DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8 R12.1/R17.7	1101	1273

REGISTERED CIVIL ENGINEER — 8-06-13 DATE

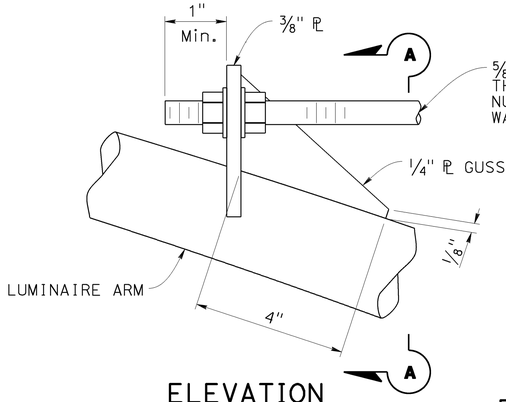
03-24-14
PLANS APPROVAL DATE

JOEL MAGANA — REGISTERED PROFESSIONAL ENGINEER — No. C61500 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

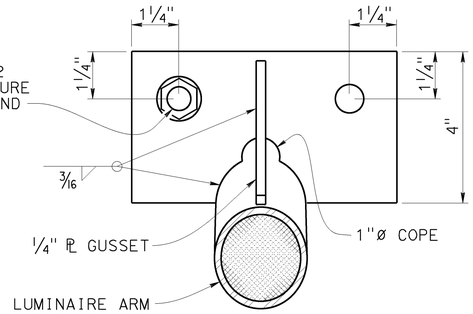
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

NOTES:

1. Luminaire mast arms must be in compliance with Standard Plan ES-6D with noted modifications.
2. Verify pole dimensions at tie-rod attachment height. Fabricate 8" flat bar with "L" Dimension to maintain an open gap between flanges in finished installation.
3. Not all screw heads and bolt heads are shown for clarity.
4. Mast arm not shown for clarity.



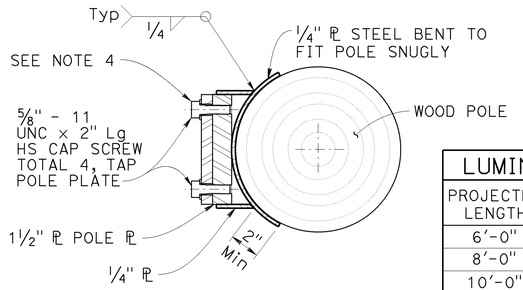
ELEVATION



SECTION A-A

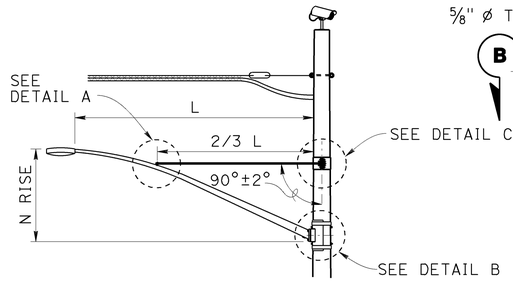
DETAIL A
TIE-ROD AT LUMINAIRE ARM

NO SCALE

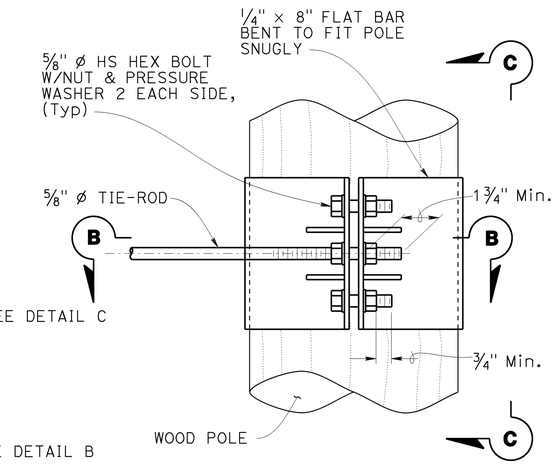


SECTION E-E

LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS
6'-0"	2'-0"±	3 1/4"	0.1196"
8'-0"	2'-6"±	3 1/2"	
10'-0"	3'-3"±	3 7/8"	
12'-0"	4'-3"±		

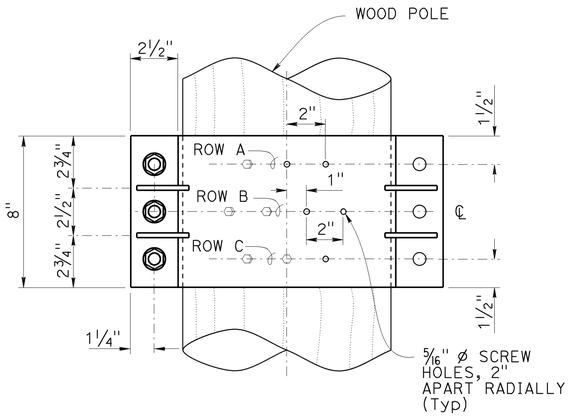


LUMINAIRE MAST ARM

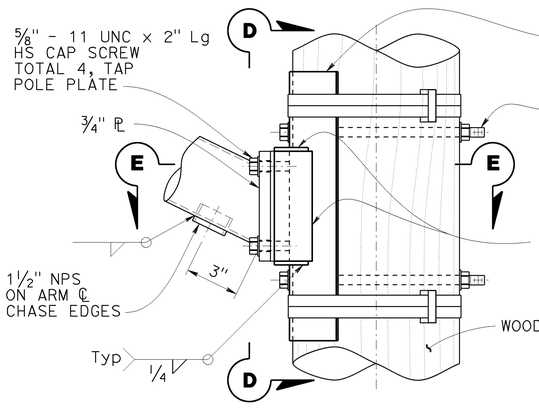


ELEVATION

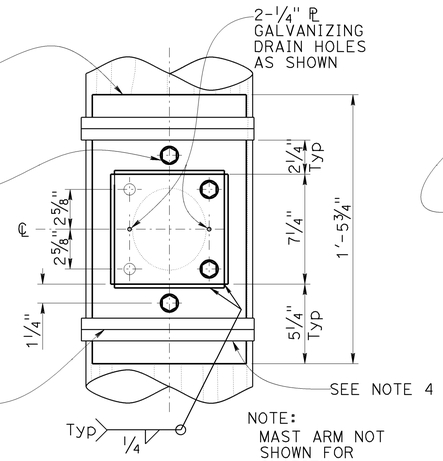
NOTE:
Not all screw and bolt heads shown for clarity.



VIEW C-C



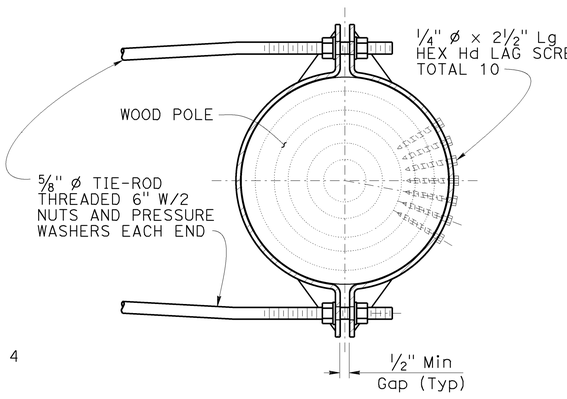
ELEVATION



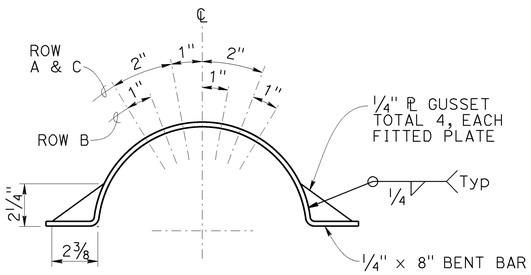
VIEW D-D

DETAIL B
ARM CONNECTION DETAILS

NO SCALE



SECTION B-B



LAG SCREW AND GUSSET PLATE LAYOUT

DETAIL C
TIE-ROD AT POLE

NO SCALE

BRANCH CHIEF: DAVID A. NEUMANN	DESIGN	BY: JOEL MAGANA	CHECKED: VICTOR LOPEZ	STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES — STRUCTURE DESIGN — SPECIAL DESIGN BRANCH	BRIDGE NO.	LIGHTING (STAGE CONSTRUCTION) — DETAILS No. 3	SES-10
	DETAILS	BY: SHUMEI JIANG	CHECKED: VICTOR LOPEZ			POST MILE: R46.2/R46.8 R12.1/R17.7		
	QUANTITIES	BY: X	CHECKED: X					

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 1100020489-1 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES				SHEET	OF
6-18-13				10	14

FILE => ea-11-257151_ses-sheet10.dgn

USERNAME => s13224228 DATE PLOTTED => 06-AUG-2013 TIME PLOTTED => 10:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8 R12.1/R17.7	1102	1273

REGISTERED CIVIL ENGINEER — 8-06-13 DATE

03-24-14
PLANS APPROVAL DATE

JOEL MAGANA — No. C61500 — Exp. 6-30-15 — CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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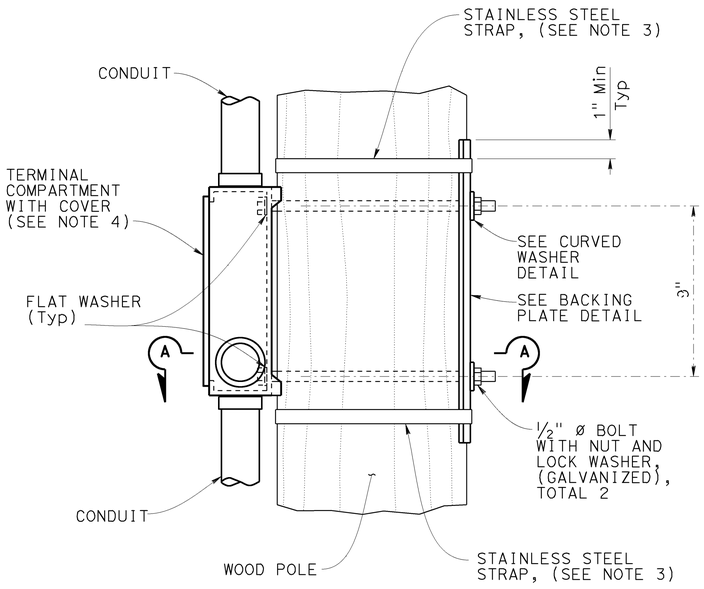
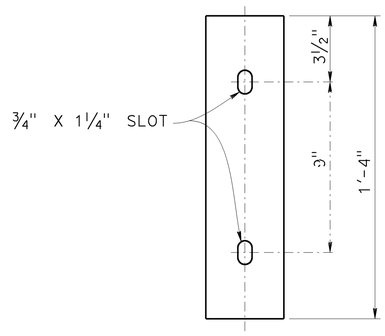


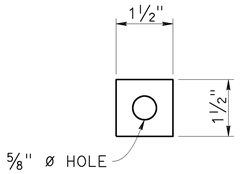
ELEVATION



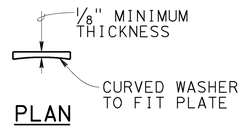
ELEVATION

PLAN

BACKING PLATE DETAIL



ELEVATION

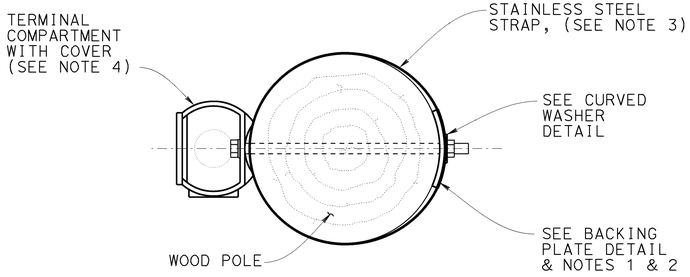


PLAN

CURVED WASHER DETAIL

NOTES:

1. Verify pole dimensions at terminal compartment for fabrication of backing plate and curved washer.
2. Backing plate to be galvanized after fabrication.
3. 3/4" x 0.044" minimum, rounded edge stainless steel straps, double wrapped with 2" long bend under stainless steel strap buckle.
4. For details not shown see Standard Plan ES-4D.



SECTION A-A

SIDE MOUNTING
TERMINAL COMPARTMENT

NO SCALE

BRANCH CHIEF: DAVID A. NEUMANN	DESIGN	BY: JOEL MAGANA	CHECKED: VICTOR LOPEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH
	DETAILS	BY: SHUMEI JIANG	CHECKED: VICTOR LOPEZ		BRIDGE NO. / POST MILE: R46.2/R46.8 R12.1/R17.7
	QUANTITIES	BY: X	CHECKED: X		

LIGHTING (STAGE CONSTRUCTION)
DETAILS No. 4
SES-11

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 1100020489-1 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
6-18-13				11	14

FILE => ea-11-257151_ses-sheet11.dgn

USERNAME => s132428 DATE PLOTTED => 06-AUG-2013 TIME PLOTTED => 10:23

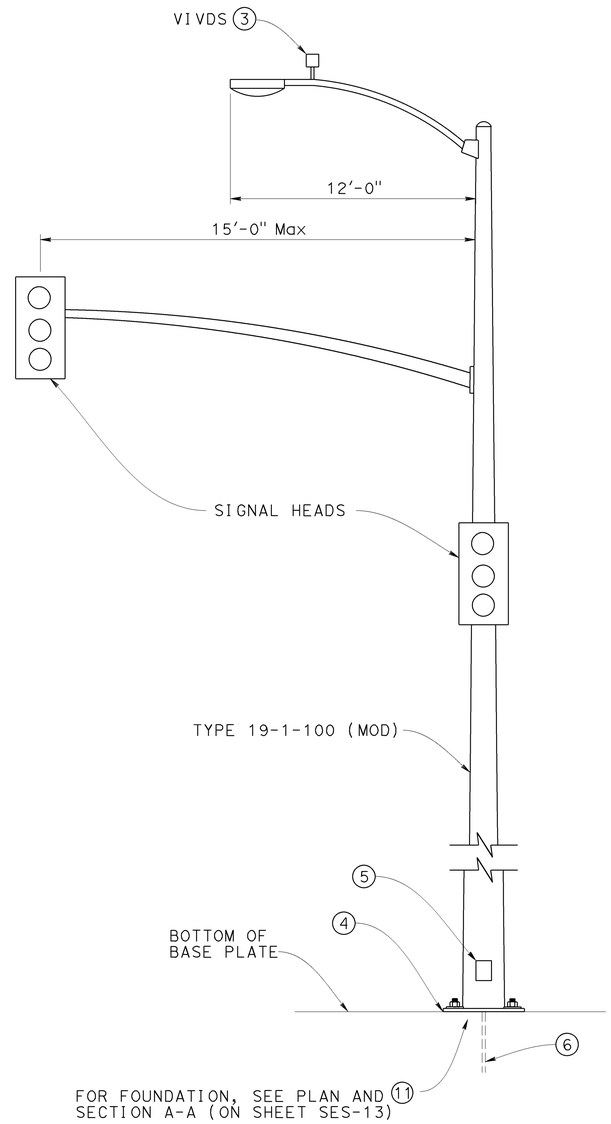
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8 R12.1/R17.7	1103	1273

REGISTERED CIVIL ENGINEER — 8-06-13 DATE

03-24-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
ANDREW BUI
No. C63560
Exp. 9/30/14
CIVIL
STATE OF CALIFORNIA



TYPE 19-1-100 (MOD)

(FOR LOCATION, SEE (7))

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NOTES:

(1) Type 19-1-100 (MOD) shall conform to 2010 Standard Plan ES-7C (foundation excluded).

(2) Type 19-1-100 (MOD) shall have a maximum of two 3-section heads and 2-ped heads mounted to the pole and one 3-section signal head mounted on the signal arm. (2-ped heads not shown)

(3) For VIVDS details, see sheet SES-14.

(4) No grout required.

(5) For Handhole details, see 2010 Standard Plan ES-7M.

(6) For wiring connection details, See Electrical Plans.

(7) Pole Location:
-Rte 76 and old Hwy 395 (loc.4)

(8) For details not shown, see 2010 Standard Plans and 2010 Revised Standard Plans.

(9) All steel shall be galvanized after fabrication.

(10) During pole installation the post shall be raked as necessary with the use of leveling nuts to provide a plumb pole axis.

(11) The foundation shall be on level ground with slope inclination Max 4:1 (Horizontal : Vertical).

(12) Design Specification: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 2001.

(13) Wind Loadings: 100 mph (3-second gust)

(14) Unit Stresses (Structural Steel):
a. fy = 55,000 psi (tapered steeltube)
b. fy = 50,000 psi (unless otherwise noted)

(15) Anchor bolts: fy = 55,000 psi

(16) Threaded rod: fy = 55,000 psi

(17) Unit Stresses (Reinforced Concrete):
a. minor concrete
b. fy = 60,000 psi (rebar)

NO SCALE

BRANCH CHIEF DAVID A. NEUMANN

	BY	CHECKED
DESIGN	A HOUGH	JOEL MAGANA
DETAILS	SHUMEI JIANG	A HOUGH
QUANTITIES	X	X

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.
POST MILE R46.2/R46.8 R12.1/R17.7

SIGNAL AND LIGHTING (STAGE CONSTRUCTION) LOCATION 4
MODIFIED SIGNAL AND LIGHTING TEMPORARY POLE DETAILS

SES-12

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 1100020489-1 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 5-30-13 | 6-13-13 | 7-25-13

SHEET 12 OF 14

FILE => ea-11-257151_ses-sheet12.dgn

USERNAME => s1132428 DATE PLOTTED => 06-AUG-2013 TIME PLOTTED => 10:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8 R12.1/R17.7	1104	1273

REGISTERED CIVIL ENGINEER — 8-06-13 DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ANDREW BUI No. C63560 Exp. 9/30/14 CIVIL — STATE OF CALIFORNIA

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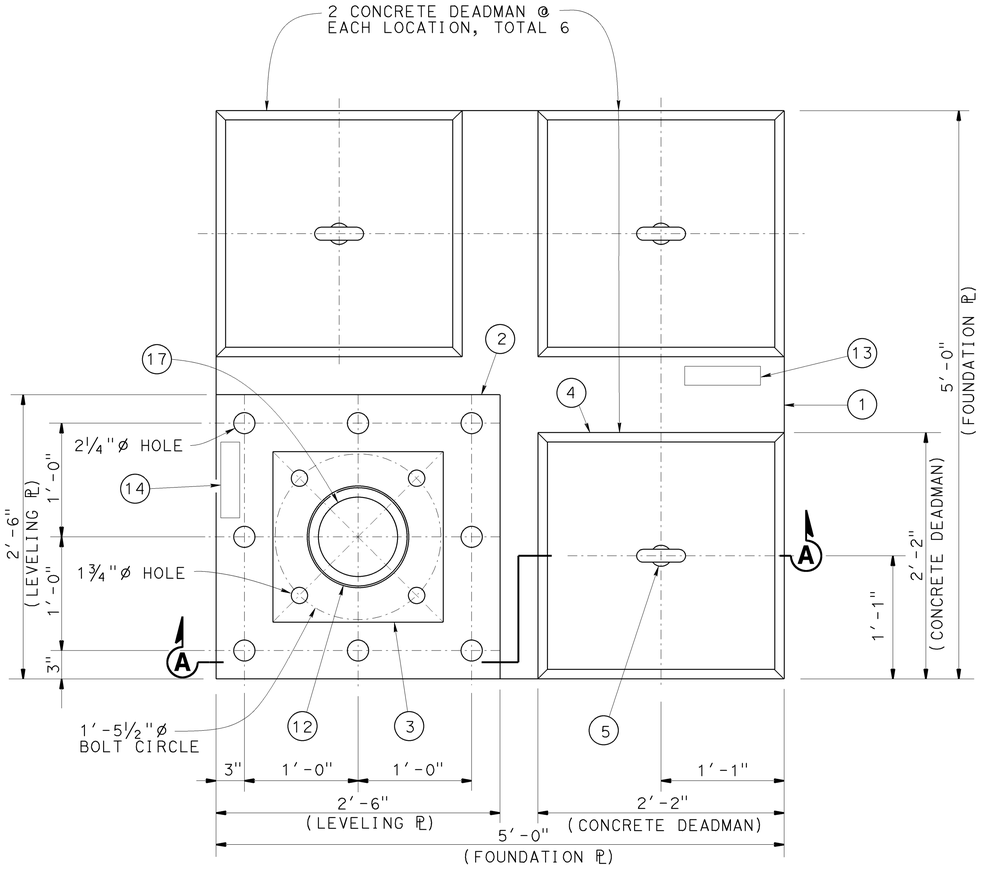
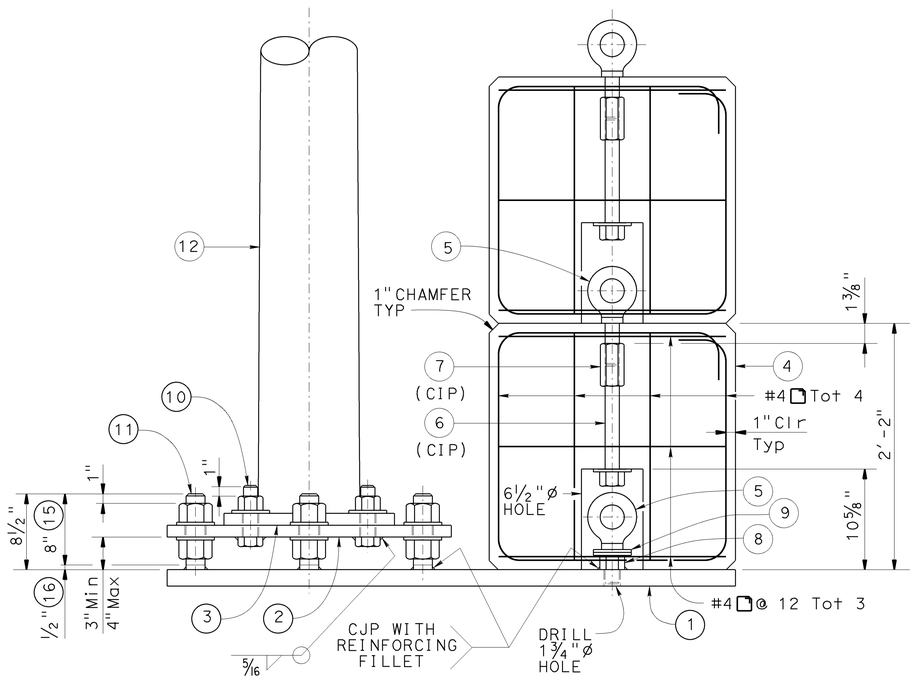


PLAN



SECTION A-A

NOTES:

1. Foundation ℄ 1¾" X 5'-0" X 5'-0"
2. Leveling ℄ 1¼" X 2'-6" X 2'-6"
3. Base ℄ 1¼" X 1'-6" X 1'-6"
4. Concrete Deadman 2'-2" X 2'-2" X 2'-2"
5. 1½"* Forged eyebolt with 3⅝" shank
6. 1½"* X 12" Heavy hex bolt with 4"* X 5/16" thick washer (CIP)
7. 1½"* Hex coupling nut (CIP)
8. 1½"* Heavy hex nut
9. 1½"* X 5/16" thick washer total (2) each location.
10. 1½"* Heavy hex bolt with nut and 4"* X 5/16" thick washers
11. 2"* X 8½" Threaded rod with (2) heavy hex nuts and (2) 4"* X 5/16" thick washer
12. Type 19-1-100 (MOD) Pole
13. Stamp Foundation ℄ with "Lift ℄ with minimum of (2) forged eyebolts".
14. Stamp Leveling ℄ with "℄ for Type 19-1-100 (MOD) pole".
15. Threaded rod
16. Non-Threaded Rod
17. Hole in Leveling ℄ to be same size as hole in Base ℄.

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NO SCALE

BRANCH CHIEF DAVID A. NEUMANN

	BY	CHECKED
DESIGN	A HOUGH	JOEL MAGANA
DETAILS	SHUMEI JIANG	A HOUGH
QUANTITIES	X	X

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.
POST MILE R46.2/R46.8 R12.1/R17.7

SIGNAL AND LIGHTING (STAGE CONSTRUCTION) LOCATION 4

MODIFIED SIGNAL AND LIGHTING TEMPORARY POLE DETAILS

SES-13

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 1100020489-1 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
5-30-13	6-13-13	7-25-13		13	14

FILE => ea-11-257151_ses-sheet13.dgn

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8 R12.1/R17.7	1105	1273

REGISTERED CIVIL ENGINEER — 8-06-13 DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — ANDREW BUI — No. C63560 — Exp. 9/30/14 — CIVIL — STATE OF CALIFORNIA

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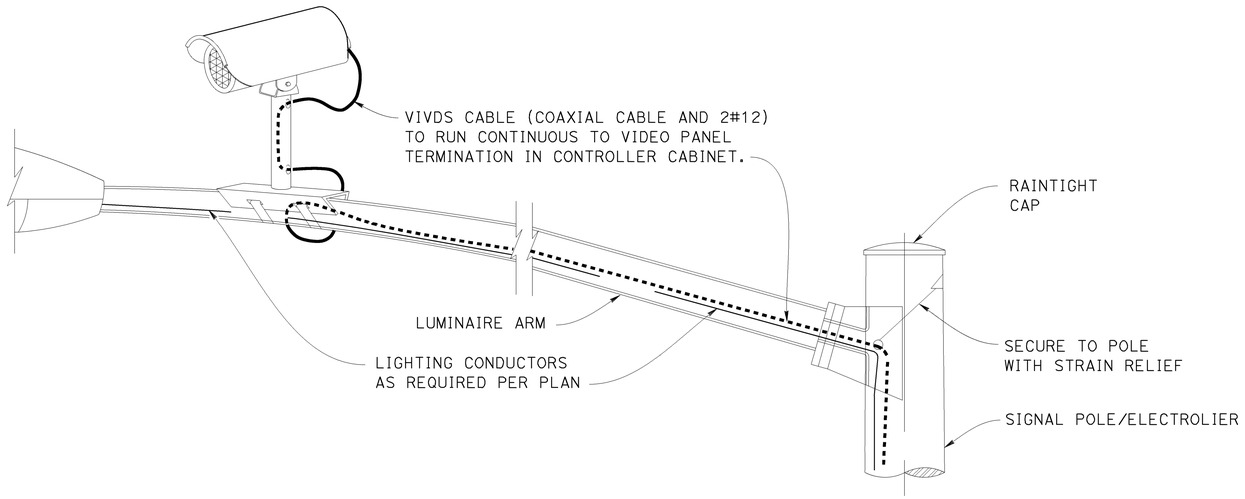
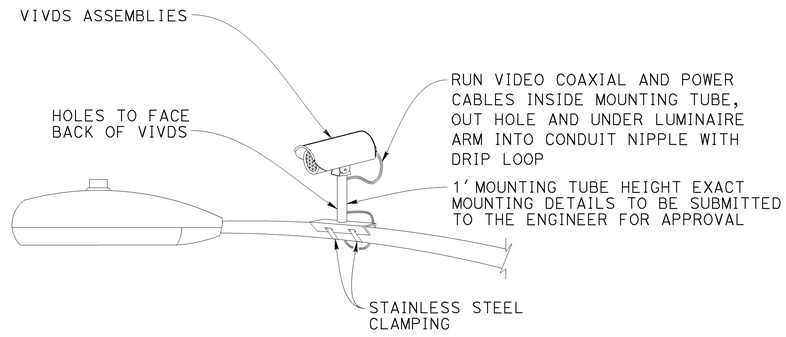
NOTES:

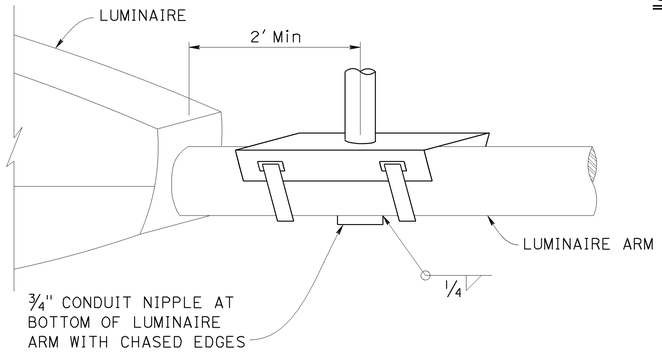
1. All metallic conduits, bolts straps and misc hardware shall be galvanized.
2. Elements (total VIVDS assembly) shall have a maximum weight of 10 lbs and a maximum effective pressure area of 1 square foot.
3. Maximum of 2 VIVDS elements added per traffic signal structure. Maximum of 1 element per arm (lighting arm or traffic signal arm).
4. This detail applies only for steel luminaire arms on newly installed and temporary poles designated according to Caltrans Standard Plans.





CAMERA MOUNTING DETAILS

NO SCALE



DETAIL A

NO SCALE

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

NO SCALE

DESIGN	BY A. BUI	CHECKED A. HOUGH	
DETAILS	BY SHUMEI JIANG	CHECKED A. BUI	
QUANTITIES	BY X	CHECKED X	

BRANCH CHIEF DAVID A. NEUMANN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.
POST MILE R46.2/R46.8 R12.1/R17.7

SIGNAL AND LIGHTING (STAGE CONSTRUCTION) LOCATION 4

SIGNAL AND LIGHTING SYSTEM

SES-14

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 1100020489-1 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

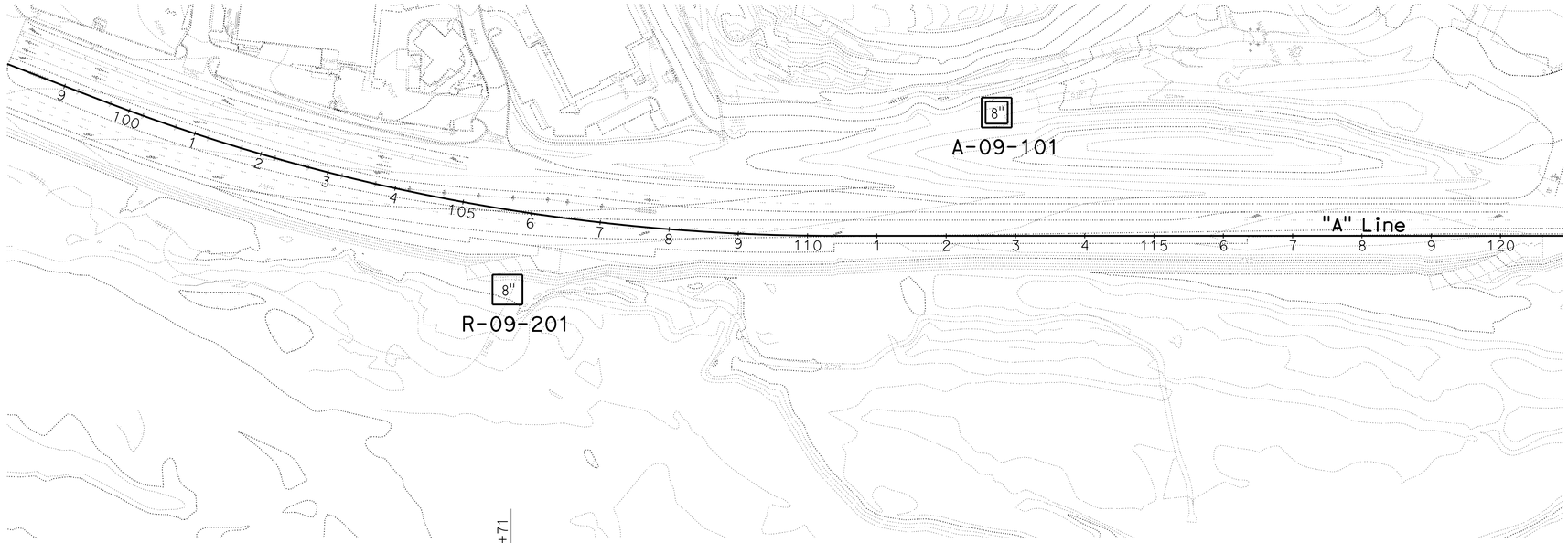
REVISION DATES: 6-25-13 | 7-25-13

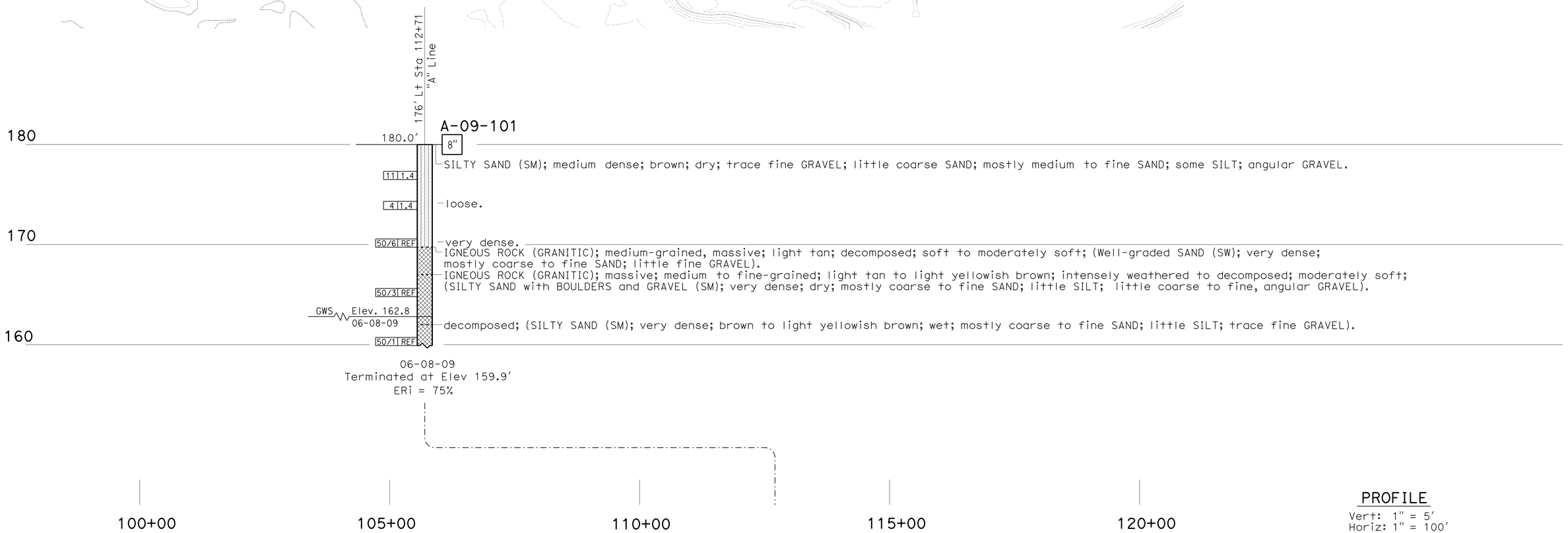
SHEET 14 OF 14

FILE => ea-11-257151_ses-sheet14.dgn

USERNAME => s132428 DATE PLOTTED => 06-AUG-2013 TIME PLOTTED => 10:23

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.





PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1106	1273

REGISTERED CIVIL ENGINEER — DATE 10-29-13

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition), with the exception of the Boring designation numbers. See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

PLAN
1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:			POST MILE	LOG OF TEST BORINGS UL-1
NAME:	CHECKED BY:	J. MUNN				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	1	44

FILE => 1100020489ul001.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered but elevation was not measured.
3. Boulders were encountered in the subsurface.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1107	1273

REGISTERED CIVIL ENGINEER — 10-29-13 DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOSH STONE — No. 60755 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition), with the exception of the Boring designation numbers. See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

SEE "LOG OF TEST BORING" SHEET UL-1 FOR PLAN VIEW

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR / NAME:	DRAWN BY: Y. LIU / CHECKED BY:	FIELD INVESTIGATION BY: J. MUNN	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-2

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	2	44

FILE => 1100020489ul002.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-104.
3. Boulders encoutered in the subsurface.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1108	1273

REGISTERED CIVIL ENGINEER — DATE 10-29-13

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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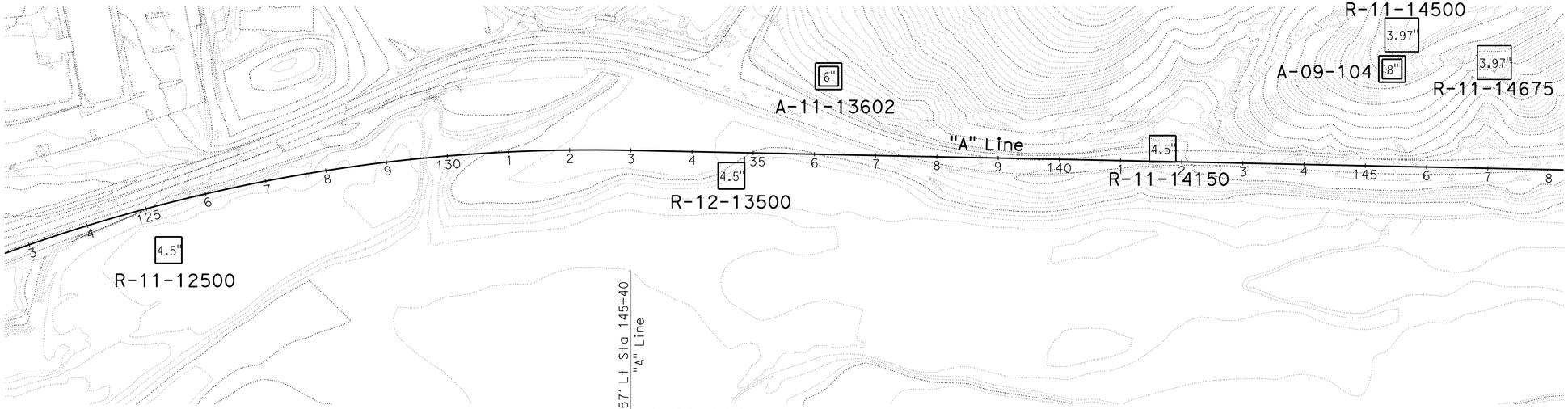
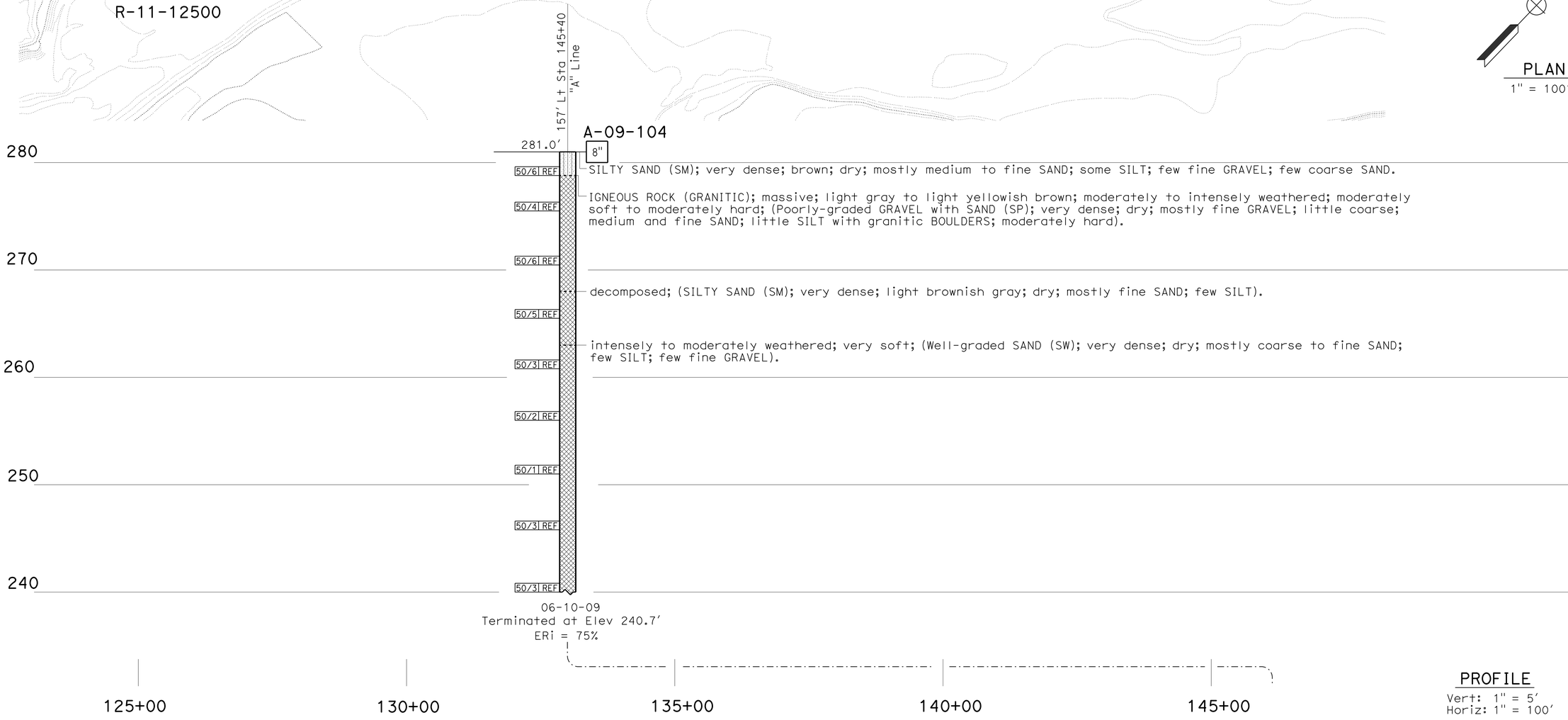


PLAN
1" = 100'



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-3
NAME:	CHECKED BY:	J. MUNN				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	3	44

FILE => 1100020489ul003.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings R-11-12500 and R-11-14150 but elevations were not measured.
3. No ground water was encountered in Boring A11-13602.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1109	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

Ziaullah Yazdani No. 2119 Exp. 03-31-15 REGISTERED PROFESSIONAL ENGINEER GEOTECHNICAL STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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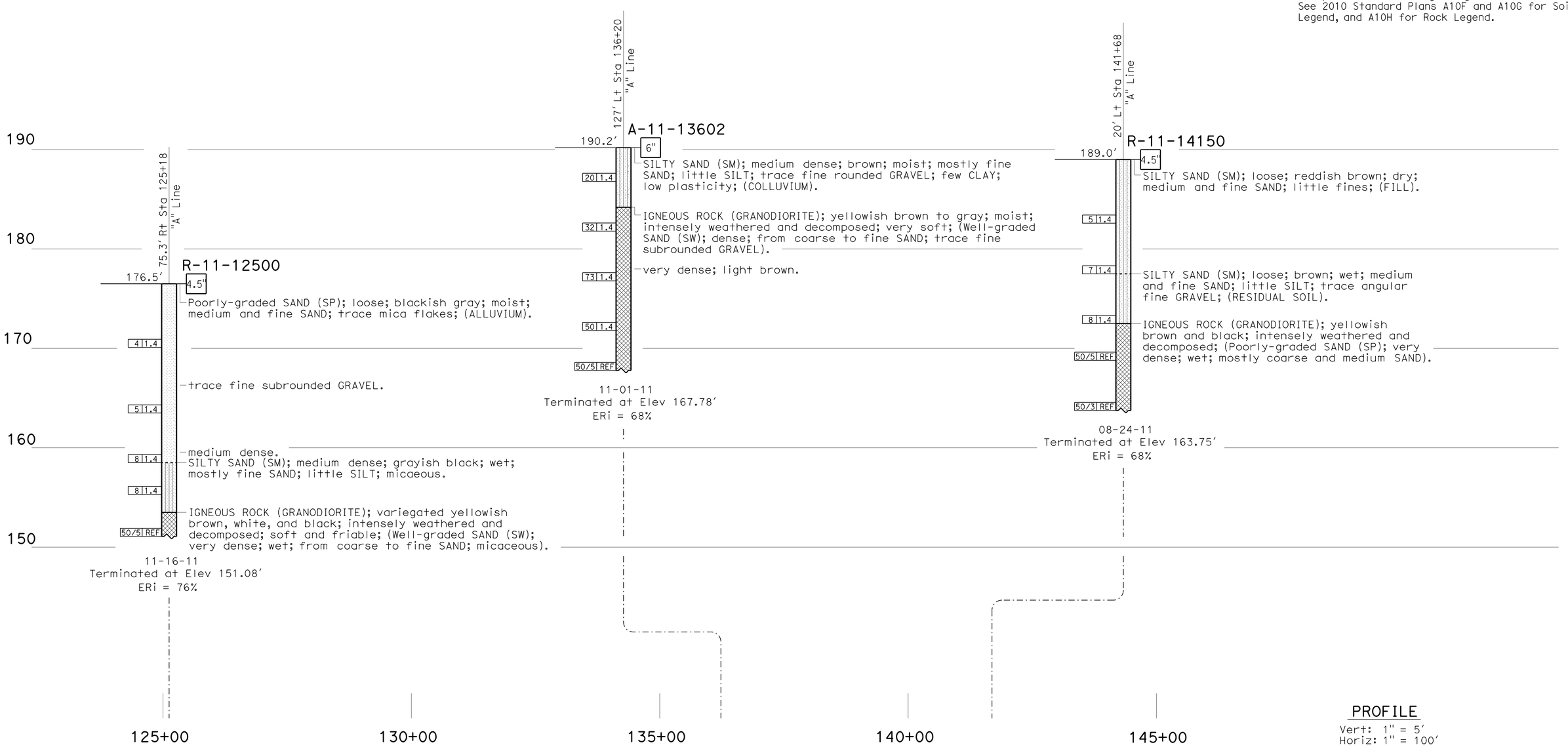
SEE "LOG OF TEST BORING" SHEET UL-3 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-4
NAME: B. HINMAN	CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.:11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	4	44

FILE => 11000204891ul004.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. 1* : RQD = 0, core does not meet soundess criteria.
3. No ground water was encountered in Borings RC-11-14500 and RC-11-14675.
4. FRACTURE GROUPS
   F1: 0≤DIP≤12
   F2: 12≤DIP≤33
   F3: 33≤DIP≤60
   F4: 40≤DIP≤60
   F5: 60≤DIP≤80
   F6: 80≤DIP≤90

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1110	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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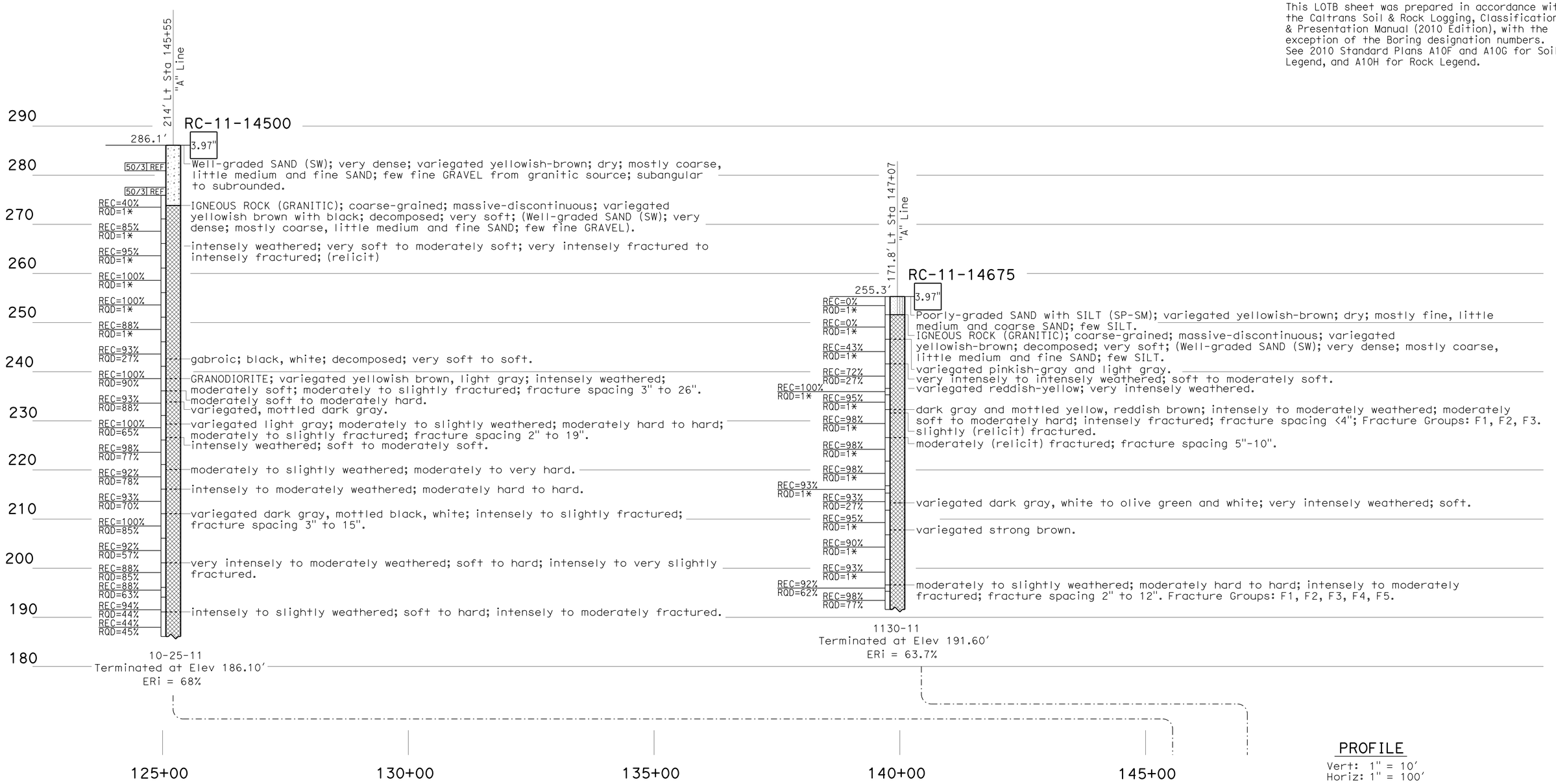
SEE "LOG OF TEST BORING" SHEET UL-3 FOR PLAN VIEW



PROFILE
Vert: 1" = 10'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH		LOG OF TEST BORINGS UL-5
NAME: B. HINMAN	CHECKED BY: Z. YAZDANI	FIELD INVESTIGATION BY: J. KERMODE		POST MILE	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-11-13	5	44

FILE => 1100020489ul005.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring R-12-13500 but elevation was not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1111	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Ziaullah Yazdani
No. 2119
Exp. 03-31-15
GEOTECHNICAL
STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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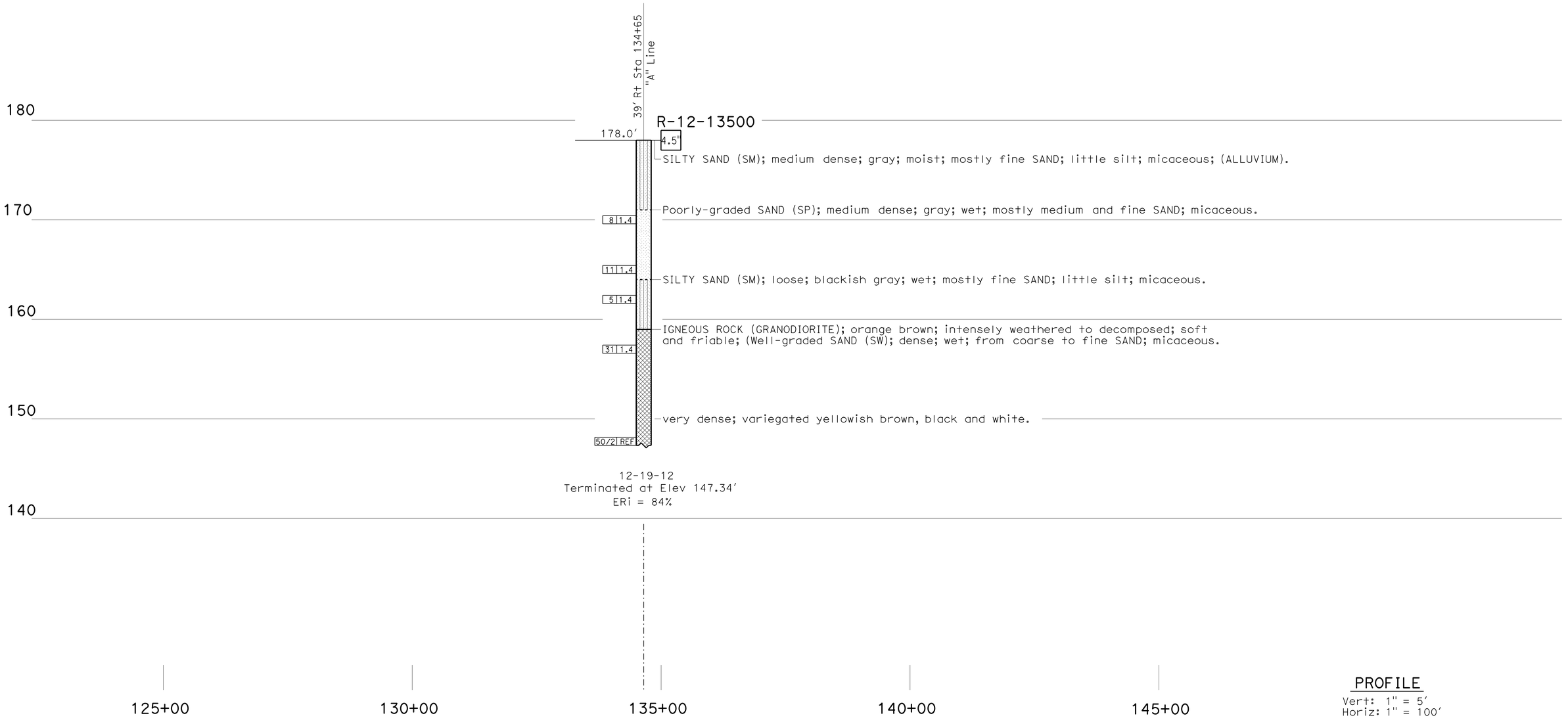
SEE "LOG OF TEST BORING" SHEET UL-3 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU				LOG OF TEST BORINGS UL-6
NAME: B. HINMAN	CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA		POST MILE	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	6	44

FILE => 1100020489ul006.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-105.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1112	1273

REGISTERED CIVIL ENGINEER — DATE 10-29-13

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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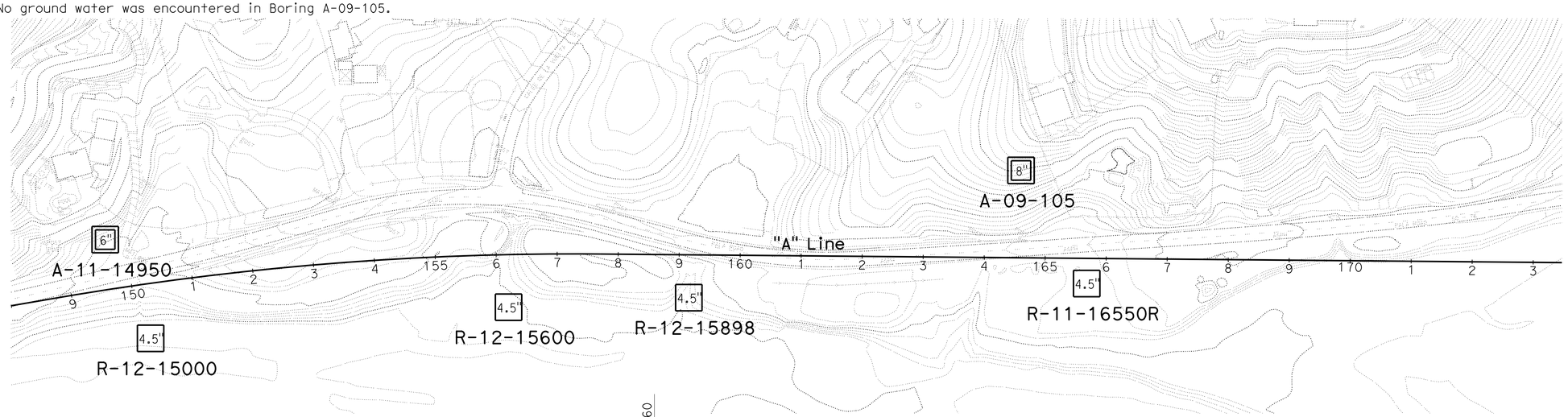
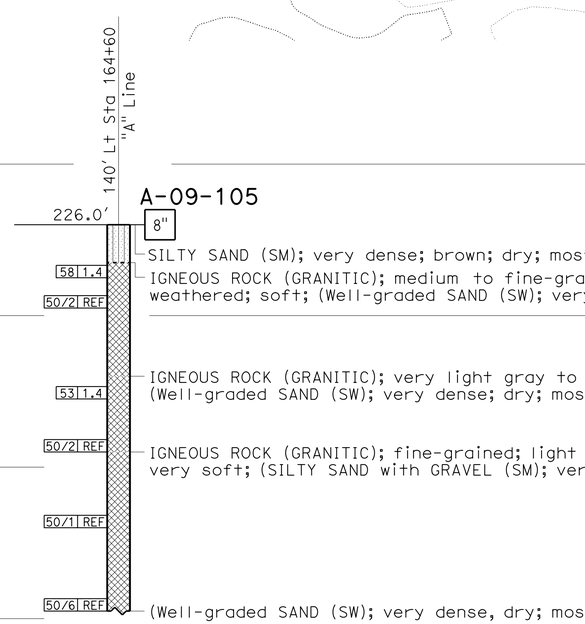


PLAN
1" = 100'



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-7
NAME:	CHECKED BY:	J. MUNN			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	7	44

FILE => 1100020489ul007.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings R-12-15000 and R-12-15600 but elevations were not measured.
3. No ground water was encountered in Boring A11-14950.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1113	1273

Lia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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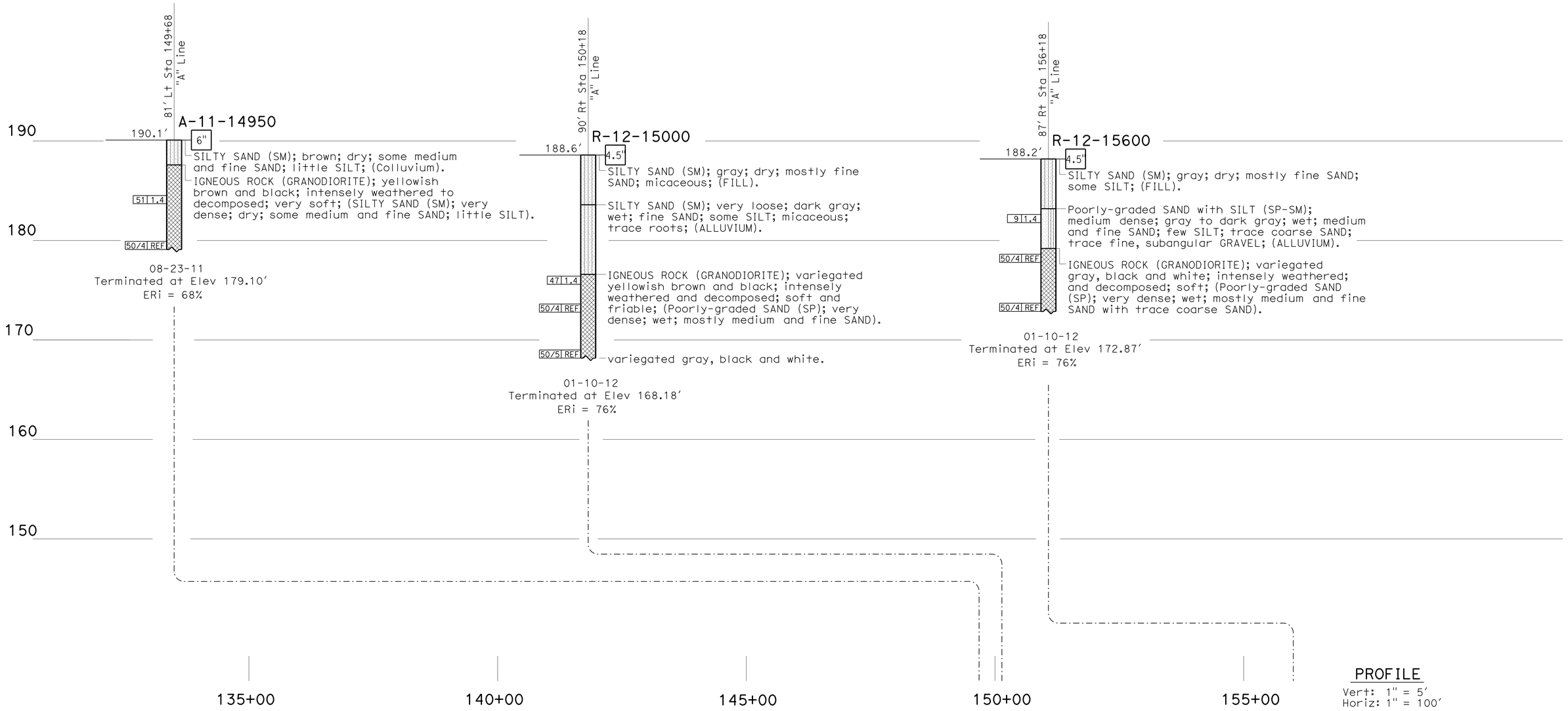
SEE "LOG OF TEST BORING" SHEET UL-7 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR: NAME: B. HINMAN	DRAWN BY: Y. LIU; CHECKED BY: J. KERMODE; FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-8

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	8	44

FILE => 1100020489ul008.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring R-12-15898 but elevation was not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1114	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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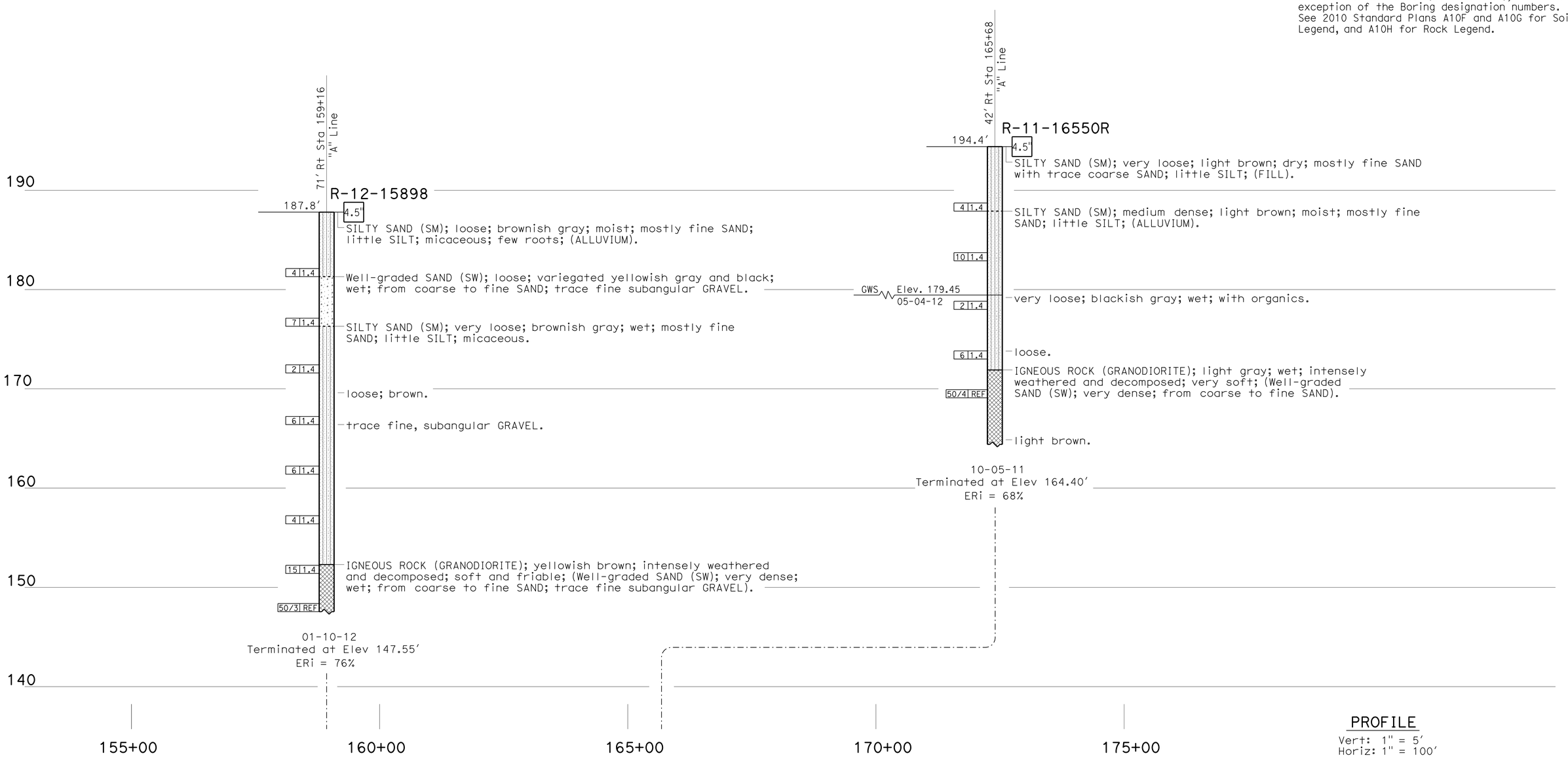
SEE "LOG OF TEST BORING" SHEET UL-7 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH		LOG OF TEST BORINGS UL-9
NAME: B. HINMAN	CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA		POST MILE	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	9	44

FILE => 1100020489ul009.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-107.
3. Boulders encountered in the subsurface.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1115	1273

REGISTERED CIVIL ENGINEER — DATE 10-29-13

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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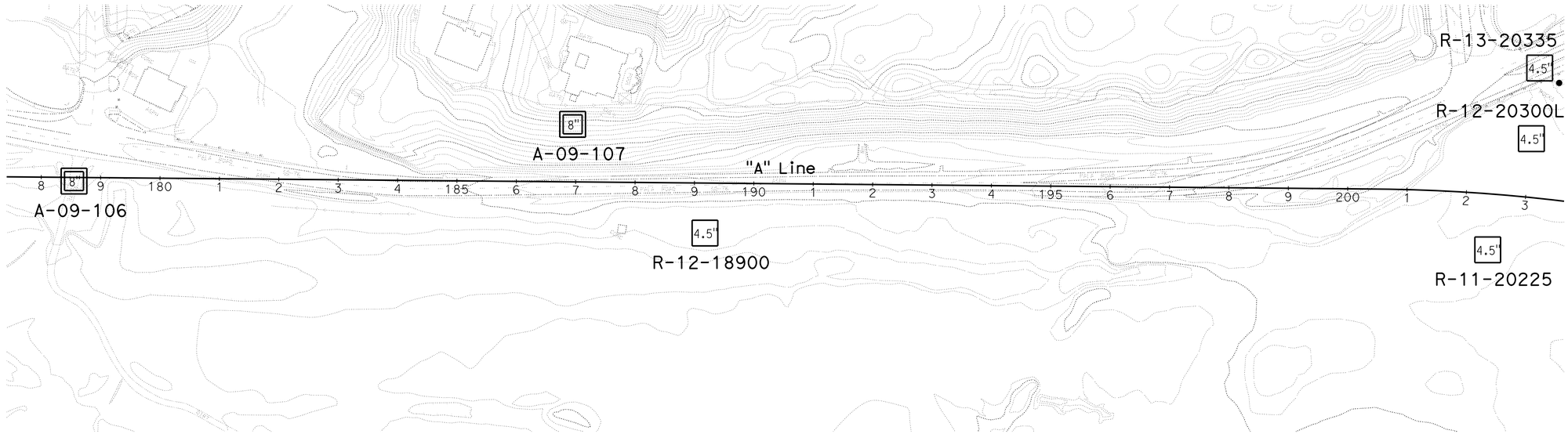
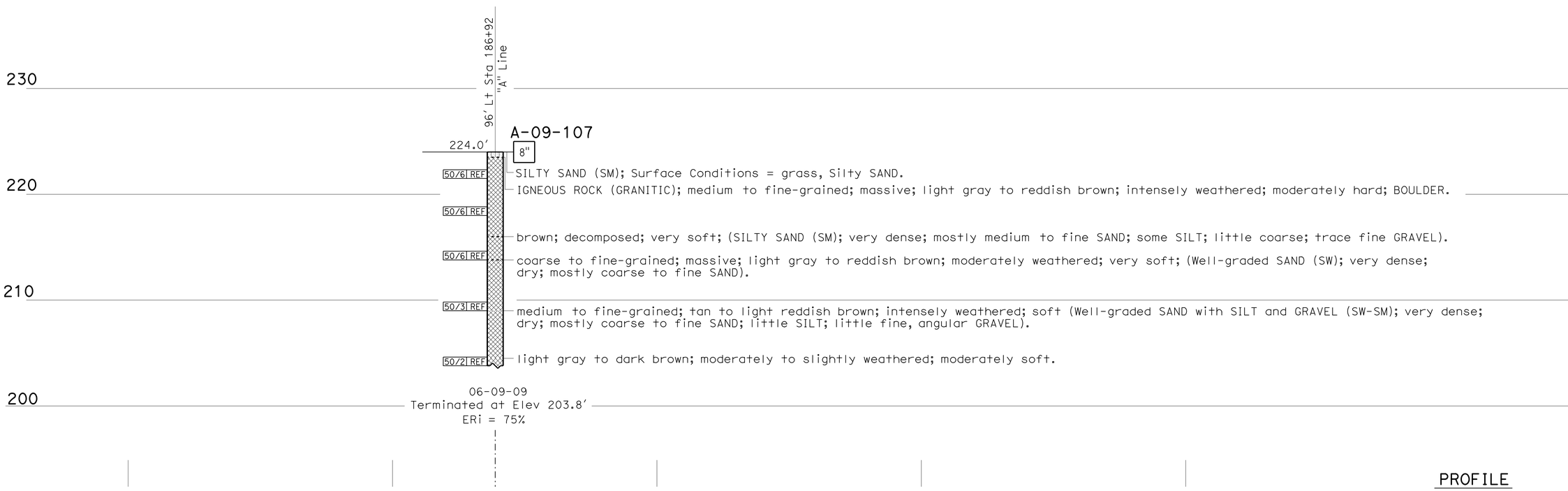


PLAN
1" = 100'



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-10
NAME:	CHECKED BY:	J. MUNN			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	10	44

FILE => 1100020489ul010.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1116	1273

REGISTERED CIVIL ENGINEER — 10-29-13 DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — JOSH STONE — No. 60755 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

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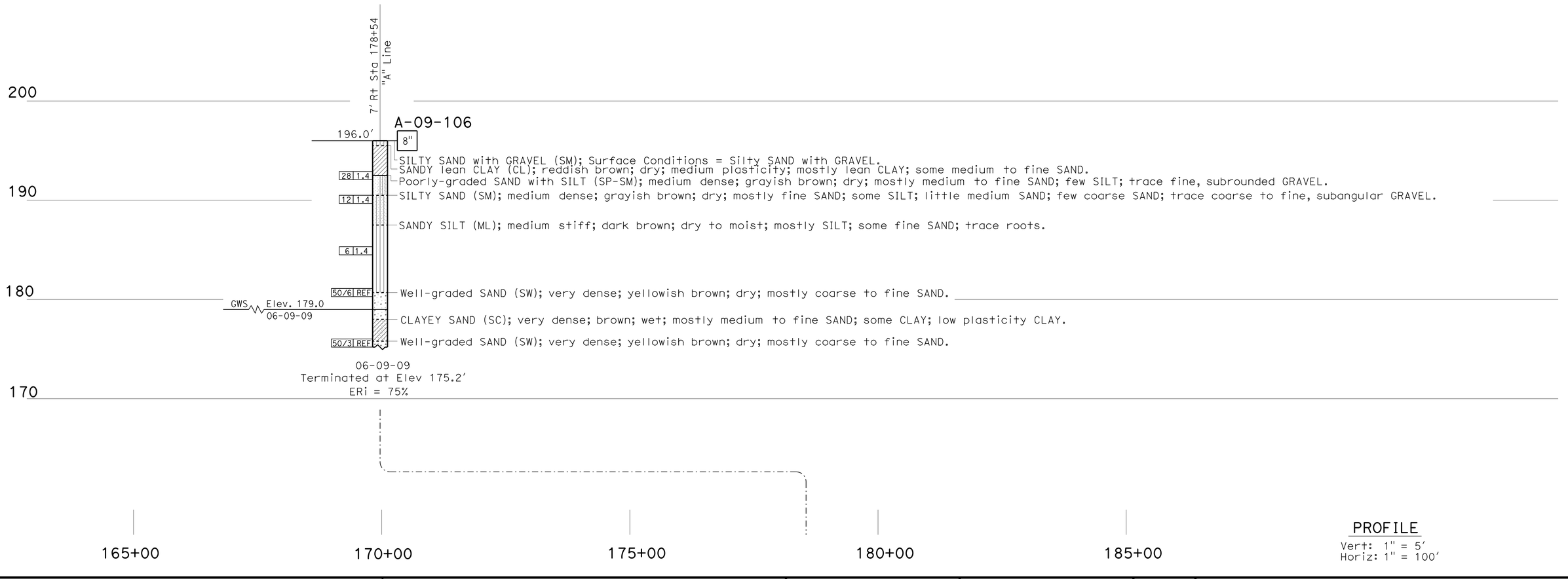
SEE "LOG OF TEST BORING" SHEET UL-10 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-11
NAME:	CHECKED BY:	J. MUNN			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.:11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	11	44

FILE => 1100020489ul011.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings R-12-18900 and R11-20225 but elevations were not measured.

SEE "LOG OF TEST BORING" SHEET UL-10 FOR PLAN VIEW

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1117	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
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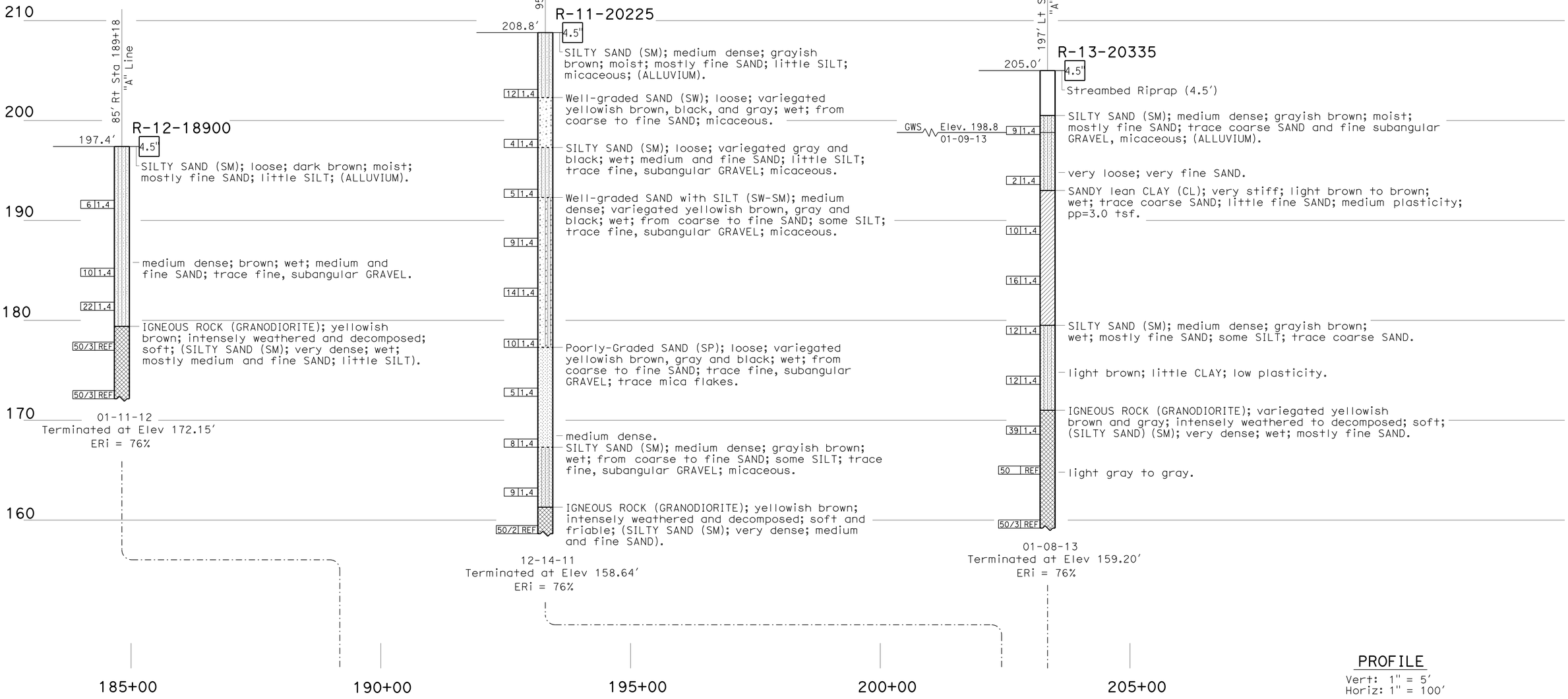

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-12
NAME: B. HINMAN	CHECKED BY: J. KERMODE	Z. YAZDANI/E. GALLETA				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.:11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	12	44

FILE => 1100020489ul012.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1118	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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SEE "LOG OF TEST BORING" SHEET UL-10 FOR PLAN VIEW

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR NAME: B. HINMAN	DRAWN BY: Y. LIU CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-13

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

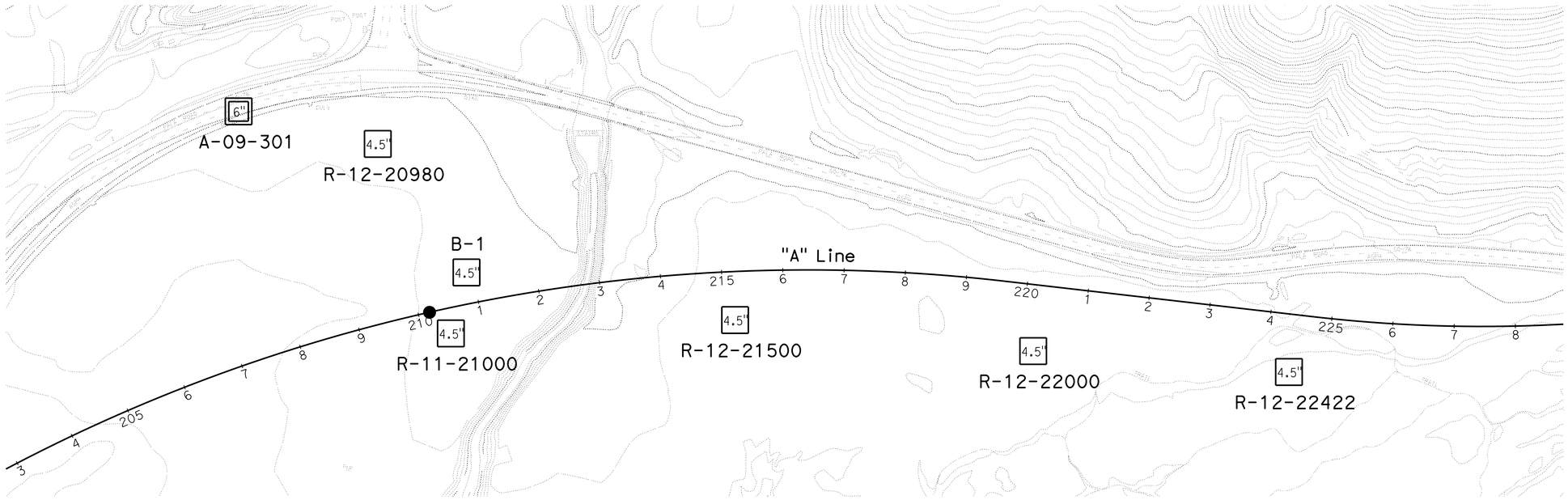
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	13	44

FILE => 1100020489ul013.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-301.



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1119	1273

REGISTERED CIVIL ENGINEER — DATE 10-29-13

REGISTERED PROFESSIONAL ENGINEER — JOSH STONE — No. 60755 — Exp. 12-31-14 — CIVIL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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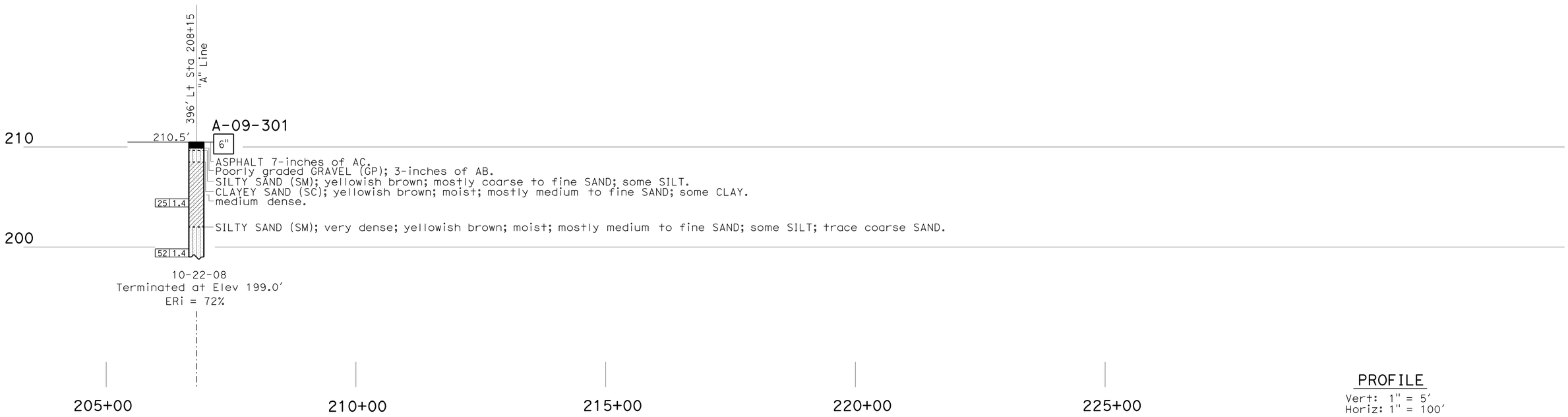
PLAN
1" = 100'



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-14
NAME:	CHECKED BY:	J. MUNN				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	14	44

FILE => 1100020489ul014.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings R-12-20980 and R-11-21000 but elevations were not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1120	1273

Ziaullah Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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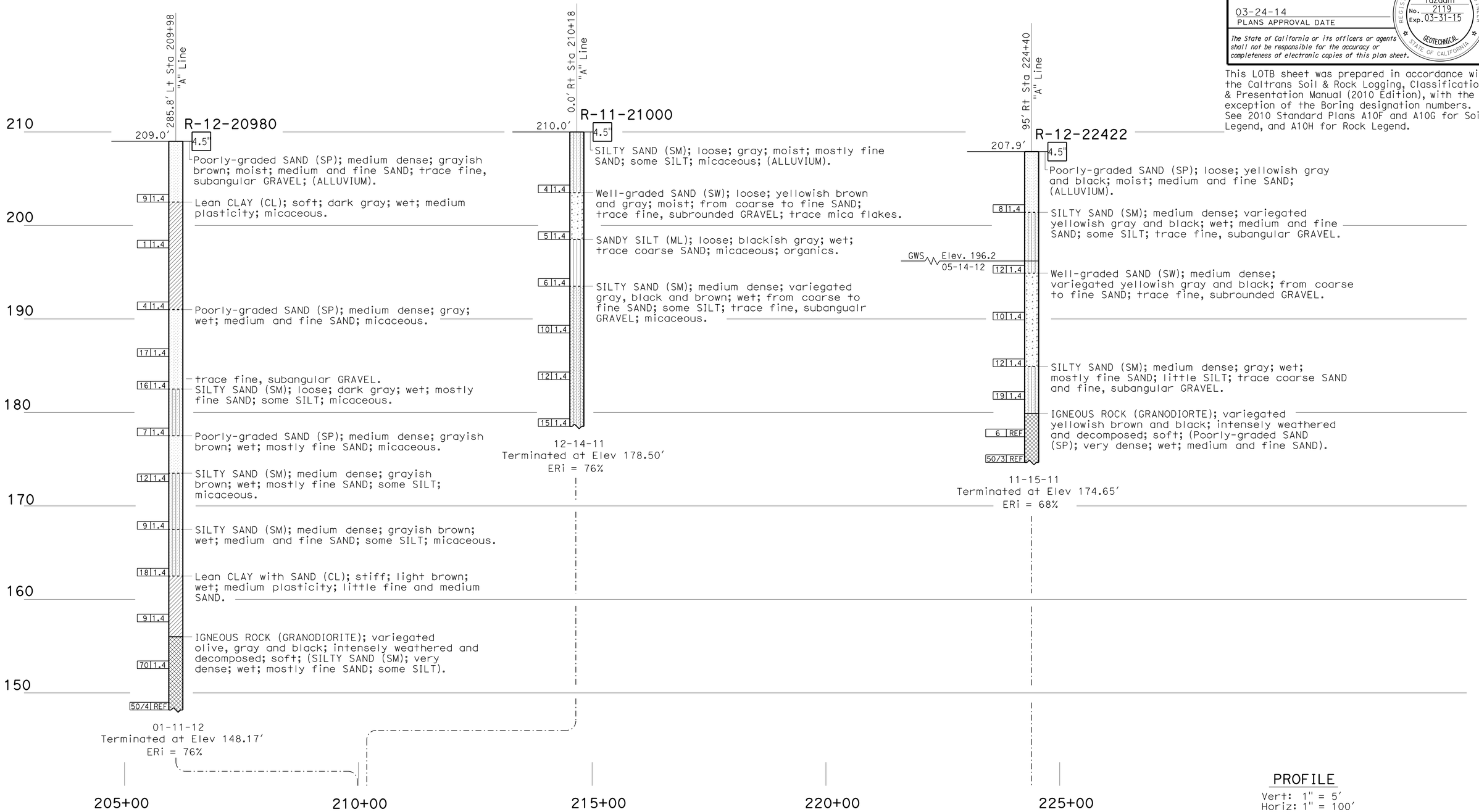
SEE "LOG OF TEST BORING" SHEET UL-14 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR NAME: B. HINMAN	DRAWN BY: Y. LIU CHECKED BY: J. KERMODE	DEPARTMENT OF TRANSPORTATION	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-15
	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.:11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-11-13	15	44

FILE => 1100020489ul015.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring R-12-2200 but elevation was not measured.

SEE "LOG OF TEST BORING" SHEET UL-14 FOR PLAN VIEW

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1121	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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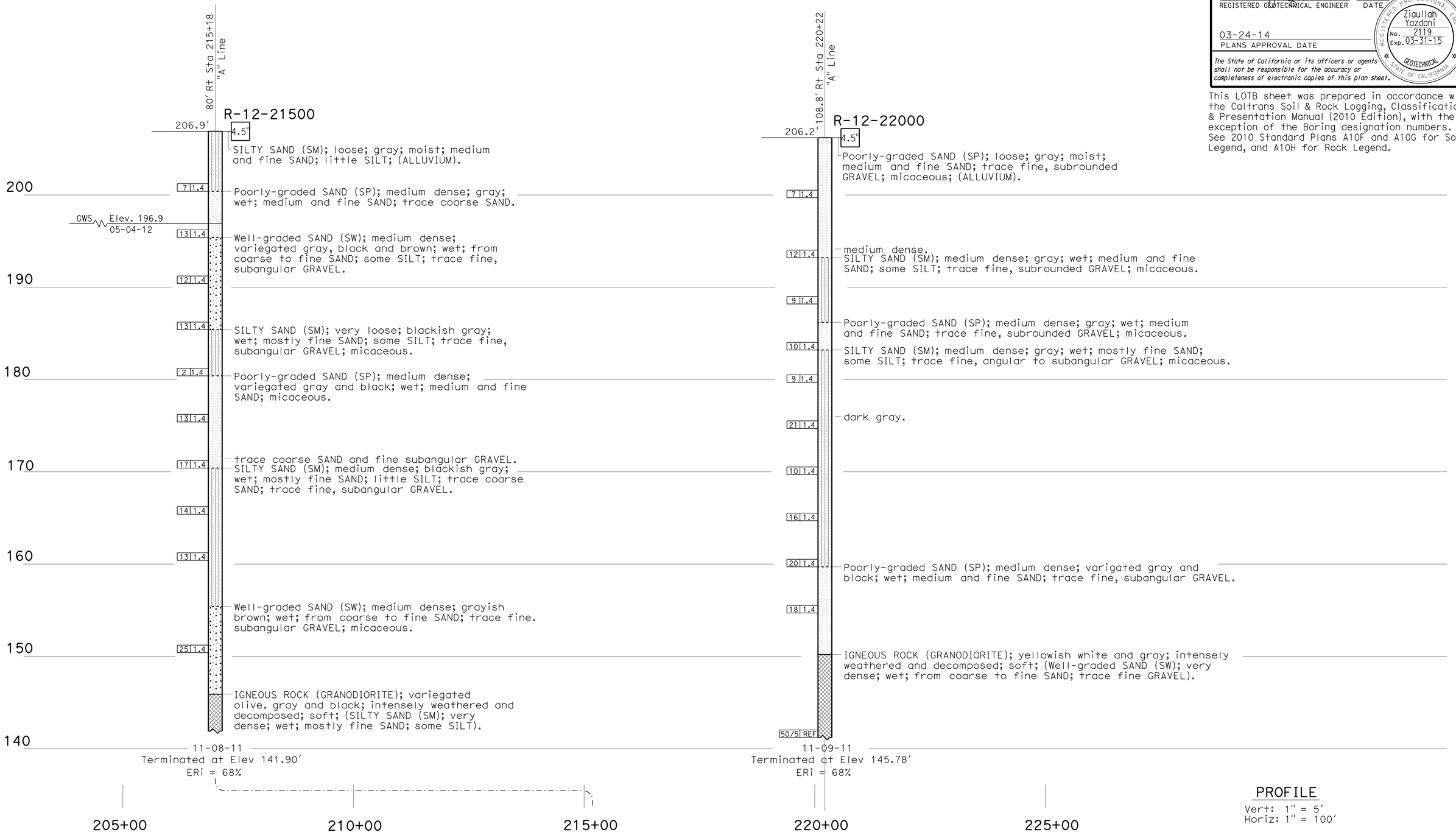

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-16
NAME: B. HINMAN	CHECKED BY: J. KERMODE	Z. YAZDANI/E. GALLETA				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.:11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	16	44

FILE => 11000204891ul016.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Boring developed by Geocon for Rainbow Municipal Water Sewer Line Project; observed by Caltrans Office of Geotechnical Design South II.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1122	1273

Lia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — MARK BUSH — No. 60477 — Exp. 06-30-14 — CIVIL — STATE OF CALIFORNIA

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SEE "LOG OF TEST BORING" SHEET UL-14 FOR PLAN VIEW

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-17
NAME:	CHECKED BY:	L. RODRIGUEZ				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	17	44

FILE => 1100020489ul017.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:

1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-109.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1123	1273

REGISTERED CIVIL ENGINEER — 10-29-13 DATE

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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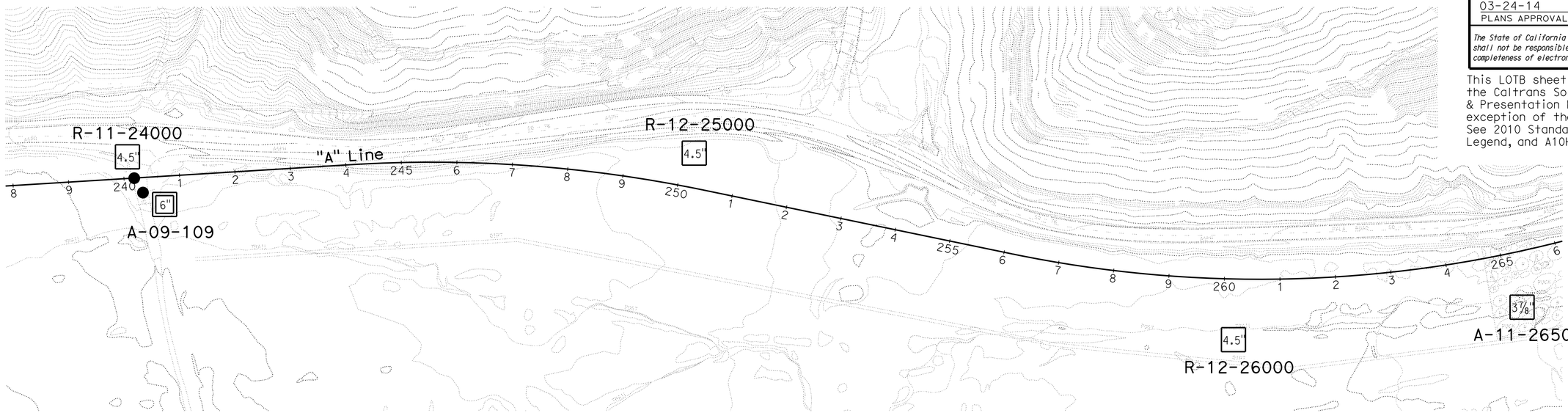

PLAN
1" = 100'

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:			DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-18
NAME:	CHECKED BY:	J. MUNN					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	18	44

FILE => 1100020489ul018.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings R-11-24000 and R-12-25000 but elevations were not measured.

SEE "LOG OF TEST BORING" SHEET UL-18 FOR PLAN VIEW

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1124	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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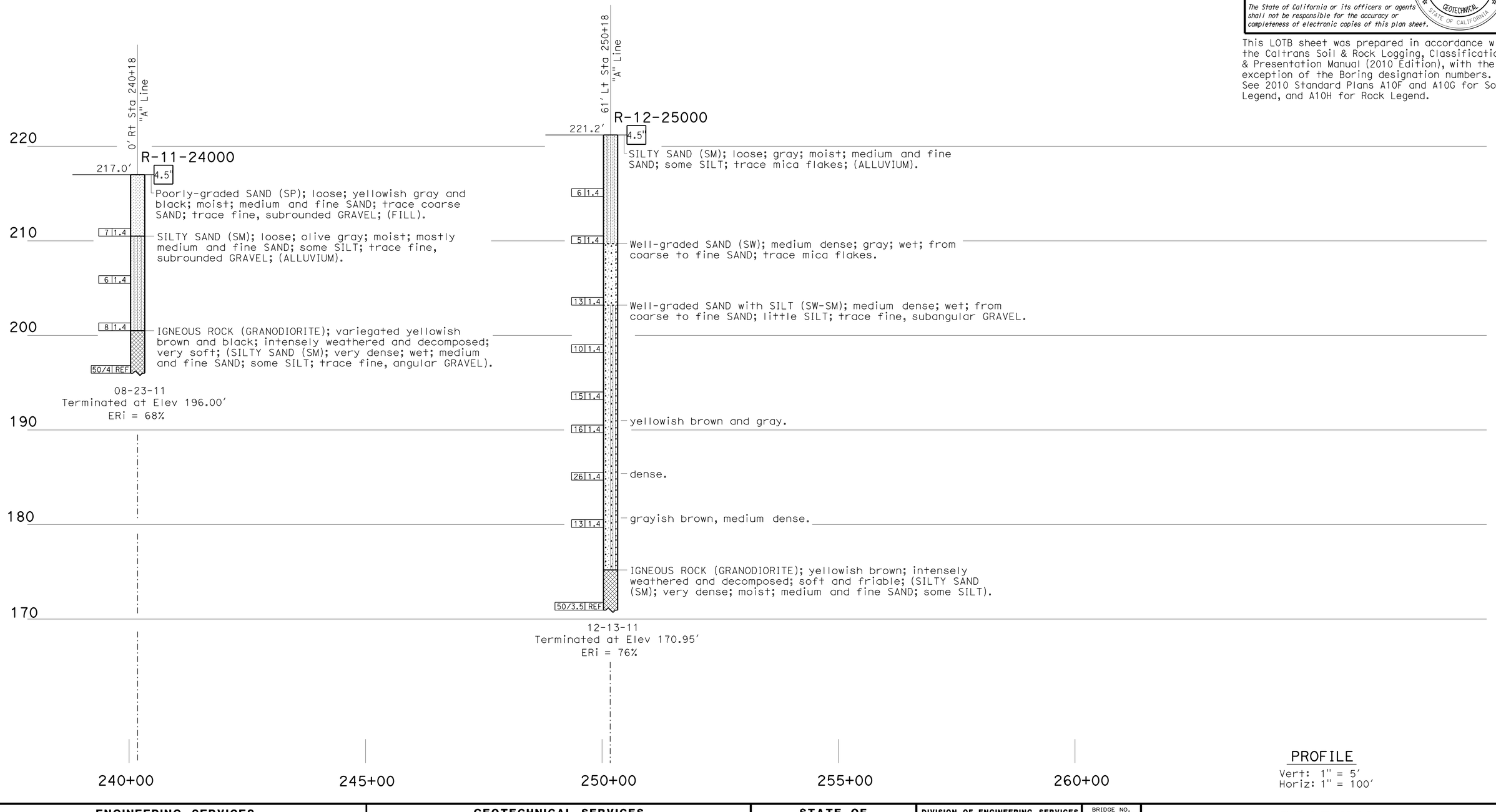

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-19
NAME: B. HINMAN	CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-11-13	19	44

FILE => 1100020489ul019.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring A-11-26500 but elevation was not measured.

SEE "LOG OF TEST BORING" SHEET UL-18 FOR PLAN VIEW

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1125	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

Ziaullah Yazdani No. 2119 Exp. 03-31-15 REGISTERED PROFESSIONAL ENGINEER GEOTECHNICAL STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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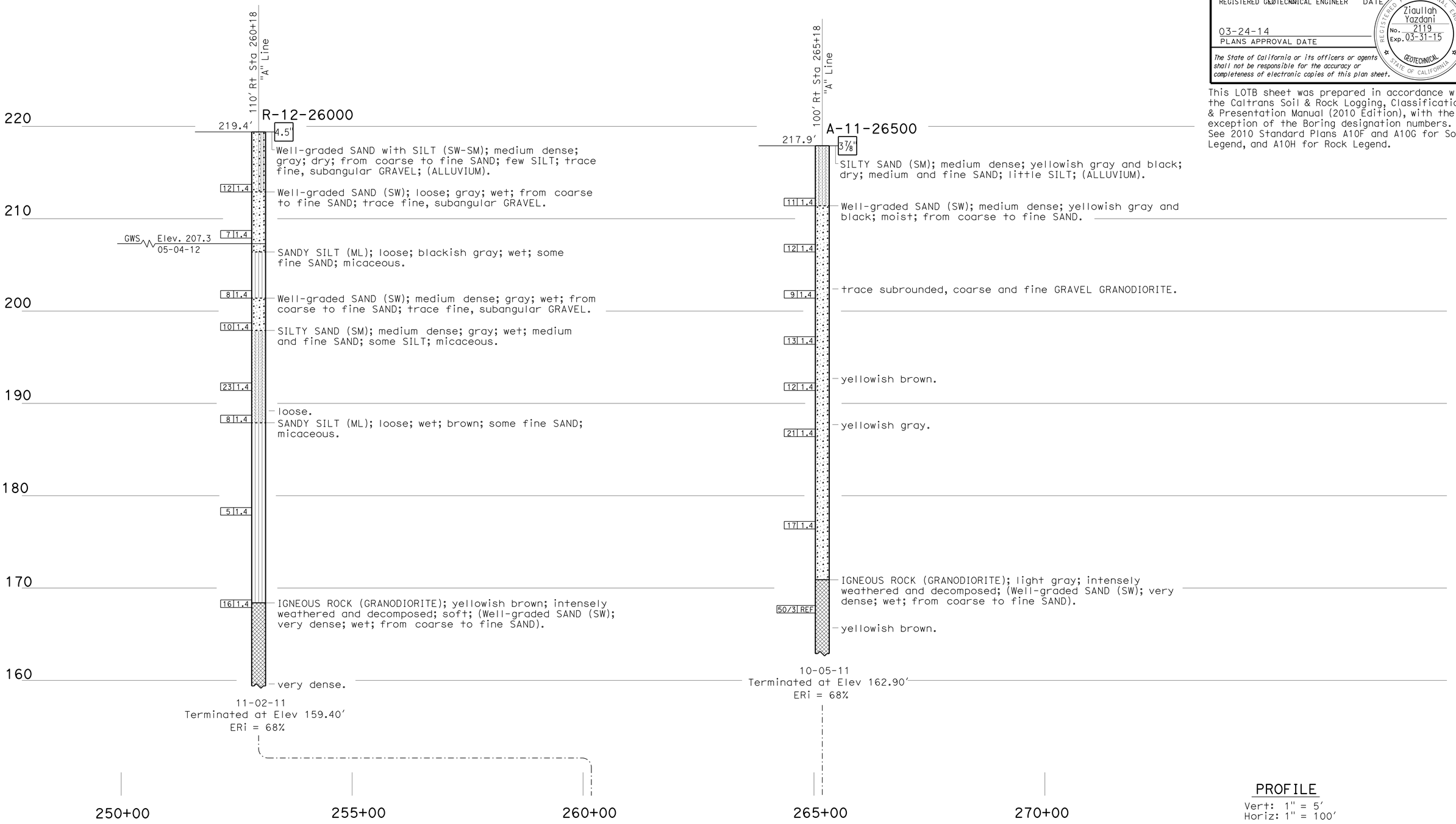

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-20
NAME: B. HINMAN	CHECKED BY: J. KERMODE	Z. YAZDANI/E. GALLETA				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	20	44

FILE => 1100020489ul020.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-302.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1126	1273

REGISTERED CIVIL ENGINEER — 10-29-13 DATE

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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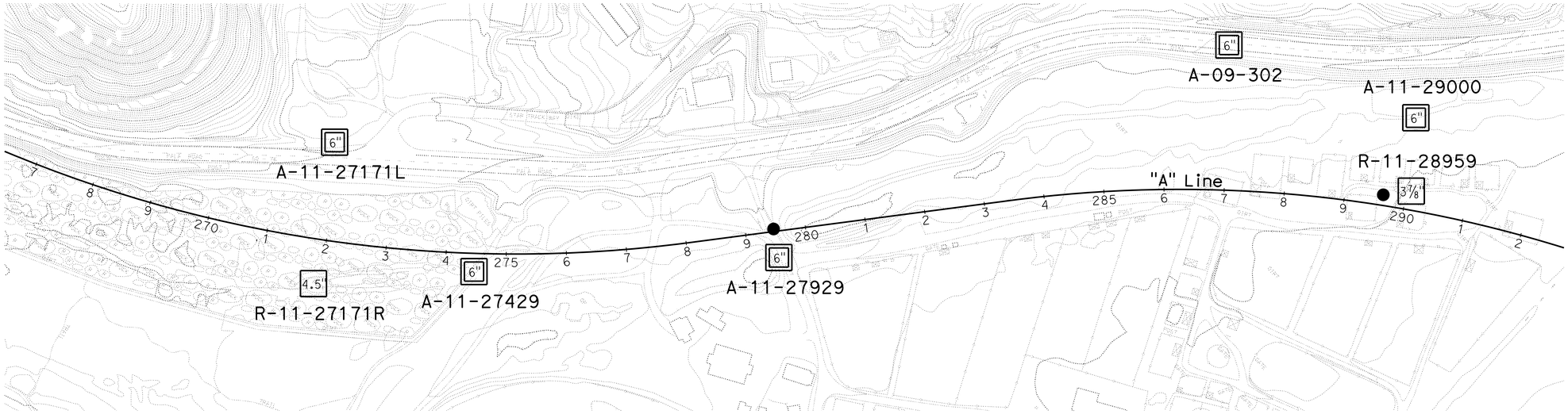
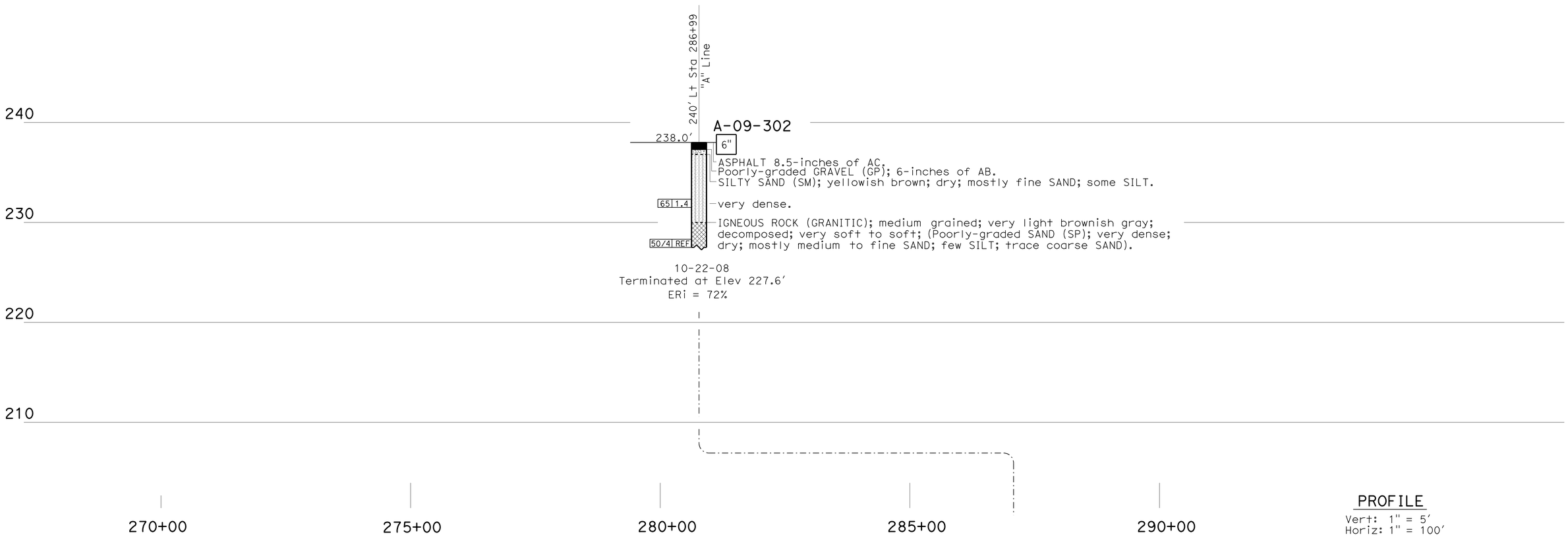


PLAN
1" = 100'



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-21
NAME:	CHECKED BY:	J. MUNN			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	21	44

FILE => 1100020489ul021.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1127	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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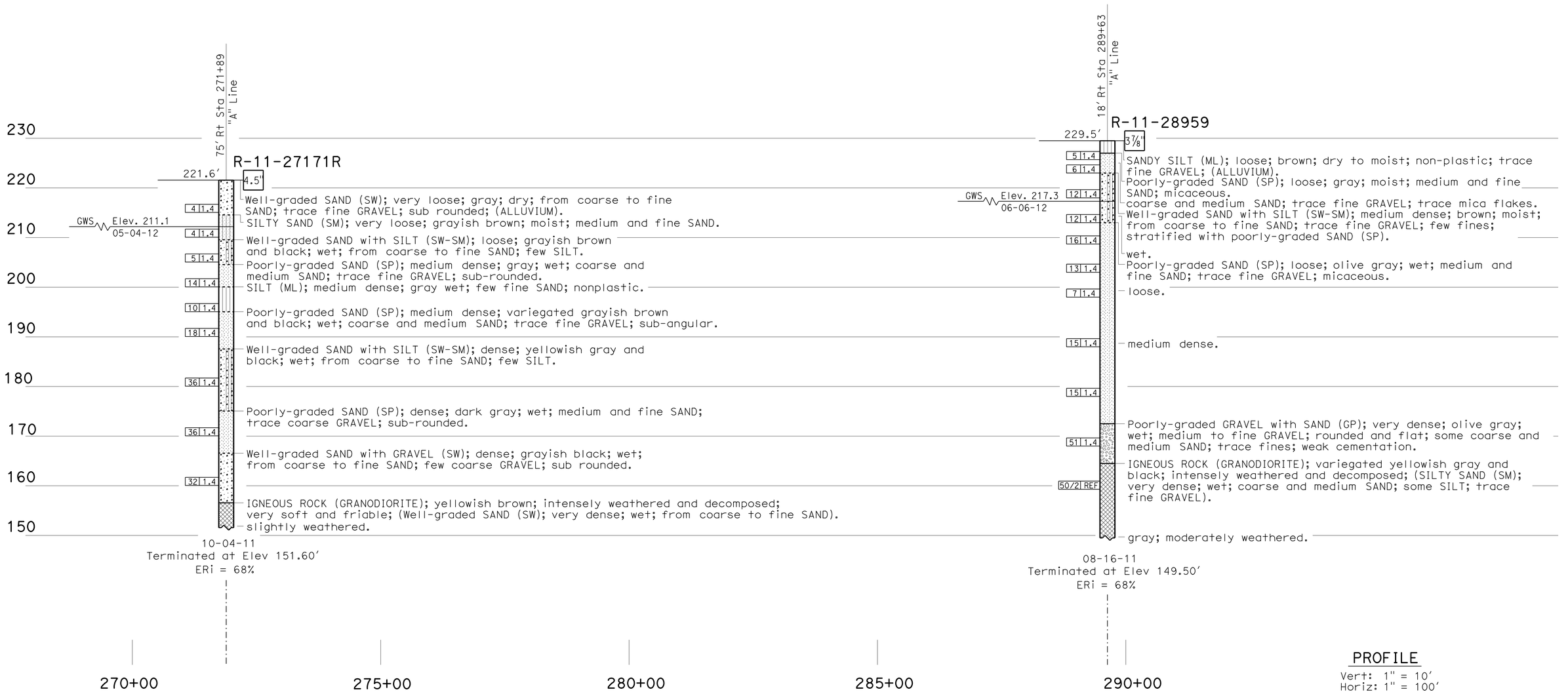
SEE "LOG OF TEST BORING" SHEET UL-21 FOR PLAN VIEW



PROFILE
Vert: 1" = 10'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-22
NAME: B. HINMAN	CHECKED BY: J. KERMODE	Z. YAZDANI/E. GALLETA				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	22	44

FILE => 1100020489ul022.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings A-11-27171L and A-11-27929 but elevations were not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1128	1273

Ziaullah Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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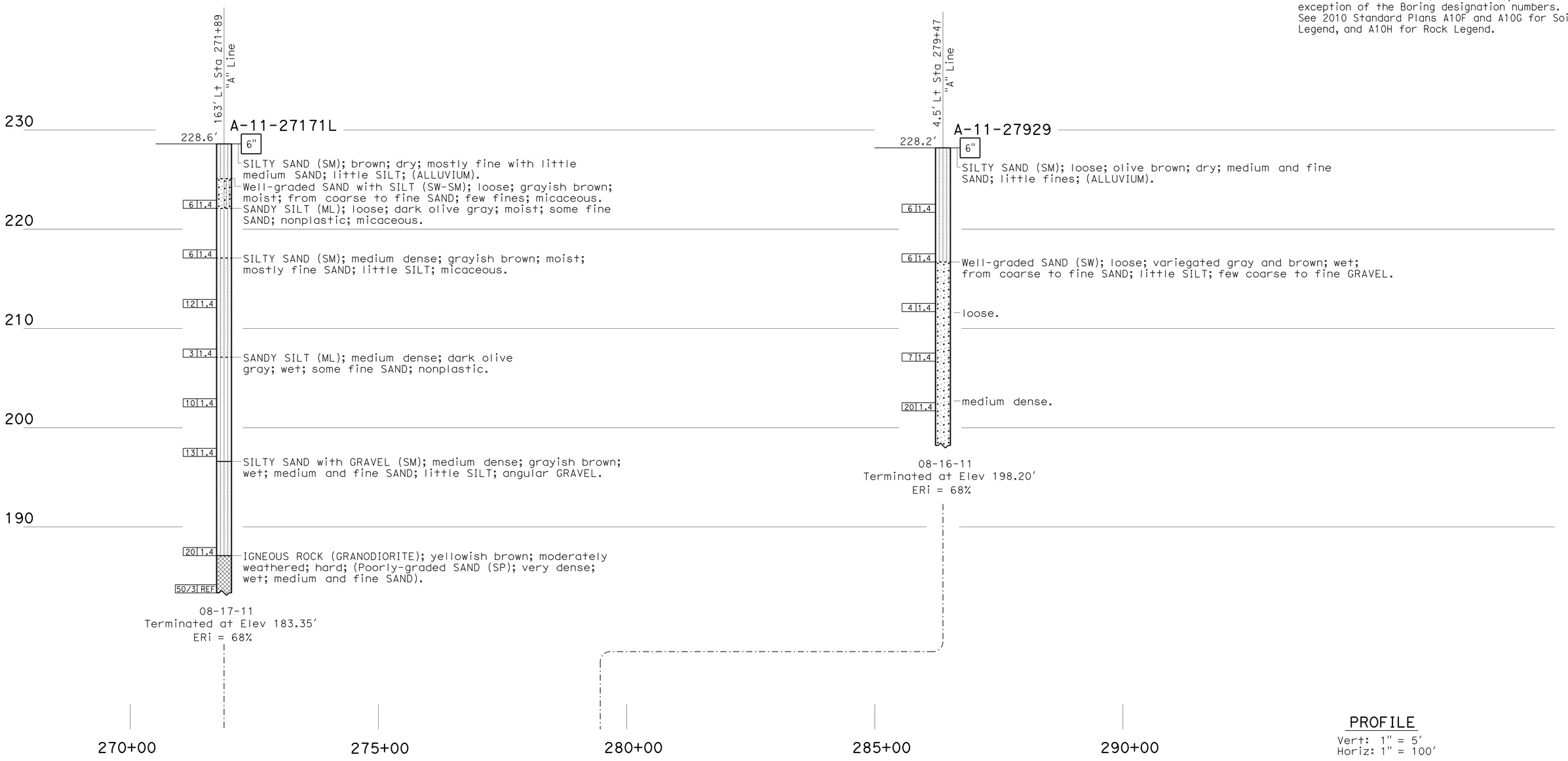
SEE "LOG OF TEST BORING" SHEET UL-21 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR: NAME: B. HINMAN	DRAWN BY: Y. LIU; CHECKED BY: J. KERMODE; FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-23

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-11-13	23	44

FILE => 1100020489ul023.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings A-11-27429 and A-11-29000 but elevations were not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1129	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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SEE "LOG OF TEST BORING" SHEET UL-21 FOR PLAN VIEW

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR NAME: B. HINMAN	DRAWN BY: Y. LIU CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA				POST MILE	LOG OF TEST BORINGS UL-24

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	24	44

FILE => 11000204891ul024.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring A-09-303.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1130	1273

REGISTERED CIVIL ENGINEER — 10-29-13 DATE

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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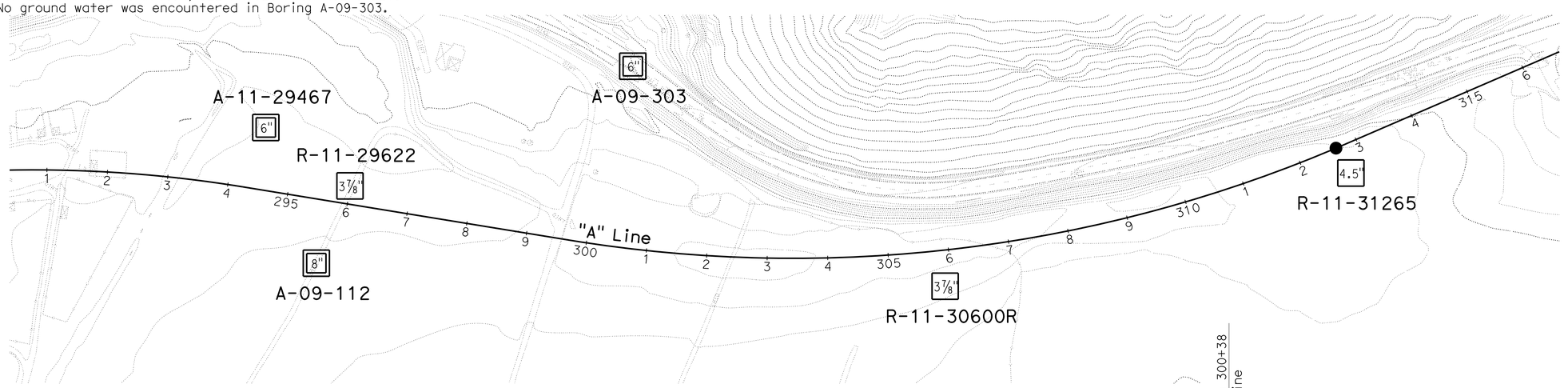
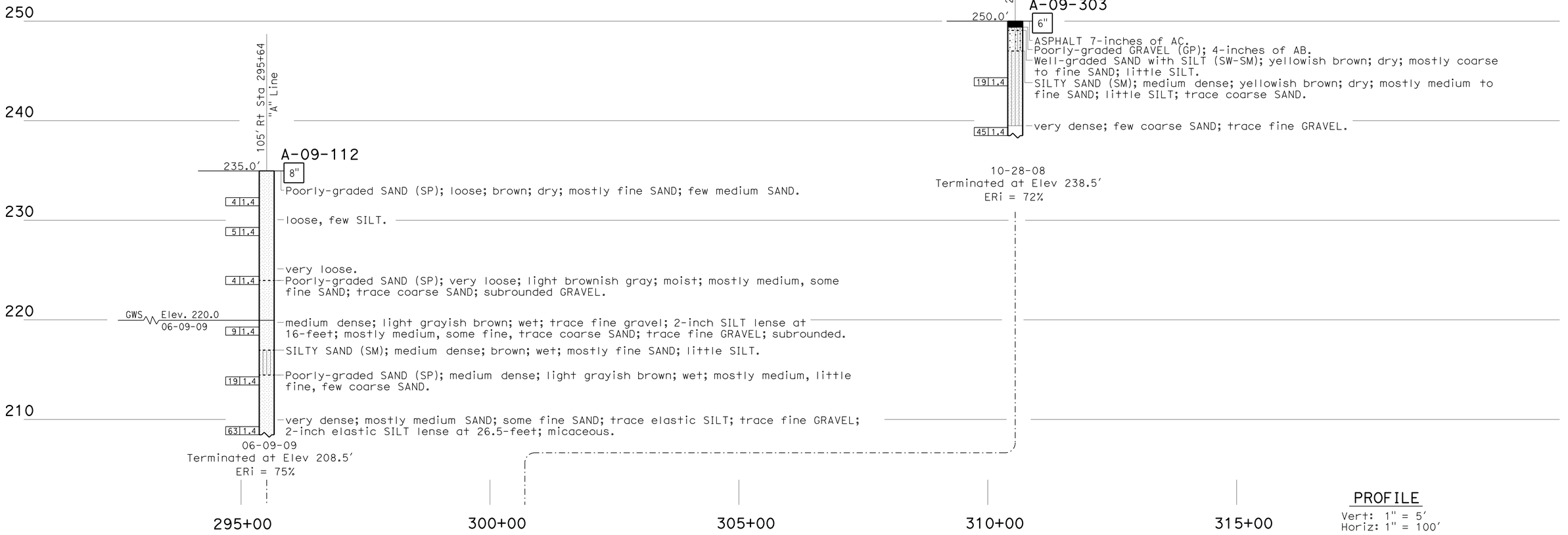


PLAN
1" = 100′



PROFILE
Vert: 1" = 5′
Horiz: 1" = 100′

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-25
NAME:	CHECKED BY:	J. MUNN			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	25	44

FILE => 1100020489ul025.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Borings A-11-29467 and R-11-29622 but elevations were not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1131	1273

REGISTERED GEOTECHNICAL ENGINEER — 06-06-13 DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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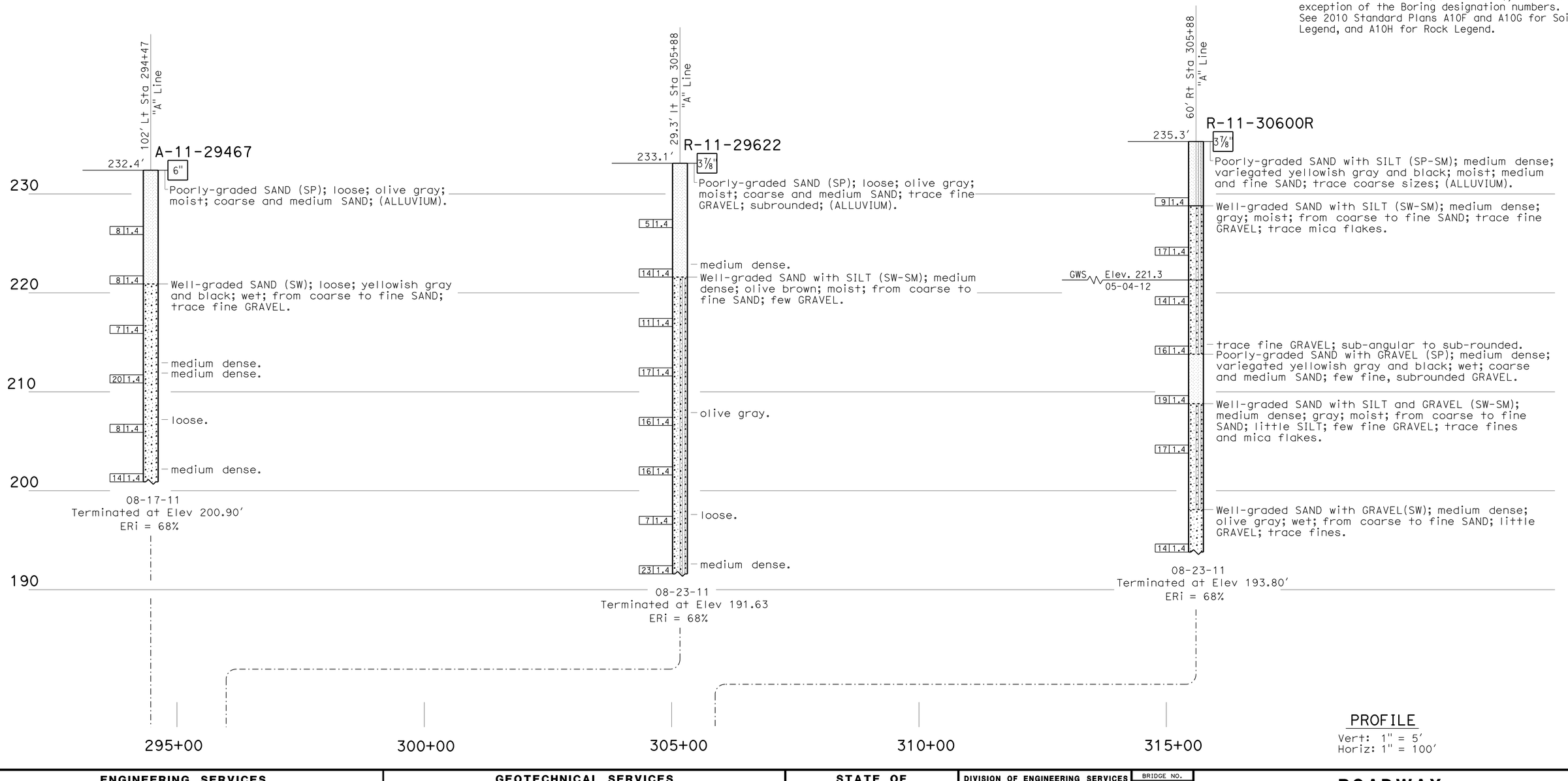
SEE "LOG OF TEST BORING" SHEET UL-25 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR NAME: B. HINMAN	DRAWN BY: Y. LIU CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-26

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	26	44

FILE => 1100020489ul026.dgn

USERNAME => s127400 DATE PLOTTED => 24-MAR-2014 TIME PLOTTED => 10:03

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring R-11-31265 but elevation was not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1132	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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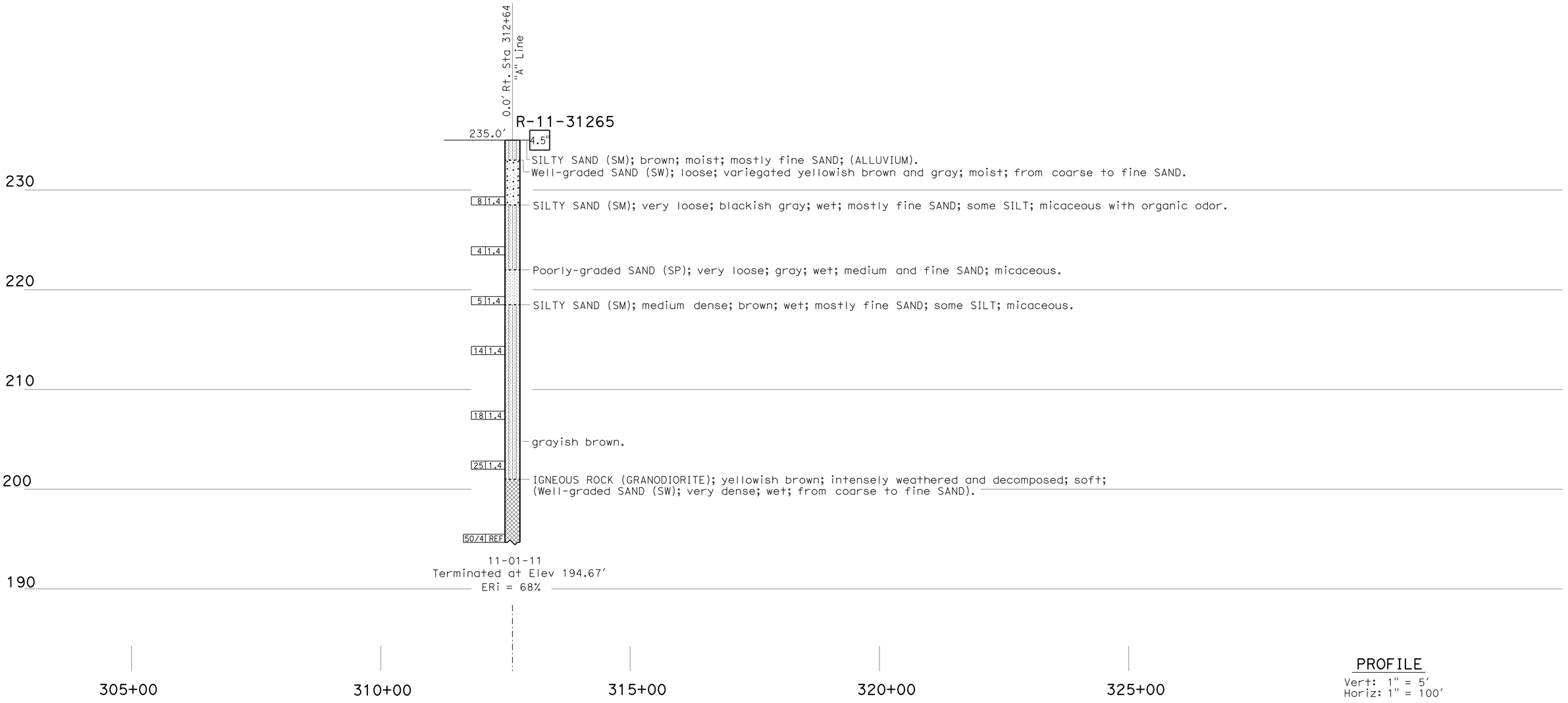
SEE "LOG OF TEST BORING" SHEET UL-25 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR: NAME: B. HINMAN	DRAWN BY: Y. LIU; CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA	DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-27

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

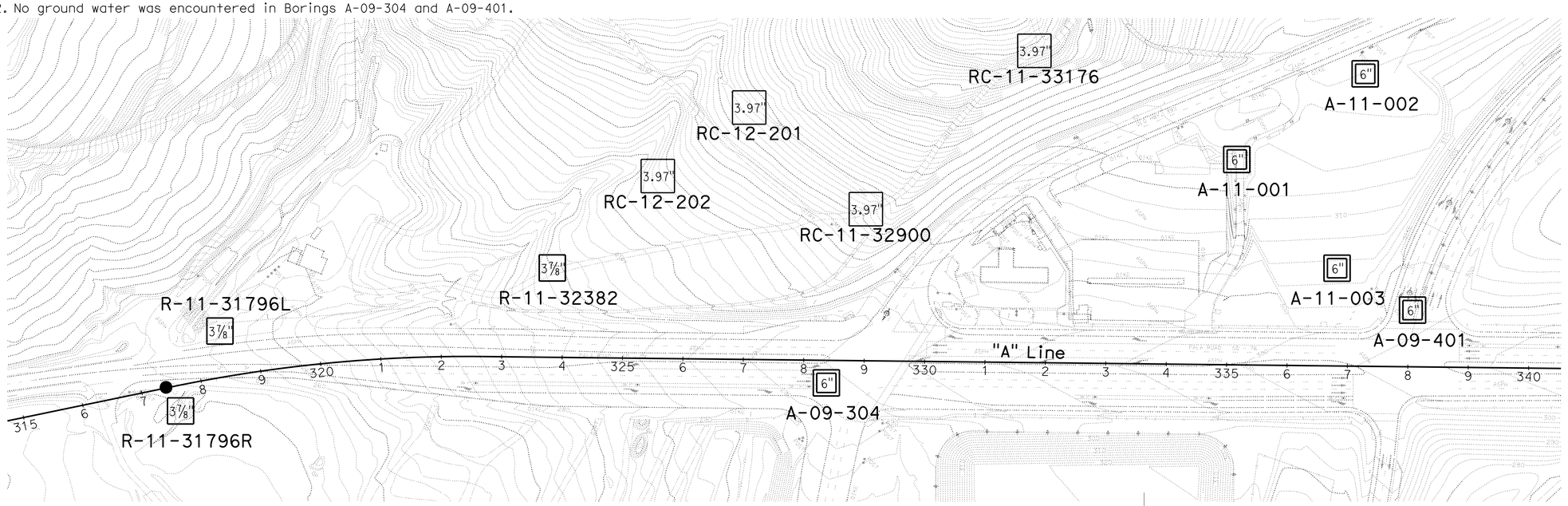
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	27	44

FILE => 1100020489ul027.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Borings A-09-304 and A-09-401.



PLAN
1" = 100'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1133	1273

REGISTERED CIVIL ENGINEER — DATE: 10-29-13

JOSH STONE No. 60755 Exp. 12-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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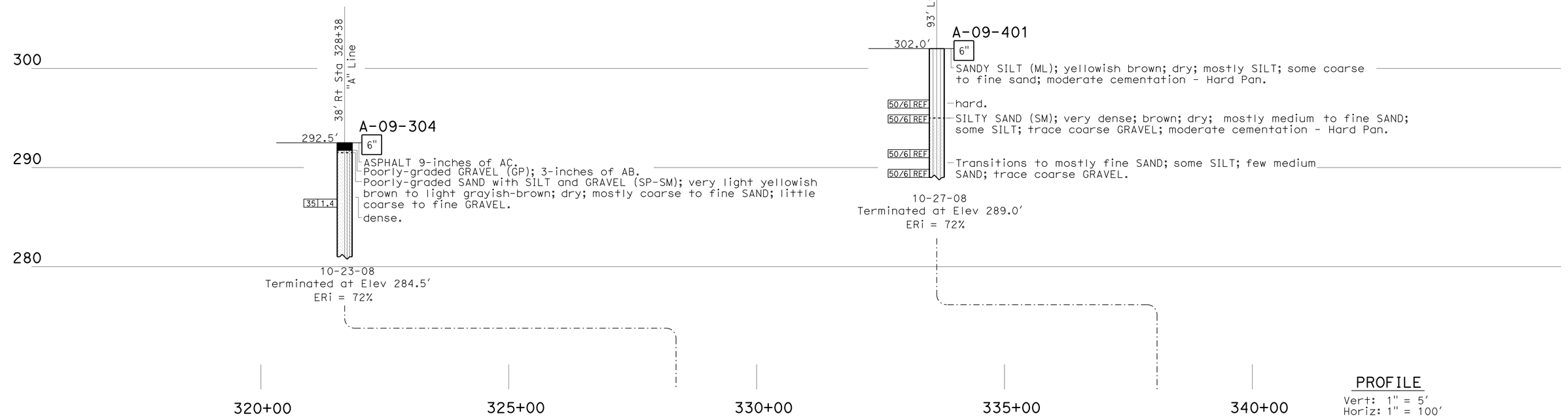

PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:			POST MILE	LOG OF TEST BORINGS UL-28
NAME:	CHECKED BY:	J. MUNN				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	28	44

FILE => 1100020489ul028.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. AUTOMATIC HAMMER MALFUNCTIONED, USED MANUAL HAMMER INSTEAD. MANUAL HAMMER EFFICIENCY HAS NOT BEEN DETERMINED BY DRILLING SERVICES.
3. Ground water was encountered in Boring R-11-31796L but elevation was not measured.
4. Fines are defined as the soil fraction passing the #200 sieve.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1134	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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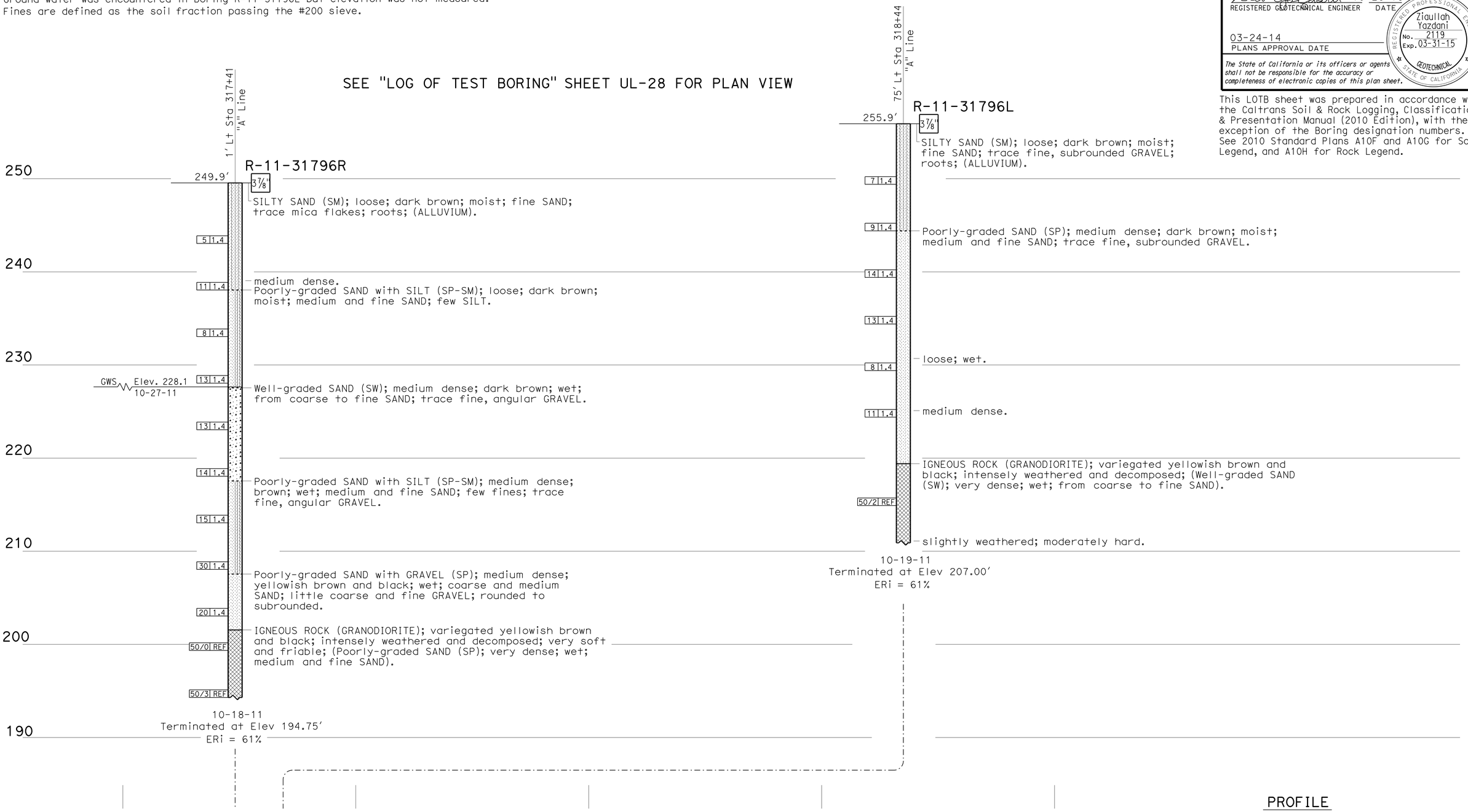
SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:			DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-29
NAME: B. HINMAN	CHECKED BY: J. KERMODE	Z. YAZDANI/E. GALLETA					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.:11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	29	44

FILE => 1100020489ul029.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. AUTOMATIC HAMMER MALFUNCTIONED, USED MANUAL HAMMER INSTEAD. MANUAL HAMMER EFFICIENCY HAS NOT BEEN DETERMINED BY DRILLING SERVICES.
3. No ground water was encountered in Boring R-11-32382.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1135	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Ziaullah Yazdani
No. 2119
Exp. 03-31-15
GEOTECHNICAL
STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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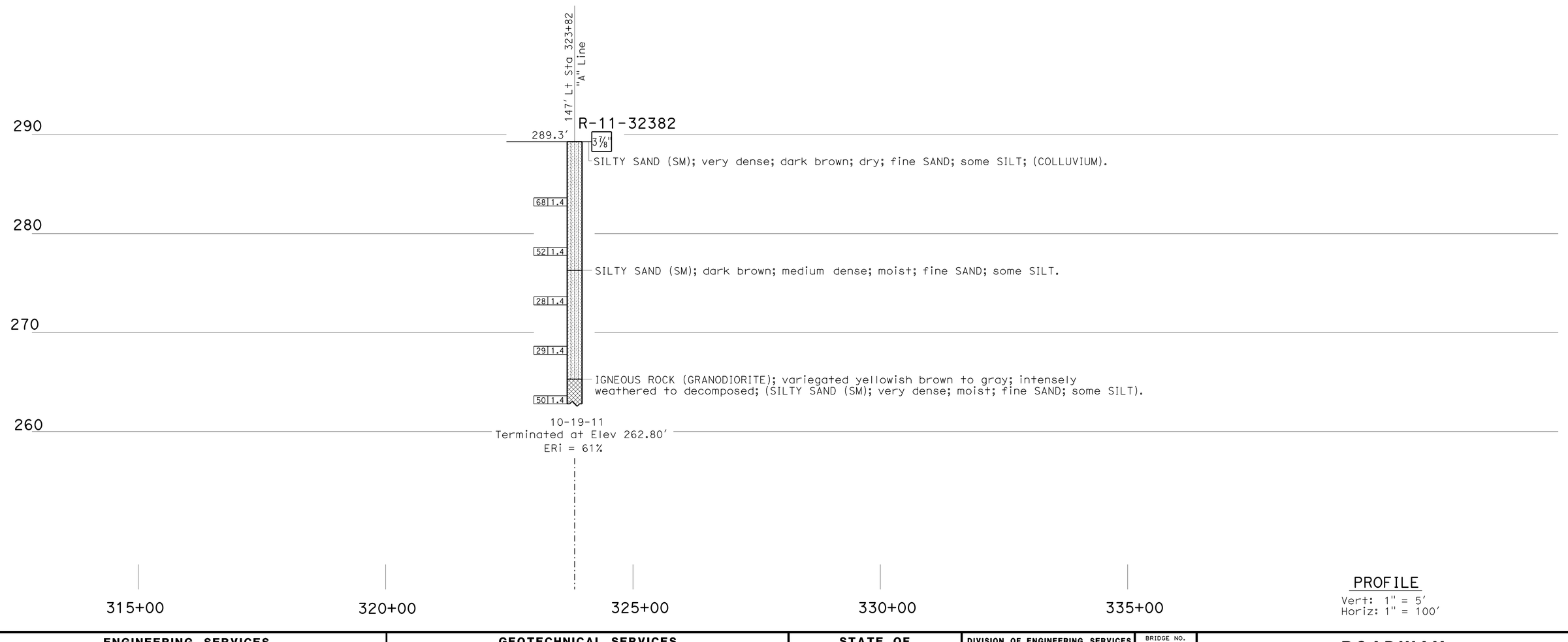
SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH		LOG OF TEST BORINGS UL-30
NAME: B. HINMAN	CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA		POST MILE	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	30	44

FILE => 1100020489ul030.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. AUTOMATIC HAMMER MALFUNCTIONED, USED MANUAL HAMMER INSTEAD. MANUAL HAMMER EFFICIENCY HAS NOT BEEN DETERMINED BY DRILLING SERVICES.
3. No ground water was encountered in Borings A-11-001, A-11-002, and A-11-003.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1136	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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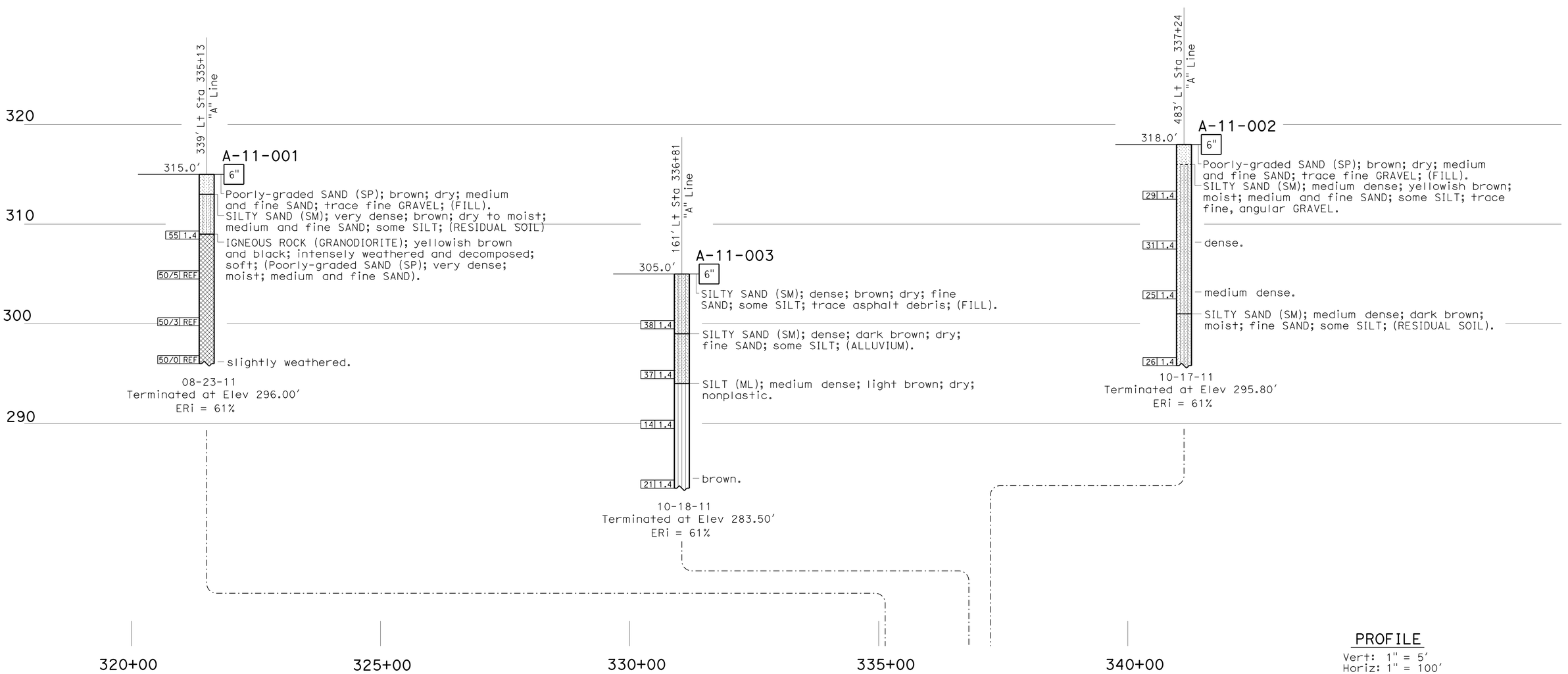
SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH		LOG OF TEST BORINGS UL-31
NAME: B. HINMAN	CHECKED BY: J. KERMODE	FIELD INVESTIGATION BY: Z. YAZDANI/E. GALLETA		POST MILE	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	31	44

FILE => 1100020489ul031.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. 1* : RQD = 0, core does not meet soundness criteria.
3. No ground water was encountered in Boring RC-12-202.
4. FRACTURE GROUPS
   F1: 0≤DIP≤12
   F2: 12≤DIP≤33
   F3: 33≤DIP≤60
   F4: 40≤DIP≤60
   F5: 60≤DIP≤80
   F6: 80≤DIP≤90

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1137	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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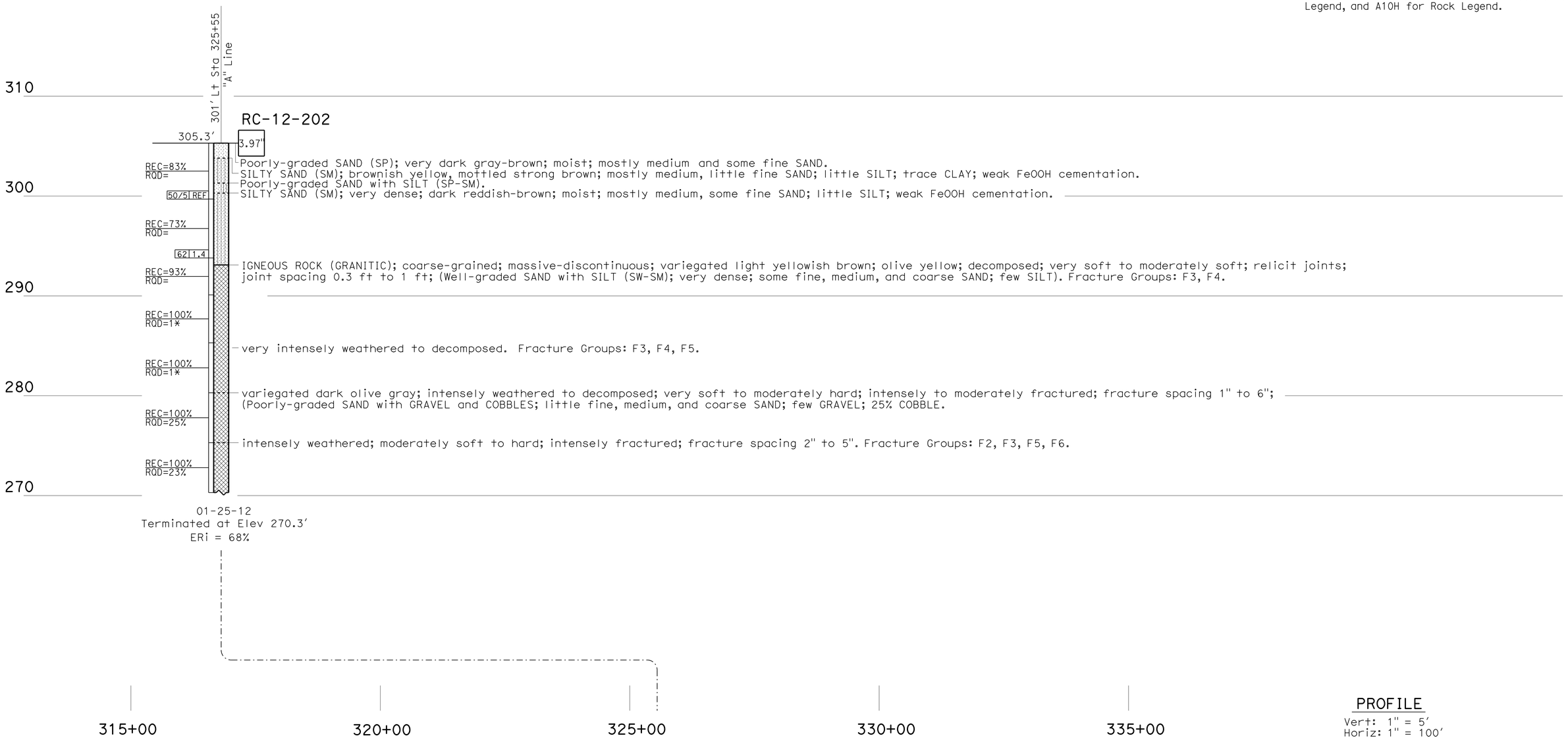
SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-32
NAME: B. HINMAN	CHECKED BY: Z. YAZDANI	J. KERMODE				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	32	44

FILE => 1100020489ul032.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. No ground water was encountered in Boring RC-12-201.
3. FRACTURE GROUPS
   F1: 0≤DIP≤12
   F2: 12≤DIP≤33
   F3: 33≤DIP≤60
   F4: 40≤DIP≤60
   F5: 60≤DIP≤80
   F6: 80≤DIP≤90

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1138	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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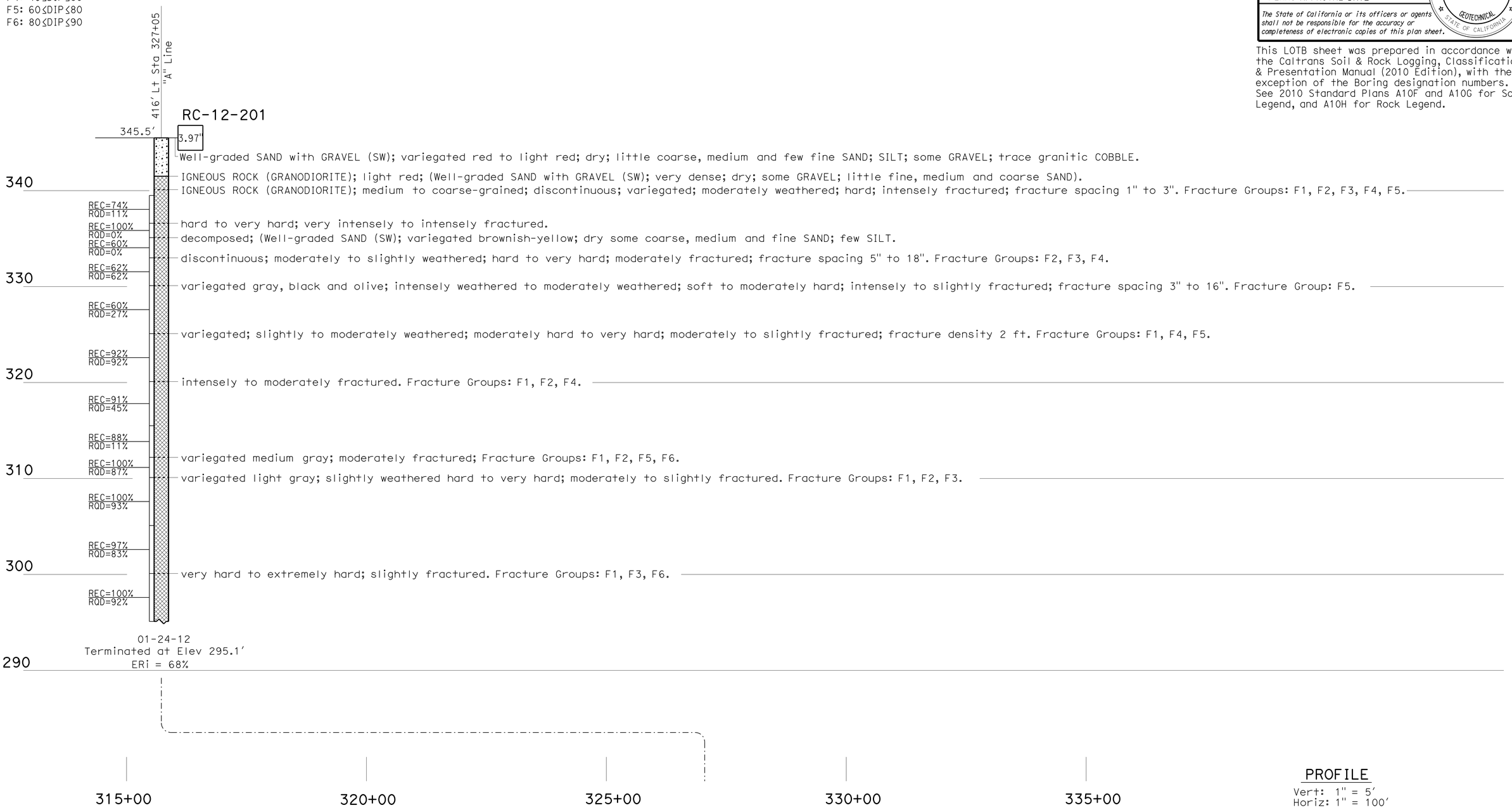
SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR: NAME: B. HINMAN	DRAWN BY: Y. LIU; CHECKED BY: Z. YAZDANI; FIELD INVESTIGATION BY: J. KERMODE	DESIGN BRANCH		POST MILE	LOG OF TEST BORINGS UL-33

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	33	44

FILE => 1100020489ul033.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. 1* : RQD = 0, core does not meet soundess criteria.
3. No ground water was encountered in Boring RC-11-32900.
4. FRACTURE GROUPS
   F1: 0≤DIP≤12
   F2: 12≤DIP≤33
   F3: 33≤DIP≤60
   F4: 40≤DIP≤60
   F5: 60≤DIP≤80
   F6: 80≤DIP≤90

SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1139	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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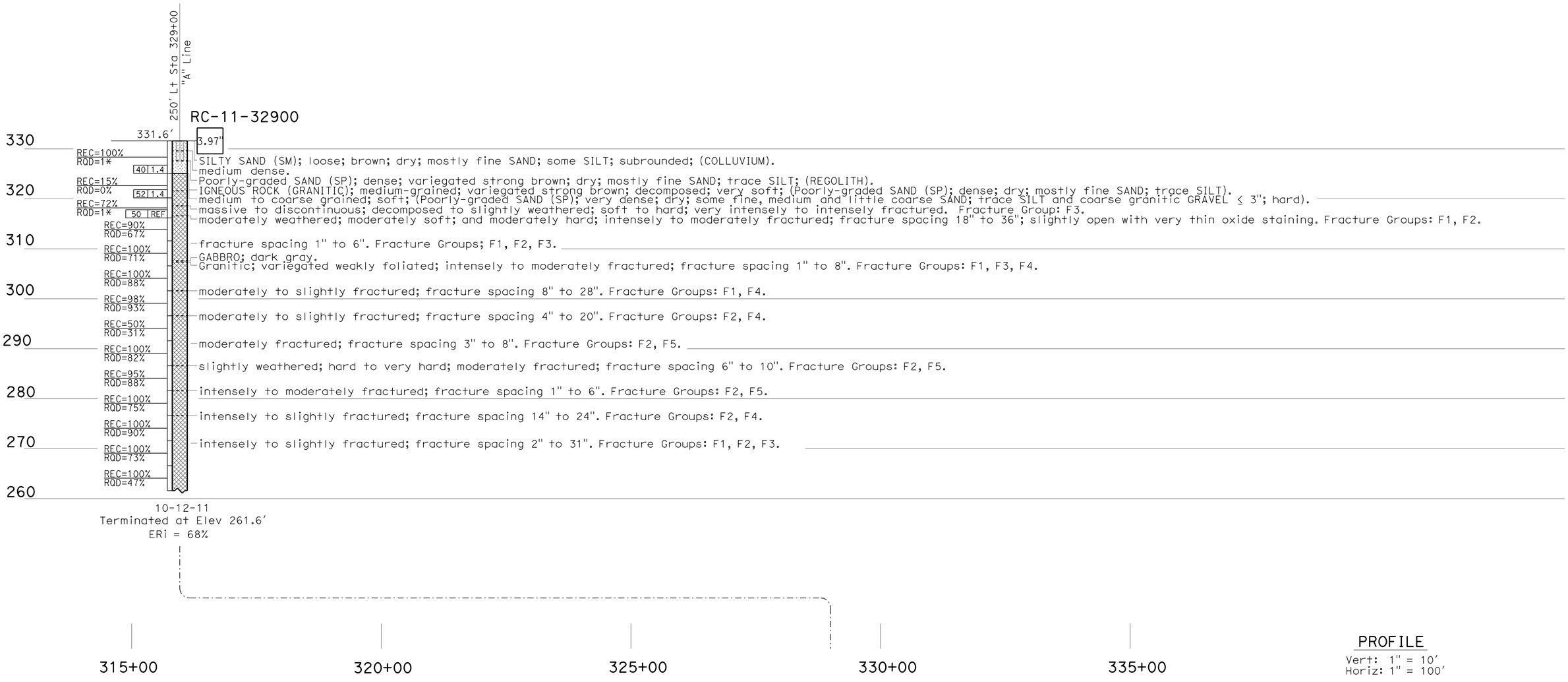

PROFILE
Vert: 1" = 10'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU	FIELD INVESTIGATION BY:			DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-34
NAME: B. HINMAN	CHECKED BY: Z. YAZDANI	J. KERMODE					

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	34	44

FILE => 1100020489ul034.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:04

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. 1* : RQD = 0, core does not meet soundess criteria.
3. No ground water was encountered in Boring RC-11-33176.
4. FRACTURE GROUPS
   F1: 0≤DIP≤12
   F2: 12≤DIP≤33
   F3: 33≤DIP≤60
   F4: 40≤DIP≤60
   F5: 60≤DIP≤80
   F6: 80≤DIP≤90

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1140	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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SEE "LOG OF TEST BORING" SHEET UL-28 FOR PLAN VIEW

515' Lt Sta 331+76
"A" Line

RC-11-33176

406.2'

3.97'

Elev	REC / RQD	Description
	REC=100% RQD=1*	SILTY SAND (SM); red; dry; mostly fine, little medium SAND; some SILT; micaceous; (COLLUVIUM).
400	REC=100% RQD=1*	IGNEOUS ROCK (GRANITIC); medium and coarse grained; massive-discontinuous; variegated strong brown, yellowish brown; decomposed; very soft; (Poorly-graded SAND (SP); mostly fine SAND; trace SILT).
	REC=100% RQD=1*	IGNEOUS ROCK (GRANITIC); medium grained; variegated strong brown; decomposed; soft; (SILTY SAND (SM); dry; some fine, little medium, few coarse SAND; little SILT).
390	REC=100% RQD=1*	
	REC=100% RQD=1*	
	REC=95% RQD=62%	variegated yellowish-red, dark gray and white, yellowish-gray; intensely to moderately weathered; moderately soft to hard; intensely to moderately fractured; fracture spacing 5" to 12". Fracture Groups: F4; F5.
380	REC=100% RQD=69%	variegated pale yellow gray; intensely weathered; moderately soft to moderately hard; intensely to moderately fractured. Fracture Groups: F2, F4, F5.
	REC=97% RQD=35%	soft to moderately soft; intensely to moderately fractured. Fracture Groups: F2, F3, F4.
370	REC=65% RQD=45%	very soft to moderately soft.
	REC=67% RQD=1*	decomposed; soft.
360	REC=98% RQD=70%	(SAND with SILT (SM); variegated gray; dry; some fine, medium and coarse SAND; few SILT).
	REC=97% RQD=90%	variegated reddish-yellow; intensely to moderately weathered; soft to moderately hard; intensely to moderately fractured; fracture spacing 3" to 6". Fracture Groups: F2.
350	REC=100% RQD=53%	variegated dark brown, yellow; soft and hard; moderately to slightly fractured; fracture spacing 4" to 22". Fracture Groups: F2, F3, F4, F5.
	REC=87% RQD=34%	variegated reddish-yellow, reddish-brown, black and white; intensely to moderately weathered; very soft to moderately soft; very intensely to slightly fractured; fracture spacing 3" to 17". Fracture Groups: F3, F4, F5.
340	REC=98% RQD=80%	very intensely to slightly weathered; soft to moderately hard.
	REC=93% RQD=55%	intensely to slightly fractured; fracture spacing 9" to 24". Fracture Groups: F2, F4, F5, F6.
330	REC=100% RQD=78%	moderately to slightly weathered; moderately hard to hard; intensely to moderately fractured; fracture spacing 4" to 10". Fracture Groups: F2, F4, F5.
	REC=95% RQD=68%	variegated pale yellow, and medium to light gray; very intensely to slightly weathered; soft and hard; moderately to intensely fractured; fracture spacing 4" to 26". Fracture Groups: F1, F2, F3.
320	REC=98% RQD=87	variegated black and white; moderately to slightly weathered; moderately hard; intensely to moderately fractured; fracture spacing 1" to 9". Fracture Groups: F1, F2, F3, F4.
	REC=98% RQD=92%	very hard.
310	REC=100% RQD=67%	slightly weathered.
	REC=100% RQD=64%	
300	REC=100% RQD=94%	
290	10-25-11 Terminated at Elev 296.2' ERi = 68%	

315+00 320+00 325+00 330+00 335+00

PROFILE
Vert: 1" = 10'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	ROADWAY
FUNCTIONAL SUPERVISOR	DRAWN BY: Y. LIU		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-35
NAME: B. HINMAN	CHECKED BY: Z. YAZDANI	FIELD INVESTIGATION BY: J. KERMODE			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 2765
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-11-13	35	44

FILE => 1100020489ul035.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED => 16:05

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1141	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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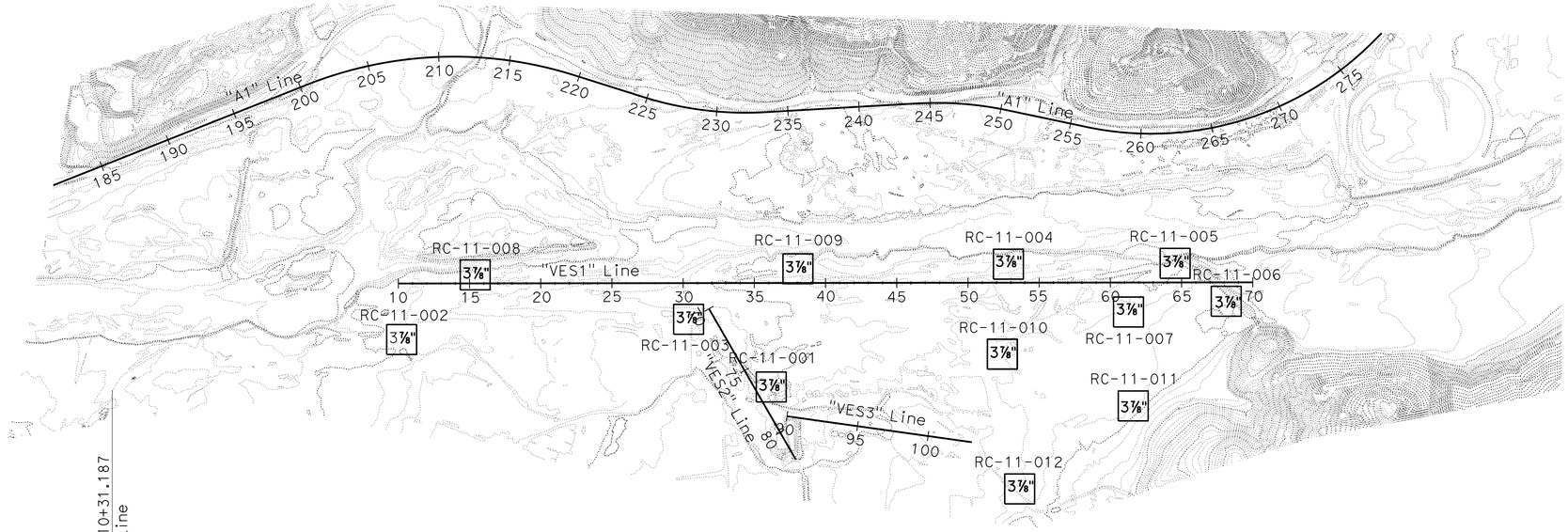

PLAN
SCALE: 1"= 500'

392.7' Rt Sta 10+31.187
"VES1" Line

RC-11-002

200 — 201.01′ — 3⅞"

Well-graded SAND with SILT (SW-SM); loose; very dark gray-brown; moist; mostly medium; little fine and coarse SAND; few SILT; micaceous; few roots

variegated medium dense

16 | 1.4 — medium dense

SANDY SILT (ML); medium dense; variegated medium gray; moist; mostly SILT; little fine and medium SAND; contact is abrupt: horizontal - planar.

Well-graded SAND (SW) and poorly-graded SAND (SP); medium dense; variegated medium gray; moist;some fine, medium and coarse SAND; stratified - 2" bedding subangular to subrounded.

190 — 7 | 1.4 — wet; perched water; (2/8/2011).

SANDY SILT (ML); medium dense, olive gray; wet; mostly SILT; little fine; few medium SAND; micaceous - gradationaly coarsening with depth.

05/04/12 GWS 191.06′

Well-graded SAND (SW) and Poorly-graded SAND (SP); estimated medium dense; variegated medium gray; wet; some fine, medium, and coarse SAND; graditionally stratified 2′- 6′ beds.

SANDY SILT (ML); medium dense; variegated medium gray; mostly SILT; little fine and few medium SAND; abrupt horizontal contact gradationally coarsening with depth (fining upward).

180 — SANDY SILT-SILTY SAND (ML)

Well-graded SAND (SW); medium dense, variegated medium gray; wet; mostly coarse , little fine, medium SAND.

medium dense.

16 | 1.4 — SANDY SILT (ML); medium dense; medium gray; locally mottled reddish yellow; wet; mostly SILT; some fine SAND; micaceous.

170 — 02-08-11
Terminated at Elev 172.52′
ERi = 98%

10+00 15+00 20+00 25+00 30+00

PROFILE
Vert: 1" = 5′
Horiz: 1" = 100′

ENGINEERING SERVICES	GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	VESSELS Exc Site
FUNCTIONAL SUPERVISOR	DRAWN BY: K. LE	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE 46.2/46.8	LOG OF TEST BORINGS UL-36
NAME: B. Hinman	CHECKED BY: Z. Yazdani	J. KERMODE				

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	36	44

FILE => 1100020489ul036.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1142	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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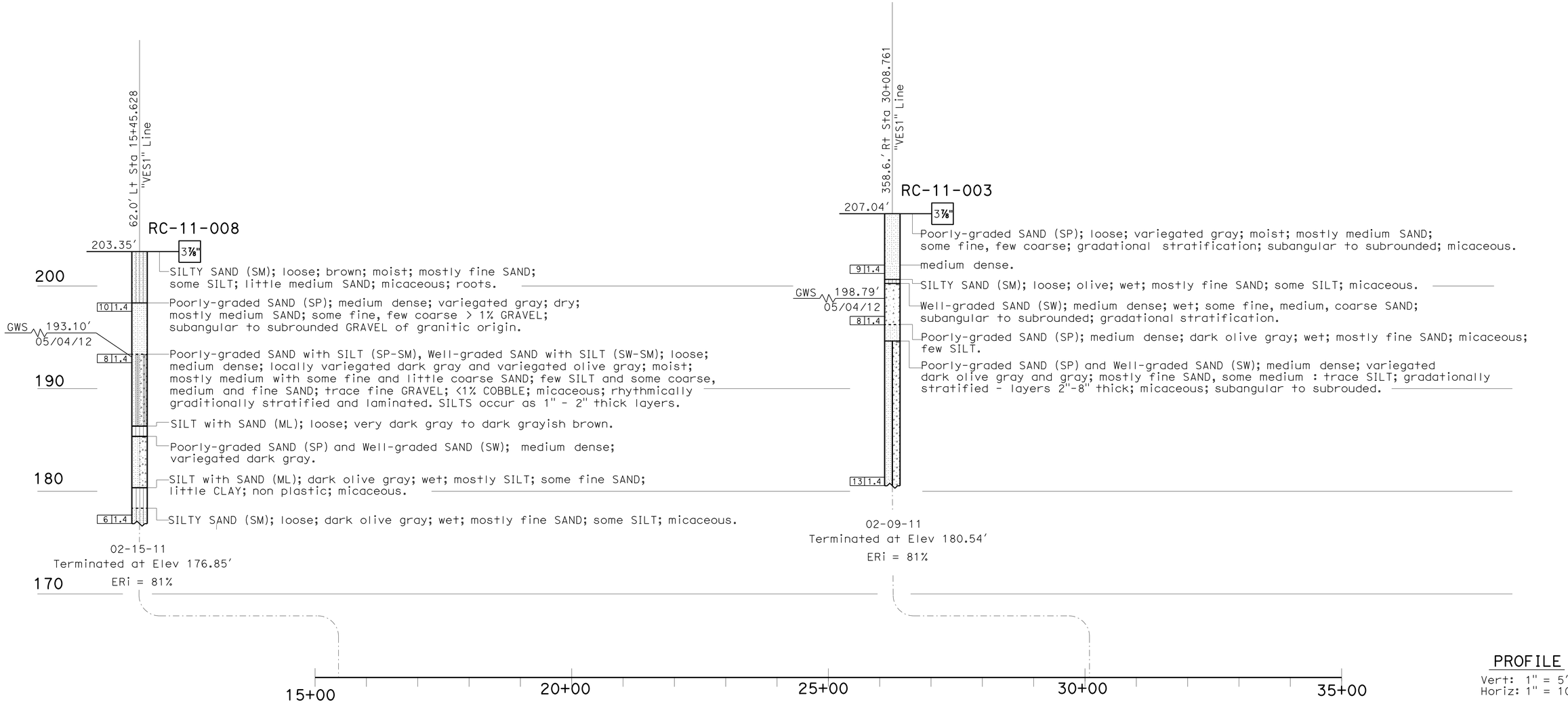
SEE "LOG OF TEST BORING" SHEET UL-36 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	VESSELS Exc Site
FUNCTIONAL SUPERVISOR	DRAWN BY: K. LE	FIELD INVESTIGATION BY:		DESIGN BRANCH	POST MILE	LOG OF TEST BORINGS UL-37
NAME: B. Hinman	CHECKED BY: Z. Yazdani	J. KERMODE			46.2/46.8	

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	37	44

FILE => 1100020489ul037.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Unsuitable materials (peat) observed in the sbsurface.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1143	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Ziaullah Yazdani
No. 2119
Exp. 03-31-15
GEOTECHNICAL
STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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SEE "LOG OF TEST BORING" SHEET UL-36 FOR PLAN VIEW

731.4' Rt Sta 36+09.343
"VES1" Line

RC-11-001

207.44′ — 3⅞"

- SILTY SAND with GRAVEL (SM); loose; variegated light gray; moist; FILL?; ALLUVIUM?.
- PEAT (PT); leaves and herbaceous stems; intact leaf structure; well compacted light brown; very strong methane odor.
- 12 | 1.4 — Well-graded SAND (SW); medium dense; variegated very dark gray; moist; fine, medium, and coarse SAND.

200 — GWS 200.09′ 05/04/12

- PEAT (PT); leaves and herbaceous stems; intact leaf structure; well compacted light brown; very strong methane odor.
- SILTY SAND (SM); medium dense; gray; wet; some fine, medium and little coarse SAND; some few SILT; rhythmically stratified 1" - 4" beds; coarsening downward; micaceous.
- 11 | 1.4 — SANDY SILT (ML); medium dense; medium gray; wet; mostly SILT; little fine, medium and few coarse SAND; micaceous.
- SILTY SAND-Poorly-graded SAND with SILT (SM/SP); medium dense; gray; wet; mostly fine, and little medium and coarse SAND; little SILT; few roots.
- SANDY SILT (ML); medium dense; variegated olive brown; wet; mostly SILT; some fine and little medium SAND; laminated - becoming stratified with depth; coarsens downward; micaceous.

190

- Well-graded SAND (SW) to Poorly-graded SAND (SP); medium dense; variegated medium gray.
- Well-graded SAND (SW); medium dense; variegated medium gray; wet; some fine, medium and coarse SAND; coarsens with depth.
- 39 | 1.4 — Amphibolite cobble with GRAVEL; trace fine gravels; well rounded gneissic and granitic clasts.

180

- Poorly-graded SAND (SP); medium dense; variegated medium gray; mostly coarse, some medium and few fine SAND.
- SILTY SAND (SM); medium dense; olive brown; wet; mostly fine SAND; little SILT; micaceous.

170

02-08-11
Terminated at Elev 180.94′
ERi = 98%

25+00 30+00 35+00 40+00 45+00

PROFILE
Vert: 1" = 5′
Horiz: 1" = 100′

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	VESSELS Exc Site
FUNCTIONAL SUPERVISOR: B. Hinman	DRAWN BY: K. LE CHECKED BY: Z. Yazdani	FIELD INVESTIGATION BY: J. KERMODE	DESIGN BRANCH	POST MILE 46.2/46.8	LOG OF TEST BORINGS UL-38

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-11-13	38	44

FILE => 1100020489ul038.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring RC-11-009 but elevation was not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1144	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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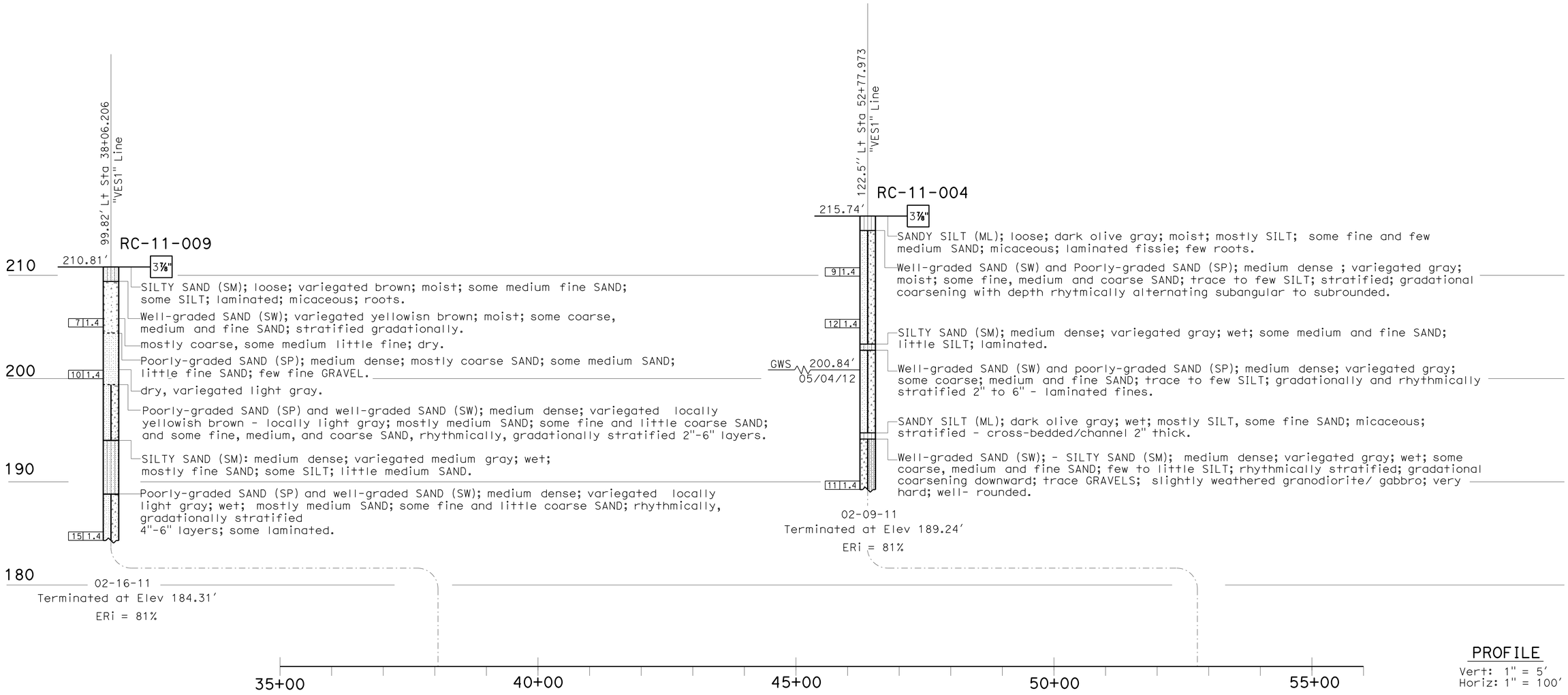
SEE "LOG OF TEST BORING" SHEET UL-36 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. / POST MILE 46.2/46.8	VESSELS Exc Site LOG OF TEST BORINGS UL-39
FUNCTIONAL SUPERVISOR NAME: B. Hinman	DRAWN BY: K. LE; CHECKED BY: Z. Yazdani	FIELD INVESTIGATION BY: J. KERMODE			
OGS CIVIL LOG OF TEST BORINGS SHEET	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	UNIT: 3643 PROJECT NUMBER & PHASE: 11000204891	CONTRACT NO.: 11-257151	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES 01-25-13 02-01-13 04-08-13 04-17-13 — SHEET 39 — OF 44

FILE => 1100020489ul039.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1145	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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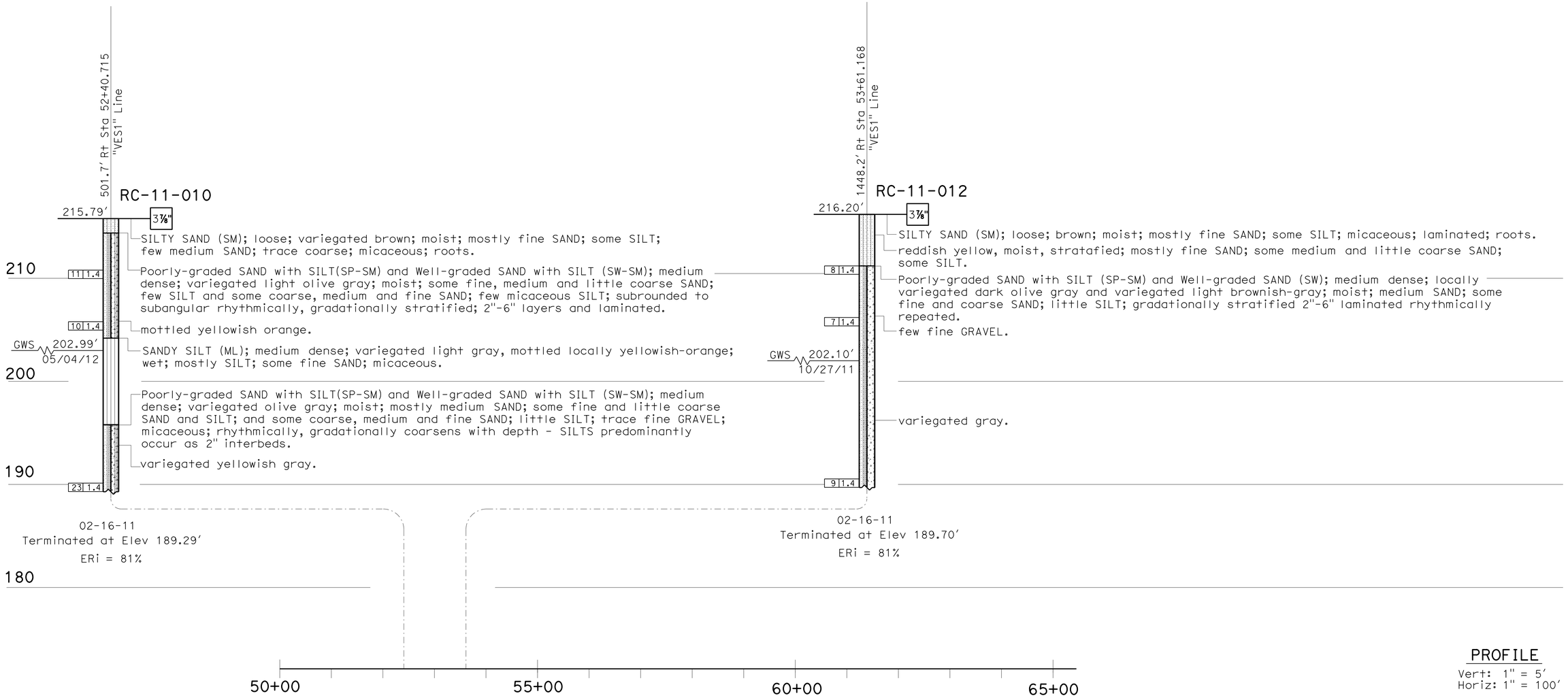
SEE "LOG OF TEST BORING" SHEET UL-36 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	VESSELS Exc Site
FUNCTIONAL SUPERVISOR NAME: B. Hinman	DRAWN BY: K. LE; CHECKED BY: Z. Yazdani; FIELD INVESTIGATION BY: J. KERMODE			POST MILE 46.2/46.8	LOG OF TEST BORINGS UL-40

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	40	44

FILE => 1100020489ul040.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring RC-11-007 but elevation was not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1146	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
Ziaullah Yazdani
No. 2119
Exp. 03-31-15
GEOTECHNICAL
STATE OF CALIFORNIA

03-24-14
PLANS APPROVAL DATE

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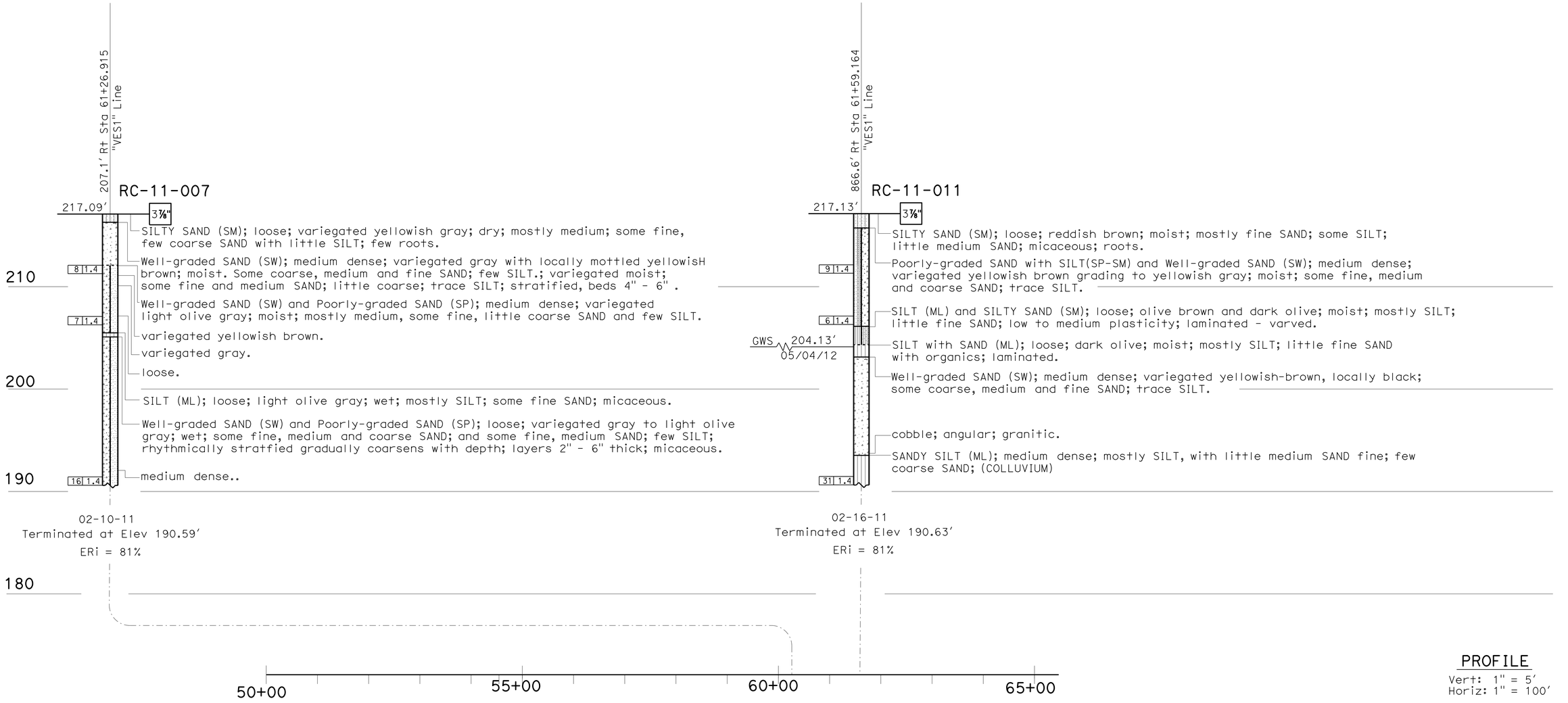
SEE "LOG OF TEST BORING" SHEET UL-36 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	VESSELS Exc Site
FUNCTIONAL SUPERVISOR NAME: B. Hinman	DRAWN BY: K. LE CHECKED BY: Z. Yazdani	FIELD INVESTIGATION BY: J. KERMODE				POST MILE 46.2/46.8	LOG OF TEST BORINGS UL-41

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	41	44

FILE => 1100020489ul041.dgn

USERNAME => s127400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1147	1273

Zia Yazdani 10-28-13
REGISTERED GEOTECHNICAL ENGINEER DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Ziaullah Yazdani — No. 2119 — Exp. 03-31-15 — GEOTECHNICAL — STATE OF CALIFORNIA

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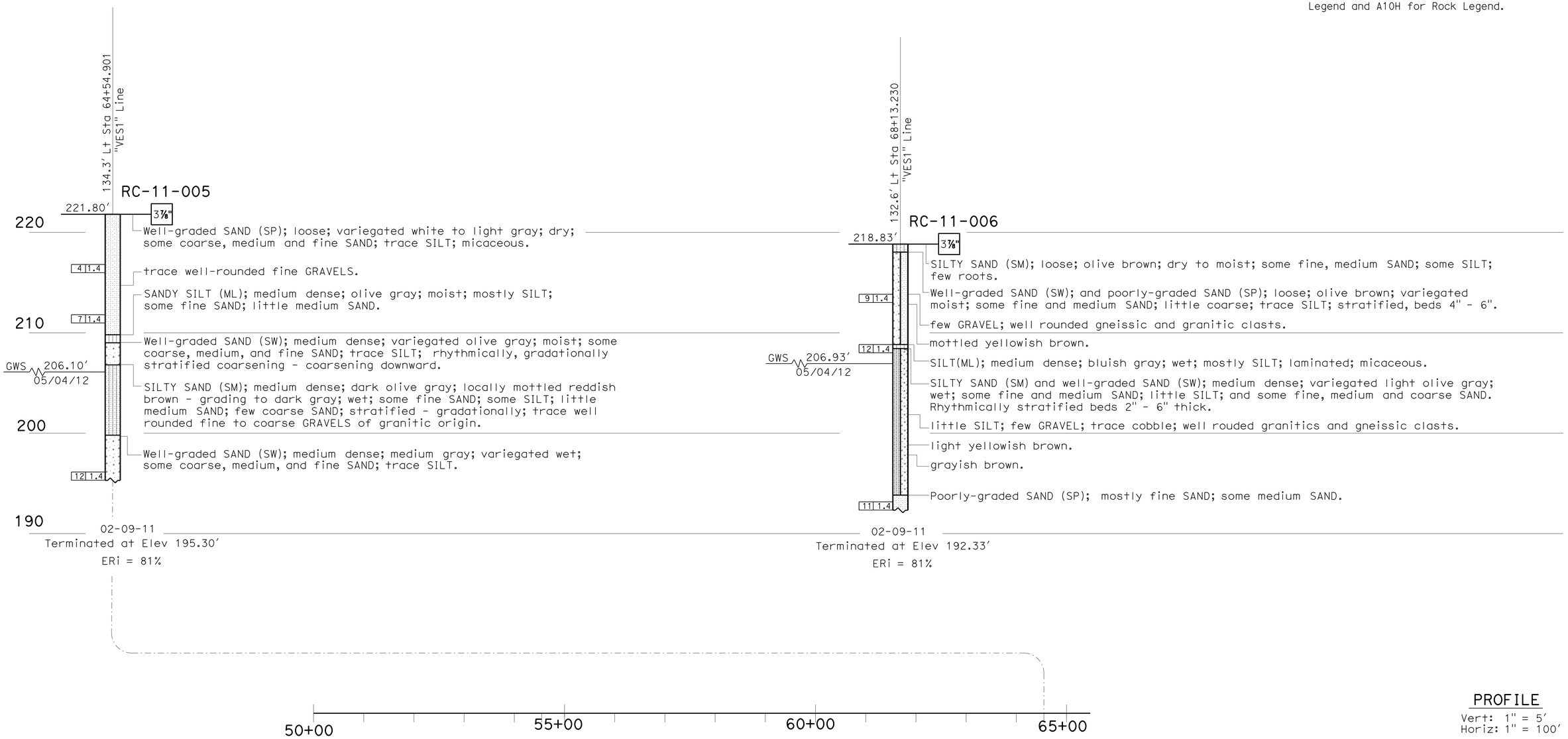
SEE "LOG OF TEST BORING" SHEET UL-36 FOR PLAN VIEW



PROFILE
Vert: 1" = 5'
Horiz: 1" = 100'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO.	VESSELS Exc Site
FUNCTIONAL SUPERVISOR NAME: B. Hinman	DRAWN BY: K. LE CHECKED BY: Z. Yazdani	FIELD INVESTIGATION BY: J. KERMODE				POST MILE 46.2/46.8	LOG OF TEST BORINGS UL-42

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

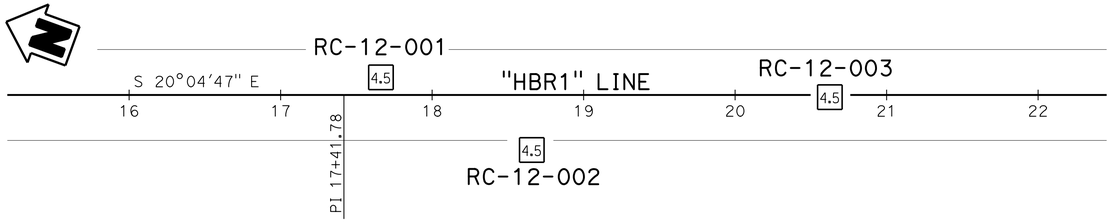
DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
01-25-13	02-01-13	04-08-13	04-17-13	42	44

FILE => 1100020489ul042.dgn

USERNAME => s12400 DATE PLOTTED => 20-MAR-2014 TIME PLOTTED =>

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring RC-12-001, but elevation was not measured.



PLAN
1" = 50'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1148	1273

REGISTERED CIVIL ENGINEER — DATE 06-06-13

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — David T-M Liao — No. C59838 — Exp. 12-31-15 — CIVIL — STATE OF CALIFORNIA

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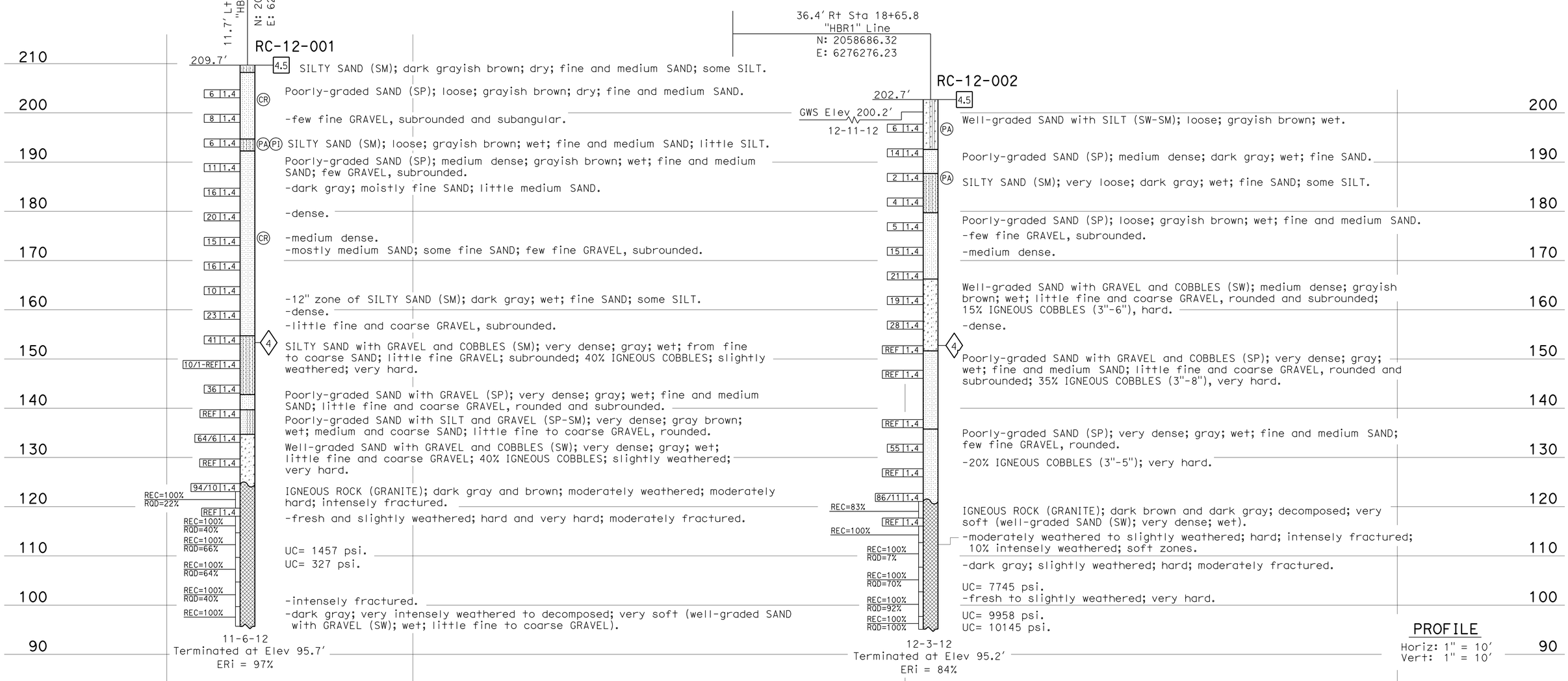

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	TEMPORARY HAUL BRIDGE
FUNCTIONAL SUPERVISOR NAME: M. DeSalvatore	DRAWN BY: I. G-Remmen CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: T-M Liao	DESIGN BRANCH X	POST MILE	LOG OF TEST BORINGS UL-43

OGS CIVIL LOG OF TEST BORINGS SHEET — ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-29-13				43	44

FILE => 1100020489ul043.dgn

USERNAME => s127400 DATE PLOTTED => 24-MAR-2014 TIME PLOTTED => 15:54

NOTES:
1. FOR BENCHMARK INFORMATION, SEE PROJECT CONTROL SHEET.
2. Ground water was encountered in Boring RC-12-003, but elevation was not measured.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1149	1273

06-06-13
REGISTERED CIVIL ENGINEER — DATE

03-24-14
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — David T-M Liao — No. C59838 — Exp. 12-31-15 — CIVIL — STATE OF CALIFORNIA

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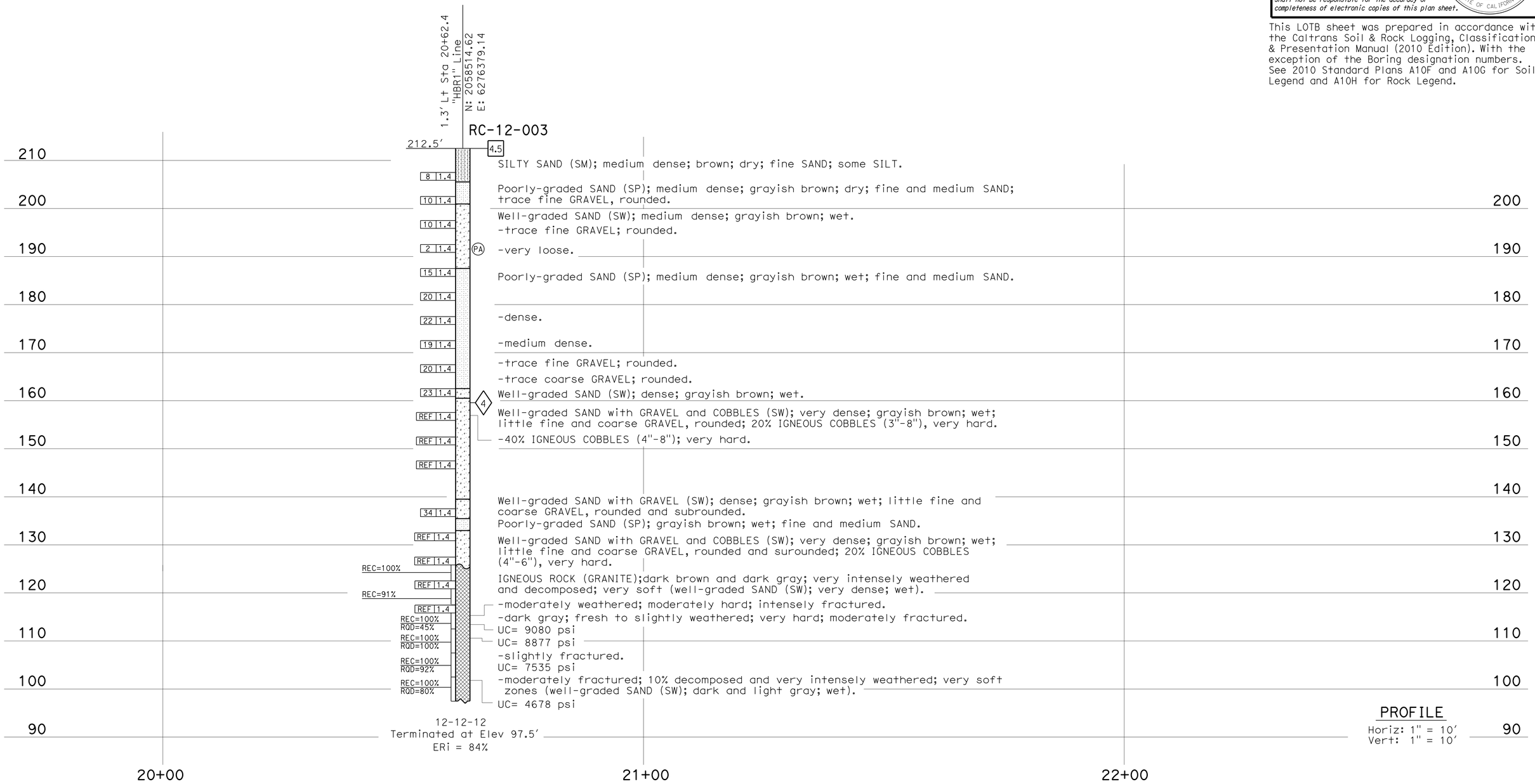
SEE "LOG OF TEST BORINGS" SHEET UL-43
FOR PLAN VIEW



PROFILE
Horiz: 1" = 10'
Vert: 1" = 10'

ENGINEERING SERVICES	MATERIALS AND GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	TEMPORARY HAUL BRIDGE
FUNCTIONAL SUPERVISOR	DRAWN BY: I. G-Remmen		DESIGN BRANCH X	POST MILE	LOG OF TEST BORINGS UL-44
NAME: M. DeSalvatore	CHECKED BY: E. Neupert	FIELD INVESTIGATION BY: T-M Liao			

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3643
PROJECT NUMBER & PHASE: 11000204891 CONTRACT NO.: 11-257151

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
05-29-13				44	44

FILE => 1100020489ul044.dgn

USERNAME => s127400 DATE PLOTTED => 24-MAR-2014 TIME PLOTTED => 15:54

M

Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
Mtl	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT

N

N	NORTH
NB	NORTHBOUND
No.	NUMBER (MUST HAVE PERIOD)
Nos.	NUMBERS (MUST HAVE PERIOD)
NPS	NOMINAL PIPE SIZE
NS	NEAR SIDE
NSP	NEW STANDARD PLAN
NTS	NOT TO SCALE

O

Oblr	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN

P

P	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm Mtl	PERMEABLE MATERIAL

P continued

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
℄,PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE, TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE, PLASTIC PIPE, POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT

Q

Qty	QUANTITY

R

R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
Rd	ROAD
Reinf	REINFORCED, REINFORCEMENT, REINFORCING
Rel	RELOCATE
Repl	REPLACEMENT
Ret	RETAINING
Rev	REVISED, REVISION
Rdwy	ROADWAY
RHMA	RUBBERIZED HOT MIX ASPHALT
Riv	RIVER
RM	ROAD-MIXED
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

S

S	SOUTH, SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SAND CUSHION
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND, SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
Sht	SHEET
Sim	SIMILAR
℄	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES

T

T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
Tel	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

T continued

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL

U

UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS

V

V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME

W

W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE

X

X Sec	CROSS SECTION
Xing	CROSSING

Y

Yr	YEAR
Yrs	YEARS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1150	1273

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Grace M. Tsushima No. C49814 Exp. 9-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 03-24-14

UNIT OF MEASUREMENT SYMBOLS:

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A

SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft^3, pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kip	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ABBREVIATIONS (SHEET 2 OF 2)

NO SCALE

RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

6-7-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1151	1273

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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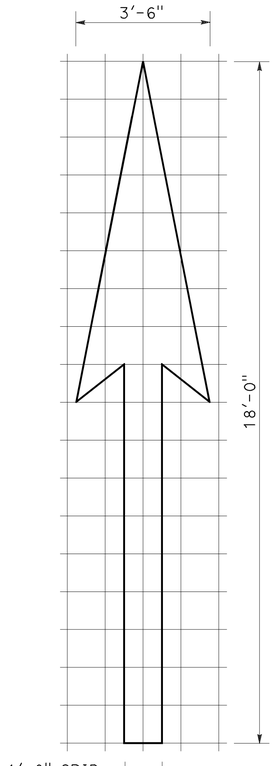
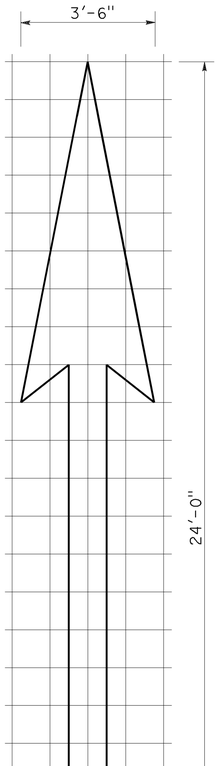
TO ACCOMPANY PLANS DATED 03-24-14

2010 REVISED STANDARD PLAN RSP A24A



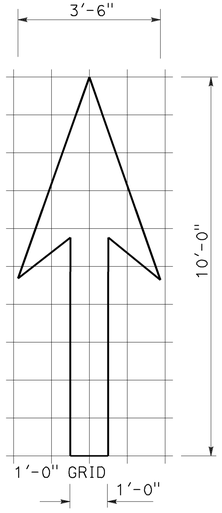
A=25 ft²

TYPE I 18'-0" ARROW



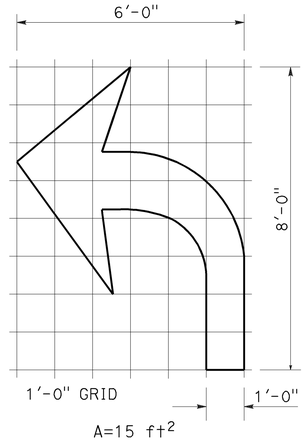
A=31 ft²

TYPE I 24'-0" ARROW



A=14 ft²

TYPE I 10'-0" ARROW

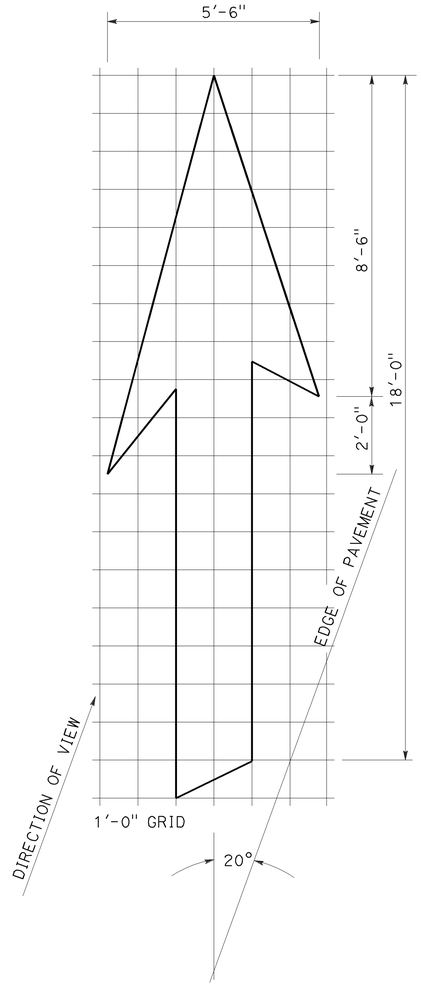


A=15 ft²

TYPE IV (L) ARROW

(For Type IV (R) arrow, use mirror image)

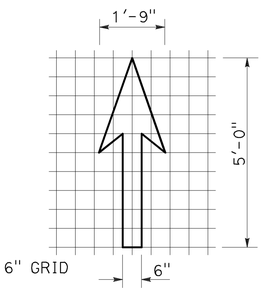
NOTE:
Minor variations in dimensions may be accepted by the Engineer.



A=42 ft²

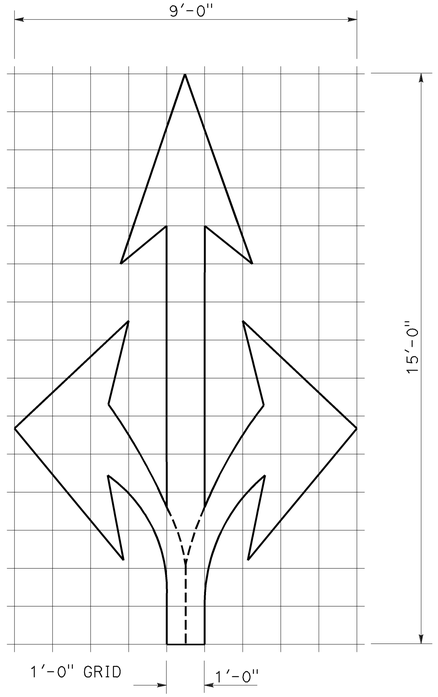
TYPE VI ARROW

Right lane drop arrow (For left lane, use mirror image)



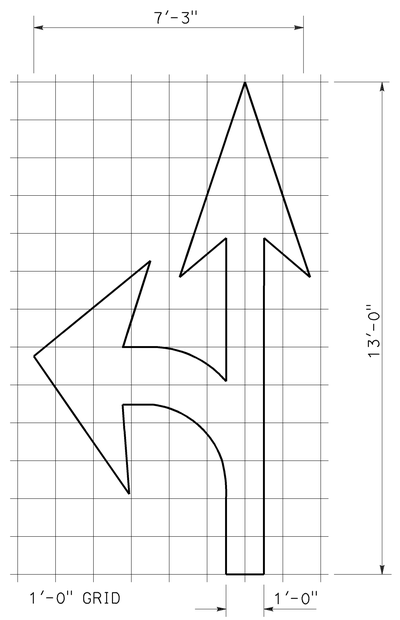
A=3.5 ft²

BIKE LANE ARROW



A=36 ft²

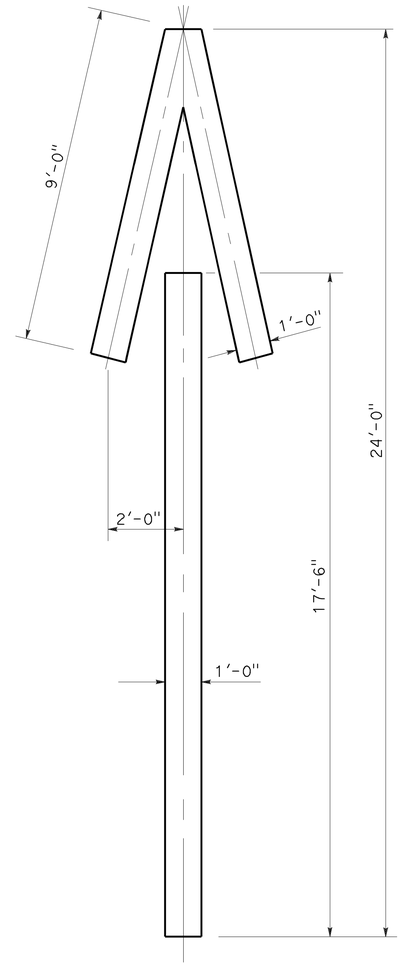
TYPE VIII ARROW



A=27 ft²

TYPE VII (L) ARROW

(For Type VII (R) arrow, use mirror image)



A=33 ft²

TYPE V ARROW

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS ARROWS

NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24A

3-14-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1152	1273

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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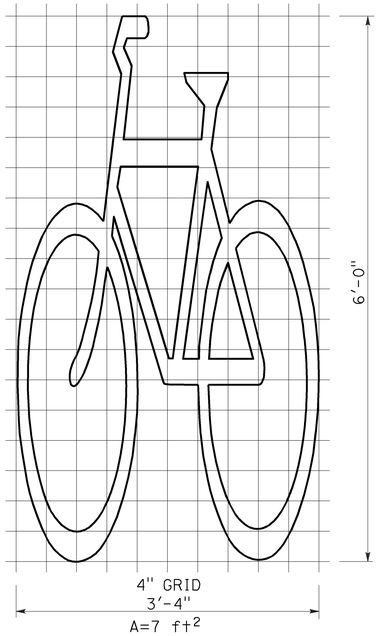
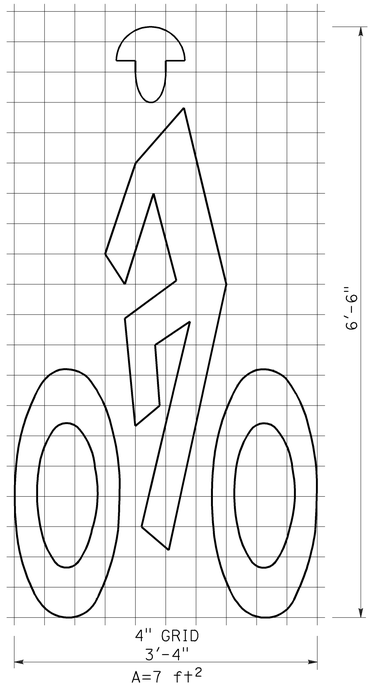
NOTE: TO ACCOMPANY PLANS DATED 03-24-14

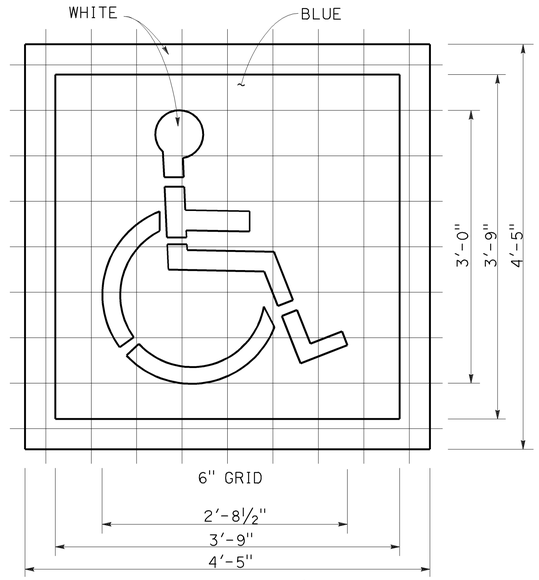
Minor variations in dimensions may be accepted by the Engineer.



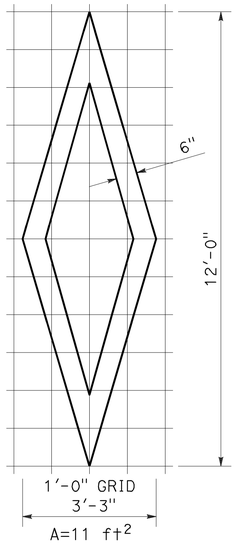
BIKE LANE SYMBOL WITHOUT PERSON



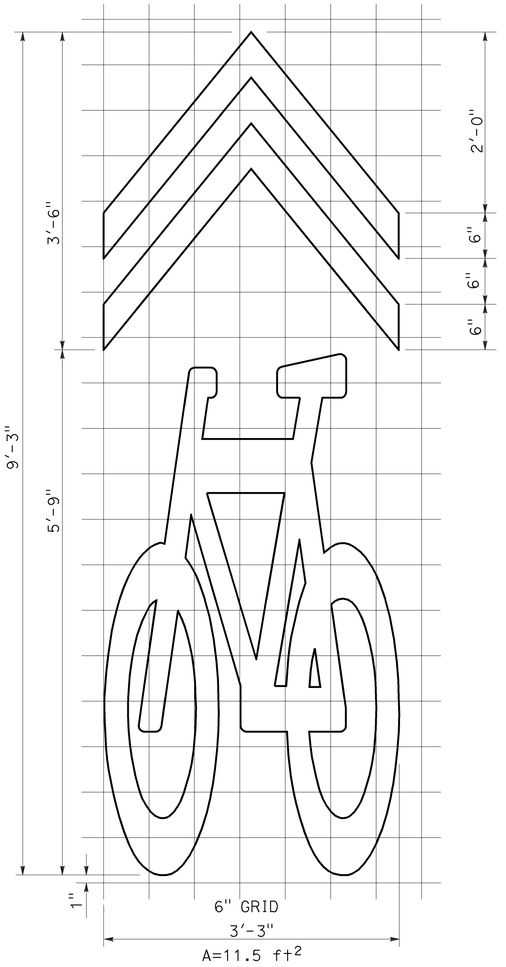
BIKE LANE SYMBOL WITH PERSON



INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING

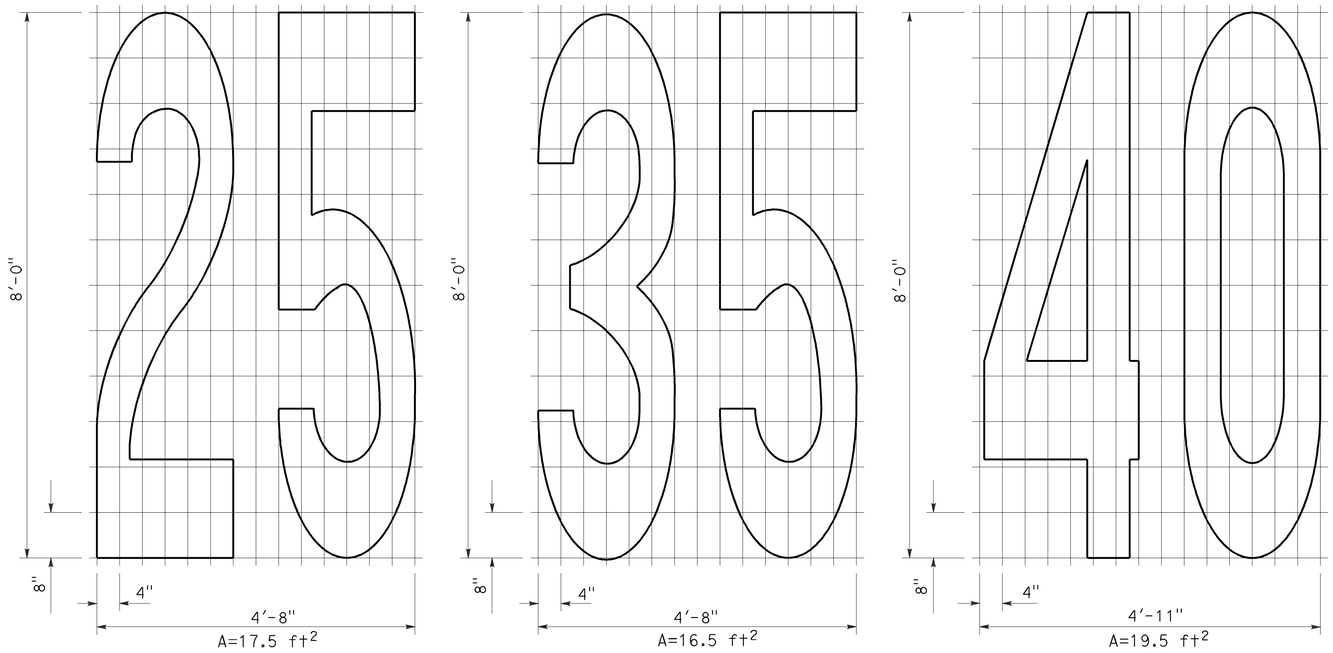


DIAMOND SYMBOL



BICYCLE LOOP DETECTOR SYMBOL

SHARED ROADWAY BICYCLE MARKING



NUMERALS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS SYMBOLS AND NUMERALS

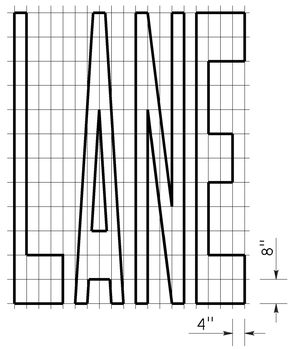
NO SCALE

RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24C

2010 REVISED STANDARD PLAN RSP A24C

6-28-12



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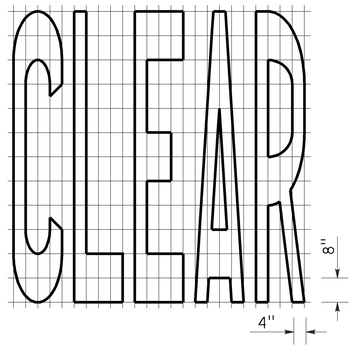

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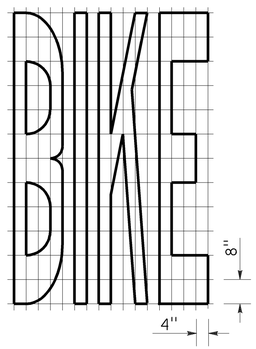

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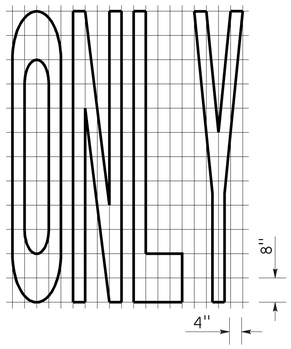

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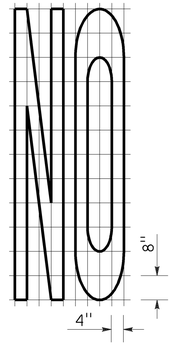

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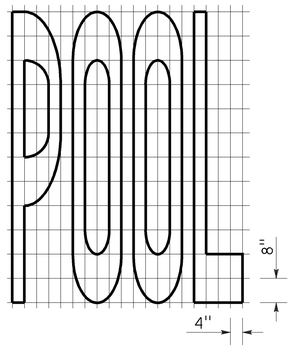

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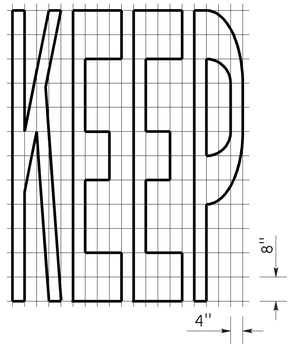

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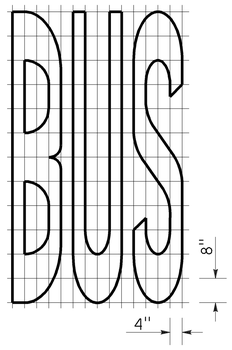

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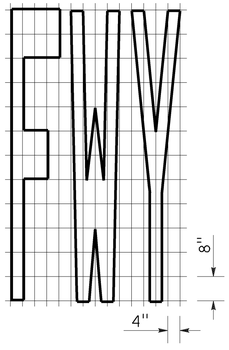

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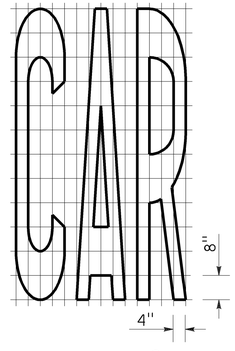


A=17 ft²

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1153	1273

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

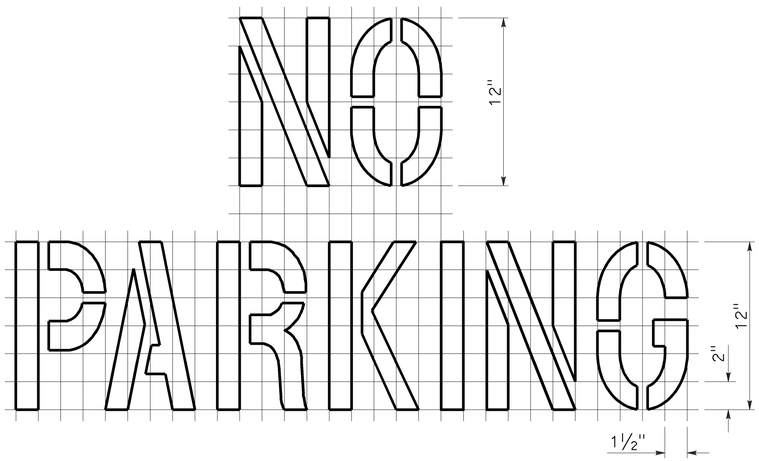
July 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

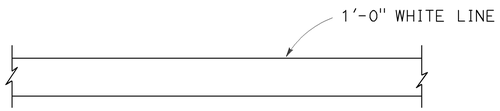
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 03-24-14

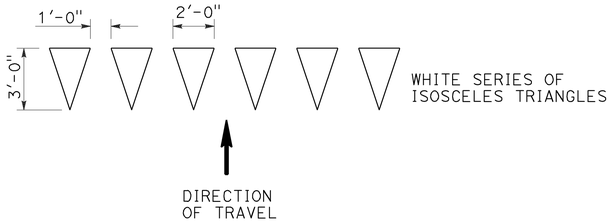
WORD MARKINGS			
ITEM	ft²	ITEM	ft²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS WORDS, LIMIT AND YIELD LINES

NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24E

2010 REVISED STANDARD PLAN RSP A24E

6-12-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1154	1273

Roberta L. McLaughlin
REGISTERED CIVIL ENGINEER

July 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Roberta L. McLaughlin
No. C40375
Exp. 3-31-13
CIVIL
STATE OF CALIFORNIA

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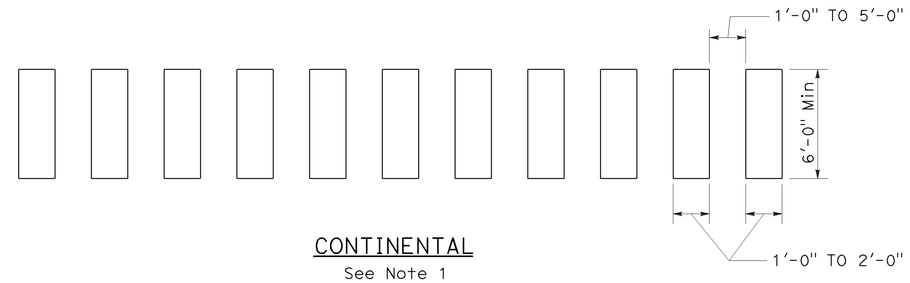
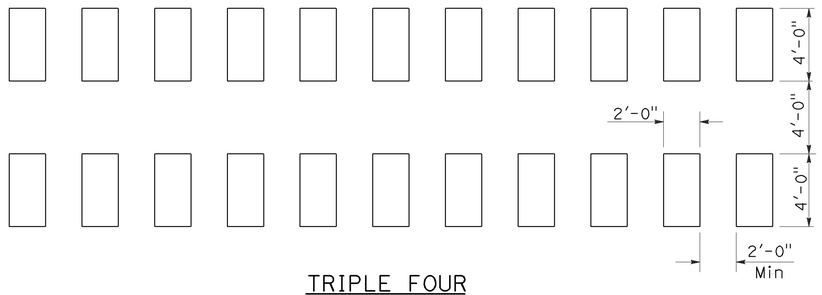
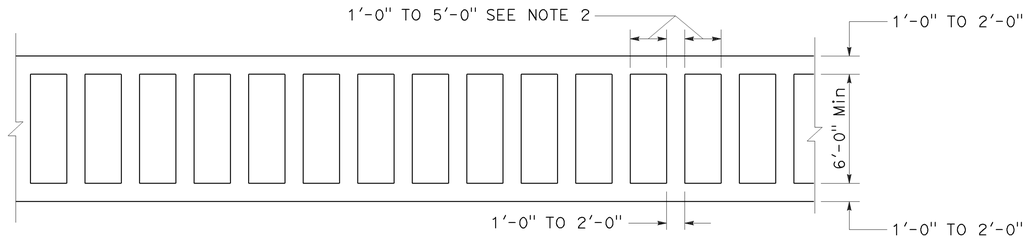
TO ACCOMPANY PLANS DATED 03-24-14



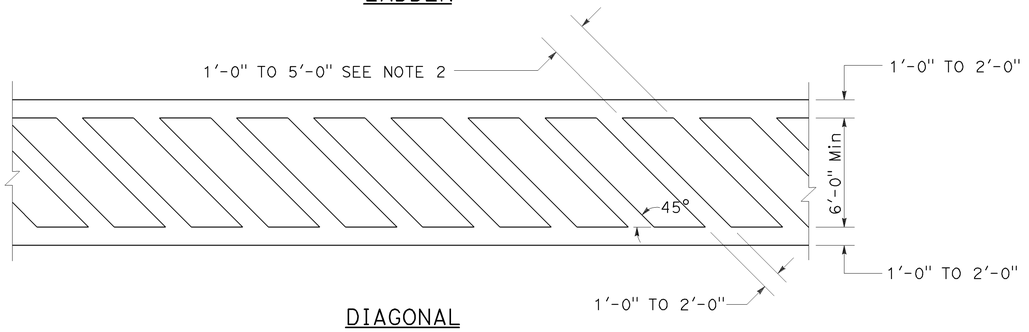
CONTINENTAL
See Note 1



TRIPLE FOUR
See Note 1



LADDER

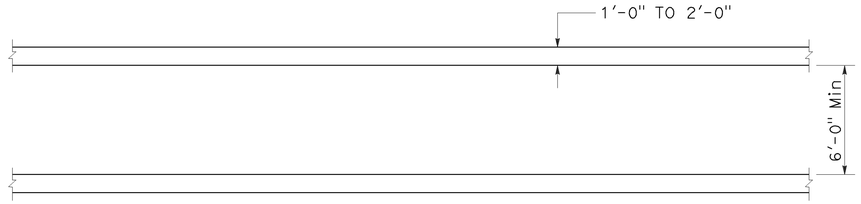


DIAGONAL

HIGHER VISIBILITY CROSSWALKS

NOTES:

1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.



BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKINGS CROSSWALKS

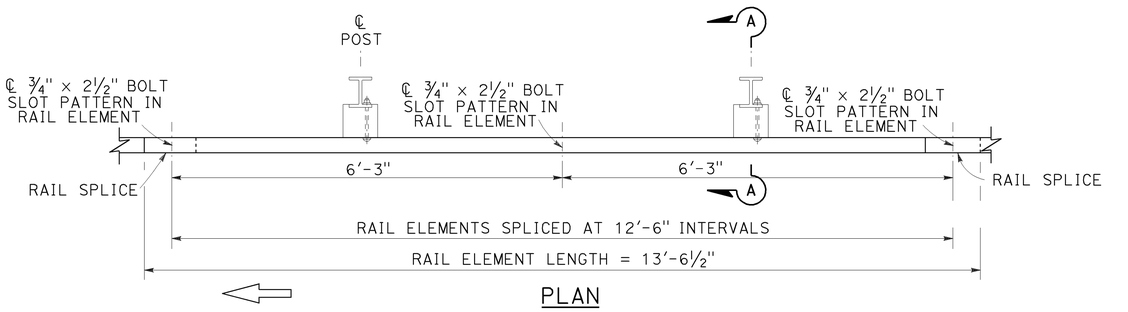
NO SCALE

RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

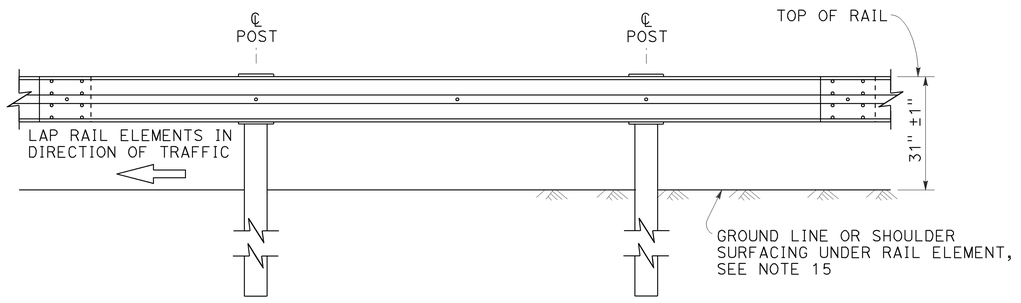
REVISED STANDARD PLAN RSP A24F

2010 REVISED STANDARD PLAN RSP A24F

6-28-12

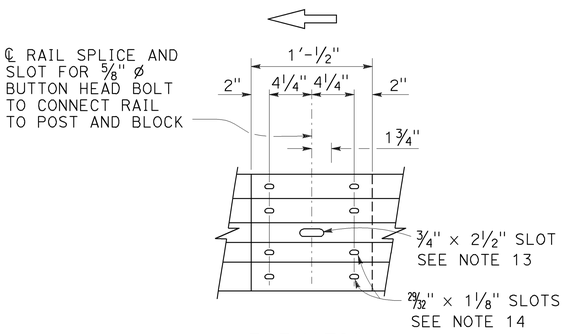


PLAN



ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS



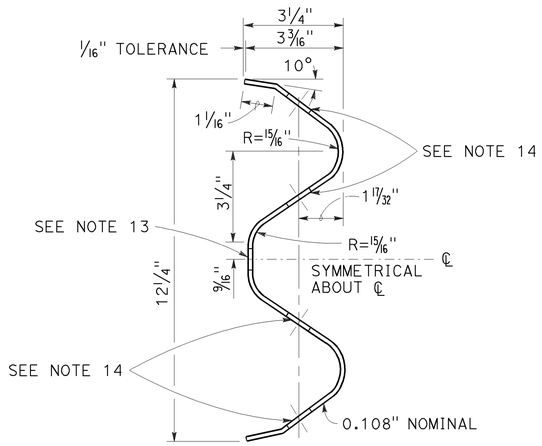
ELEVATION

RAIL ELEMENT SPLICE DETAIL

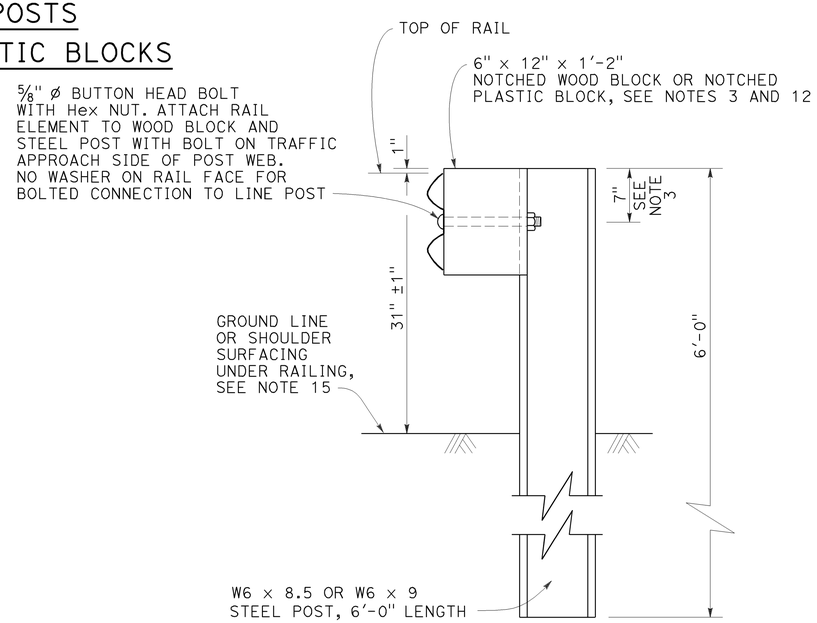
a) Connect the over lapped end of the rail elements with ⅝" ø x 1⅜" button head oval shoulder splice bolts inserted into the 29/32" x 1⅛" slots and bolted together with ⅝" ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.

b) The ends of the rail elements are to be overlapped in the direction of traffic (see details).

c) Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



SECTION A-A

TYPICAL STEEL LINE POST INSTALLATION

See Note 4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1155	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt No. C50200 Exp. 6-30-15 CIVIL — STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14

NOTES:

1. For details of wood post installations, see Revised Standard Plan RSP A77L1.
2. For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
3. For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
4. For additional installation details, see Revised Standard Plan RSP A77N3.
5. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
6. For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
7. If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
8. For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
9. For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
10. For additional details of MGS connection to bridge railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
11. For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
12. Notched face of block faces steel post.
13. Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
14. Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
15. Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L2

2010 REVISED STANDARD PLAN RSP A77L2

7-3-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1156	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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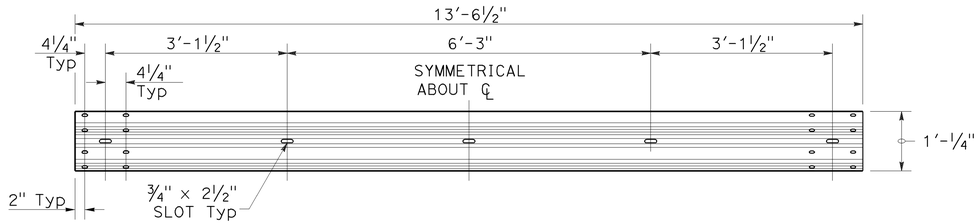
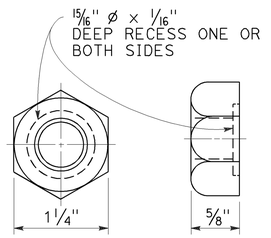
TO ACCOMPANY PLANS DATED 03-24-14



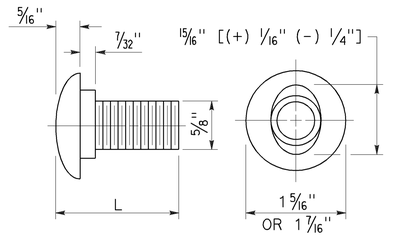
TYPICAL RAIL ELEMENT

NOTE:

1. Slotted holes for splice bolts to overlap ends of rail element.



⅝" ø RECESS NUT

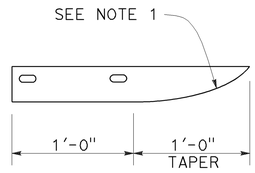


⅝" ø BUTTON HEAD BOLT

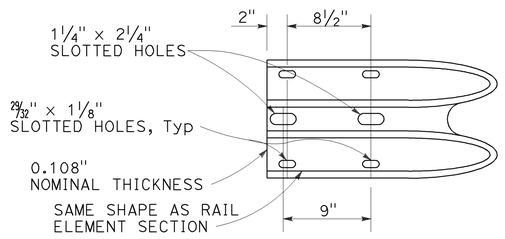
BUTTON HEAD BOLT

L	THREAD LENGTH
1⅜"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2¾"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



ELEVATION

END CAP (TYPE A)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD HARDWARE

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

7-3-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1157	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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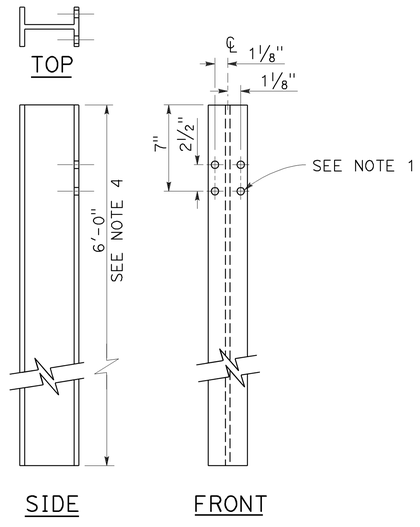
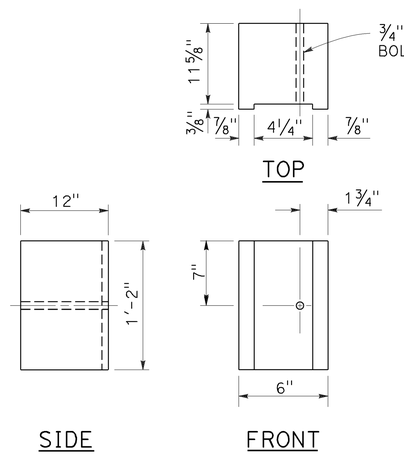
TO ACCOMPANY PLANS DATED 03-24-14



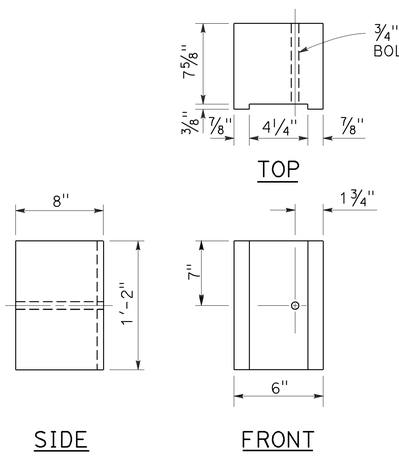
W6 x 9 OR W6 x 8.5 STEEL POST

See Note 4



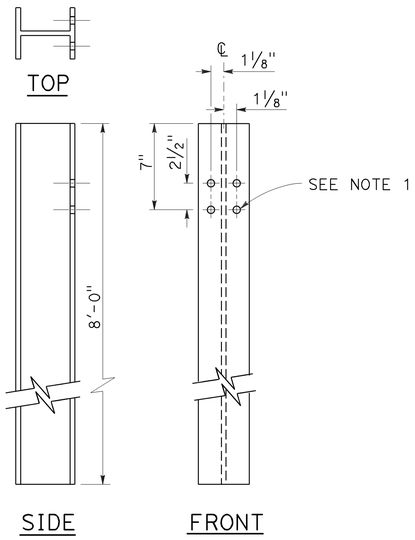
6" x 12" NOTCHED WOOD BLOCK

See Notes 2 and 3



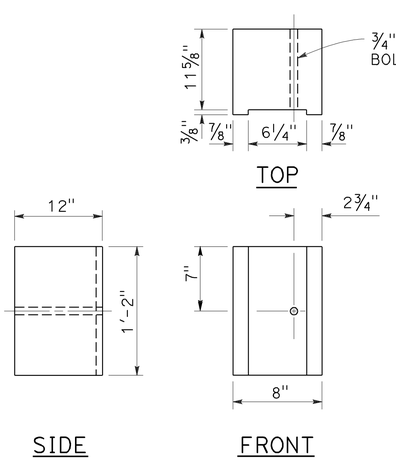
6" x 8" NOTCHED WOOD BLOCK

Only for use with metal beam guard railing. See Note 5



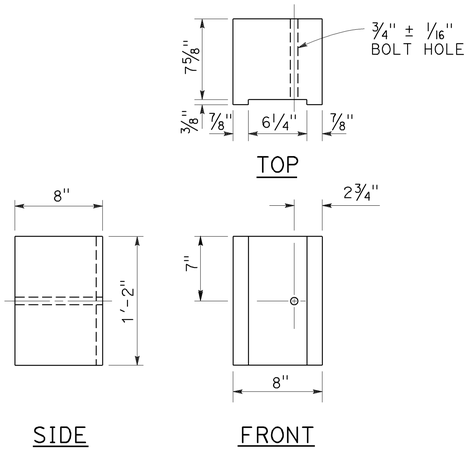
W6 x 15 STEEL POST

See Note 6



8" x 12" NOTCHED WOOD BLOCK

See Notes 2 and 3



8" x 8" NOTCHED WOOD BLOCK

Only for use with metal beam guard railing. See Note 5

NOTES:

1. All holes in steel post shall be 13/16" Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STEEL POST AND NOTCHED WOOD BLOCK DETAILS

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N2

2010 REVISED STANDARD PLAN RSP A77N2

10-29-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1158	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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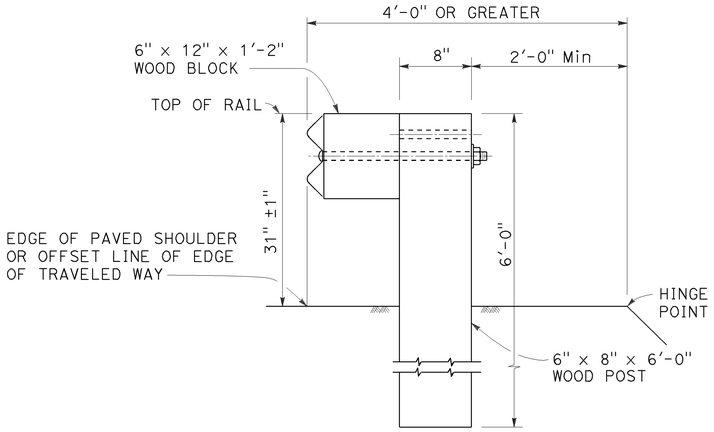
TO ACCOMPANY PLANS DATED 03-24-14

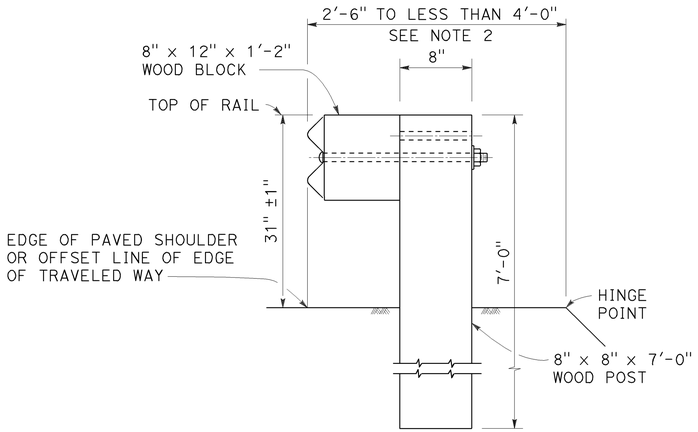
2010 REVISED STANDARD PLAN RSP A77N3



DETAIL A

TYPICAL ROADWAY INSTALLATION

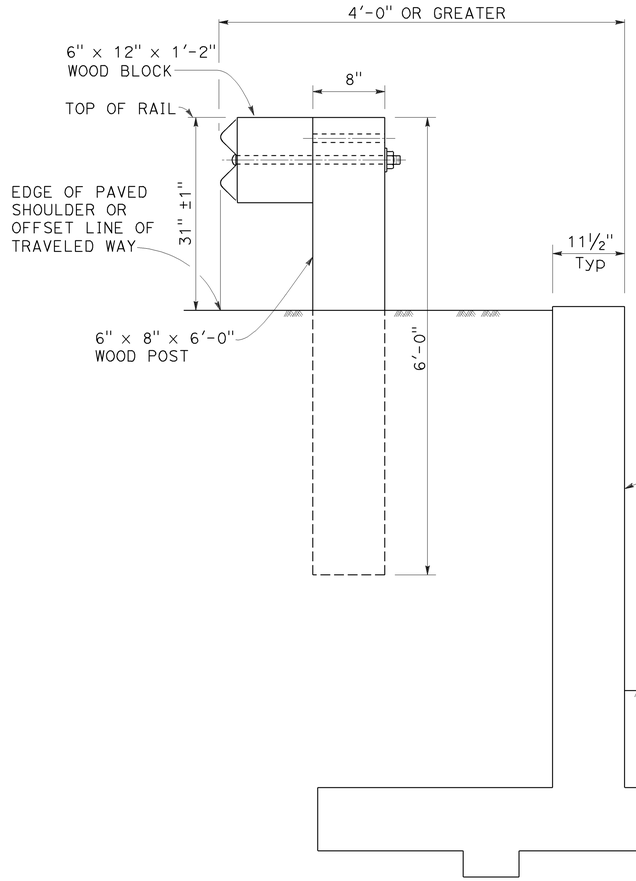
See Note 1



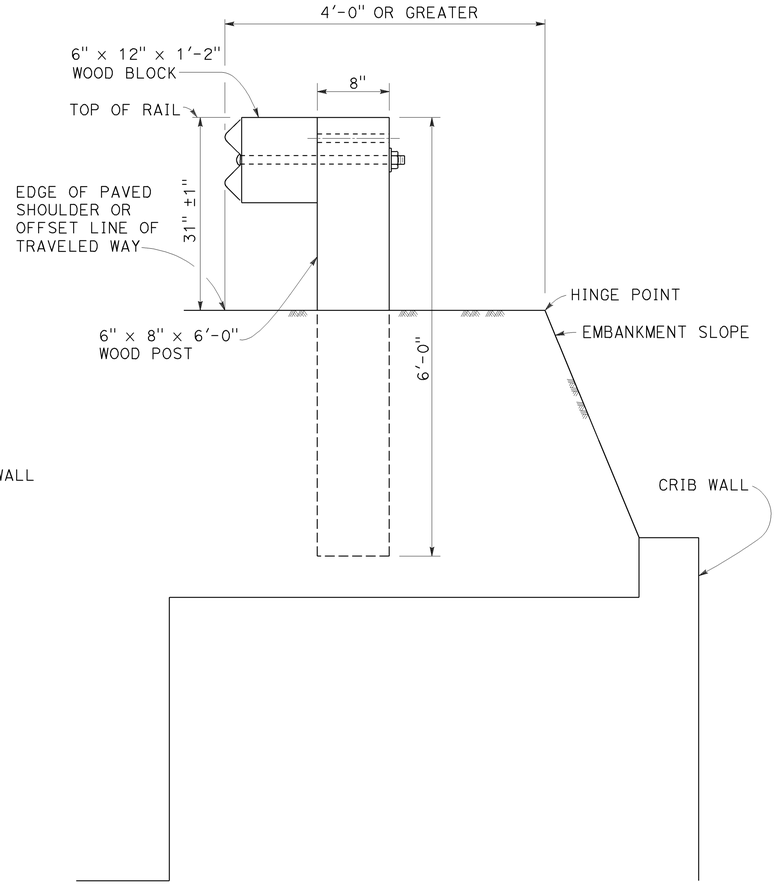
DETAIL B

NARROW ROADWAY INSTALLATION

See Note 1



DETAIL C



DETAIL D

POST EMBEDMENT

INSTALLATION AT EARTH RETAINING WALLS

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LINE POST EMBEDMENT AND HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

10-29-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1159	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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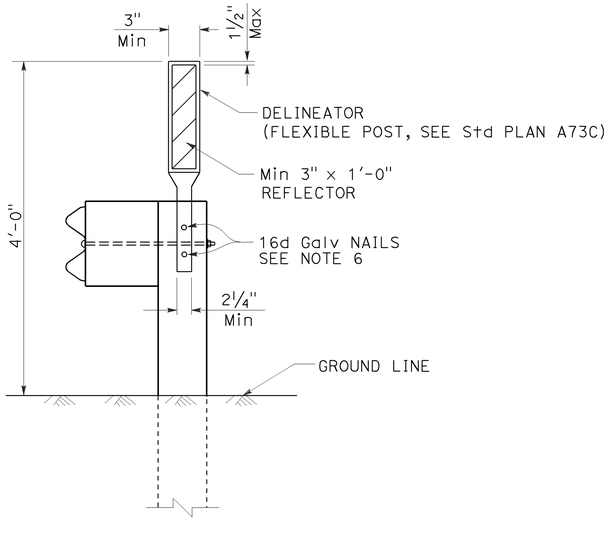
TO ACCOMPANY PLANS DATED 03-24-14

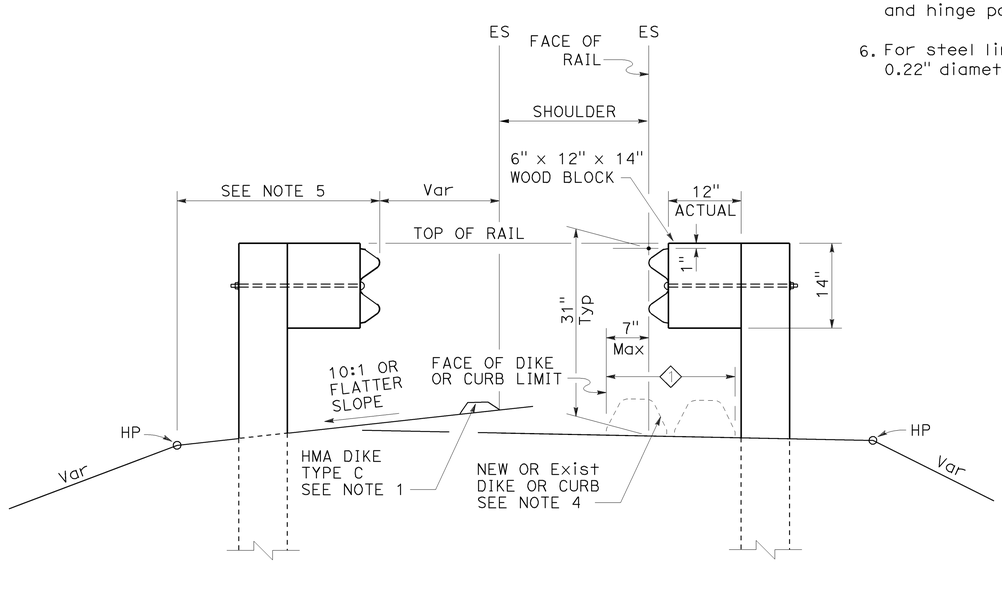
NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
6. For steel line posts, use 1/4 - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 9/32" diameter holes.



MGS DELINEATION

See Note 3



DIKE POSITIONING

See Note 1

◇1 PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL RAILING DELINEATION AND DIKE POSITIONING DETAILS

NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

7-10-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1160	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

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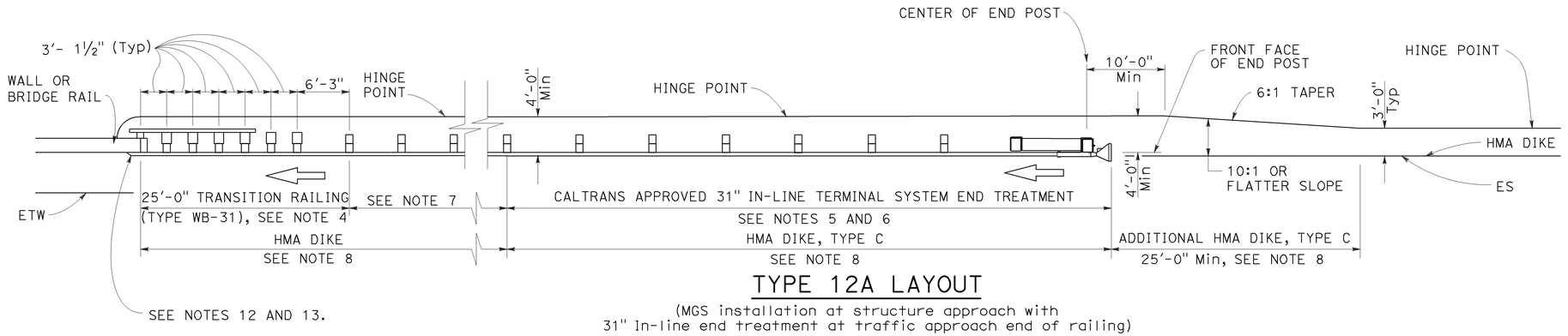
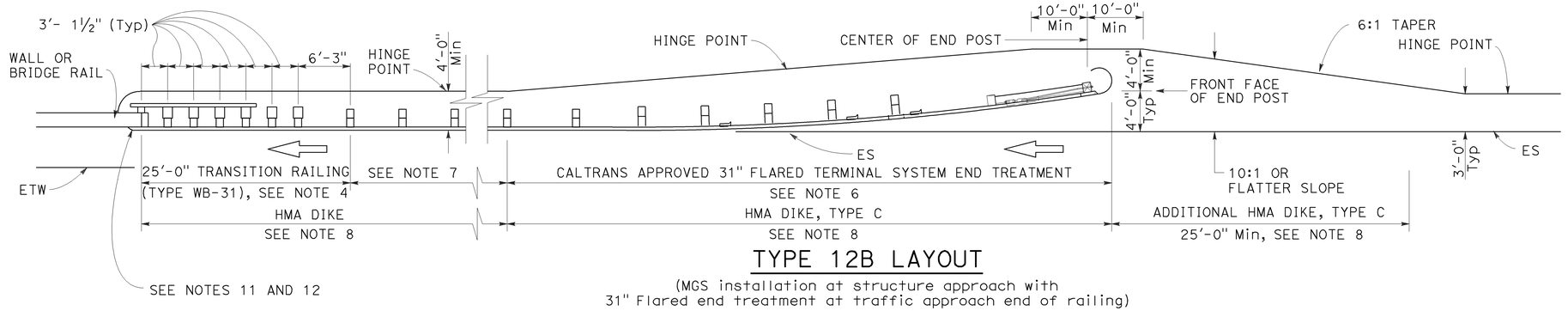
TO ACCOMPANY PLANS DATED 03-24-14



TYPE 12A LAYOUT

(MGS installation at structure approach with
31" In-line end treatment at traffic approach end of railing)
See Notes 9



TYPE 12B LAYOUT

(MGS installation at structure approach with
31" Flared end treatment at traffic approach end of railing)
See Notes 9

NOTES:

1. Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
2. MGS post spacing to be 6'-3" center to center, except as otherwise noted.
3. Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
4. For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
5. 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
6. The type 31" of terminal system end treatment to be used will be shown on the Project Plans.
7. Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
8. Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
9. Type 12A or Type 12B Layouts are typically used:
   a. To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
   b. To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
   c. To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
   d. To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
10. See Revised Standard Plan RSP A77Q3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
11. For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
12. For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TYPICAL LAYOUTS FOR STRUCTURE APPROACH

NO SCALE

RSP A77Q1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q1

2010 REVISED STANDARD PLAN RSP A77Q1

6-19-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1161	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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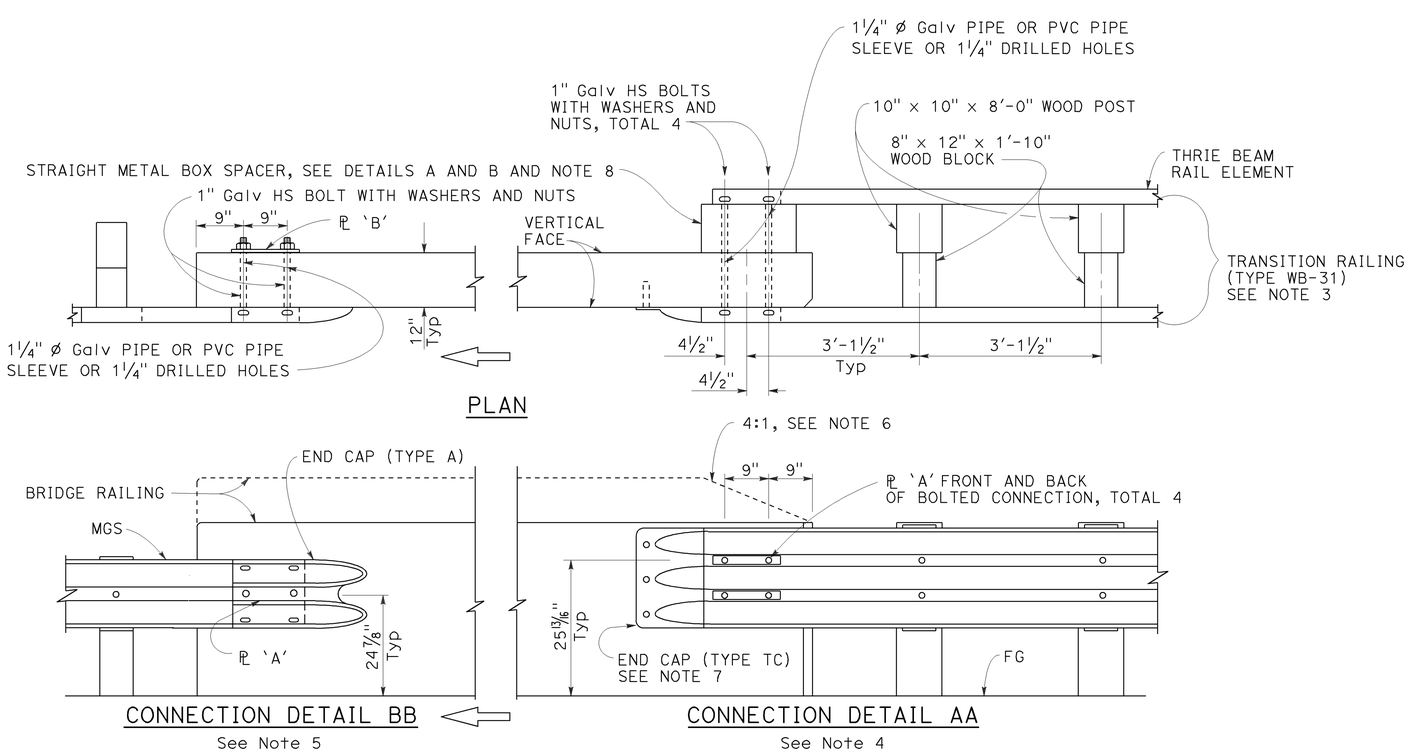
TO ACCOMPANY PLANS DATED 03-24-14



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

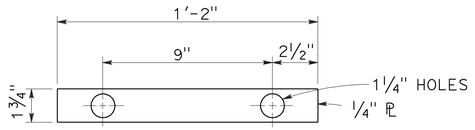


PLATE 'A'

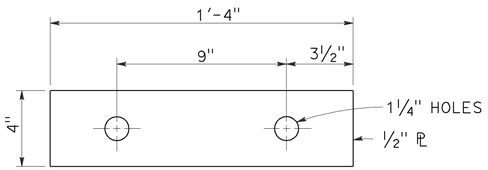
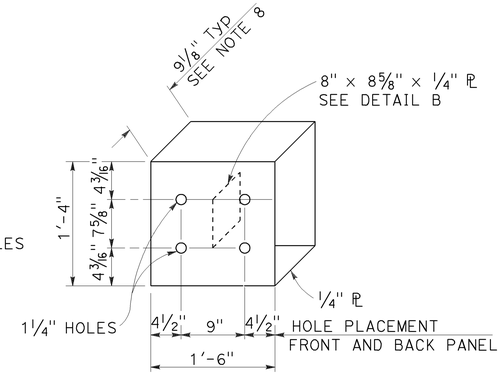
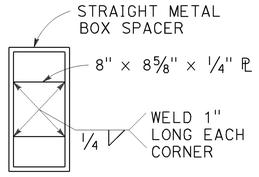


PLATE 'B'
(For backside of connection BB)



DETAIL A



DETAIL B

STRAIGHT METAL BOX SPACER

NOTES:

1. See Revised Standard Plan RSP A77U2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 1

NO SCALE

RSP A77U1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

7-8-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1162	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

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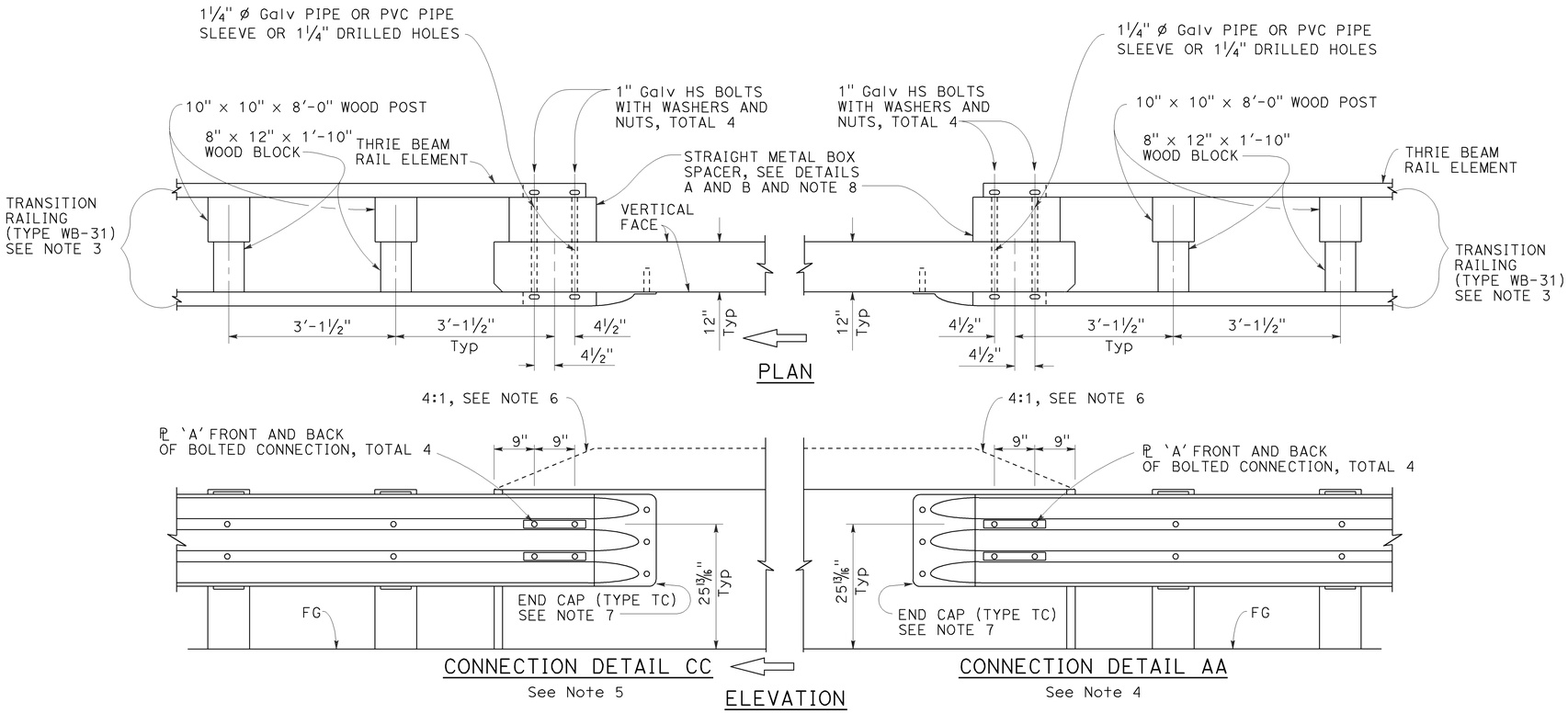
TO ACCOMPANY PLANS DATED 03-24-14



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Revised Standard Plan RSP A77Q4 and Layout Type 12CC on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.

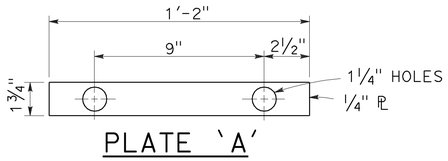


PLATE 'A'

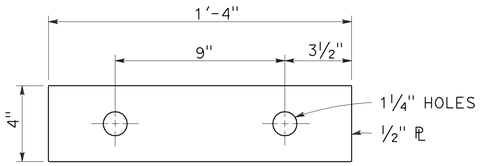
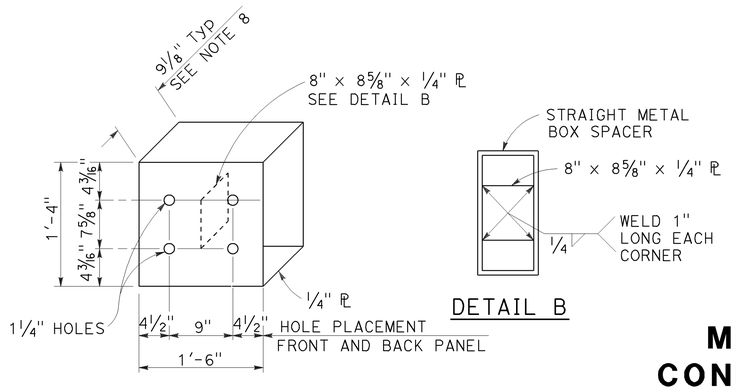


PLATE 'B'
(For backside of connection BB)



DETAIL A

STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No. 2

NO SCALE

RSP A77U2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U2

2010 REVISED STANDARD PLAN RSP A77U2

6-20-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1163	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

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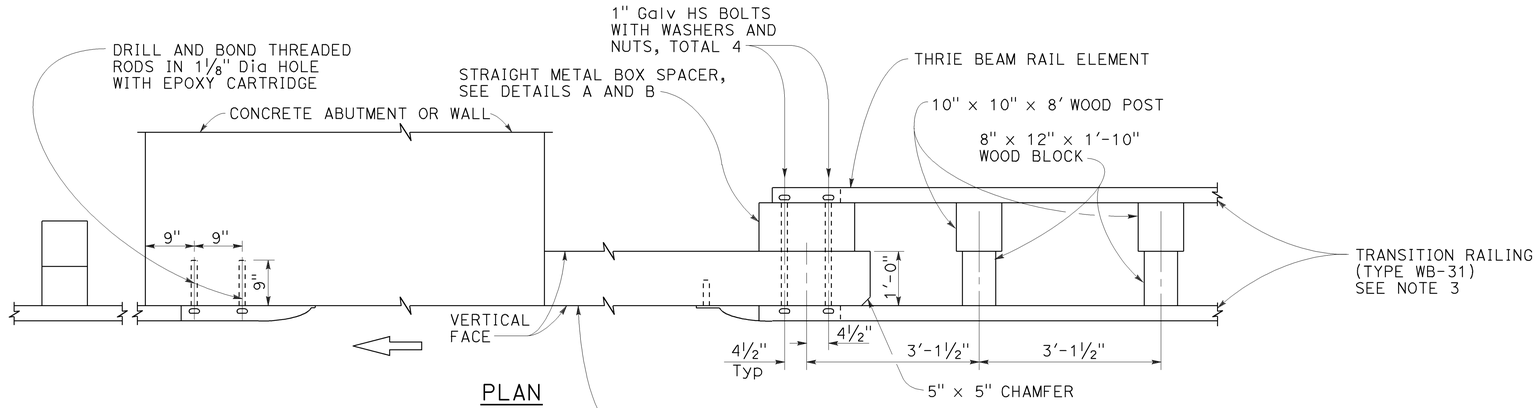
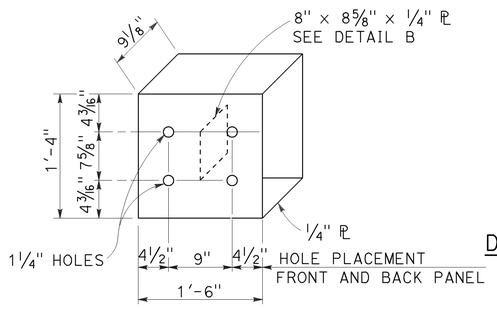
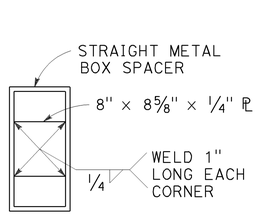
TO ACCOMPANY PLANS DATED 03-24-14



MIDWEST GUARDRAIL SYSTEM CONNECTION TO ABUTMENT OR WALL

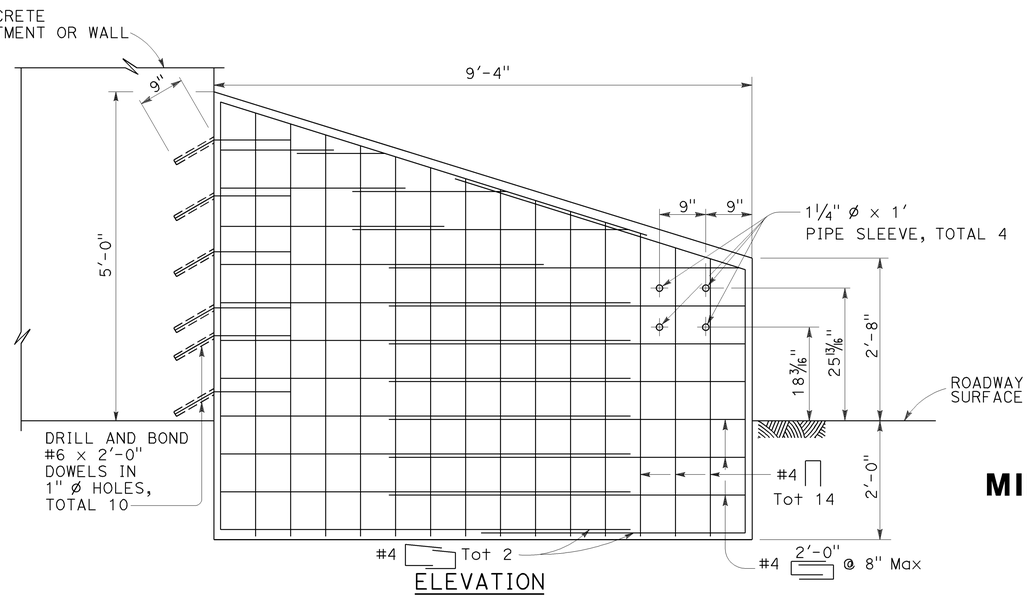


DETAIL A



DETAIL B

STRAIGHT METAL BOX SPACER



ELEVATION

ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION

DETAIL C

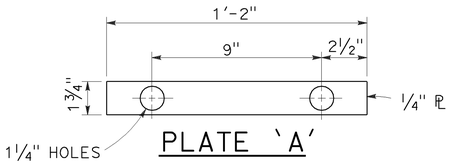


PLATE 'A'

NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railingsection which is connected to the concrete anchor block.
4. For typical use of Connection Details DD, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1 and Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2.
5. For typical use of Connection Detail EE, see Layout Type 12D on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO ABUTMENTS AND WALLS

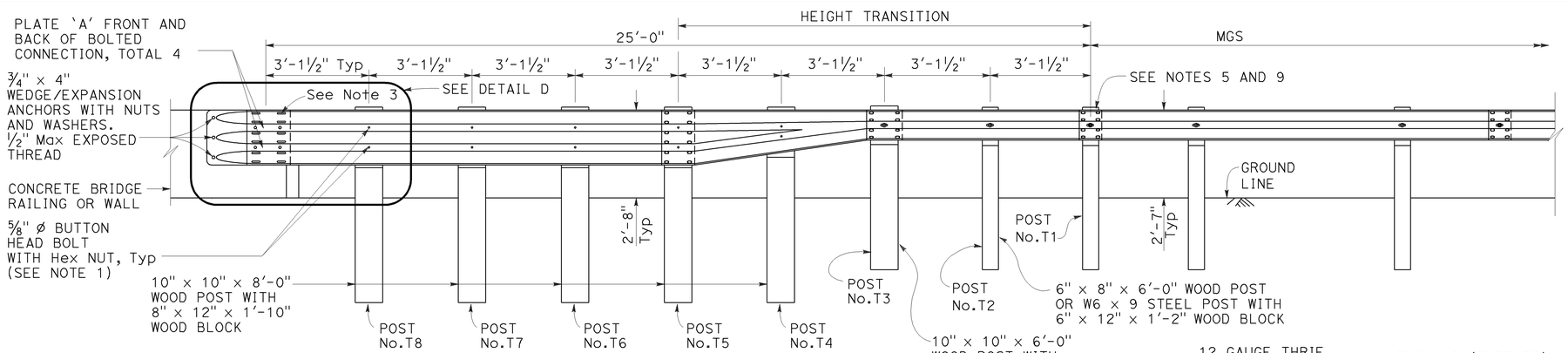
NO SCALE

RSP A77U3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

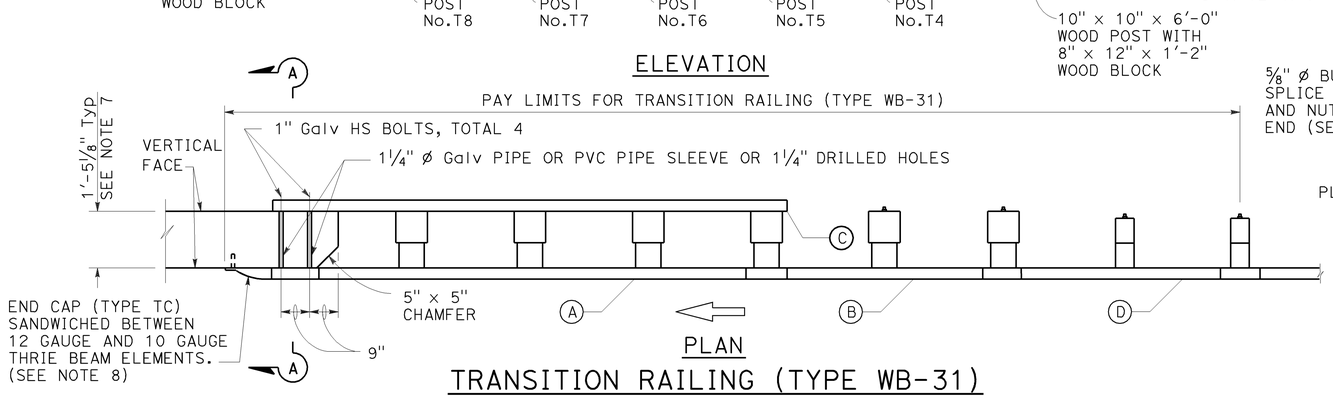
REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

7-8-13



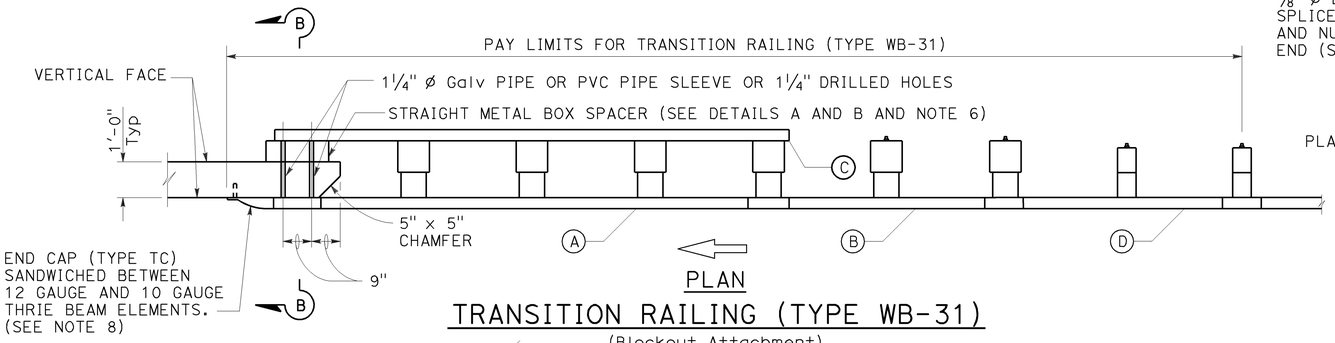
ELEVATION



PLAN

TRANSITION RAILING (TYPE WB-31)

(No Blockout Attachment)



PLAN

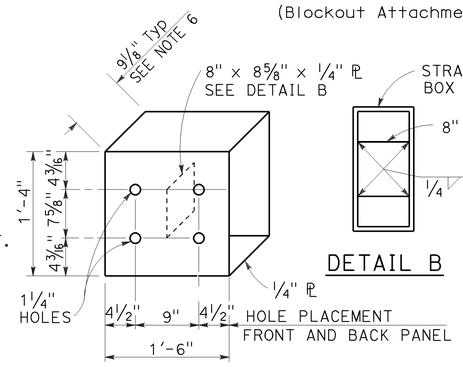
TRANSITION RAILING (TYPE WB-31)

(Blockout Attachment)

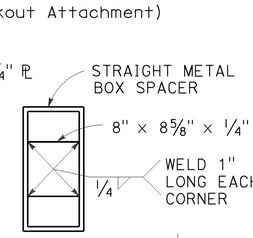
LEGEND:

- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
- (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
- (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
- (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3½"LENGTH)

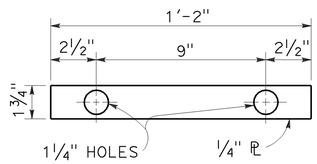
10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



DETAIL A

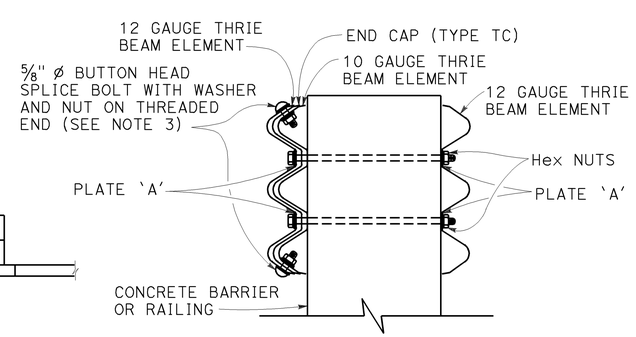


DETAIL B

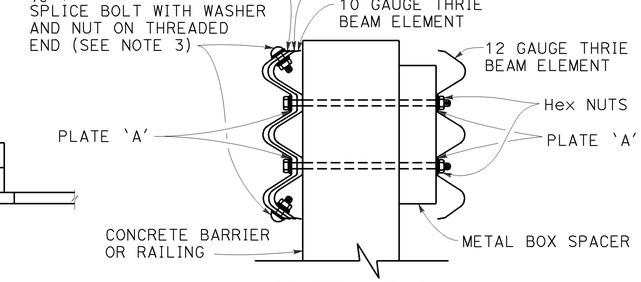


DETAIL C

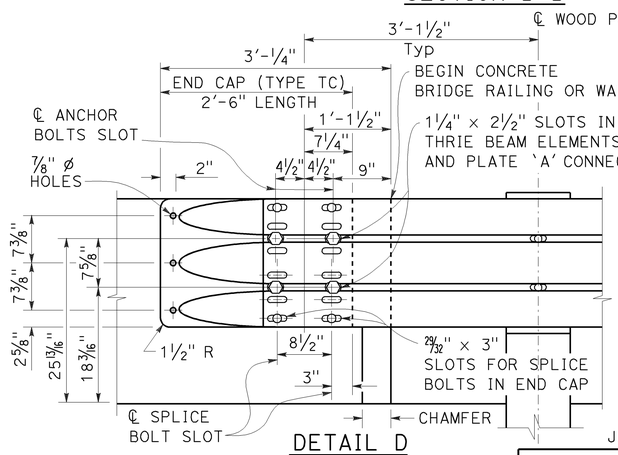
STRAIGHT METAL BOX SPACER — PLATE 'A'



SECTION A-A



SECTION B-B



DETAIL D

NOTES:

TO ACCOMPANY PLANS DATED 03-24-14

1. Use ⅝" ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
2. The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1⅛" slot size. Interior splice bolt holes at these locations may be increased up to 1¼" ø. Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
6. The depth of the metal box spacer varies from the 9⅛" to 1½" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 21⅛". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1½", metal plates similar to Plate 'A' are to be used as spacers.
7. Where the width of the concrete railing or wall is greater than 17⅛", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM TRANSITION RAILING (TYPE WB-31)

NO SCALE

RSP A77U4 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1164	1273

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Randell D. Hiatt — No. C50200 — Exp. 6-30-15 — CIVIL — STATE OF CALIFORNIA

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2010 REVISED STANDARD PLAN RSP A77U4

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1165	1273

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Glenn DeCou — No. C34547 — Exp. 9-30-13 — CIVIL — STATE OF CALIFORNIA

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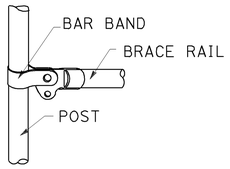
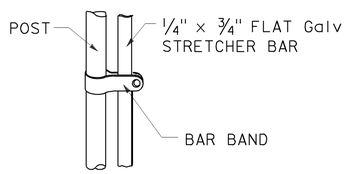
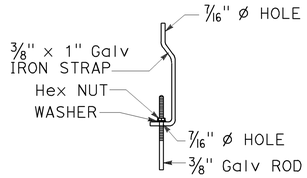
TO ACCOMPANY PLANS DATED 03-24-14



BRACE RAIL



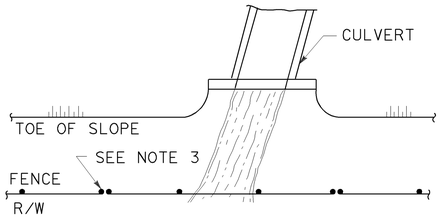
STRETCHER BAR



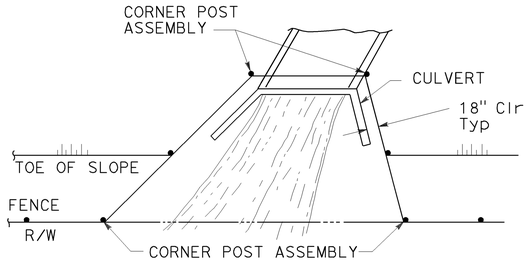
TRUSS TIGHTENER

NOTES:

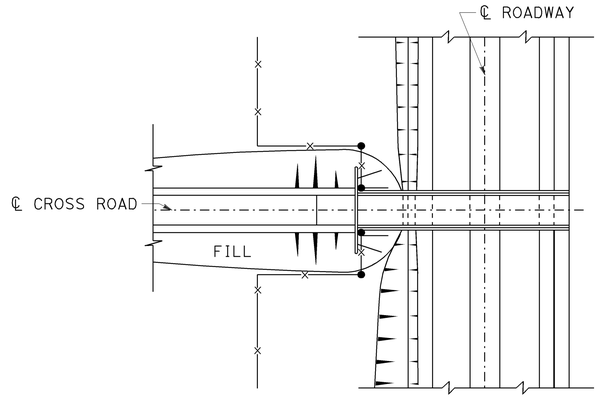
1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Standard Plan A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.



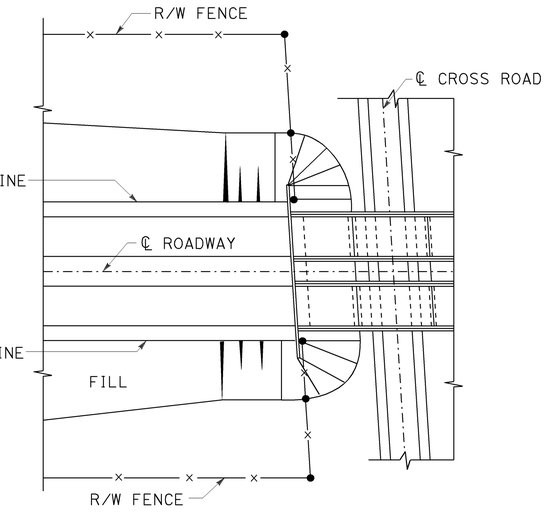
PLAN



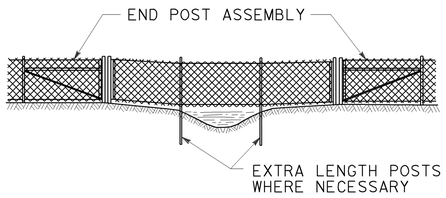
PLAN



PLAN OF ROADWAY - OVERCROSSING

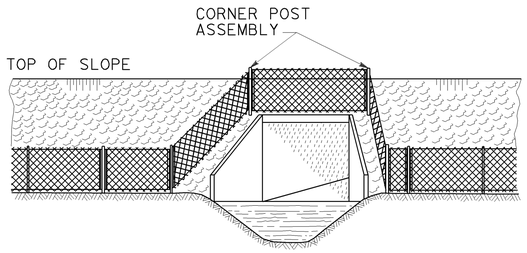


PLAN OF ROADWAY - UNDERCROSSING



ELEVATION

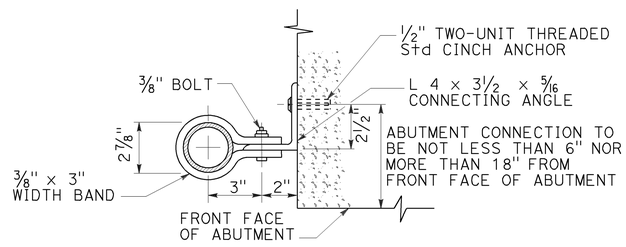
INSTALLATION OVER STREAM



ELEVATION

INSTALLATION AROUND HEADWALL

See Note 4



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE DETAILS

NO SCALE

RSP A85B DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A85B DATED MAY 20, 2011 - PAGE 114 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A85B

2010 REVISED STANDARD PLAN RSP A85B

7-19-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1166	1273

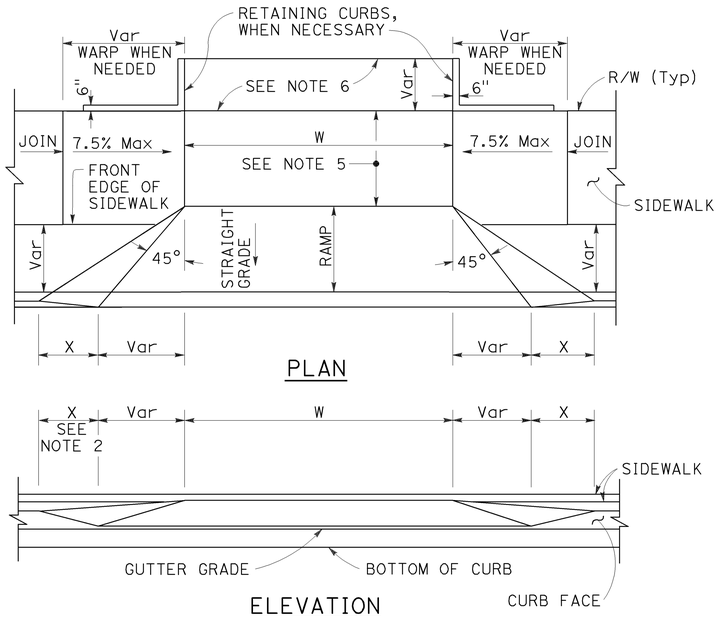
REGISTERED CIVIL ENGINEER

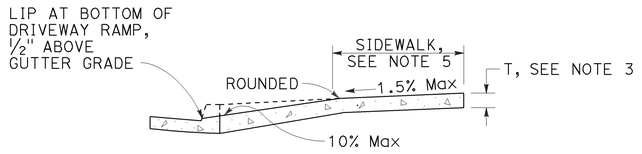
July 19, 2013
PLANS APPROVAL DATE

Michael Janzen No. 44788 Exp. 03-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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.

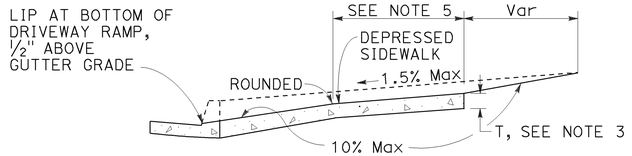
TO ACCOMPANY PLANS DATED 03-24-14





CASE A

Typical driveway, sidewalk not depressed



CASE B

Driveway with depressed sidewalk

SECTIONS

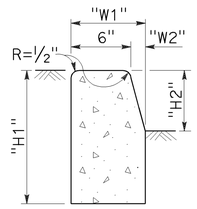
TABLE A

CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7½"	1½"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7½"	1½"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7¼"	1¼"
A3-8	8"	7"	7¾"	1¾"
B1-4	1'-0"	4"	7½"	2½"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7½"	2½"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8½"	3½"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

CURB QUANTITIES

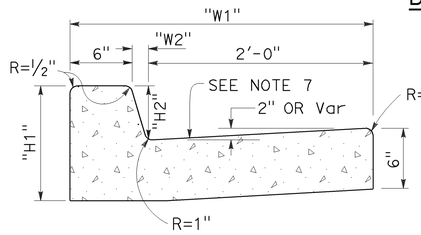
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

DRIVEWAYS



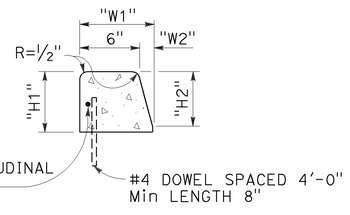
TYPE A1 CURBS

See Table A



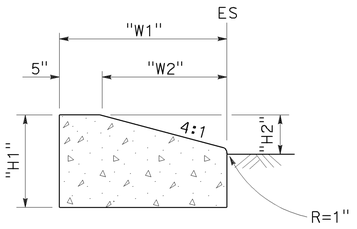
TYPE A2 CURBS

See Table A



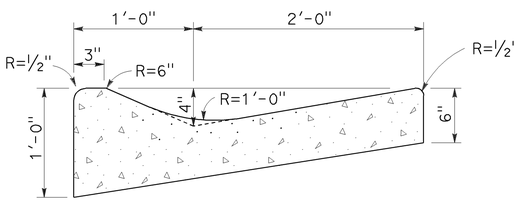
TYPE A3 CURBS

Superimposed on existing pavement
See Table A

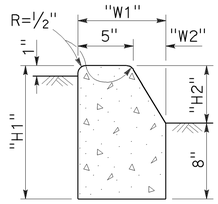


TYPE D CURBS

See Table A

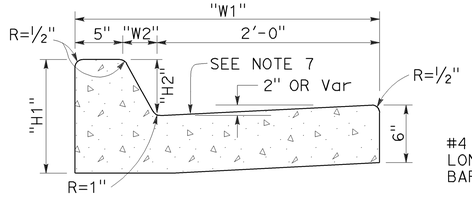


TYPE E CURB



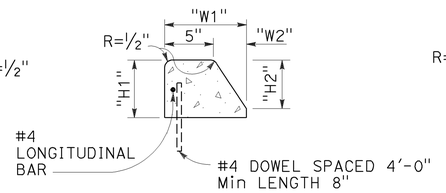
TYPE B1 CURBS

See Table A



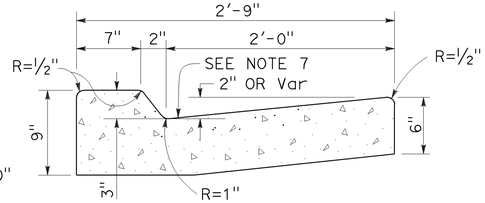
TYPE B2 CURBS

See Table A

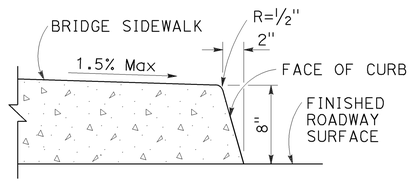


TYPE B3 CURBS

Superimposed on existing pavement
See Table A



TYPE B4 CURBS



TYPE H CURB

On Bridges

CURBS

NOTES:

1. Case A driveway section typically applies.
2. X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
3. Sidewalk and ramp thickness "T" at driveway shall be 4" for residental and 6" for commercial.
4. Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
5. Minimum width of clear passageway for sidewalk shall be 4'-2".
6. Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
7. Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A
DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

2010 REVISED STANDARD PLAN RSP A87A

7-8-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1167	1273

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Michael Janzen
No. 44788
Exp. 03-31-14
CIVIL
STATE OF CALIFORNIA

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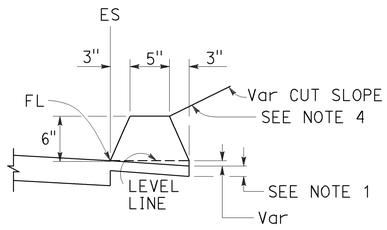
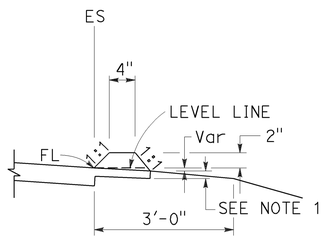
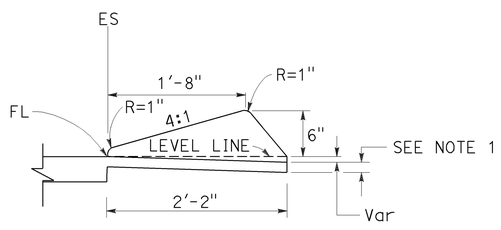
TO ACCOMPANY PLANS DATED 03-24-14



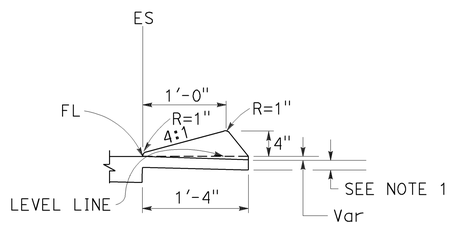
TYPE A
See Note 3



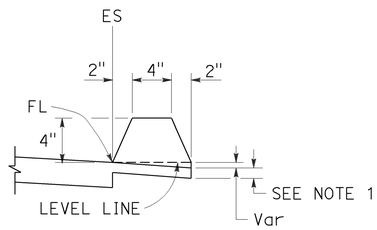
TYPE C



TYPE D

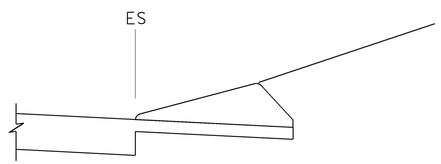


TYPE E

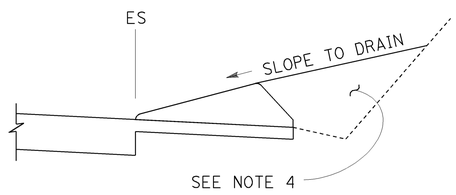


TYPE F
See Note 5

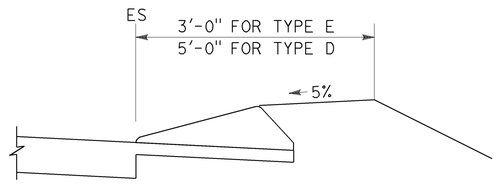
DIKES



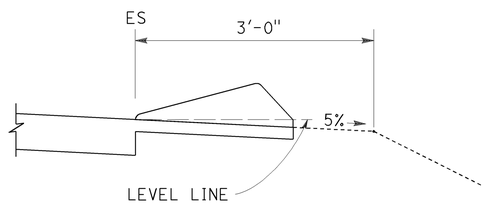
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

DIKE QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

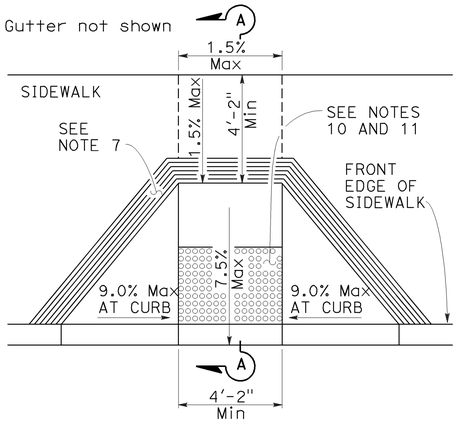
NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

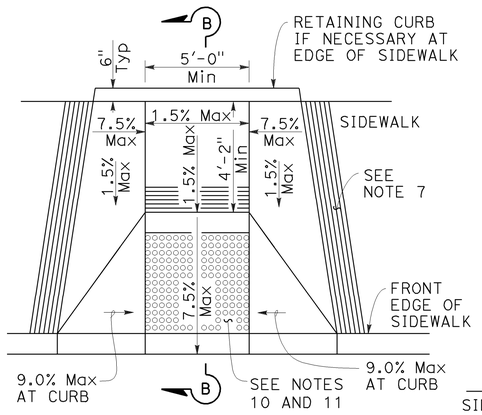
REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

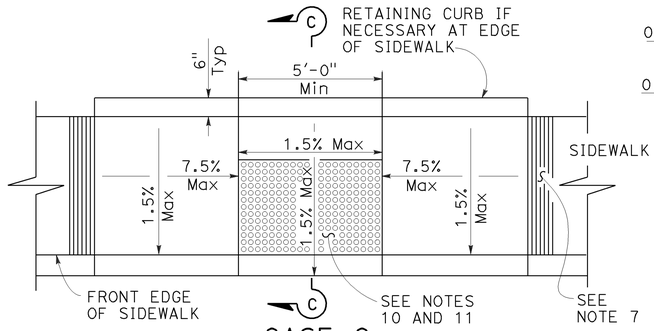
6-27-13



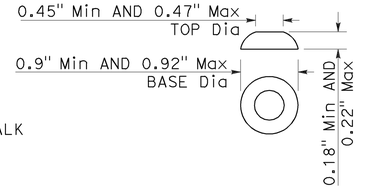
CASE A



CASE B



CASE C



RAISED TRUNCATED DOME

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1168	1273

REGISTERED CIVIL ENGINEER

Hector David Cordova No. C41957 Exp. 3-31-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

July 19, 2013
PLANS APPROVAL DATE

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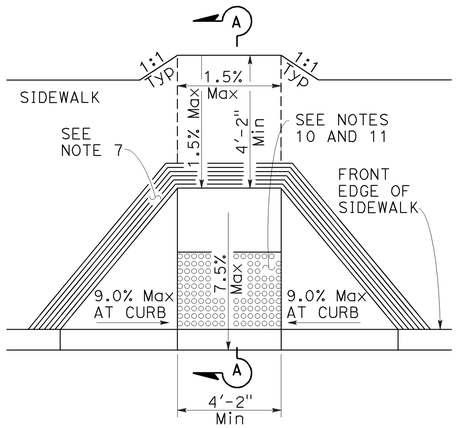
TO ACCOMPANY PLANS DATED 03-24-14



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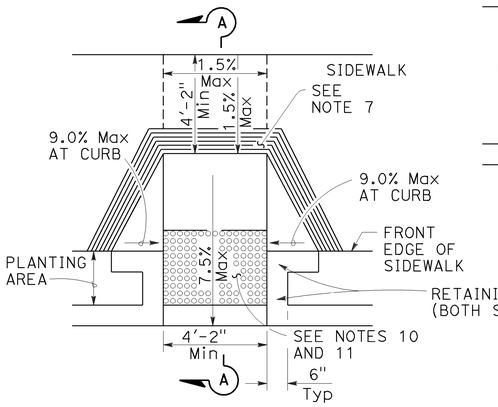

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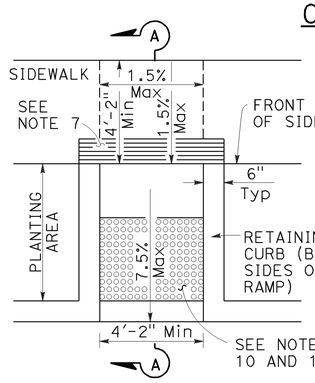

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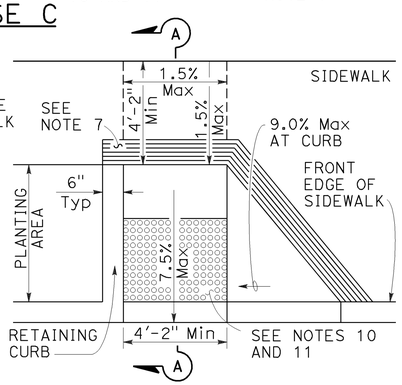
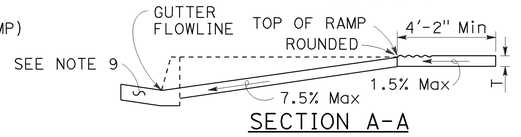
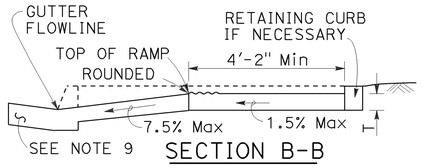


CASE G
See Note 4

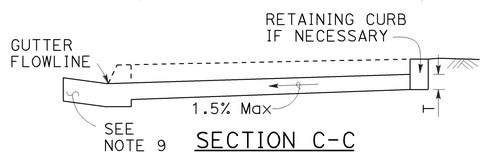


SECTION A-A

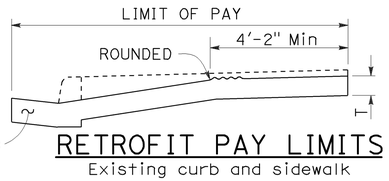


SECTION B-B

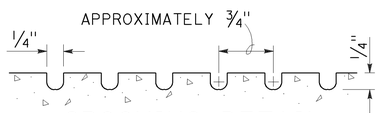
Depress entire sidewalk as required



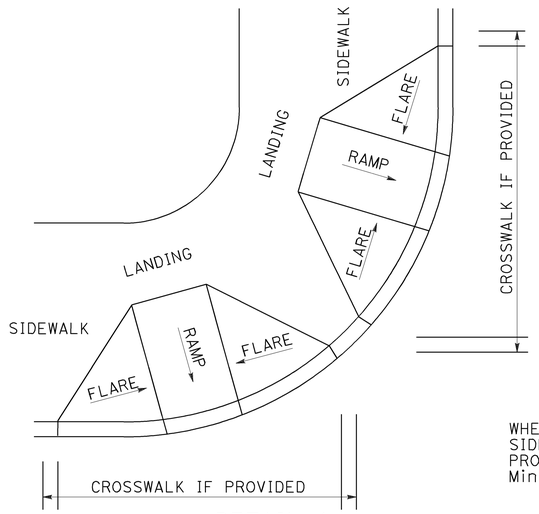
SECTION C-C



RETROFIT PAY LIMITS
Existing curb and sidewalk



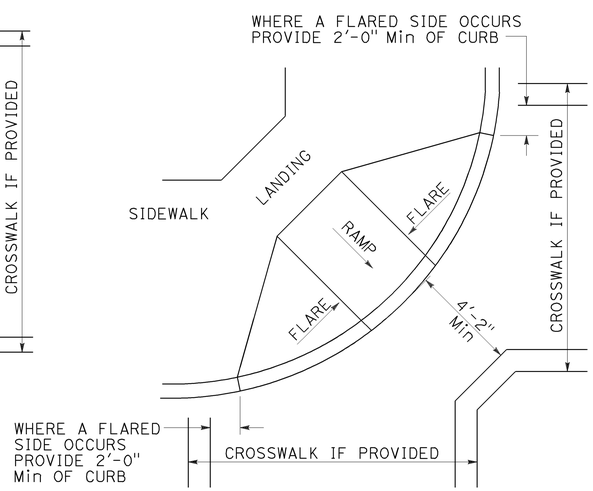
GROOVING DETAIL



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

See Note 1



DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

See Note 10

NOTES:

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
8. Transitions from ramps and landing to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
9. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
10. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Standard Specifications.
11. The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
12. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
13. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
14. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

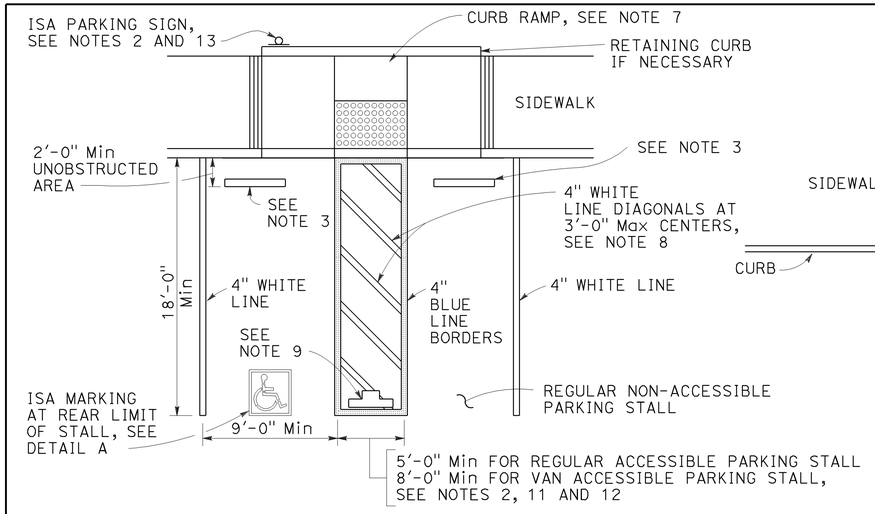
NO SCALE

RSP A88A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A88A
DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

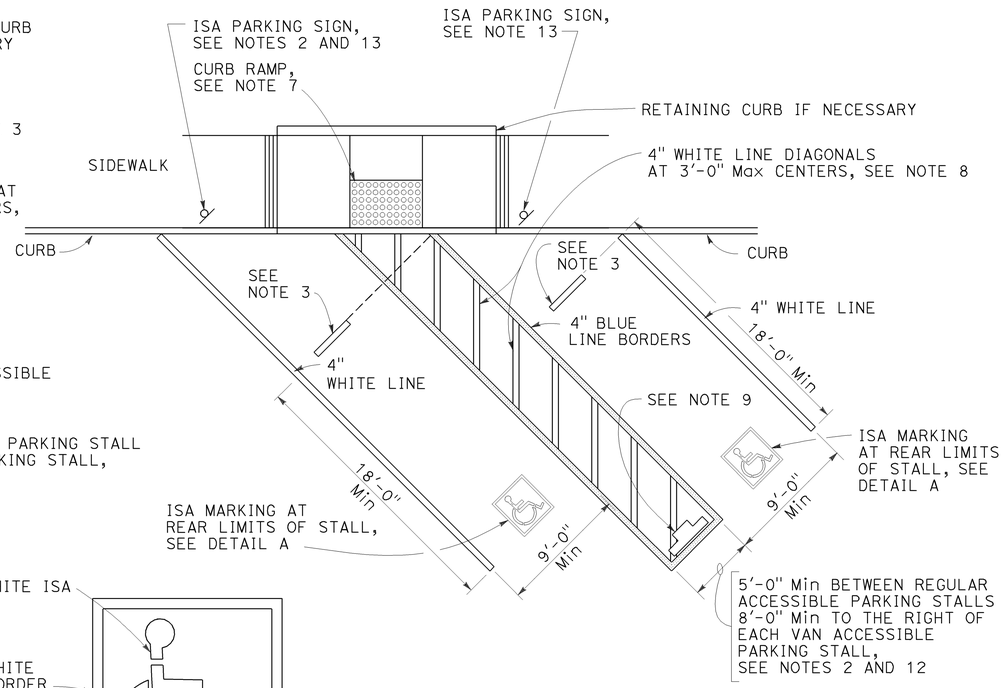
REVISED STANDARD PLAN RSP A88A

2010 REVISED STANDARD PLAN RSP A88A

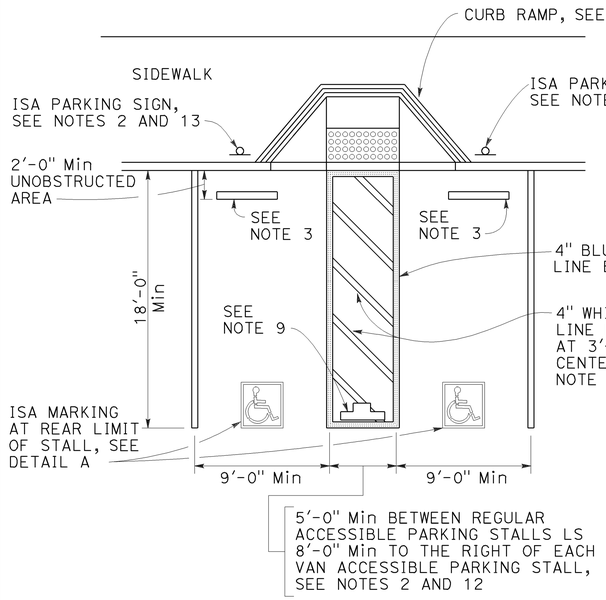
7-8-13



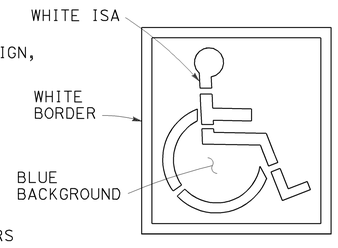
SINGLE PARKING STALL



DIAGONAL DOUBLE PARKING STALLS



DOUBLE PARKING STALL



ISA MARKING
See Revised Std Plan RSP A24C

DETAIL A

TABLE A

TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2 PERCENT OF TOTAL
1001 AND OVER	20 PLUS 1 FOR EACH 100 OR FRACTION THEREOF OVER 1000

SIGN R99 (CA)

PLAQUE R99B (CA)

SIGN R99 (CA) with PLAQUE R99B (CA)
See Note 6

SIGN R99C (CA)
See Note 6

SIGN R100B (CA)
See Note 10

SIGN R7-8b
See Notes 2 and 6

OFF-STREET PARKING SIGNS

(Parking lot or garage)
See Note 6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1169	1273

REGISTERED CIVIL ENGINEER

Hector David Cordova
No. C41957
Exp. 3-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

July 19, 2013
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.

TO ACCOMPANY PLANS DATED 03-24-14

NOTES:

1. Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility.
2. One in every six accessible off-street parking stalls, but not less than one, shall be served by an accessible aisle of 8'-0" minimum width and shall be signed van accessible. The R7-8b sign shall be mounted below the R99B (CA) plaque or the R99C (CA) sign.
3. In each parking stall, a curb or parking bumper shall be provided if required to prevent encroachment of vehicles over the required width of walkways. Parking stalls shall be so located that persons with disabilities are not compelled to wheel or walk behind parked vehicles other than their own. For more parking bumper requirements, see the Special Provisions.
4. Parking spaces and access aisles shall be level with surface slopes not exceeding 1.5% in all directions.
5. Table A shall be used to determine the required number of accessible parking stalls in each parking lot or garage.
6. Where Plaque R99B (CA), Sign R99C (CA) or Sign R7-8b are installed, the bottom of the sign or plaque panel shall be a minimum of 7'-0" above the surrounding surface.
7. Curb ramps shall conform to the details shown on Revised Standard Plan RSP A88A.
8. Blue paint, instead of white may be used for marking accessibility aisles in areas where snow may cause white markings to not be visible.
9. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high and located so that it is visible to traffic enforcement officials. See Revised Standard Plan RSP A90B for details of the "NO PARKING" pavement marking.
10. A R100B (CA) sign shall be posted in a conspicuous place at each entrance to off-street parking facilities or immediately adjacent to and visible from each stall. The sign shall include the address where the towed vehicle may be reclaimed and the telephone number of the local traffic law enforcement agency.
11. Where a single (non-van) accessible parking space is provided, the loading and unloading access aisle shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
12. Where a van accessible parking space is provided, the loading and unloading access aisle shall be 8'-0" wide minimum, and shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
13. Accessible Parking Only Sign shall be Sign R99C (CA) or Sign R99 (CA) with Plaque R99B (CA).

LEGEND

ISA = International Symbol of Accessibility

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACCESSIBLE PARKING OFF-STREET

NO SCALE

RSP A90A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A90A
DATED MAY 20, 2011 - PAGE 123 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A90A

2010 REVISED STANDARD PLAN RSP A90A

7-8-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1170	1273

William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-14 — CIVIL — STATE OF CALIFORNIA

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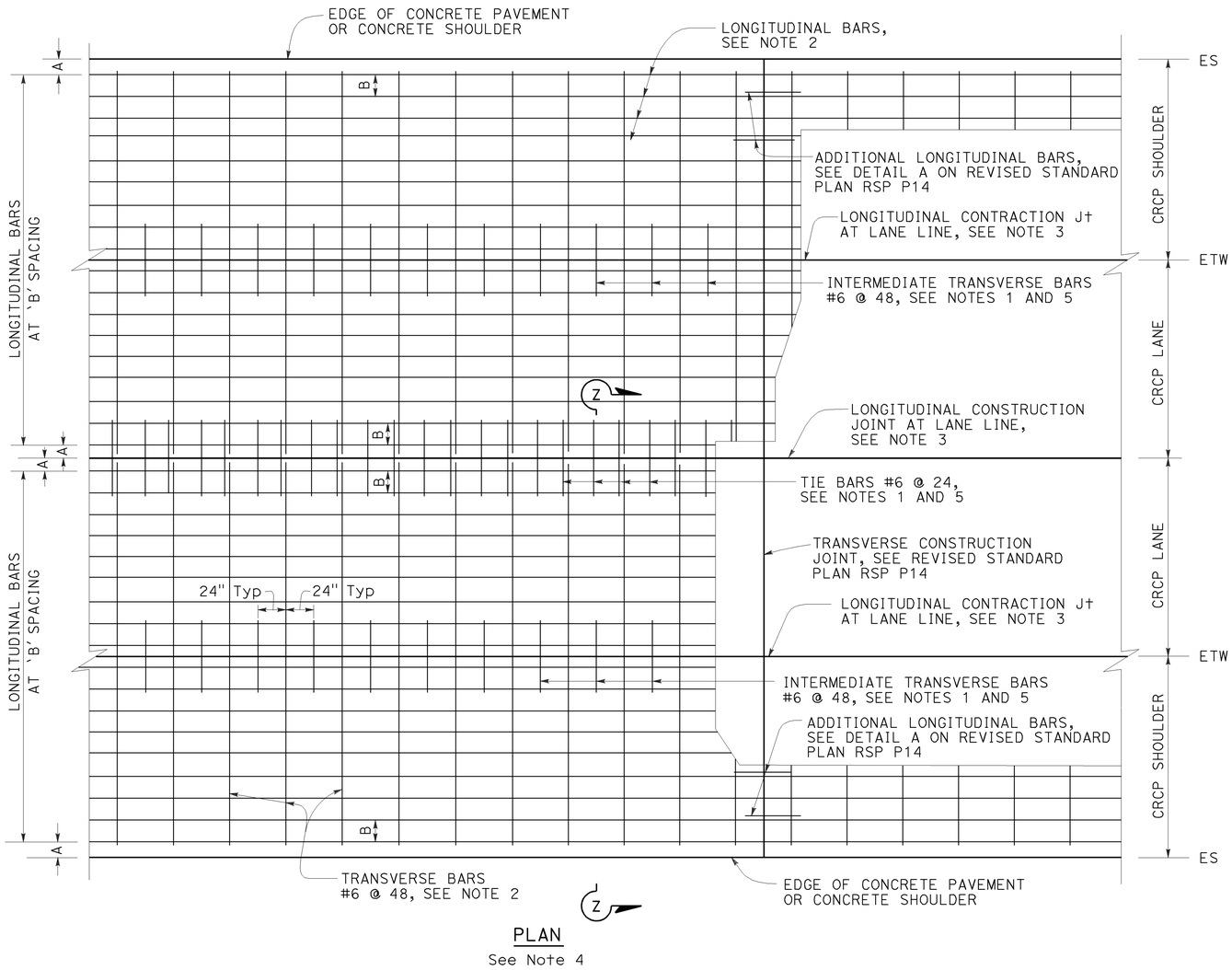
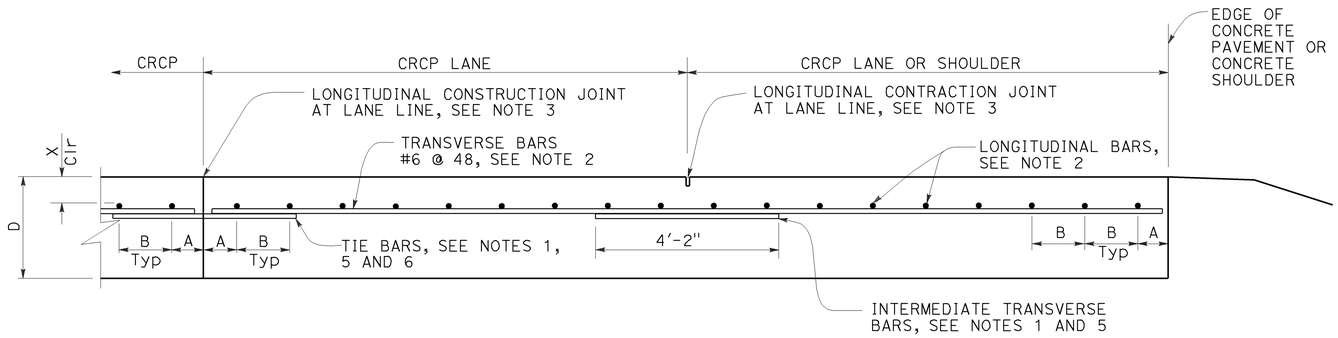
TO ACCOMPANY PLANS DATED 03-24-14



PLAN
See Note 4



SECTION Z-Z

TABLE No. 1 LONGITUDINAL BAR REINFORCEMENT

SLAB THICKNESS AND BAR SIZE		FIRST SPACING AT EDGE OR JOINT	REGULAR BARS	ADDITIONAL BARS AT TRANSVERSE CONSTRUCTION JOINT	Clr
D	BAR SIZE	SPACING A	SPACING B	SPACING 2 x B	X
.75′	#6	3" TO 4"	8.0"	16"	4"
.80′	#6	3" TO 4"	7.5"	15"	4"
.85′	#6	3" TO 4"	7.0"	14"	4"
.90′	#6	3" TO 4"	6.5"	13"	4"
.95′	#6	3" TO 4"	6.25"	12.5"	4"
1.00′	#6	3" TO 4"	6.0"	12"	5"
1.05′	#6	3" TO 4"	5.75"	11.5"	5"
1.10′	#6	3" TO 4"	5.5"	11"	5.5"

NOTES:

1. Place transverse tie bars and intermediate transvese bars parallel to and in the same plane as transverse bars.
2. The length of lap splices for bar reinforcement must be at least 25".
3. For longitudinal contraction and construction joint details, see Revised Standard Plan RSP P16.
4. For curved lane layout see Revised Standard Plan RSP P16.
5. For tie bar and intermediate transverse bar details see Revised Standard Plan RSP P16.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

NO SCALE

RSP P4 DATED JULY 19, 2013 SUPERSEDES RSP P4 DATED APRIL 20, 2012 AND STANDARD PLAN P4 DATED MAY 20, 2011 - PAGE 128 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P4

2010 REVISED STANDARD PLAN RSP P4

5-31-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1171	1273

William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
William K. Farnbach
No. C49042
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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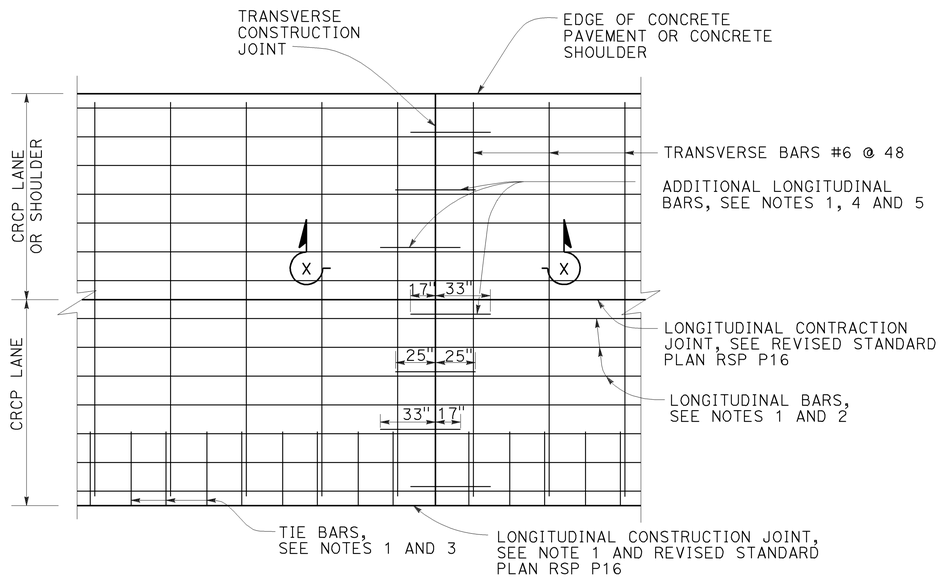
TO ACCOMPANY PLANS DATED 03-24-14

NOTES:

1. For longitudinal bar size, spacing and clearances, see Table 1 on Revised Standard Plan RSP P4.
2. The length of lap splices for bar reinforcement must be at least 25".
3. For tie bars in longitudinal construction joint, see Revised Standard Plan RSP P16.
4. Place additional longitudinal bars parallel to and in the same plane as the longitudinal bars.
5. Place additional longitudinal bars symmetrically about longitudinal construction joint.

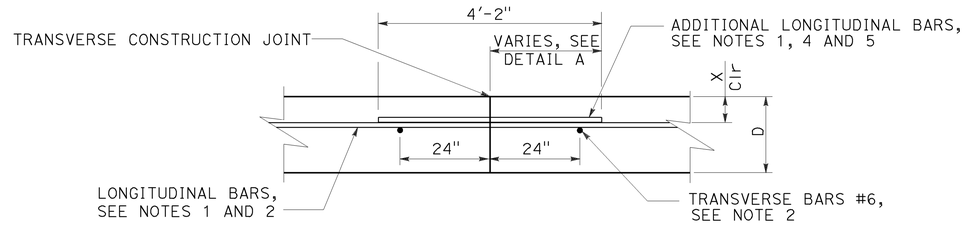
ABBREVIATION

D = Thickness of CRCP



DETAIL A

Additional longitudinal bars at transverse construction joint



SECTION X-X

TRANSVERSE CONSTRUCTION JOINT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT TRANSVERSE CONSTRUCTION JOINT

NO SCALE

RSP P14 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P14

2010 REVISED STANDARD PLAN RSP P14

5-31-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1172	1273

William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-14 — CIVIL — STATE OF CALIFORNIA

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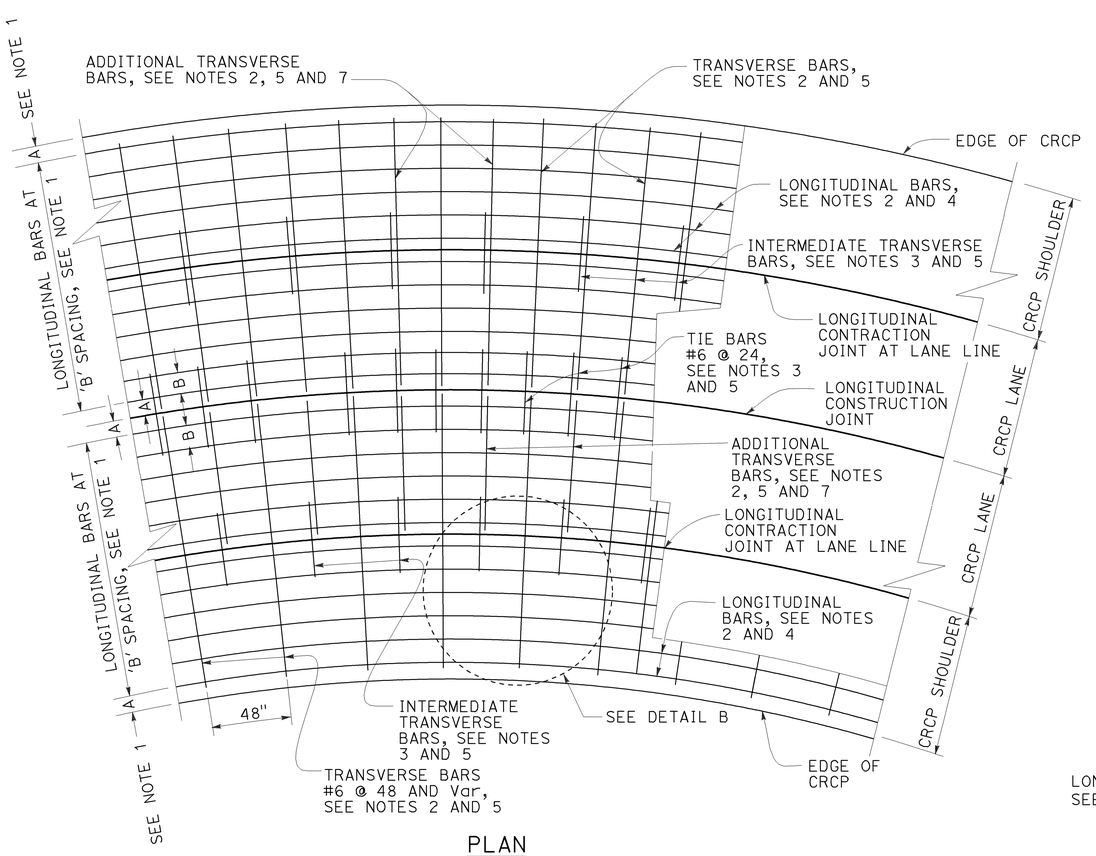
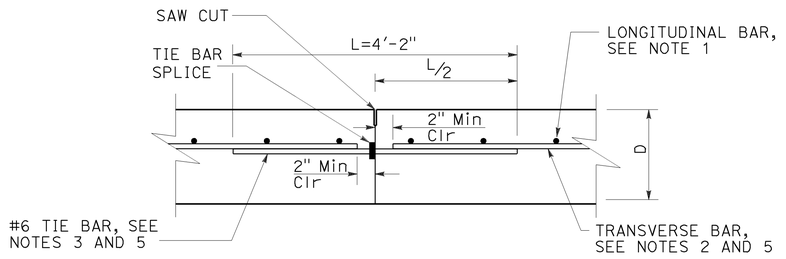
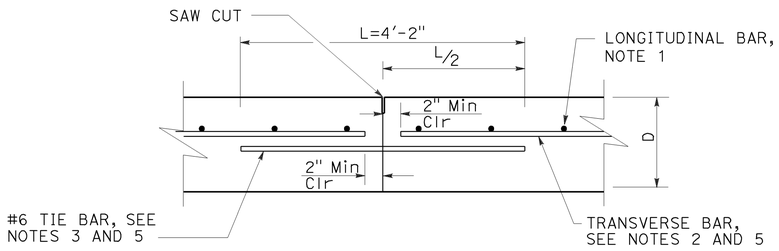
TO ACCOMPANY PLANS DATED 03-24-14



PLAN

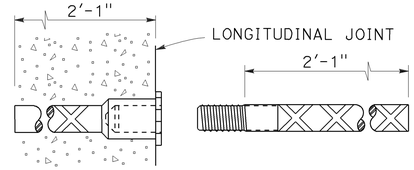
CURVED LANES



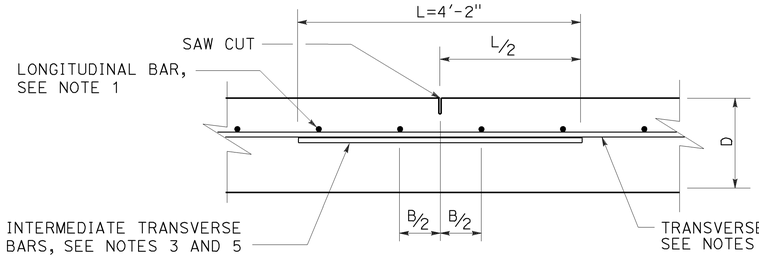


ALTERNATE

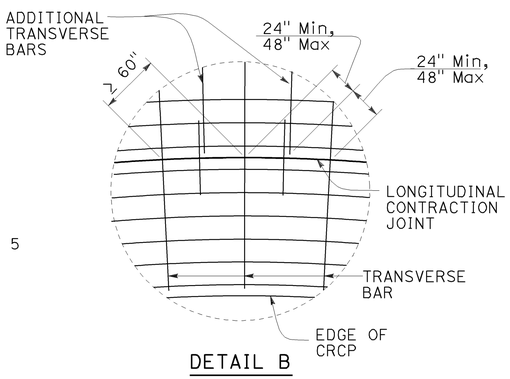
LONGITUDINAL CONSTRUCTION JOINT



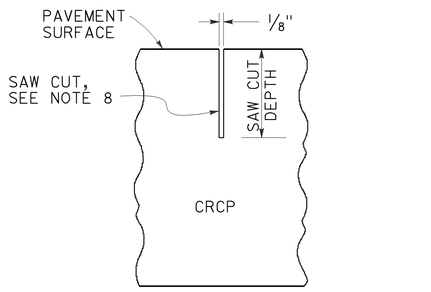
TIE BAR SPLICE COUPLER DETAIL



LONGITUDINAL CONTRACTION JOINT



DETAIL B



CONTRACTION JOINT SAW CUT DETAIL

NOTES:

1. For longitudinal bar spacing and clearances, see Table 1 on Revised Standard Plan RSP P4.
2. The length of lap splices for bar reinforcement must be at least 25".
3. Place tie bars and intermediate transverse bars parallel to and in the same plane as the transverse bars.
4. Place longitudinal bars parallel to roadway curvature.
5. Place transverse bars, additional transverse bars, tie bars and intermediate transverse bars perpendicular to the pavement curvature.
6. For additional longitudinal bars detail, see Detail A on Revised Standard Plans RSP P14.
7. Place additional transverse bars where required, see Detail B.
8. The bottom of the saw cut must be at least 0.5" clear of any dowel bar, tie bar and bar reinforcement.

ABBREVIATION:

D = Thickness of CRCP

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT TIE BARS AND JOINT DETAILS

NO SCALE

RSP P16 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P16

2010 REVISED STANDARD PLAN RSP P16

5-31-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1173	1273

William K. Farnbach
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — William K. Farnbach — No. C49042 — Exp. 9-30-14 — CIVIL — STATE OF CALIFORNIA

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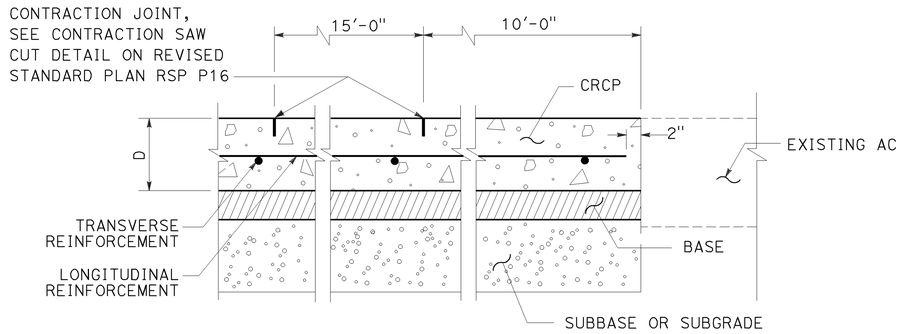
TO ACCOMPANY PLANS DATED 03-24-14

NOTES:

1. For the locations of wide flange beam terminal, pavement anchors and expansion joints, see Projects Plans.
2. See Revised Standard Plans RSP P31B and RSP P32A.

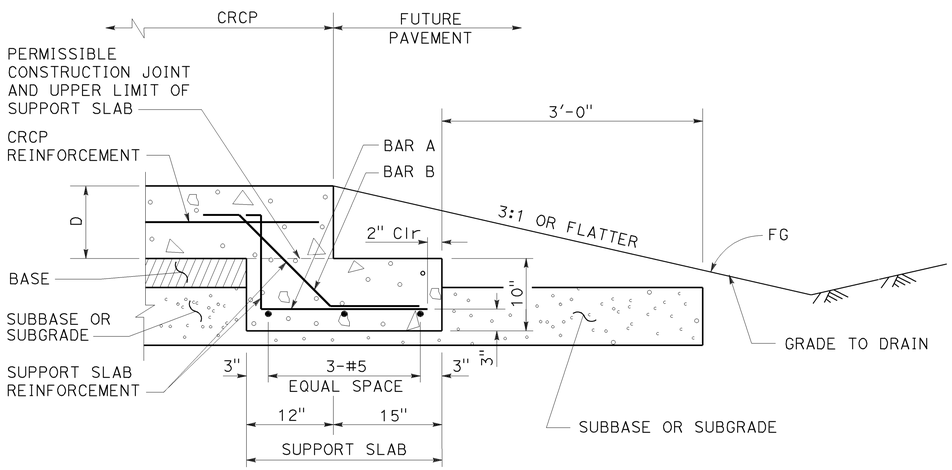
ABBREVIATIONS

D = Thickness of CRCP
A = Depth of HMA as shown on Project Plans
U = Thickness of Base



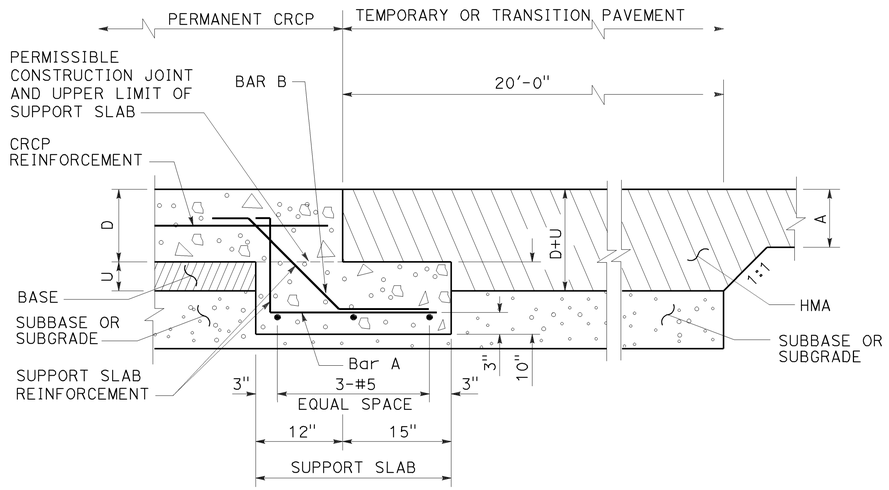
TERMINAL JOINT TYPE A

(For Existing AC)



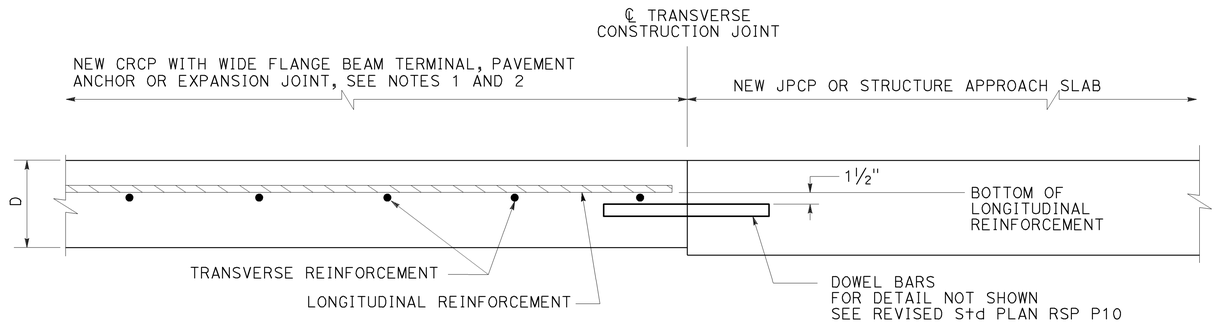
TERMINAL JOINT TYPE B

(For Future Pavement)



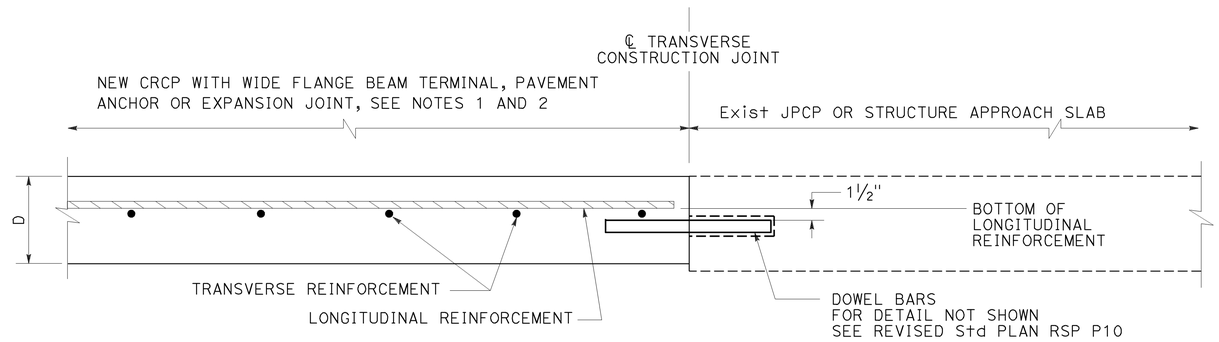
TERMINAL JOINT TYPE C

(For Temporary HMA Pavement)



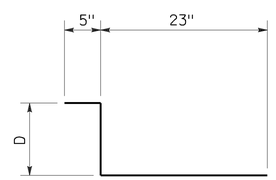
TERMINAL JOINT TYPE E

(For New JPCP or Structure Appproach Slabs)

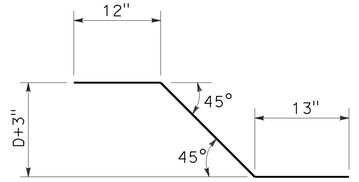


TERMINAL JOINT TYPE D

(For Existing JPCP or Structure Appproach Slabs)



BAR "A" (#5)
AT 12" C-C



BAR "B" (#5)
AT 12" C-C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT TERMINAL JOINT DETAILS

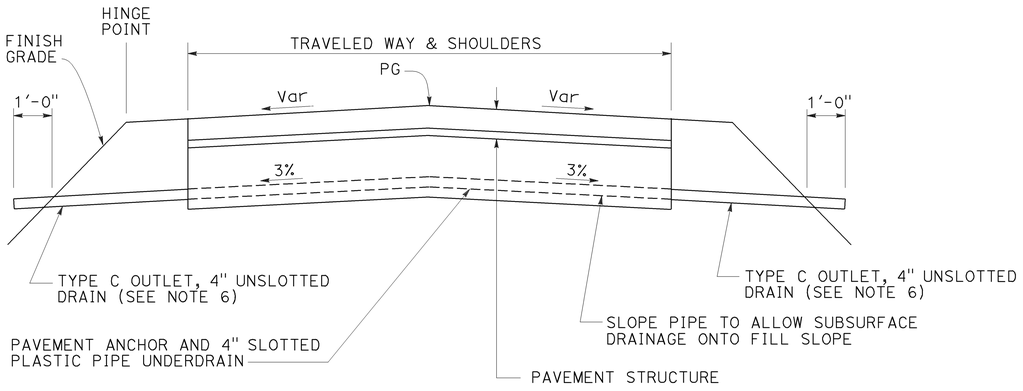
NO SCALE

RSP P31A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN P31A DATED MAY 20, 2011 - PAGE 138 OF THE STANDARD PLANS BOOK DATED 2010.

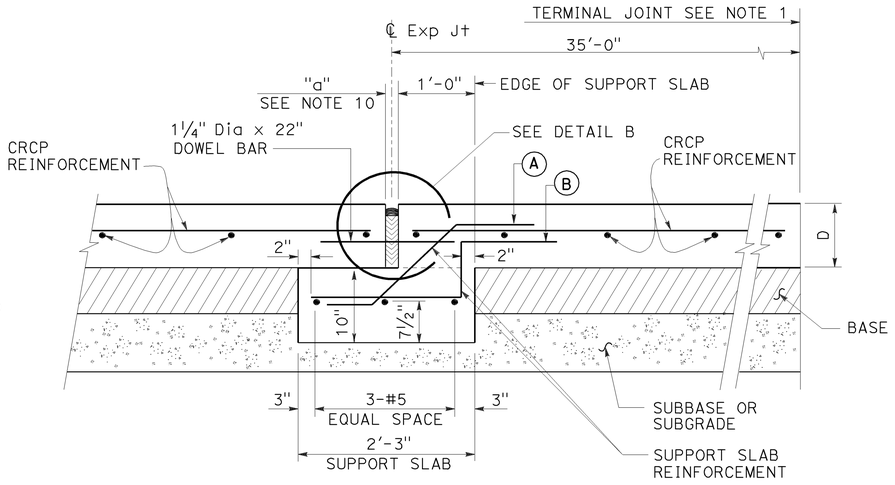
REVISED STANDARD PLAN RSP P31A

2010 REVISED STANDARD PLAN RSP P31A

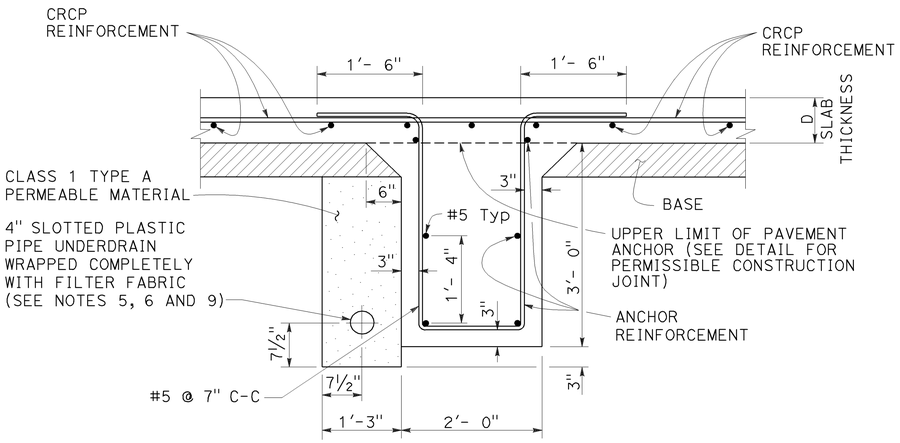
5-31-13



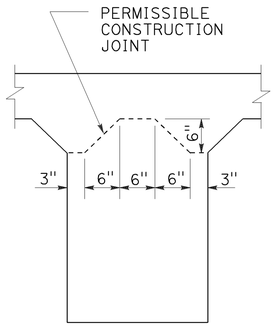
PAVEMENT ANCHOR PROFILE



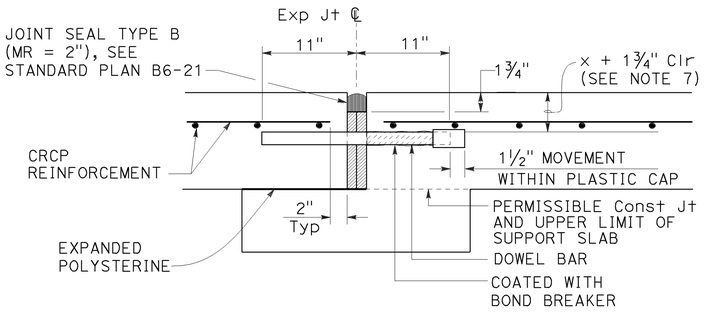
EXPANSION JOINT TYPE AN



PAVEMENT ANCHOR

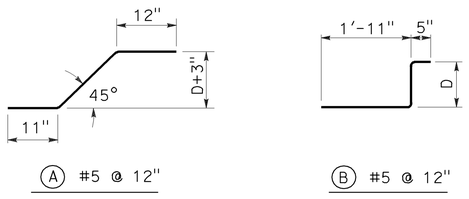


PAVEMENT ANCHOR DETAIL SHOWING PERMISSIBLE CONSTRUCTION JOINT



DETAIL B

(For layout, tolerances, and other details not shown, see Revised Standard Plan RSP P10.)



REINFORCEMENT DETAIL

NOTES:

1. For the locations of the terminal joints, expansion joints and pavement anchors, see project plans.
2. The CRCP shall continue across the pavement anchor and expansion joints as shown.
3. Details of reinforcement, tie bars, and longitudinal joints (and if necessary, transverse construction joints) are shown on Revised Standard Plan RSP P4.
4. Transverse construction joints are not allowed within 20'-0" of the pavement anchor.
5. When placing pipe through concrete barrier, use 4" unslotted plastic pipe wrapped completely with 5/16" polystyrene.
6. See Standard Plan D99B for details not shown.
7. See Revised Standard Plan RSP P4 for "x".
8. D = thickness of CRCP
9. Place the 4" Slotted Plastic Pipe on the high side of the longitudinal grade.
10. See Standard Plan B6-21 for "a".

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1174	1273

Florante E. Bautista
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Florante E. Bautista — No. C54859 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 03-24-14

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT- EXPANSION JOINT AND ANCHOR DETAILS

NO SCALE

RSP P31B DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN P31B DATED MAY 20, 2011 - PAGE 139 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P31B

2010 REVISED STANDARD PLAN RSP P31B

2-22-12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1175	1273

REGISTERED CIVIL ENGINEER

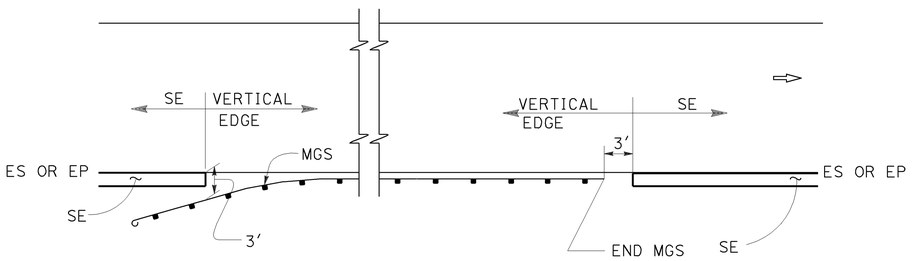
Cornelis M. Hakim
No. C55610
Exp. 12-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

November 15, 2013
PLANS APPROVAL DATE

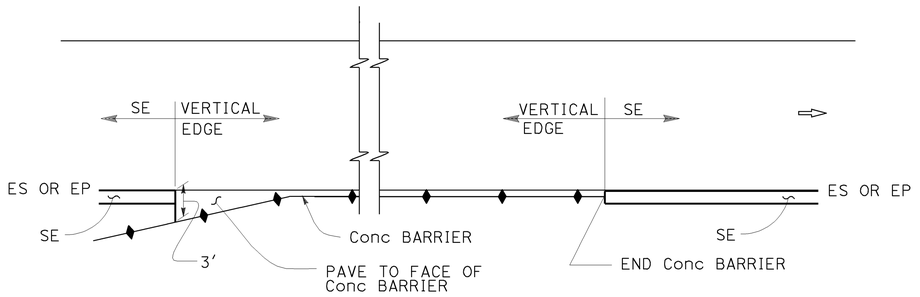
TO ACCOMPANY PLANS DATED 03-24-14

ABBREVIATIONS:

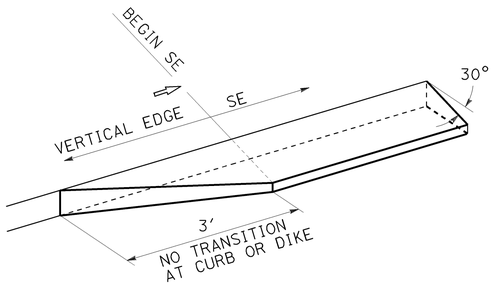
SE SAFETY EDGE



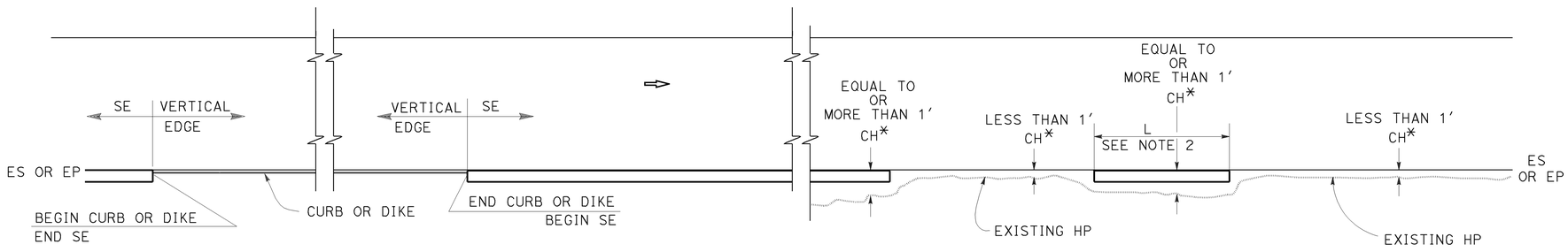
MGS



CONCRETE BARRIER



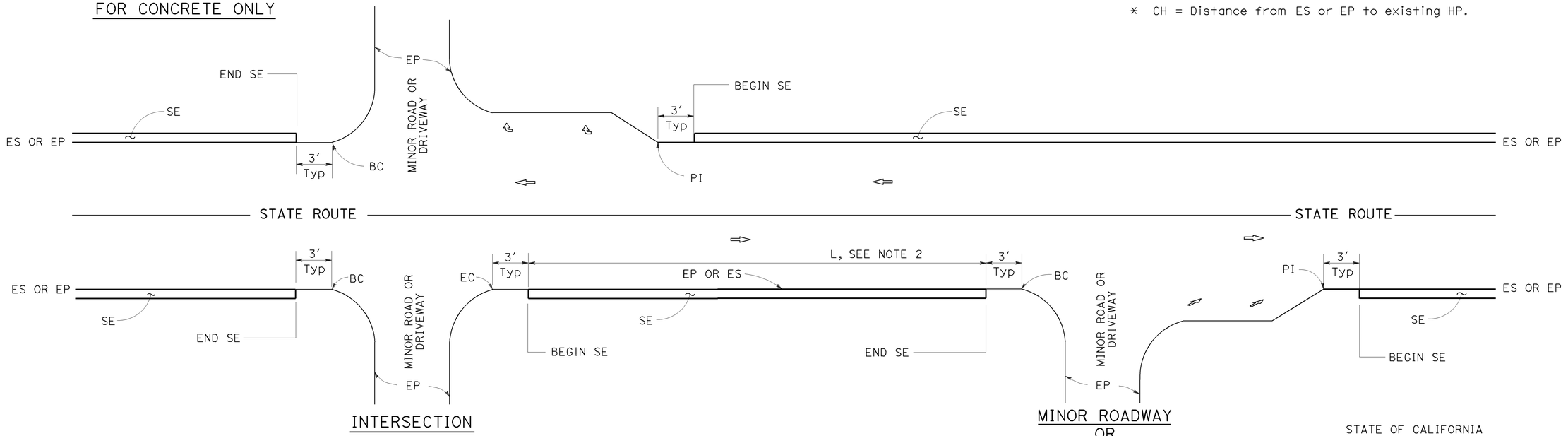
TRANSITION DETAIL FOR CONCRETE ONLY



CURB OR DIKE

NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



DRIVEWAY AND INTERSECTION

NOTES:

1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
2. Safety edge is optional when L is less than 30′.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS

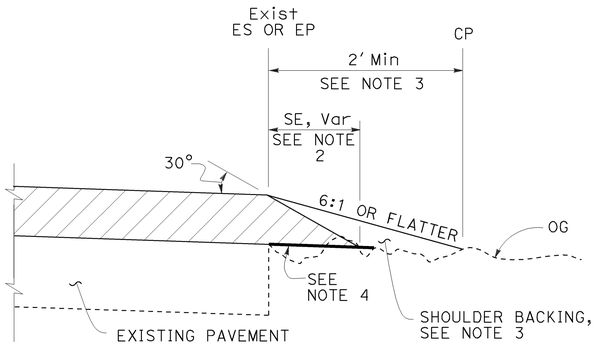
NO SCALE

RSP P74 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

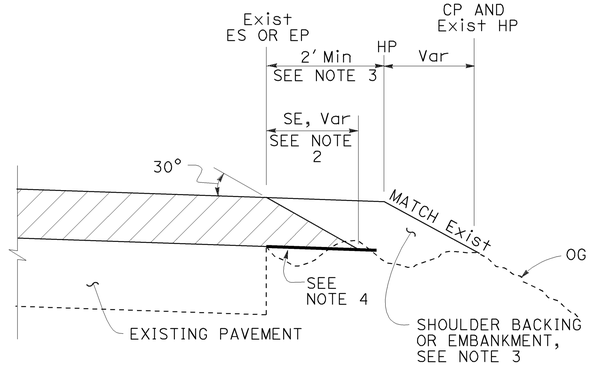
REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

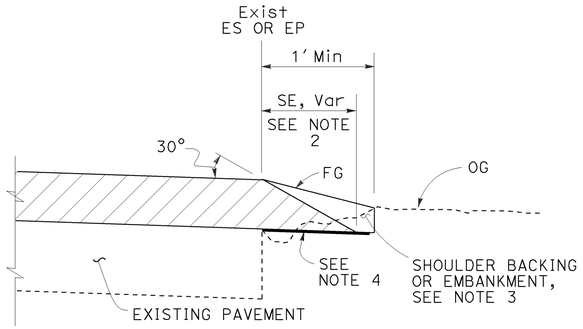
10-11-13



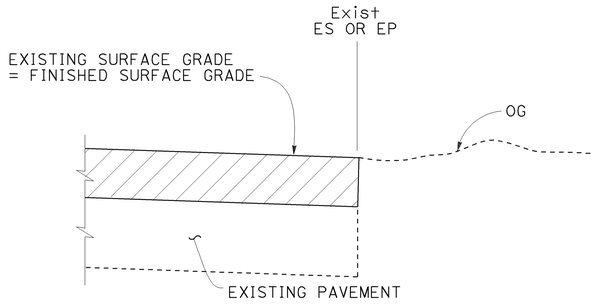
CASE A
Safety Edge



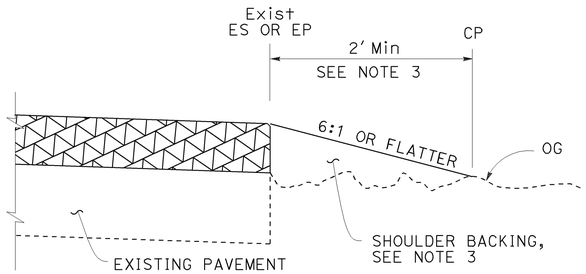
CASE B
Safety Edge



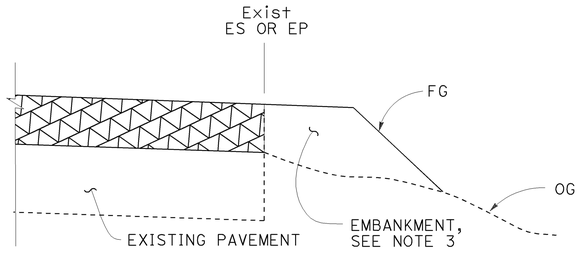
CASE C
Safety Edge



CASE D
Vertical Edge



CASE E
Vertical Edge



CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

NOTES:

1. For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74.
2. Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
3. For locations and limits of shoulder backing or embankment see project plans.
4. Grade existing ground to place safety edge. 1' minimum width
5. Safety edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ±½" clear from transverse joint.
6. Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

LEGEND:

HMA OVERLAY

HMA OR CONCRETE OVERLAY

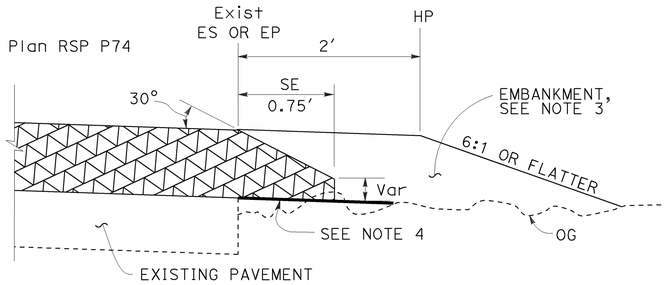
CONCRETE OVERLAY

ABBREVIATIONS:

SE SAFETY EDGE
TT TOTAL THICKNESS OF SE

TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

	OVERLAY THICKNESS	
FIELD CONDITION	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C



DETAIL "A"
For HMA overlay thickness more than 0.43' or concrete overlay

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1176	1273

REGISTERED CIVIL ENGINEER

Cornelis M. Hakim
No. C55610
Exp. 12-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

November 15, 2013
PLANS APPROVAL DATE

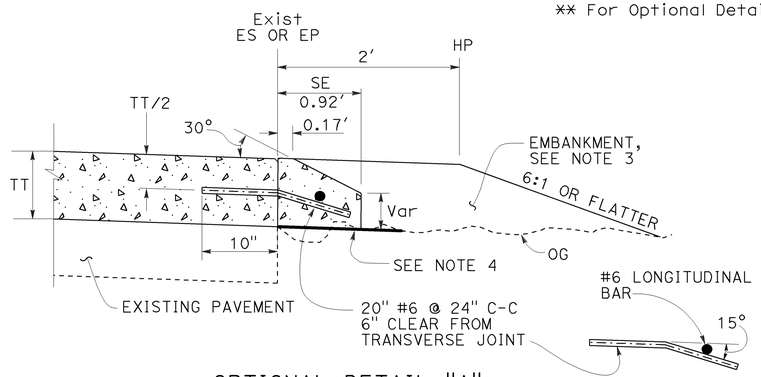
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 03-24-14

ADDITIONAL HMA OR CONCRETE QUANTITIES FOR SE/SIDE/MILE

TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR SE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
TT	0.15'	NA	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
TT, 0.43'	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
	1.20'	292.1	144.3	184.2

* For Detail "A"
** For Optional Detail "A"



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS-OVERLAYS

NO SCALE

RSP P75 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P75

2010 REVISED STANDARD PLAN RSP P75

10-4-13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1177	1273

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

Cornelis M. Hakim
No. C55610
Exp. 12-31-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 03-24-14

LEGEND:

HMA PAVEMENT

HMA OR CONCRETE PAVEMENT

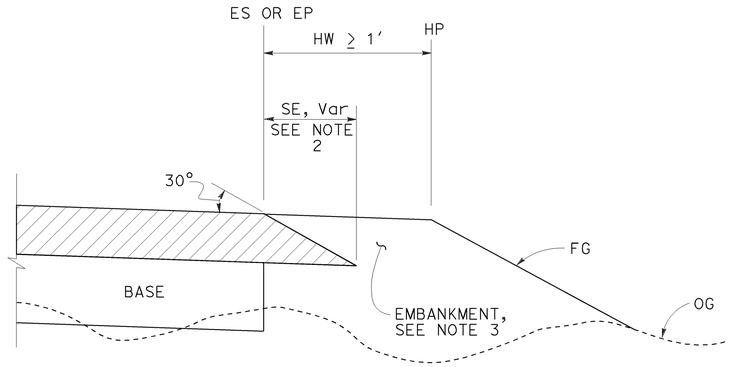
CONCRETE PAVEMENT

ABBREVIATIONS:

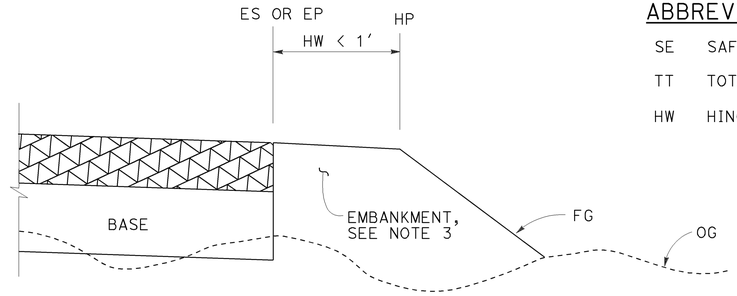
SE SAFETY EDGE

TT TOTAL THICKNESS OF SE

HW HINGE WIDTH, DISTANCE FROM ES OR EP TO HP

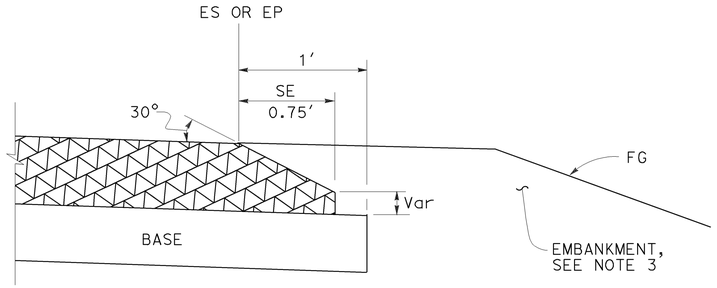


CASE K
Safety Edge - Fill Section, HW ≥ 1′

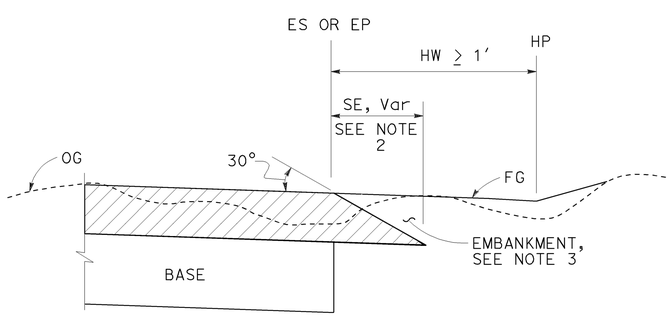


CASE L
Vertical Edge - Fill Section, HW < 1′

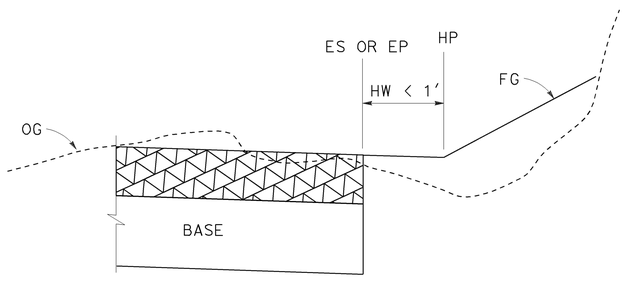
FILL SECTION



DETAIL "B"
For HMA pavement thickness
more than 0.43′ or concrete pavement

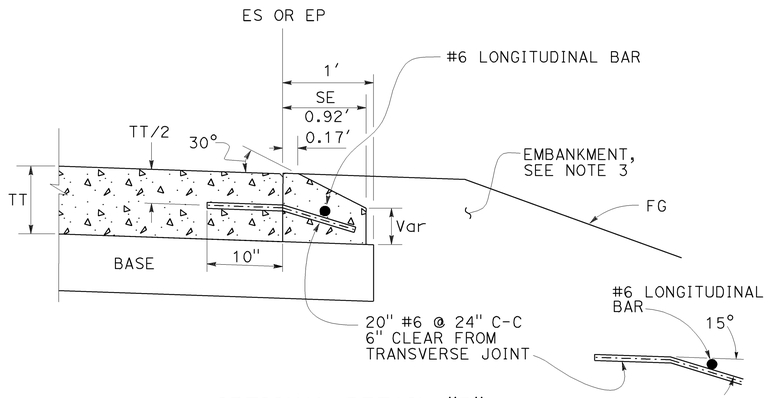


CASE M
Safety Edge - Cut Section, HW ≥ 1′



CASE N
Vertical Edge - Cut Section, HW < 1′

CUT SECTION



OPTIONAL DETAIL "B"
For concrete pavement
See Note 4

NOTES:

1. For limits of safety edge and vertical edge treatments, see Revised Standard Plan RSP P74
2. Details shown for HMA pavement thickness less than 0.43′. See Detail "B" for HMA pavement thickness more than 0.43′ or concrete pavement.
3. For locations and limits of embankment see project plans.
4. Safety edge transverse joint must match pavement transverse joint. End of #6 longitudinal bar must be 2" ±½" clear from transverse joint.
5. Safety edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS- NEW CONSTRUCTION

NO SCALE

RSP P76 DATED NOVEMBER 15, 2013 SUPERSEDES RSP P76 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P76

2010 REVISED STANDARD PLAN RSP P76

10-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1178	1273

TO ACCOMPANY PLANS DATED _____

Glenn DeCou
REGISTERED CIVIL ENGINEER

October 19, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Glenn DeCou No. C34547 Exp. 9-30-13 CIVIL — STATE OF CALIFORNIA

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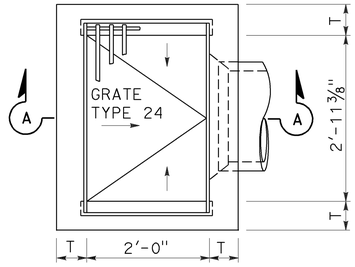
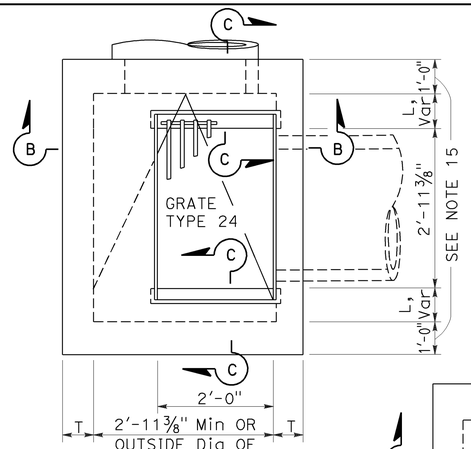
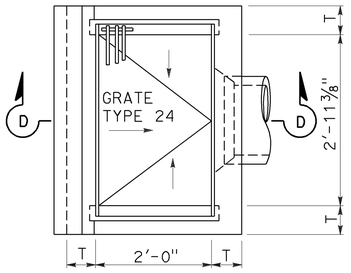
03-24-14



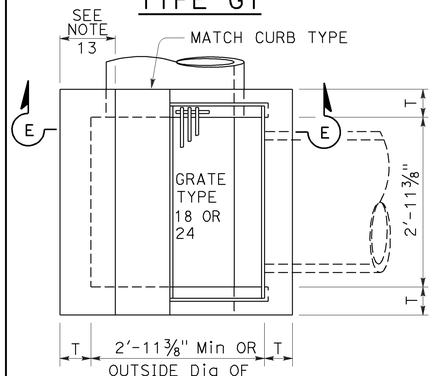
TYPE G1



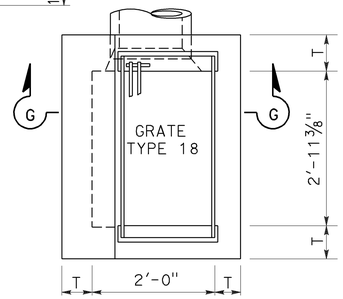
TYPE G2



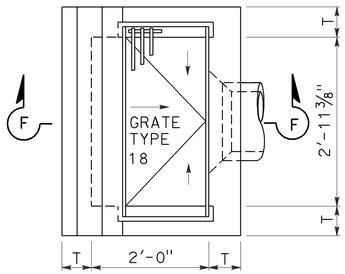
TYPE G3



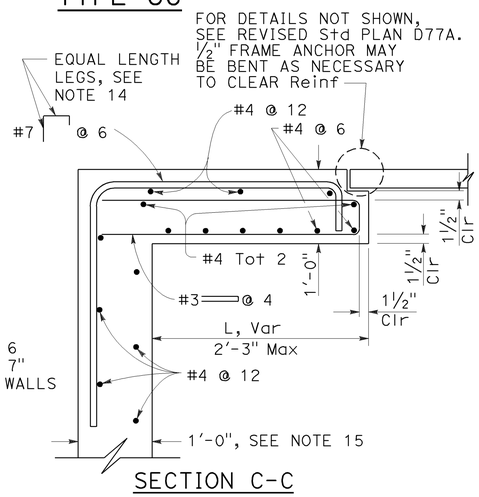
TYPE G4



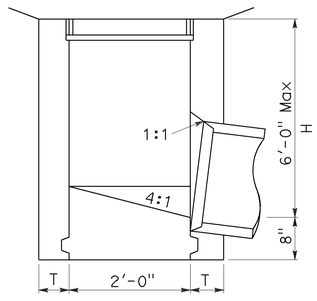
TYPE G6



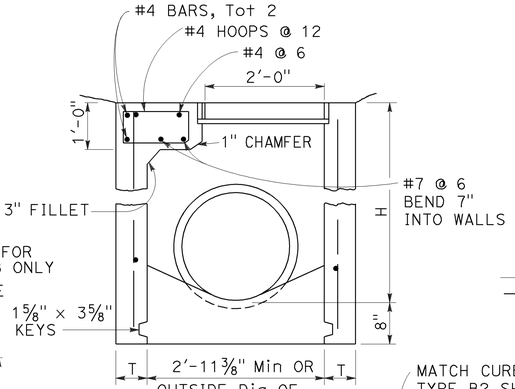
TYPE G5



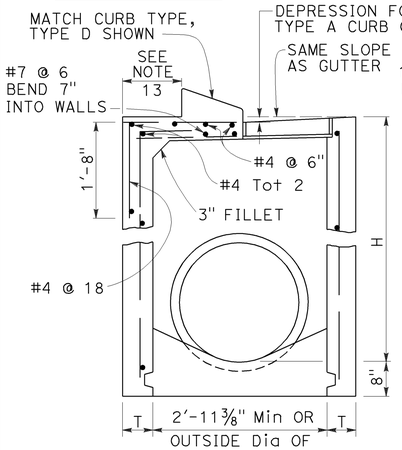
SECTION C-C



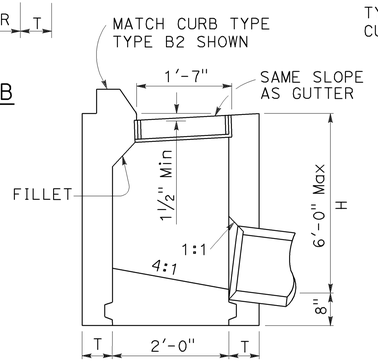
SECTION A-A



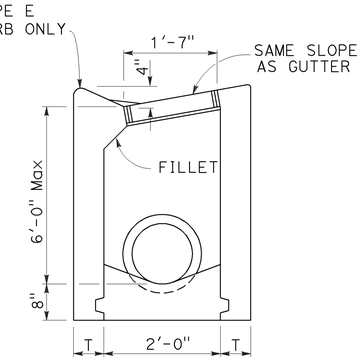
SECTION B-B



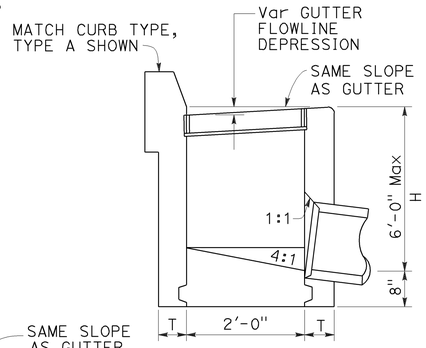
SECTION E-E



SECTION F-F



SECTION G-G



SECTION D-D

NOTES:

1. "H" is the difference in elevation between the outlet pipe flow line and the normal gutter grade line undepressed.
2. For "T" wall thickness, see Table A below.
3. Wall reinforcing not required when "H" is 8'-0" or less and the unsupported width or length is 7'-0" or less. Walls exceeding these limits shall be reinforced with #4 bars @ 1'-6" ± centers placed 1½" clear to inside of box unless otherwise shown.
4. Inlet bottom reinforcing not required. See Standard Plan D74C for alternative reinforced bottom and alternative half round bottom.
5. Steps-None required where "H" is less than 2'-6". Where "H" is 2'-6" or more, install steps with lowest rung 1'-0" above the floor and highest rung not more than 6" below top of inlet. The distance between steps shall not exceed 1'-0" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps inserts may be substituted for the bar steps. Step inserts shall comply with State Industrial Safety requirements. See Standard Plan D74C for step details.
6. Details shown apply to both metal and concrete pipe.
7. Pipe(s) can be placed in any wall.
8. Curb section shall match adjacent curb.
9. Basin floors shall have wood trowel finish and a minimum slope of 12:3 from all directions toward outlet pipe.
10. Set inlet so that grate bars are parallel to direction of principal surface flow.
11. See Revised Standard Plans D77A and D77B for grate and frame details and weights of miscellaneous iron and steel.
12. See Standard Plan D78A for gutter depression details.
13. This dimenison will vary with different grates, curbs types, box width and wall thickness.
14. Bar may be rotated as necessary to clear opening. Where "L" is 6" or less, bar may be omitted.
15. Where "L" is 6" or less, wall thickness shall be as shown in Table A.
16. Cast-in-place inlets to be formed around all pipes/stubs intersecting the inlet, and concrete poured in one continuous operation. Precast inlets shall have mortared connections conforming to details for Type GCP Inlet shown on Standard Plan D75B. See Standard Specifications for mortar composition.

TABLE A

TYPE	CONCRETE QUANTITIES H=3'-0" TO 8'-0" (T=6")		H=8'-1" TO 20'-0" (T=8")	
	H=3'-0" (CY)	ADDITIONAL PCC PER FOOT (CY)	H=8'-1" (CY)	ADDITIONAL PCC PER FOOT (CY)
G-1	0.95	0.220	See Note A	SEE NOTE A
G-2*	1.31	0.255	3.50	0.357
G-3	1.03	0.220	See Note A	SEE NOTE A
G-4* (TYPE 24)	1.27	0.255	3.48	0.357
G-4* (TYPE 18)	1.30	0.255	3.50	0.357
G-5	1.02	0.220	SEE NOTE A	SEE NOTE A
G-6	1.04	0.220	SEE NOTE A	SEE NOTE A

TABLE BASED ON 8" FLOOR SLAB. NO DEDUCTIONS ARE TO BE MADE TO THESE QUANTITIES BECAUSE OF PIPE OPENINGS, DIFFERENT FLOOR ALTERNATIVES OR DIFFERENT CURB TYPES. * QUANTITIES FOR TYPE G-2 AND G-4 INLETS BASED ON THE MINIMUM INTERIOR DIMENSIONS.

NOTE A:

Maximum allowable height 6'-0".

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DRAINAGE INLETS

NO SCALE

RSP D73 DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN D73 DATED MAY 20, 2011 - PAGE 156 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D73

2010 REVISED STANDARD PLAN RSP D73

7-19-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1179	1273

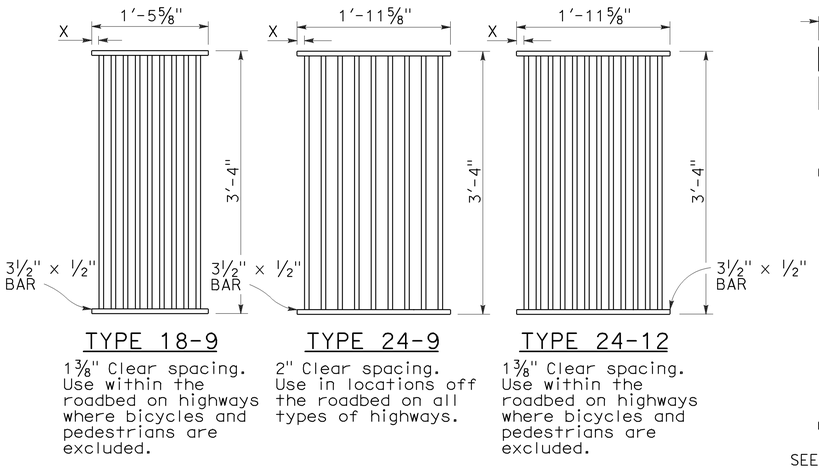
Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14



TYPE 18-9

1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

TYPE 24-9

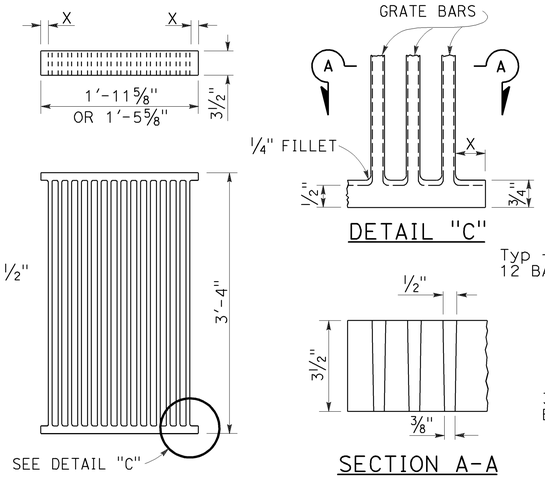
2" Clear spacing. Use in locations off the roadbed on all types of highways.

TYPE 24-12

1⅜" Clear spacing. Use within the roadbed on highways where bicycles and pedestrians are excluded.

RECTANGULAR GRATE DETAILS

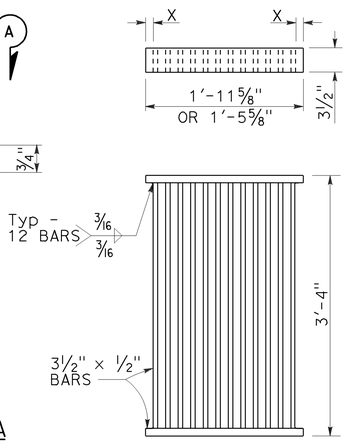
(See table below)



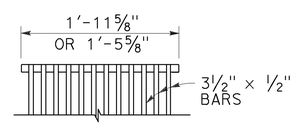
DETAIL "C"

SECTION A-A

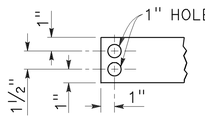
ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE



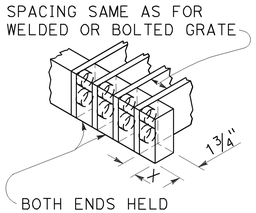
ALTERNATIVE WELDED GRATE



CAST END BLOCK



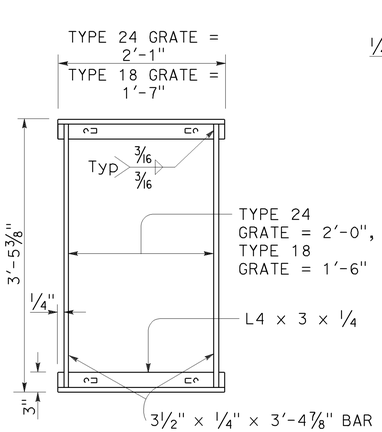
END OF BAR



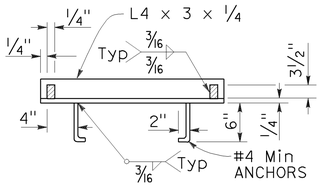
ALTERNATIVE CAST DUCTILE IRON OR CAST CARBON STEEL END BLOCK GRATE

NOTES:

1. Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
2. Contractor has the option of using cast ductile iron, cast carbon steel, welded, bolted, or cast end block grate.
3. Rounded top of bars optional on all grates.
4. Pipe inlets with a grate shall be placed so that bars parallel direction of principle surface flow.
5. Complete joint penetration butt welds may be substituted for the fillet welds on all anchors.
6. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
7. Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
8. Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron grates.

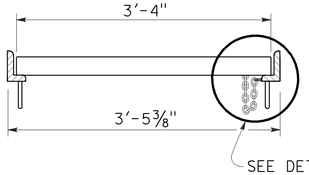


TYPICAL FRAME



CROSS SECTION

(Thru frame)

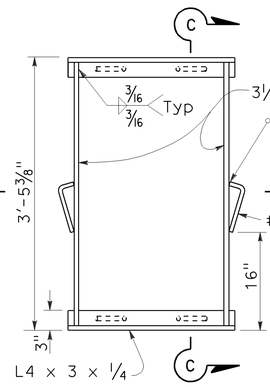


LONGITUDINAL SECTION

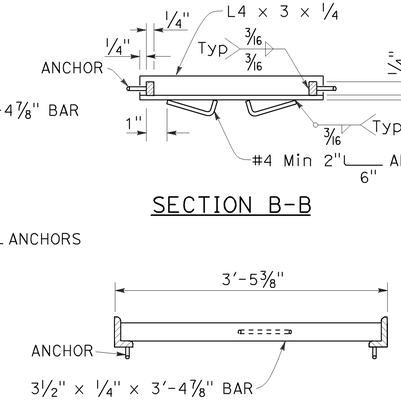
(Thru frame and grate)

RECTANGULAR FRAME DETAILS

(For all rectangular grates)



TYPICAL FRAME

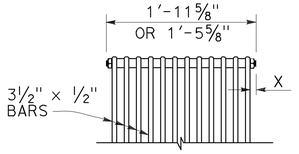


SECTION B-B

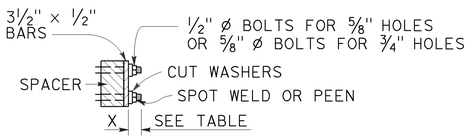
SECTION C-C

ALTERNATIVE ANCHOR FOR RECTANGULAR FRAME

(For details not shown, See Rectangular Frame Details)

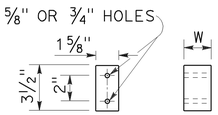


BOLTED END BLOCK

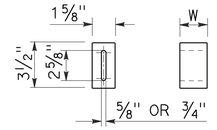


BOLTING DETAIL

ALTERNATIVE BOLTED GRATE

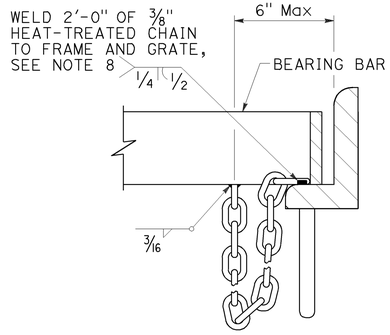


BAR SPACER



ALTERNATIVE SPACER

W = 1⅜" or 2"



DETAIL "D"

(Steel grates only)

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X
18-9	9	1⅜"	1 1⁄16"
24-9	9	2"	1 9⁄16"
24-12	12	1⅜"	1¼"

INLET TYPE	COVER TYPE	WEIGHT LB
OS	PLATE	174
OL-7	PLATE	170
OL-10	PLATE	170
OL-14	PLATE	170
OL-21	PLATE	170
OCP	PLATE	112
OCPI	PLATE	112
OCPI	REDWOOD	42
OMP	PLATE	177
OMPI	PLATE	177

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO	24-12	2	634
GOL-7	24-12	1	326
GOL-10	24-12	1	326
GO,G1,G2,G3,G4 (TYPE 24)	24-9	1	263
	24-12	1	326
G4 (TYPE 18),G5,G6	18-9	1	249
GT1	18-9	2	498
GT2	18-9	2	498
GT3	24-12	2	652
GT4	24-12	2	652
TRASH RACK			22
GRATE CHAIN			3

BASIS FOR Misc IRON & STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

(See Note 7)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS No. 1

NO SCALE

RSP D77A DATED APRIL 19, 2013 SUPERSEDES RSP D77A DATED JULY 20, 2012 AND STANDARD PLAN D77A DATED MAY 20, 2011 - PAGE 164 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77A

2010 REVISED STANDARD PLAN RSP D77A

4-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1180	1273

Raymond Don Tsztoo
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Raymond Don Tsztoo No. C37332 Exp. 6-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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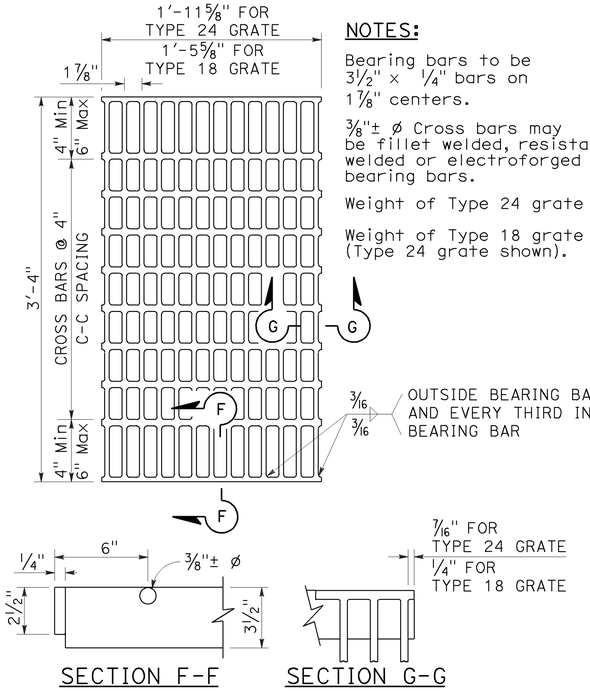
TO ACCOMPANY PLANS DATED 03-24-14

2010 REVISED STANDARD PLAN RSP D77B



NOTES:

Bearing bars to be 3½" × ¼" bars on 1⅞" centers.

⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

Weight of Type 24 grate = 141 LBS.

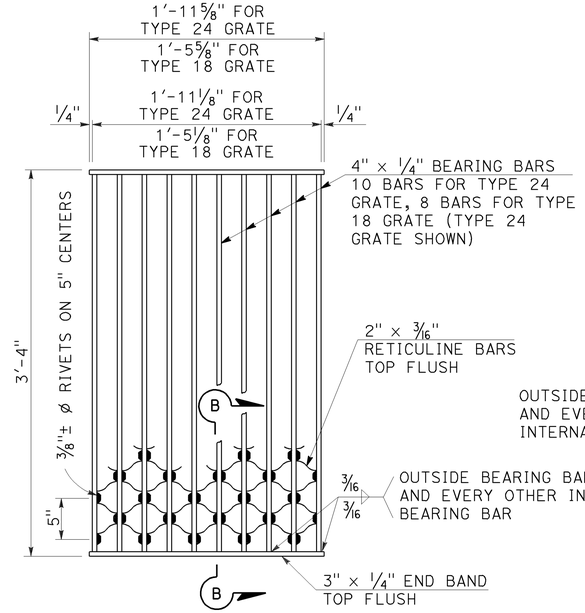
Weight of Type 18 grate = 107 LBS. (Type 24 grate shown).

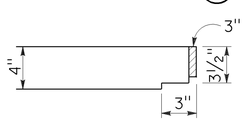
SECTION F-F

SECTION G-G

TYPE 18-10 AND 24-13 GRATE

(Welded Steel)





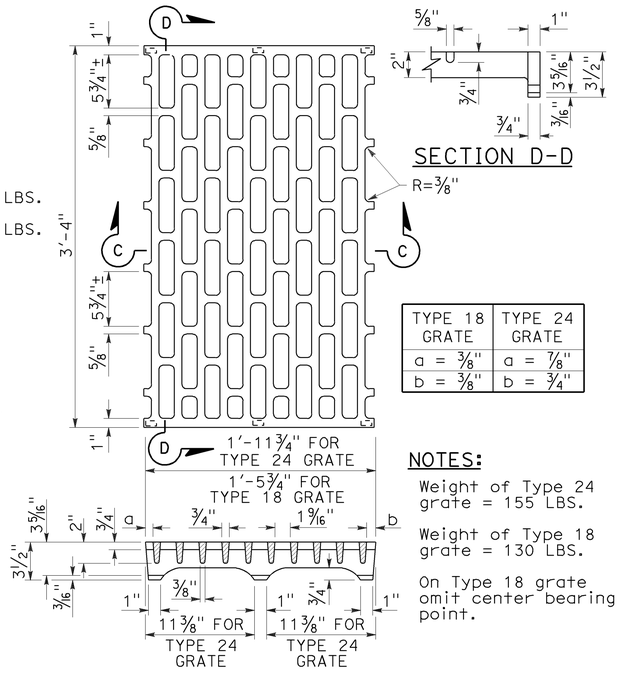
SECTION B-B

NOTES:

Weight of Type 24 grate = 182 LBS.
Weight of Type 18 grate = 145 LBS.

TYPE 18-8S AND 24-10S GRATE

(Welded Steel) Reticuline type



SECTION C-C

SECTION D-D

TYPE 18 GRATE	TYPE 24 GRATE
a = ⅜"	a = ⅞"
b = ¾"	b = ¾"

NOTES:

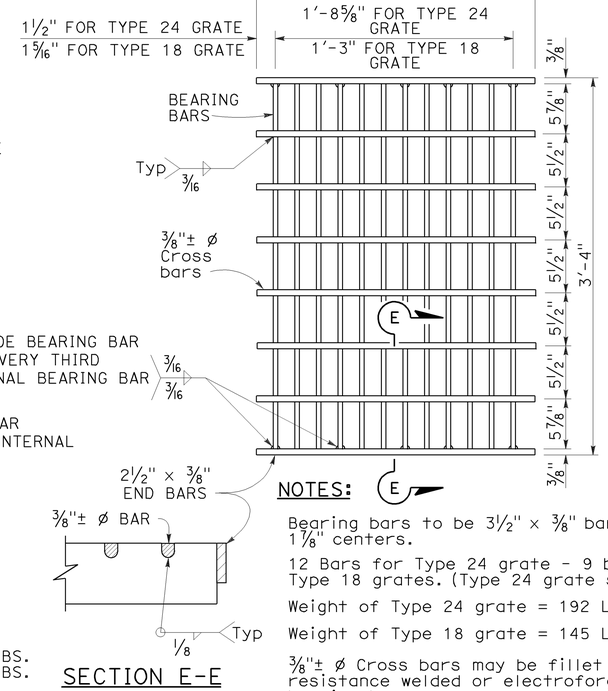
Weight of Type 24 grate = 155 LBS.

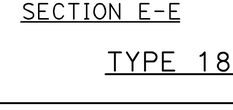
Weight of Type 18 grate = 130 LBS.

On Type 18 grate omit center bearing point.

TYPE 18-8C AND 24-10C GRATE

(Cast ductile iron)





SECTION E-E

NOTES:

Bearing bars to be 3½" × ⅜" bars on 1⅛" centers.

12 Bars for Type 24 grate - 9 bars for Type 18 grates. (Type 24 grate shown).

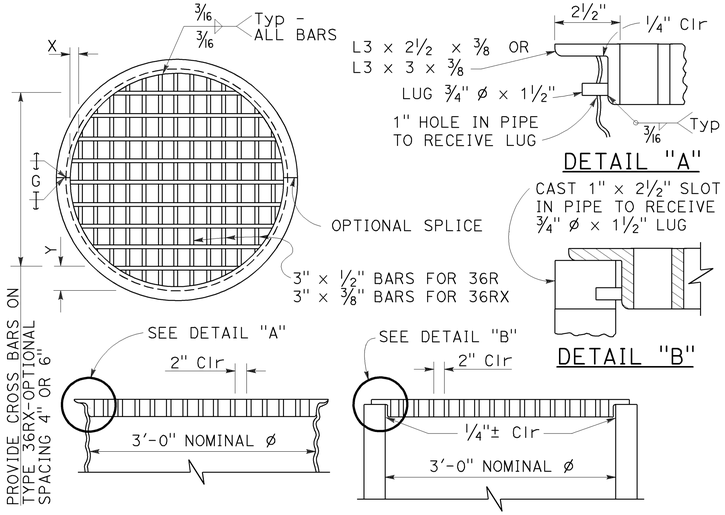
Weight of Type 24 grate = 192 LBS.

Weight of Type 18 grate = 145 LBS.

⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

TYPE 18-9X AND 24-12X GRATE

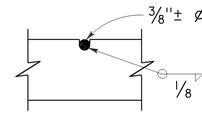
(Welded Steel)



DETAIL "A"

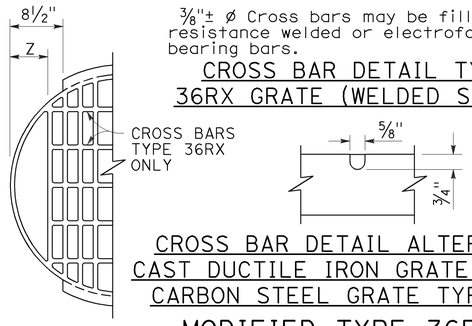
DETAIL "B"

TYPE 36R AND 36RX GRATE DETAILS



⅜"± ø Cross bars may be fillet welded, resistance welded or electroforged to bearing bars.

CROSS BAR DETAIL TYPE 36RX GRATE (WELDED STEEL)



CROSS BAR DETAIL ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE TYPE 36RX

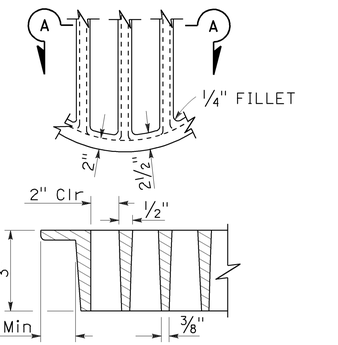
MODIFIED TYPE 36R AND 36RX GRATE FOR ODI INLET

NOTES:

1. When alternative grates are allowed - Final pay based on alternative with the lesser weight.
2. Use frame shown on Standard Plan D74A, D74B or RSP D77A as appropriate.
3. When Type 24-10S, 24-12X or 24-13 grates are used with GDO Inlets, a ¼" × 3½" × 3'-4⅞" steel bar shall be welded across the center of inlet frame to separate the individual grates.
4. See Revised Standard Plan RSP D77A for connecting chain to welded grate and frame. When chain is required, do not use cast ductile iron grate.

GRATE BAR SPACING TABLE

TYPE	No. OF BARS	CLEAR BAR SPACING	X	Y		Z
				4" SPACING	6" SPACING	
36R	13	2"	2⅛"	-	-	-
36RX (STEEL)	15	2"	9/16"	3¾"	5¾"	-
36RX (CAST)	13	2"	2⅛"	3¾"	5¾"	-
36R Mod	12	2"	2⅛"	-	-	5"
36RX Mod (STEEL)	13	2"	9/16"	3¾"	5¾"	5 11/16"
36RX Mod (CAST)	12	2"	2⅛"	3¾"	5¾"	5"



SECTION A-A

ALTERNATIVE CAST DUCTILE IRON GRATE OR CAST CARBON STEEL GRATE TYPE 36R AND 36RX

BASIS FOR Misc IRON AND STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO (SEE NOTE 4)	24-10C	2	391
	24-10S	2	456
	24-12X	2	473
	24-13	2	374
G0,G0L,G1,G2, G3,G4 (TYPE 24)	24-10C	1	202
	24-10S	1	229
	24-12X	1	239
	24-13	1	188
G4 (TYPE 18) G5,G6	18-8S	1	187
	18-9X	1	187
	18-10	1	149
GT1,GT2	18-8S	2	374
	18-9X	2	374
	18-10	2	298
GT3,GT4	24-10C	2	404
	24-10S	2	458
	24-12X	2	478
	24-13	2	376
ODI	36RX (Mod)	1	196
GMP,GCP,GCPI	36RX	1	215
ODI	36R (Mod)	1	220
GMP,GCP,GCPI	36R	1	236
TRASH RACK			22
GRATE CHAIN			3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS No. 2

NO SCALE

RSP D77B DATED APRIL 19, 2013 SUPERSEDES RSP D77B DATED JULY 20, 2012 AND STANDARD PLAN D77B DATED MAY 20, 2011 - PAGE 165 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP D77B

4-4-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1181	1273

Gregory A. Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2515 — 10-31-14 Renewal Date — STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14

A

AB	AGGREGATE BASE
ABS	ACRYLONITRILE-BUTADIENE-STYRENE
AC	ASPHALT CONCRETE
ACC	ARMOR-CLAD CONDUCTORS
Adj	ADJACENT/ADJUSTABLE
AIC	AUXILIARY IRRIGATION CONTROLLER
Alt	ALTERNATIVE
AMEND	AMENDMENT
ARV	AIR RELEASE VALVE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVB	ATMOSPHERIC VACUUM BREAKER

B

B&B	BALLED AND BURLAPPED
B/B	BRASS/BRONZE
B/B/PL	BRASS/BRONZE/PLASTIC
B/PL	BRASS/PLASTIC
BFM	BONDED FIBER MATRIX
Bit Ctd	BITUMINOUS COATED
BP	BOOSTER PUMP
BPA	BACKFLOW PREVENTER ASSEMBLY
BPE	BACKFLOW PREVENTER ENCLOSURE
BV	BALL VALVE

C

C	CONDUIT
CAP	CORRUGATED ALUMINUM PIPE
CARV	COMBINATION AIR RELEASE VALVE
CB	COUPLING BAND
CCA	CAM COUPLER ASSEMBLY
CEC	CONTROLLER ENCLOSURE CABINET
CHDPE	CORRUGATED HIGH DENSITY POLYETHYLENE
CL	CHAIN LINK
CNC	CONTROL AND NEUTRAL CONDUCTORS
Conc	CONCRETE
CP	COPPER PIPE
CS	COMPOST SOCK
CSP	CORRUGATED STEEL PIPE
CST	CENTER STRIP
CV	CHECK VALVE

D

Dia	DIAMETER
DIP	DUCTILE IRON PIPE
DIT	DRIP IRRIGATION TUBING
DG	DECOMPOSED GRANITE
DN	DIAMETER NOMINAL
DVA	DRIP VALVE ASSEMBLY

E

EC	EROSION CONTROL
ECTC	EROSION CONTROL TECHNOLOGY COUNCIL
Elect	ELECTRIC/ELECTRICAL
Elev	ELEVATION
ELL	ELBOW
ENCL	ENCLOSURE
EP	EDGE OF PAVEMENT
ES	EDGE OF SHOULDER
EST	END STRIP
ESTB	ESTABLISHMENT
ETW	EDGE OF TRAVELED WAY

F

F	FULL CIRCLE
F/P	FULL/PART CIRCLE
FCV	FLOW CONTROL VALVE
FERT	FERTILIZER
FG	FINISHED GRADE
FH	FLEXIBLE HOSE
FIPT	FEMALE IRON PIPE THREAD
FIS	FERTILIZER INJECTOR SYSTEM
FL	FLOW LINE
FR	FIBER ROLL
FS	FLOW SENSOR
FSC	FLOW SENSOR CABLE
FV	FLUSH VALVE

G

Galv	GALVANIZED
GARV	GARDEN VALVE
GARVA	GARDEN VALVE ASSEMBLY
GM	GRAVEL MULCH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE

H

H	HALF CIRCLE
HDPE	HIGH DENSITY POLYETHYLENE
HP	HORSEPOWER/HINGE POINT
HPL	HIGH PRESSURE LINE
Hwy	HIGHWAY

I

IC	IRRIGATION CONTROLLER
ICC	IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET
ID	INSIDE DIAMETER
IFS	IRRIGATION FILTRATION SYSTEM
IPS	IRON PIPE SIZE
IPT	IRON PIPE THREAD
Irr	IRRIGATION

L

L	LENGTH

M

Max	MAXIMUM
MBGR	METAL BEAM GUARD RAILING
MCV	MANUAL CONTROL VALVE
MIC	MASTER IRRIGATION CONTROLLER
Min	MINIMUM
MIPT	MALE IRON PIPE THREAD
Misc	MISCELLANEOUS
Mtl	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT

N

NCN	NO COMMON NAME
NL	NOZZLE LINE
No.	NUMBER
NPT	NATIONAL PIPE THREAD

O

O/C	ON CENTER
OD	OUTSIDE DIAMETER
OL	OVERLAP

P

P	PART CIRCLE
PB	PULL BOX
PCC	PORTLAND CEMENT CONCRETE
PE	POLYETHYLENE
Pkt	PACKET
PL	PLASTIC
PLS	PURE LIVE SEED
PLT	PLANT/PLANTING
PLT ESTB	PLANT ESTABLISHMENT
PM	POST MILE
PR	PRESSURE RATED
PRLV	PRESSURE RELIEF VALVE
PRV	PRESSURE REGULATING VALVE
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT

Q

Q	QUARTER CIRCLE
QCV	QUICK COUPLING VALVE

R

R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RCV	REMOTE CONTROL VALVE
RCVM	REMOTE CONTROL VALVE (MASTER)
RCVMF	REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR
RCVP	REMOTE CONTROL VALVE W/PRESSURE REGULATOR
RCW	RECYCLED WATER
RECP	ROLLED EROSION CONTROL PRODUCT
REQ	REQUIRED
RICS	REMOTE IRRIGATION CONTROL SYSTEM
R/W	RIGHT OF WAY

S

S	SLIP
SCH	SCHEDULE
SF	STATE-FURNISHED
Shld	SHOULDER
Sq	SQUARE
SST	SIDE STRIP
Sta	STATION
Std	STANDARD
SW	SIDEWALK/SOUND WALL

T

T	THIRD CIRCLE/THREAD
TLS	TRUCK LOADING STANDPIPE
TQ	THREE QUARTER CIRCLE
TRM	TURF REINFORCEMENT MAT
TT	TWO-THIRDS CIRCLE
TWSA	TREE WELL SPRINKLER ASSEMBLY
Typ	TYPICAL

U

UG	UNDERGROUND

W

W	WIDTH
W/	WITH
WM	WATER METER
WS	WYE STRAINER
WSA	WYE STRAINER ASSEMBLY
WSP	WELDED STEEL PIPE
WWM	WELDED WIRE MESH

NOTE:
For additional abbreviations, see Standard Plans A10A and A10B.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE AND EROSION CONTROL ABBREVIATIONS

NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1
DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H1

2010 REVISED STANDARD PLAN RSP H1

6-28-13

EXISTING	NEW	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
	FS	FLOW SENSOR (FS)
X	X	MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC) IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR) IRRIGATION CONTROLLER (IC) (TWO WIRE) IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
acc	ACC	ARMOR-CLAD CONDUCTORS (ACC)
cnc	CNC	CONTROL AND NEUTRAL CONDUCTORS (CNC)
		IRRIGATION CONDUIT
		EXTEND IRRIGATION CONDUIT
dip	DIP	DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (SUPPLY LINE) (LATERAL)
cp	CP	COPPER PIPE (SUPPLY LINE)
dit	DIT	DRIP IRRIGATION TUBING
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
P	P	REMOTE CONTROL VALVE W/PRESSURE REGULATOR (RCVP)
		EXISTING MANUAL CONTROL VALVE (MCV)
V	V	DRIP VALVE ASSEMBLY (DVA)
Y	Y	WYE STRAINER ASSEMBLY (WSA)

EXISTING	NEW	ITEM DESCRIPTION
		GATE VALVE (GV)
		BALL VALVE (BV)
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		GARDEN VALVE ASSEMBLY (GARVA)
		PRESSURE REGULATING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		EXISTING NOZZLE LINE W/TURNING UNION
		EXISTING IRRIGATION SYSTEM
		EXISTING IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
3	3	SPRINKLER W/SPRINKLER PROTECTOR
	C	CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING
	FR	FIBER ROLL
	CS	COMPOST SOCK

RCV SIZE
IRRIGATION CONTROLLER
CONTROLLER STATION
VALVE IN PARALLEL (IF APPLICABLE)
GPM
QUANTITY OF SPRINKLERS (WHEN SHOWN)

* $2\frac{1}{2}$"-A-2b-40-60

VALVE CODE

* VALVE CODES FOR EXISTING VALVES ARE SHOWN IN A DASHED ENCLOSURE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1182	1273

LICENSED LANDSCAPE ARCHITECT

November 15, 2013
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.

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2515 — 10-9-13 — Renewal Date 2-28-15 — Date 11-15-13 — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE AND EROSION CONTROL SYMBOLS

NO SCALE

RSP H2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP H2 DATED JULY 19, 2013 AND STANDARD PLAN H2 DATED MAY 20, 2011 - PAGE 219 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H2

2010 REVISED STANDARD PLAN RSP H2

10-9-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1183	1273

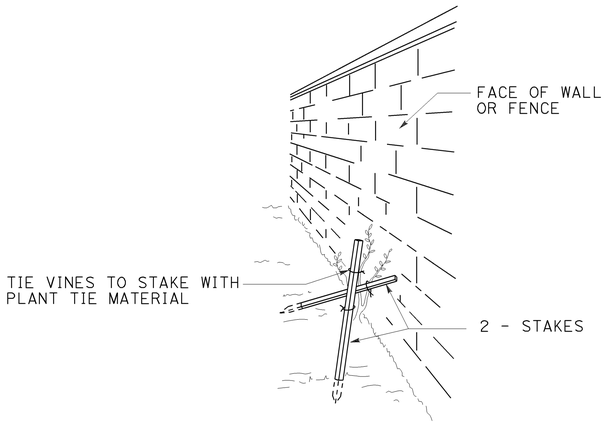
Gregory A Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

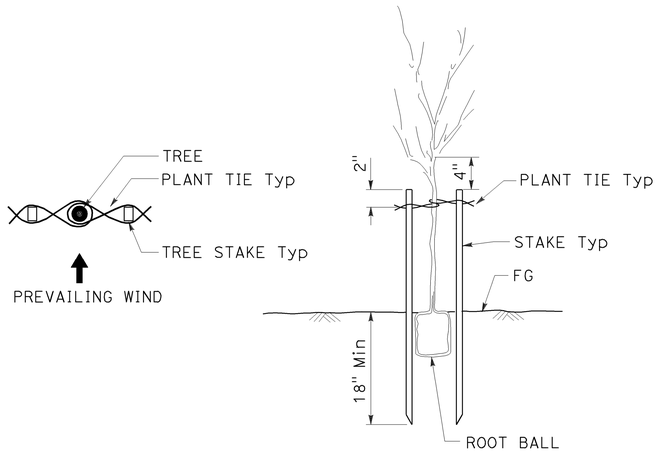
LICENSED LANDSCAPE ARCHITECT
Gregory A. Balzer 2515
09 Revision Date
2-28-15
Renewal Date
7-19-13
Date
STATE OF CALIFORNIA

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.

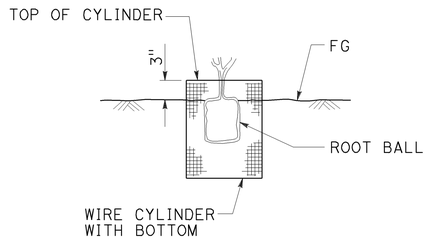
TO ACCOMPANY PLANS DATED 03-24-14



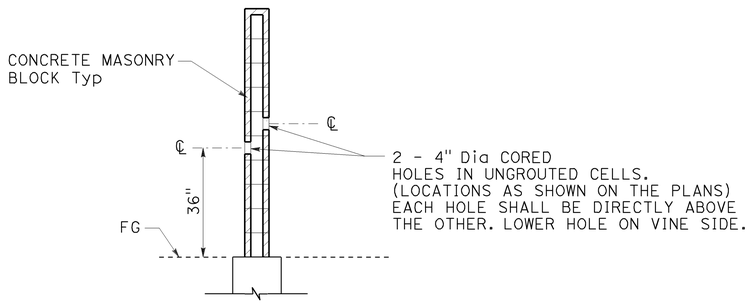
PERSPECTIVE
VINE STAKING



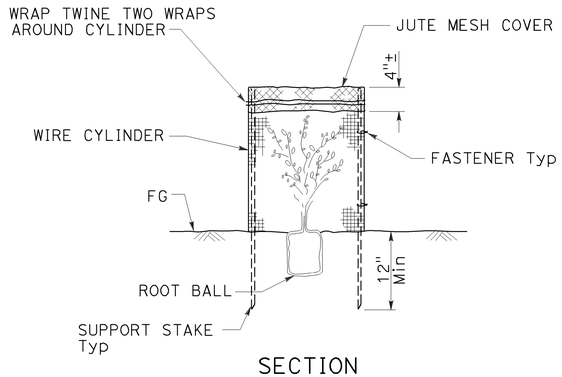
TREE STAKING



SECTION
ROOT PROTECTOR



SECTION
CORE HOLE (VINE)



SECTION
FOLIAGE PROTECTOR

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H4 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H4
DATED MAY 20, 2011 - PAGE 221 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H4

2010 REVISED STANDARD PLAN RSP H4

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1184	1273

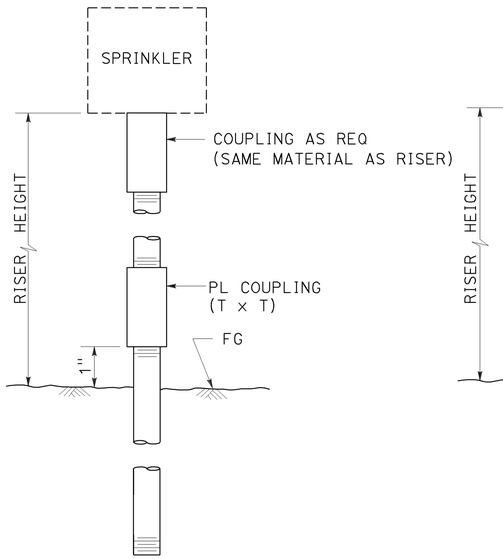
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
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.

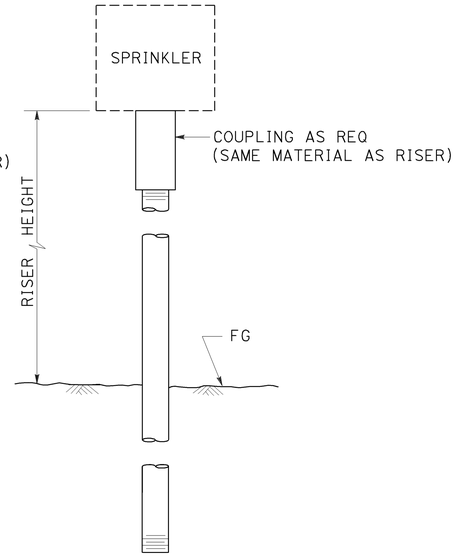
LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer 2576 — 10-31-13 Renewal Date — 2-28-15 Renewal Date — 7-19-13 Date — STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14



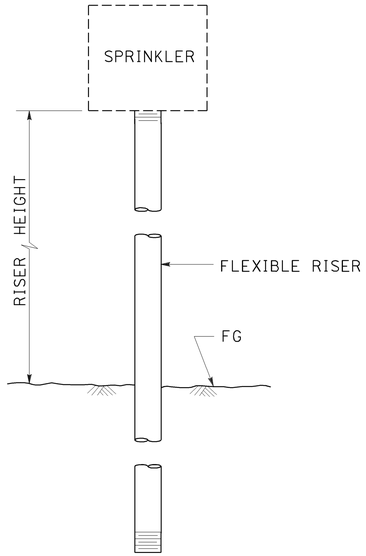
ELEVATION

RISER SPRINKLER ASSEMBLY TYPE I



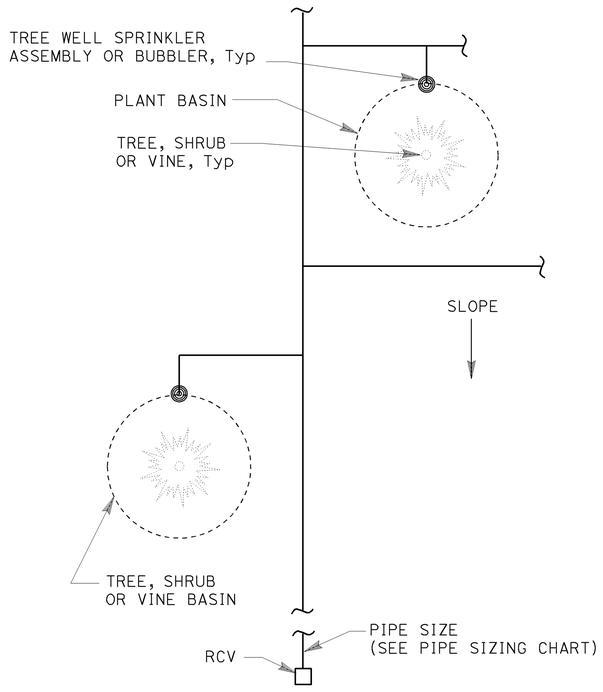
ELEVATION

RISER SPRINKLER ASSEMBLY TYPE II



ELEVATION

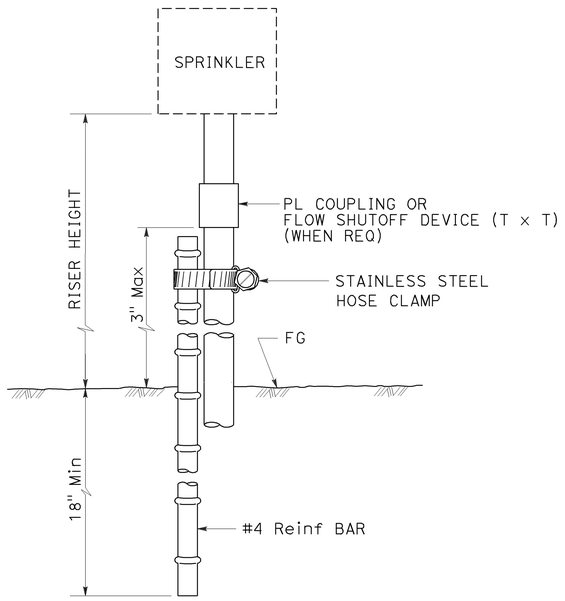
RISER SPRINKLER ASSEMBLY TYPE III



PLAN

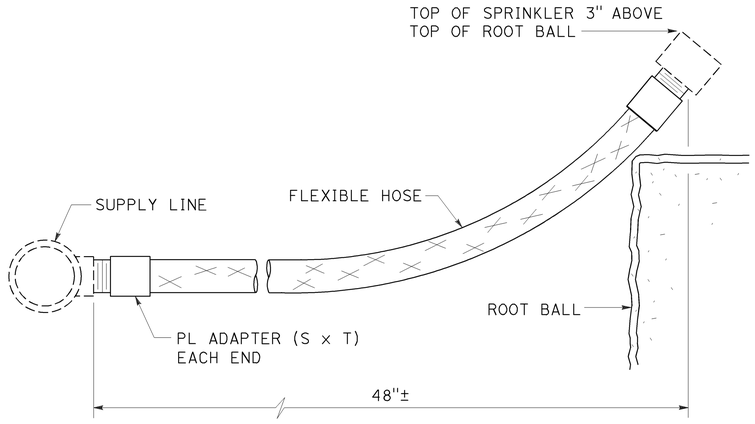
NOTES:

1. Install tree well sprinkler assembly on up-hill side of plant when on slope.
2. Install bubbler within basin.



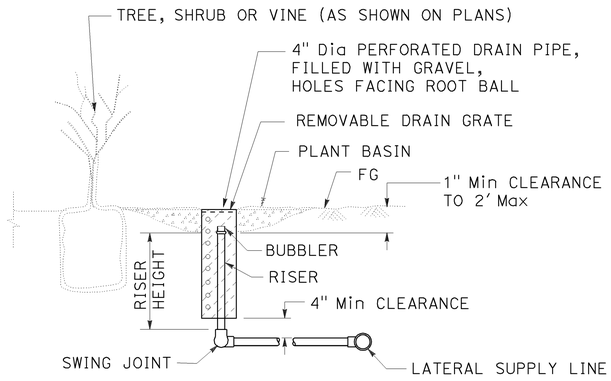
ELEVATION

RISER SPRINKLER ASSEMBLY TYPE IV



ELEVATION

RISER SPRINKLER ASSEMBLY TYPE V



SECTION

TREE WELL SPRINKLER ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H5 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H5
DATED MAY 20, 2011 - PAGE 222 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H5

2010 REVISED STANDARD PLAN RSP H5

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1185	1273

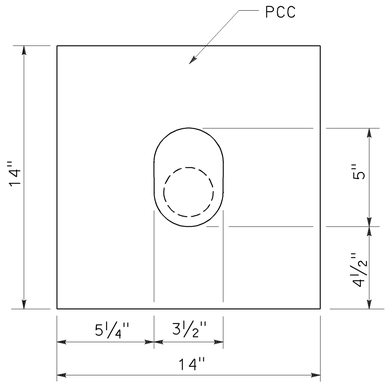
Gregory A Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

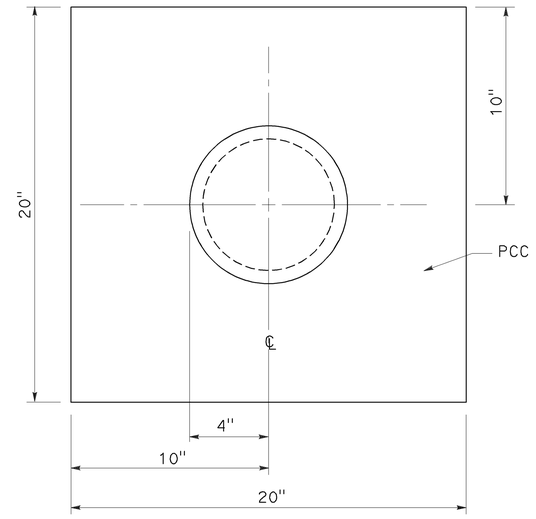
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer 2515 — 10-31-12 Renewal Date — 2-28-15 Renewal Date — 7-19-13 Date — STATE OF CALIFORNIA

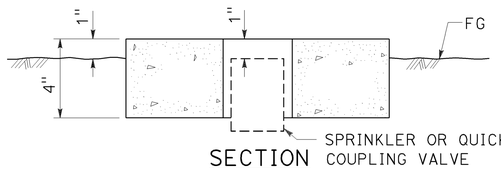
TO ACCOMPANY PLANS DATED 03-24-14



PLAN

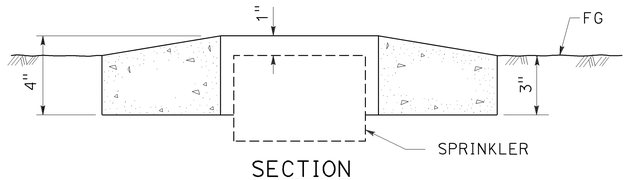


PLAN



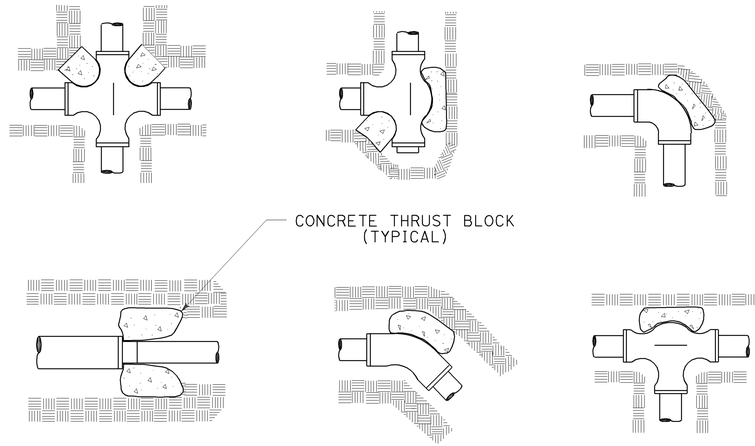
SECTION

SPRINKLER PROTECTOR TYPE I

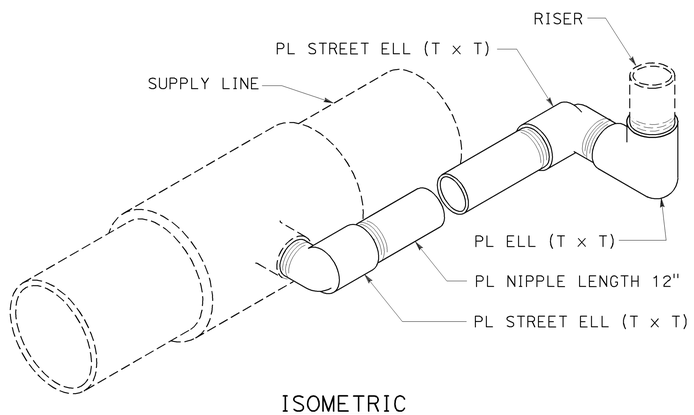


SECTION

SPRINKLER PROTECTOR TYPE II

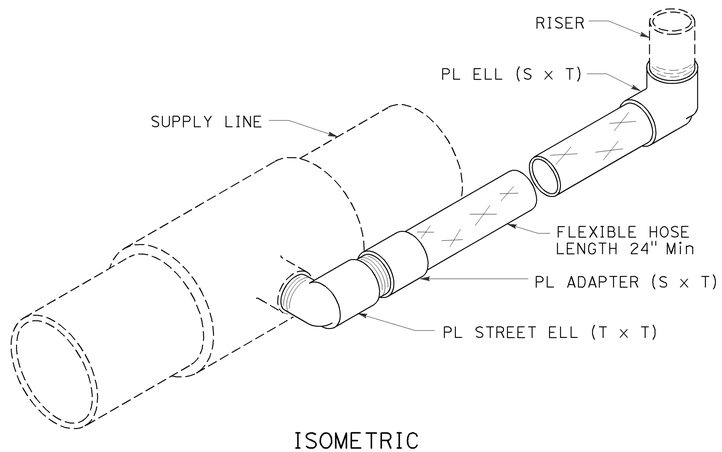


TYPICAL THRUST BLOCKS



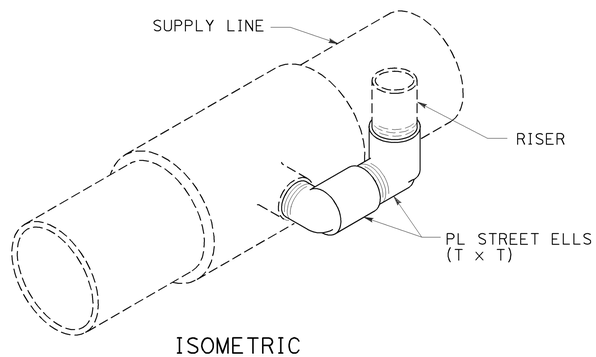
ISOMETRIC

POP-UP SPRINKLER ASSEMBLY TYPE I



ISOMETRIC

POP-UP SPRINKLER ASSEMBLY TYPE II



ISOMETRIC

POP-UP SPRINKLER ASSEMBLY TYPE III

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H6 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H6
DATED MAY 20, 2011 - PAGE 223 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H6

2010 REVISED STANDARD PLAN RSP H6

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1186	1273

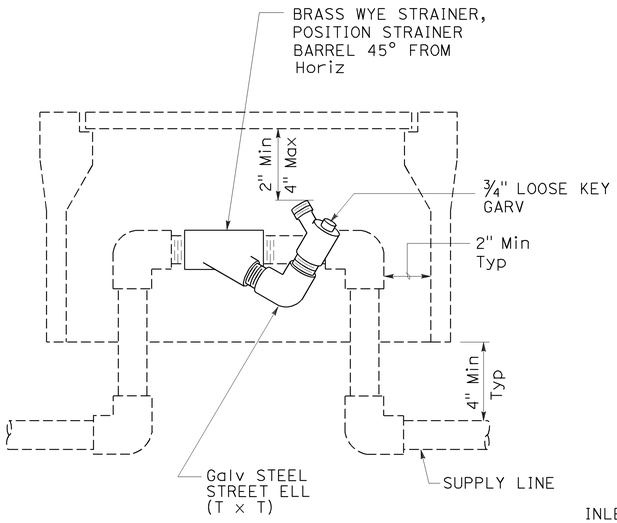
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

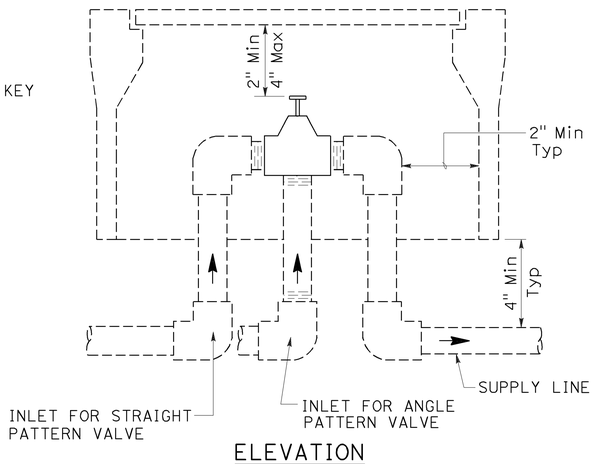
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LICENSED LANDSCAPE ARCHITECT — Gregory A. Balzer — 2576 — 06-30-13 Renewal Date — 2-28-15 Renewal Date — 7-19-13 Date — STATE OF CALIFORNIA

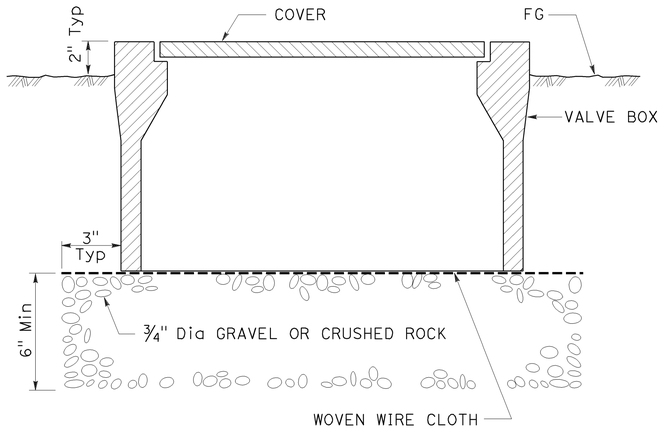
TO ACCOMPANY PLANS DATED 03-24-14



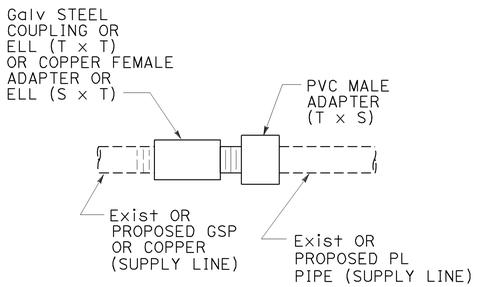
ELEVATION
WYE STRAINER ASSEMBLY



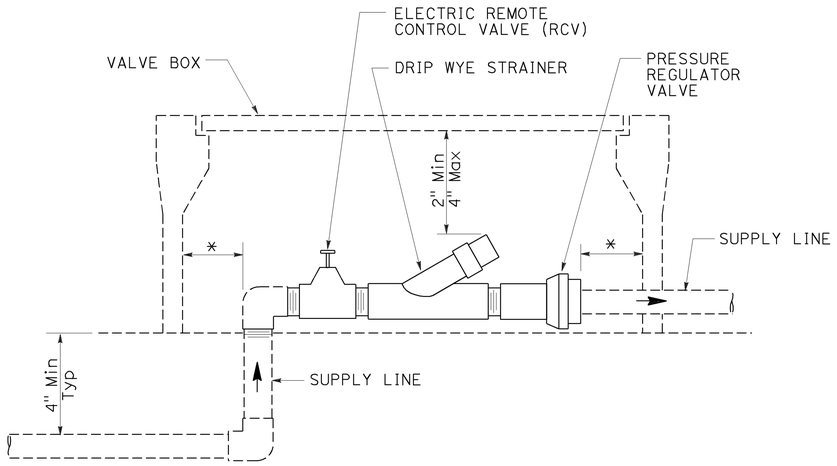
ELEVATION
VALVE



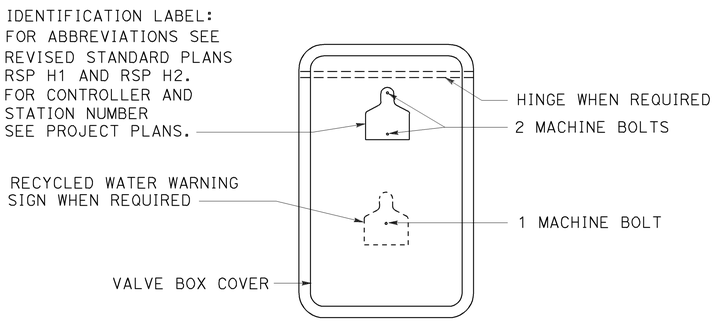
SECTION
VALVE BOX



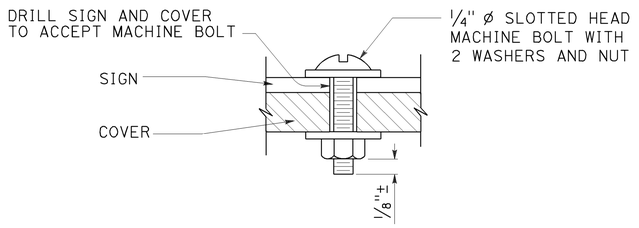
GALVANIZED OR COPPER PIPE CONNECTION TO PLASTIC PIPE



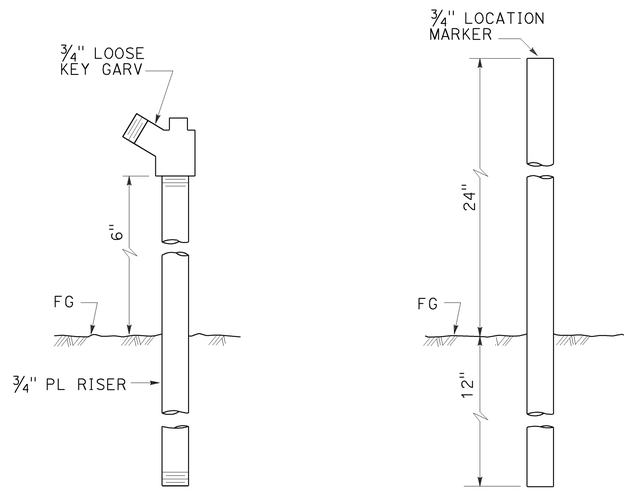
ELEVATION
DRIP VALVE ASSEMBLY



PLAN



SECTION
VALVE BOX IDENTIFICATION



ELEVATION
GARDEN VALVE ASSEMBLY

ELEVATION
LOCATION MARKER

GARDEN VALVE ASSEMBLY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H7 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H7 DATED MAY 20, 2011 - PAGE 224 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H7

2010 REVISED STANDARD PLAN RSP H7

6-20-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1187	1273

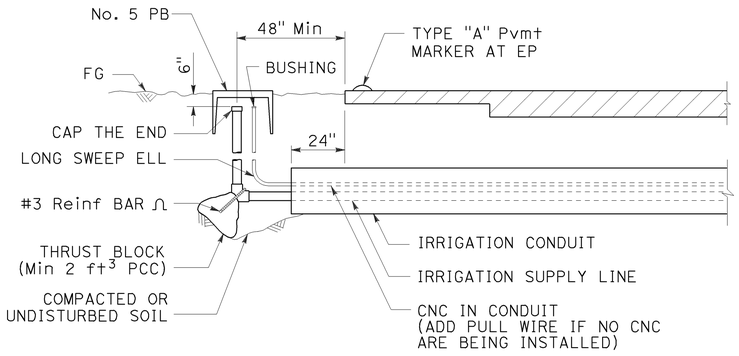
Gregory A Balzer
LICENSED LANDSCAPE ARCHITECT

July 19, 2013
PLANS APPROVAL DATE

LICENSED LANDSCAPE ARCHITECT
Gregory A. Balzer 2576
10-31-14
2-28-15
7-19-13
STATE OF CALIFORNIA

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.

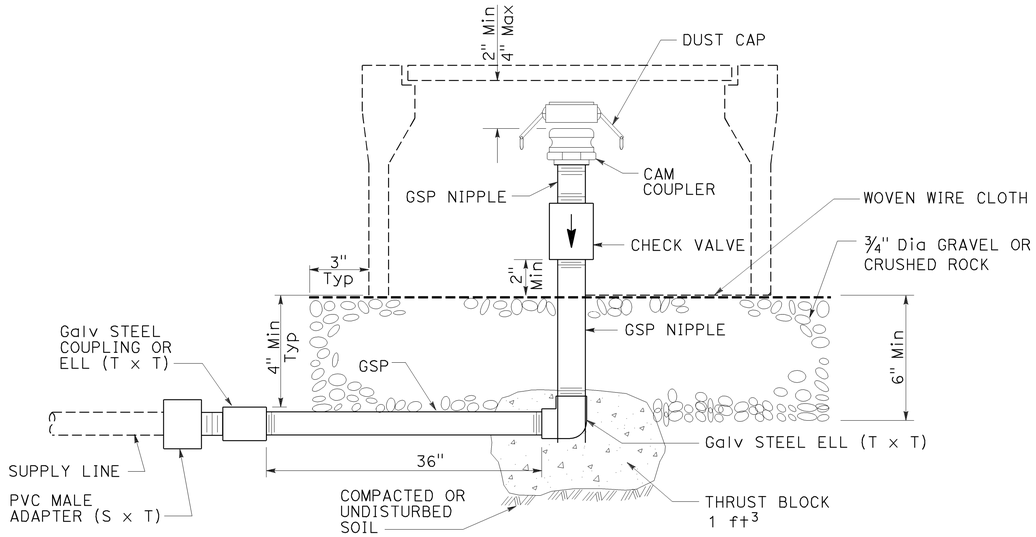
TO ACCOMPANY PLANS DATED 03-24-14



SECTION

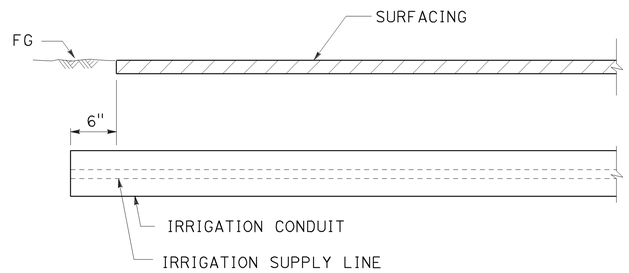
IRRIGATION CONDUIT

UNDER TRAVELED WAY



ELEVATION

CAM COUPLER ASSEMBLY



SECTION

IRRIGATION CONDUIT

UNDER SIDEWALKS, DRIVEWAYS AND PATHS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

LANDSCAPE DETAILS

NO SCALE

RSP H9 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H9
DATED MAY 20, 2011 - PAGE 226 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP H9

2010 REVISED STANDARD PLAN RSP H9

6-28-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1188	1273

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING

SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

* - For other offsets, use the following merging taper length formula for L:
For speed of 40 mph or less, $L = WS^2/60$
For speed of 45 mph or more, $L = WS$

Where: L = Taper length in feet
W = Width of offset in feet
S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING

SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

** - Longitudinal buffer space or flagger station spacing

*** - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommmended distances.

2010 REVISED STANDARD PLAN RSP T9

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

RSP T9 DATED JULY 19, 2013 SUPERSEDES RSP T9 DATED APRIL 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T9

4-30-13

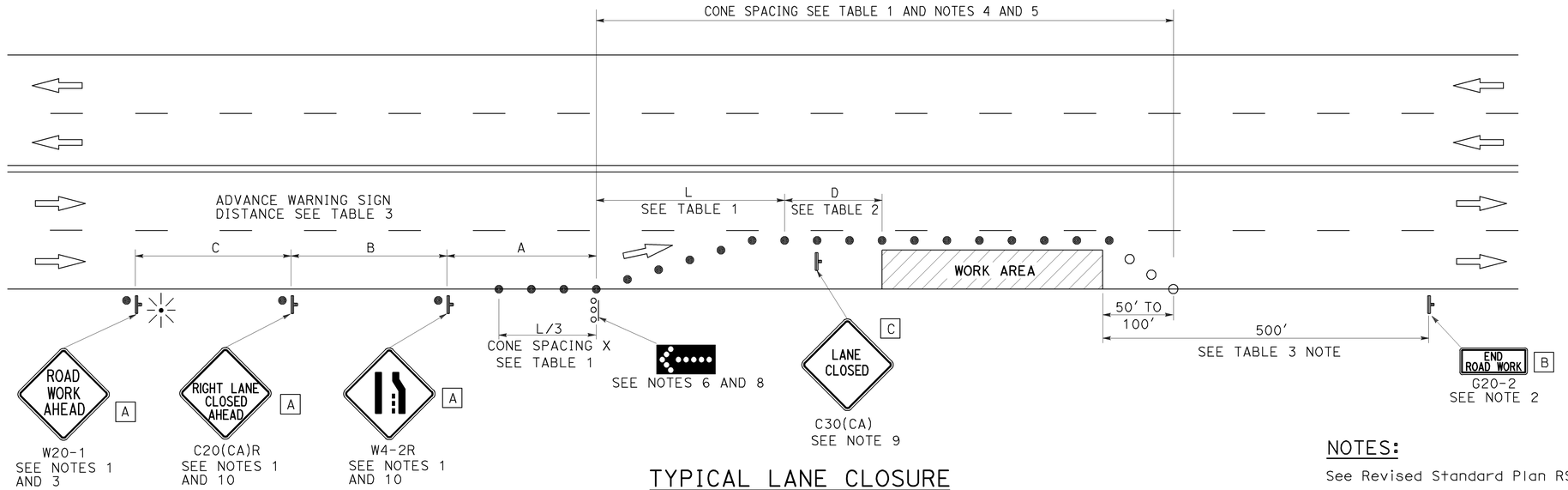
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1189	1273

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14



TYPICAL LANE CLOSURE

NOTES:

1. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
8. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

NOTES:

See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

LEGEND

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

A	48" x 48"
B	36" x 18"
C	30" x 30"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1190	1273

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- PORTABLE FLASHING BEACON

SIGN PANEL SIZE (Min)

- [A] 48" × 48"
- [B] 24" × 24"
- [C] 36" × 18"

NOTES:

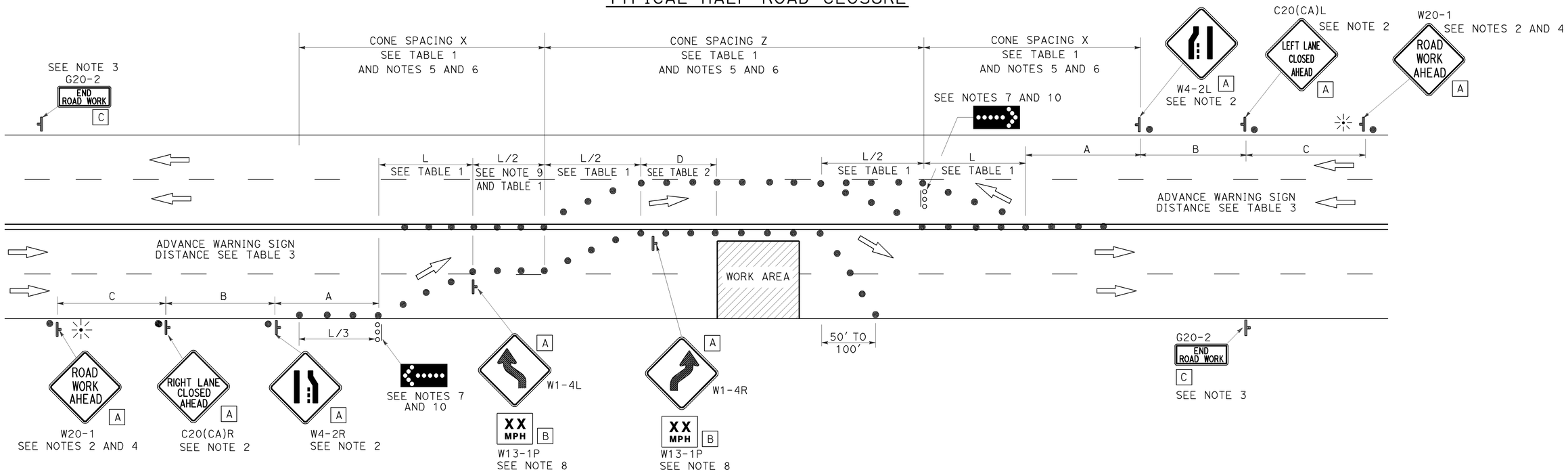
See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

TYPICAL HALF ROAD CLOSURE



NOTES:

1. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.
2. Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
4. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Flashing arrow signs shall be either Type I or Type II.
8. Advisory speed will be determined by the Engineer. The W13-1P Plaque will not be required when advisory speed is more than the posted or maximum speed limit.
9. Unless otherwise specified in the special provisions, the tangent (L/2) shall be used.
10. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR HALF ROAD CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS AND EXPRESSWAYS

NO SCALE

RSP T12 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T12
DATED MAY 20, 2011 - PAGE 240 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T12

2010 REVISED STANDARD PLAN RSP T12

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1191	1273

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar No. C48815 Exp. 9-30-14 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 03-24-14

NOTES:

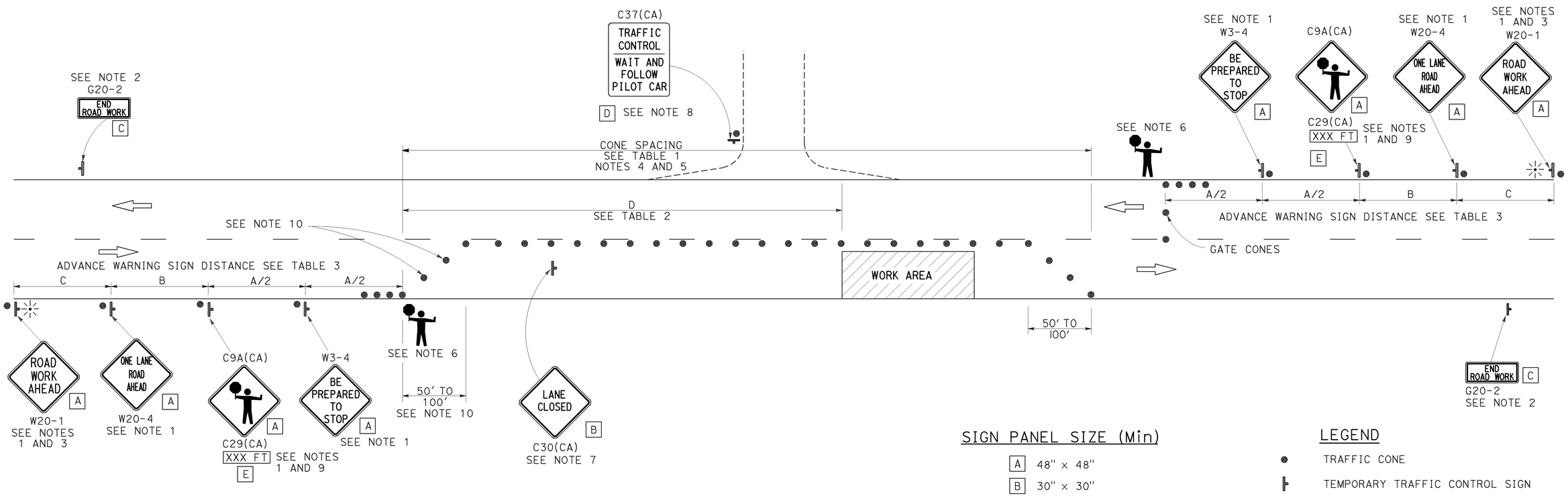
See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



NOTES:

1. Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
7. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
8. When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
9. An optional C29(CA) sign may be placed below the C9A(CA) sign.
10. Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.

SIGN PANEL SIZE (Min)

A	48" x 48"
B	30" x 30"
C	36" x 18"
D	36" x 42"
E	20" x 7"

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- PORTABLE FLASHING BEACON
- FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

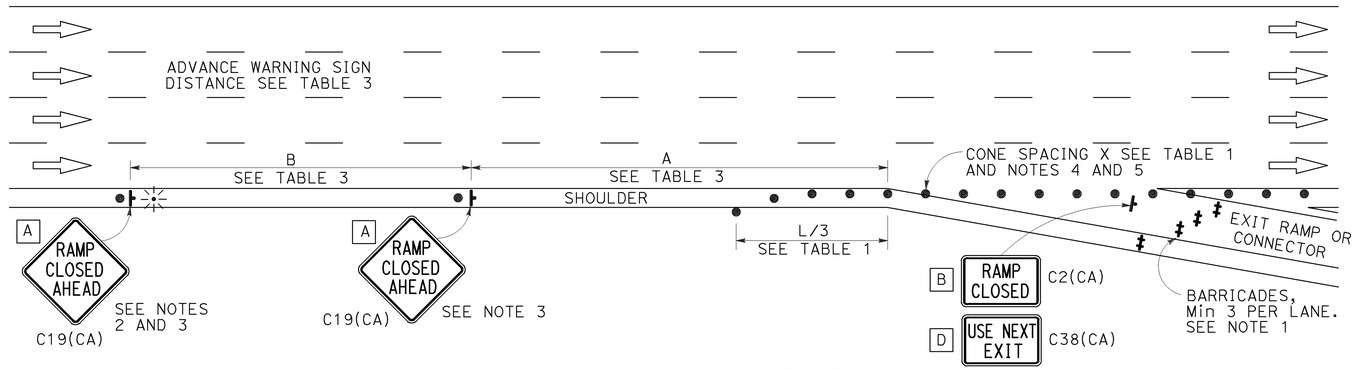
RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

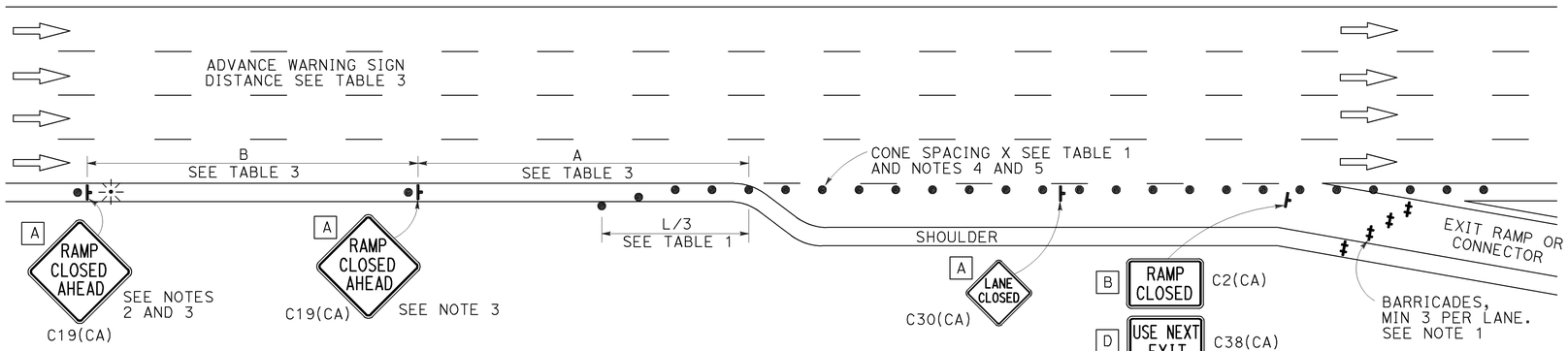
2010 REVISED STANDARD PLAN RSP T13

4-2-13

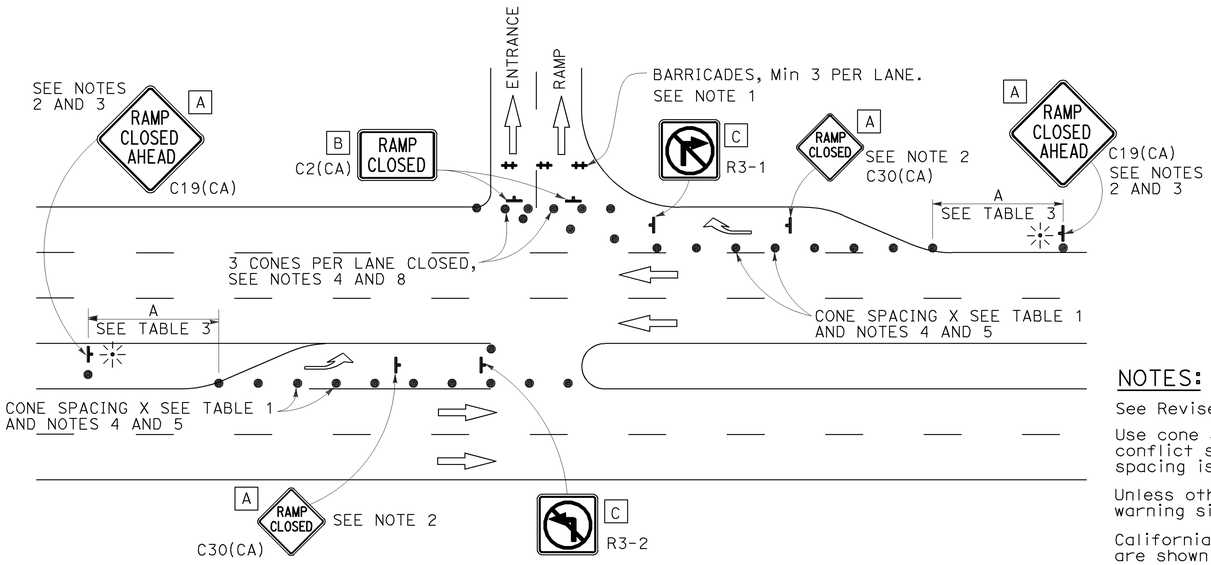
TYPICAL RAMP CLOSURES



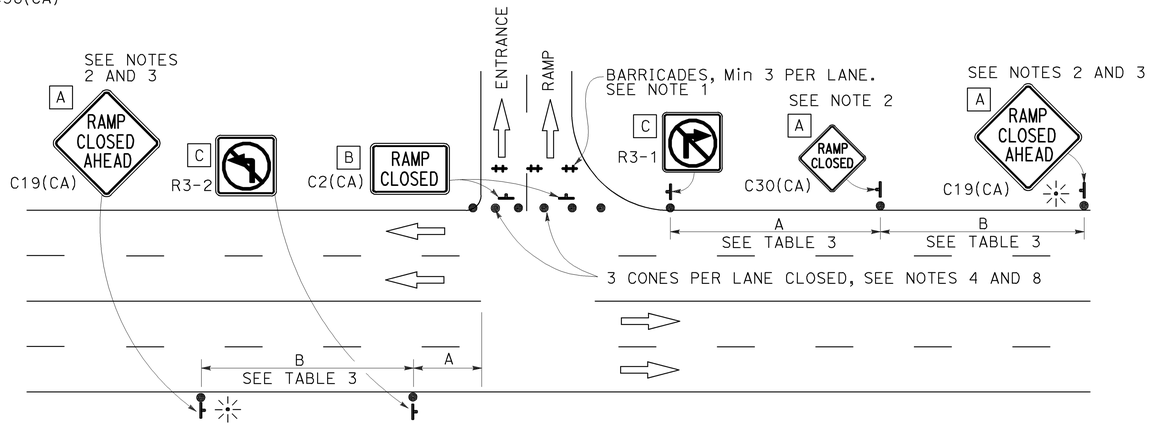
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

SIGN PANEL SIZE (Min)

- A 48" × 48"
- B 48" × 30"
- C 36" × 36"
- D 48" × 36"

LEGEND

- ● TRAFFIC CONE
- ⊢ TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ✳ PORTABLE FLASHING BEACON

NOTES:

1. Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
2. In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
3. Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" × 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
4. All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

NOTES:

See Revised Standard Plan RSP T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1192	1273

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gurinderpal Bhullar — No. C48815 — Exp. 9-30-14 CIVIL — STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURE

NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14
DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1193	1273

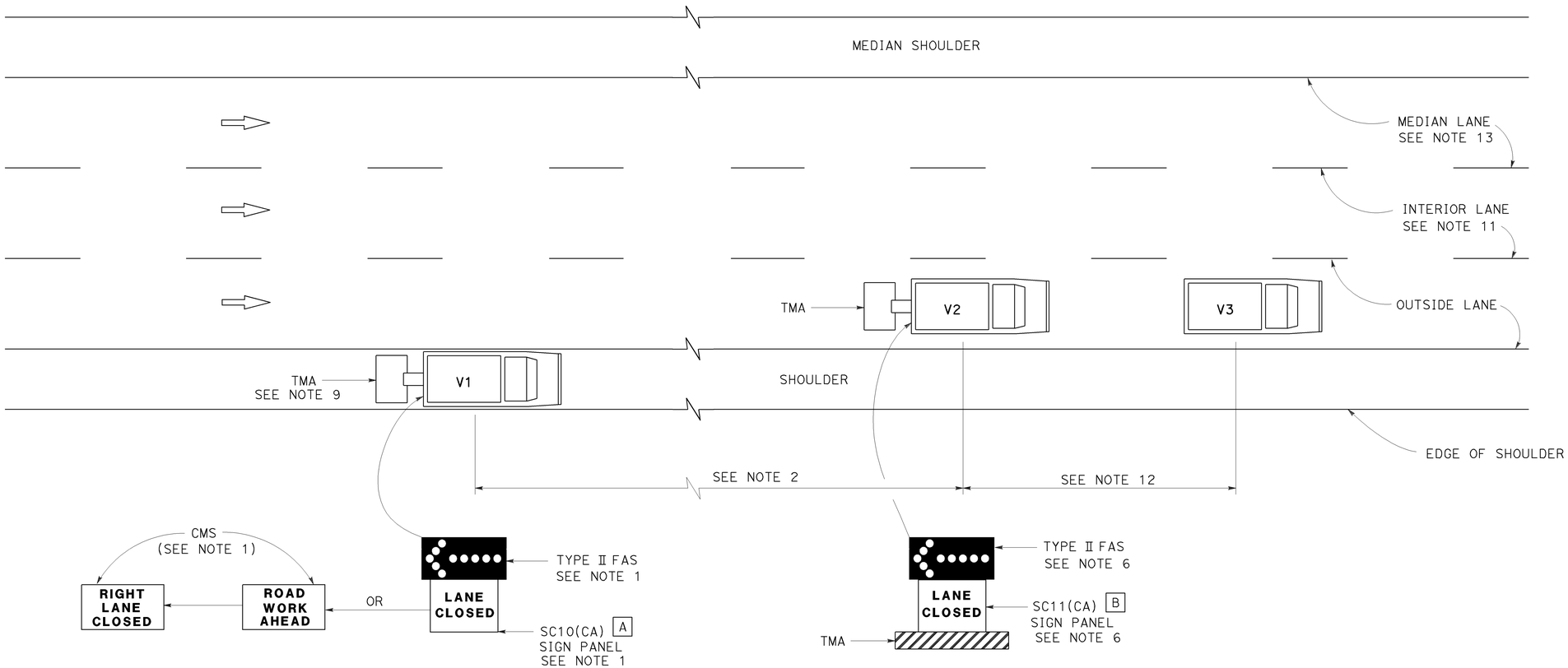
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14



SIGN PANEL SIZE (Min)

A 66" x 36"

B 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS)
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

MOVING LANE CLOSURE ON MEDIAN LANE OR OUTSIDE LANE OF MULTILANE HIGHWAYS

NOTES:

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T15

2010 REVISED STANDARD PLAN RSP T15

12-18-12

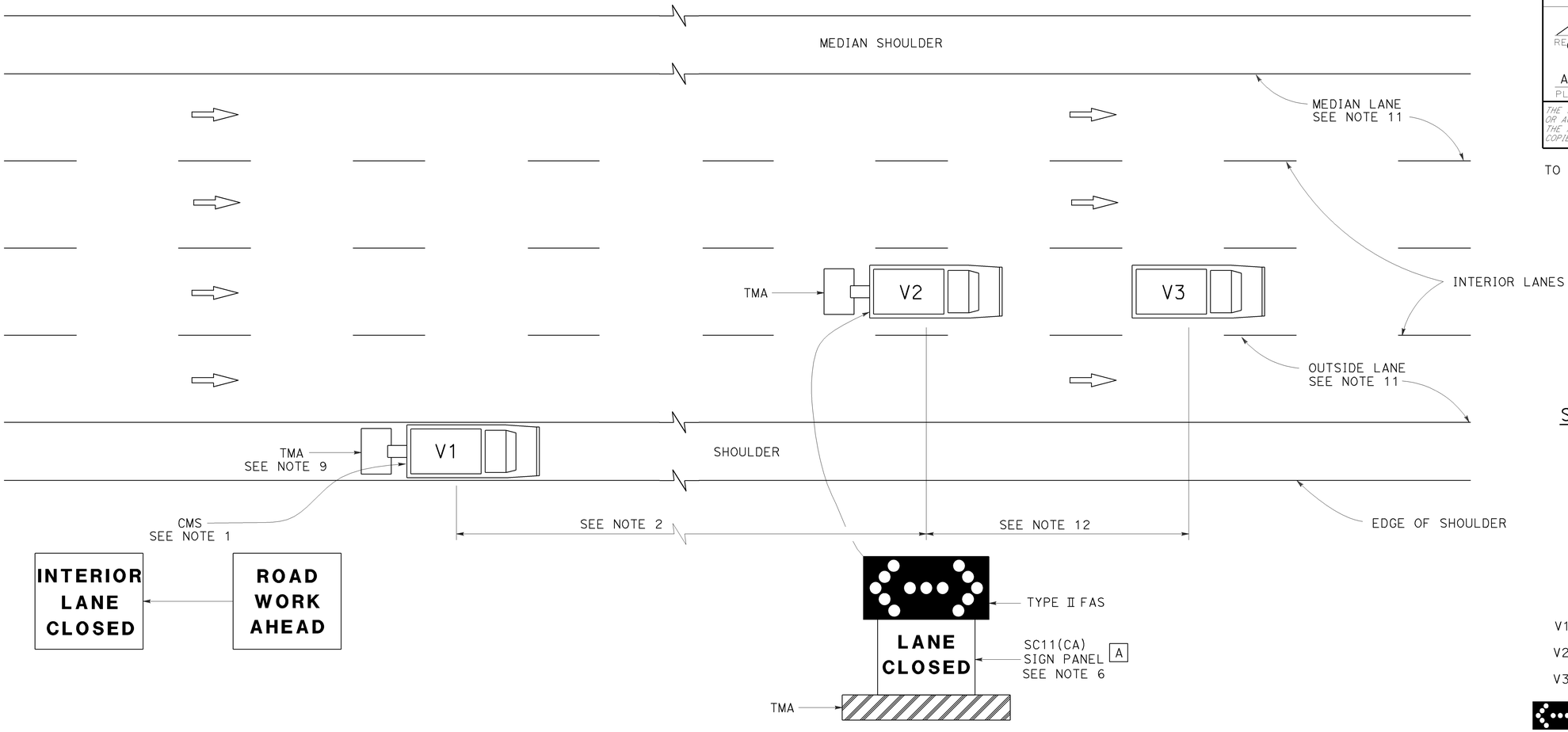
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1194	1273

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14



MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
	FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
CMS	CHANGEABLE MESSAGE SIGN
TMA	TRUCK-MOUNTED ATTENUATOR

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500′ should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500′.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16
DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T16

2010 REVISED STANDARD PLAN RSP T16

12-18-13

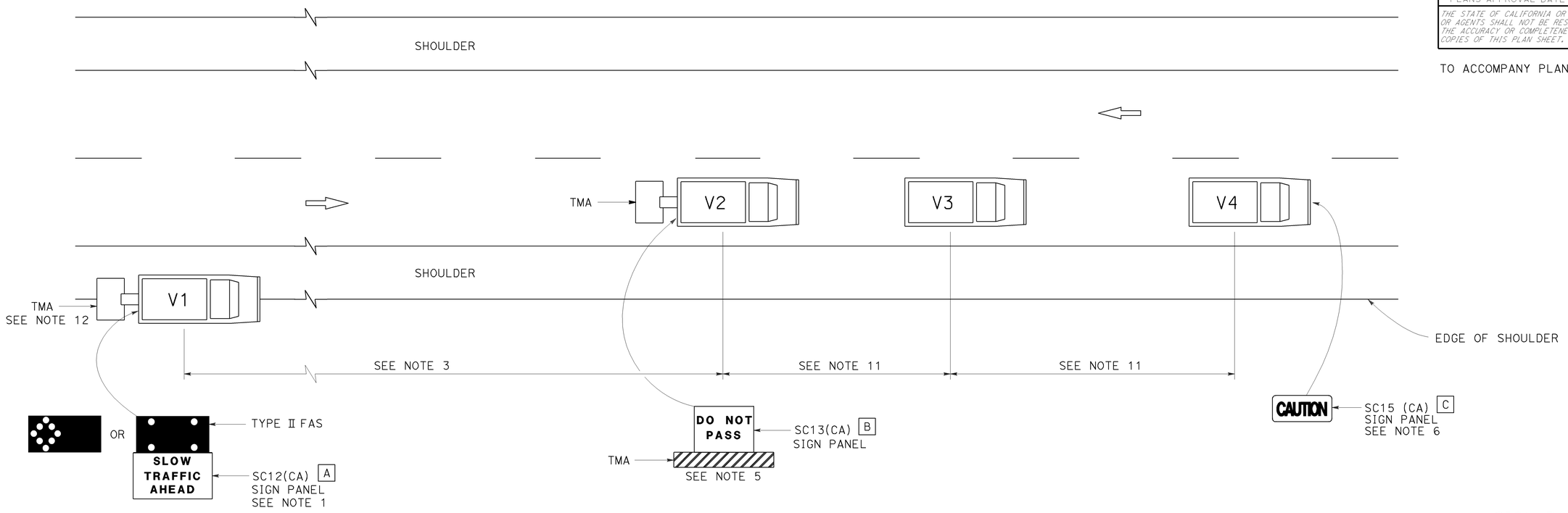
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1195	1273

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gurinderpal Bhullar
No. C48815
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 03-24-14



NOTES:

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.
7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

LEGEND

V1	SIGN VEHICLE
V2	SHADOW VEHICLE
V3	WORK/APPLICATION VEHICLE
V4	SIGN VEHICLE
TMA	TRUCK-MOUNTED ATTENUATOR
	FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
	FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

SIGN PANEL SIZE (Min)

A	72" x 42"
B	54" x 42"
C	54" x 24"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON TWO LANE HIGHWAYS

NO SCALE

RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17
DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T17

2010 REVISED STANDARD PLAN RSP T17

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1196	1273

Gary Wang
REGISTERED CIVIL ENGINEER

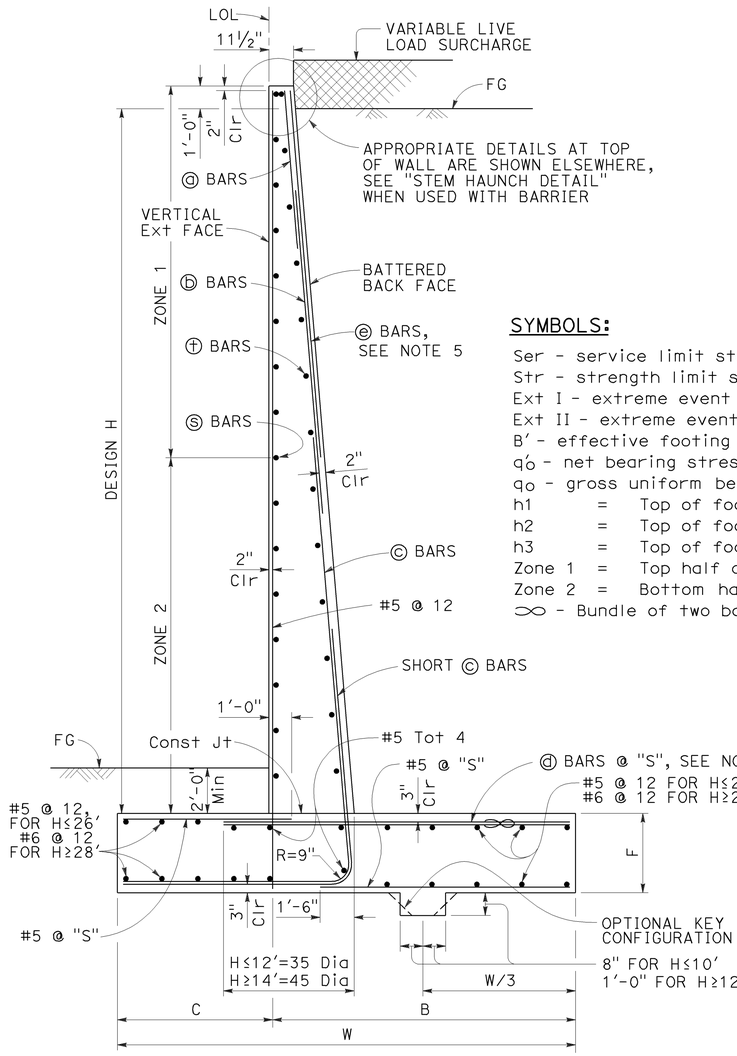
April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang No. C58298 Exp. 6-30-12 CIVIL — STATE OF CALIFORNIA

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.

DESIGN CONDITIONS:

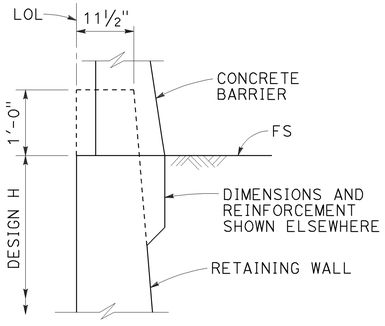
Design H may be exceeded by 6" before going to the next size.
Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.



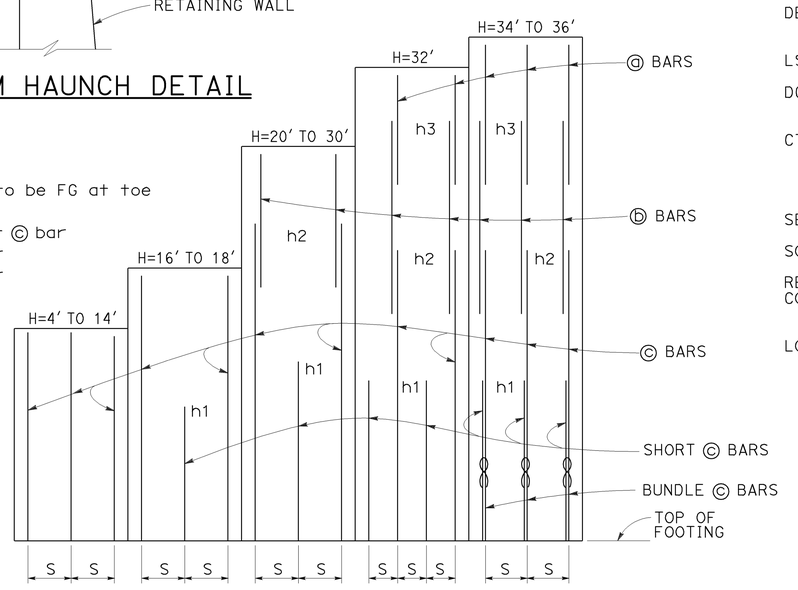
TYPICAL SECTION

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext I - extreme event limit state I
Ext II - extreme event limit state II
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)
h1 = Top of footing to top of short ⓒ bar
h2 = Top of footing to top of ⓒ bar
h3 = Top of footing to top of ⓑ bar
Zone 1 = Top half of stem height
Zone 2 = Bottom half of stem height
∞ - Bundle of two bars



STEM HAUNCH DETAIL



ELEVATION

DESIGN NOTES:

TO ACCOMPANY PLANS DATED 03-24-14

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE
Extreme II	Q = 1.00DC+1.00EV+1.00EH+1.00CT

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia
CT:	Vehicular Collision Force

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA

DESIGN H	4'	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'	32'	34'	36'
W	6'-10"	7'-0"	7'-3"	7'-7"	8'-4"	9'-7"	10'-9"	12'-0"	13'-3"	14'-6"	15'-9"	17'-1"	18'-5"	19'-10"	21'-2"	22'-7"	24'-0"
C	2'-2"	2'-3"	2'-3"	2'-4"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-5"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	9'-0"
B	4'-8"	4'-9"	5'-0"	5'-3"	5'-10"	6'-7"	7'-3"	8'-0"	8'-9"	9'-6"	10'-4"	11'-1"	11'-11"	12'-8"	13'-6"	14'-5"	15'-0"
F	1'-4"	1'-4"	1'-4"	1'-4"	1'-6"	1'-8"	1'-8"	1'-9"	1'-9"	1'-11"	2'-2"	2'-5"	2'-10"	3'-3"	3'-6"	4'-0"	4'-3"
BATTER	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	½: 12	⅝: 12	⅝: 12	¾: 12	⅞: 12	1 : 12	1 : 12	1 : 12
SPACING "S"	9"	9"	9"	9"	9"	7"	6"	5"	6"	6"	6"	6"	6"	6"	6"	10"	8"
ⓐ BARS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#7	#7	#6
ⓑ BARS	-	-	-	-	-	-	-	-	#7	#7	#7	#7	#7	#7	#9	#9	#8
ⓒ BARS	#6	#6	#6	#6	#6	#6	#7	#7	#8	#9	#9	#10	#10	#10	#11	#11	#11
ⓓ BARS	#5	#5	#6	#6	#6	#6	#9	#8	#8	#9	#9	#10	#10	#10	#11	#11	#11
h1	-	-	-	-	-	-	5'-9"	5'-10"	8'-0"	9'-0"	10'-1"	11'-0"	12'-1"	13'-0"	13'-0"	12'-7"	11'-6"
h2	-	-	-	-	-	-	-	-	10'-5"	13'-0"	14'-7"	17'-6"	19'-0"	20'-5"	19'-0"	18'-0"	20'-2"
h3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21'-2"	21'-10"	24'-0"
ZONE 1 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
ZONE 2 ⓢ BARS	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 18	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#5 @ 12	#6 @ 12	#6 @ 12	#6 @ 12	#7 @ 12	#7 @ 12
ZONE 1 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12
ZONE 2 ⓣ BARS	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 18	#4 @ 12	#4 @ 12	#4 @ 12	#4 @ 12	#5 @ 12	#5 @ 12	#5 @ 12
Ser: B', q'_o	6.8, 0.7	6.5, 1.0	6.2, 1.3	6.0, 1.6	6.3, 2.0	7.5, 2.1	8.6, 2.2	9.8, 2.3	11.0, 2.4	12.1, 2.5	13.2, 2.8	14.4, 2.9	15.5, 3.1	16.8, 3.3	18.0, 3.5	19.2, 3.7	20.6, 3.7
Str: B', q_o	6.6, 1.6	5.0, 1.8	3.6, 2.3	3.0, 3.3	3.2, 4.0	4.3, 3.8	5.3, 3.7	6.4, 3.7	7.4, 3.8	8.2, 4.1	9.0, 4.4	9.9, 4.6	10.7, 4.9	11.7, 5.2	12.6, 5.4	13.6, 5.8	14.6, 5.9
Ext I: B', q_o	5.2, 1.1	4.7, 1.5	3.9, 2.2	3.1, 3.4	2.8, 4.8	3.2, 5.3	3.6, 5.7	4.1, 6.1	4.6, 6.4	5.0, 6.9	5.3, 7.6	5.8, 8.1	6.1, 8.9	6.7, 9.4	7.1, 10.0	7.5, 10.7	8.2, 10.9
Ext II: B', q_o	2.6, 2.2	2.7, 2.6	2.8, 3.1	2.9, 3.6	3.7, 3.6	5.2, 3.3	6.7, 3.1	8.3, 3.0	9.8, 3.0	11.2, 3.1	12.5, 3.2	13.9, 3.4	15.2, 3.6	16.7, 3.8	18.0, 4.0	19.3, 4.2	20.8, 4.3

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 / 3-3 and B0-3 / 3-4
3. At ⓒ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Bundle ⓓ bars for H = 34' & 36'.
5. Provide #6 @ 10" x 15'-0" ⓔ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall locations. For H ≤ 14', hook ⓔ bar into footing and reduce bar length as needed to maintain Min Clr cover.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1 (CASE 1)

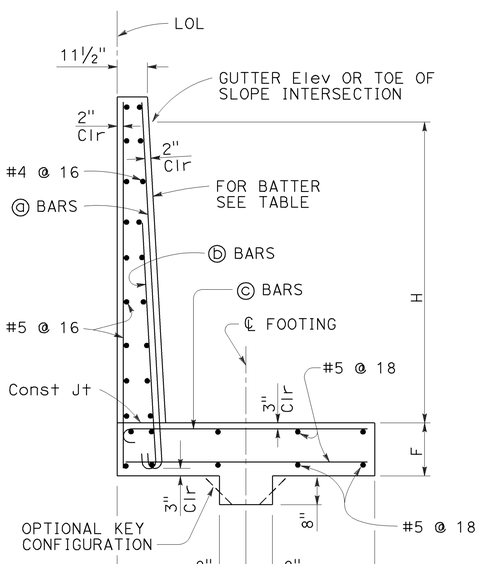
NO SCALE

RSP B3-1A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

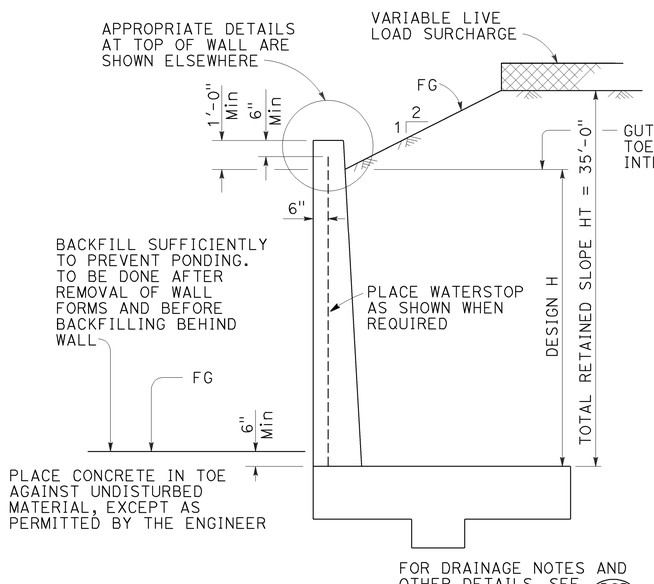
REVISED STANDARD PLAN RSP B3-1A

2010 REVISED STANDARD PLAN RSP B3-1A

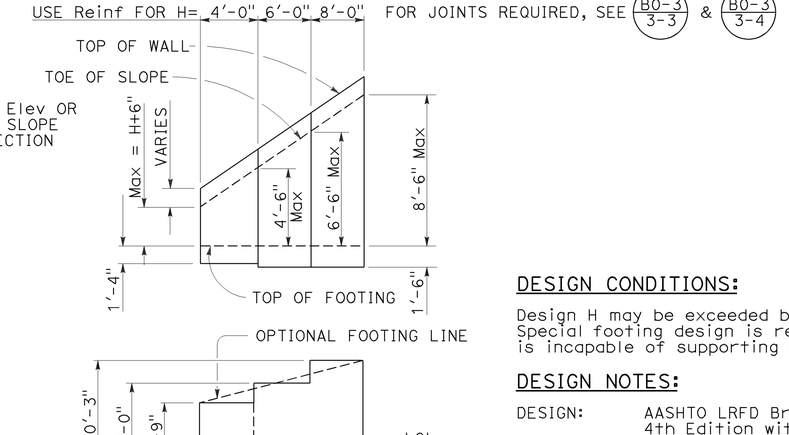
2-22-12



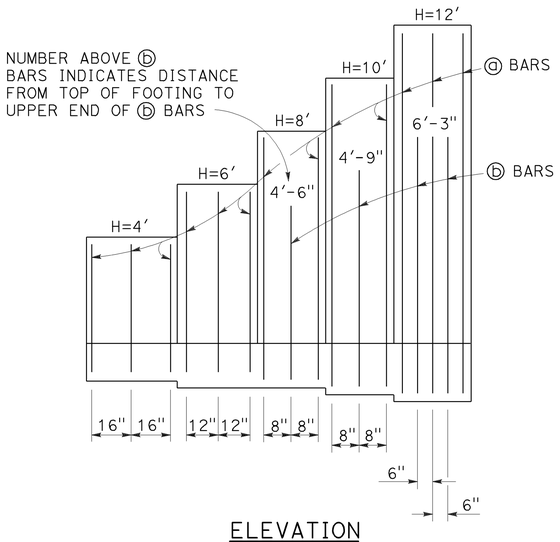
SPREAD FOOTING SECTION



DESIGN SECTION



TYPICAL LAYOUT EXAMPLE



ELEVATION

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext - extreme event limit state I
B' - effective footing width (ft)
q'_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4'	6'	8'	10'	12'
W	7'-9"	9'-0"	10'-3"	11'-6"	13'-3"
F SPREAD FOOTING	1'-4"	1'-6"	1'-6"	1'-6"	1'-10"
BATTER	NONE	NONE	NONE	100 : 3	100 : 5
ⓐ BARS	#5 @ 16	#5 @ 12	#5 @ 16	#6 @ 16	#5 @ 12
ⓑ BARS	NONE	NONE	#6 @ 16	#6 @ 16	#6 @ 12
ⓒ BARS	#7 @ 8	#7 @ 12	#8 @ 8	#9 @ 8	#10 @ 6
Ser: B', q'_o	5.2,1.3	6.0,1.8	9.1,1.8	10.0,2.3	11.4,2.7
Str: B', q_o	3.6,2.2	4.1,2.8	4.8,3.4	5.5,3.9	6.7,4.3
Ext: B', q_o	3.7,2.9	3.6,4.5	3.7,5.9	3.9,7.2	4.4,8.4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1197	1273

Gary Wong
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gary Wang
No. C58298
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	Q = 1.00DC+1.00EV+1.00EH+1.00LS
Strength I	Q = αDC+βEV+ηEH+1.75LS
Extreme I	Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia

NOTES:

1. At ⓐ and ⓑ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 5 (CASE 2)

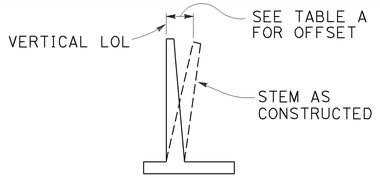
NO SCALE

RSP B3-4B DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-4B

2010 REVISED STANDARD PLAN RSP B3-4B

3-30-12

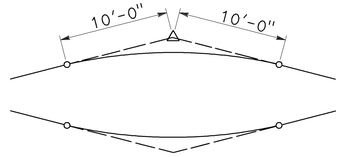


APPROXIMATE WALL OFFSET VALUES

Values for offseting forms to be determined by the Engineer.

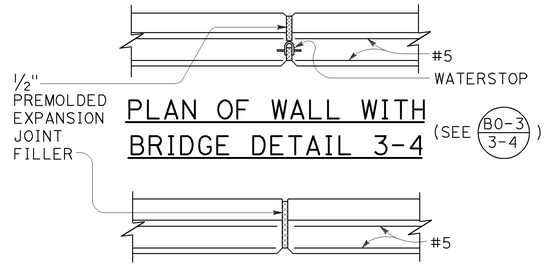
TABLE A

H	OFFSET
4′-12′	H/200
14′-16′	H/160
18′-20′	H/140
22′-24′	H/130
26′-36′	2½"



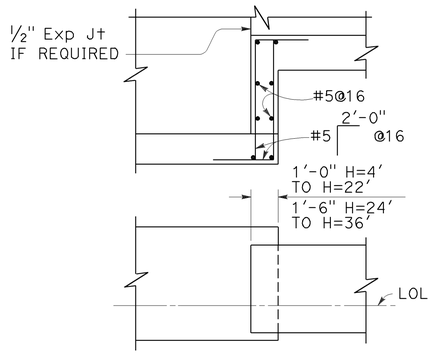
20′-0" VC AT TOP OF WALL SLOPE CHANGE

Where shown on the plans

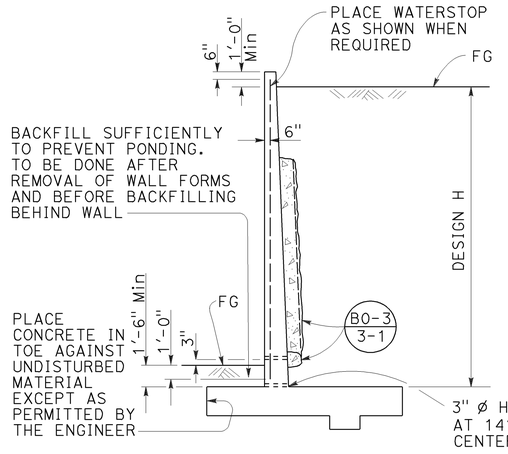


PLAN OF WALL WITH BRIDGE DETAIL 3-4 (SEE B0-3 / 3-4)

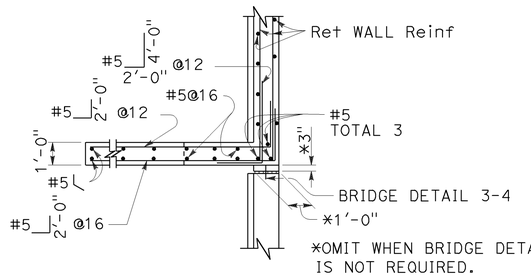
PLAN OF WALL WITH EXPANSION JOINT ONLY



FOOTING STEP



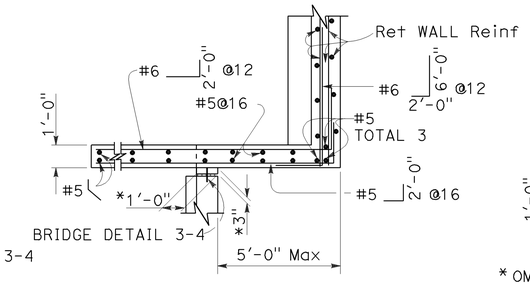
DESIGN AND DRAINAGE



*OMIT WHEN BRIDGE DETAIL 3-4 IS NOT REQUIRED.

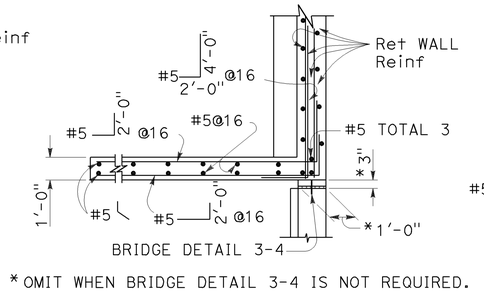
PLAN

(For return wall Type "A")



PLAN

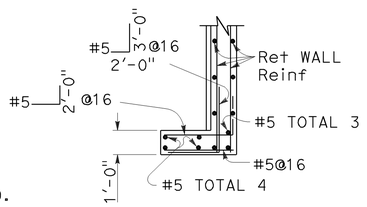
(For return wall Type "B")



*OMIT WHEN BRIDGE DETAIL 3-4 IS NOT REQUIRED.

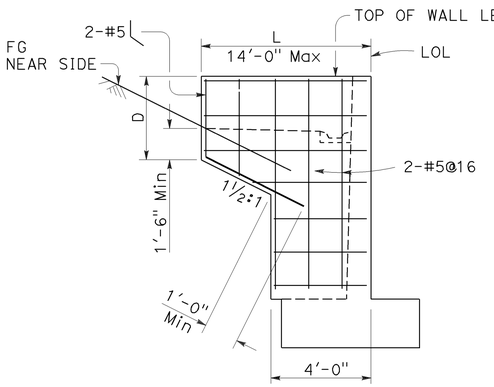
PLAN

(For return wall Type "C")



PLAN

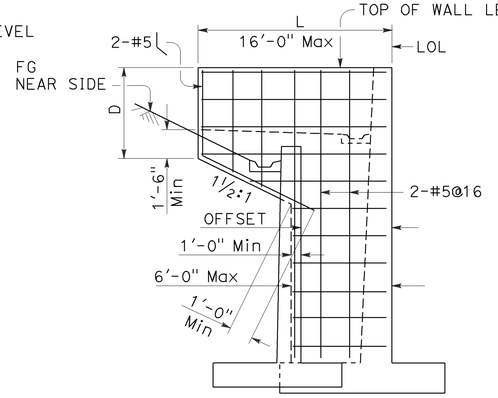
(For return wall Type "D")



ELEVATION

RETURN WALL TYPE "A"

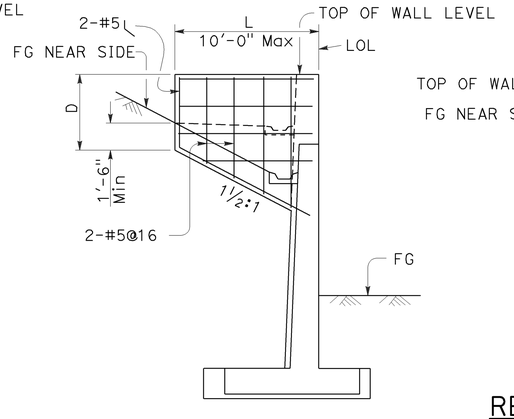
Use where H=8′ or less



ELEVATION

RETURN WALL TYPE "B"

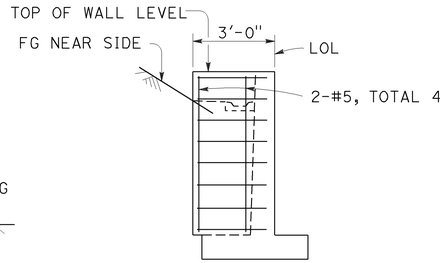
Use where H=10′ or more on offset walls



ELEVATION

RETURN WALL TYPE "C"

Use where H=10′ or more on straight walls



ELEVATION

RETURN WALL TYPE "D"

Use where H=6′ or less

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1198	1273

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Gary Wang — No. C58298 — Exp. 6-30-12 — CIVIL — STATE OF CALIFORNIA

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.

TO ACCOMPANY PLANS DATED 03-24-14

DESIGN CONDITIONS:

Design "H" may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in table

Return wall not required unless shown elsewhere

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th edition with California Amendments

LIVE LOAD: Surcharge on level ground surface

SOIL: ø = 34°
γ = 120 pcf

REINFORCED CONCRETE: fy = 60,000 psi
fc′ = 3,600 psi

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL DETAILS No. 1

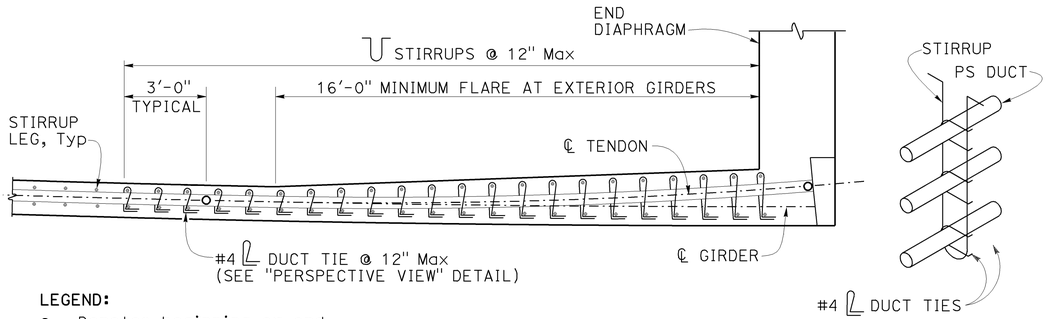
NO SCALE

RSP B3-5 DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN B3-5 DATED MAY 20, 2011 - PAGE 277 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-5

2010 REVISED STANDARD PLAN RSP B3-5

2-22-12



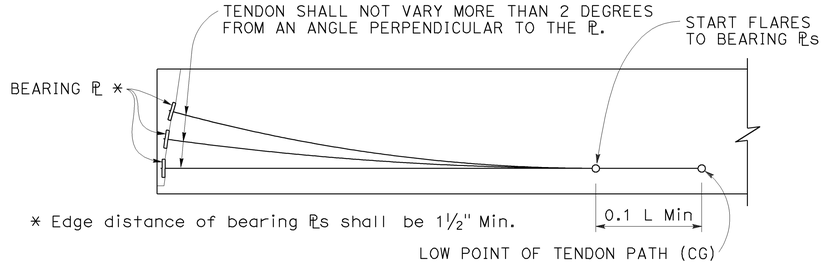
LEGEND:

o - Denotes beginning or end of tendon horizontal angle change (BC, EC or PCC)

PLAN

PERSPECTIVE VIEW

DUCT TIES AT TENDON HORIZONTAL ANGLE CHANGES
DETAIL 5-1



* Edge distance of bearing ℄s shall be 1½" Min.

ELEVATION - BEARING PLATE AND PRESTRESSING PATH
DETAIL 5-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1199	1273

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Marc Friedheim — No. C57968 — Exp. 6-30-14 — CIVIL — STATE OF CALIFORNIA

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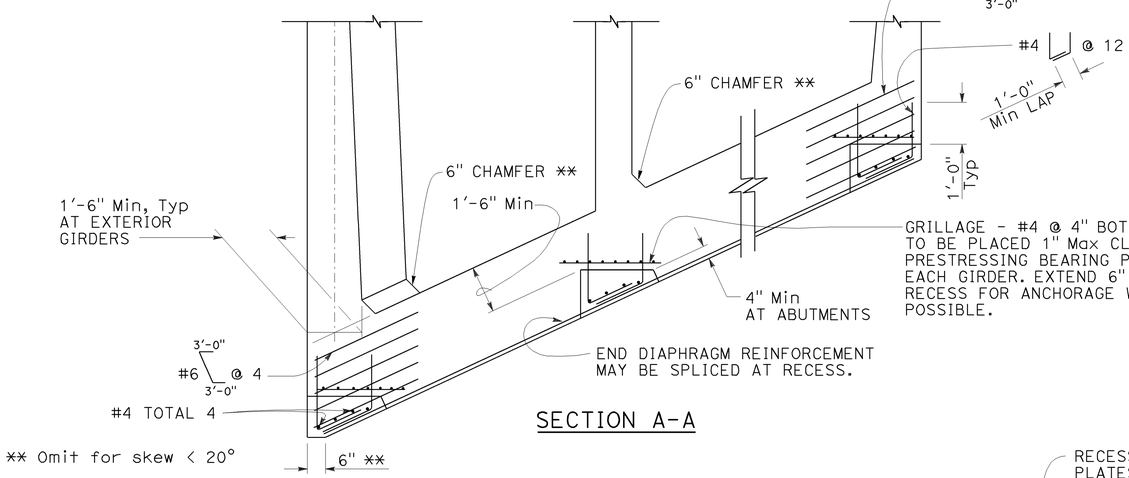
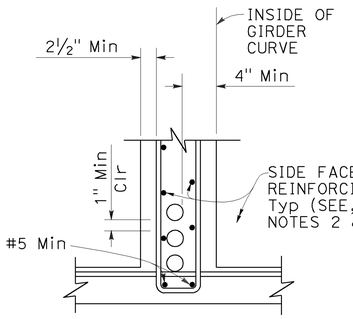
TO ACCOMPANY PLANS DATED 03-24-14

NOTES FOR DETAIL 5-1

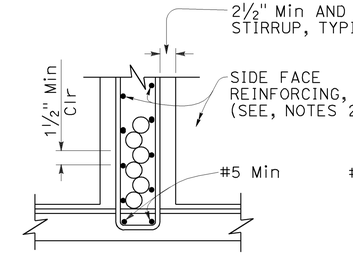
1. Tendon horizontal angle change at end diaphragm shown. Duct tie placement similar for other locations where tendon horizontal angle changes occur. For curved girders place duct ties at tendon angle changes where ℄ tendon radius is smaller than ℄ girder radius.
2. Adjacent duct ties may be staggered to facilitate placement if stirrup spacing is less than 12 inches.
3. Place closed end of duct ties toward inside of tendon curve.
4. Wrap duct ties around both stirrup legs.
5. Individual duct ties may only be used to anchor one duct.



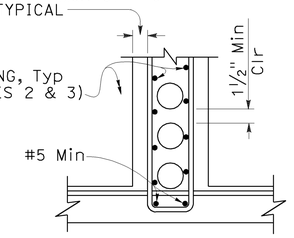
SECTION A-A



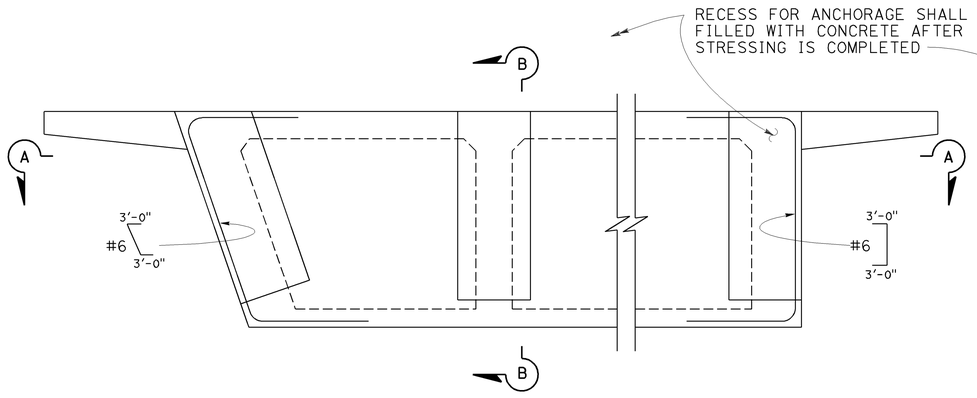
DUCTS 4½" OD AND LESS FOR HORIZONTAL CURVE RADIUS ≤ 2000'



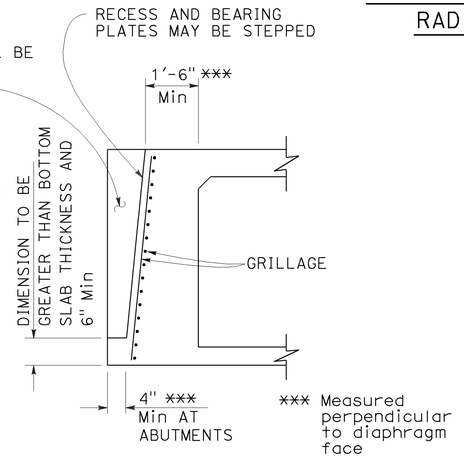
DUCTS 4½" OD AND LESS



DUCTS OVER 4½" OD



PRESTRESS ANCHORAGE DETAILS AT END DIAPHRAGMS
DETAIL 5-3



SECTION B-B

CLEARANCE REQUIREMENTS FOR DUCTS
DETAIL 5-4

NOTES FOR DETAIL 5-4:

1. ⊔ Stirrups may also be used.
2. For additional details, see Standard Plan B7-1, and Project Plans.
3. Bar reinforcing which interferes with prestressing ducts may be adjusted as approved by the Engineer.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CAST-IN-PLACE POST-TENSIONED GIRDER DETAILS

NO SCALE

RSP B8-5 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN B8-5 DATED MAY 20, 2011 - PAGE 291 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B8-5

2010 REVISED STANDARD PLAN RSP B8-5

4-17-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
11	SD	15,76	R46.2/R46.8, R12.1/R17.7	1200	1273

REGISTERED CIVIL ENGINEER

October 21, 2011
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Tillat Satter
No. C42892
Exp. 3-31-12
CIVIL
STATE OF CALIFORNIA

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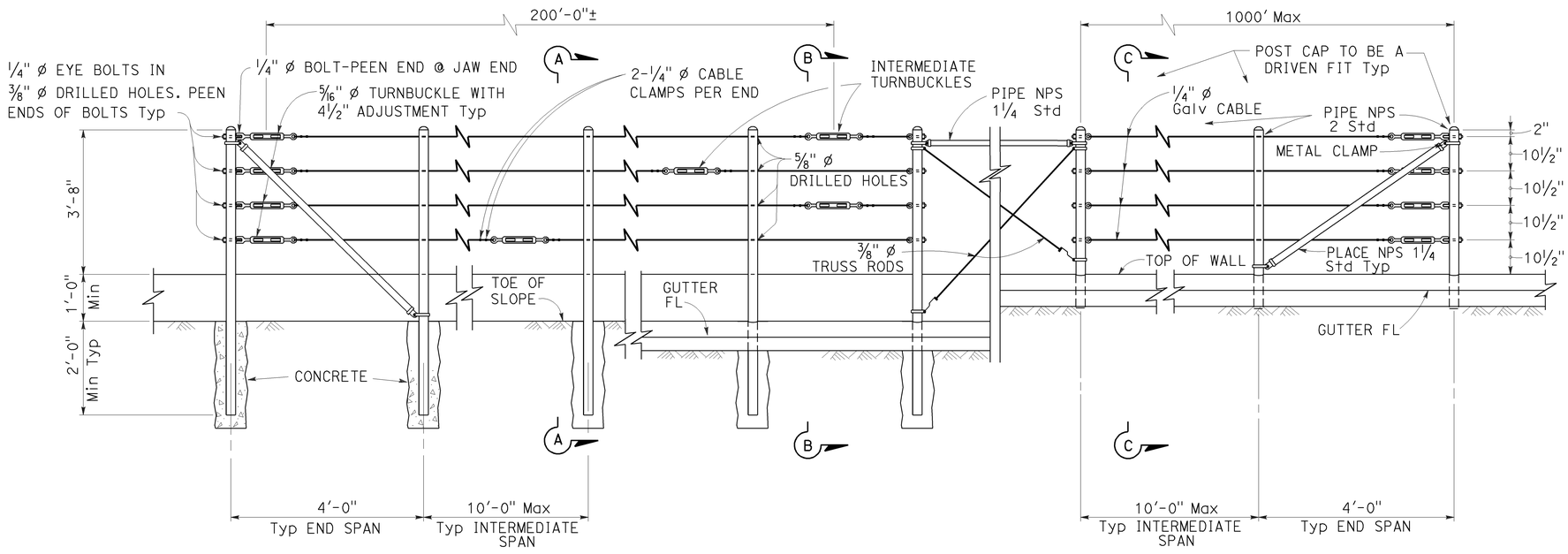
TO ACCOMPANY PLANS DATED 03-24-14

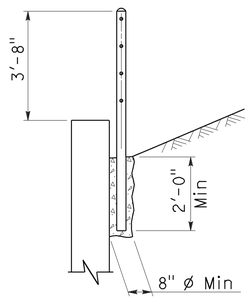


EXISTING WALL (WITHOUT GUTTER)
Existing

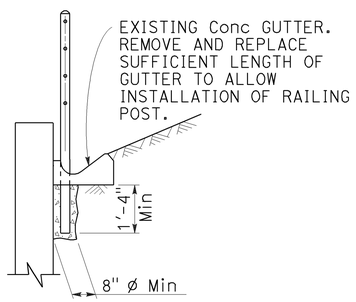
RETAINING WALL (WITH GUTTER)
Existing

RETAINING WALL (WITH GUTTER)
New construction

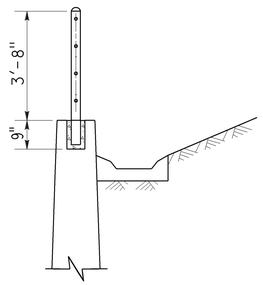
ELEVATION



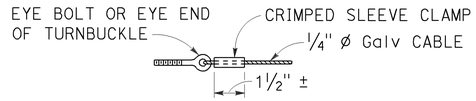
SECTION A-A
Existing



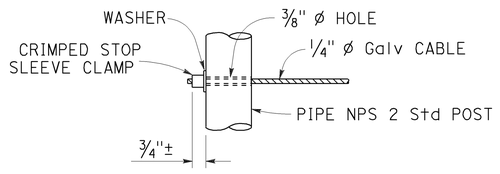
SECTION B-B
Existing



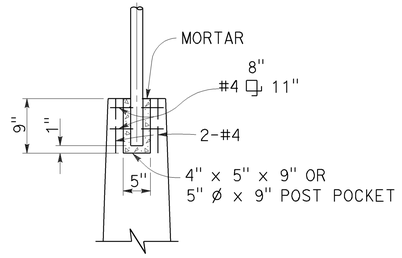
SECTION C-C
New construction



ALTERNATIVE CABLE CONNECTION



ALTERNATIVE DEAD END ANCHORAGE



POST POCKET

NOTES:

1. Maximum distance between turnbuckles shall be 200′-0"±.
2. Intermediate turnbuckles to be placed in adjacent spans.
3. Cable shall not be spliced between intermediate turnbuckles and end posts.
4. Posts to be vertical.
5. Alignment of holes in posts may vary to conform to slope of top of retaining wall.
6. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.
7. Line posts shall be braced horizontally and trussed diagonally in both directions at intervals not to exceed 1000′.
8. Post pockets to be centered in top of wall.
9. Typical end spans, braced in both directions, shall be constructed at changes in line where the angle of deflection is 15° or more.
10. Provide thimbles at all cable loops.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CABLE RAILING

NO SCALE

RSP B11-47 DATED OCTOBER 21, 2011 SUPERSEDES STANDARD PLAN B11-47 DATED MAY 20, 2011 - PAGE 293 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-47

2010 REVISED STANDARD PLAN RSP B11-47

9-14-11