Type 60 concrete barrier is recommended for this location.

4.4 Concrete Barrier at Location 495

The proposed concrete barrier is located at the right shoulder of northbound I-5 between stations 711+50 and 712+20 at the 32nd Street overcrossing. The barrier will be constructed at the toe of an existing cut slope which borders the northbound freeway shoulder. The slope is inclined as steep as two horizontal to one vertical (2:1) and the height of the slope is approximately 20 feet. The slope is well vegetated and performing well. The subsurface materials in the area are predominantly comprised of fine and medium grained sandstone of the Bay Point Formation. A Type 60 concrete barrier is recommended for this location.

4.5 Concrete Barrier at Location 600

The proposed concrete barrier is located at the right shoulder of northbound I-5 on ramp from Pershing Drive between stations 850+40 and 859+70. The concrete barrier is located between two feet (2 ft) and three feet (3 ft) from top of an existing slope. The slope is inclined as steep as two horizontal to one vertical (2:1) and the height of the slope is approximately 20 feet. The slope is well vegetated and performing well. The site is underlain by engineered fill comprised of sandy silt with gravel. Concrete barriers Type 736 SV and modified Type 60 are recommended for this location.

4.6 Concrete Barrier at Location 610

The proposed concrete barrier is located at the right shoulder of northbound I-5 between stations 872+50 and 878+00. The concrete barrier is located between two feet (2 ft) and three feet (3 ft) from top of an existing slope. The slope is inclined as steep as one and one half horizontal to one vertical (1.5:1) and the height of the slope is approximately 20 feet. The slope is well vegetated and performing well. The site is underlain by engineered fill comprised of sandy silt with gravel. Concrete barriers Type 736 SV and modified Type 60 are recommended for this location.

4.7 Concrete Barrier at Location 620

The proposed concrete barrier is located at the right shoulder of northbound I-5 between stations 885+00 and 889+00. The concrete barrier is located between two feet (2 ft) and three feet (3 ft) from top of an existing slope. The slope is inclined as steep as one and one half horizontal to one vertical

(1.5:1) and the height of the slope is approximately 25 feet. The slope is well vegetated and performing well. The site is underlain by engineered fill comprised of elastic silt. Concrete barriers Type 736 SV and modified Type 60 are recommended for this location.

4.8 Concrete Barrier at Location 630

The proposed concrete barrier is located at the right shoulder of northbound I-5 on ramp from southbound SR-163 4th. Avenue off ramp between stations 891+80 and 894+80 in a flat area. The site is underlain by engineered fill comprised of fine to medium grained sand with gravel, derived from materials excavated in nearby cuts in the San Diego Formation. A Type 60 concrete barrier is recommended for this location.

4.9 Concrete Barrier at Location 640

The proposed concrete barrier is located at the right shoulder of southbound I-5 between stations 908+00 and 909+00 at 1st. Avenue overcrossing bridge at the toe of an existing fill slope. The slope is inclined as steep as two and one half horizontal to one vertical (2.5:1) and the height of the slope is approximately 7.0 feet. The slope is well vegetated and performing well. The slope is comprised of fine and medium grained sand derived from materials excavated from nearby cuts in the Bay Point Formation. A Type 60 modified concrete barrier is recommended for this location.

4.10 Concrete Barrier at Location 650

The proposed concrete barrier is located at the right shoulder of southbound I-5 on ramp from Pacific Highway station 947+00 and 961+15. The concrete barrier is located between two feet (2 ft) and three feet (3 ft) from top of an existing slope. Major part of the slope is supported by an existing retaining wall. The height of the retaining wall is approximately 20 feet. The Top portion of the slope is inclined as steep as two horizontal to one vertical (2:1) and the height of the slope varies between five to ten-feet (5 to 10 ft). The slope is well vegetated and performing well. The subsurface materials in the area are comprised of silty sand with gravel and cobbles. Concrete barriers Type 736 SV and modified Type 60 are recommended for this location.

4.11 Concrete Barrier at Location 660

The proposed concrete barrier is located at the right shoulder of southbound I-5 on ramp from Washington Street between stations 988+00 and 991+15. The concrete barrier is located between two feet (2 ft) and three feet (3 ft) from top of an existing slope. Major part of the slope is supported by an existing retaining wall. The height of the retaining wall varies between one to twenty-feet (1 to 20 ft). Top portion of the slope is inclined as steep as two horizontal to one vertical (2:1) and the height of the slope varies between 5 to 15-feet. The slope is well vegetated and performing well. The subsurface materials in the area are comprised of silty sand with gravel and cobbles. Concrete barriers Type 736 SV and modified Type 60 are recommended for this location.

4.12 Concrete Barrier at Location 670

The proposed concrete barrier is located at southbound I-5 between stations 999+80 and 1001+25 at Sassafras off ramp gore. The concrete barrier is located at approximately three feet (3 ft) from top of an existing slope. The slope is inclined as steep as two horizontal to one vertical (2:1) and height of the slope is approximately 7 feet. The site is underlain by engineered fill comprised of fine and

medium grained sand derived from materials excavated from nearby cuts in the Bay Point Formation. A Type 60 concrete barrier is recommended for this location.

4.13 Concrete Barrier at Location 680

The proposed concrete barrier is located at the right shoulder of southbound I-5 between stations 1000+00 and 1005+40 just before Sassafras off ramp. The concrete barrier is located at approximately three feet (3 ft) from top of an existing slope. The slope is inclined as steep as two horizontal to one vertical (2:1) and the height of the slope is approximately 20 feet. The slope is well vegetated and performing well. The subsurface materials in the area are comprised of silty sand with gravel and cobbles. A Type 60 concrete barrier is recommended for this location.

4.14 Concrete Barrier at Location 695

The proposed concrete barrier is located at the right shoulder of southbound I-5 between stations 1036+50 and 1037+50 at Old Town overcrossing bridge at the toe of an existing fill slope. The slope is inclined as steep as two and one half horizontal to one vertical (2.5:1) and the height of the slope is approximately 7.0 feet. The slope is well vegetated and performing well. The slope is comprised of fine and medium grained sand derived from materials excavated from nearby cuts in the Bay Point Formation. A Type 60 concrete barrier is recommended for this location.

5.0 MATERIAL SOURCES

There is no plan to import material for this project.

6.0 MATERIAL DISPOSAL

Material generated during construction should be placed in a suitable location within the projects limits or properly disposed. Excess material should not be placed on slopes. No other locations were identified that would be adversely impacted by the placement of excess material within the project limits.

7.0 RECOMMENDATIONS

- The design of concrete barriers should follow the design criteria presented in Section 4.3 of this report.
- Appropriate erosion control measures should be implemented to protect the newly graded slope faces.
- Concentrated surface water should not be allowed to pond behind the concrete barriers. Surface water should be contained by appropriate drainage improvements.
- Concentrated runoff should not be directed to drain over the slopes.

8.0 DESIGN CONSIDERATIONS

- The material derived from excavations in the formations and fill within the project area will be suitable for use as embankment fill.
- The subsurface conditions are suitable for Caltrans Standard CIDH pile foundations.

- Where a CIDH pile encounters a crossing drainage system or other features, the pile spacing may be modified to avoid conflicts.

9.0 CONSTRUCTION CONSIDERATIONS

- The on-site soils may generally be excavated with conventional equipment. It should be anticipated that the presence of cobble may create difficulties during drilling and trenching operations. Excavation and drilling equipment should be capable of penetrating both fill and slightly indurated formation containing densely packed cobbles.
- Minor caving may occur within shafts drilled in fill. Caving conditions are not anticipated to be widespread. Drilled shafts that tend to cave may be cased or the placed volume of concrete may be increased.
- Loose soil at the bottom of the drilled shafts should be removed before pouring concrete.
- Use of a tremie pipe is recommended for pouring concrete inside the drilled shaft.

10.0 ACTUAL VS. REPORTED SITE CONDITIONS

The characterizations of geotechnical conditions along the project alignment and presented in this report are based on the review of the design information provided, proposed project features, as-built plans, geologic maps, geologic literature, archival reports, exploration by OGDS2, and laboratory testing. The evaluations and recommendations contained in this report are based on the information discovered and data gathered. If conditions are encountered during the project that appear to differ from the conditions conveyed in this report, or if construction difficulties related to soil conditions are encountered, a representative of OGDS2 Branch D should be consulted to assist with the assessment of the prevailing geotechnical conditions and to assist in formulating appropriate strategies to facilitate project completion.

Should project design features vary significantly from those described in this report an updated GDR should be prepared by OGDS2 Branch D to address the geotechnical considerations related to those features.

Table 1

Subsurface Soil at Concrete Barriers Type 736SV Locations

Boring Number	Location	Soil Description
HA-13-003	610	SANDY SILT with GRAVEL (ML), estimated dense, light brown, fine SAND, fine to coarse GRAVEL, at a depth of 2.0-feet drilling stopped due to encountering a rock, moved to 3 feet lower on the slope, same materials.(Fill) End of the bore hole at a depth of 5.0-feet
HA-13-004	620	Elastic SILT (MH), estimated Stiff, light brown. (Fill) End of the bore hole at a depth of 8.0-feet.
HA-13-005	680	SILTY SAND with GRAVEL and COBBLES (SM), estimated very dense, light brown, fine SAND, fine to coarse GRAVEL, at a depth of 2.0-feet drilling was stopped due to encountering a coarse GRAVEL, a new bore hole was started about 10 feet laterally from the first hole but again encountered GRAVEL at a depth of 2-feet, moved again about 20.0 feet laterally and at about 4.0 feet lower on the slope but the same result.(Fill) End of the bore hole at a depth of 2-feet.
HA-13-006	650	SILTY SAND with GRAVEL and COBBLES (SM), estimated very dense, light brown, fine SAND, fine to coarse GRAVEL, at a depth of 2-feet drilling was stopped due to encountering a coarse GRAVEL.(Fill) End of the bore hole at a depth of 2-feet.
HA-13-007	660	SILTY SAND with GRAVEL and COBBLES (SM), estimated very dense, light brown, fine SAND, fine to coarse GRAVEL, at a depth of 2-feet drilling was stopped due to encountering a coarse GRAVEL.(Fill) End of the bore hole at a depth of 2.0-feet.
HA-13-008	600	SANDY SILT with GRAVEL (ML), estimated dense, light brown, fine SAND, fine to coarse GRAVEL, at a depth of 2.0-feet drilling stopped due to encountering a coarse GRAVEL.(Fill) End of the bore hole at a depth of 5.0-feet.

Table 2

Soil Strength Properties

Geologic Unit	Angle of Internal Friction (Degree)	Cohesion (psf)	Dry Density (pcf)
Engineered Fill	32	100	120
Sandstone Baypoint Formation	34	100	125
Sandstone San Diego Formation	36	150	125

Table 3

Recommended Concrete Barriers

Location	Begin Station	End Station	Barrier Type	Pile Length (L) Feet	(He) Feet	(S) Feet
480	681+20	687+20	60	0	0	0
490	703+50	705+00	60	0	0	0
491	703+50	705+00	60	0	0	0
495	711+50	712+20	60	0	0	0
600	850+40	859+70	736SV	15.0	1.0	10.0
610	872+50	878+00	736SV: 40% Modified 60:60%	15.0	1.0	10.0
620	885+00	889+00	736SV: 30% Modified 60:70%	15.0	1.0	10.0
630	891+80	894+80	60	0	0	0
640	908+00	909+00	Modified 60	0	0	0
650	947+00	961+15	736SV: 60% Modified 60:40%	15.0	1.0	10.0
660	988+00	991+15	736SV: 60% Modified 60:40%	15.0	1.0	10.0
670	999+80	1001+25	60	0	0	0
680	1000+00	1005+40	60	0	0	0
695	1036+50	1037+50	60	0	0	0

Note:

Results sent to: ALI LARI

Division of Engineering Services
Materials Engineering and Testing Services
Corrosion and Structural Concrete Field Investigation Branch

Report Date: 2/10/2014
Reported by Michael Mifkovic

CORROSION TEST SUMMARY REPORT - SOIL

EA

EFIS: **1100020310**

Dist/Co/Rte/PM **11 / SD /005/ / -**

CORROSION LAB #	TI 101 #	BOREH	DEPTH (ft) ST	DEPTH (ft) END	MINIMUM RESISTIVITY (ohm-cm)	pH	CHLORIDE CONTENT (ppm)	SULFATE CONTENT (ppm)	IS SAMPLE CORROSIVE
SOIL SAMPLE FROM: STA 683+00 NB RIGHT SHOULDER									
CR20140037	C585392	HA-13-002	5	5	744	7.52	369	331	NO
SOIL SAMPLE FROM: STA 854+00 NB RIGHT SHOULDER									
CR20140038	C585393	HA-13-004	2	2	1642	8.11	119	112	NO
SOIL SAMPLE FROM: STA 887+00 NB RIGHT SHOULDER									
CR20140039	C585394	HA-13-008	2	2	1107	7.42	213	63	NO

This site is not corrosive to foundation elements (see note below).

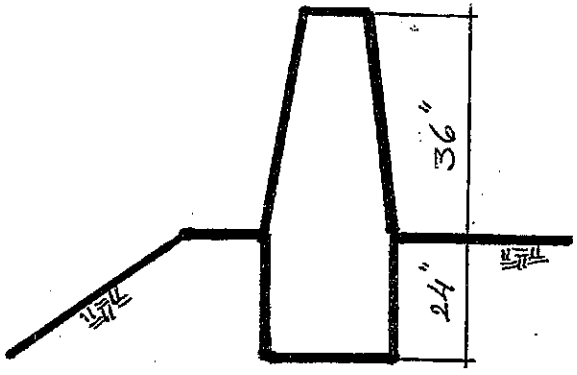
Table 4

Note: For Structural Elements, the Department considers a site corrosive if one or more of the following conditions exist: pH is 5.5 or less, chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater. Resistivity is not considered for Structural Elements. MSE backfill shall conform to the requirements of section 47-2.02C Structure Backfill in the 2010 Standard Specifications.

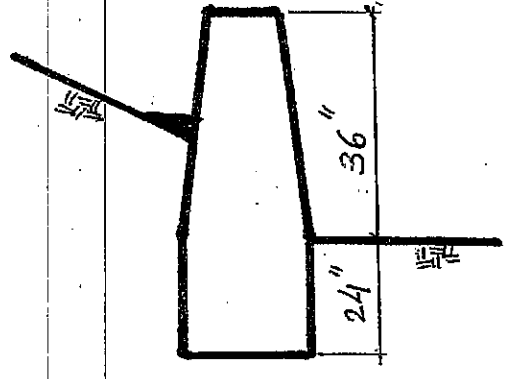
[1]CT 643, [2]CT 422, [3]CT 417

Modified Concrete Barrier

Type 60



Barrier At Slope Top Hinge



Barrier At Slope Toe Hinge

Figure 14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

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DATE REVISED

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CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

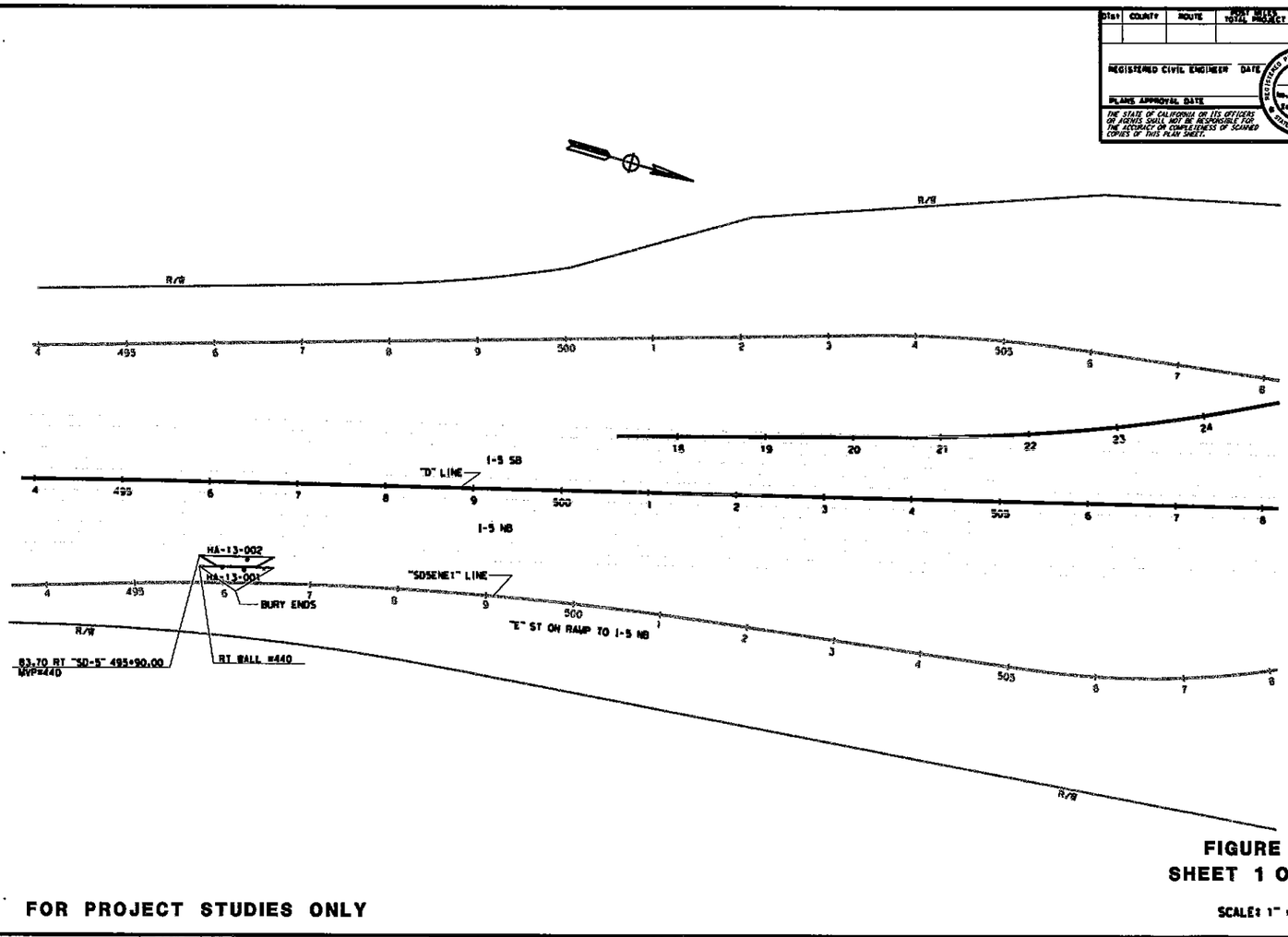

FIGURE 1
SHEET 1 OF 13

SCALE: 1" = 50'

FOR PROJECT STUDIES ONLY

DGN REVISED 00-00-00

DATE PLOTTED => 00/JAN/00
TIME PLOTTED => 07:58

BORDER LAST REVISED 7/2/2010

USERNAME => USER
DGN FILE => SPECQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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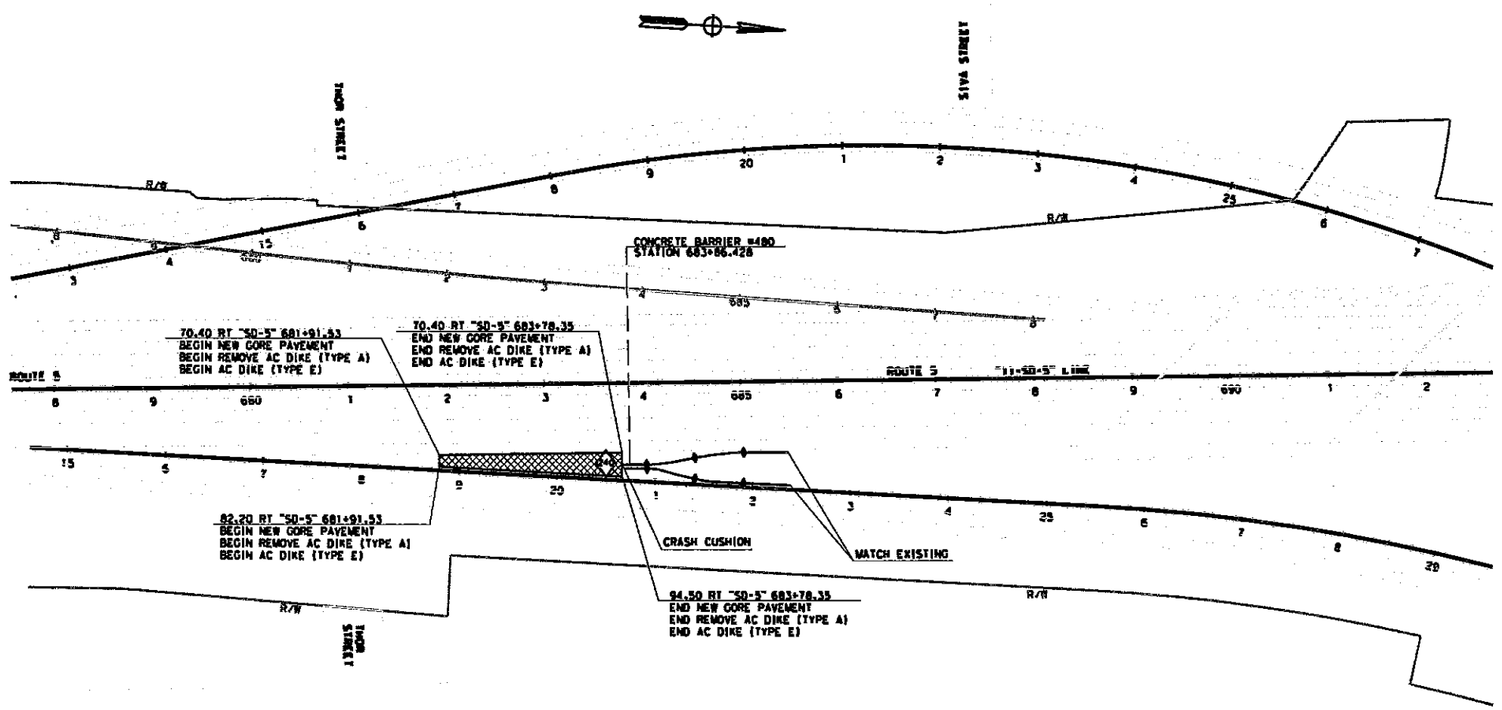

FIGURE 2
SHEET 2 OF 13

SCALE: 1" = 50'

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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UNIT 0000

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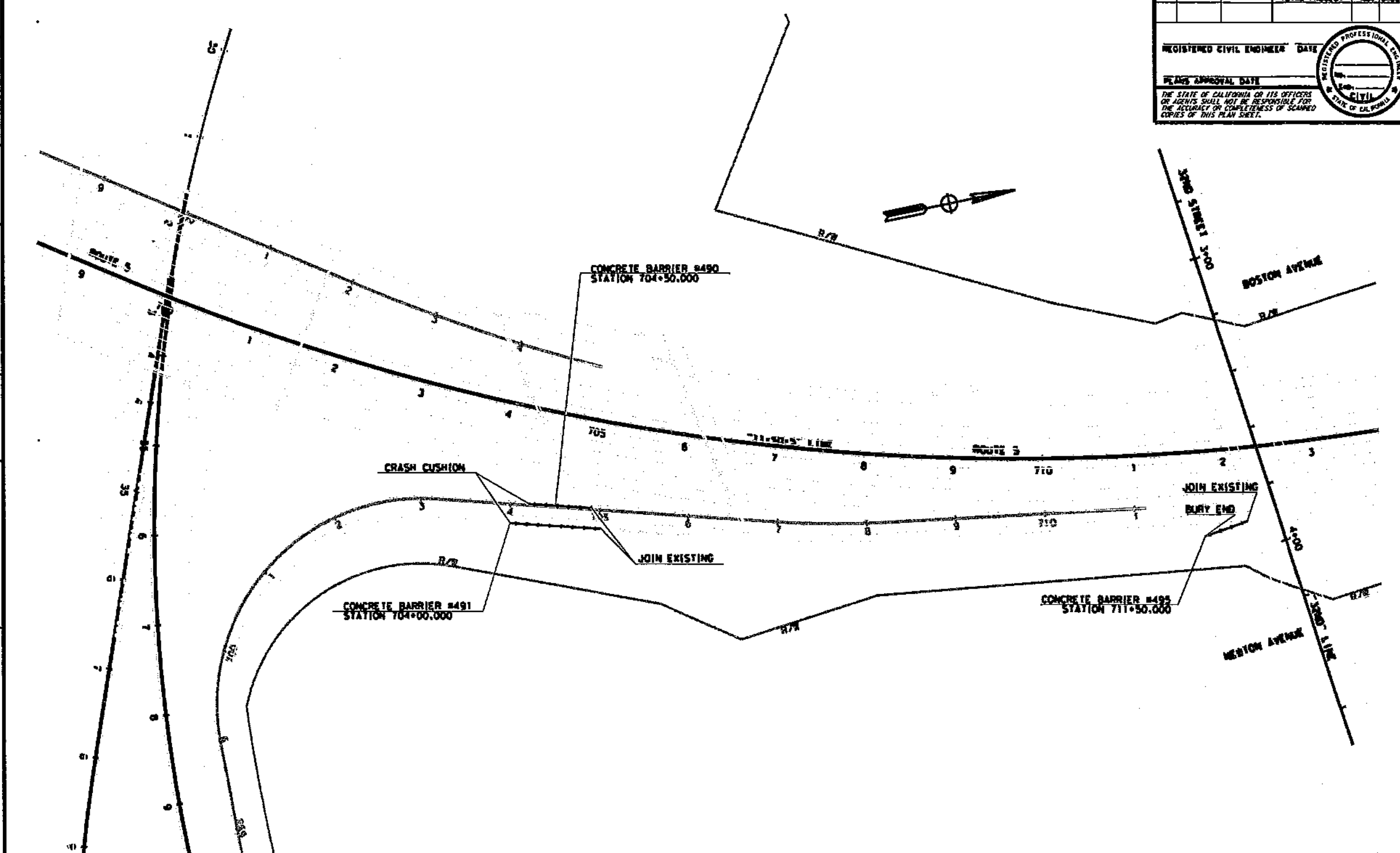
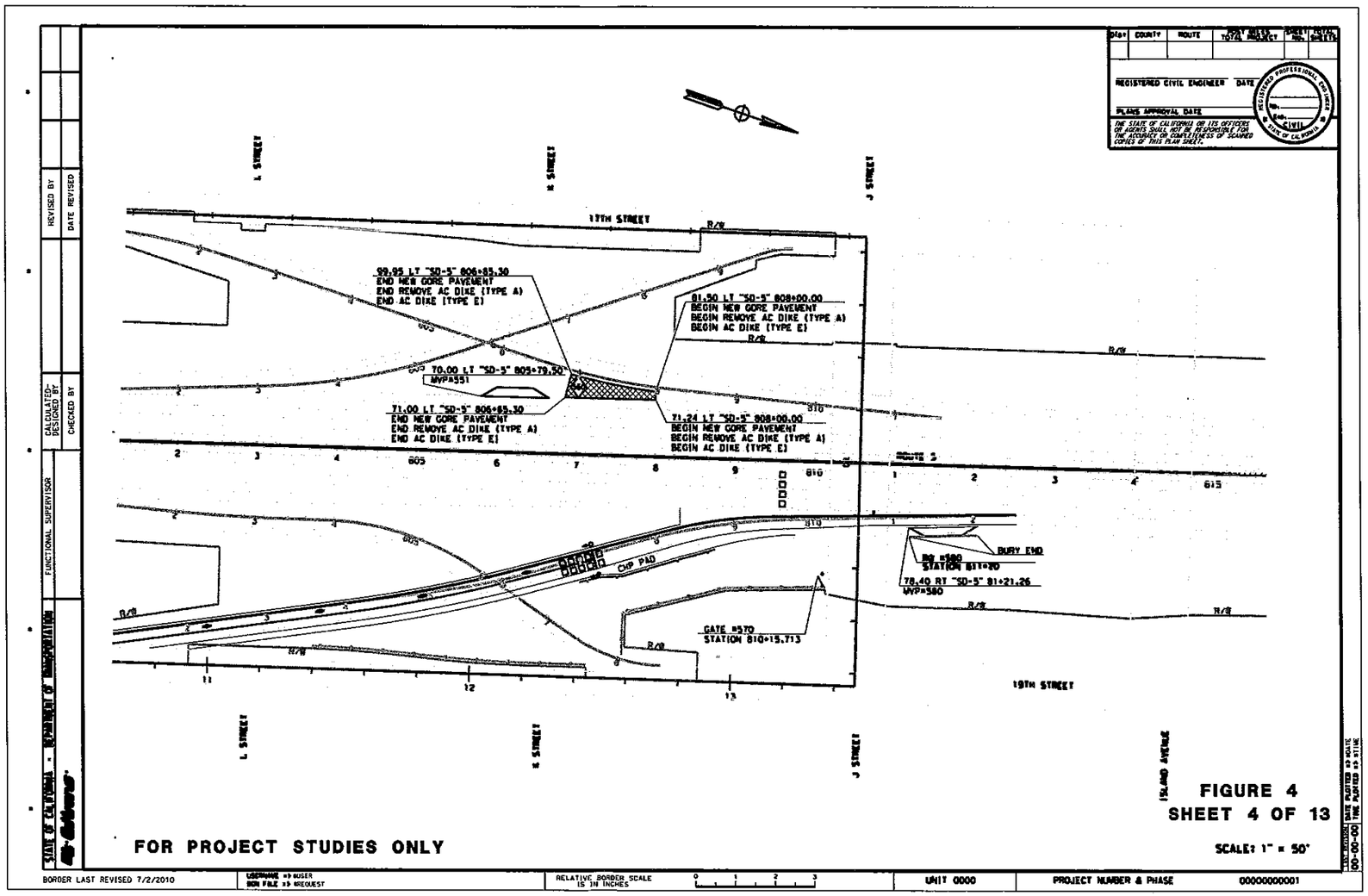
USER REVISED DATE PLOTTED = DATE
TIME PLOTTED = TIME
00-00-00



FOR PROJECT STUDIES ONLY

FIGURE 3
SHEET 3 OF 13
SCALE: 1" = 50'



FOR PROJECT STUDIES ONLY

FIGURE 4
SHEET 4 OF 13

SCALE: 1" = 50'

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REVISED BY | DATE REVISED

CALCULATED/DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

BORDER LAST REVISED 7/2/2010 | USERNAME => USER ION FILE => REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 0000000001

DATE PLOTTED => 00-00-00 TIME PLOTTED => 0116

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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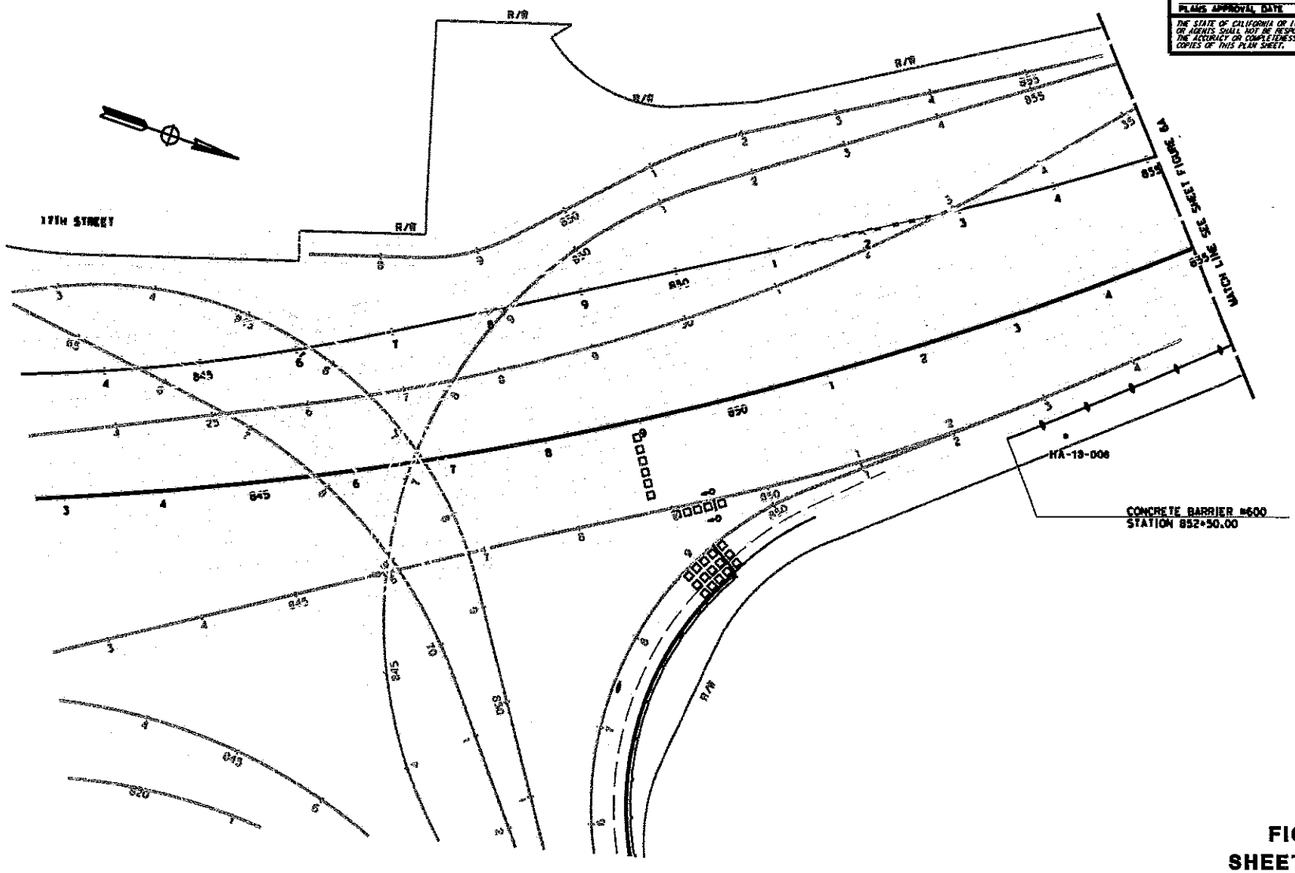
REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION



FOR PROJECT STUDIES ONLY

FIGURE 5
SHEET 5 OF 13

SCALE: 1" = 50'

DATE PLOTTED => 00-00-00
TIME PLOTTED => 07:16

BORDER LAST REVISED 7/2/2010

USERNAME => %USER
DGN FILE => %RDGNAME

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

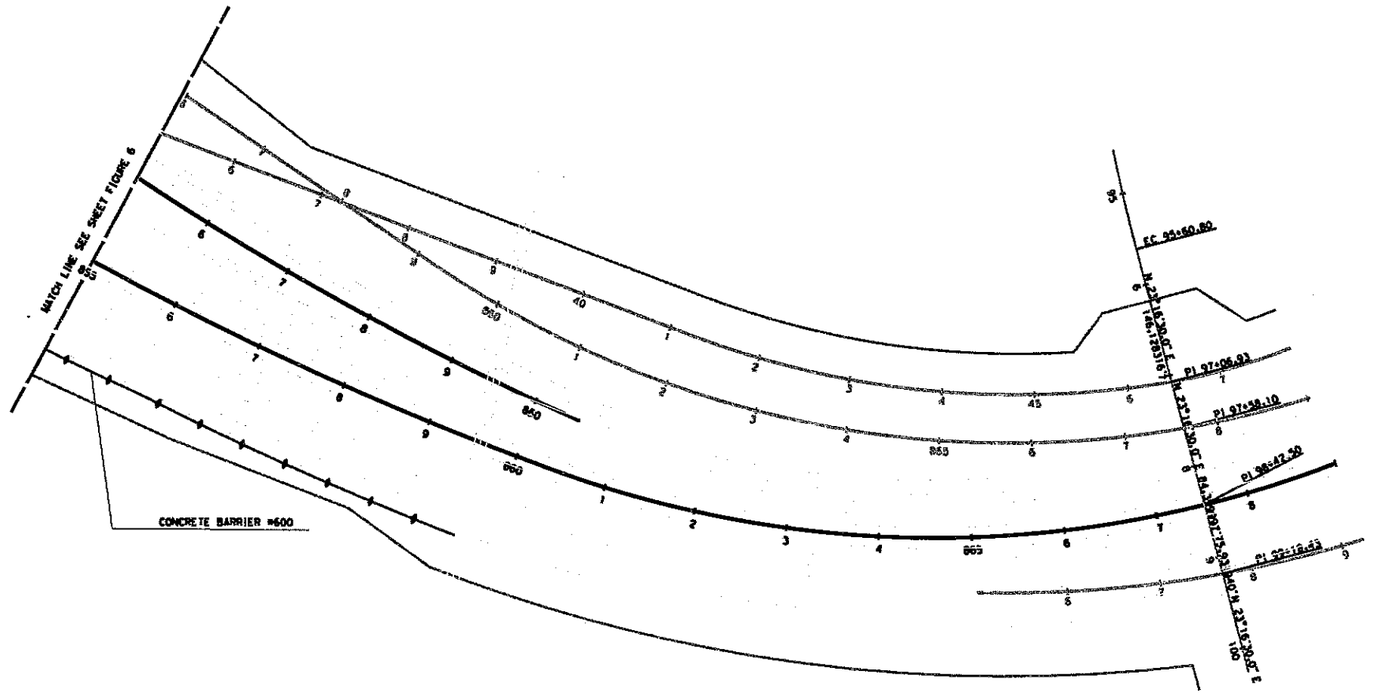

FIGURE 6
SHEET 6 OF 13

SCALE: 1" = 50'

USERNAME => USER
DGN FILE => REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 00000000001

BORDER LAST REVISED 7/2/2010

DATE PLOTTED => DATE
TIME PLOTTED => TIME
00-00-00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

R/W

PARK BLVD

R/W

R/W

JOIN EXISTING

JOIN EXISTING

BA-10-000

870

860

1

2

3

4

865

6

7

8

9

1

2

3

4

5

R/W

R/W

R/W

CONCRETE BARRIER #610
STATION 872+44.949

GATE #310
STATION 866+24.216

FIGURE 7
SHEET 7 OF 13

FOR PROJECT STUDIES ONLY

SCALE: 1" = 50'

CALCULATED/ DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

BORDER LAST REVISED 7/2/2010

USERNAME = USER
DGN FILE = GREENEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001

DO NOT SCALE PRINT
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TIME PLOTTED = 01:16

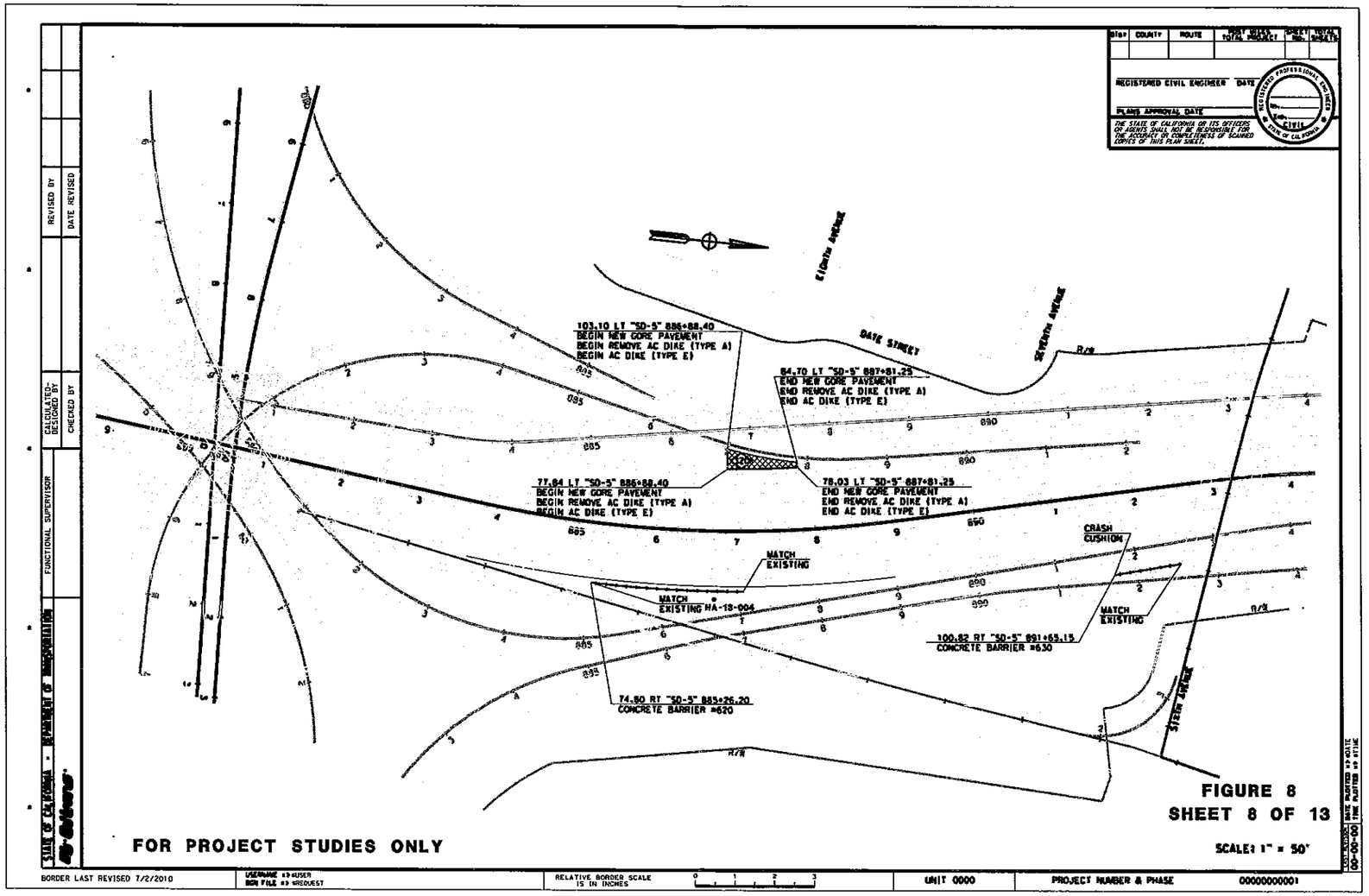

FIGURE 8
SHEET 8 OF 13

BORDER LAST REVISED 7/2/2010

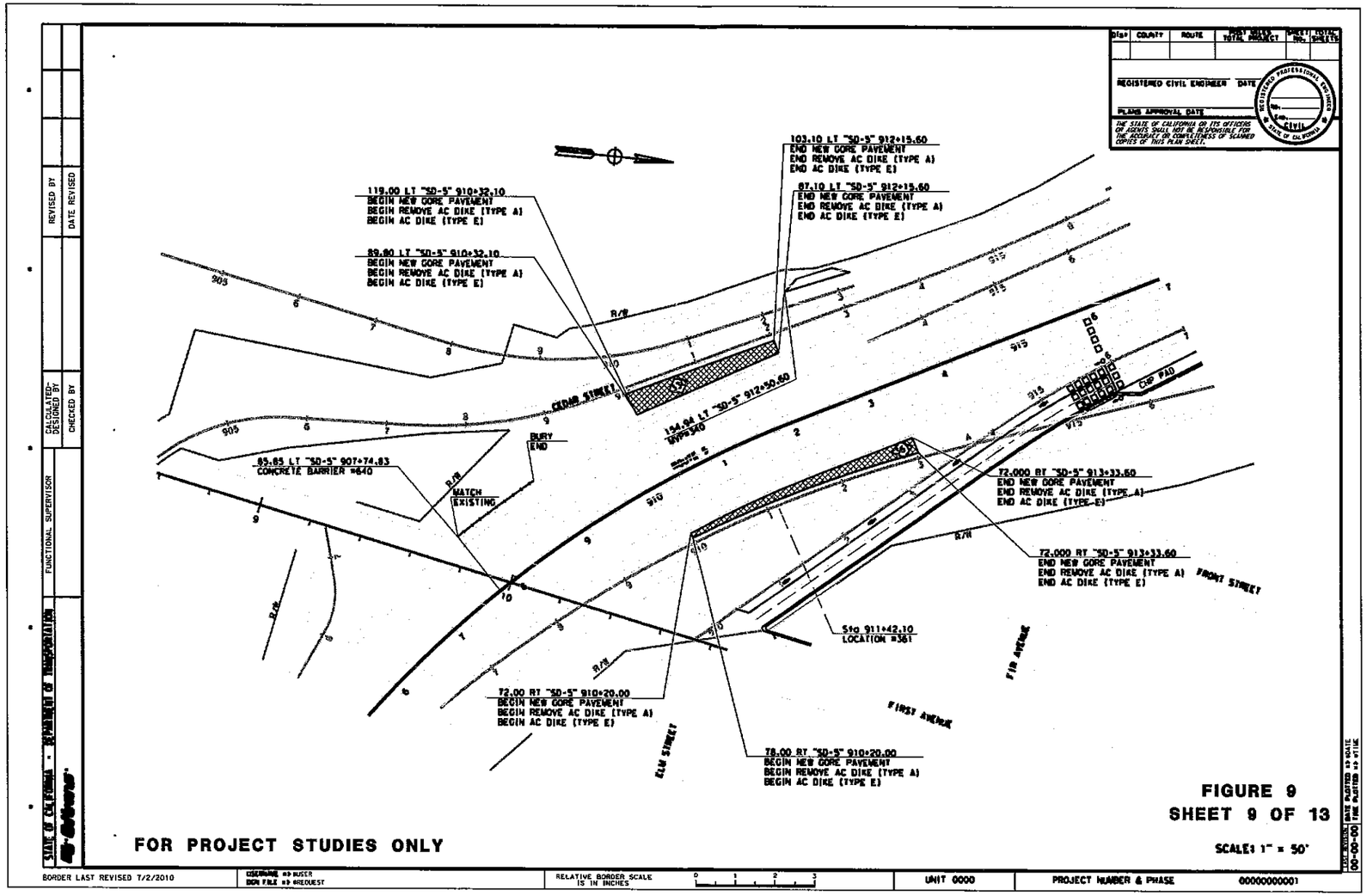

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FIGURE 9
SHEET 9 OF 13

SCALE: 1" = 50'

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

BORDER LAST REVISED 7/2/2010

USERNAME => $USER
DGN FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001

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PLOT PLOTTED => $TIME
00-00-00

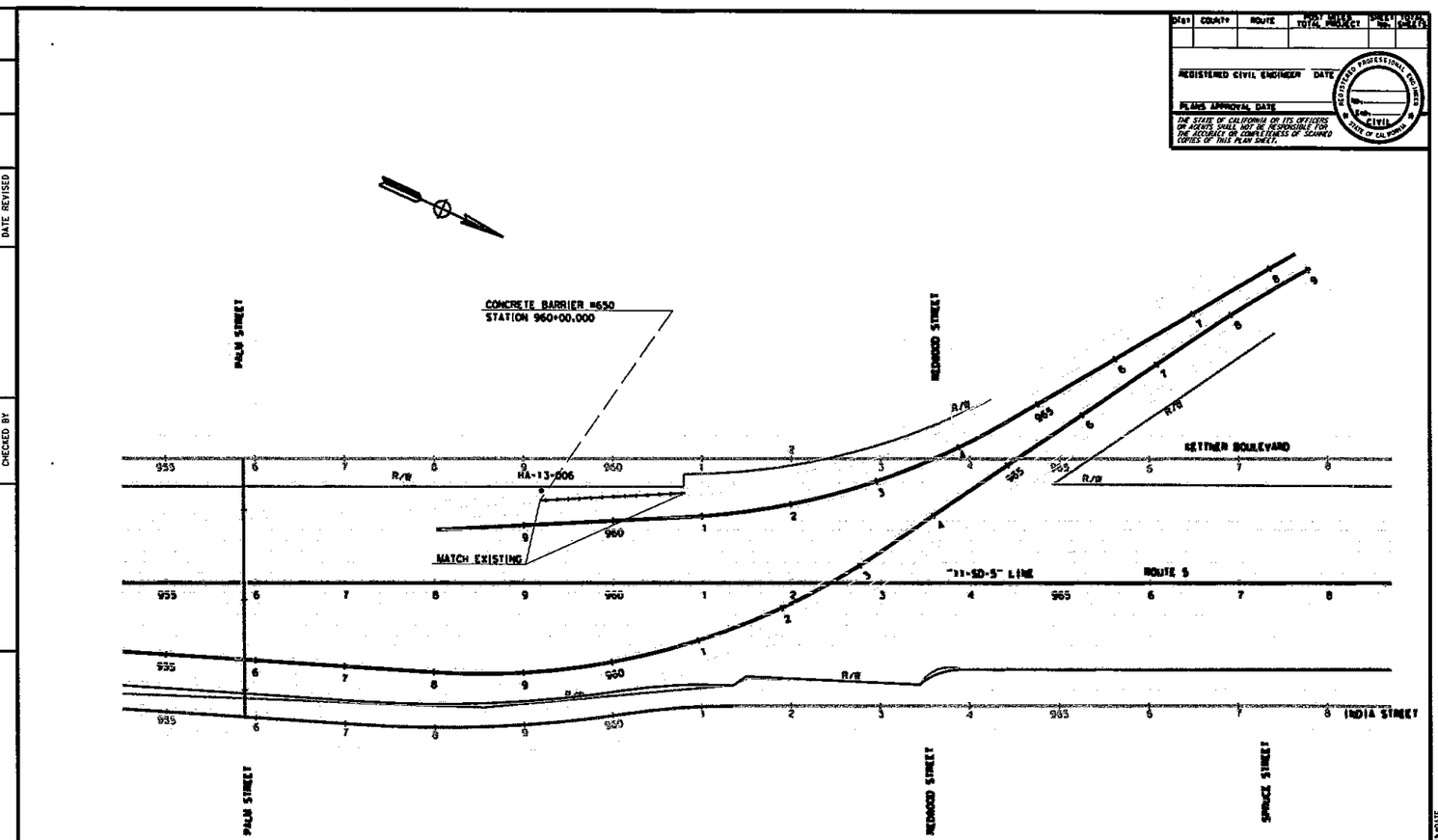

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FIGURE 10
SHEET 10 OF 13

SCALE: 1" = 50'

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

FUNCTIONAL SUPERVISOR

CALCULATED-DESIGNED BY

CHECKED BY

REVISED BY

DATE REVISED

BORDER LAST REVISED 7/2/2010 | USERNAME => %USER, DGN FILE => %REQUEST | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0000 | PROJECT NUMBER & PHASE 00000000001

LOCATION: DRAWING PLOTTED => %DATE, 00-00-00, TIME PLOTTED => %TIME

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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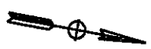


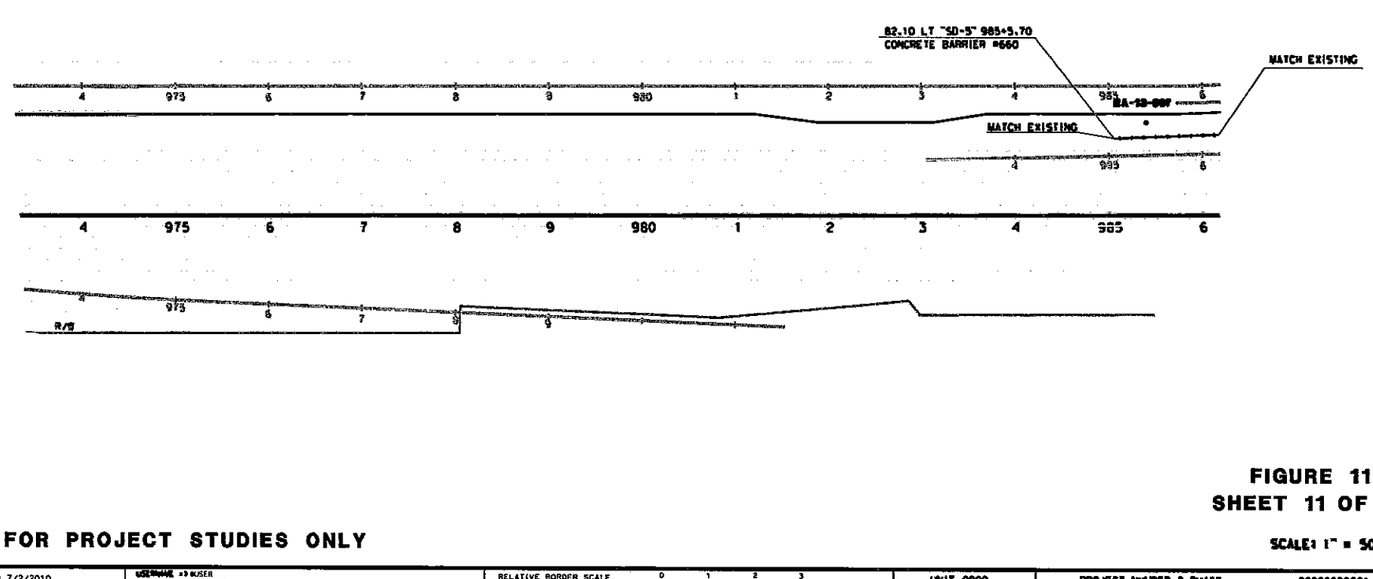


FIGURE 11
SHEET 11 OF 13

SCALE: 1" = 50'

FOR PROJECT STUDIES ONLY

REVISED BY	DATE REVISED

CALCULATED-DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

USE REVISED DATE PLOTTED => 00-00-00
TIME PLOTTED => 12:34

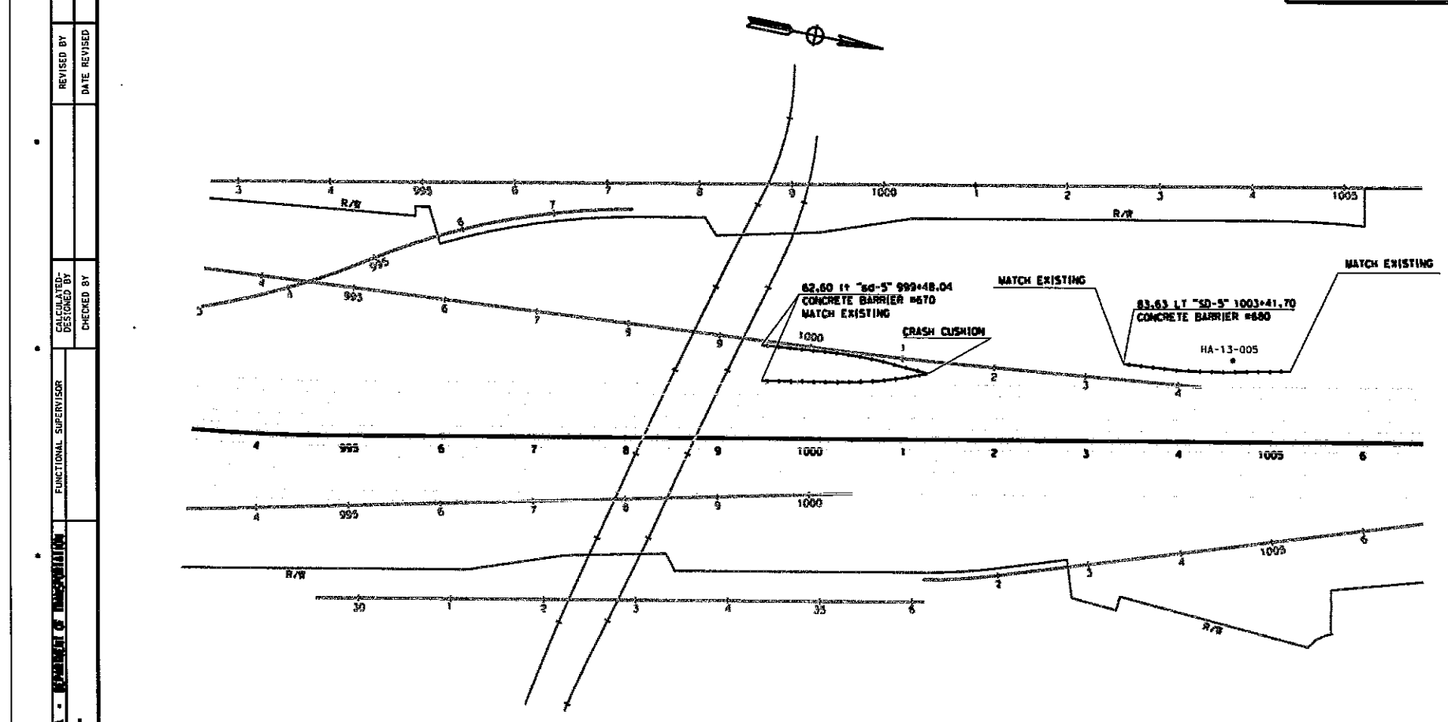
BORDER LAST REVISED 7/2/2010

USERNAME => USER
DGN FILE => REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001



FOR PROJECT STUDIES ONLY

FIGURE 12
SHEET 12 OF 13

SCALE: 1" = 50'

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

BORDER LAST REVISED 7/2/2010

USERNAME =$:USER
IGN FILE =$:REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001

DATE PLOTTED =$:DATE
TIME PLOTTED =$:TIME

00-00-00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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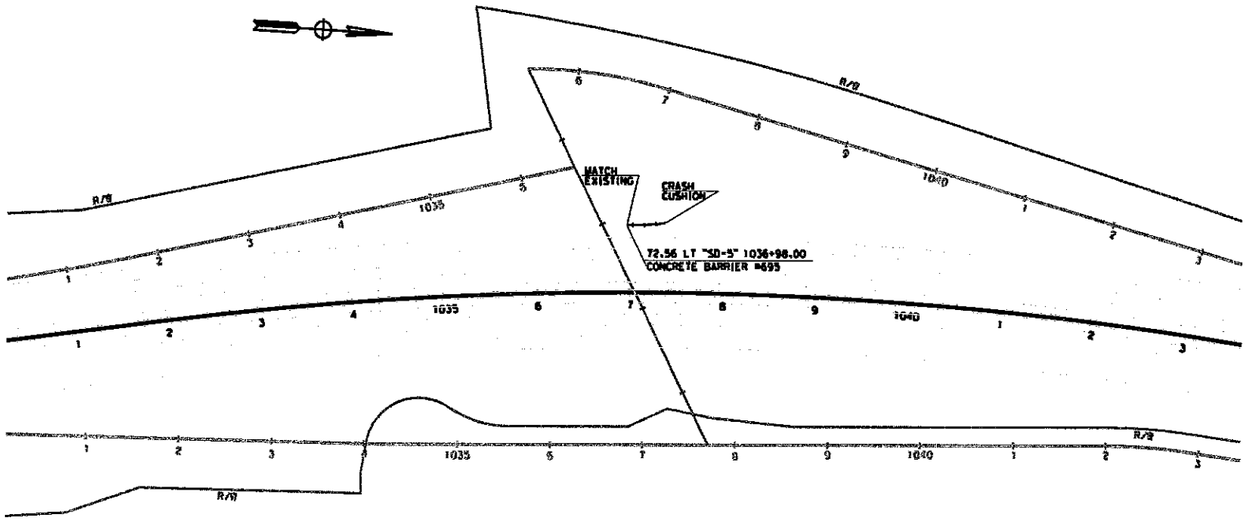

FIGURE 13
SHEET 13 OF 13

SCALE: 1" = 50'

FOR PROJECT STUDIES ONLY

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

BORDER LAST REVISED 7/2/2010

USERNAME => $USER
DGN FILE => $REQUEST

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0000

PROJECT NUMBER & PHASE 0000000001

DATE PLOTTED => 00-00-00
TIME PLOTTED => 0TIME

State of California

Business, Transportation and Housing Agency

Memorandum

To: **Michelle Dungan**
Environmental Planner
Environmental Engineering

Date: June 26, 2014

File: 11-SD-5
PM: Various
EA: 261601
PI: 1100020310

From: **Joel Kloth**
Engineering Geologist
Environmental Engineering

Subject: Hazardous Materials Aerially Deposited Lead Data for PS&E Handout of EA 261601

The project proposes to install freeway off pavement access with work Including gore paving, replacement of MBGR with concrete barrier, new pullouts, new gates, and relocation of poles, cabinets, and signs at various locations.

Aerially deposited lead (ADL) soil sample and laboratory test results from several previous ADL projects have been used for the subject project. The test results are from studies performed along Interstate 5 from post mile 4.0 to 21.5, in San Diego County, in the vicinity of the subject project. Soluble lead test results indicate an average soluble lead concentration over 5.0 milligrams per kilogram, making exposed soil at the project locations a California hazardous waste.

Excavated exposed soil from gore paving, concrete barriers and pullouts will contain hazardous Aerially Deposited Lead (ADL). Standard special provision (SSP) 14-11.03 will apply to the ADL soil excavated (type "Z-2" material). Using type "Z-2" material, exposed soil excavated that is relinquished to a contractor, must be disposed as a hazardous waste at a Class I landfill.

Joel Kloth, PG
Engineering Geologist
Environmental Engineering

cc: Jayne Dowda

TABLE I

SUMMARY OF ANALYTICAL LABORATORY RESULTS

SAMPLE IDENTIFICATION	DEPTH IN METERS	TOTAL LEAD EPA TEST METHOD 6010 (mg/kg)	SOLUBLE LEAD - WET EPA TEST METHOD 7420 (mg/l)	SOLUBLE LEAD VIA WET DI WATER (mg/l)	SOIL pH EPA TEST METHOD 9045
B1-S	0.15	785	68	ND	---
B1-1	0.30	612	45	ND	---
B1-2	0.60	14	---	---	---
B2-S	0.15	ND	---	---	8.6
B2-1	0.30	ND	---	---	---
B2-2	0.60	24	---	---	---
B3-S	0.15	197	23	ND	---
B3-1	0.30	237	20	ND	---
B3-2	0.60	72	---	---	---
B4-S	0.15	85	4.2	---	---
B4-1	0.30	36	---	---	---
B4-2	0.60	ND	---	---	---
B5-S	0.15	247	19	ND	8.4
B5-1	0.30	36	---	---	---
B6-S	0.15	90	5.2	ND	---
B6-1	0.30	10	---	---	---
B6-2	0.60	8.6	---	---	---
B7-S	0.15	150	7.8	ND	---
B7-1	0.30	15	---	---	---
B7-2	0.60	13	---	---	---
B8-S	0.15	2690	---	---	---
B8-1	0.30	13	---	---	---
B8-2	0.60	12	---	---	8.5
B9-S	0.15	1420	---	ND	---
B9-1	0.30	122	9.7	ND	---
B9-1.5	0.45	287	23	ND	---
B10-S	0.15	90	8.6	ND	---
B10-1	0.30	8.0	---	---	---
B10-2	0.60	6.7	---	---	---
B11-S	0.15	91	5.3	0.17	---
B11-1	0.30	10	---	---	---

TABLE I (continued)

SUMMARY OF ANALYTICAL LABORATORY RESULTS

SAMPLE IDENTIFICATION	DEPTH IN METERS	TOTAL LEAD EPA TEST METHOD 6010 (mg/kg)	SOLUBLE LEAD - WET EPA TEST METHOD 7420 (mg/l)	SOLUBLE LEAD VIA WET DI WATER (mg/l)	SOIL pH EPA TEST METHOD 9045
B11-2	0.60	6.4	---	---	---
B12-S	0.15	560	55	ND	---
B12-1	0.30	65	---	---	---
B12-2	0.60	27	---	---	---
B13-S	0.15	436	25	ND	8.8
B13-1	0.30	8.3	---	---	---
B13-1.5	0.45	193	10	ND	---
B14-S	0.15	390	13	ND	---
B14-1	0.30	36	---	---	---
B14-2	0.60	65	---	---	---
B15-S	0.15	61	---	---	---
B15-1	0.30	36	---	---	8.8
B15-2	0.60	24	---	---	---
B16-S	0.15	1200	---	ND	---
B16-1	0.30	87	2.0	---	8.8
B17-S	0.15	163	2.1	---	---
B17-1	0.30	123	8.4	ND	---
B17-2	0.60	23	---	---	---
B18-S	0.15	578	30	0.21	---
B18-1	0.30	63	---	---	---
B18-2	0.60	53	---	---	---
B19-S	.15 ~~0.60~~	1790	---	---	---
B19-1	.30 ~~0.15~~	154	4.8	---	---
B19-2	0.60	22	---	---	---
B20-S	0.15	1030	---	ND	---
B20-1	0.30	314	17	ND	---
B21-S	0.15	176	0.60	---	---
B21-1	0.30	55	---	---	---
B21-2	0.60	6.1	---	---	---
B22-S	0.15	812	93	ND	---
B22-1	0.30	413	20	ND	---

TABLE I (continued)

SUMMARY OF ANALYTICAL LABORATORY RESULTS

SAMPLE IDENTIFICATION	DEPTH IN METERS	TOTAL LEAD EPA TEST METHOD 6010 (mg/kg)	SOLUBLE LEAD - WET EPA TEST METHOD 7420 (mg/l)	SOLUBLE LEAD VIA WET DI WATER (mg/l)	SOIL pH EPA TEST METHOD 9045
B22-2	0.60	68	---	---	---
B23-S	0.15	266	14	ND	---
B23-1	0.30	237	0.62	---	---
B23-2	0.60	6.2	---	---	---
B24-S	0.15	1080	---	0.82	---
B24-1	0.30	114	4.2	---	---
B24-2	0.60	33	---	---	9.3
B25-S	0.15	18	---	---	---
B25-1	0.30	18	---	---	---
B25-2	0.60	8.1	---	---	---
B26-S	0.15	832	67	0.16	---
B26-1	0.30	ND	---	---	---
B26-2	0.60	55	---	---	---
B27-S	0.15	46	---	---	---
B27-1	0.30	17	---	---	8.8
B27-2	0.60	23	---	---	---
B28-S	0.15	1620	---	---	---
B28-1	0.30	13	---	---	---
B28-2	0.60	ND	---	---	---
B29-S	0.15	8.4	---	---	---
B29-1	0.30	5.7	---	---	---
B29-2	0.60	15	---	---	---
B30-S	0.15	1290	---	3.3	---
B30-1	0.30	ND	---	---	---
B30-2	0.60	ND	---	---	---
B31-S	0.15	33	---	---	---
B31-1	0.30	10	---	---	---
B31-2	0.60	14	---	---	8.4
B32-S	0.15	703	58	0.22	---
B32-1	0.30	324	13	ND	8.7
B32-2	0.60	443	21	ND	---

TABLE I (continued)

SUMMARY OF ANALYTICAL LABORATORY RESULTS

SAMPLE IDENTIFICATION	DEPTH IN METERS	TOTAL LEAD EPA TEST METHOD 6010 (mg/kg)	SOLUBLE LEAD - WET EPA TEST METHOD 7420 (mg/l)	SOLUBLE LEAD VIA WET DI WATER (mg/l)	SOIL pH EPA TEST METHOD 9045
B33-S	0.15	77	0.44	---	---
B33-1	0.30	20	---	---	---
B33-2	0.60	9.1	---	---	---
B34-S	0.15	649	27	0.36	---
B34-1	0.30	24	---	---	---
B34-2	0.60	15	---	---	---
B35-S	0.15	13	---	---	---
B35-1	0.30	12	---	---	---
B35-2	0.60	1.5	---	---	---
B36-S	0.15	881	55	0.18	---
B36-1	0.30	9.7	---	---	---
B36-2	0.60	13	---	---	---
B37-S	0.15	18	---	---	8.6
B37-1	0.30	34	---	---	---
B37-2	0.60	9.7	---	---	---
B38-S	0.15	62	---	---	---
B38-1	0.30	ND	---	---	---
B38-2	0.60	9.6	---	---	---
B39-S	0.15	1010	---	0.25	---
B39-1	0.30	77	5.6	0.53	---
B39-2	0.60	19	---	---	---
B40-S	0.15	ND	---	---	8.6
B40-1	0.30	ND	---	---	---
B40-2	0.60	8.2	---	---	---
B41-S	0.15	239	1.5	---	---
B41-1	0.30	26	---	---	---
B42-S	0.15	ND	---	---	---
B42-1	0.30	ND	---	---	---
B42-2	0.60	ND	---	---	---
B43-S	0.15	197	6.5		---
B43-1	0.30	60	3.1	---	---

TABLE I (continued)

SUMMARY OF ANALYTICAL LABORATORY RESULTS

SAMPLE IDENTIFICATION	DEPTH IN METERS	TOTAL LEAD EPA TEST METHOD 6010 (mg/kg)	SOLUBLE LEAD - WET EPA TEST METHOD 7420 (mg/l)	SOLUBLE LEAD VIA WET DI WATER (mg/l)	SOIL pH EPA TEST METHOD 9045
B43-2	0.60	146	5.1	0.38	---
B44-S	0.15	168	8.8	ND	---
B44-1	0.30	83	19	ND	---
B44-2	0.60	16	---	---	---
B45-S	0.15	17	---	---	---
B45-1	0.30	21	---	---	---
B45-2	0.60	17	---	---	9.3
B46-S	0.15	6.8	---	---	---
B46-1	0.30	14	---	---	---
B46-2	0.60	32	---	---	9.7
B47-S	0.15	82	0.44	---	---
B47-1	0.30	13	---	---	---
B47-2	0.60	159	2.7	---	---
B48-S	0.15	153	12	ND	---
B48-1	0.30	16	---	---	---
B48-2	0.60	141	3.7	---	---
B49-S	0.15	55	---	---	---
B49-1	0.30	89	0.47	---	8.8
B49-2	0.60	51	---	---	---
B50-S	0.15	49	---	---	---
B50-1	0.30	28	---	---	---
B51-S	0.15	46	---	---	---
B51-1	0.30	46	---	---	---
B51-2	0.60	90	5.0	0.19	---
B52-S	0.15	16	---	---	---
B52-1	0.30	14	---	---	---
B53-S	0.15	75	0.48	---	---
B53-1	0.30	22	---	---	---
B53-1.5	0.45	10	---	---	---
B54-S	0.15	199	9.9	ND	---
B54-1	0.30	5.0	---	---	---

TABLE I (continued)

SUMMARY OF ANALYTICAL LABORATORY RESULTS

SAMPLE IDENTIFICATION	DEPTH IN METERS	TOTAL LEAD EPA TEST METHOD 6010 (mg/kg)	SOLUBLE LEAD - WET EPA TEST METHOD 7420 (mg/l)	SOLUBLE LEAD VIA WET DI WATER (mg/l)	SOIL pH EPA TEST METHOD 9045
B54-2	0.60	ND	---	---	---
B55-S	0.15	79	1.5	---	---
B55-1	0.30	19	---	---	---
B55-2	0.60	64	---	---	---
B56-S	0.15	1500	---	3.9	8.2
B56-1	0.30	33	---	---	---
B56-2	0.60	176	12	ND	---
B57-S	0.15	293	1.2	---	---
B57-1	0.30	496	1.9	---	---
B57-2	0.60	101	0.70	---	---
B58-S	0.15	741	37	---	---
B58-1	0.30	105	7.4	ND	9.3
B58-1.5	0.45	641	32	ND	---
B59-S	0.15	379	0.98	---	8.2
B59-1	0.30	83	3.4	---	---
B59-2	0.60	7.2	---	---	---

Note:
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
--- = analysis not performed
EPA = United States Environmental Protection Agency

TABLE I

SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample Identification	Depth in meters	Total Lead EPA Test Method 7420 (mg/kg)	Soil pH EPA Test Method 9045A	Wet DI EPA Test Method 7420 (mg/l)	Wet Citric EPA Test Method 7420 (mg/l)
A1-1	0.15	56	9.0	---	---
A1-2	0.30	41	---	---	---
A1-3	0.45	26	---	---	---
A2-1	0.15	29	---	---	---
A2-2	0.30	20	---	---	---
A2-3	0.45	18	---	---	---
A3-1	0.15	25	---	---	---
A3-2	0.30	14	---	---	---
A3-3	0.45	16	---	---	---
A4-1	0.15	12	---	---	---
A4-2	0.30	8.9	---	---	---
A4-3	0.45	5.2	---	---	---
B1-1	0.15	77	---	---	3.5
B1-2	0.30	5.5	---	---	---
B1-3	0.45	ND	---	---	---
B2-1	0.15	ND	---	---	---
B2-2	0.30	ND	---	---	---
B2-3	0.45	ND	---	---	---
B3-1	0.15	14	---	---	---
B3-2	0.30	62	9.4	---	---
B3-3	0.45	ND	---	---	---
B4-1	0.15	405	---	ND	30
B4-2	0.30	14	---	---	---
B4-3	0.45	6.7	---	---	---
C1-1	0.15	178	---	---	13
C1-2	0.30	10	---	---	---
C1-3	0.45	6.6	---	---	---
C2-1	0.15	69	---	---	---
C2-2	0.30	50	9.1	---	---
C2-3	0.45	21	---	---	---
C3-1	0.15	64	---	---	---
C3-2	0.30	94	---	---	8.1
C3-3	0.45	121	---	---	18
C4-1	0.15	86	---	---	3.6
C4-2	0.30	12	---	---	---
C5-1	0.15	77	8.2	---	2.1
C5-2	0.30	132	---	---	18
C5-3	0.45	12	---	---	---

TABLE I (concluded)

SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample Identification	Depth in meters	Total Lead EPA Test Method 7420 (mg/kg)	Soil pH EPA Test Method 9045A	Wet DI EPA Test Method 7420 (mg/l)	Wet Citric EPA Test Method 7420 (mg/l)
C6-1	0.15	85	---	---	3.6
C6-2	0.30	28	---	---	---
C6-3	0.45	18	---	---	---

Note:

ND = not detected
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
--- = analysis not performed
EPA = United States Environmental Protection Agency

TABLE I
SUMMARY OF SOIL SAMPLE ANALYTICAL LABORATORY RESULTS
Lead and pH

Sample ID	Depth (Meters)	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead – WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead TCLP EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
Detection Limit		5.0	0.2	0.2	0.1
B1-S	0.15	130	18	0.49	---
B1-0.3	0.3	16	---	---	---
B1-0.9	0.9	6.2	---	---	---
B2-S	0.15	22	---	---	---
B2-0.3	0.3	28	---	---	8.91
B2-0.9	0.9	ND	---	---	---
B3-S	0.15	46	---	---	---
B3-0.3	0.3	35	---	---	---
B3-0.6	0.6	25	---	---	---
B4-S	0.15	24	---	---	---
B4-0.3	0.3	70	3.9	---	---
B5-S	0.15	37	---	---	---
B5-0.3	0.3	5.8	---	---	---
B5-0.9	0.9	110	7.3	0.44	---
B6-S	0.15	39	---	---	8.35
B6-0.3	0.3	25	---	---	---
B7-S	0.15	11	---	---	---
B7-0.3	0.3	15	---	---	---
B7-0.9	0.9	ND	---	---	---
B8-S	0.15	29	---	---	---
B8-0.3	0.3	21	---	---	---
B8-0.9	0.9	ND	---	---	---
B9-S	0.15	5.0	---	---	---
B9-0.3	0.3	ND	---	---	---
B9-0.9	0.9	ND	---	---	8.27
B10-S	0.15	17	---	---	---
B10-0.3	0.3	ND	---	---	---
B10-0.9	0.9	ND	---	---	---
B11-S	0.15	ND	---	---	---
B11-0.3	0.3	ND	---	---	---
B11-0.9	0.9	ND	---	---	---
B12-S	0.15	ND	---	---	---
B12-0.3	0.3	ND	---	---	---
B12-0.9	0.9	ND	---	---	---
B13-S	0.15	ND	---	---	8.26
B13-0.3	0.3	9.4	---	---	---

TABLE I (continued)
SUMMARY OF SOIL SAMPLE ANALYTICAL LABORATORY RESULTS
Lead and pH

Sample ID	Depth (Meters)	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead – WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead TCLP EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B13-0.9	0.9	28	---	---	---
B14-S	0.15	ND	---	---	---
B14-0.3	0.3	ND	---	---	---
B14-0.9	0.9	ND	---	---	---
B15-S	0.15	11	---	---	---
B15-0.3	0.3	ND	---	---	---
B15-0.9	0.9	7.6	---	---	---
B16-S	0.15	150	7.8	0.34	---
B16-0.3	0.3	7.9	---	---	7.75
B16-0.9	0.9	12	---	---	---
B17-S	0.15	23	---	---	---
B17-0.3	0.3	ND	---	---	---
B17-0.9	0.9	ND	---	---	8.87
B18-S	0.15	16	---	---	---
B18-0.3	0.3	8.1	---	---	---
B18-0.9	0.9	20	---	---	---
B19-S	0.15	6.3	---	---	---
B19-0.3	0.3	7.3	---	---	---
B19-0.9	0.9	39	---	---	---
B20-S	0.15	360	27	1.4	---
B20-0.3	0.3	18	---	---	---
B20-0.9	0.9	ND	---	---	8.72
B21-S	0.15	7.7	---	---	---
B21-0.3	0.3	7.0	---	---	---
B21-0.9	0.9	ND	---	---	---
B22-S	0.15	ND	---	---	---
B22-0.3	0.3	ND	---	---	---
B22-0.9	0.9	5.2	---	---	---
B23-S	0.15	9.3	---	---	---
B23-0.3	0.3	7.4	---	---	---
B23-0.9	0.9	ND	---	---	---
B24-S	0.15	ND	---	---	8.69
B24-0.3	0.3	ND	---	---	---
B24-0.9	0.9	ND	---	---	---
B25-S	0.15	ND	---	---	---
B25-0.3	0.3	ND	---	---	---
B25-0.9	0.9	ND	---	---	---

TABLE I (continued)
SUMMARY OF SOIL SAMPLE ANALYTICAL LABORATORY RESULTS
Lead and pH

Sample ID	Depth (Meters)	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead – WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead TCLP EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B26-S	0.15	18	---	---	---
B26-0.3	0.3	16	---	---	---
B26-0.9	0.9	39	---	---	---
B27-S	0.15	9.4	---	---	---
B27-0.3	0.3	7.9	---	---	7.99
B27-0.9	0.9	7.6	---	---	---
B28-S	0.15	28	---	---	---
B28-0.3	0.3	21	---	---	---
B28-0.6	0.6	9.6	---	---	8.95
B29-S	0.15	10	---	---	---
B29-0.3	0.3	10	---	---	---
B29-0.9	0.9	ND	---	---	---
B30-S	0.15	11	---	---	---
B30-0.3	0.3	6.4	---	---	---
B30-0.9	0.9	ND	---	---	---
B31-S	0.15	19	---	---	---
B31-0.3	0.3	5.4	---	---	---
B31-0.9	0.9	6.9	---	---	---
B32-S	0.15	14	---	---	---
B32-0.3	0.3	24	---	---	---
B32-0.6	0.9	12	---	---	---

Notes:

mg/kg = milligrams per kilogram
mg/l = milligrams per liter
--- = analysis not performed
EPA = United States Environmental Protection Agency
ND = Analyte not detected at or above the laboratory detection limit

TABLE I
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth (Meters)	Total Lead (mg/kg)	Soluble Lead WET-Citric (mg/l)	Soluble Lead WET-DI (mg/l)	Soil pH
B1-S	0.15	1,200	---	---	---
B1-1	0.30	750	48	---	7.51
B2-S	0.15	700	41	---	---
B2-1	0.30	54	2.1	---	---
B2-2	0.60	ND	---	---	---
B3-S	0.15	1,200	---	---	---
B3-1	0.30	970	53	---	---
B3-2	0.60	620	60	---	---
B4-S	0.15	12	---	---	---
B4-1	0.30	17	---	---	9.32
B5-S	0.15	24	---	---	---
B5-1	0.30	23	---	---	---
B6-S	0.15	660	130	---	---
B6-1	0.30	700	74	---	---
B6-2	0.60	940	59	---	---
B7-S	0.15	680	50	---	---
B7-1	0.30	820	84	---	---
B7-2	0.60	480	41	---	---
B8-S	0.15	290	22	---	---
B8-1	0.30	240	20	---	---
B8-2	0.60	110	6.1	---	7.25
B9-S	0.15	19	---	---	---
B9-1	0.30	57	3.3	---	---
B9-2	0.60	34	---	---	---
B10-S	0.15	15	---	---	---
B10-1	0.30	190	9.1	---	---
B11-S	0.15	960	39	---	---
B11-1	0.30	200	11	ND	---
B11-2	0.60	82	3.3	---	---
B12-S	0.15	280	18	ND	---
B12-1	0.30	180	9.7	ND	---
B13-S	0.15	810	51	---	---
B13-1	0.30	870	48	---	---
B14-S	0.15	680	36	---	---
B14-1	0.30	74	2.6	---	---

Table 1 - Summary of Z1 Soil Sample Results

Sample ID	Depth (meters)	Depth (feet)	Sample Date	Total Lead (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	Lead by XRF (mg/kg)	Lead by XRF with Protocol (mg/kg)	pH
B1-Z1-1.5	0.46	1.5	1/17/2007	**940**	**67**	**1.0**	ND	**856.0±55.0**	--	--
B2-Z1-0.8	0.24	0.8	1/17/2007	**2700**	**220**	**16**	3.1	**2998.0±102.0**	--	--
B3-Z1-1.8	0.55	1.8	1/17/2007	40	1.9	--	--	<50	--	--
B4-Z1-1.4	0.43	1.4	1/17/2007	**270**	**21**	**1.1**	ND	**319.0±40.0**	--	--
B5-Z1-1.4	0.43	1.4	1/17/2007	**160**	**5.1**	ND	ND	**115.0±31.0**	--	--
B6-Z1-1.0	0.30	1	1/17/2007	23	1.2	--	--	<50	--	--
B7-Z1-1.5	0.46	1.5	1/17/2007	**250**	**16**	ND	ND	**216.0±34.0**	--	--
B8-Z1-0.4	0.12	0.4	1/17/2007	**410**	**27**	**2.3**	ND	**612.0±49.0**	--	--
B9-Z1-0.6	0.18	0.6	1/16/2007	**71**	4.3	ND	--	**96±33.0**	**187.0±40.0**	--
B10-Z1-0.3	0.09	0.3	1/16/2007	**260**	**16**	ND	ND	**235.0±41.0**	--	6.2
B11-Z1-0.5	0.15	0.5	1/16/2007	**470**	**36**	**0.87**	ND	**348.0±42.0**	--	--
B12-Z1-0.5	0.15	0.5	1/16/2007	**120**	4.2	ND	ND	**70.0±31.0**	--	6.1
B13-Z1-0.9	0.27	0.9	1/16/2007	35	1.1	--	--	<50	--	--
B14-Z1-0.4	0.12	0.4	1/16/2007	**200**	**12**	ND	ND	**133.0±38.0**	--	7.2
B15-Z1-1.3	0.40	1.3	1/16/2007	13	0.27	--	--	<50	--	--
B16-Z1-1.5	0.46	1.5	1/16/2007	9.1	ND	--	--	<50	--	5.9
B17-Z1-1.2	0.37	1.2	1/16/2007	**130**	**6.3**	ND	ND	**77.3±34.0**	--	--
B18-Z1-0.5	0.15	0.5	1/16/2007	**64**	4.4	ND	--	**82±31**	--	--
B19-Z1-0.2	0.06	0.2	1/16/2007	**110**	**5.8**	ND	ND	**104±32.0**	--	--
B20-Z1-1.1	0.34	1.1	1/16/2007	48	1.8	--	--	<50	--	--
B21-Z1-0.9	0.27	0.9	1/16/2007	36	1.8	--	--	**58.4±29.0**	--	--
B22-Z1-1.4	0.43	1.4	1/17/2007	**54**	2.7	ND	--	**69.5±30.0**	--	--
B23-Z1-1.1	0.34	1.1	1/17/2007	**90**	3.0	ND	--	**54.2±30.0**	--	7.1
B24-Z1-1.9	0.58	1.9	1/17/2007	**52**	2.7	ND	--	48.6±30.0	--	--
B25-Z1-1.1	0.34	1.1	1/17/2007	34	1.4	--	--	<50	--	--
B26-Z1-1.6	0.49	1.6	1/17/2007	28	1.4	--	--	<50	**58.6±34.0**	6.7
B27-Z1-1.2	0.37	1.2	1/17/2007	18	1.0	--	--	<50	--	--
B28-Z1-0.4	0.12	0.4	1/17/2007	**420**	**29**	**1.9**	ND	**413.0±43.0**	--	--
B29-Z1-0.5	0.15	0.5	1/18/2007	**95**	3.1	ND	--	**66.0±27.0**	--	--
B30-Z1-1.5	0.46	1.5	1/18/2007	24	1.1	--	--	36.4±31.0	--	--
B31-Z1-0.8	0.24	0.8	1/18/2007	**190**	**9.7**	**0.57**	ND	**174.0±35.0**	--	--
B32-Z1-0.4	0.12	0.4	1/18/2007	**75**	3.7	ND	--	**68.1±31.0**	**55.8±33.0**	--
B33-Z1-0.2	0.06	0.2	1/18/2007	**490**	**35**	0.47	ND	**430.0±45.0**	--	--
B34-Z1-1.7	0.52	1.7	1/18/2007	21	0.61	--	--	<50	**108±32.0**	6.5
B35-Z1-2.0	0.61	2	1/18/2007	9.6	0.42	--	--	<50	--	--
B36-Z1-2.5	0.76	2.5	1/18/2007	12	0.37	--	--	<50	--	--
B37-Z1-0.5	0.15	0.5	1/18/2007	**160**	**10**	ND	ND	**121.0±31.0**	--	--
B38-Z1-0.7	0.21	0.7	1/18/2007	**140**	**7.9**	0.39	ND	**139.0±33.0**	--	7.0
B39-Z1-0.6	0.18	0.6	1/18/2007	29	1.2	--	--	<50	--	--
B40-Z1-0.5	0.15	0.5	1/18/2007	**99**	**8.3**	0.28	--	**177.0±32.0**	--	--

Notes:

Bold indicates the sample result exceeded a screening and/or hazardous waste cirterion.

<50 = Not detected at the specified detection limit of the XRF

mg/kg = Milligrams per kilogram

mg/ℓ = Milligrams per liter

ND = Not detected above the laboratory reporting limit.

-- = not analyzed

WET = waste extraction test

TCLP = toxicity characteristic leaching procedure

XRF = X-ray fluoresence

Table 2 - Summary of Z3 Soil Sample Results

Sample ID	Sample Date	Total Lead (mg/kg)	WET (mg/L)	WET DI (mg/L)	TCLP (mg/L)	Lead by XRF(mg/kg)	Lead by XRF with Protocol (mg/kg)	pH
Z3-A	2/27/2007	**230**	**13**	ND	ND	**182 ±22**	--	--
Z3-B	2/27/2007	**190**	**14**	ND	ND	**167 ±31**	--	--
Z3-C	2/27/2007	**170**	**13**	ND	ND	**191 ±27**	--	--
Z3-D	2/27/2007	**160**	**10**	ND	ND	**199 ±26**	--	6.2
Z3-E	2/27/2007	**170**	**14**	ND	ND	**169 ±34**	--	--
Z3-F	2/27/2007	**140**	**14**	ND	ND	**159 ±25**	--	--
Z3-G	2/27/2007	**170**	**13**	ND	ND	**180 ±25**	--	--
Z3-H	2/27/2007	**170**	**12**	ND	ND	**181 ±26**	--	6.7
Z3-I	2/27/2007	**190**	**11**	ND	ND	**181 ±26**	--	--
Z3-J	2/27/2007	**140**	**11**	ND	ND	**182 ±25**	**280 ±30**	--

Notes:
mg/kg = Milligrams per kilogram
mg/ℓ = Milligrams per liter
-- = Not analyzed
XRF - X-Ray Flourescence

TABLE I
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth in Meters	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead - WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead WET-DI Water EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B1-S	0.15	241	18	---	---
B1-1	0.30	11	---	---	---
B1-2	0.60	68	ND	---	---
B2-S	0.15	355	24	---	---
B2-1	0.30	440	25	---	---
B2-2	0.60	13	---	---	---
B3-S	0.15	242	18	---	---
B3-1	0.30	35	---	---	---
B4-S	0.15	696	38	4.7/0.86*	---
B4-1	0.30	12	---	---	8.1
B4-2	0.60	14	---	---	---
B5-S	0.15	205	9.1	---	---
B5-1	0.30	51	ND	---	---
B6-S	0.15	729	42	---	---
B6-1	0.30	16	---	---	---
B6-2	0.60	20	---	---	---
B7-S	0.15	179	15	0.92	---
B7-1	0.30	64	4.1	---	---
B7-2	0.60	116	15	1.2	---
B8-S	0.15	1,834	---	---	7.1
B8-1	0.30	1,341	---	---	---
B8-2	0.60	55	ND	---	---
B9-S	0.15	1,068	---	1.5	---
B9-1	0.30	31	---	ND	---
B10-S	0.15	1,074	---	---	---
B10-1	0.30	1,011	---	---	---
B10-2	0.60	889	51	ND	---
B11-S	0.15	484	24	---	---
B11-1	0.30	74	7.2	---	---
B11-2	0.60	22	---	---	5.1
B12-S	0.15	612	32	---	---
B12-1	0.30	56	ND	---	---
B12-2	0.60	84	3.4	---	---

TABLE I (continued)
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth in Meters	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead - WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead WET-DI Water EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B13-S	0.15	363	15	---	---
B13-1	0.30	84	ND	0.23	---
B13-2	0.60	37	---	---	---
B14-S	0.15	409	31	---	---
B14-1	0.30	48	---	---	---
B14-2	0.60	36	---	---	---
B15-S	0.15	125	6.4	---	5.9
B15-1	0.30	25	---	---	---
B15-2	0.60	13	---	---	---
B16-S	0.15	97	6.2	0.40	---
B16-1	0.30	54	ND	0.37	---
B16-2	0.60	24	---	ND	---
B17-S	0.15	54	ND	---	---
B17-1	0.30	360	33	---	---
B17-2	0.60	691	69	ND	---
B18-S	0.15	123	9.2	1.4	---
B18-1	0.30	35	---	---	8.9
B18-2	0.60	52	ND	---	---
B19-S	0.15	86	3.4	---	---
B19-1	0.30	41	---	ND	---
B19-2	0.60	60	6.2	---	---
B20-S	0.15	2,898	---	---	---
B20-1	0.30	46	---	---	---
B20-2	0.60	38	---	ND	---
B21-S	0.15	832	56	---	---
B21-1	0.30	26	---	0.21	---
B21-2	0.60	53	ND	---	8.0
B22-S	0.15	1,686	---	---	---
B22-1	0.30	128	7.6	ND	---
B22-2	0.60	215	17	---	---
B23-S	0.15	295	22	0.31	---
B23-1	0.30	69	3.8	---	---
B23-2	0.60	31	---	---	---

TABLE I (continued)
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth in Meters	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead - WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead WET-DI Water EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B24-S	0.15	88	4.7	---	---
B24-1	0.30	31	---	---	---
B24-2	0.60	54	ND	---	---
B25-S	0.15	222	12	---	8.3
B25-1	0.30	26	---	---	---
B25-2	0.60	31	---	0.33	---
B26-S	0.15	687	51	4.4	---
B26-1	0.30	118	9.4	0.15	---
B26-2	0.60	25	---	---	---
B27-S	0.15	1,409	---	---	---
B27-1	0.30	100	4.9	---	---
B27-2	0.60	27	---	---	---
B28-S	0.15	2,694	---	---	---
B28-1	0.30	296	19	---	7.8
B28-2	0.60	162	9.6	---	---
B29-S	0.15	1,556	---	1.7	---
B29-1	0.30	111	7.0	---	---
B29-2	0.60	24	---	---	---
B30-S	0.15	1,126	---	---	---
B30-1	0.30	116	7.3	---	---
B30-2	0.60	491	32	---	8.5

Notes:
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
--- = analysis not performed
EPA = United States Environmental Protection Agency
* = sample was randomly selected for WET-DI analysis twice. Second analysis not from same aliquot. Both results reported.

THE CITY OF SAN DIEGO

June 30, 2014

Mr. Gary Williams
Project Engineer (I-5 Corridor)
Department of Transportation
District 11
4050 Taylor Street, M.S. 120
San Diego, CA 92110

Dear Mr. Williams:

Subject: Route 5 From Coronado Avenue to Clairemont Drive Project (Contract 11-261604)

This is in response to your letter dated June 25, 2014 regarding water availabity for Route 5 highway construction from Coronado Avenue to Clairemont Drive. Based upon the volume and duration of the project you provided, the City of San Diego has sufficient and available potable water capacity to serve your project during the construction.

Please note that effective July 1, 2014, the City of San Diego will move to Level 1 Drought Alert per the attached memo dated June 24, 2014. The Level 1 Drought Watch Condition lists voluntary water conservation measures that are added to the City's existing permanant restrictions. Please also note that utilizing existing potable water and/or irrigation meters City-wide will be subject to any City of San Diego City Council drought actions to conserve water, if enacted by City Council.

If you have any questions, please call me at 619-446-5420 or email me at Mrastakhiz@sandiego.gov.

Sincerely,

Mehdi Rastakhiz, PE
Associate Civil Engineer
Development Services Department
Water and Sewer Development Review
1222 First Avenue, MS 401
San Diego, CA 92101

Attachment: Level 1 Drought Alert memo dated June 24, 2014

THE CITY OF SAN DIEGO

MEMORANDUM

DATE: June 24, 2014

TO: All Department Directors

FROM: Halla Razak, Director of Public Utilities

SUBJECT: Level 1 Drought Alert starting July 1, 2014

The City of San Diego was in a Stage 2 Drought Alert Condition from June 1, 2009, through May 26, 2011. During that time, City departments played a vital role in saving water and setting a good example for the citizens in our community. During the height of that drought, City departments reduced metered water consumption by 31.4% from pre-drought levels.

The City Council recently approved moving the City to a Level 1 Drought Watch Condition starting July 1, 2014. This memo is provided to assist Departments in identifying water saving opportunities, creating water conservation plans and complying with permanent and voluntary water use regulations.

PRIOR WATER CONSERVATION EFFORTS

From 1992 to 1999, the Water Department implemented a City Facilities Retrofit Program that installed more than 2,384 ultra-low flush toilets and 702 urinals in 494 City owned and operated facilities. The City wanted to show its commitment to water conservation by installing the water conserving plumbing fixtures in our own facilities. That program was completed in 1999 and the biggest retrofit job, that of Qualcomm Stadium in 1998 (365 toilets and 196 urinals) in time for Super Bowl XXXII, was used in a national water conservation publication/article.

The Public Utilities Department has also worked for many years with the Park and Recreation Department to create water use budgets for City parks. Water budgets are estimates of how much water existing landscapes need based on weather information, plant watering needs, type of soil and irrigation systems used, and these estimates are translated into run times per irrigation valve to allow them to use water efficiently. Throughout the last drought, Park and Recreation staff closely monitored water consumption in all its irrigated areas, and this diligence was evident in the achieved 31% water use reduction.

PERMANENT WATER USE RESTRICTIONS

Before the City lifted Level 2 mandatory restrictions in 2011, City Council and City staff agreed that some of these restrictions should remain in place. Hence the San Diego Municipal Code Section SDMC §67.3803 was revised to reflect the permanent water use restrictions that are in effect every day in San Diego. These include the following limitations:

a) No runoff/excessive irrigation leaving the property;
b) Repair leaks upon discovery or within seventy-two hours of notification;
c) No watering of paved areas;
d) No overfilling swimming pools and spas;
e) No non-recirculating decorative water fountains;
f) Car washing only in a commercial car wash or using a hose with shutoff nozzle or a bucket;
g) New buildings must recycle cooling system water and car wash water;
h) Restaurants will only serve and refill water upon request;
i) Hotel guests must have the option of not laundering towels and linens daily; and
j) No watering after 10 am and before 4 pm (winter)/before 6 pm (summer).

Please ensure that staff within your Department is aware of these permanent water use restrictions.

VOLUNTARY WATER USE RESTRICTIONS

The Level 1 Drought Watch Condition lists voluntary water conservation measures that are added to the City's existing permanent water restrictions. These voluntary measures go into effect on July 1, 2014. Although these measures are voluntary for citizens, it is advised that City Departments take the lead and treat them as mandatory:

1) Landscape irrigation limited to three days per week;
2) When watering without an irrigation system a shut-off nozzle or garden hose sprinkler system on a timer is required;
3) Washing vehicles limited to the same schedule as irrigation (except for: boats which may be washed after use; vehicles with health/safety issues; at a commercial carwash that recycles water);
4) Use recycled or non-potable water for construction purposes;

5) Fire hydrants for firefighting only;

6) Construction operations can use water only as required by regulatory agencies; and

7) Irrigation is not permitted during rain event.

RECOMMENDED CONSERVATION MEASURES

Indoor Water Use

If the facility is one of those that received water conserving plumbing fixtures through the City Facilities Retrofit Program, City staff can inspect these fixtures for proper operation and leaks. Self-closing faucets should shut off after a determined amount of seconds. Make sure the valves are not sticking, which would prevent the faucet from shutting off automatically. If faucet aerators have been removed, install new ones that use 1.0 gallons per minute. If the facility has tank style toilets, place dye tablets or food coloring inside the tank and observe if the coloring makes it way to the bowl. This would indicate a leak and would require an adjustment or replacement of the toilet flapper mechanism. Always repair leaks, as even small ones can waste hundreds of gallons of water.

If the facility still has high volume plumbing fixtures, replace them with water efficient ones, such as high-efficiency toilets and urinals, and faucets with self-closing features. There may be some incentives available for replacing these older fixtures. Check with the Water Conservation Program (Luis Generoso at 619-533-5258) for up-to-date information on incentives for public facilities.

Here are a few other measures City staff can take:

- Increase employee awareness of the need to conserve water. The Water Conservation Program (contact Luis Generoso at 619-533-5258) has various brochures and reference materials that can help you.
- Install signs encouraging water conservation in employee and customer restrooms.
- Assign an employee to monitor water use and waste within the facility. Read your water meter weekly to monitor the success of your water conservation efforts, and to detect leaks. Monitor water usage when reviewing water bills. Information on your historic water usage can be obtained calling our Water Conservation Program.
- Check for obvious leaks, where there are consistent water puddles.
- Repair dripping faucets and showers, and continuously running toilets.
- Install faucet aerators where possible.
- Shut off water supply to equipment rooms not in use.
- Shut off cooling equipment when not in use, and minimize water used in cooling units. There may be a need to replace the cooling tower conductivity controller. Check for incentives offered for these controllers.
- Review rebates available in Southern California at http://www.bewaterwise.com .

If there are other function areas like cafeterias/food preparation areas, please contact our Water Conservation Program for tips on how to conserve water specific to those areas.

Outdoor Consumption

Significant water savings can be realized if attention is given to how much water we use outdoors. Here are things City staff can readily implement to help reduce outdoor water consumption:

- Stop hosing down sidewalks, driveways and parking lots. If you need to do so for health and safety reasons, consider using a water broom or a water efficient power washer. For more information, visit our website at www.sandiego.gov/water/conservation.
- Operate your irrigation system to water before 10 a.m. or after 6:00 p.m. to minimize water loss from evaporation or windy conditions.
- Water landscape only when needed. Usually two to three times a week is sufficient. Or you can use the Landscape Watering Calculator at the website mentioned above to prepare a water efficient irrigation schedule based on your plants watering needs, weather date, soil type, and irrigation system used. This easy-to-use tool developed by the Public Utilities Department has been recognized with multiple awards, and is endorsed by a number of landscape industry professionals.
- Consider installing a weather based irrigation controller. These "smart controllers" automatically adjust irrigation run times as the season/weather changes and can shut off your system when it rains. Check with our Water Conservation Program for incentives that may be available.
- Make sure your sprinklers irrigate only the landscape area and not driveways and parking lots. Avoid irrigation runoff that causes storm water pollution.
- Do not water on windy days.
- Should landscape conversion be an option, consider water efficient plants and irrigation systems. These plants provide color and beauty, and the plant choices are numerous. Check our website or visit the Water Conservation Garden at Cuyamaca College (www.thegarden.org) for more information. Rebates for landscape and irrigation system conversions are also available.

More information on how you can save water at home and at work can be found on the following websites:

City of San Diego
http://www.WasteNoWater.org

San Diego County Water Authority
http://www.sdcwa.org/whenindrought

Metropolitan Water District of Southern California
http://www.bewaterwise.com/

RECYCLED WATER OPTION

If the facility is located along the existing recycled water pipeline route you might consider retrofitting your irrigation system to accept recycled water. Irrigation retrofit rebates are now available under a Metropolitan Water District pilot program. For an interactive "recycled water availability zone map" visit http://www.sandiego.gov/water/recycled/availability/index.shtml or contact Dawnn Jackson at 619-533-4264.

Thank you for the cooperation in conserving water at City facilities and for providing a good example to the public. Please let me know if you should have any questions.

Halla Razak
Director of Public Utilities

LSG/lsg