

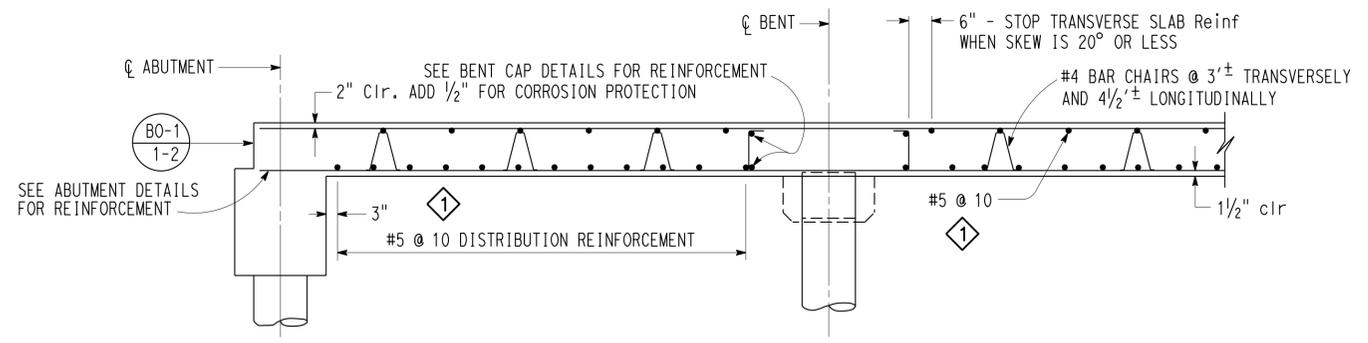
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	301	343

**M. J. Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

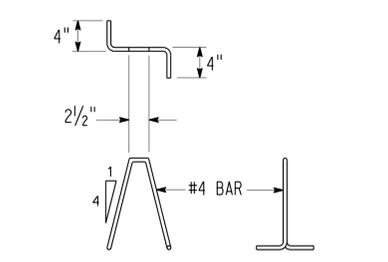
4-29-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA

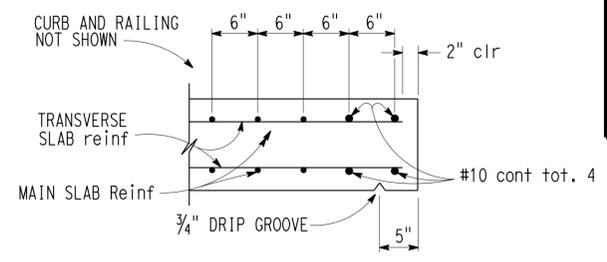
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**LONGITUDINAL SECTION**



**BAR CHAIR DETAIL**

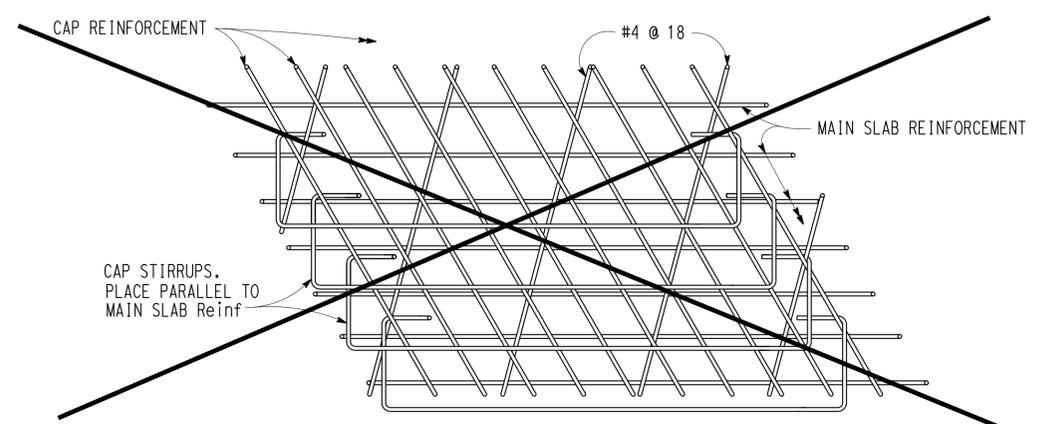


**EDGE OF SLAB DETAILS**

BAR SPLICE LENGTH								
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
ALL BARS, EXCEPT TOP BARS IN SPANS OVER 24'	23"	28"	34"	39"	45"	68"	76"	85"
TOP BARS IN SPANS OVER 24'	23"	28"	34"	53"	60"	77"	97"	120"

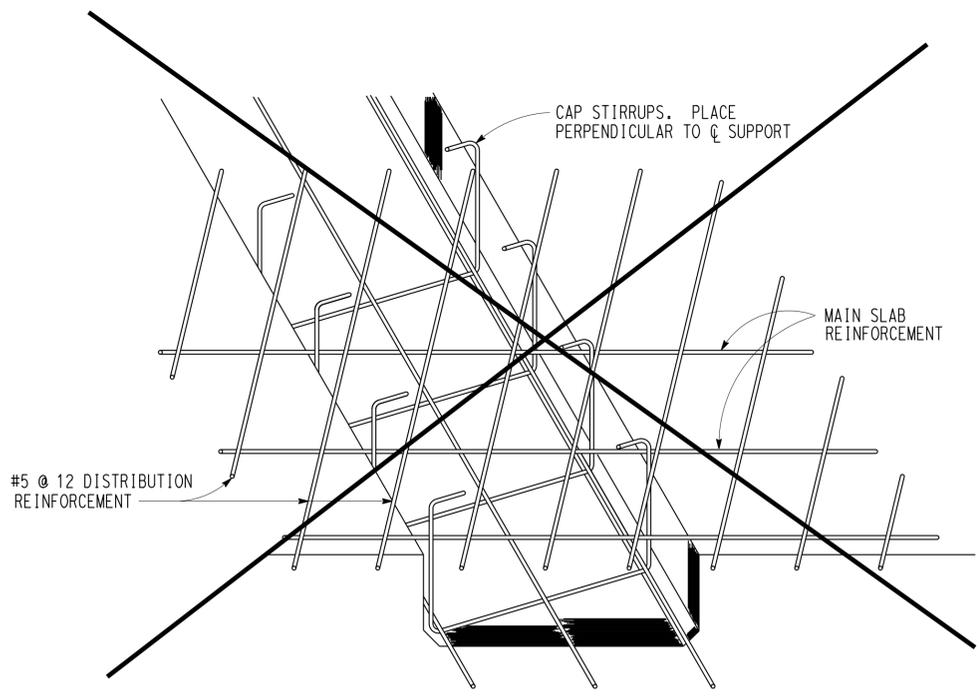
**Reinforcement notes:**

Splices in top main bars to be located near center of span.  
 Splices in bottom main bars to be located near bent.  
 Spacing of all transverse bars is measured along CL roadway.  
 Skew 0° to 20°: Place all transverse bars parallel to bent.  
 Skew over 20°: Place transverse slab bars perpendicular to CL bridge. See details at right and below.

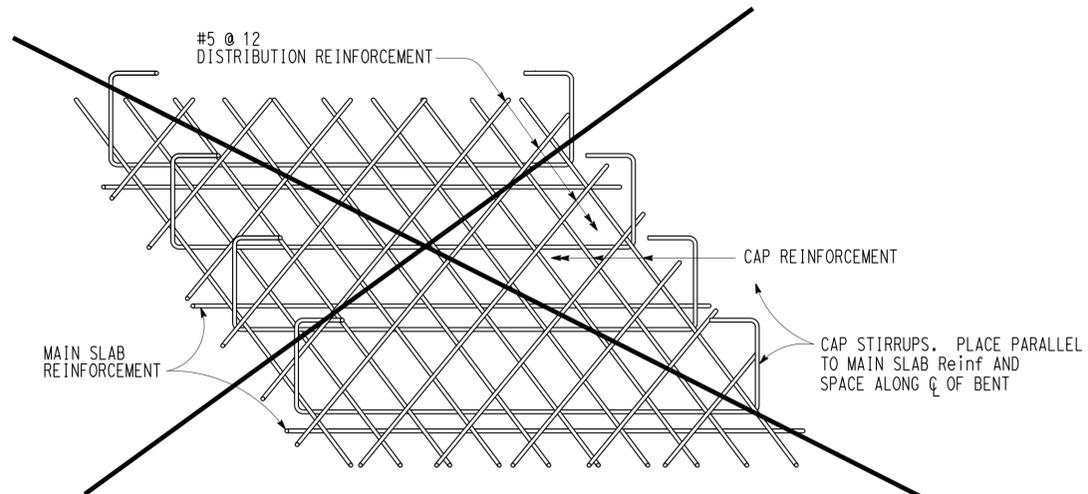


**TOP SLAB REINFORCEMENT AT BENT**

Note: View for main span over 24'.  
 Bar placement similar for spans under 24'



**DROPPED CAP**



**FLUSH CAP**

**BOTTOM SLAB REINFORCEMENT AT BENT**

**GENERAL NOTES  
LOAD FACTOR DESIGN**

DESIGN: Bridge Design Specifications (1983 AASHTO with Interims and Revisions by Caltrans)  
 DEAD LOAD: Includes 35 psf for future wearing surface.  
 LIVE LOADING: HS20-44 and alternative and permit design load.  
 REINFORCED CONCRETE: fy = 60,000 psi  
 f'c = 3,250 psi  
 n = 9

REVISED STANDARD DRAWING

FILE NO. **xs12-55**

APPROVED BY: \_\_\_\_\_ RESPONSIBLE TECHNICAL SPECIALIST

APPROVAL DATE: \_\_\_\_-\_\_\_\_-\_\_\_\_

RELEASED BY: \_\_\_\_\_ RESPONSIBLE OFFICE CHIEF

RELEASE DATE: \_\_\_\_-\_\_\_\_-\_\_\_\_

1 REVISD REINFORCING NOTE

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

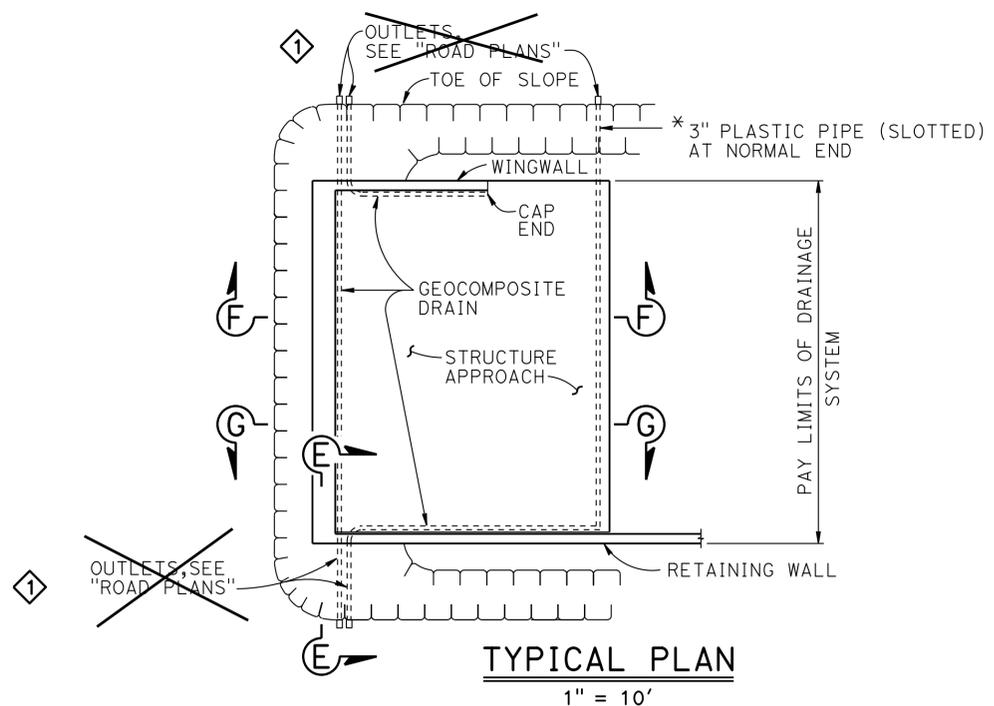
BRIDGE NO.	51-0339
POST MILE	22.3-23.0

**LAS VEGAS CREEK BRIDGE (REPLACE)  
SLAB REINFORCEMENT DETAILS**

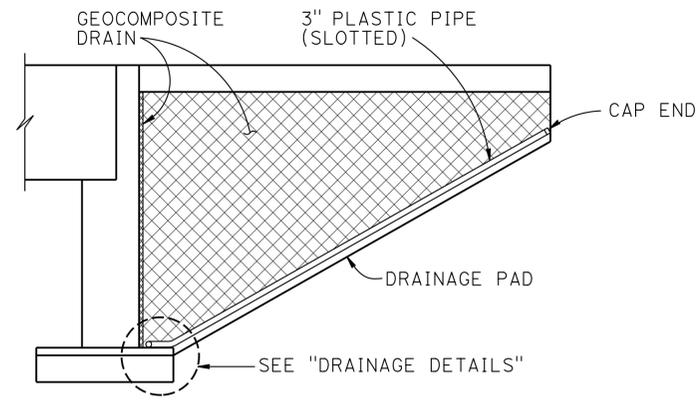
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	302	343

**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
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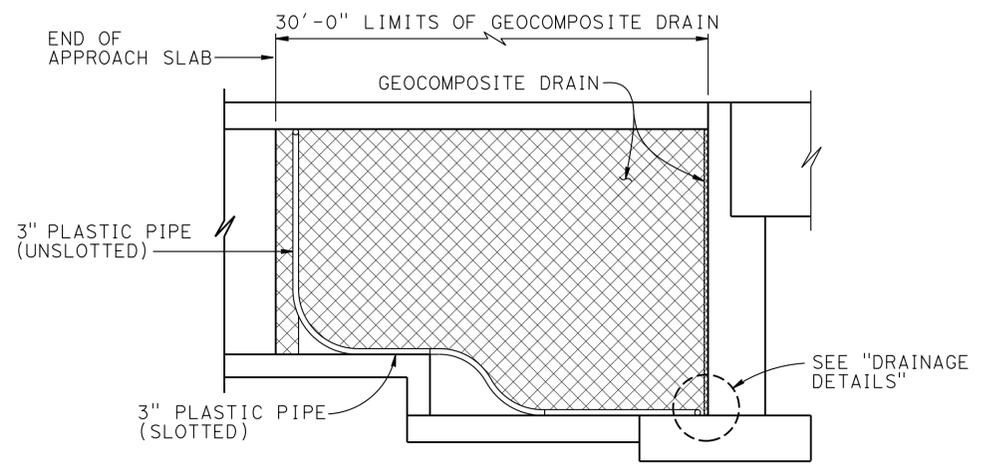
REGISTERED PROFESSIONAL ENGINEER	
M. J. CULLEN	No. C 40620
Exp. 03-31-13	CIVIL
STATE OF CALIFORNIA	



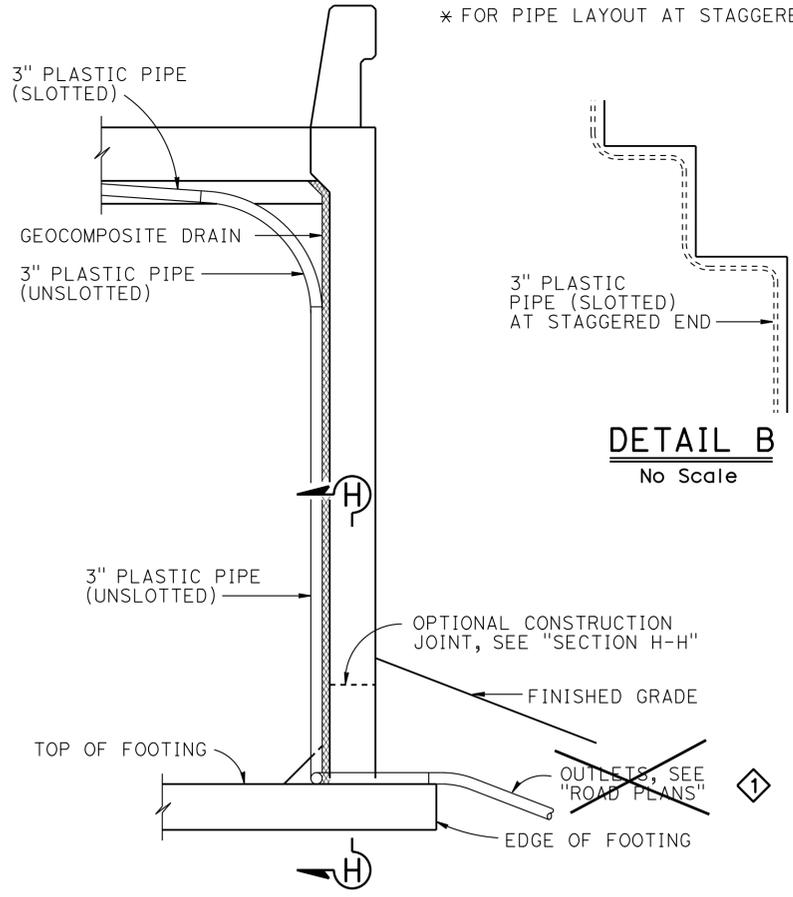
**TYPICAL PLAN**  
1" = 10'



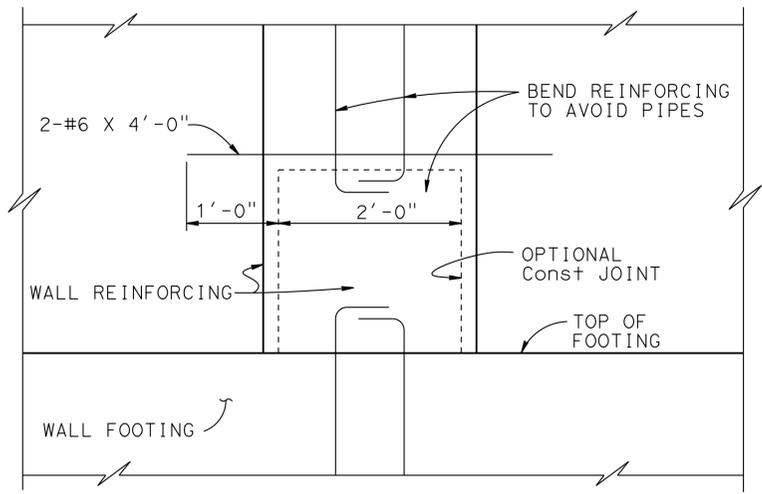
**CANTILEVER WINGWALL**  
**SECTION F-F**  
1/4" = 1'-0"



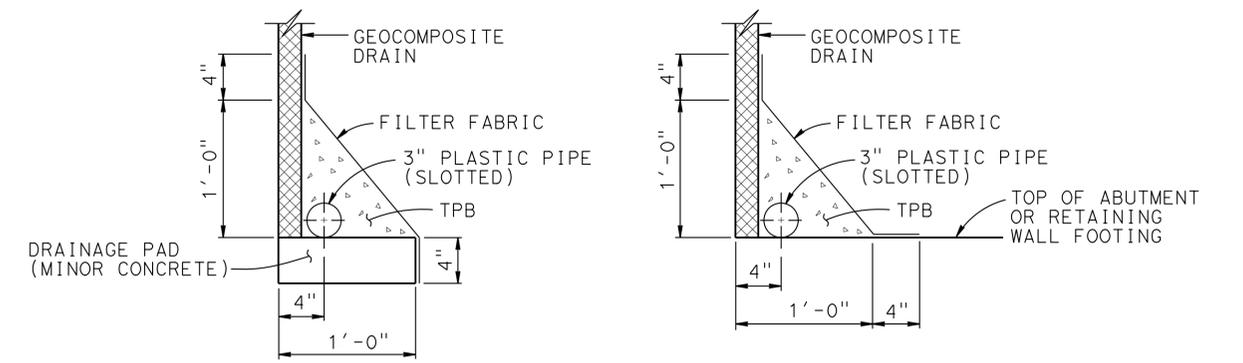
**RETAINING WALL WINGWALL DRAINAGE DETAILS**  
**SECTION G-G**  
1/4" = 1'-0"



**DETAIL B**  
No Scale



**SECTION H-H**  
1" = 1'-0"



**WITHOUT FOOTING**      **WITH FOOTING**  
**DRAINAGE DETAILS**  
1 1/2" = 1'-0"

**SECTION E-E**  
1/2" = 1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius Min

OUTLETS THROUGH THE WINGWALL NOT REQUIRED. FOR FURTHER DRAINAGE DETAILS, SEE "ABUTMENT DETAILS" SHEETS

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

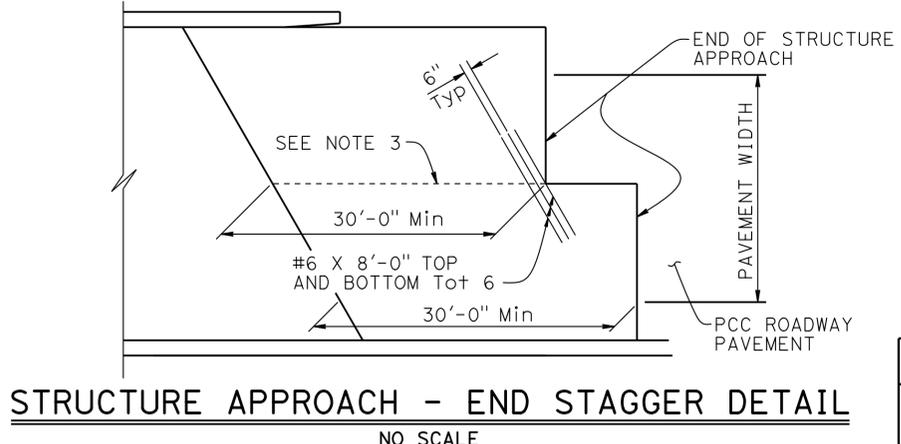
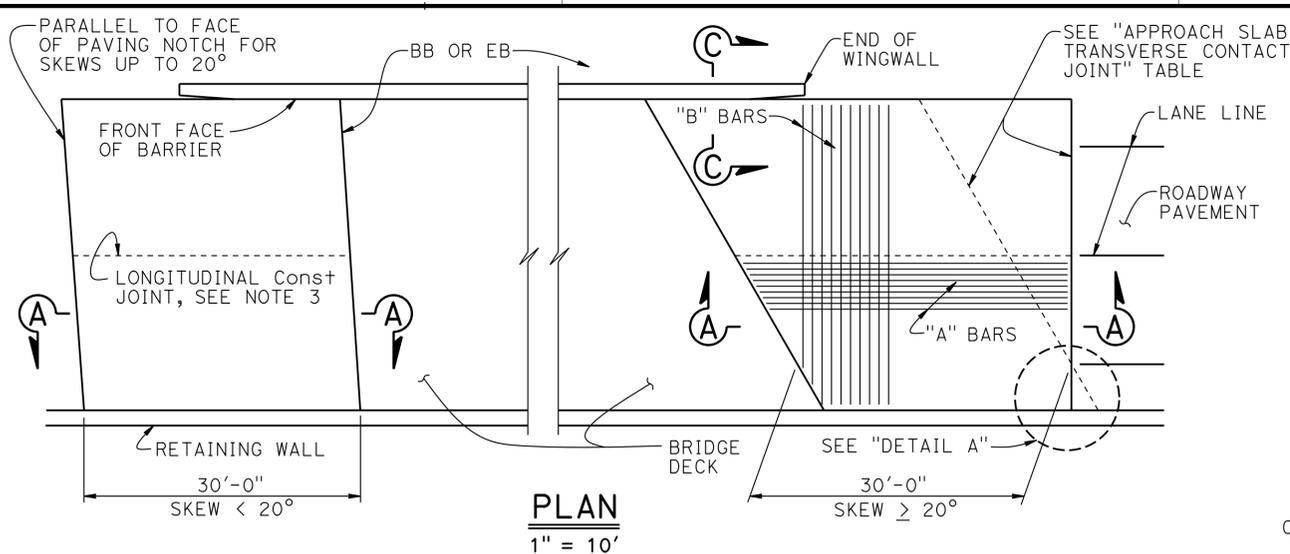
DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 51-0339  
POST MILE 22.3-23.0  
**LAS VEGAS CREEK BRIDGE (REPLACE)**  
**STRUCTURE APPROACH DRAINAGE DETAILS**

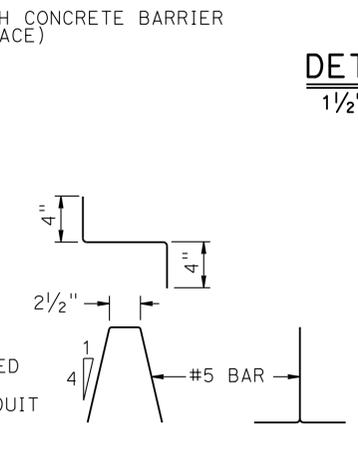
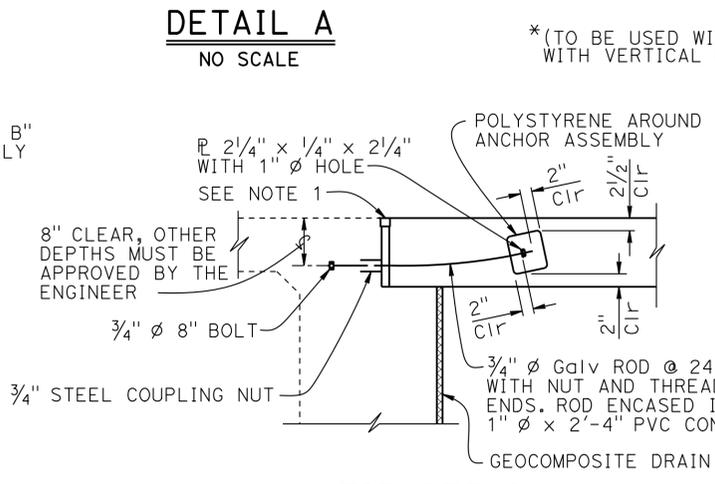
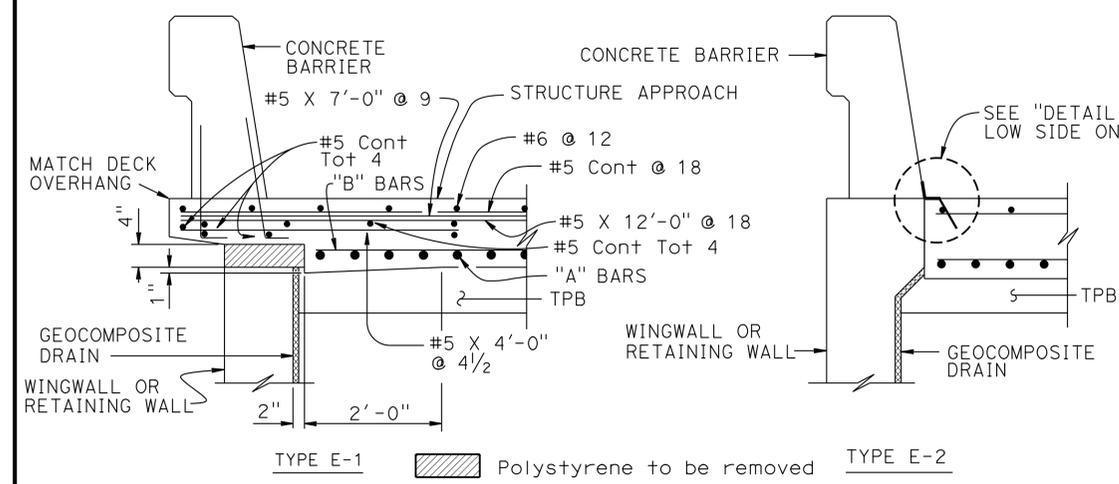
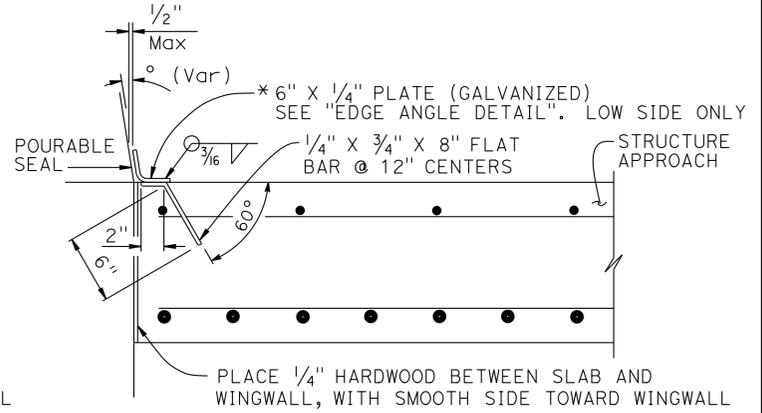
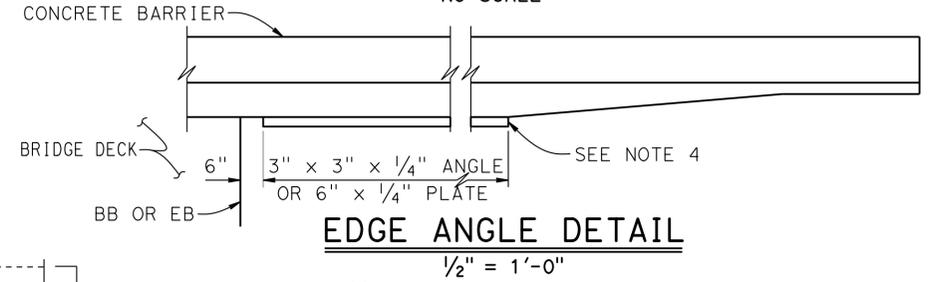
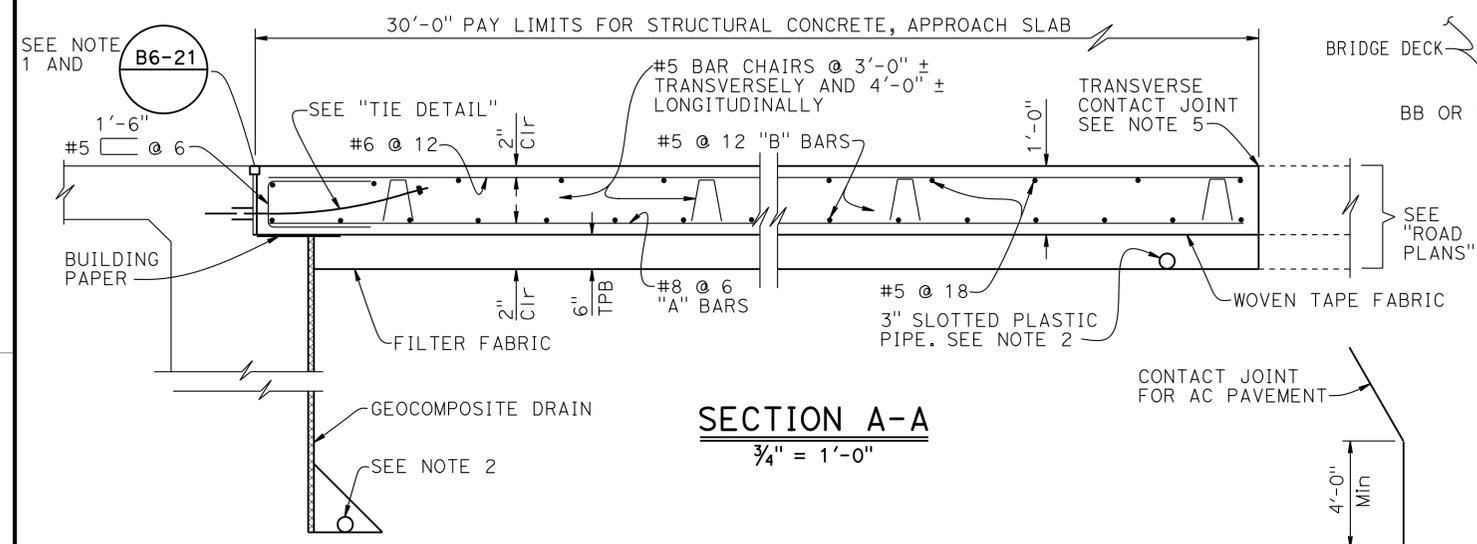
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	303	343

**M. J. Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE



- NOTES:
- For details not noted or shown, see Structure Plans
  - For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
  - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable
  - For transverse contact joint with new PCC paving, refer to Standard Plan P10
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along roadway

STANDARD DRAWING

FILE NO. **xs3-140**

APPROVAL DATE July 2011

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 51-0339  
POST MILE 22.3-23.0

**LAS VEGAS CREEK BRIDGE (REPLACE)**  
**STRUCTURE APPROACH TYPE N(30D)**

**BENCH MARK**

SB 101 PM 22.77  
 Fnd 1" IP w/ CDOT PP & nail  
 61.23' Lt @ Rte 101,  
 Sta 342+50.79  
 N 1987185.57  
 E 6007989.41  
 Elev 29.03'  
 Vert Datum: NAVD88



To Santa Barbara ←

CL ROUTE 101  
 N84°40'0"E 331 332 333

Las Vegas Creek  
 S3°41'20"E 13 14 15

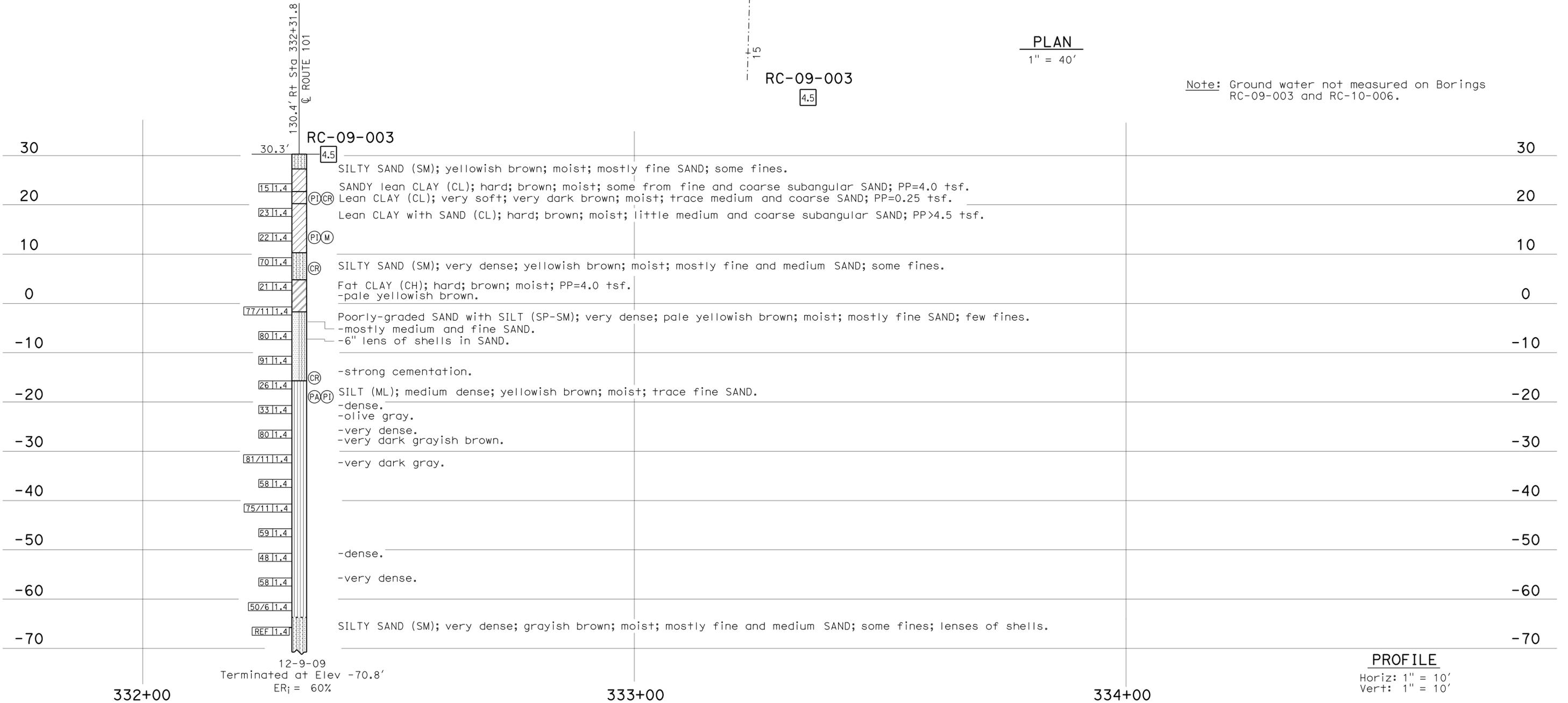
RC-10-005  
 4.5

RC-10-006  
 4.5  
 To Santa Maria →

RC-09-003  
 4.5

PLAN  
 1" = 40'

Note: Ground water not measured on Borings RC-09-003 and RC-10-006.



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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	304	343

REGISTERED CIVIL ENGINEER  
 Ryan Turner  
 No. C73956  
 Exp. 6-30-13  
 CIVIL  
 STATE OF CALIFORNIA

8-29-12 DATE  
 4-29-13 PLANS APPROVAL DATE

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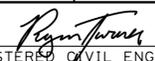
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 6</b>		BRIDGE NO. 51-0339 POST MILE 22.3-23.0		<b>LAS VEGAS CREEK BRIDGE (REPLACE)</b>	
FUNCTIONAL SUPERVISOR NAME: M. Finegan		DRAWN BY: I.G-Remmen CHECKED BY: D. Appelbaum		FIELD INVESTIGATION BY: R. Turner		UNIT: 3643 PROJECT NUMBER & PHASE: 05000000551		CONTRACT NO.: 05-0G0701		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
065 CIVIL LOG OF TEST BORINGS SHEET										REVISION DATES 08-09-12 08-14-12 08-28-12	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS										SHEET 15 OF 17	

FILE => 51\_0339-z-lotb1of3.dgn



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	306	343

  
 REGISTERED CIVIL ENGINEER DATE 8-29-12

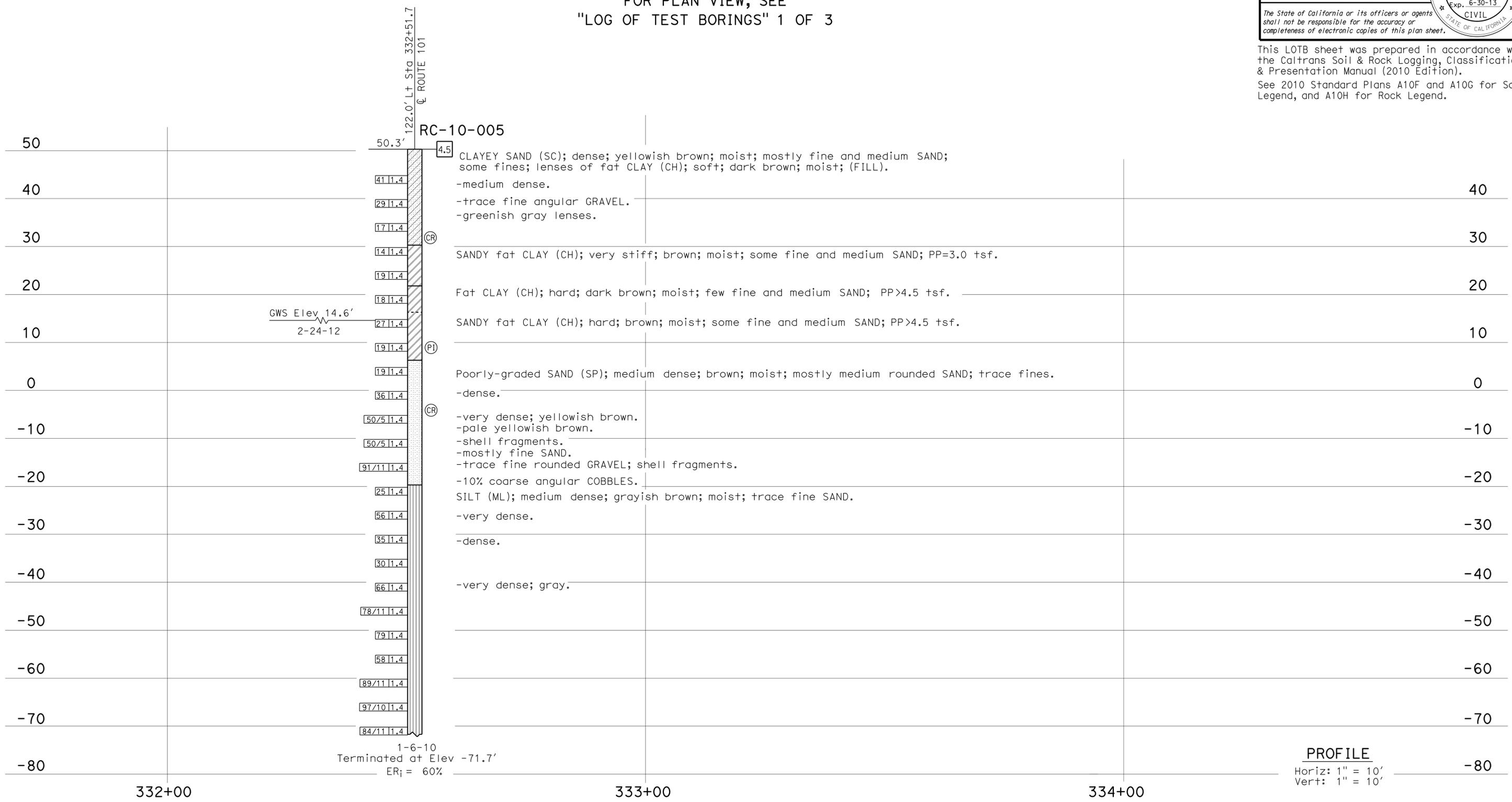
4-29-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Ryan Turner  
 No. C73956  
 Exp. 6-30-13  
 CIVIL  
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 3

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

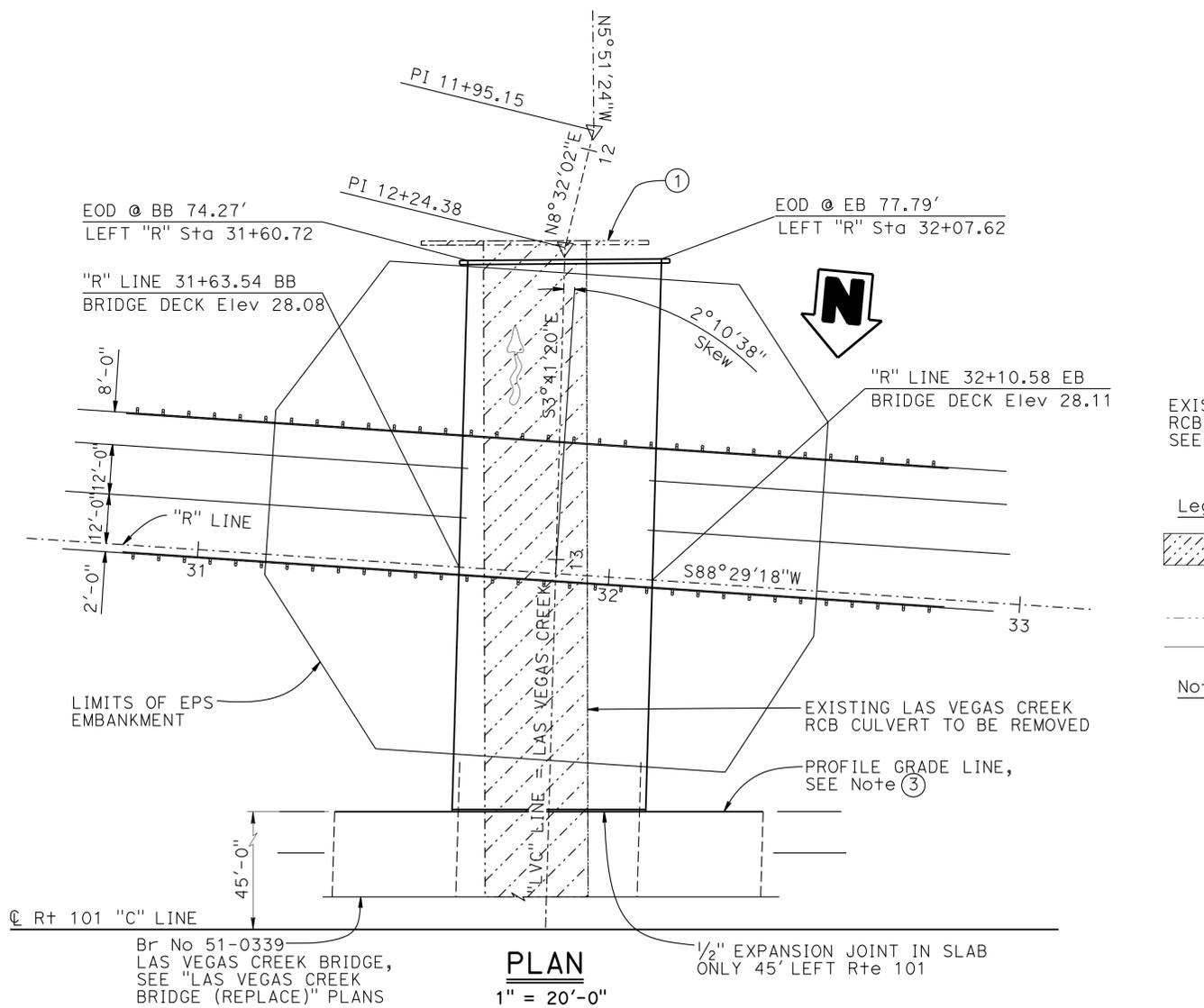
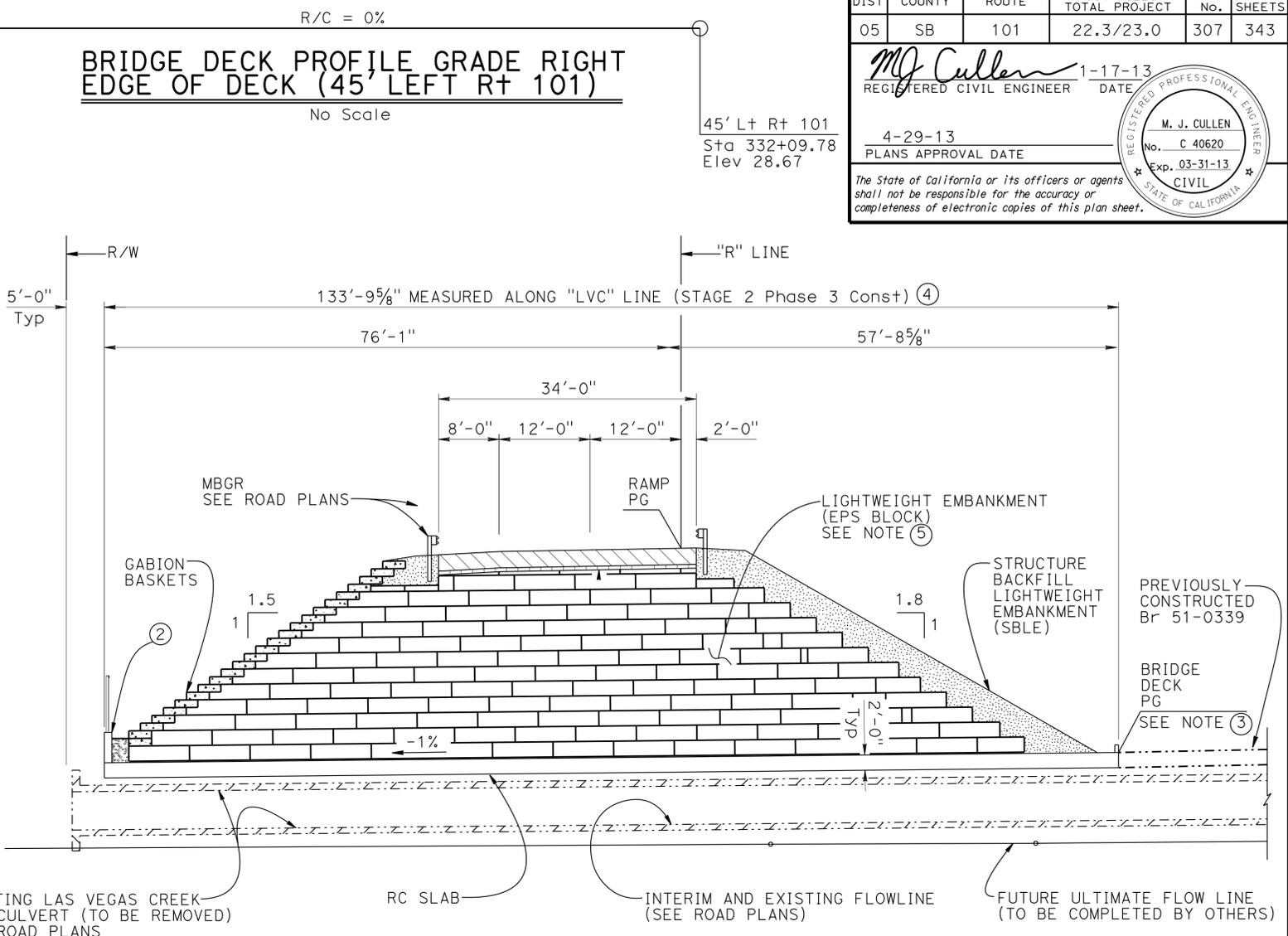
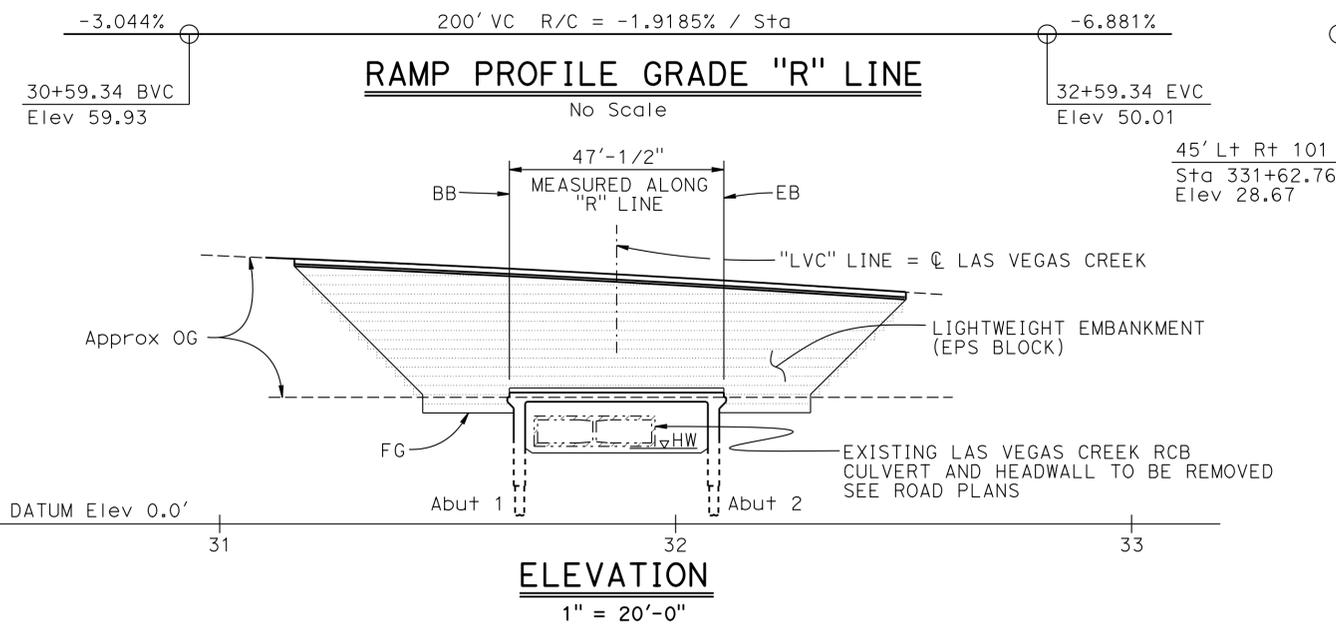


**PROFILE**  
 Horiz: 1" = 10'  
 Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>	<b>DIVISION OF ENGINEERING SERVICES</b>	<b>LAS VEGAS CREEK BRIDGE (REPLACE)</b>													
FUNCTIONAL SUPERVISOR	DRAWN BY: I.G-Remmen	FIELD INVESTIGATION BY:		<b>DEPARTMENT OF TRANSPORTATION</b>	<b>DESIGN BRANCH 6</b>	<b>LOG OF TEST BORINGS 3 OF 3</b>													
NAME: M. Finegan	CHECKED BY: D. Appelbaum	R. Turner																	
06S CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3643	PROJECT NUMBER & PHASE: 05000000551	CONTRACT NO.: 05-0G0701												
						DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1" style="font-size: x-small;"> <tr> <th>REVISION</th> <th>DATE</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>08-09-12</td> <td>08-14-12</td> <td>08-28-12</td> <td></td> </tr> <tr> <td></td> <td></td> <td>17</td> <td>17</td> </tr> </table>	REVISION	DATE	SHEET	OF	08-09-12	08-14-12	08-28-12				17	17
REVISION	DATE	SHEET	OF																
08-09-12	08-14-12	08-28-12																	
		17	17																

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	307	343

M.J. Cullen 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA  
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**Legend:**

- Limits of reinforced Concrete Box Culvert (Br No. 51-167) removal See Road Plans
- Indicates existing structure
- Indicates new structure

**Notes:**

- ① Remove Existing Headwall and Culvert See Road Plans
- ② Headwall and Chain Link Railing (Type 7)
- ③ Bridge Deck Profile Grade Line is 45 feet left of and parallel to  $\mathcal{C}$ , "C" Line
- ④ For Stage 1 Construction Limits See Las Vegas Creek Bridge (Br No 51-0341) Plans
- ⑤ For layout requirements of EPS blocks see "LIGHTWEIGHT EMBANKMENT DETAILS NO. 5" sheet

**TYPICAL SECTION**  
1" = 10'-0"

QUANTITIES

STRUCTURE EXCAVATION (TYPE A)	1,021	CY
STRUCTURE BACKFILL (BRIDGE)	391	CY
LIGHTWEIGHT EMBANKMENT (EPS BLOCK)	8,574	CY
GEOMEMBRANE (GASOLINE RESISTANT)	2,174	SQYD
STRUCTURE BACKFILL (LIGHTWEIGHT EMBANKMENT)	1,054	CY
FURNISH 24" STEEL PIPE PILING	1,877	LF
DRIVE 24" STEEL PIPE PILE	46	EA
SEAL COURSE CONCRETE	178	CY
STRUCTURAL CONCRETE, BRIDGE FOOTING	159	CY
STRUCTURAL CONCRETE, BRIDGE	920	CY
JOINT SEAL (MR $\frac{1}{2}$ " )	315	LF
BAR REINFORCING STEEL (BRIDGE)	203,917	LB
HEADED BAR REINFORCEMENT	1,356	EA
STRUCTURE APPROACH DRAINAGE SYSTEM	LUMP	SUM
GABION	291	CY
CHAIN LINK RAILING (TYPE 7)	50	LF

FRITZ HOFFMAN DESIGN ENGINEER	DESIGN	BY M. CULLEN	CHECKED H. PEREZ	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 6</b>	BRIDGE NO.	<b>LAS VEGAS OFF-RAMP BRIDGE (REPLACE)</b> <b>GENERAL PLAN</b>		
	DETAILS	BY D. PATO / K. CHONKRIA	CHECKED M. CULLEN	LAYOUT	BY M. CULLEN			CHECKED H. PEREZ			51-0339K
	QUANTITIES	BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ	SPECIFICATIONS	BY V. RENGANATHAN			PLANS AND SPECS COMPARED V. RENGANATHAN			22.3-23.0

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3591 PROJECT NUMBER & PHASE: 0500000055 & 1 CONTRACT NO.: 0G0701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
01-26-12	1	19

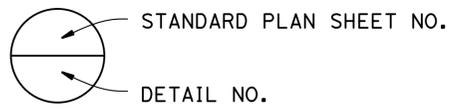
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.09-01-10) FILE => 51-0339k-a-gp01.dgn

**INDEX TO PLANS**

SHEET NO.	SHEET TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	DECK CONTOURS
4	FOUNDATION PLAN
5	ABUTMENT 1 LAYOUT
6	ABUTMENT 2 LAYOUT
7	ABUTMENT DETAILS NO. 1
8	TYPICAL SECTION
9	MAIN SLAB REINFORCEMENT
10	SLAB REINFORCEMENT DETAILS
11	STRUCTURE APPROACH DRAINAGE DETAILS
12	LIGHTWEIGHT EMBANKMENT NO. 1
13	LIGHTWEIGHT EMBANKMENT NO. 2
14	LIGHTWEIGHT EMBANKMENT NO. 3
15	LIGHTWEIGHT EMBANKMENT NO. 4
16	LIGHTWEIGHT EMBANKMENT NO. 5
17	LOG OF TEST BORINGS 1 OF 3
18	LOG OF TEST BORINGS 2 OF 3
19	LOG OF TEST BORINGS 3 OF 3

**STANDARD PLANS DATED 2010**

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
A76A	CONCRETE BARRIER TYPE 60A
A87A	CURBS AND DRIVEWAYS
BO-1	BRIDGE DETAILS
BO-3	BRIDGE DETAILS
BO-5	BRIDGE DETAILS
BO-13	BRIDGE DETAILS
B2-8	PILE DETAILS CLASS 200
B6-21	JOINT SEALS
B11-52	CHAIN LINK RAILING TYPE 7
D100A	GABION BASKET DETAIL No. 1



**GENERAL NOTES  
LOAD AND RESISTANCE FACTOR DESIGN**

**DESIGN:**  
AASHTO LRFD Bridge Design Specifications, Fourth Edition and Caltrans Amendments Preface Dated December 7, 2011

**SEISMIC DESIGN:**  
Caltrans Seismic Design Criteria SDC Version 1.6, December 2010

**DEAD LOAD:**  
Includes 35 psf for future wearing surface.

**LIVE LOADING:**  
HL93 and permit design load.

**SEISMIC LOADING:**  
Site Specific See ARS Curve.

**REINFORCED CONCRETE:**  
 $f_y = 60$  ksi  
 $f_c = 4.0$  ksi  
 $n = 8$

**STRUCTURAL STEEL:**  
 $f_y =$  ASTM A709 Grade 50

**SOIL PARAMETERS:**  
(For determination of design lateral earth pressures)  
 $\phi = 32^\circ$        $\gamma = 120$  pcf

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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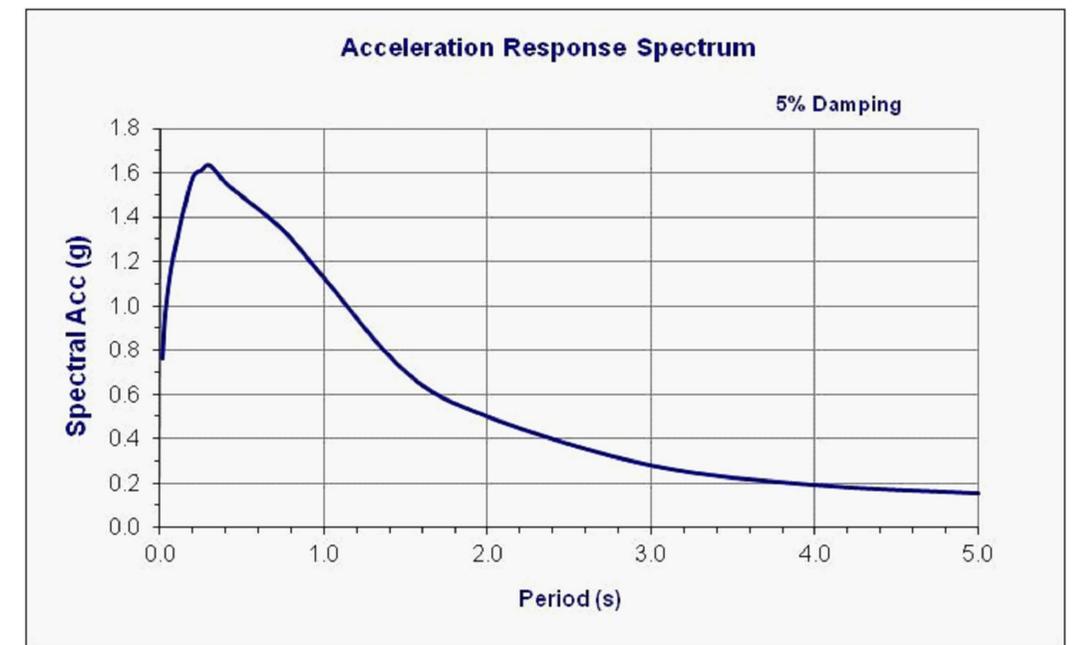
*M. J. Cullen* 1-17-13  
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4-29-13  
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FAULT NAME	FAULT TYPE	MOMENT MAGNITUDE OF MAXIMUM CREDIBLE EARTHQUAKE	DISTANCE FROM FAULT TO PROJECT SITE (MILES)	PEAK GROUND ACCELERATION T=0 SEC (GRAVITY)
SAN JOSE FAULT	REVERSE	6.3	0.7	0.61
MORE RANCH FAULT	REVERSE	7.2	0.7	0.51



**ARS CURVE**

LOCATION	PILE TYPE	NOMINAL RESISTANCE (KIPS)		DESIGN TIP ELEVATIONS (FT)	SPECIFIED TIP ELEVATIONS (FT)	NOMINAL DRIVING RESISTANCE (KIPS)
		COMPRESSION	TENSION			
ABUTMENT 1	24"X1/2" STEEL PIPE PILE	383	N/A	-28 (a), -32 (b), 0 (c)	-32	383
ABUTMENT 2	24"X1/2" STEEL PIPE PILE	383	N/A	-28 (a), -32 (b), 0 (c)	-32	383

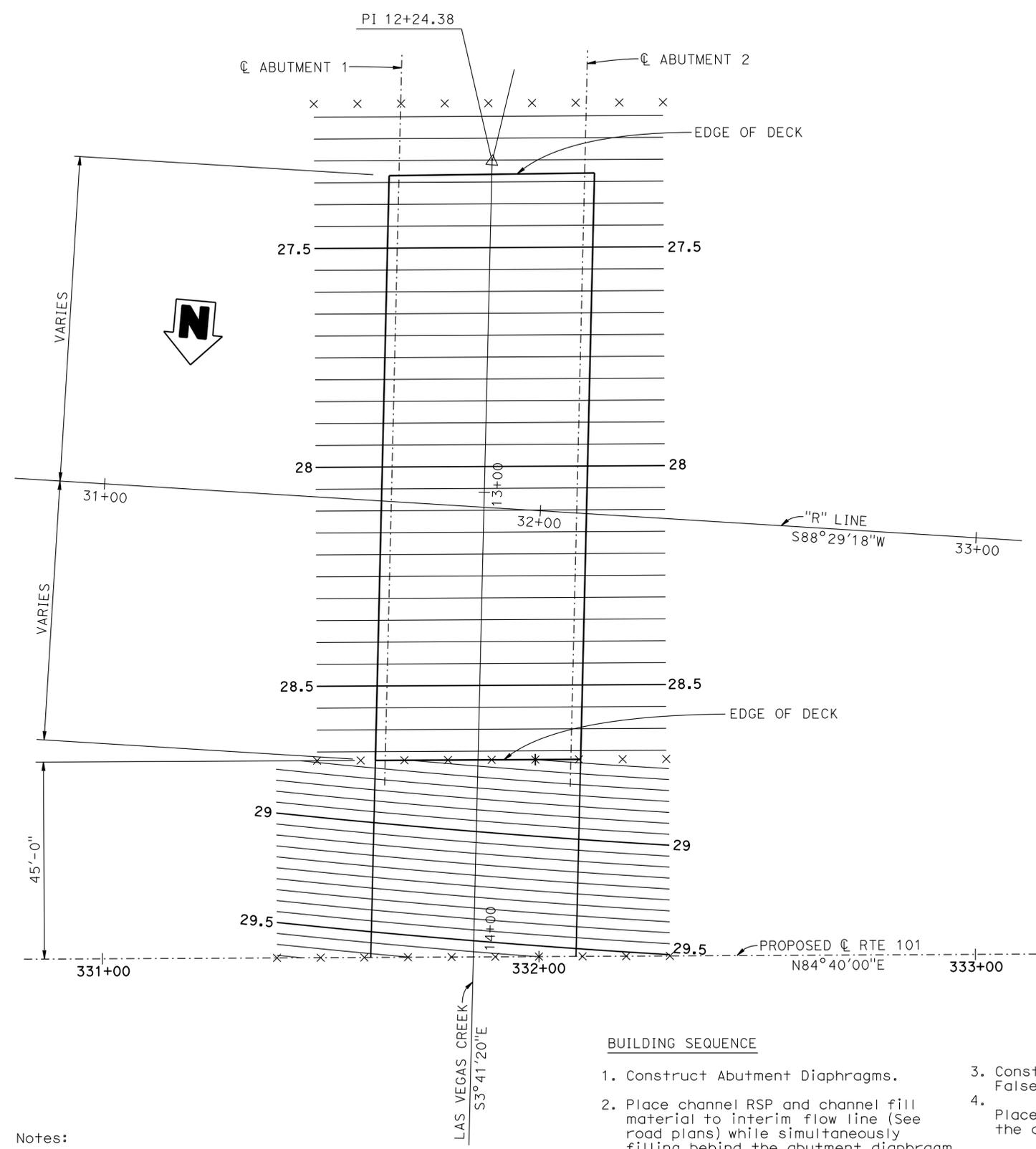
- NOTES:
- Design tip elevations for Abutments are controlled by:  
 (a) Compression, (b) Lateral (c) Settlement.
  - The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.

DESIGN	BY	M. CULLEN	CHECKED	H. PEREZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 6	BRIDGE NO.	51-0339K	LAS VEGAS OFF-RAMP BRIDGE (REPLACE) INDEX TO PLANS	
	DETAILS	BY	K. CHONKRIA	CHECKED			M. CULLEN	POST MILE		22.3-23.0
	QUANTITIES	BY	G. REYES-GUTIERREZ	CHECKED			M. CULLEN			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)						UNIT: 3591 PROJECT NUMBER & PHASE: 0500000055 & 1 CONTRACT NO.: 0G0701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	SHEET 2 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	309	343

**M.J. Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
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 STATE OF CALIFORNIA

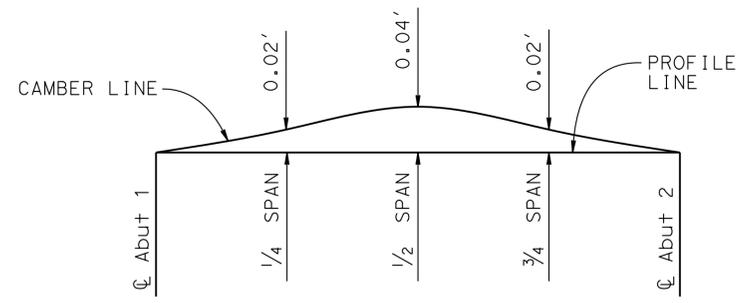


**PLAN**  
1" = 15'-0"

Notes:  
 X - 10' Station Interval.  
 0.05' Contour Interval.  
 Contours do not include camber.

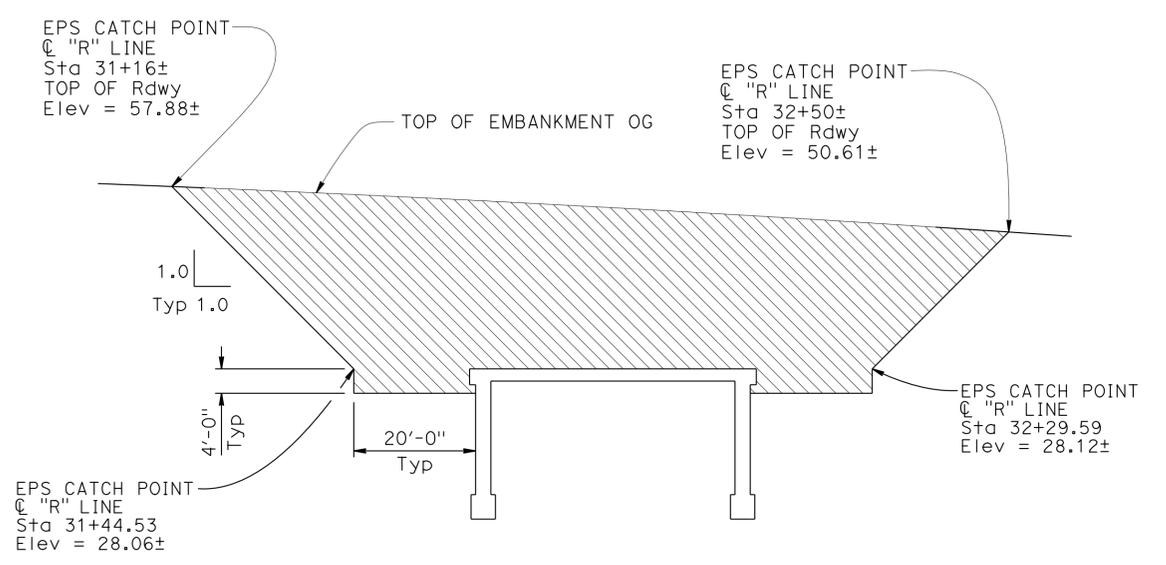
**BUILDING SEQUENCE**

1. Construct Abutment Diaphragms.
2. Place channel RSP and channel fill material to interim flow line (See road plans) while simultaneously filling behind the abutment diaphragm. The elevation of the fill within the channel and behind the abutment shall be within 2 feet of each other at all times.
3. Construct Deck Slab and remove Falsework.
4. Place remaining backfill behind the abutments.



**CAMBER DIAGRAM**  
NO SCALE

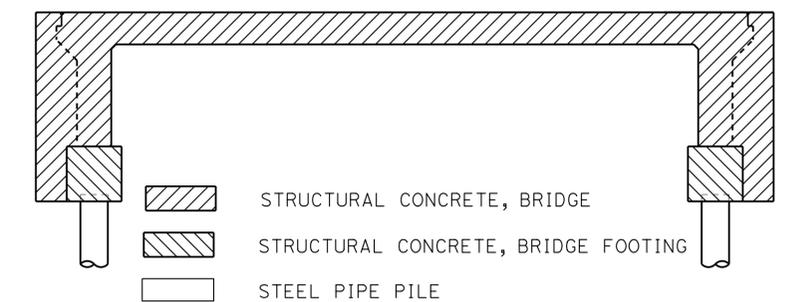
Does not include allowance for falsework settlement.



**ROADWAY EXCAVATION DIAGRAM**  
NO SCALE

Indicates Roadway Excavation

NOTE: Structural Concrete bridge, includes load distribution slab.



**CONCRETE STRENGTH AND TYPE LIMITS**  
NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY M. CULLEN	CHECKED H. PEREZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 6	BRIDGE NO.	51-0339K	LAS VEGAS OFF-RAMP BRIDGE (REPLACE) DECK CONTOURS	
	DETAILS	BY D. PATO	CHECKED M. CULLEN			POST MILE	22.2-23.0		
	QUANTITIES	BY H. PEREZ	CHECKED M. CULLEN						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3591 PROJECT NUMBER & PHASE: 0500000055-1	CONTRACT NO.: 05-060701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	SHEET 3 OF 19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	310	343

*M.J. Cullen* 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

4-29-13  
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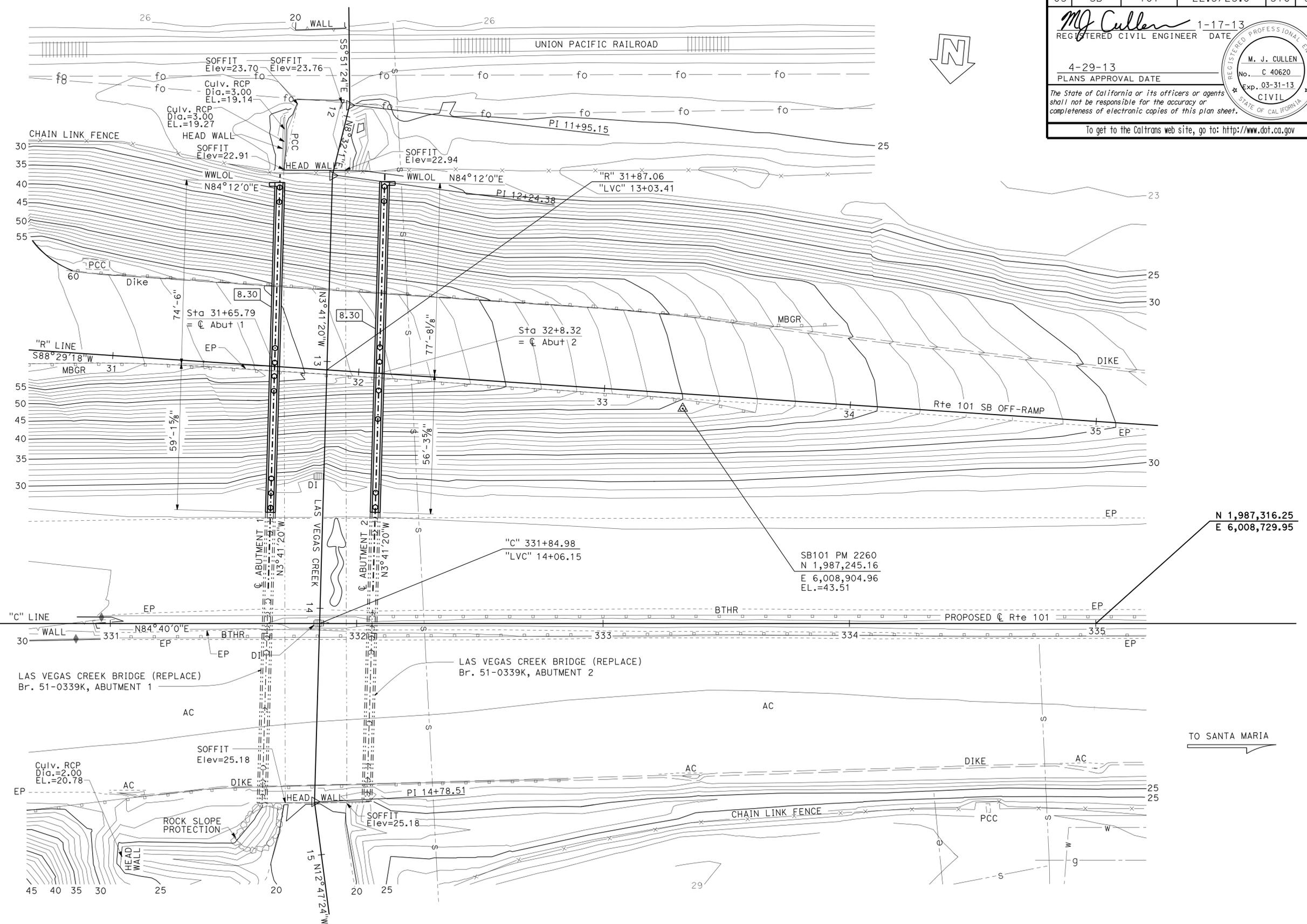
To get to the Caltrans web site, go to: <http://www.dot.ca.gov>

**M. J. CULLEN**  
 No. C 40620  
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- LEGEND:
- Indicates bottom of footing elevation.
  - o - Indicates 24" Pipe Pile. Not all piles are shown

**SURVEY CONTROL**  
 SB101 PM 2260  
 Fnd 1" I.P. w/cdot pp & nail  
 87.05 Lt. "C" Line, Proposed C Rte 101  
 Sta. 333+32.95  
 N 1,987,245.16  
 E 6,008,904.96  
 EL.=43.51

SB 101 PM 2261 (Not Shown)  
 Fnd 1" I.P. w/cdot pp & nail  
 176.97 Rt. "C" Line, Proposed C Rte 101  
 Sta. 333+16.35  
 N 1,987,509.58  
 E 6,008,896.95  
 EL.=27.49



TO SANTA BARBARA

N 1,987,316.25  
 E 6,008,729.95

Note:  
 Elec. Line, Fiber Optic Line,  
 Gas Line, Sewer Line,  
 Water Line, Per Dist. Utility Map

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY M. CULLEN	CHECKED H. PEREZ	<b>STATE OF CALIFORNIA</b> <b>DEPARTMENT OF TRANSPORTATION</b>	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 06</b>	BRIDGE NO. 51-0339K	<b>LAS VEGAS OFF-RAMP BRIDGE (REPLACE)</b> <b>FOUNDATION PLAN</b>		
SCALE VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	DRAFTED BY SHARON ZHENG 01/2010	CHECKED BY T. ZOLNIKOV 01/2010	DETAILS BY SUSAN NG	CHECKED M. CULLEN			POST MILE 22.3-23.0			
1"=20'	HORZ. DATUM NAD 83 (91.35)	SURVEYED BY DISTRICT	CHECKED BY JIM PALLARES 01/2010	QUANTITIES BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ						
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 05 EA 0G0701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 7/21/2010 8/3/2010 08/16/12 10-08-12	SHEET 4 OF 19

FILE => 51-0339k-e-fp101-new.dgn

**LEGEND:**

Indicates bottom of footing elevation

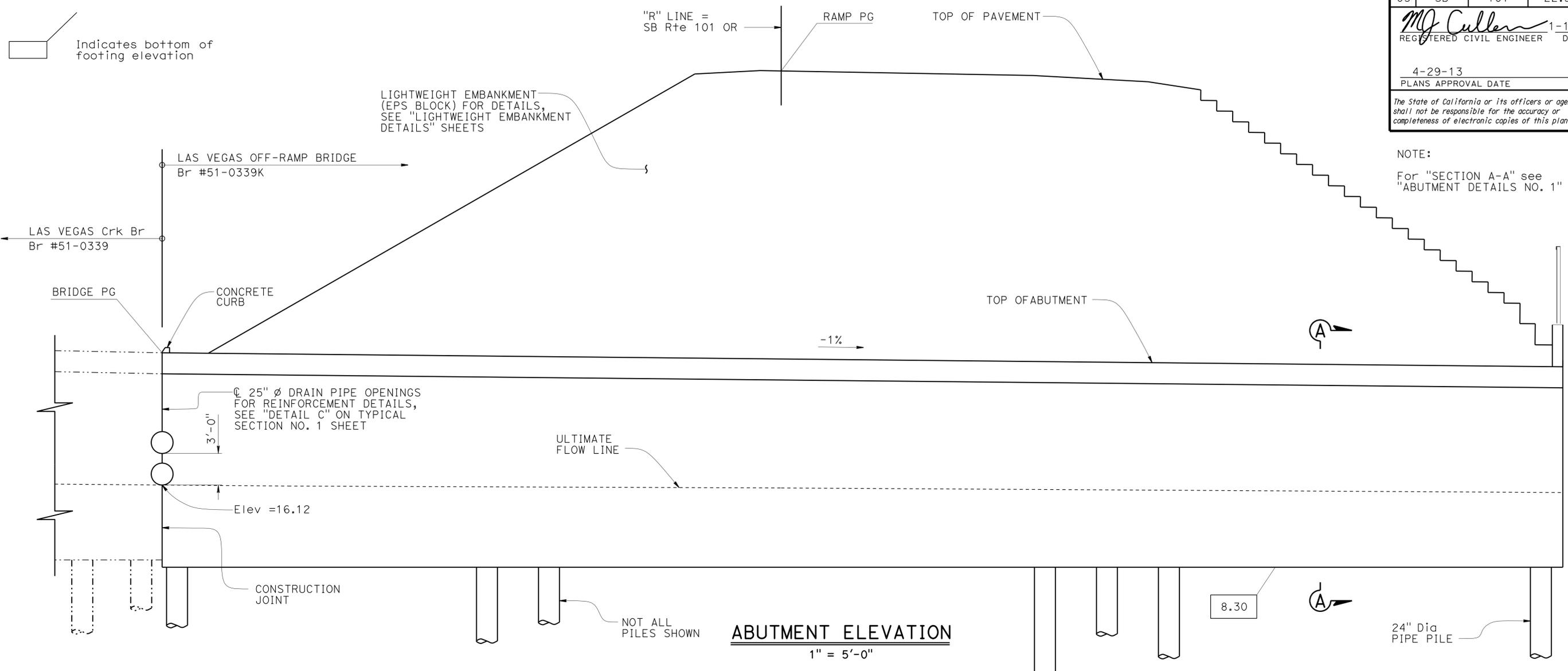
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	311	343

*M. J. Cullen* 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

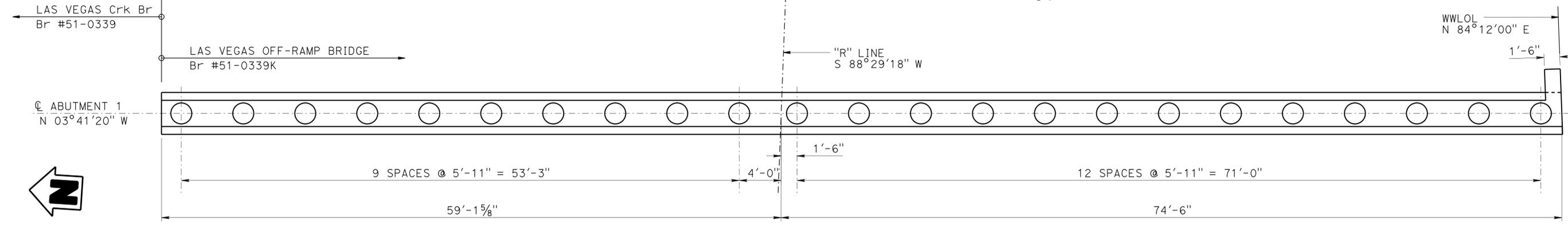
4-29-13  
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NOTE:  
 For "SECTION A-A" see "ABUTMENT DETAILS NO. 1" sheet



**ABUTMENT PLAN AND PILE LAYOUT**

1" = 5'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY SUSAN NG	CHECKED M. CULLEN
QUANTITIES	BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

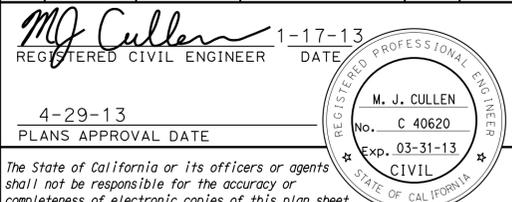
**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)  
 ABUTMENT 1 LAYOUT**

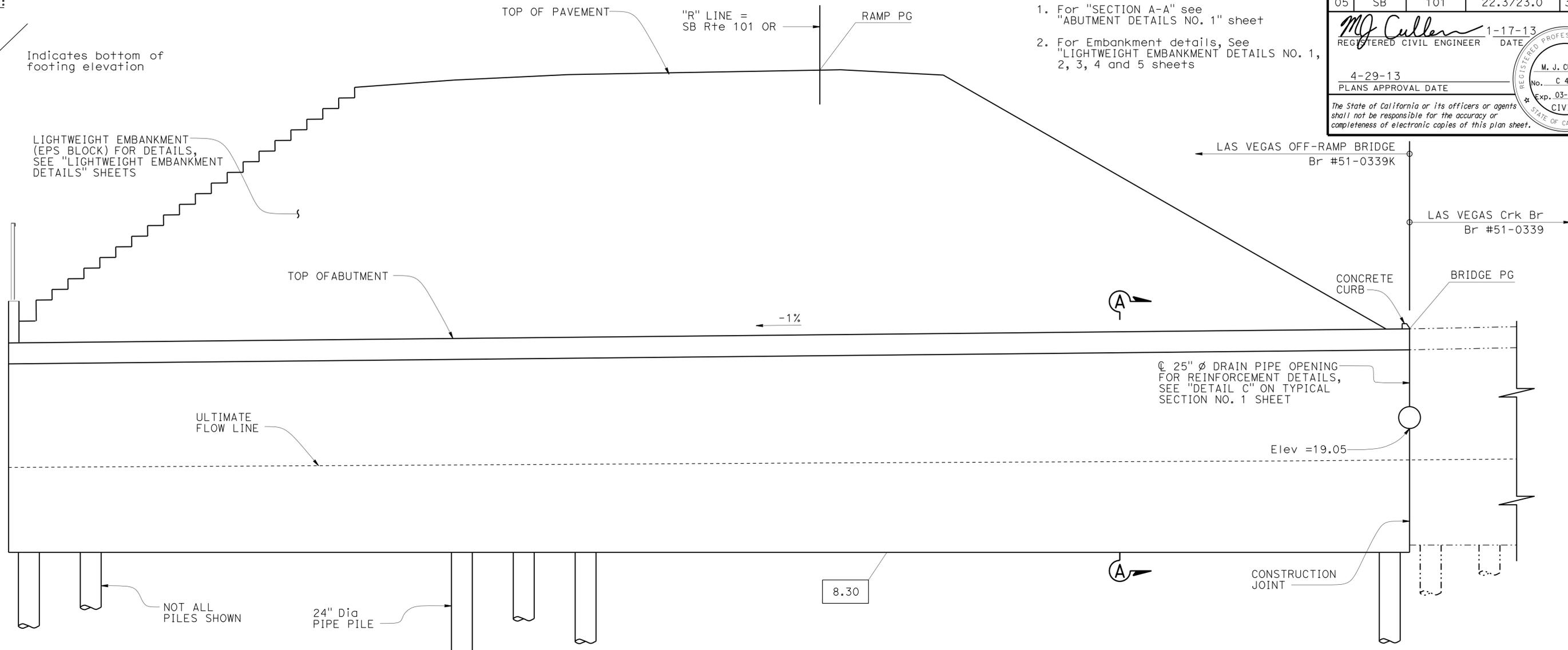
**LEGEND:**

Indicates bottom of footing elevation

**NOTES:**

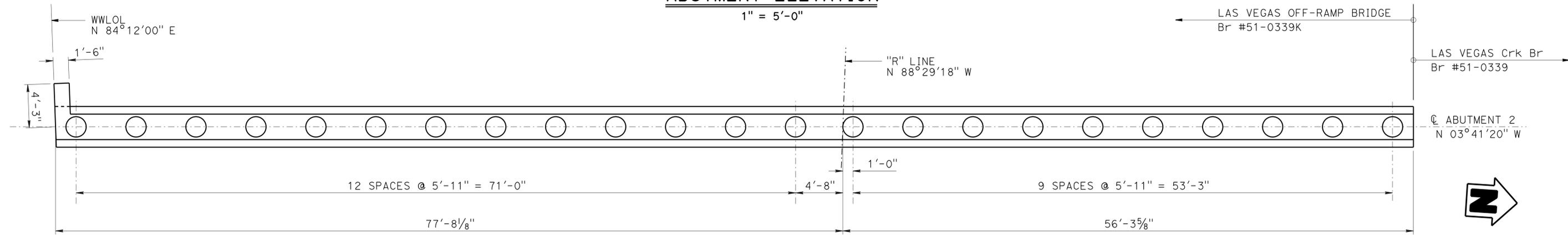
1. For "SECTION A-A" see "ABUTMENT DETAILS NO. 1" sheet
2. For Embankment details, See "LIGHTWEIGHT EMBANKMENT DETAILS NO. 1, 2, 3, 4 and 5 sheets"

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	312	343
			1-17-13 REGISTERED CIVIL ENGINEER DATE 4-29-13 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.		



**ABUTMENT ELEVATION**

1" = 5'-0"



**ABUTMENT PLAN AND PILE LAYOUT**

1" = 5'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY SUSAN NG	CHECKED M. CULLEN
QUANTITIES	BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 6

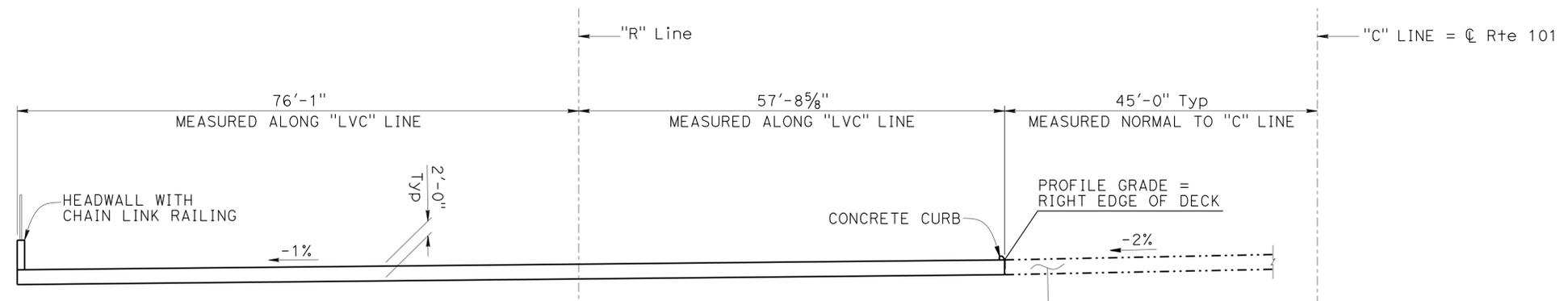
BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**ABUTMENT 2 LAYOUT**



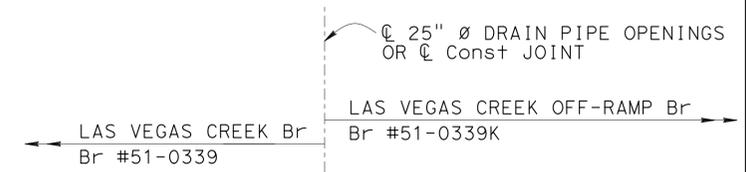
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	314	343

**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
 REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
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 STATE OF CALIFORNIA  
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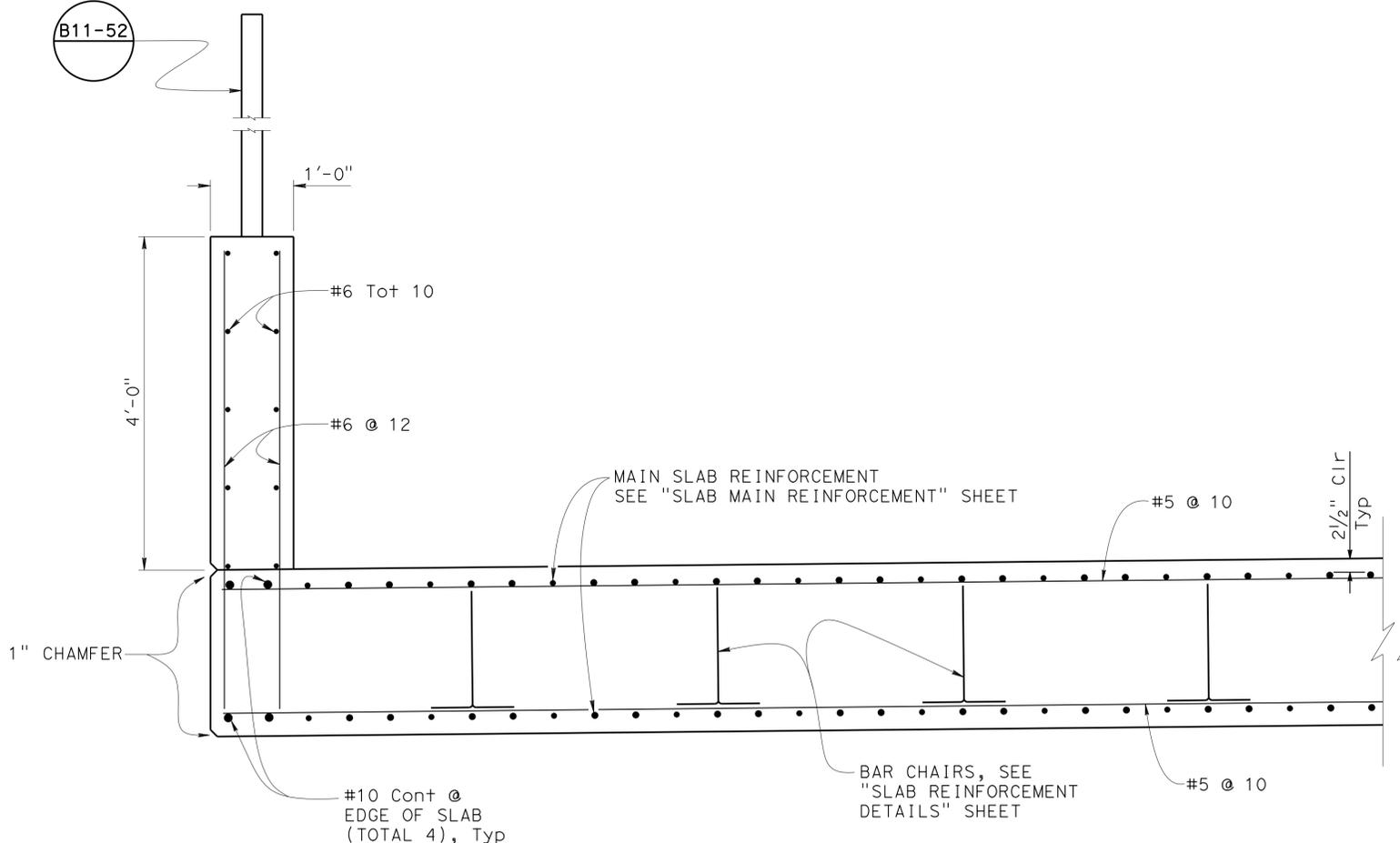
NOTE: EPS Embankment Not Shown. For Details See "EPS Embankment Details Sheet"

**TYPICAL SECTION DECK SLAB**  
1" = 10'-0"



**DETAIL C**  
3/4" = 1'-0"  
For Location of "DETAIL C" See "ABUTMENT 1 LAYOUT" and "ABUTMENT 2 LAYOUT" sheets.

CHAIN LINK RAILING TYPE 7



**PART TYPICAL SECTION**  
1" = 1'-0"

DESIGN	BY M. Cullen	CHECKED H. Perez
DETAILS	BY K. Chonkria	CHECKED H. Perez
QUANTITIES	BY R. Washington	CHECKED G. Reyes-Gutierrez

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 6

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**TYPICAL SECTION No. 1**

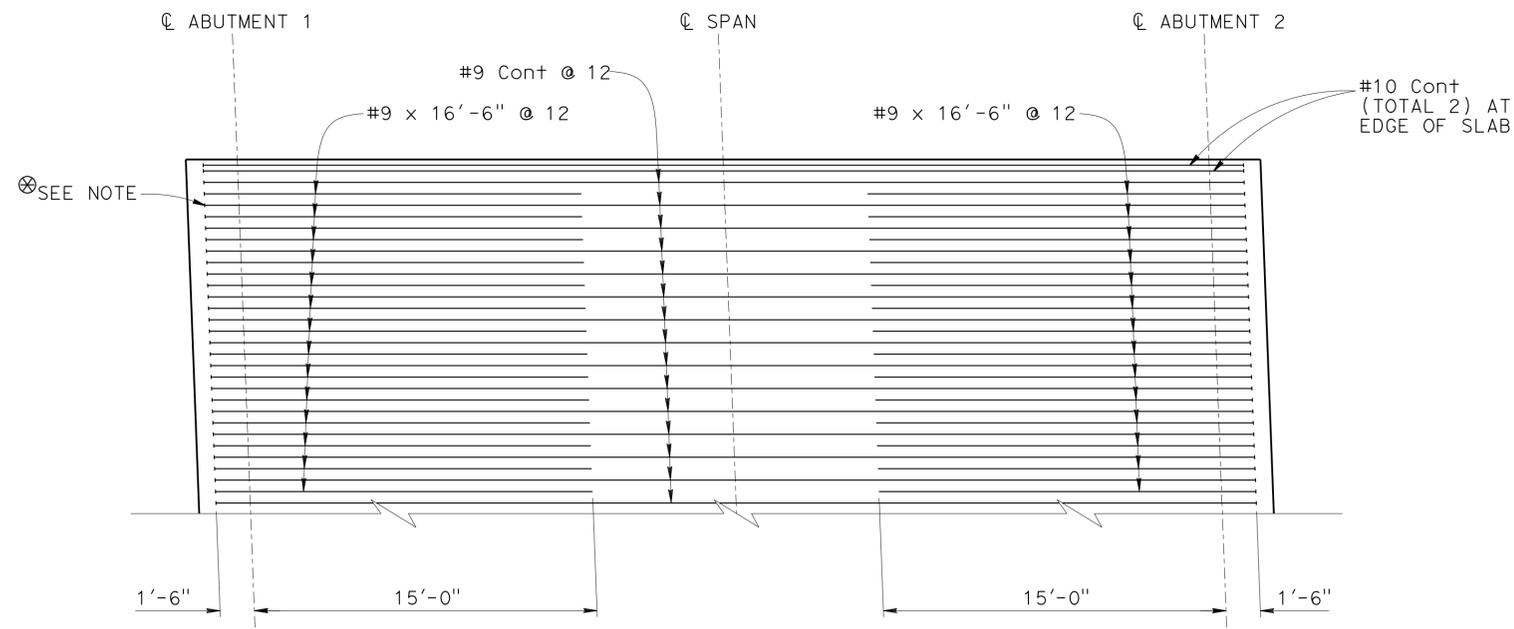
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	315	343

*MJ Cullen* 1-17-13  
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4-29-13  
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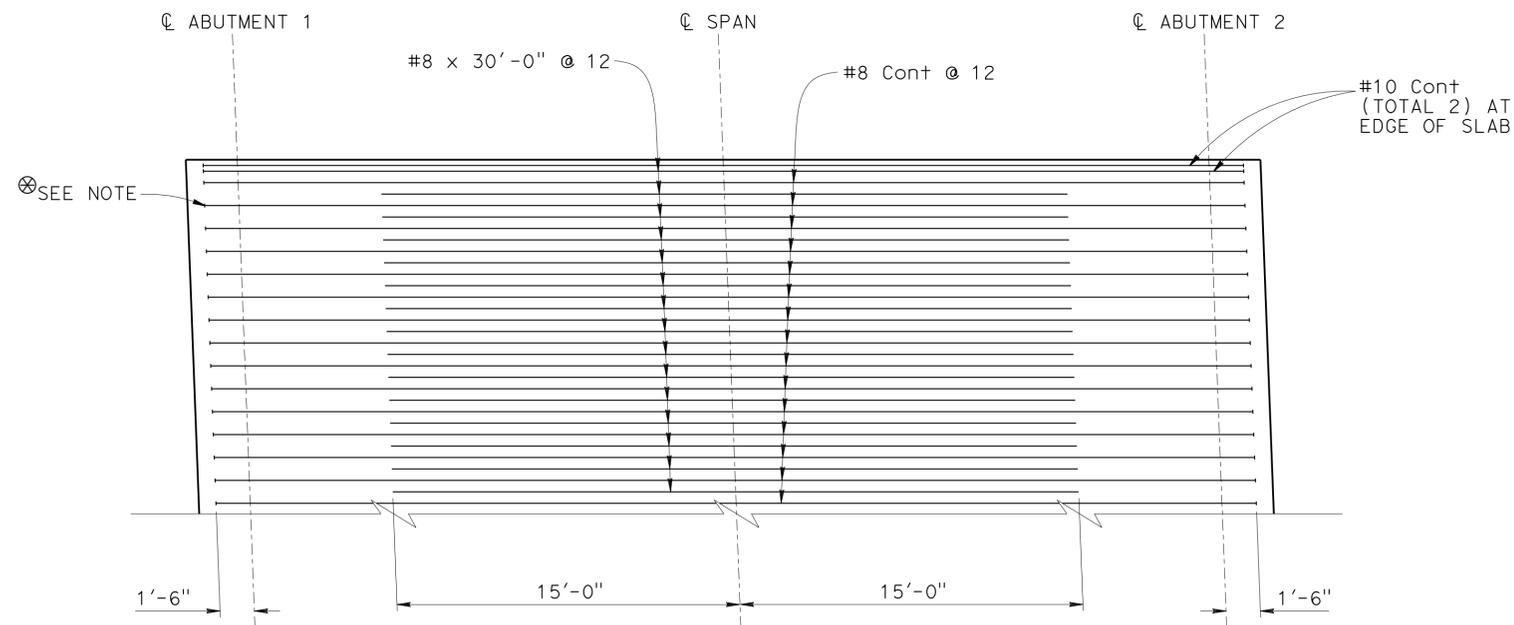
REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA



⊗ Note:  
 All Main Reinf shall be  
 Headed at the Abutments, Typ

**PART PLAN - TOP SLAB REINFORCEMENT**

1/4" = 1'-0"



⊗ Note:  
 All Main Reinf shall be  
 Headed at the Abutments, Typ

**PART PLAN - BOTTOM SLAB REINFORCEMENT**

1/4" = 1'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY K. CHONKRIA	CHECKED M. CULLEN
QUANTITIES	BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**MAIN SLAB REINFORCEMENT**

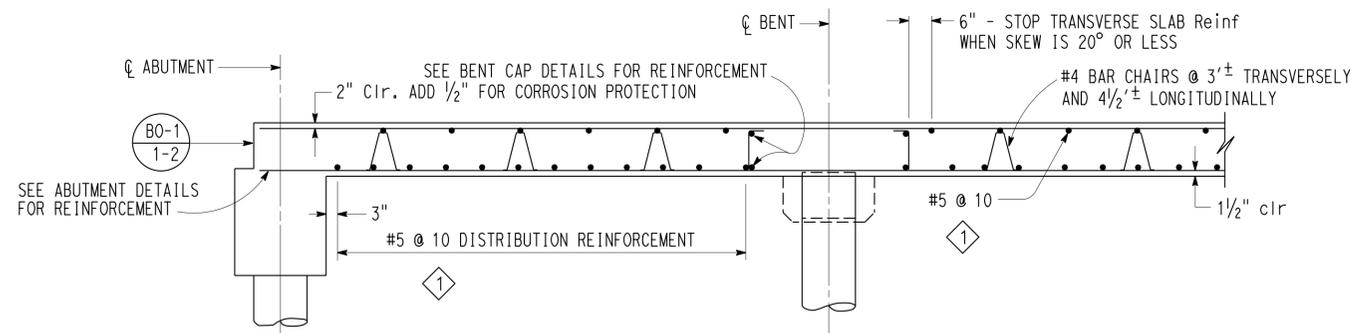
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	316	343

*M. J. Cullen* 1-17-13  
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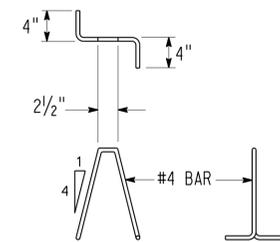
4-29-13  
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M. J. CULLEN  
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STATE OF CALIFORNIA

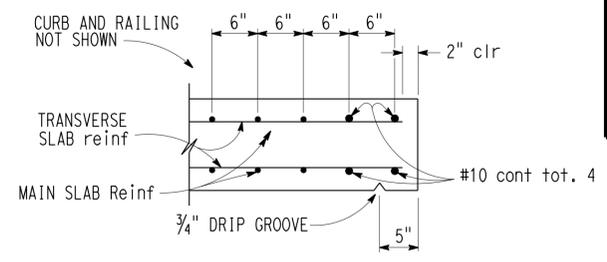
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**LONGITUDINAL SECTION**



**BAR CHAIR DETAIL**

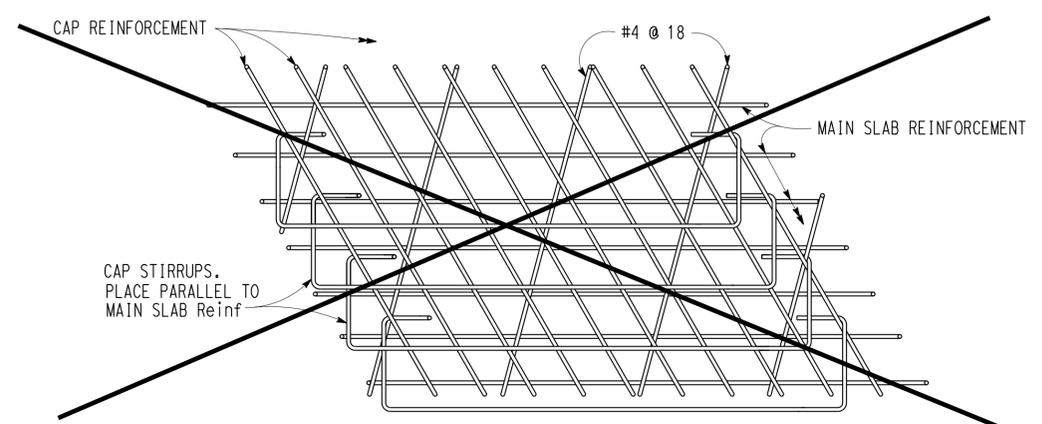


**EDGE OF SLAB DETAILS**

BAR SPLICE LENGTH								
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
ALL BARS, EXCEPT TOP BARS IN SPANS OVER 24'	23"	28"	34"	39"	45"	68"	76"	85"
TOP BARS IN SPANS OVER 24'	23"	28"	34"	53"	60"	77"	97"	120"

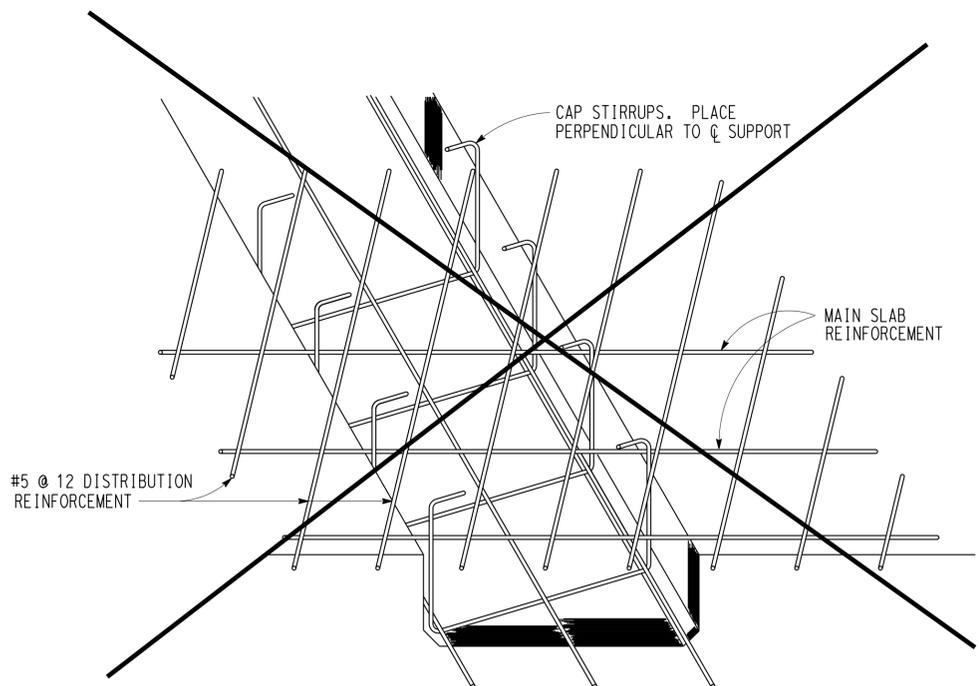
**Reinforcement notes:**

Splices in top main bars to be located near center of span.  
Splices in bottom main bars to be located near bent.  
Spacing of all transverse bars is measured along Q roadway.  
Skew 0° to 20°: Place all transverse bars parallel to bent.  
Skew over 20°: Place transverse slab bars perpendicular to Q bridge. See details at right and below.

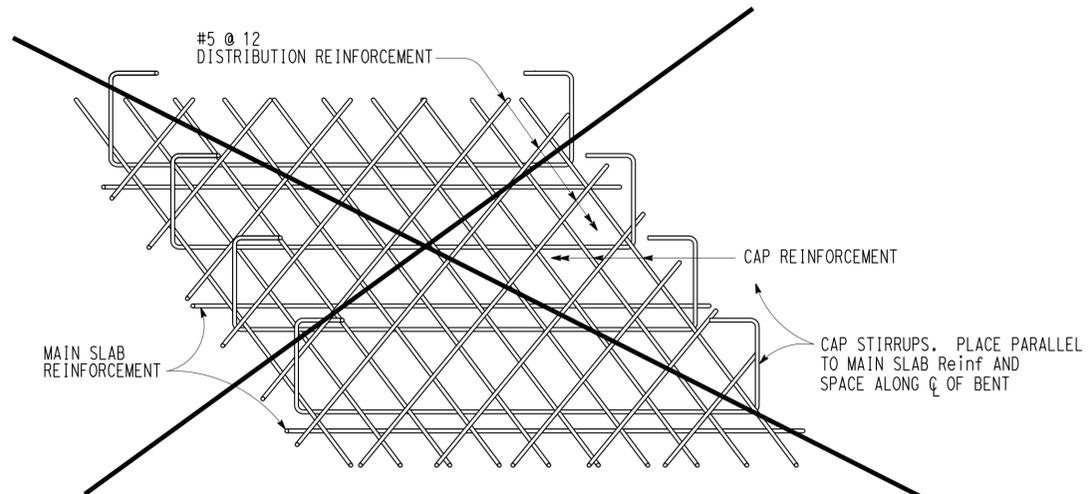


**TOP SLAB REINFORCEMENT AT BENT**

Note: View for main span over 24'.  
Bar placement similar for spans under 24'



**DROPPED CAP**



**FLUSH CAP**

**BOTTOM SLAB REINFORCEMENT AT BENT**

**GENERAL NOTES  
LOAD FACTOR DESIGN**

DESIGN: Bridge Design Specifications  
( 1983 AASHTO with Interims and Revisions by Caltrans )  
DEAD LOAD: Includes 35 psf for future wearing surface.  
LIVE LOADING: HS20-44 and alternative and permit design load.  
REINFORCED CONCRETE: fy = 60,000 psi  
f'c = 3,250 psi  
n = 9

REVISED STANDARD DRAWING		
FILE NO. <b>xs12-55</b>	APPROVED BY _____ RESPONSIBLE TECHNICAL SPECIALIST	RELEASED BY _____ RESPONSIBLE OFFICE CHIEF
APPROVAL DATE _____	RELEASE DATE _____	

1 REVISED NOTE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 51-0339K  
POST MILE 22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)  
SLAB REINFORCEMENT DETAILS**

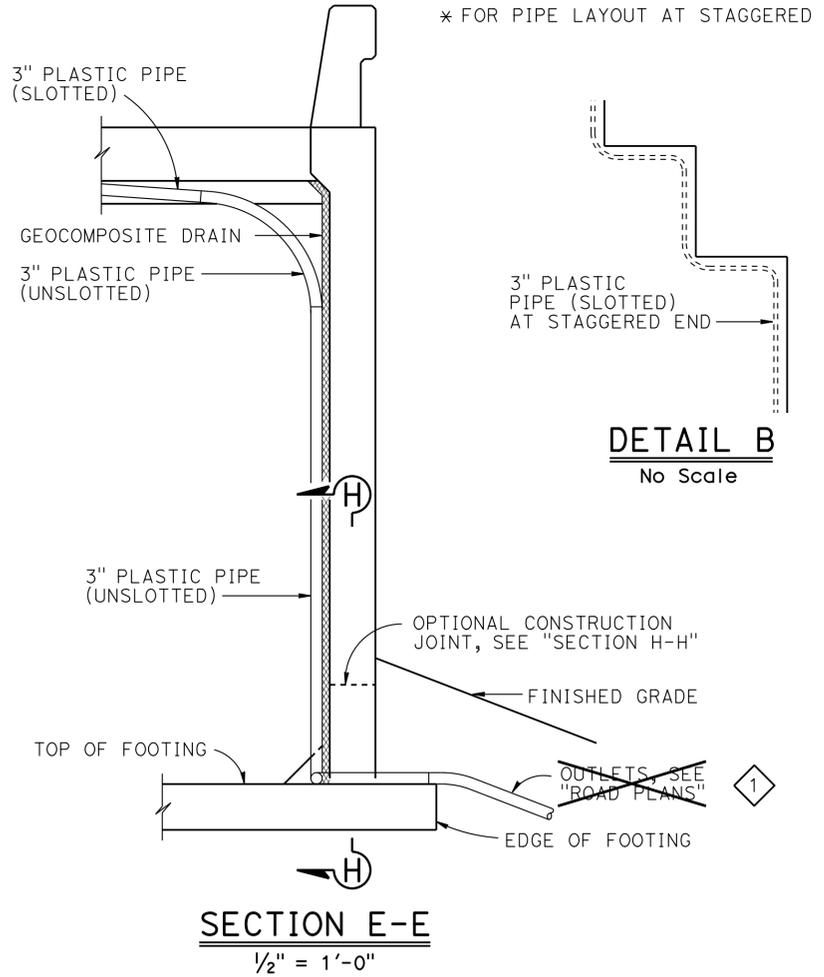
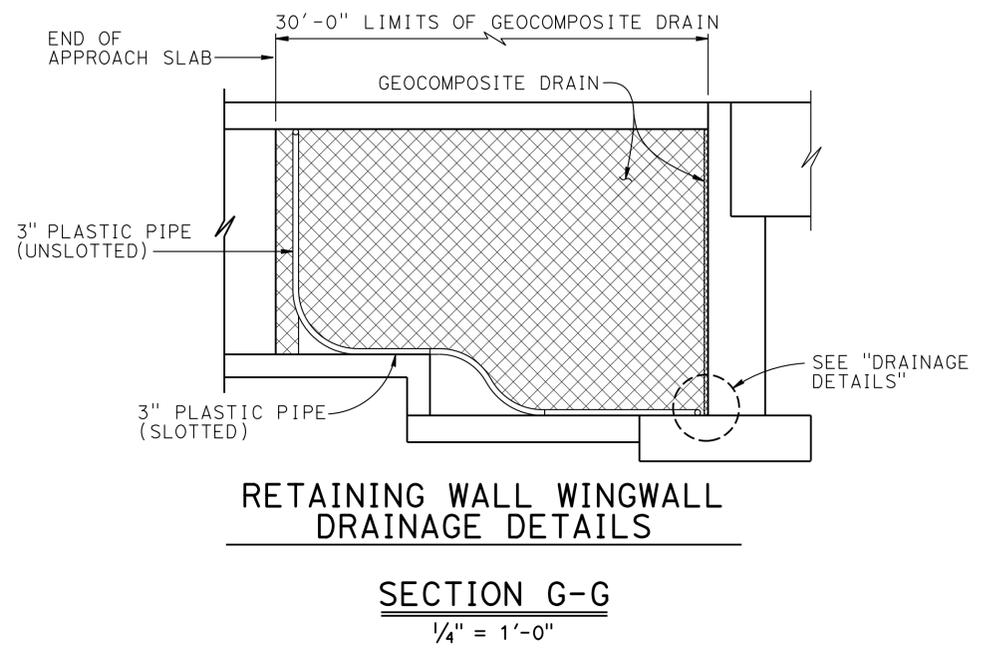
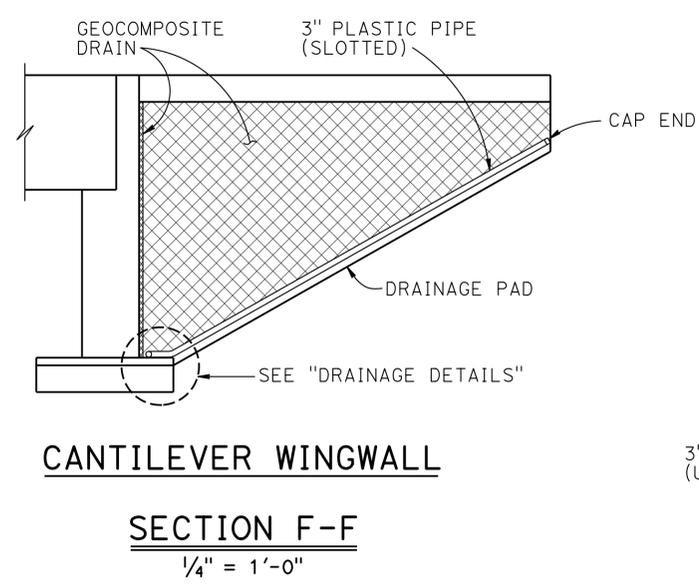
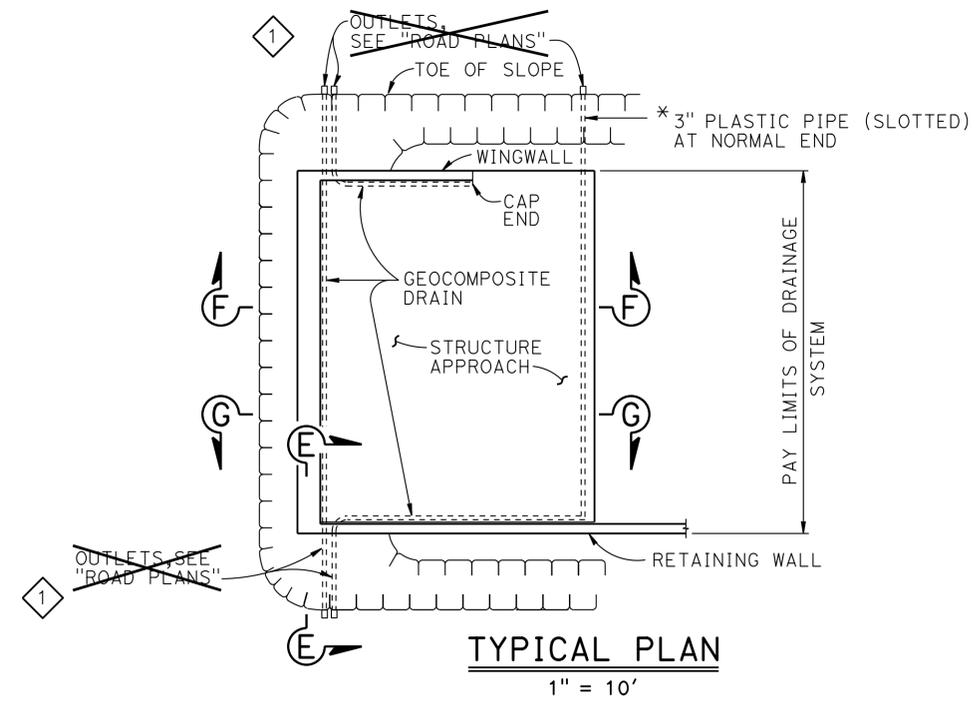
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	317	343

**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

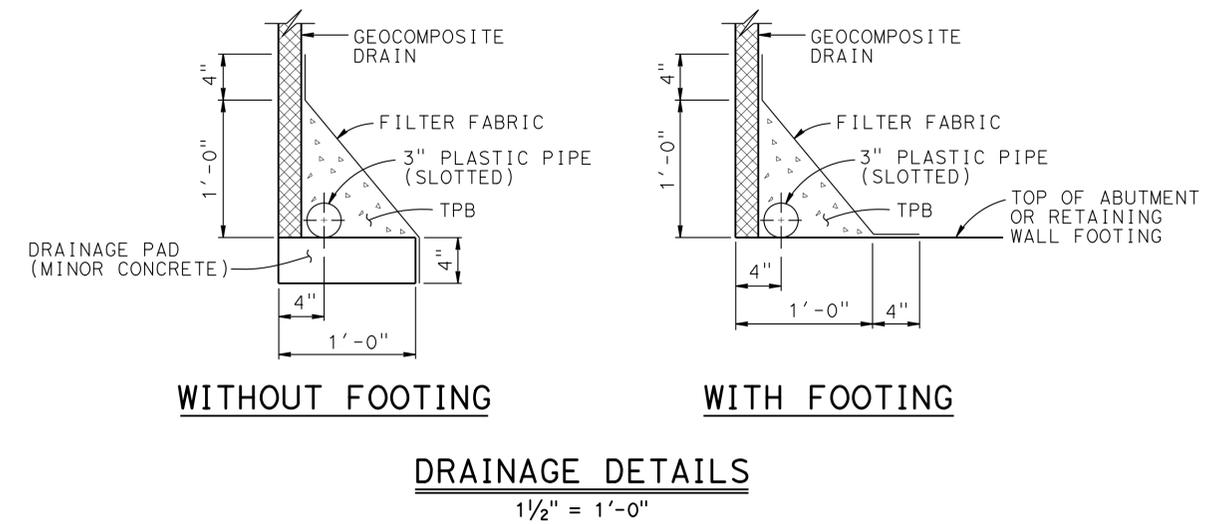
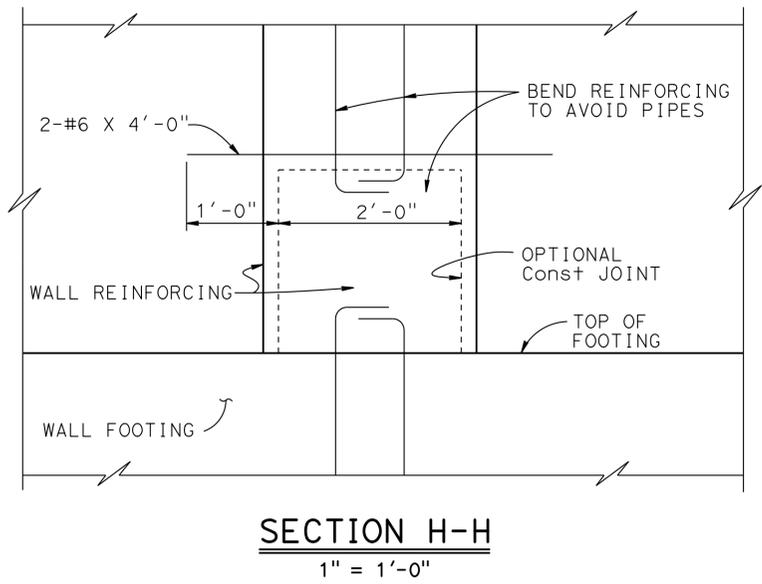
4-29-13  
 PLANS APPROVAL DATE

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 Exp. 03-31-13  
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 STATE OF CALIFORNIA



1 Outlets through the Wingwall not required. For further drainage details See "ABUTMENT DETAIL" sheets



NOTE: Bends and junctions in 3" plastic pipe are 30" radius Min

STANDARD DRAWING	
FILE NO. <b>xs3-110</b>	APPROVAL DATE July 2011

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
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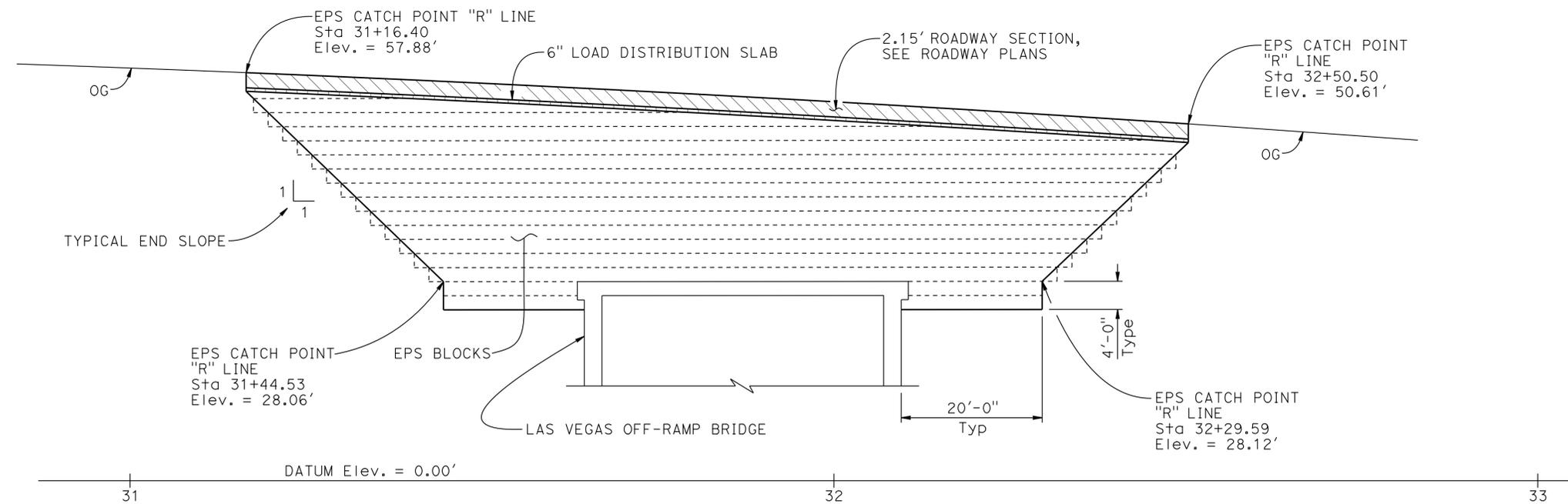
DIVISION OF ENGINEERING SERVICES	
BRIDGE NO. 51-0339	POST MILE 22.3-23.0

LAS VEGAS OFF-RAMP BRIDGE (REPLACE)	
STRUCTURE APPROACH DRAINAGE DETAILS	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	318	343

**M.J. Cullen** 1-17-13  
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 4-29-13  
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REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C. 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA



**SECTION J-J**  
1" = 10'-0"

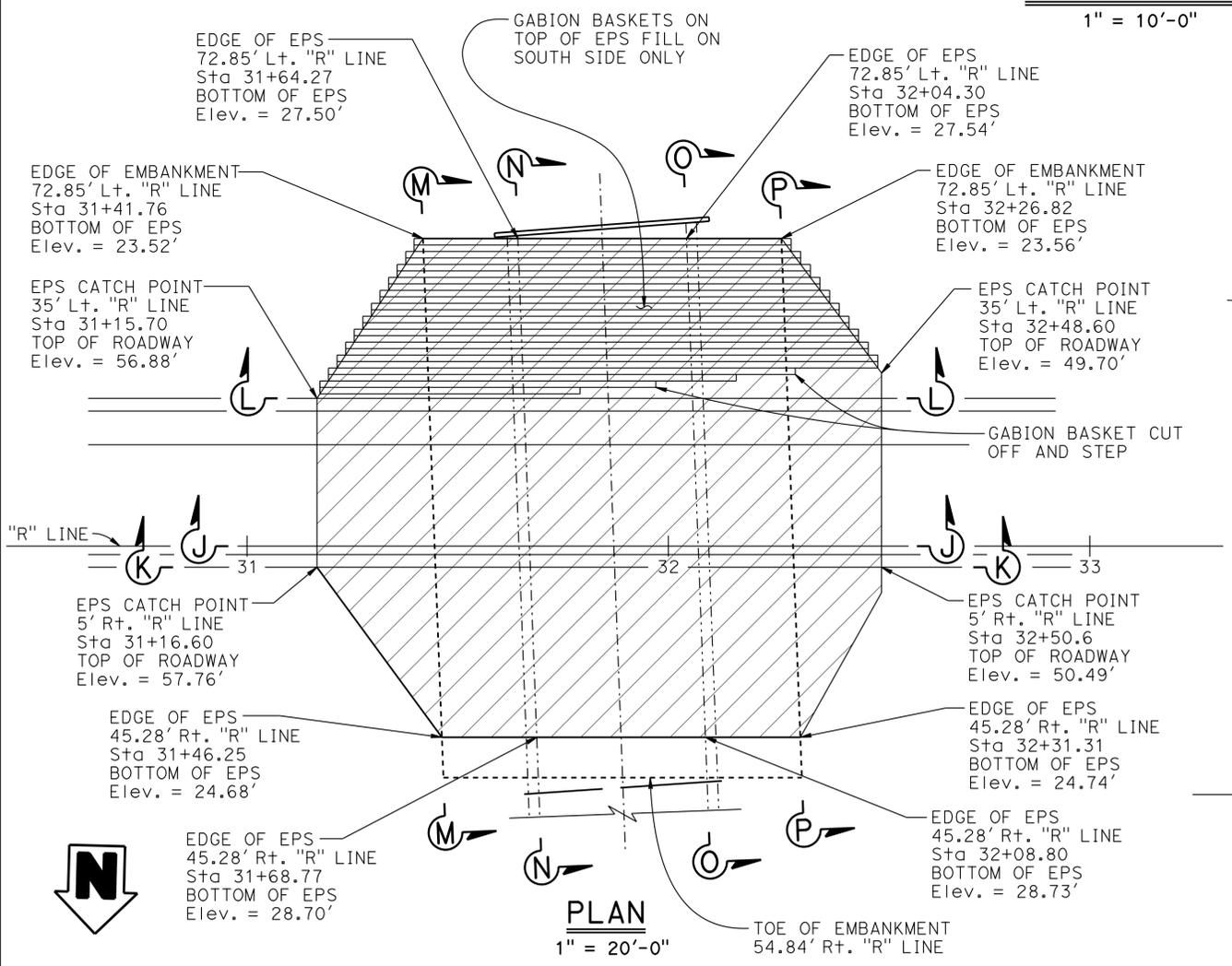
NOTES:

- Indicates limits of Expanded Polystyrene (EPS) Lightweight Embankment.

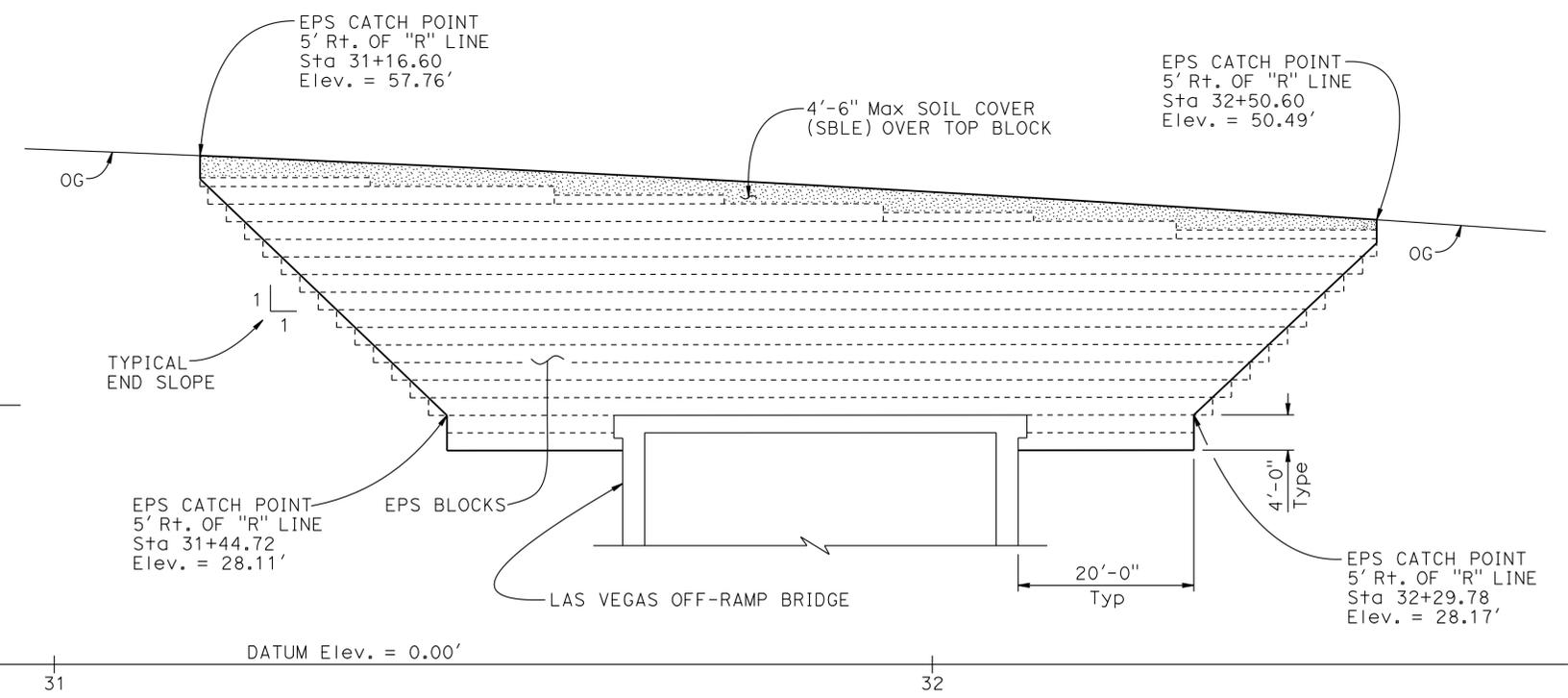
For SECTIONS "L-L" and "M-M", see "LIGHTWEIGHT EMBANKMENT DETAILS NO.2" sheet.

For SECTIONS "N-N" and "O-O", see "LIGHTWEIGHT EMBANKMENT DETAILS NO.3" sheet.

For SECTION "P-P", see "LIGHTWEIGHT EMBANKMENT DETAILS NO.4" sheet.



**PLAN**  
1" = 20'-0"



**SECTION K-K**  
1" = 10'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY D. PATO	CHECKED M. CULLEN
QUANTITIES	BY H. PEREZ	CHECKED M. CULLEN

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 6

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**LIGHTWEIGHT EMBANKMENT DETAILS NO.1**

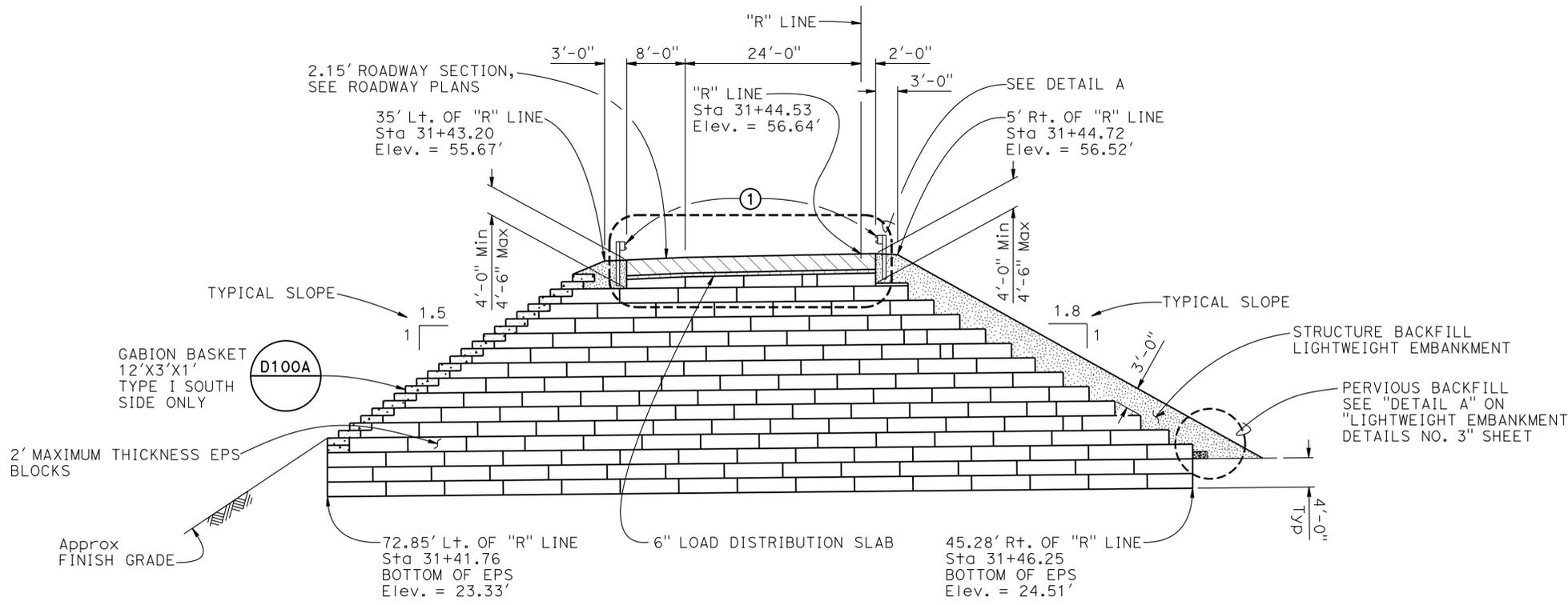
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	319	343

*M.J. Cullen* 1-17-13  
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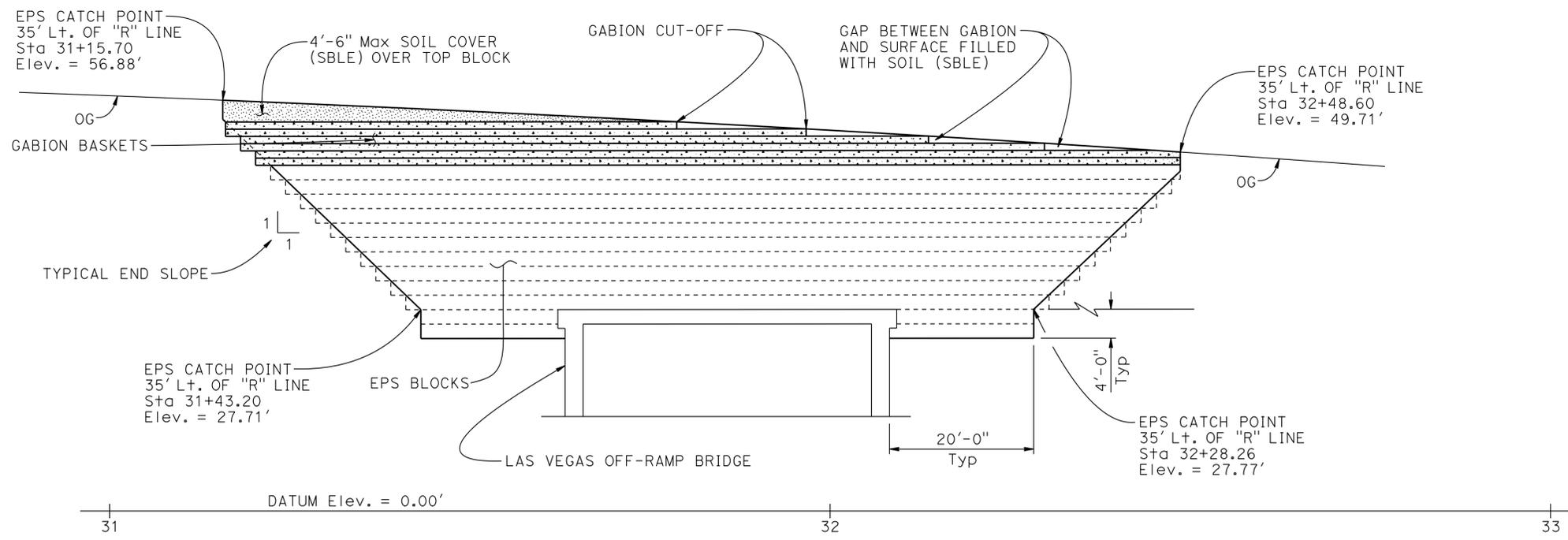
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- Note:
- For Detail A, See "LIGHTWEIGHT EMBANKMENT DETAILS NO. 4" Sheet
  - For Typical Embankment Details not shown See "LIGHTWEIGHT EMBANKMENT DETAILS NO.5" sheet
- Legend:
- Indicates Structure Backfill Lightweight Embankment (SBLE)

**SECTION M-M**  
1" = 10'-0"

NOTE:  
① - Metal Beam Guard Rail (Steel Post), see "Road Plans".



**SECTION L-L**  
1" = 10'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY D. PATO	CHECKED M. CULLEN
QUANTITIES	BY H. PEREZ	CHECKED M. CULLEN

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**LIGHTWEIGHT EMBANKMENT DETAILS NO.2**

REVISION DATES	SHEET	OF
8-8-12 08-23-12 09-13-12 01-09-13	13	19

11:22  
TIME PLOTTED =>  
03-MAY-2013  
DATE PLOTTED =>  
USER NAME => s124496

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	320	343

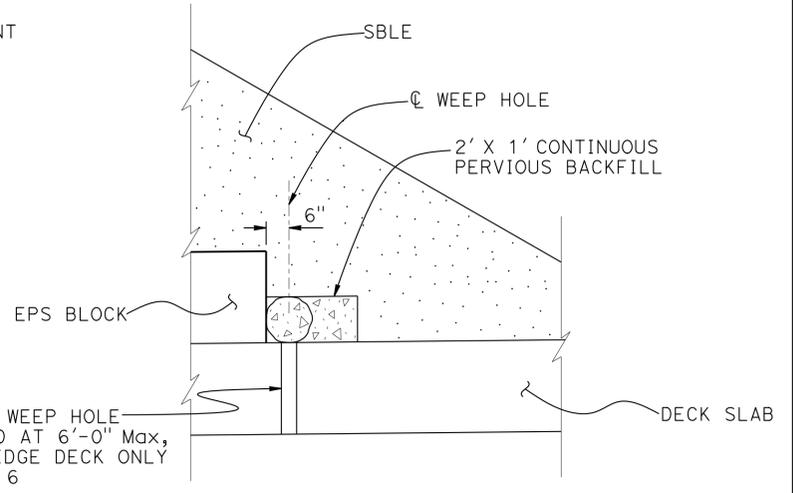
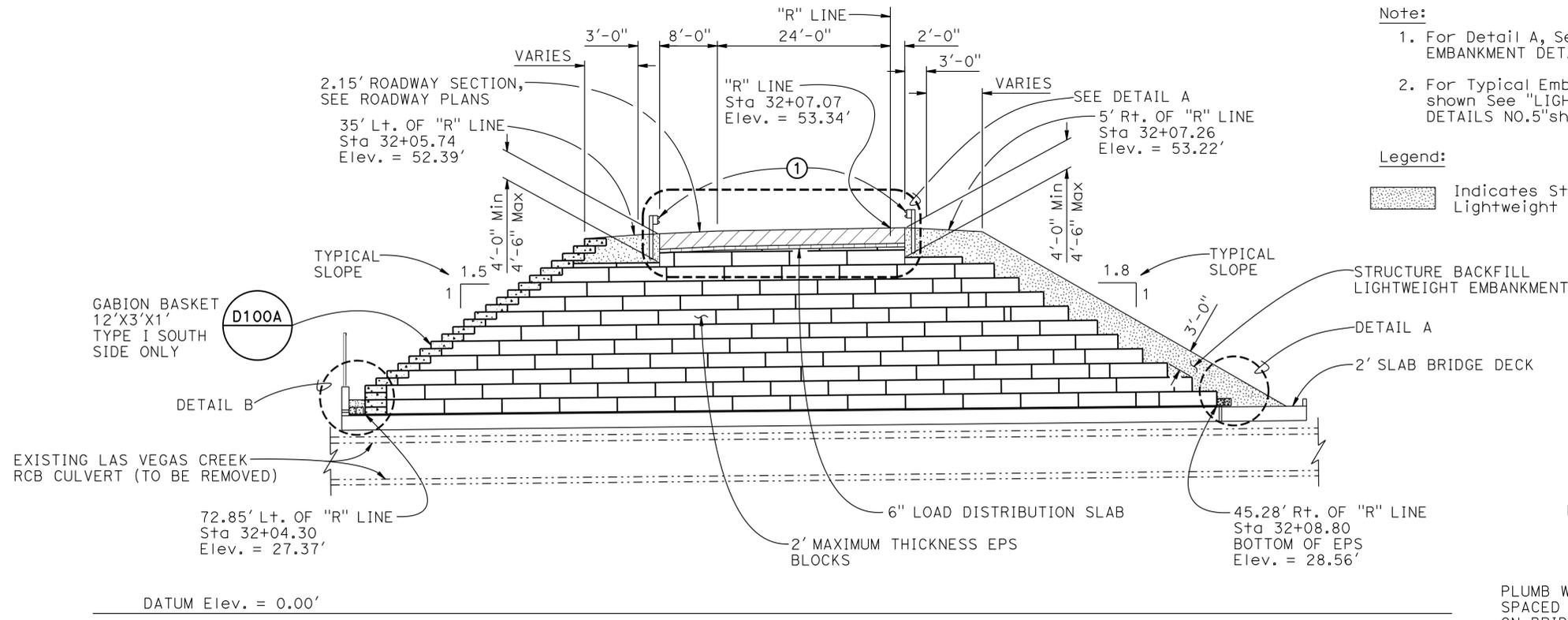
**M.J. Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.

Note:

- For Detail A, See "LIGHTWEIGHT EMBANKMENT DETAILS NO. 4" Sheet
- For Typical Embankment Details not shown See "LIGHTWEIGHT EMBANKMENT DETAILS NO.5" sheet

Legend:

Indicates Structure Backfill  
 Lightweight Embankment (SBLE)

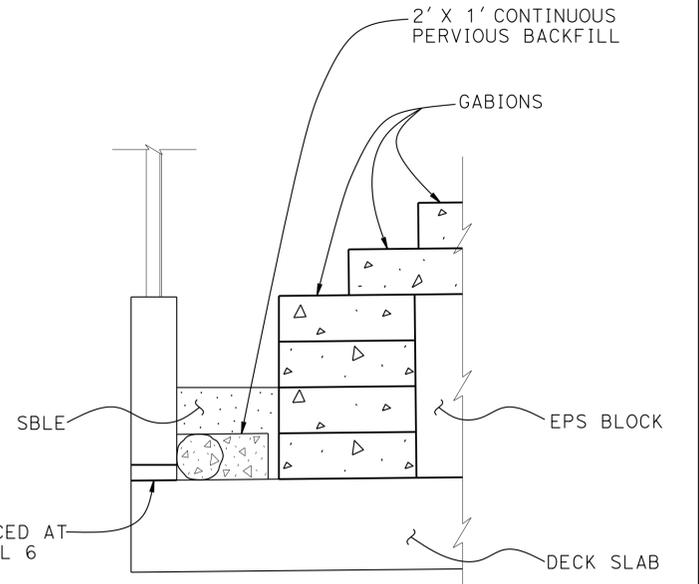
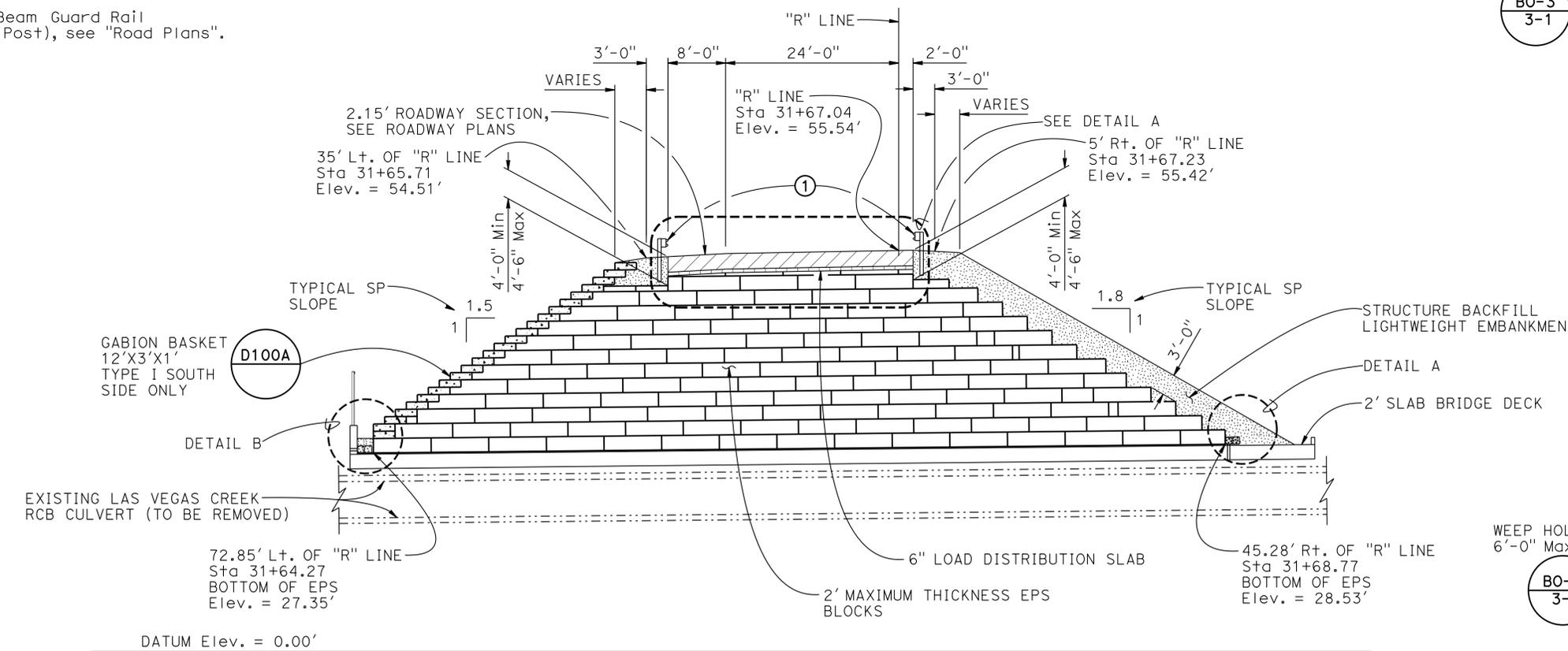


**SECTION O-O**  
1" = 10'-0"

BO-3  
3-1

**DETAIL A**  
1/2" = 1'-0"

NOTE:  
① - Metal Beam Guard Rail (Steel Post), see "Road Plans".



**SECTION N-N**  
1" = 10'-0"

BO-3  
3-1

**DETAIL B**  
1/2" = 1'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY D. PATO	CHECKED M. CULLEN
QUANTITIES	BY H. PEREZ	CHECKED M. CULLEN

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**LIGHTWEIGHT EMBANKMENT DETAILS NO.3**

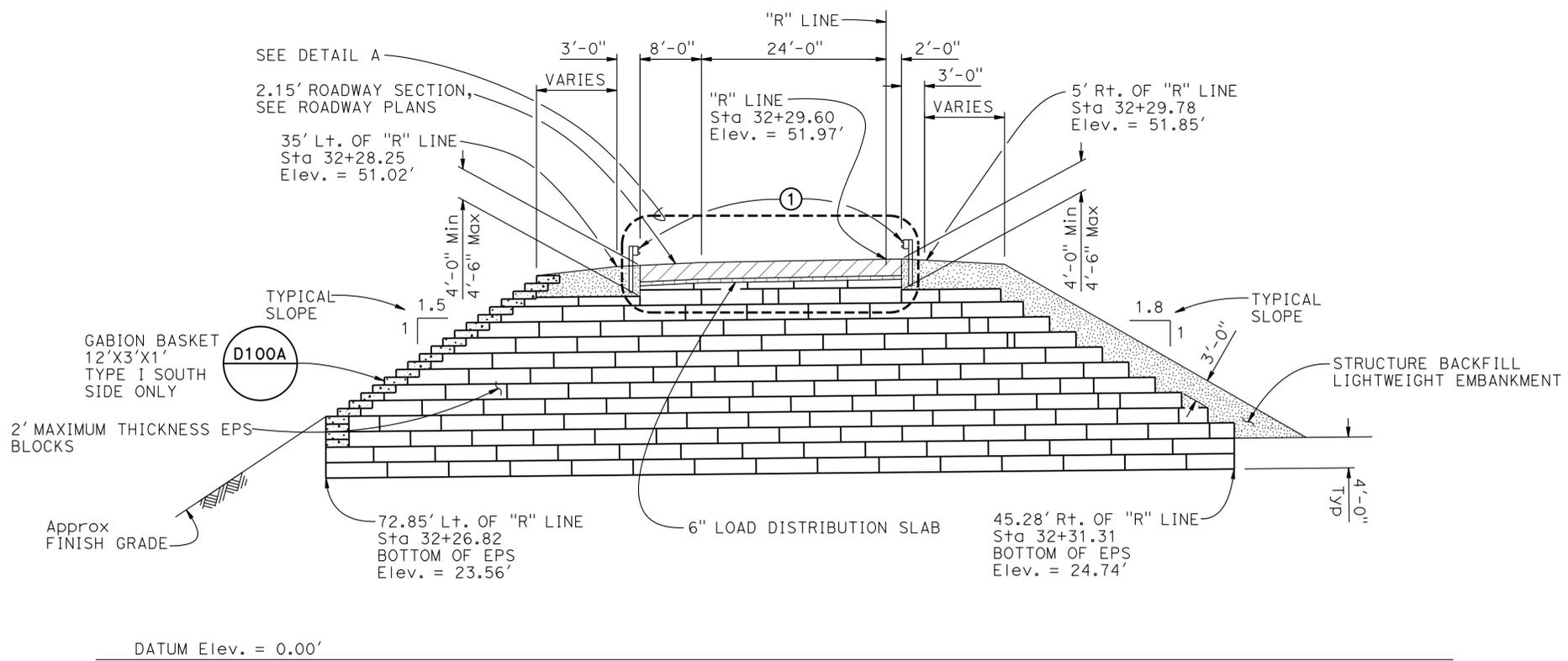
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	321	343

*M. J. Cullen* 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

4-29-13  
 PLANS APPROVAL DATE

M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA

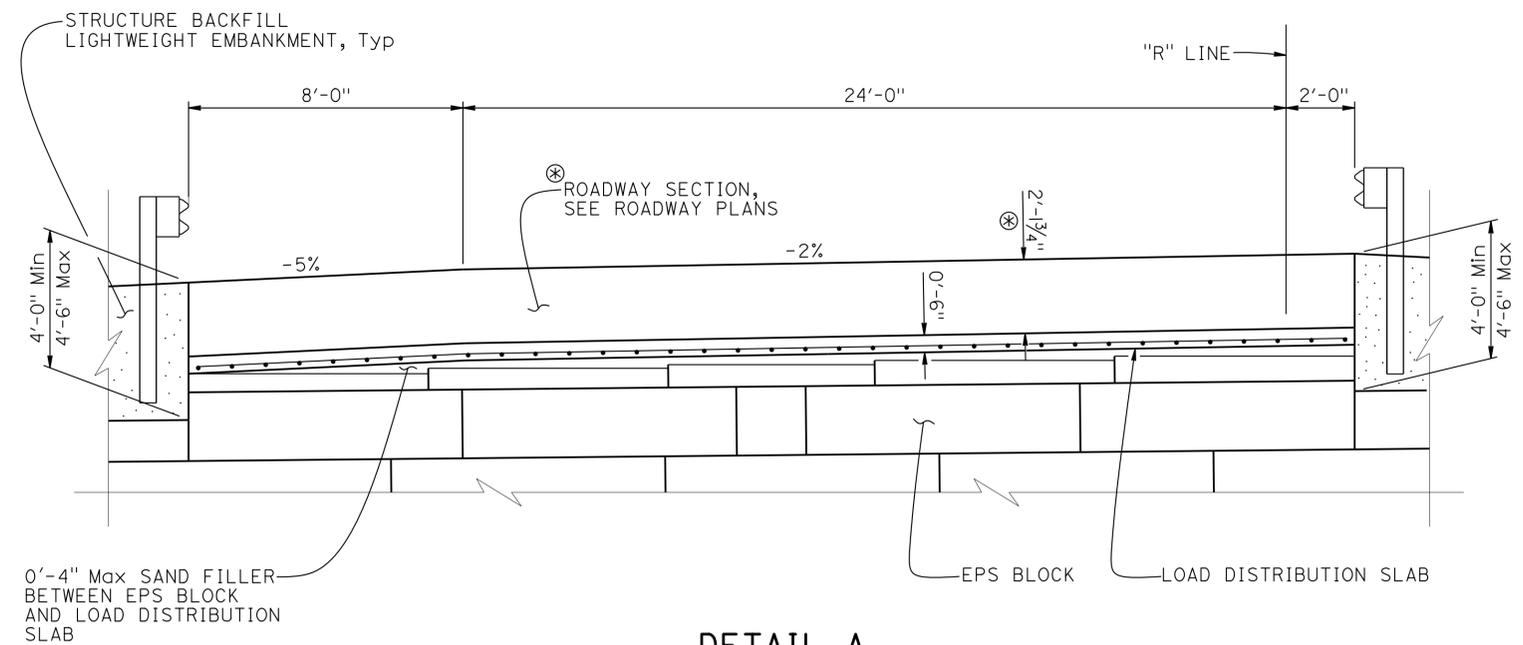
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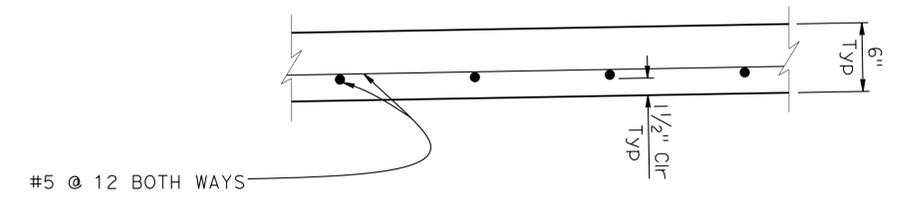
**SECTION P-P**  
 1" = 10'-0"

Note:  
 1. For Typical Embankment Details not shown See "LIGHTWEIGHT EMBANKMENT DETAILS NO.5" sheet

Legend:  
 [Pattern] Indicates Structure Backfill Lightweight Embankment



**DETAIL A**  
 3/8" = 1'-0"



**LOAD DISTRIBUTION SLAB PART SECTION**  
 1 1/2" = 1'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY D. PATO	CHECKED M. CULLEN
QUANTITIES	BY H. PEREZ	CHECKED M. CULLEN

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**LIGHTWEIGHT EMBANKMENT DETAILS NO.4**

USERNAME => 8124486 DATE PLOTTED => 03-MAY-2013 TIME PLOTTED => 11:23

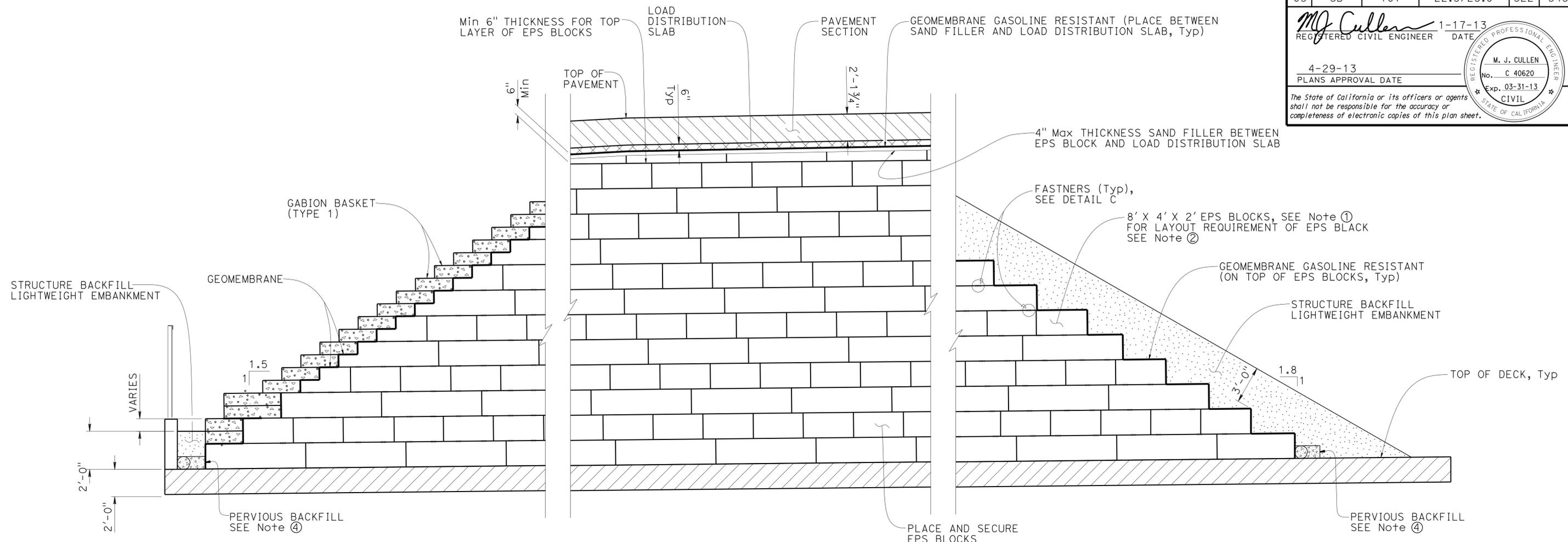
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	322	343

*M. J. Cullen* 1-17-13  
REGISTERED CIVIL ENGINEER DATE

4-29-13  
PLANS APPROVAL DATE

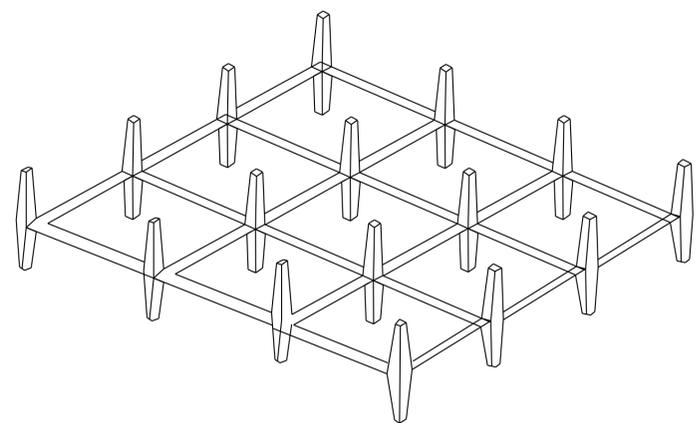
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REGISTERED PROFESSIONAL ENGINEER  
M. J. CULLEN  
No. C 40620  
Exp. 03-31-13  
CIVIL  
STATE OF CALIFORNIA



**PART SECTION**  
1/4" = 1'-0"

FOR DETAILS NOT SHOWN  
SEE "LIGHTWEIGHT EMBANKMENT  
DETAILS NO. 1 THRU 4" SHEETS

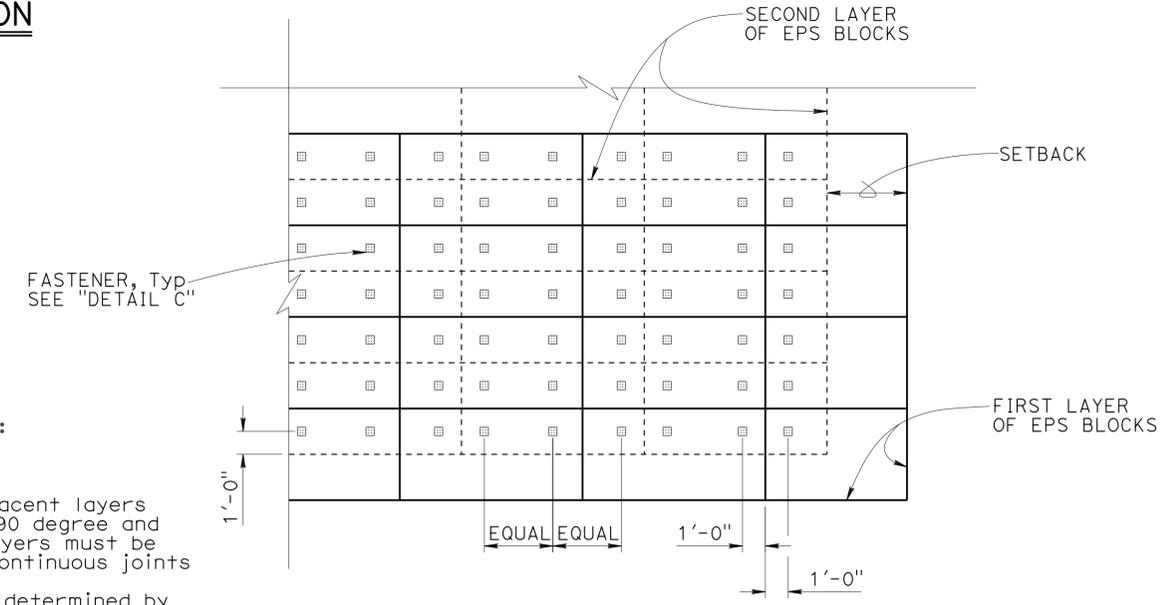


Typical metal or timber fastener: Approximate Size 4 1/8" x 4 1/8" x 1" deep  
Bolt hole size to 1" (See Note 3)

**DETAIL C**  
No Scale

**Note:**

- ① EPS blocks allowable thickness:  
2'-0" maximum  
0'-6" minimum
- ② The long axis of blocks in adjacent layers must be rotated horizontally 90 degree and edges of blocks in adjacent layers must be offset as shown to minimize continuous joints
- ③ Actual size of fastener to be determined by the manufacturer
- ④ For Pervious Backfill Details See "DETAIL A" and "DETAIL B" on "LIGHTWEIGHT EMBANKMENT DETAILS NO. 3" sheet



**PART PLAN VIEW**  
1/4" = 1'-0"

DESIGN	BY M. CULLEN	CHECKED H. PEREZ
DETAILS	BY K. CHONKRIA	CHECKED M. CULLEN
QUANTITIES	BY H. PEREZ	CHECKED M. CULLEN

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO.	51-0339K
POST MILE	22.3-23.0

**LAS VEGAS OFF-RAMP BRIDGE (REPLACE)**  
**LIGHTWEIGHT EMBANKMENT DETAILS NO.5**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	323	343

8-29-12  
DATE

4-29-13  
PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER  
No. C73956  
Exp. 6-30-13  
CIVIL

Ryan Turner  
No. C73956  
Exp. 6-30-13  
CIVIL

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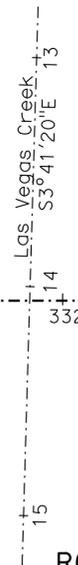
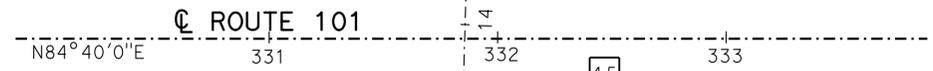
This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

**BENCH MARK**

SB 101 PM 22.77  
Fnd 1" IP w/ CDOT PP & nail  
61.23' Lt @ Rte 101,  
Sta 342+50.79  
N 1987185.57  
E 6007989.41  
Elev 29.03'  
Vert Datum: NAVD88



To Santa Barbara ←



RC-10-005  
4.5

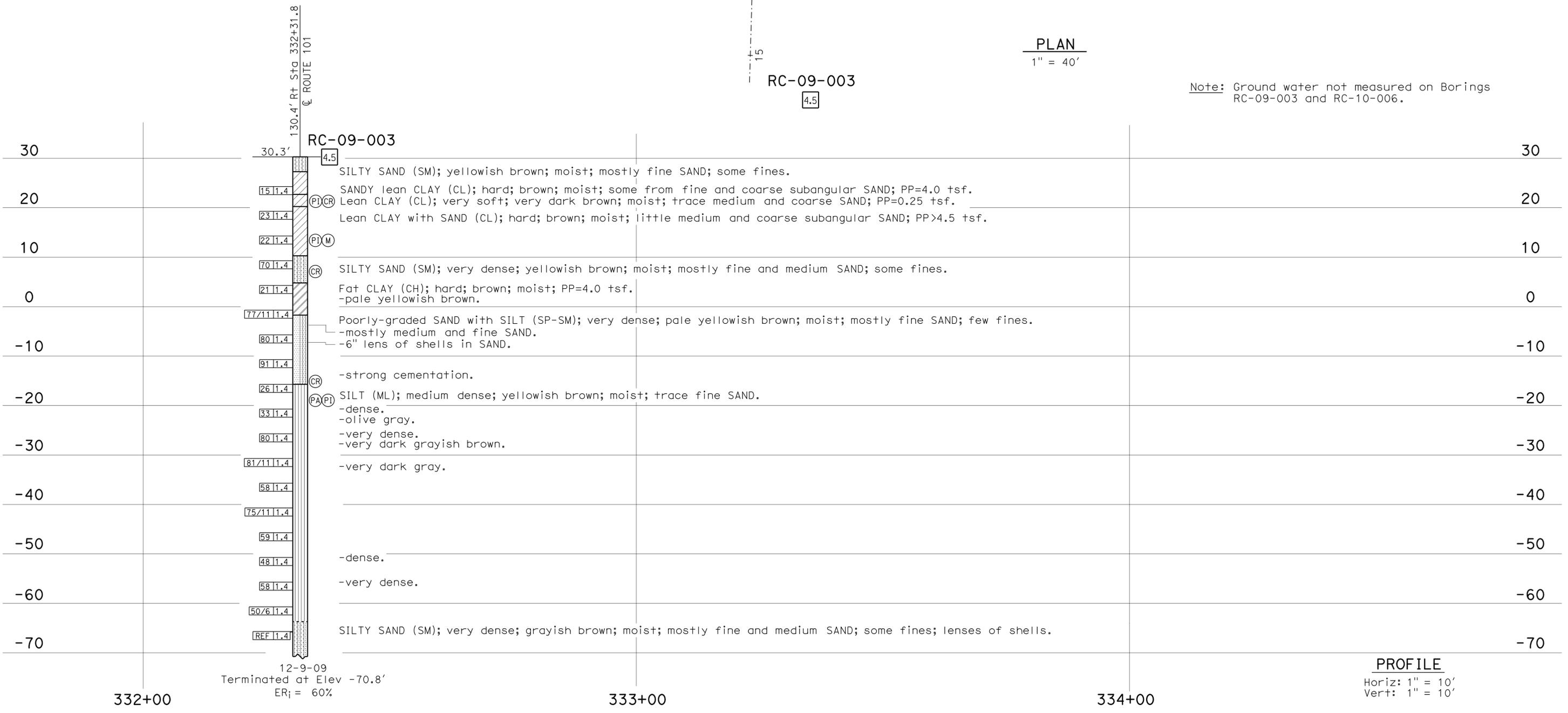
RC-10-006  
4.5

RC-09-003  
4.5

To Santa Maria →

**PLAN**  
1" = 40'

Note: Ground water not measured on Borings RC-09-003 and RC-10-006.



<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH 6</b>		<b>BRIDGE NO.</b> 51-0339K <b>POST MILE</b> 22.3-23.0		<b>LAS VEGAS OFF-RAMP BRIDGE (REPLACE)</b>					
FUNCTIONAL SUPERVISOR NAME: M. Finegan		DRAWN BY: I.G-Remmen CHECKED BY: D. Appelbaum		FIELD INVESTIGATION BY: R. Turner						<b>LOG OF TEST BORINGS 1 OF 3</b>					
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643 PROJECT NUMBER & PHASE: 0500000055 & 1		CONTRACT NO.: 05-0G0701		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 08-09-12 08-14-12 08-28-12		SHEET 17 OF 19	

FILE => 51-0339k-z-1fb01.dgn





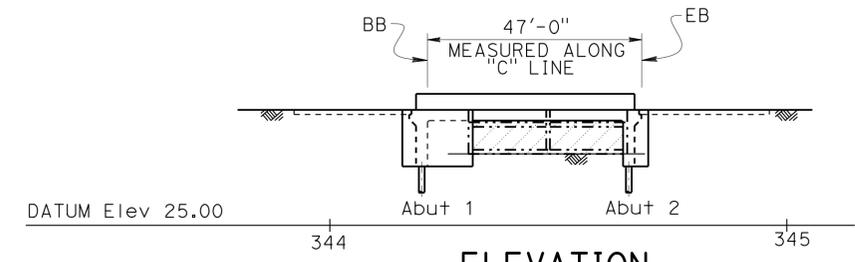
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	326	343

*M. J. Cullen* 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

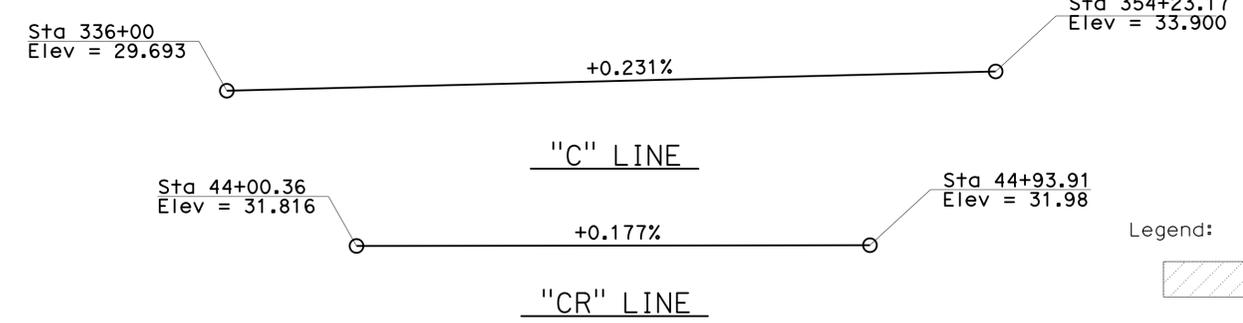
4-29-13  
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 No. C 40620  
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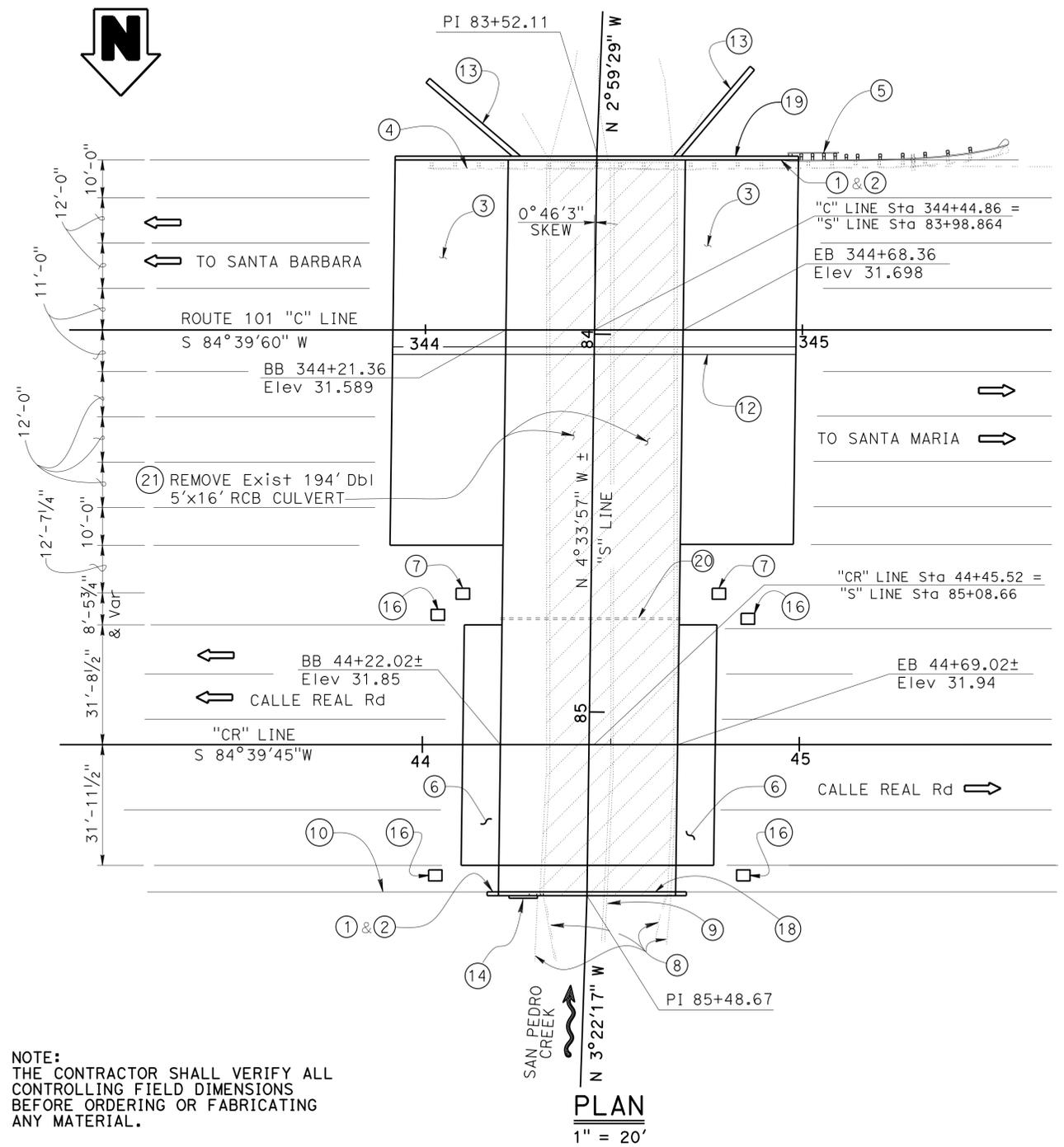


**ELEVATION**  
 1" = 20'



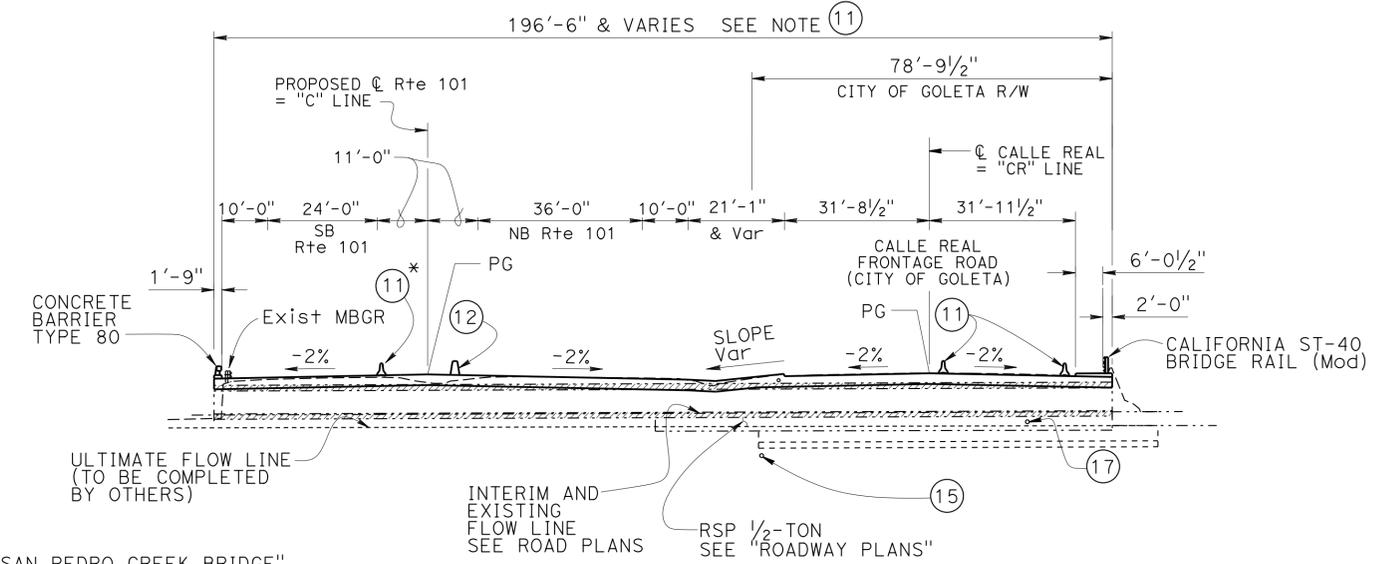
**PROFILE GRADE**  
 NO SCALE

- Legend:
- Limits of Reinforced Concrete Box Culvert (Br No 51-168) removal See Road Plans
  - Indicates existing structure
  - Indicates new structure
  - For Limits of Stage Construction, see "TYPICAL SECTION" sheet.



**PLAN**  
 1" = 20'

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



**TYPICAL CROSS SECTION**  
 1" = 20'

**NOTES:**

- Paint "SAN PEDRO CREEK BRIDGE"
- Paint "Br. No. 51-0341"
- Structure Approach Type N(30D)
- Remove Exist MBGR, see "Road Plans"
- MBGR, see "Road Plans"
- Structure Approach Type EQ(10)
- Drainage Inlets, see "Road Plans"
- Reconstruct Existing Concrete Channel Lining and Channel Walls, see "Road Plans"
- Existing Debris Fin to be removed see "Road Plans"
- Reconstruct Existing Gates and Fencing, see "Road Plans"
- For Stage Construction limits, see "Typical Section" sheet. For temporary Railing (Type K) layout, see "Road Plans". K Rail Layout shown for Stage 1 Construction only
- Concrete Barrier Type 60A (Mod) with scuppers located on Bridge deck and Approach Slab

- Wingwall
- Construct a Closure Wall that is to be removed in the future for 25-year storm event
- 1 - size 10.5" steel casing for 8" water pipe (by City of Goleta)
- Drainage Inlet, see "Road Plans"
- Existing Sanitary Sewer pipe to be relocated, See "Road Plans"
- Limits of California ST-40 Bridge Rail are from BB to EB
- Concrete Barrier Type 80 extends to the ends of the Approach Slab (Typical)
- 6 inch Welded Steel Pipe Casing through superstructure. To be used as irrigation conduit
- Remove Existing San Pedro Creek RCB Culvert See "Road Plans"

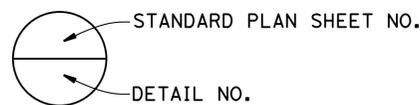
FRITZ HOFFMAN DESIGN ENGINEER	DESIGN	BY XIAODONG CHEN	CHECKED MIKE CULLEN	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 6	BRIDGE NO.	SAN PEDRO CREEK BRIDGE									
	DETAILS	BY BRUNO JENKO	CHECKED MIKE CULLEN	LAYOUT	BY XIAODONG CHEN			CHECKED MIKE CULLEN	51-0341	GENERAL PLAN								
	QUANTITIES	BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ	SPECIFICATIONS	BY V. RENGANATHAN			PLANS AND SPECS COMPARED V. RENGANATHAN	22.3-23.0									
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 05 EA OG0701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		10-09-09	01-09-13	11-10-10	05-22-12	06-07-12	07-13-12	09-18-12	10-09-12	11-01-12	SHEET 1 OF 18

**INDEX TO PLANS**

SHEET NO.	SHEET TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	DECK CONTOURS
4	FOUNDATION PLAN
5	ABUTMENT 1 LAYOUT
6	ABUTMENT 2 LAYOUT
7	ABUTMENT DETAILS NO. 1
8	ABUTMENT DETAILS NO. 2
9	TYPICAL SECTION NO.1
10	TYPICAL SECTION NO.2
11	MAIN SLAB REINFORCEMENT
12	SLAB REINFORCEMENT DETAILS
13	STRUCTURE APPROACH DRAINAGE DETAILS
14	STRUCTURE APPROACH TYPE N(30D)
15	STRUCTURE APPROACH TYPE EQ(10)
16	LOG OF TEST BORINGS 1 OF 3
17	LOG OF TEST BORINGS 2 OF 3
18	LOG OF TEST BORINGS 3 OF 3

**STANDARD PLANS DATED 2010**

A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
A10F	LEGEND - SOIL (SHEET 1 OF 2)
A10G	LEGEND - SOIL (SHEET 2 OF 2)
A10H	LEGEND - ROCK
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
A76A	CONCRETE BARRIER TYPE 60A
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B2-8	PILE DETAILS CLASS 200
B6-21	JOINT SEALS
RSP-B11-60	CONCRETE BARRIER TYPE 80 (SHEET 1 OF 2)
B11-66	CALIFORNIA ST-40 BRIDGE RAIL (SHEET 1 OF 2)



**GENERAL NOTES  
LOAD AND RESISTANCE FACTOR DESIGN**

**DESIGN:**  
AASHTO LRFD Bridge Design Specifications, Fourth Edition with Caltrans Amendments 12-7-2011

**SEISMIC DESIGN:**  
Caltrans Seismic Design Criteria SDC Version 1.6, December, 2010

**DEAD LOAD:**  
Includes 35 psf for future wearing surface.

**LIVE LOADING:**  
HL93 and permit design load.

**SEISMIC LOADING:**  
Site Specific See ARS Curve.

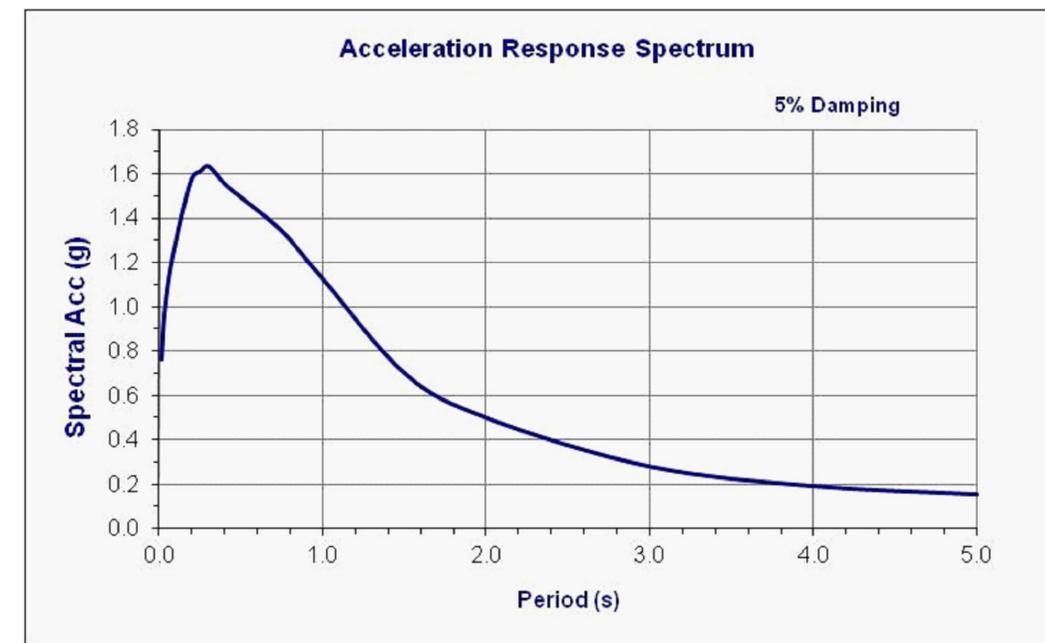
**REINFORCED CONCRETE:**  
f<sub>y</sub> = 60 ksi  
f<sub>c</sub> = 4.0 ksi  
n = 8

**STRUCTURAL STEEL:**  
f<sub>y</sub> = ASTM A709 Grade 50

**SOIL PARAMETERS:**  
(For determination of design lateral earth pressures)  
φ = 32°      γ = 120 pcf

**QUANTITIES**

STRUCTURE EXCAVATION (TYPE A)	1,459	CY
STRUCTURE BACKFILL (BRIDGE)	382	CY
6"WELDED STEEL PIPE CASING (BRIDGE) (.250" THICK)	47	LF
FURNISH PILING (CLASS 200) (ALTERNATIVE W)	4,036	LF
DRIVE PILE (CLASS 200) (ALTERNATIVE W)	68	EA
SEAL COURSE CONCRETE	295	CY
STRUCTURAL CONCRETE, BRIDGE	1,344	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE EQ)	35	CY
STRUCTURAL CONCRETE, APPROACH SLAB (TYPE N)	227	CY
JOINT SEAL (MR 1/2")	393	LF
BAR REINFORCING STEEL (BRIDGE)	251,202	LB
HEADED BAR REINFORCEMENT	1,994	EA
CONCRETE BARRIER (TYPE 60A MODIFIED)	47	LF
CONCRETE BARRIER (TYPE 80)	107	LF
CALIFORNIA ST-40 BRIDGE RAIL (MOD)	47	LF



PILE DATA TABLE						
LOCATION	PILE TYPE	NOMINAL RESISTANCE (KIPS)		DESIGN TIP ELEVATIONS (FT)	SPECIFIED TIP ELEVATIONS (FT)	NOMINAL DRIVING RESISTANCE (KIPS)
		COMPRESSION	TENSION			
ABUTMENT 1	CLASS 200 ALT W	265	N/A	-46 (a) -20 (c)	-46	280
ABUTMENT 2	CLASS 200 ALT W	265	N/A	-46 (a) -20 (c)	-46	280

**NOTES:**

1) Design tip elevations for Abutments are controlled by:  
(a) Compression, (c) Settlement.

2) The specified tip elevation shall not be raised above the design tip elevations for tension load, lateral load, and tolerable settlement.

FAULT NAME	FAULT TYPE	MOMENT MAGNITUDE OF MAXIMUM CREDIBLE EARTHQUAKE	DISTANCE FROM FAULT TO PROJECT SITE (MILES)	PEAK GROUND ACCELERATION T=0 SEC (GRAVITY)
SAN JOSE FAULT	REVERSE	6.3	0.7	0.61
MORE RANCH FAULT	REVERSE	7.2	0.7	0.51

**ARS CURVE**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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*M. J. Cullen* 1-17-13  
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PLANS APPROVAL DATE

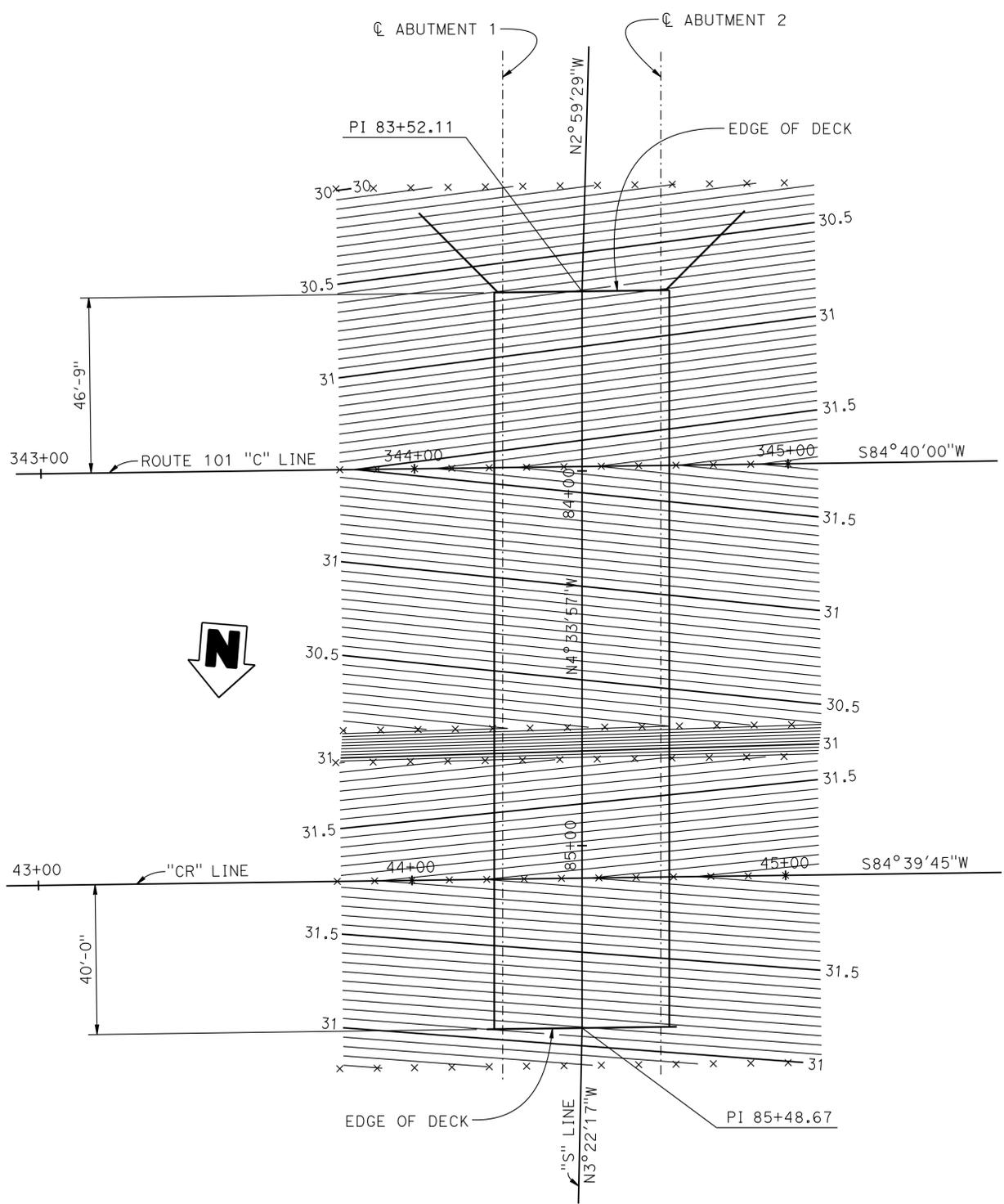
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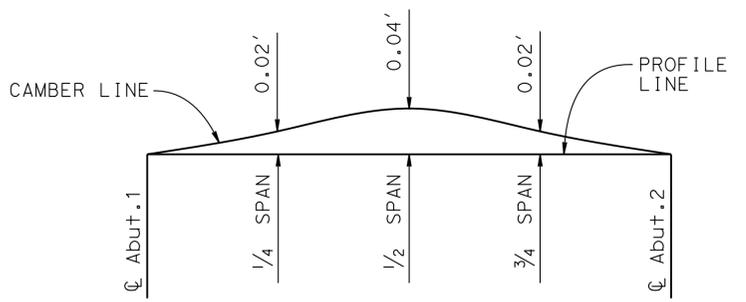
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 STATE OF CALIFORNIA



**PLAN**  
1" = 20'-0"

Notes:  
 X - 10' Station Interval.  
 0.05' Contour Interval.  
 Contours do not include camber.

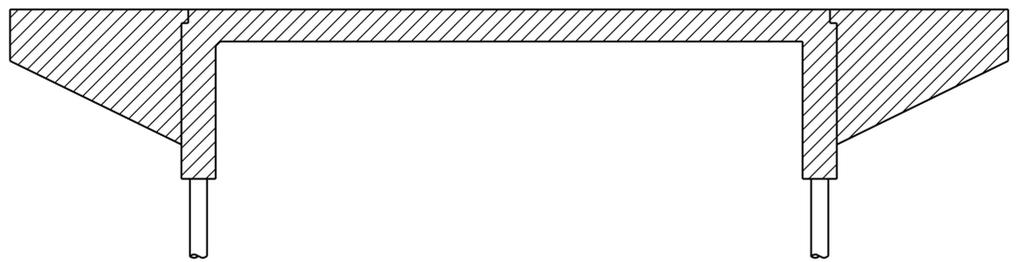


**CAMBER DIAGRAM**

Does not include allowance for falsework settlement.

**BUILDING SEQUENCE**

1. Construct Abutment Diaphragms.
2. Place channel RSP and channel fill material to interim flow line (see road plans) while simultaneously filling behind the abutment diaphragm. The elevation of the fill within the channel and behind the abutment shall be within 2 feet of each other at all times.
3. Construct Deck Slab and remove Falsework.
4. Place remaining backfill behind the abutments.



STRUCTURAL CONCRETE, BRIDGE  
 STEEL PIPE PILE

**CONCRETE STRENGTH AND TYPE LIMITS**

NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY M. CULLEN	CHECKED XIAODONG CHEN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 6	BRIDGE NO.	SAN PEDRO CREEK BRIDGE			
	DETAILS	BY D. PATO	CHECKED M. CULLEN			51-0341	DECK CONTOURS			
	QUANTITIES	BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ			22.3-23.0				
				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 05 EA 0G0701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 3	OF 18	

USERNAME => s124496 DATE PLOTTED => 03-MAY-2013 TIME PLOTTED => 11:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	329	343

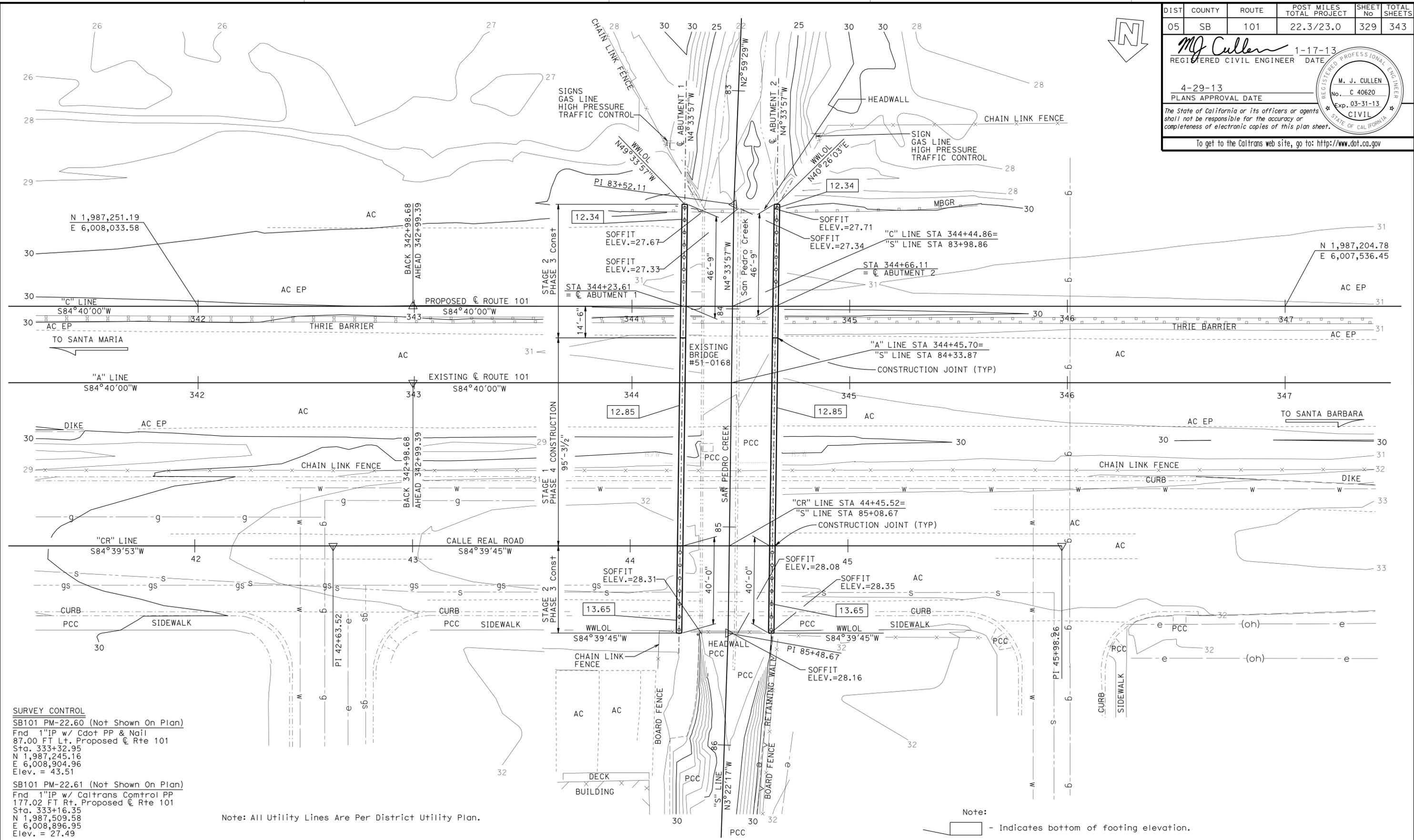
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 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA



**SURVEY CONTROL**  
 SB101 PM-22.60 (Not Shown On Plan)  
 Fnd 1"IP w/ Cdpt PP & Nail  
 87.00 FT Lt. Proposed C RTE 101  
 Sta. 333+32.95  
 N 1,987,245.16  
 E 6,008,904.96  
 Elev. = 43.51

SB101 PM-22.61 (Not Shown On Plan)  
 Fnd 1"IP w/ Caltrans Control PP  
 177.02 FT Rt. Proposed C RTE 101  
 Sta. 333+16.35  
 N 1,987,509.58  
 E 6,008,896.95  
 Elev. = 27.49

Note: All Utility Lines Are Per District Utility Plan.

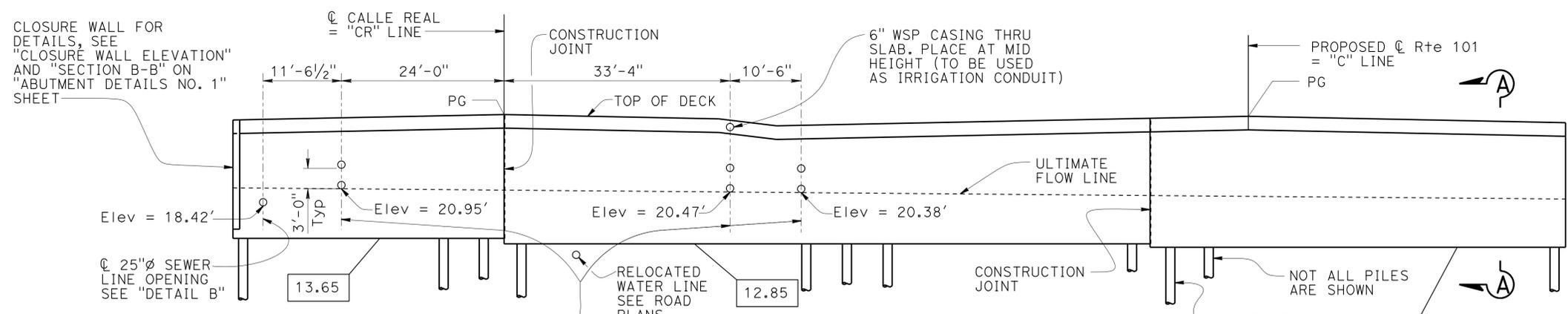
Note:  
 [Symbol] - Indicates bottom of footing elevation.

<b>PRELIMINARY INVESTIGATION SECTION</b>				DESIGN BY M. CULLEN	CHECKED XIAODONG CHEN	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 6</b>	BRIDGE NO. 51-0341	<b>SAN PEDRO CREEK BRIDGE</b> FOUNDATION PLAN					
SCALE VERT. DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY D. PATO	CHECKED M. CULLEN	POST MILE 22.3-23.0										
1"=20' HORZ. DATUM NAD83 (1991.35)	SURVEYED BY District/J. Palares	QUANTITIES BY R. WASHINGTON	CHECKED G. REYES-GUTIERREZ	REVISION DATES										
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED BY T. Zolnikov 01/2010	CHECKED BY X	02/08/10	03/12/10	04/12/10	05/12/10	06/12/10	07/12/10	08/12/10	09/12/10	10/12/10	11/12/10	SHEET 4 OF 18

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS CU 05 EA 0G0701 DISREGARD PRINTS BEARING EARLIER REVISION DATES

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	330	343

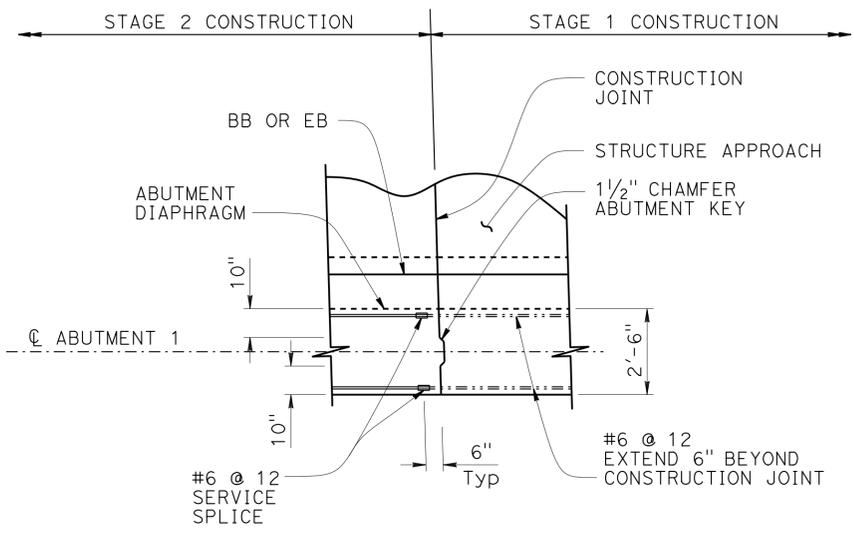
**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
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**ABUTMENT ELEVATION**  
1" = 10'-0"

**LEGEND:**  
 Indicates bottom of footing elevation

**NOTE:**  
 For "SECTION A-A" see "ABUTMENT DETAILS NO. 1" sheet

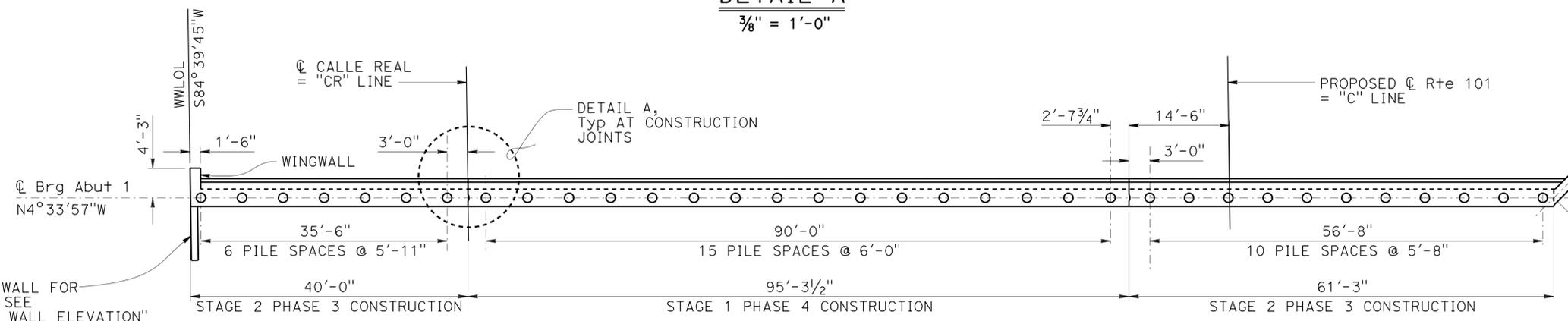


(TYPICAL AT ABUTMENT CONSTRUCTION JOINTS)

**DETAIL A**  
3/8" = 1'-0"

#6 BUNDLED @ CONTINUOUS FRONT AND BACK FACE (MAIN HORIZONTAL DIAPHRAGM STEEL)  
 25" Typ  
 4 #6 @ 6" EVENLY SPACED  
 PLACE BEHIND MAIN Reinf  
 #10 BUNDLED & HEADED AT TOP FRONT AND BACKFACE (MAIN VERTICAL DIAPHRAGM STEEL)

**DETAIL B**  
3/4" = 1'-0"



**ABUTMENT & PILE FOOTING PLAN**  
1" = 10'-0"

DESIGN BY MIKE CULLEN CHECKED XIAODONG CHEN DETAILS BY SUSAN NG CHECKED MIKE CULLEN QUANTITIES BY RACHEL WASHINGTON CHECKED GLORIA REYES-GUTIERREZ	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 6</b>	BRIDGE NO. 51-0341	<b>SAN PEDRO CREEK BRIDGE</b> <b>ABUTMENT 1 LAYOUT</b>	SHEET OF 5 18
			POST MILE 22.3-23.0		
			REVISION DATES 06-14-12 07-02-12 08-01-12 08-08-12 08-22-12 09-19-12 10-09-12 11-09-12 01-09-13		

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)  
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS  
 CU 05 EA OG0701  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 FILE => 51-0341-f-abt1-1o.dgn

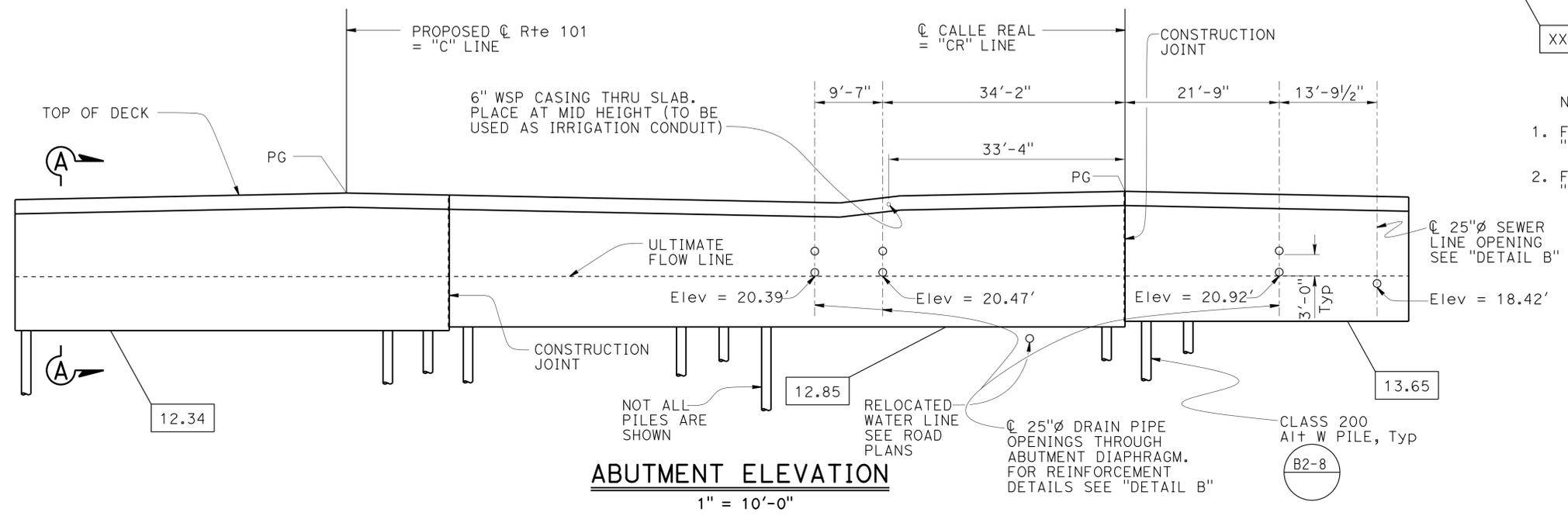
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	331	343

*MJ Cullen* 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

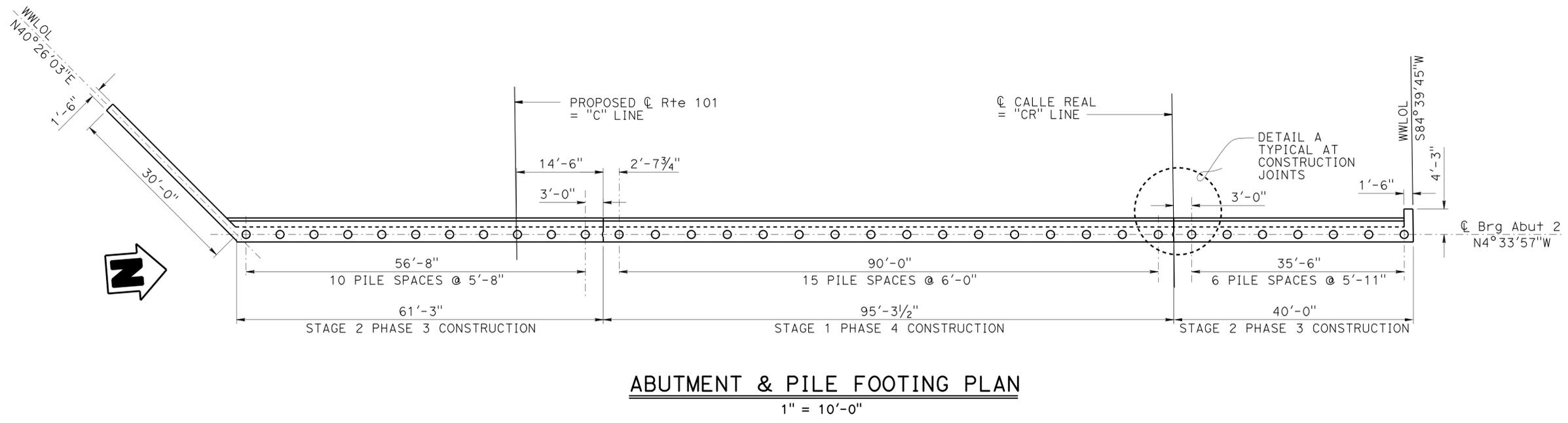
4-29-13  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA



- LEGEND:
- XX.XX Indicates bottom of footing elevation
- NOTES:
- For "SECTION A-A", see "ABUTMENT DETAILS NO. 1" sheet.
  - For "DETAIL A" and "DETAIL B" see "ABUTMENT 1 LAYOUT" sheet.



DESIGN	BY MIKE CULLEN	CHECKED XIAODONG CHEN
DETAILS	BY SUSAN NG	CHECKED MIKE CULLEN
QUANTITIES	BY RACHEL WASHINGTON	CHECKED GLORIA REYES-GUTIERREZ

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 6

BRIDGE NO. 51-0341  
 POST MILE 22.3-23.0

SAN PEDRO CREEK BRIDGE  
 ABUTMENT 2 LAYOUT

REVISION DATES

06-18-12	07-18-12	08-02-12	08-22-12	09-28-12	10-09-12	11-09-12	01-09-13
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SHEET 6 OF 18

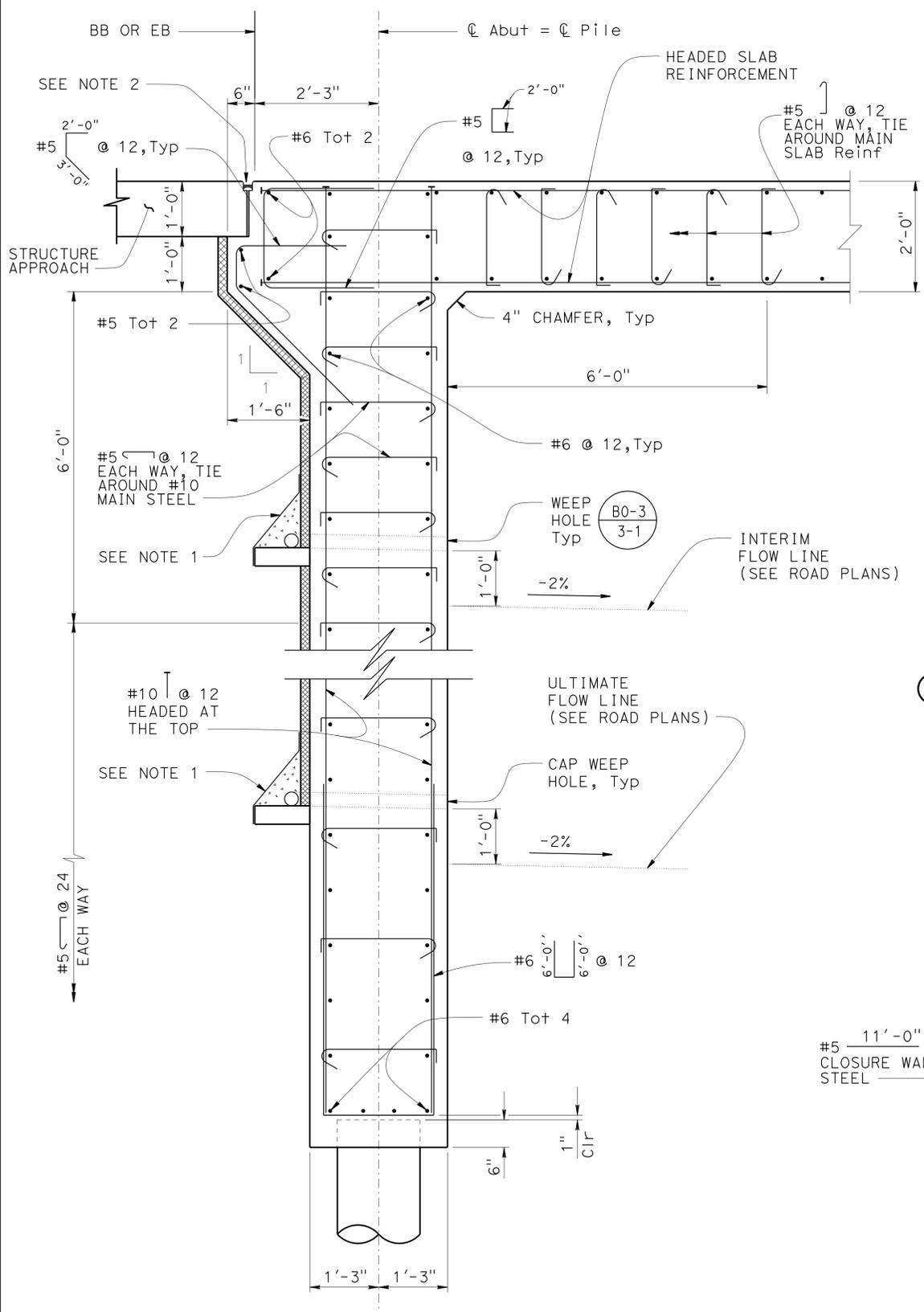
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	332	343

**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

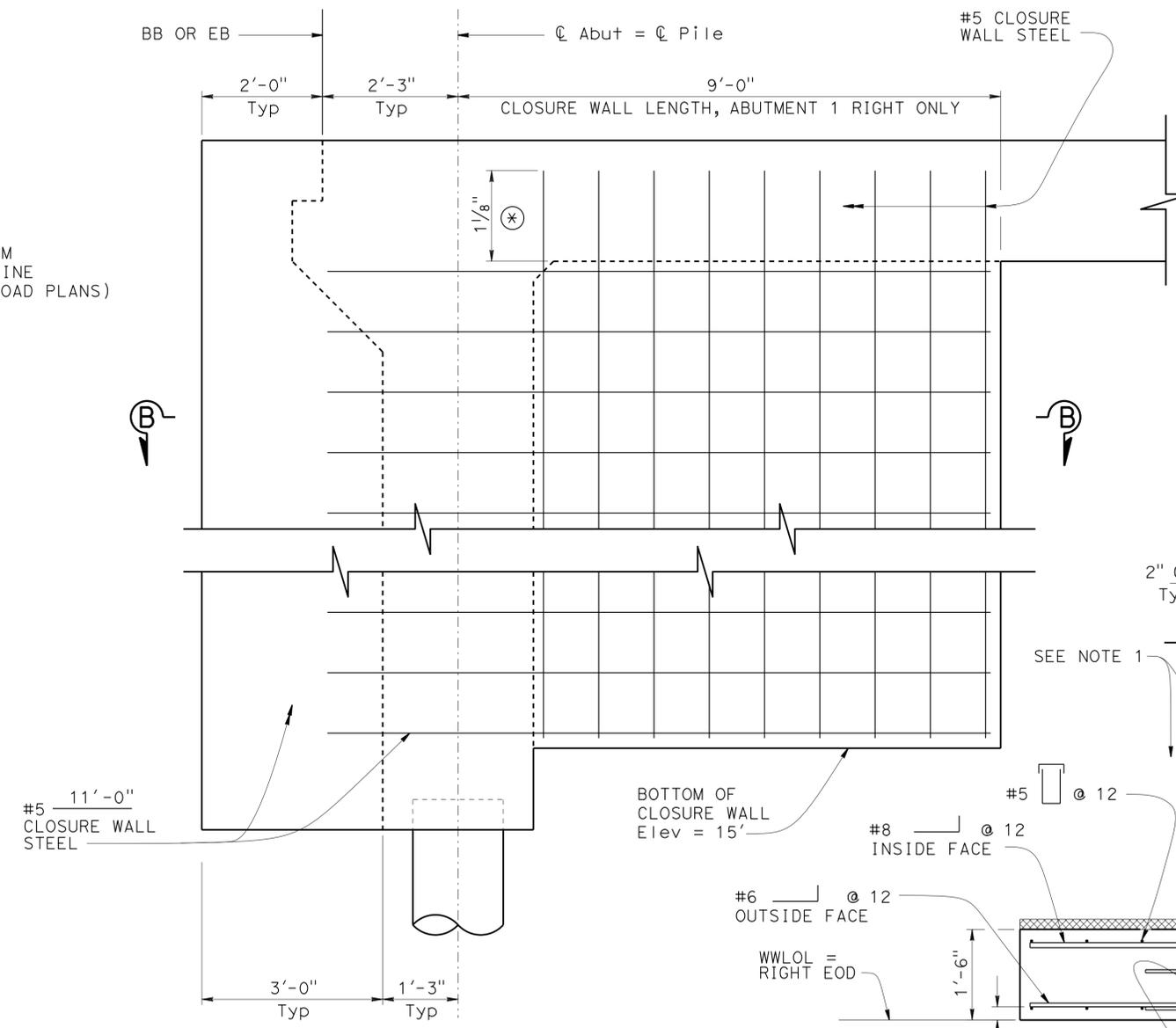
4-29-13  
 PLANS APPROVAL DATE

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 No. C 40620  
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 CIVIL  
 STATE OF CALIFORNIA

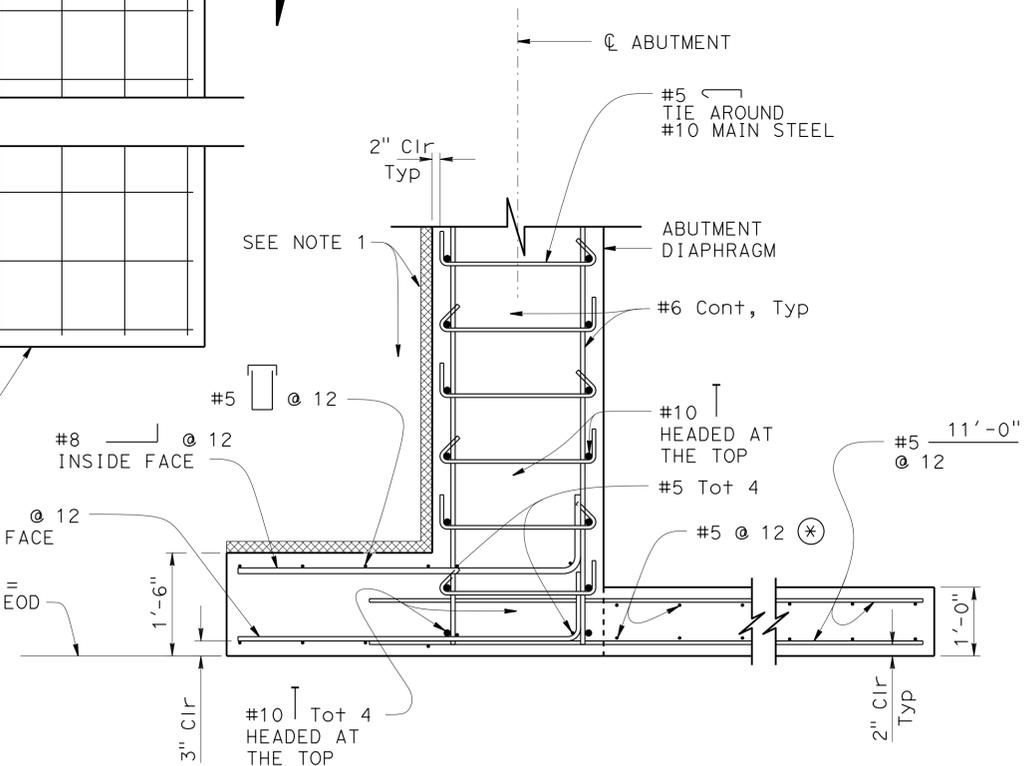
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**SECTION A-A**  
 $\frac{3}{4}'' = 1'-0''$



**CLOSURE WALL ELEVATION**  
 $\frac{3}{4}'' = 1'-0''$



**SECTION B-B**  
 $\frac{3}{4}'' = 1'-0''$

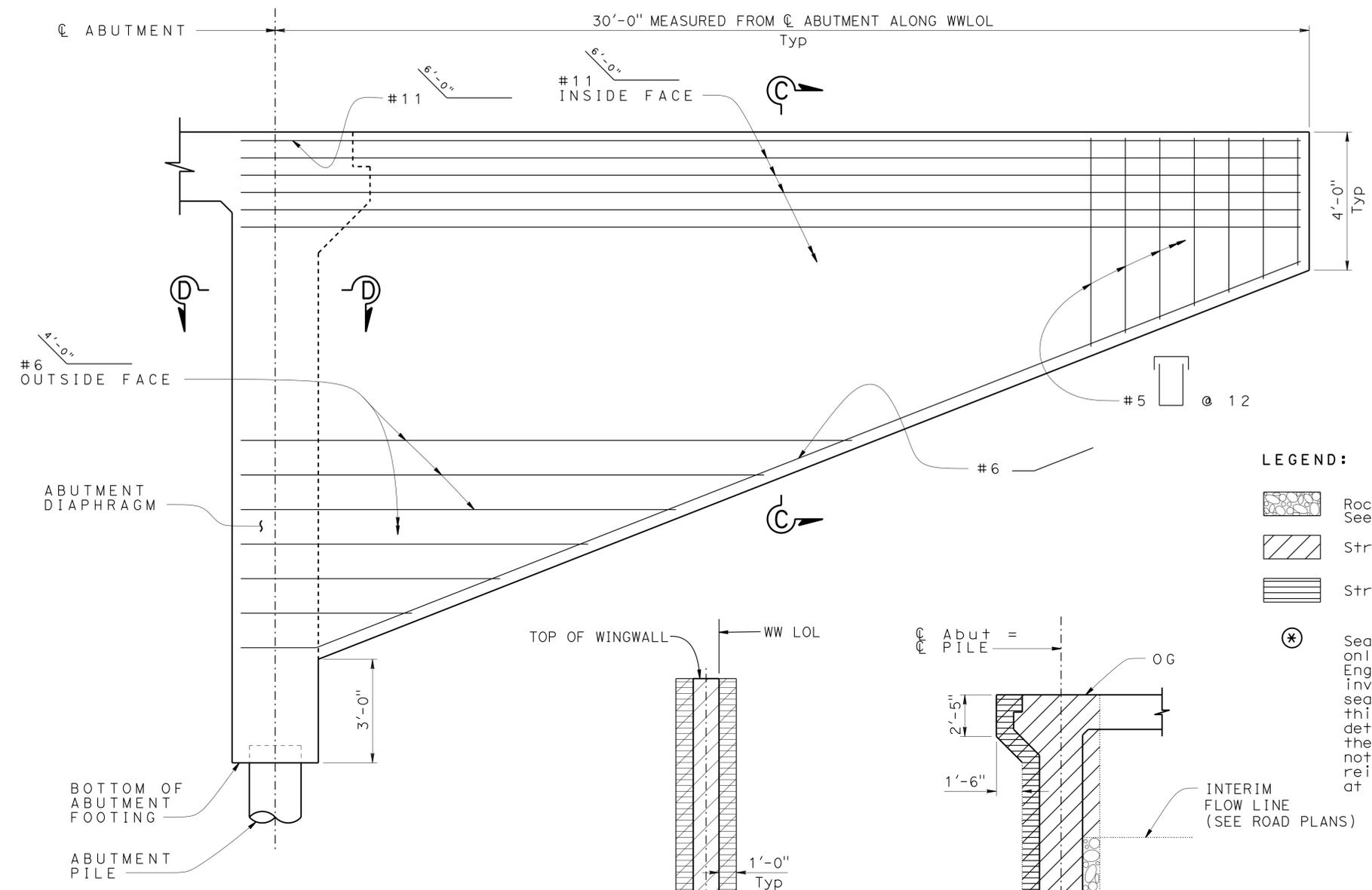
- NOTES & LEGEND:**
- Geocomposite Drain, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet.
  - Joint Seal MR =  $\frac{1}{2}''$   
 (B0-1) and (B6-21)
  - Abutment 1 right wingwall and closure wall shown, Abutment 2 right wingwall similar.
  - Closure wall Abutment 1 right side only.
- (\*) Closure wall vertical steel to be developed 1'-6" into slab

DESIGN	BY MIKE CULLEN	CHECKED XIAODONG CHEN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 6	BRIDGE NO.	SAN PEDRO CREEK BRIDGE
	DETAILS BY P. VON SAVOYE / S. NG	CHECKED MIKE CULLEN			51-0341	
	QUANTITIES BY RACHEL WASHINGTON	CHECKED GLORIA REYES-GUTIERREZ			POST MILE	
					ABUTMENT DETAILS NO.1	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)					CU 05 EA OG0701	DISREGARD PRINTS BEARING EARLIER REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					0 1 2 3	REVISION DATES
					FILE => 51-0341-f-abutnde1.dgn	05-28-12 6-05-12 06-14-12 08-08-12 08-22-12 10-09-12
					SHEET 7	OF 18

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	333	343

**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
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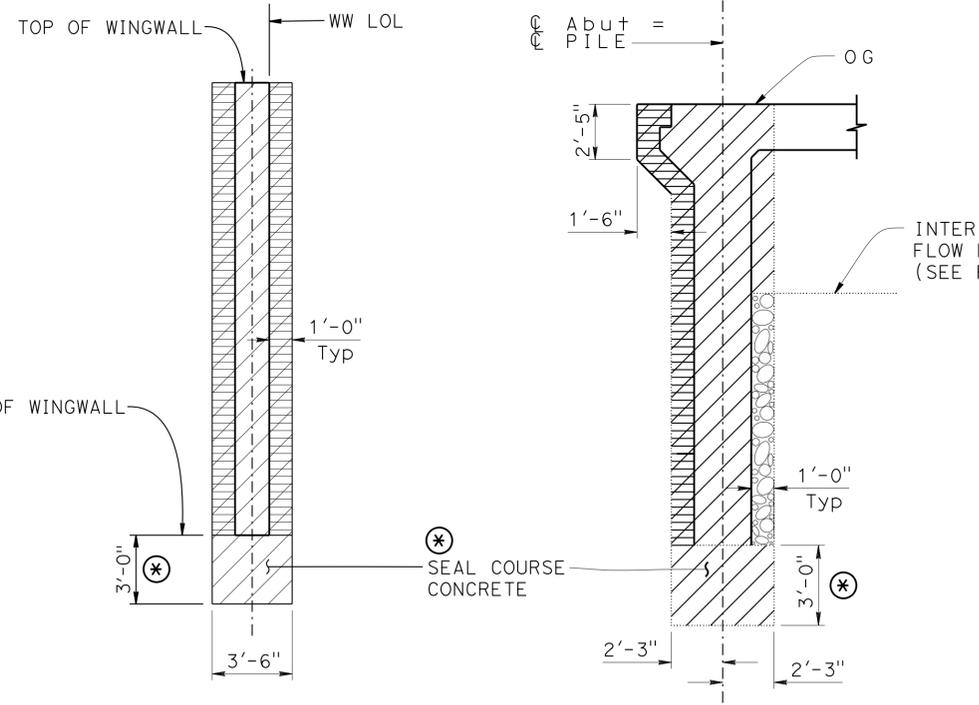
REGISTERED PROFESSIONAL ENGINEER  
**M. J. CULLEN**  
 No. C 40620  
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 STATE OF CALIFORNIA



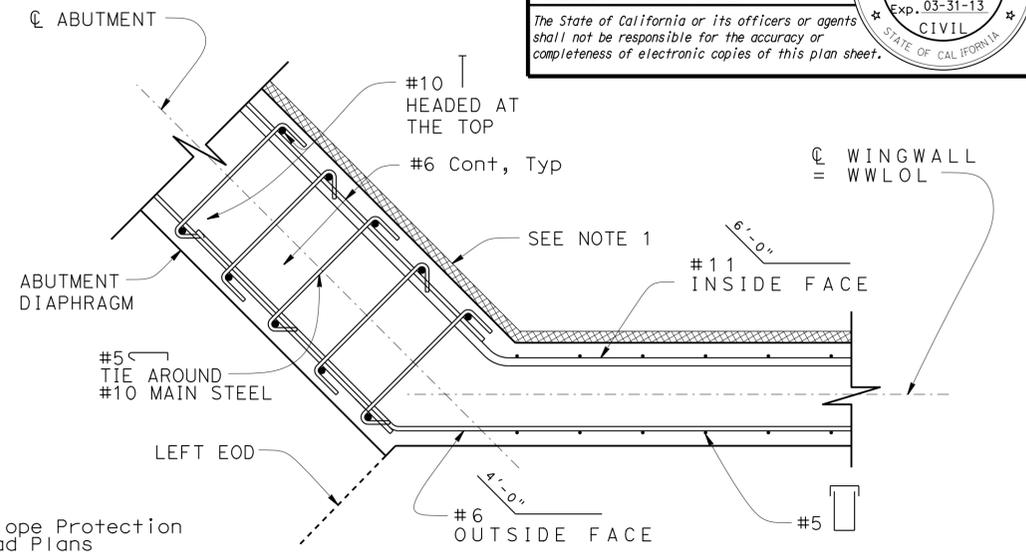
NOTE:  
 Abutment 1 left wingwall shown  
 Abutment 2 left wingwall similar

**WINGWALL ELEVATION**  
 $1/2" = 1'-0"$

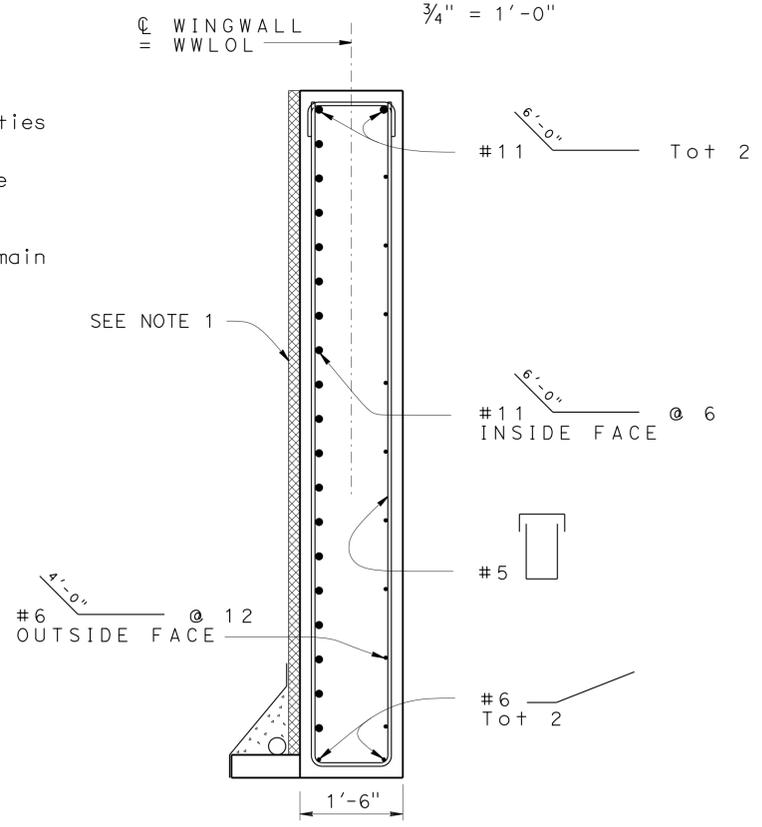
NOTE:  
 1. Geocomposite Drain, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet.



**WINGWALL SECTION ABUTMENTS 1 AND 2**  
**LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL**  
 $1/4" = 1'-0"$



**SECTION D-D**  
 $3/4" = 1'-0"$



**SECTION C-C**  
 $3/4" = 1'-0"$

**LEGEND:**

- Rock Slope Protection See Road Plans
- Structure excavation, Type A
- Structure backfill (Bridge)

(\*) Seal course to be placed only when ordered by the Engineer. Estimated quantities involved are based on the seal thickness shown. The thickness to be used will be determined in the field by the Engineer. When seal is not used, the bottom of the reinforced footing shall remain at the elevation shown.

DESIGN	BY MIKE CULLEN	CHECKED XIAODONG CHEN
DETAILS	BY SUSAN NG	CHECKED MIKE CULLEN
QUANTITIES	BY RACHEL WASHINGTON	CHECKED GLORIA REYES-GUTIERREZ

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 6**

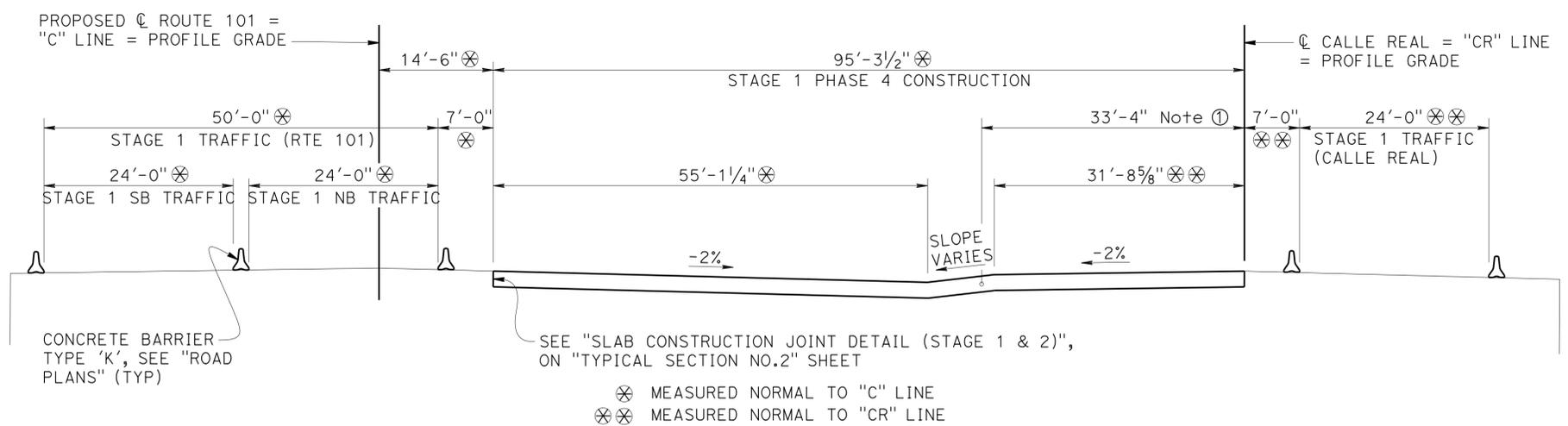
BRIDGE NO.	51-0341
POST MILE	22.3-23.0

**SAN PEDRO CREEK BRIDGE**  
**ABUTMENT DETAILS NO. 2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	334	343

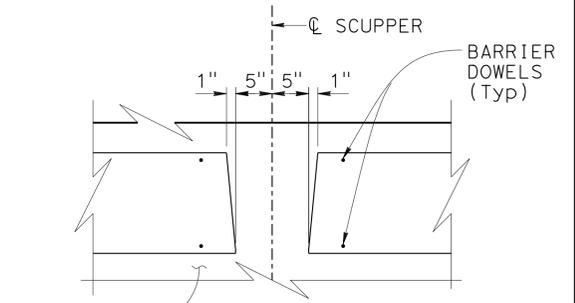
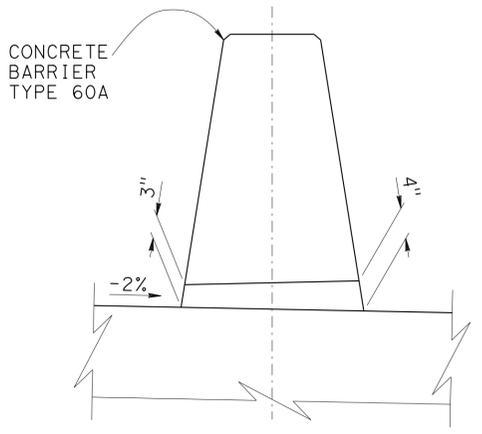
**M. J. Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE  
 4-29-13  
 PLANS APPROVAL DATE  
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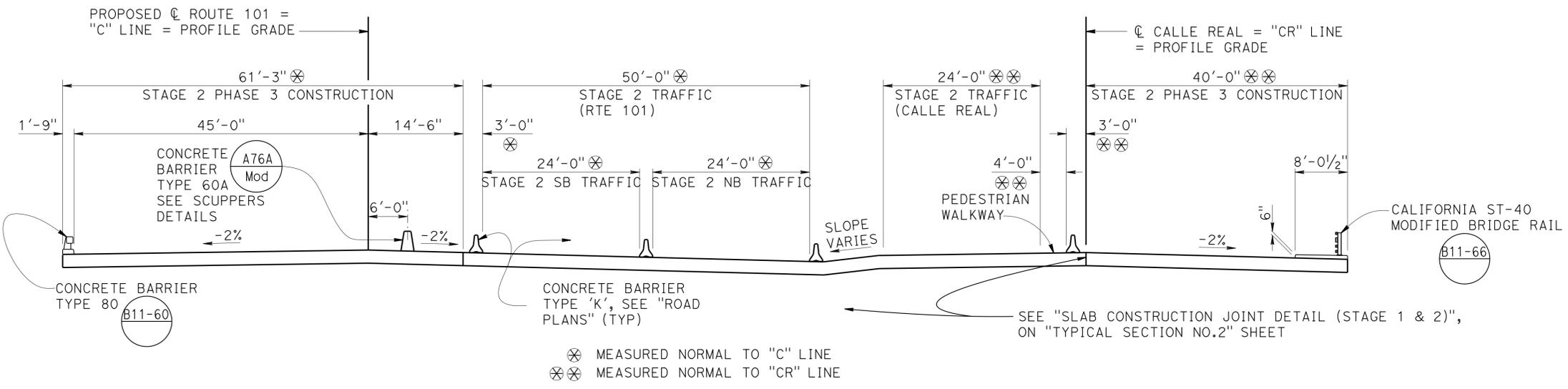


**TYPICAL SECTION STAGE 1 CONSTRUCTION**  
1" = 10'

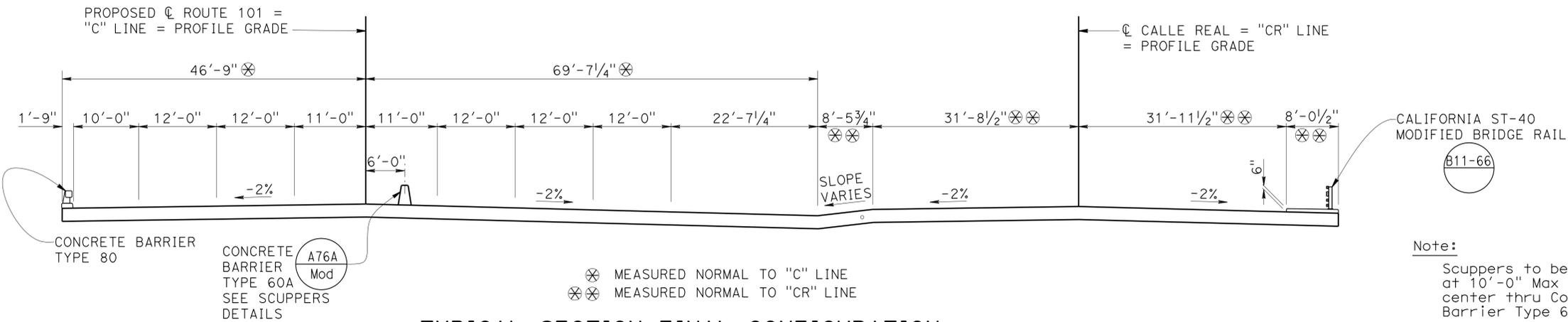
① Irrigation Conduit, 6" WSP casing. Place at mid height of slab.



**SCUPPER DETAILS**  
1" = 1'



**TYPICAL SECTION STAGE 2 CONSTRUCTION**  
1" = 10'



**TYPICAL SECTION FINAL CONFIGURATION**  
1" = 10'

Note: Scuppers to be spaced at 10'-0" Max center to center thru Concrete Barrier Type 60A only

**CONCRETE BARRIER TYPE 60A PART ELEVATION**

DESIGN	BY	MIKE CULLEN	CHECKED	XIAODONG CHEN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 6	BRIDGE NO.	51-0341	SAN PEDRO CREEK BRIDGE TYPICAL SECTION NO.1	
	DETAILS	BY	PETE VON SAVOYE	CHECKED			MIKE CULLEN	POST MILE		22.3-23.0
	QUANTITIES	BY	RACHEL WASHINGTON	CHECKED			GLORIA REYES-GUTIERREZ	REVISION DATES		10-18-09 10-14-09 05-23-12 06-08-12 11-09-12 01-09-13

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 05 EA 0G0701 DISREGARD PRINTS BEARING EARLIER REVISION DATES

SHEET 9 OF 18

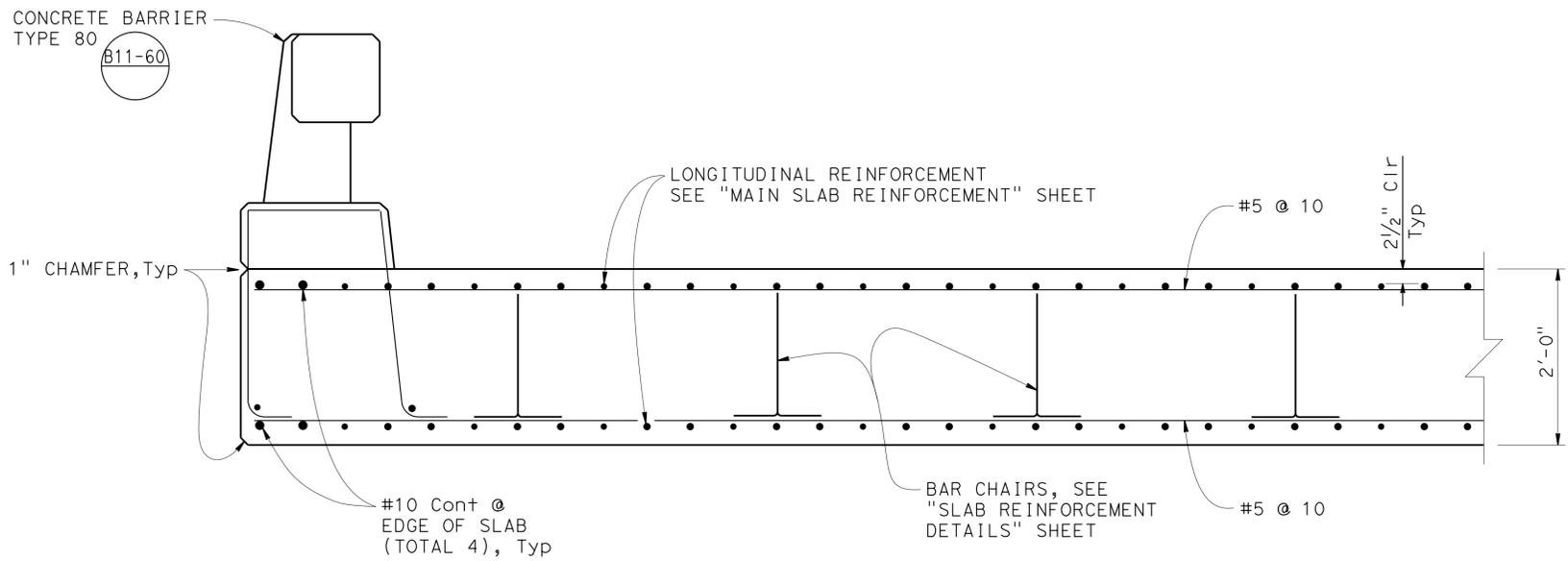
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	335	343

*MJ Cullen* 1-17-13  
REGISTERED CIVIL ENGINEER DATE

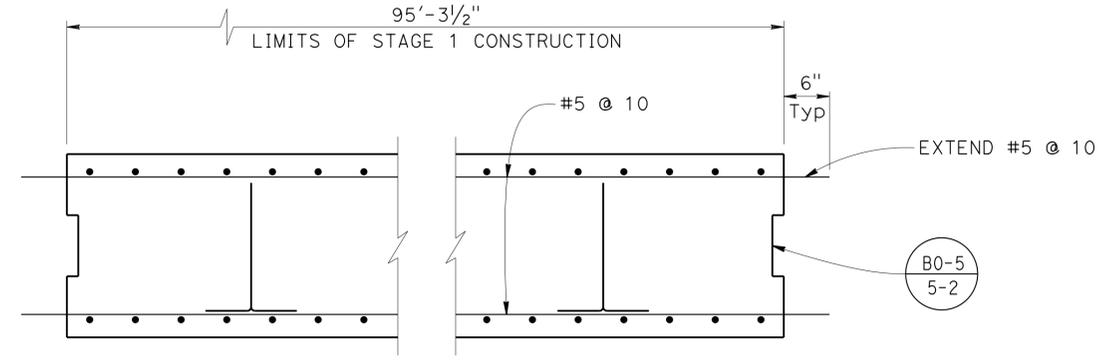
4-29-13  
PLANS APPROVAL DATE

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No. C 40620  
Exp. 03-31-13  
CIVIL  
STATE OF CALIFORNIA

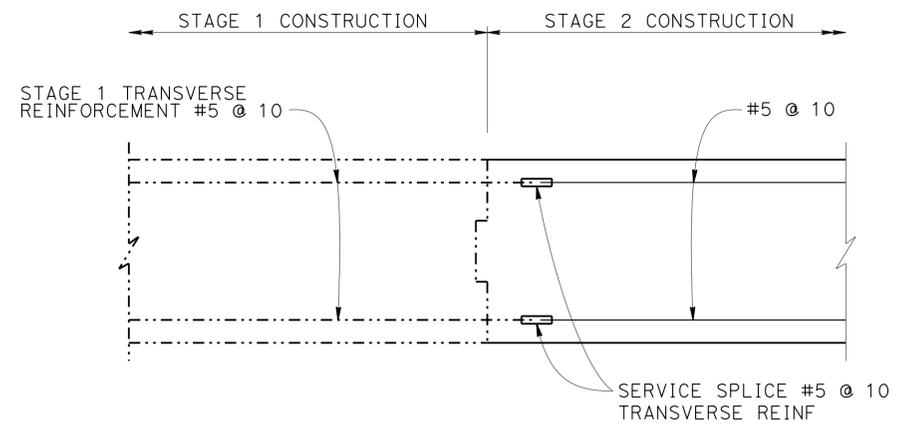
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**PART TYPICAL SECTION**  
1" = 1'-0"



**SLAB CONSTRUCTION JOINT DETAIL (STAGE 1)**  
1" = 1'-0"



**SLAB CONSTRUCTION JOINT DETAIL (STAGE 2)**  
1" = 1'-0"

DESIGN	BY MIKE CULLEN	CHECKED XIAODONG CHEN
DETAILS	BY PETE VON SAVOYE	CHECKED MIKE CULLEN
QUANTITIES	BY RACHEL WASHINGTON	CHECKED GLORIA REYES-GUTIERREZ

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
**DESIGN BRANCH 6**

BRIDGE NO. 51-0341  
POST MILE 22.3-23.0

**SAN PEDRO CREEK BRIDGE**  
**TYPICAL SECTION NO.2**

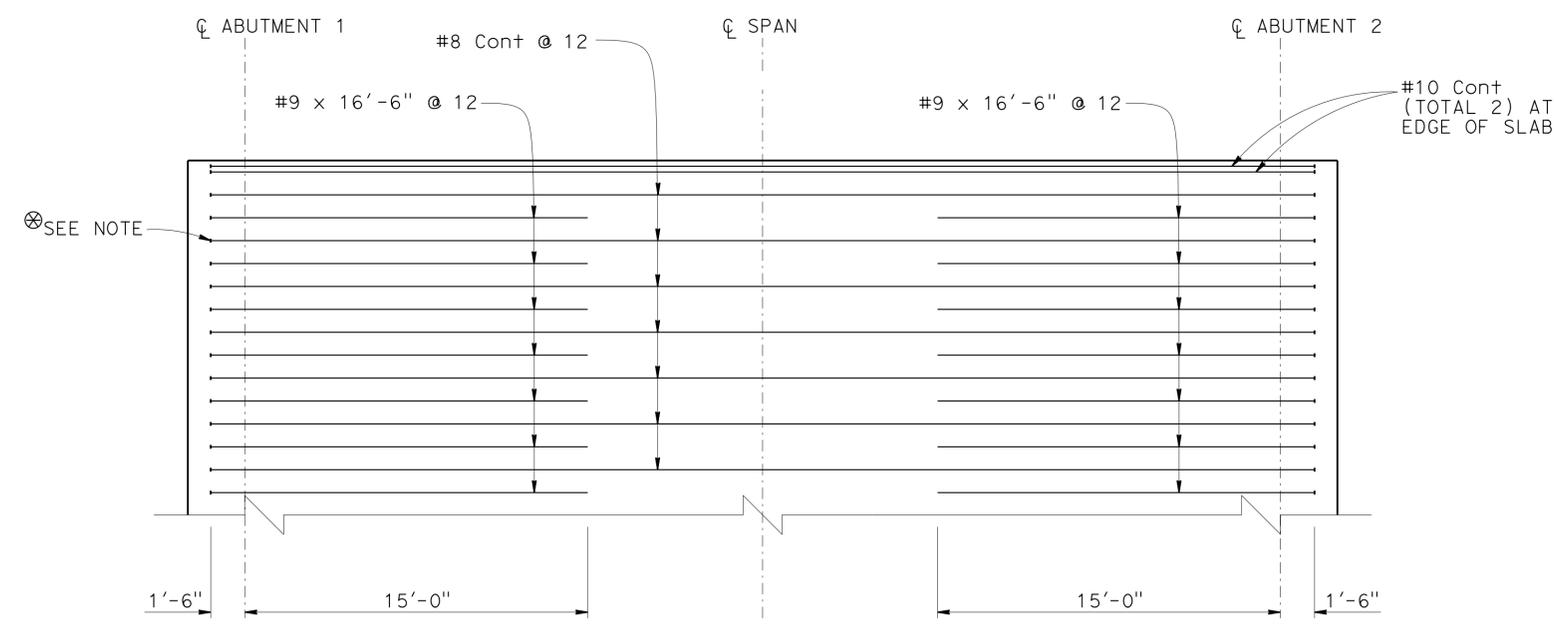
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
05	SB	101	22.3/23.0	336	343

*MJ Cullen* 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

4-29-13  
 PLANS APPROVAL DATE

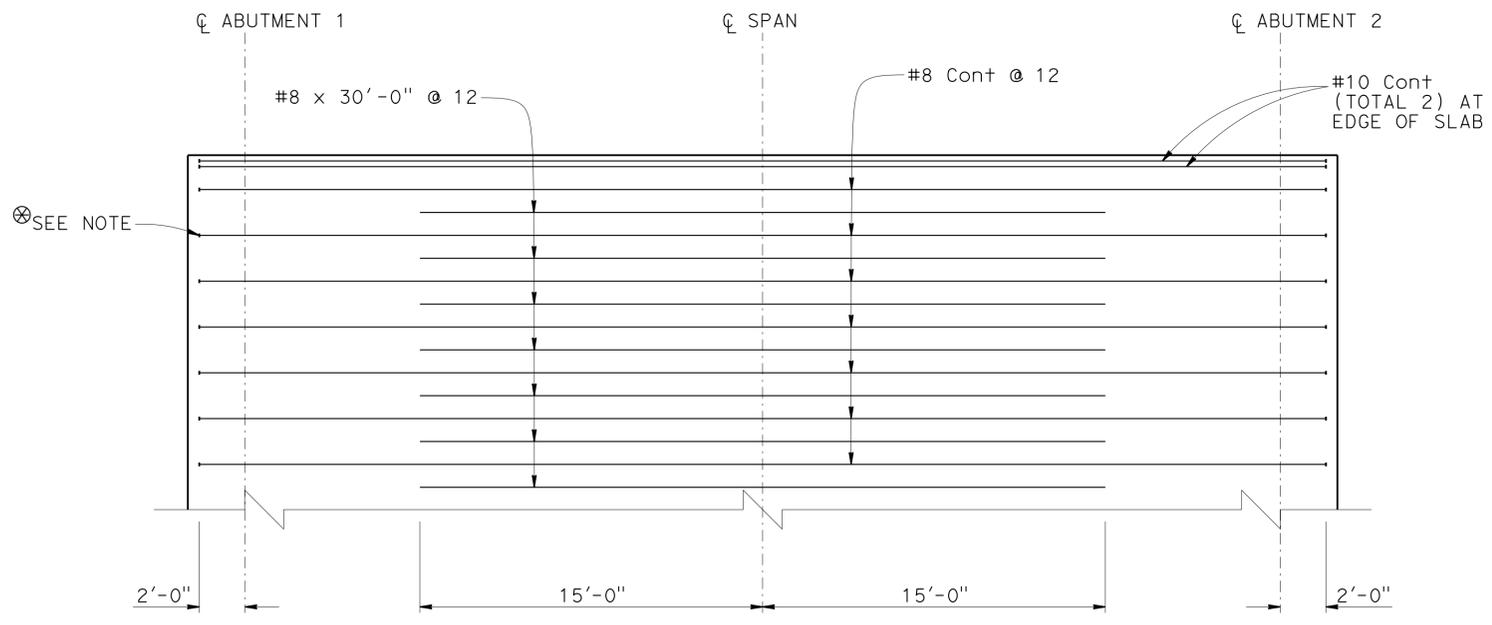
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 Exp. 03-31-13  
 CIVIL  
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**PART PLAN - TOP SLAB REINFORCEMENT**

1/4" = 1'-0"



**PART PLAN - BOTTOM SLAB REINFORCEMENT**

1/4" = 1'-0"

DESIGN	BY MIKE CULLEN	CHECKED XIAODONG CHEN
DETAILS	BY PETE VON SAVOYE	CHECKED MIKE CULLEN
QUANTITIES	BY RACHEL WASHINGTON	CHECKED GLORIA REYES-GUTIERREZ

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
 DESIGN BRANCH 6

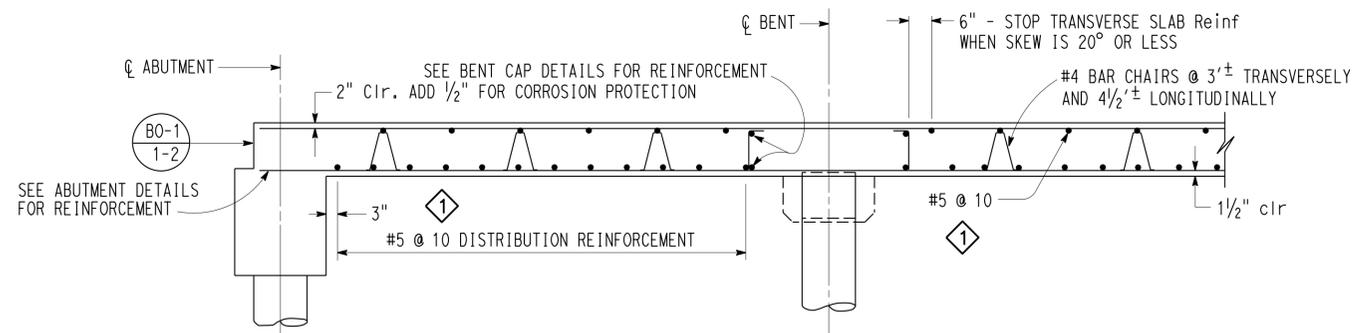
BRIDGE NO.	51-0341
POST MILE	22.3-23.0

SAN PEDRO CREEK BRIDGE  
 MAIN SLAB REINFORCEMENT

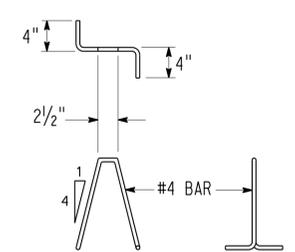
DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SB	101	22.3/23.0	337	343

*M. J. Cullen* 1-17-13  
 REGISTERED ENGINEER - CIVIL  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA

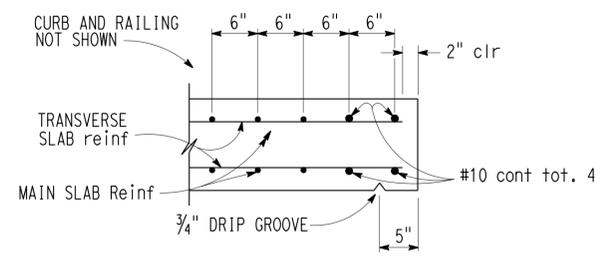
4-29-13  
 PLANS APPROVAL DATE  
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**LONGITUDINAL SECTION**



**BAR CHAIR DETAIL**

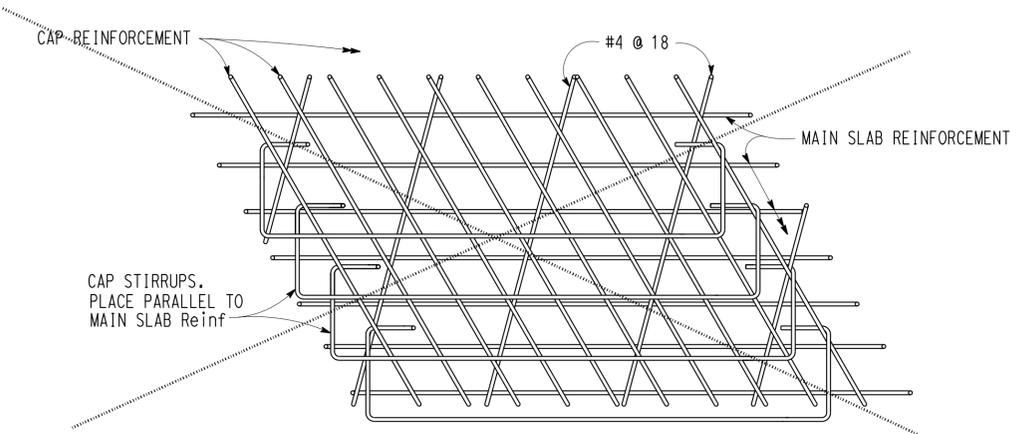


**EDGE OF SLAB DETAILS**

BAR SPLICE LENGTH								
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
ALL BARS, EXCEPT TOP BARS IN SPANS OVER 24'	23"	28"	34"	39"	45"	68"	76"	85"
TOP BARS IN SPANS OVER 24'	23"	28"	34"	53"	60"	77"	97"	120"

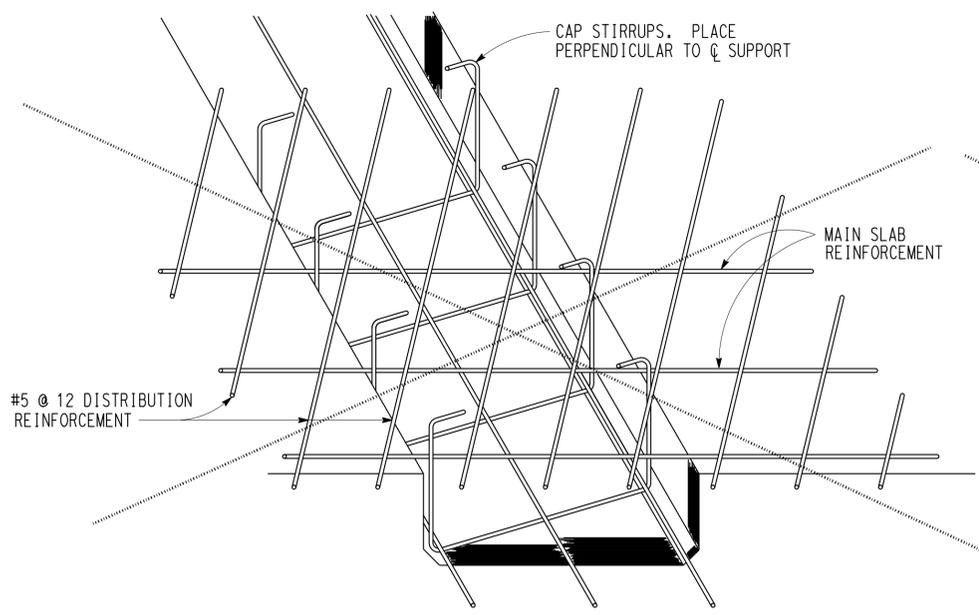
**Reinforcement notes:**

Splices in top main bars to be located near center of span.  
 Splices in bottom main bars to be located near bent.  
 Spacing of all transverse bars is measured along Q roadway.  
 Skew 0° to 20°: Place all transverse bars parallel to bent.  
 Skew over 20°: Place transverse slab bars perpendicular to Q bridge. See details at right and below.

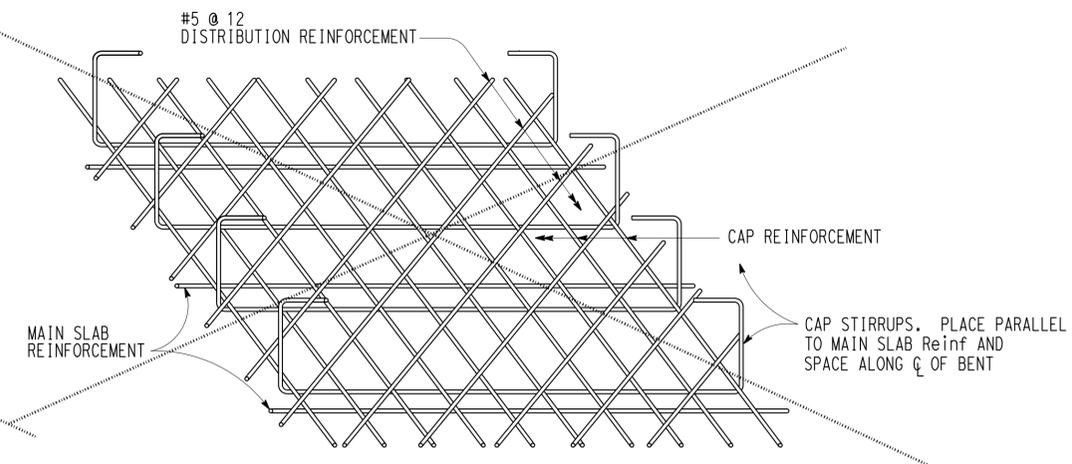


**TOP SLAB REINFORCEMENT AT BENT**

Note: View for main span over 24'.  
 Bar placement similar for spans under 24'.



**DROPPED CAP**



**FLUSH CAP**

**BOTTOM SLAB REINFORCEMENT AT BENT**

**GENERAL NOTES  
LOAD FACTOR DESIGN**

DESIGN: Bridge Design Specifications (1983 AASHTO with Interims and Revisions by Caltrans)  
 DEAD LOAD: Includes 35 psf for future wearing surface.  
 LIVE LOADING: HS20-44 and alternative and permit design load.  
 REINFORCED CONCRETE: fy = 60,000 psi  
 f'c = 3,250 psi  
 n = 9

**REVISED STANDARD DRAWING**

FILE NO. **xs12-55**

APPROVED BY: \_\_\_\_\_ RESPONSIBLE TECHNICAL SPECIALIST  
 APPROVAL DATE: \_\_\_\_-\_\_\_\_-\_\_\_\_

RELEASED BY: \_\_\_\_\_ RESPONSIBLE OFFICE CHIEF  
 RELEASE DATE: \_\_\_\_-\_\_\_\_-\_\_\_\_

**REVISED REINFORCING NOTE**

1

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 51-0341  
 POST MILE 22.3-23.0

**SAN PEDRO CREEK BRIDGE  
SLAB REINFORCEMENT DETAILS**

DATE PLOTTED => 03-MAY-2013 TIME PLOTTED => 11:23

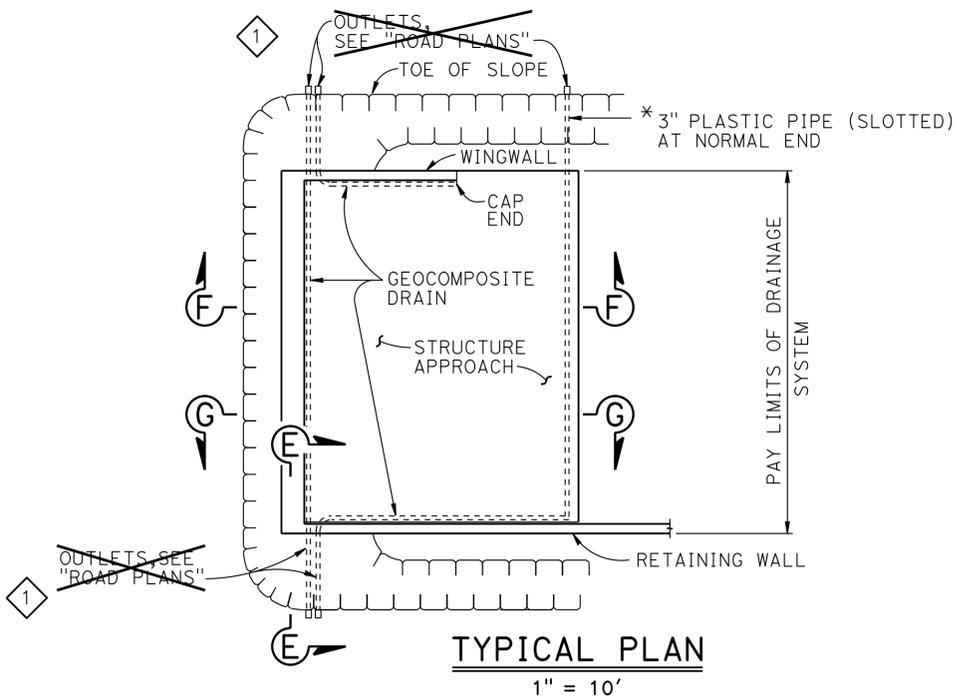
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	338	343

**MJ Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

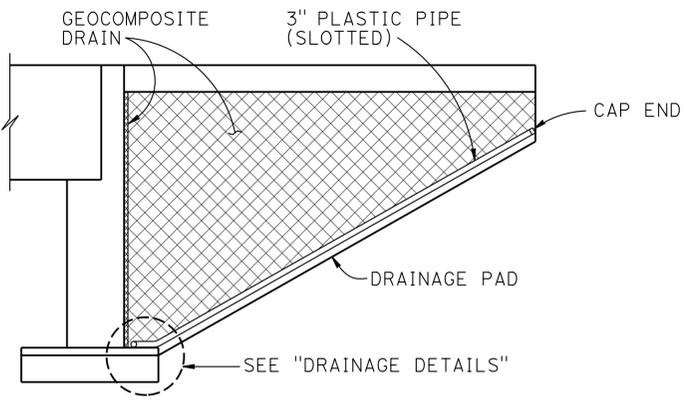
4-29-13  
 PLANS APPROVAL DATE

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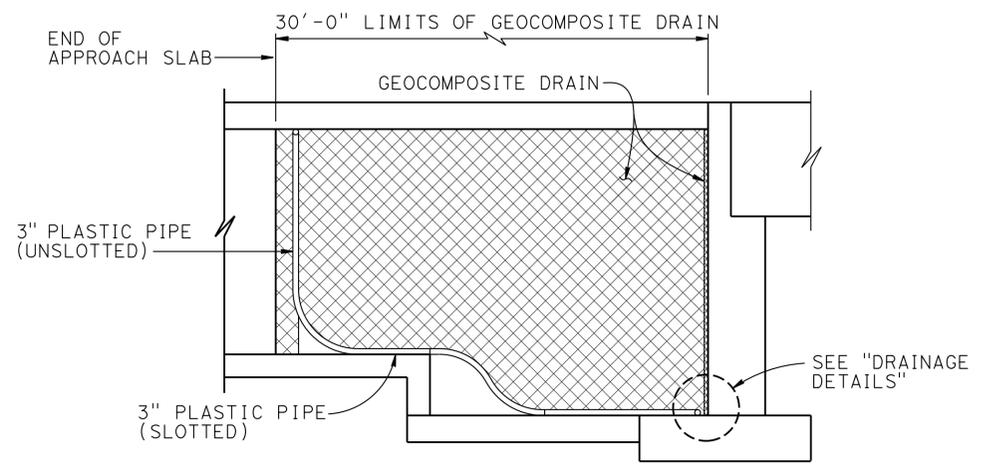
REGISTERED PROFESSIONAL ENGINEER  
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 CIVIL  
 STATE OF CALIFORNIA



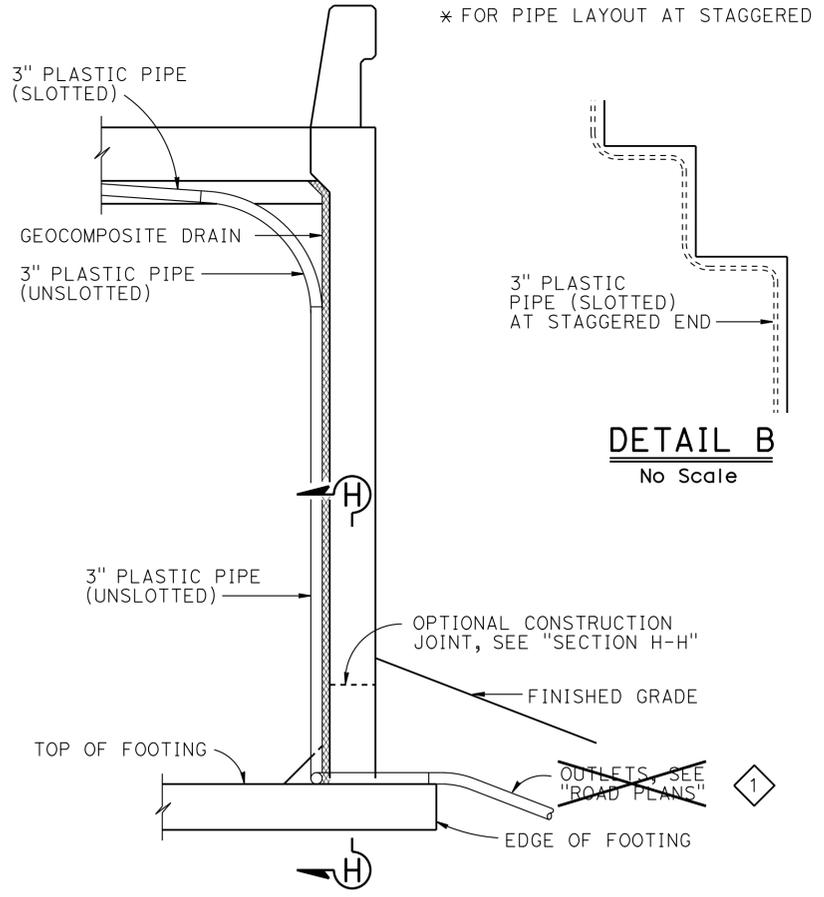
**TYPICAL PLAN**  
1" = 10'



**CANTILEVER WINGWALL**  
**SECTION F-F**  
1/4" = 1'-0"

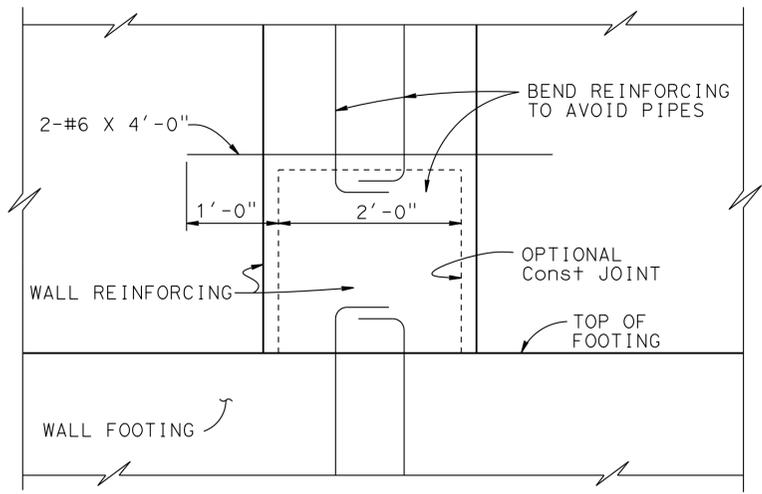


**RETAINING WALL WINGWALL DRAINAGE DETAILS**  
**SECTION G-G**  
1/4" = 1'-0"

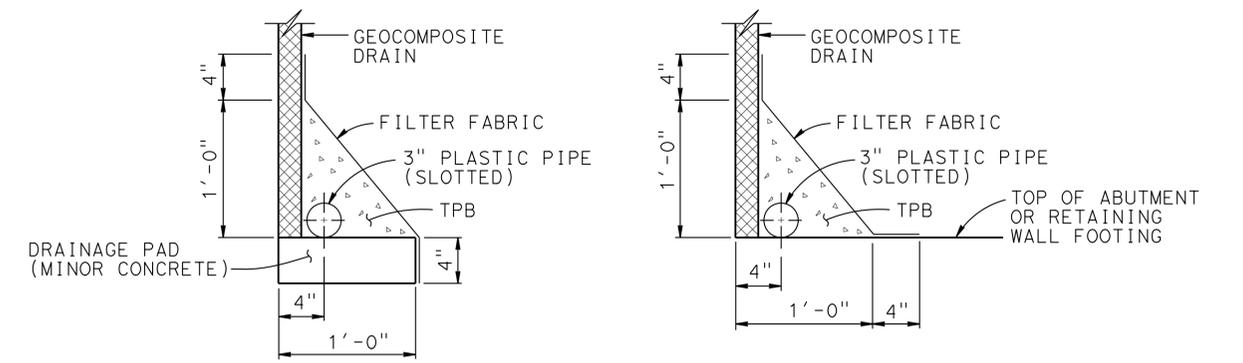


**DETAIL B**  
No Scale

1 Outlets through the Wingwall not required. For further drainage details See "ABUTMENT DETAIL" sheets



**SECTION H-H**  
1" = 1'-0"



**WITHOUT FOOTING**      **WITH FOOTING**

**DRAINAGE DETAILS**  
1 1/2" = 1'-0"

NOTE: Bends and junctions in 3" plastic pipe are 30" radius Min

**SECTION E-E**  
1/2" = 1'-0"

STANDARD DRAWING	
FILE NO. <b>xs3-110</b>	APPROVAL DATE July 2011

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 51-0341 POST MILE 22.3-23.0
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SAN PEDRO CREEK BRIDGE	
STRUCTURE APPROACH DRAINAGE DETAILS	

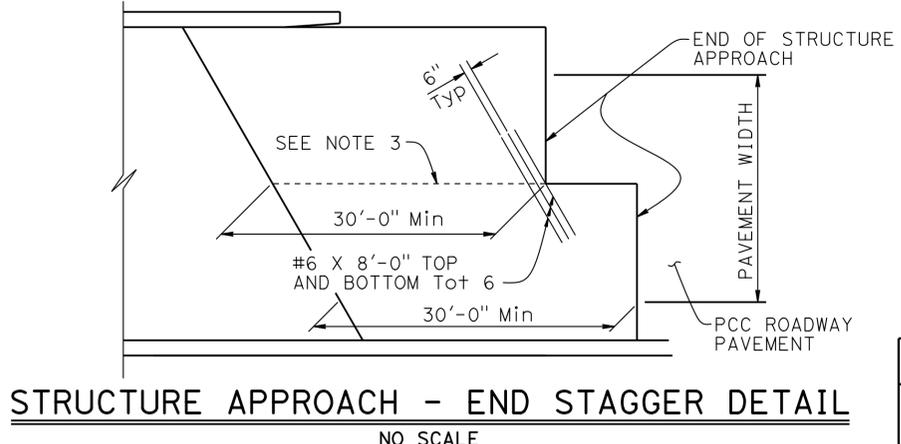
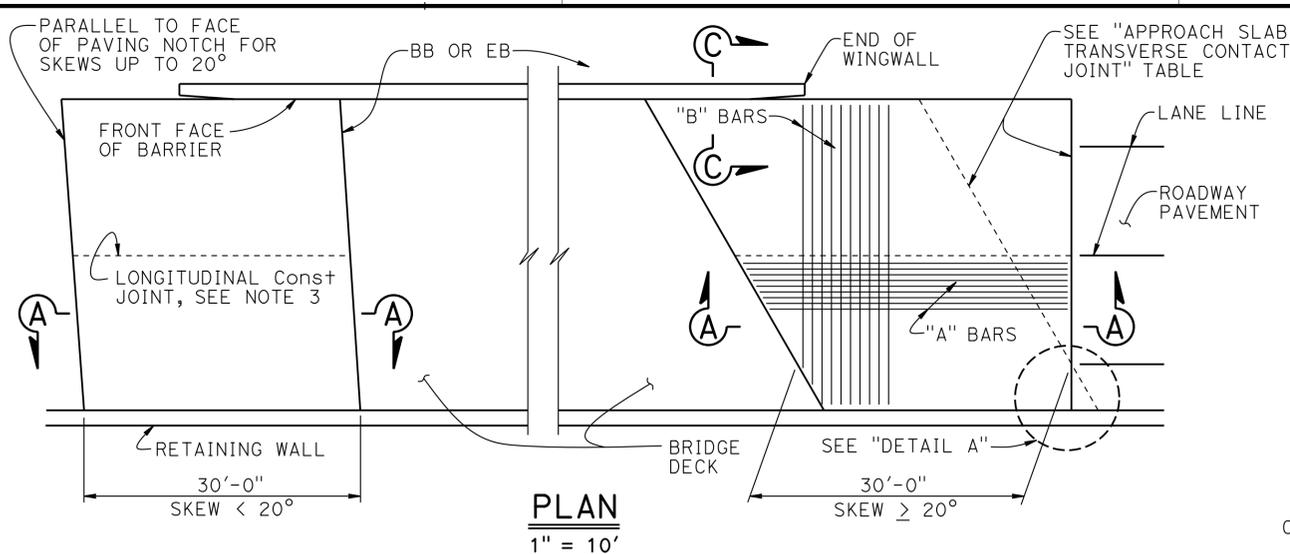
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05	SB	101	22.3/23.0	339	343

**M.J. Cullen** 1-17-13  
 REGISTERED CIVIL ENGINEER DATE

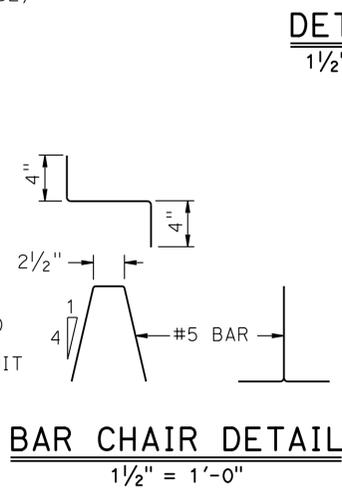
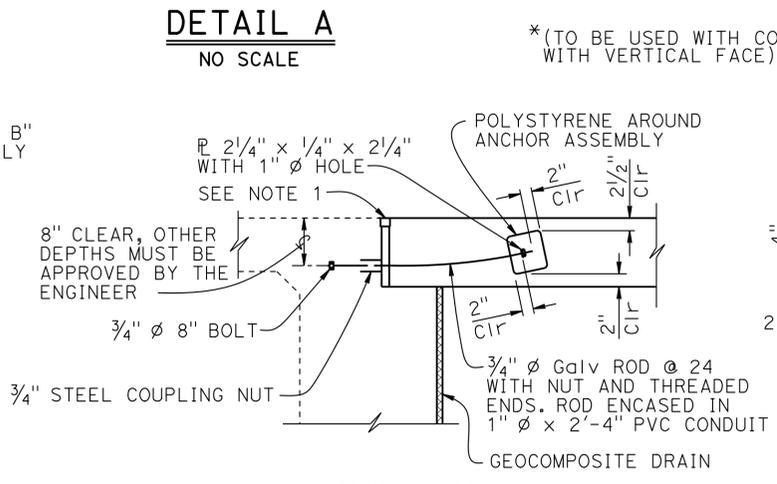
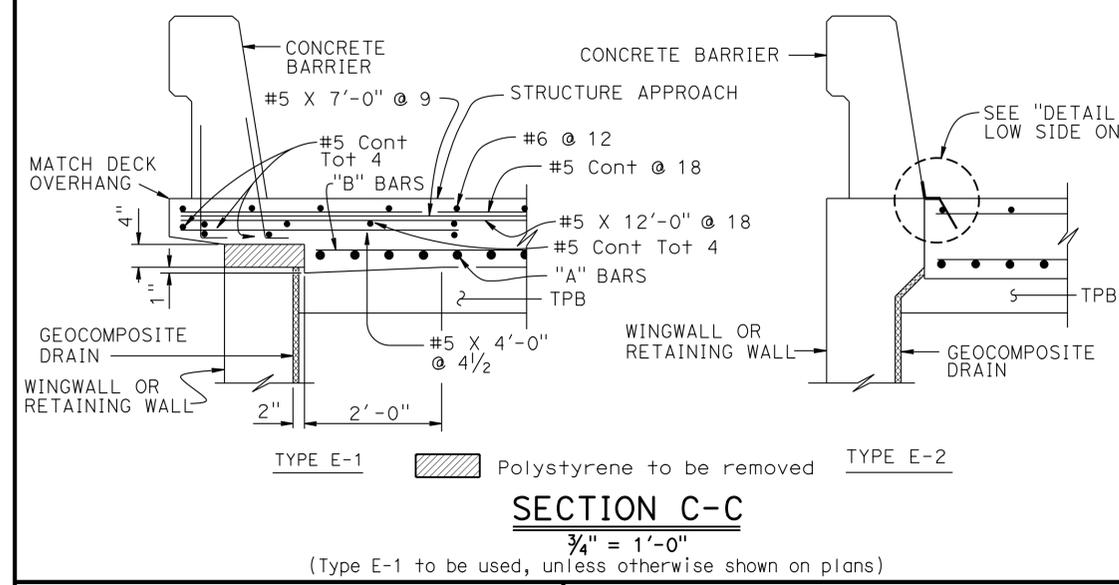
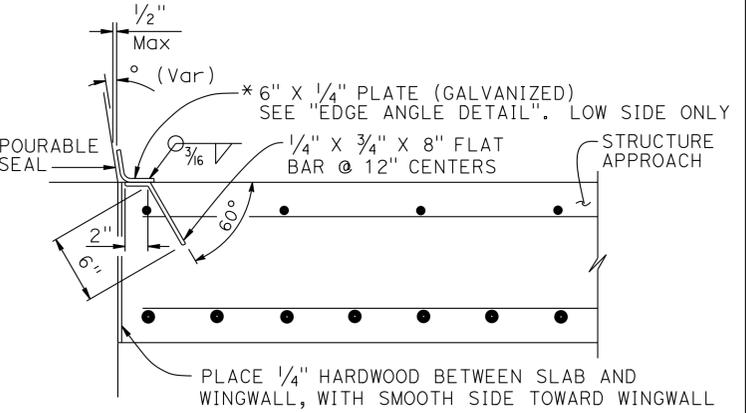
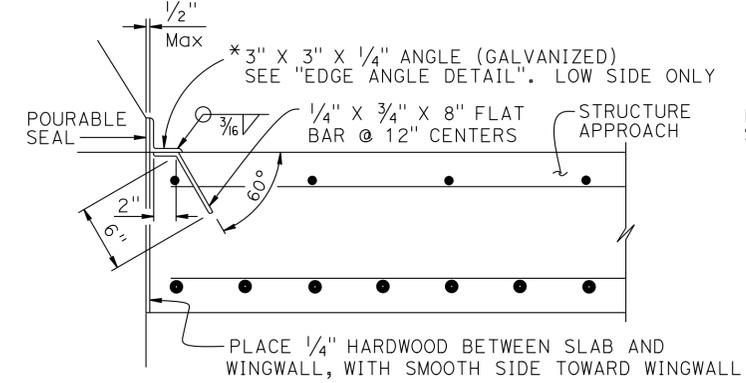
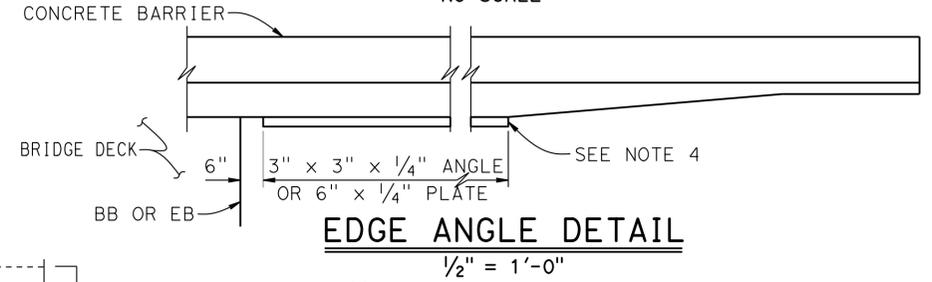
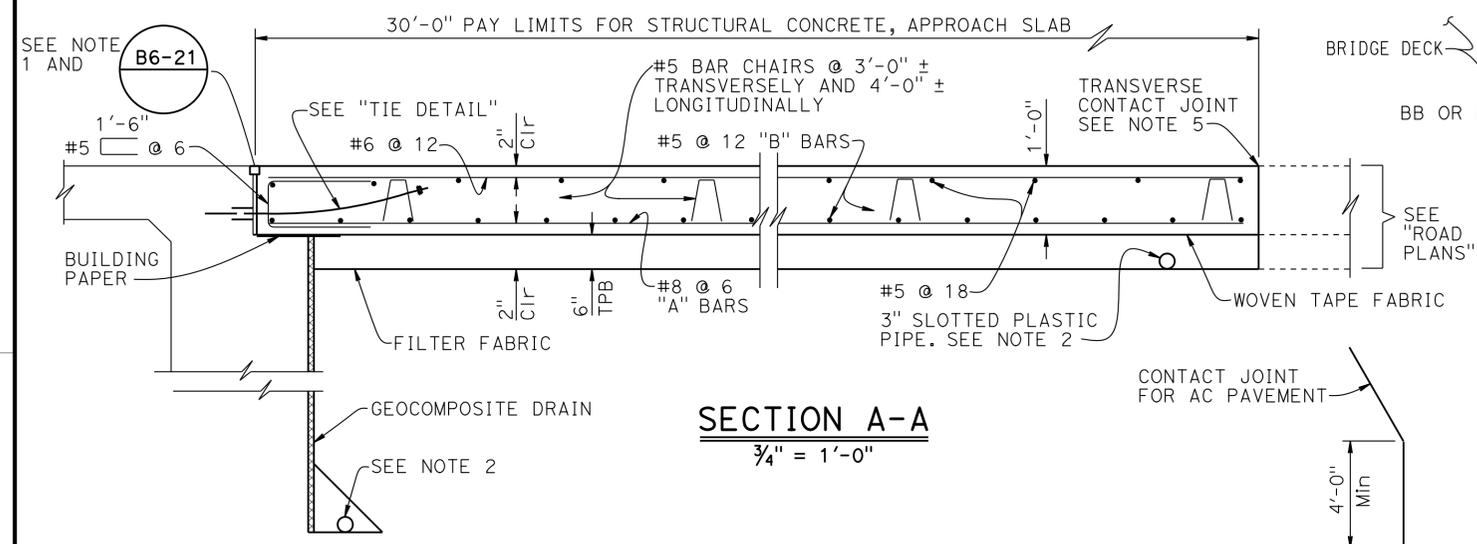
4-29-13  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
 M. J. CULLEN  
 No. C 40620  
 Exp. 03-31-13  
 CIVIL  
 STATE OF CALIFORNIA



APPROACH SLAB TRANSVERSE CONTACT JOINT		
APPROACH SKEW	WITH AC ROADWAY PAVEMENT	WITH PCC ROADWAY PAVEMENT
< 20°	PARALLEL TO FACE OF PN	PARALLEL TO FACE OF PN
20° - 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER LINES 24' TO 36' APART
> 45°	PARALLEL TO FACE OF PN USE "DETAIL A"	STAGGER AT EACH LANE LINE



- NOTES:
- For details not noted or shown, see Structure Plans
  - For drainage details, see "STRUCTURE APPROACH DRAINAGE DETAILS" sheet
  - Longitudinal construction joints, when permitted by the Engineer, shall be located on lane lines
  - End angle or plate at beginning of barrier transition, end of wingwall or end of structure approach, as applicable
  - For transverse contact joint with new PCC paving, refer to Standard Plan P10
  - At the contractor's option, approach slab transverse reinforcement may be placed parallel to paving notch. Spacing of transverse reinforcement is measured along C roadway

STANDARD DRAWING	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 51-0341	SAN PEDRO CREEK BRIDGE	
FILE NO. xs3-140	APPROVAL DATE July 2011	PROJECT NUMBER & PHASE: 0500000055-1	POST MILE 22.3-23.0	STRUCTURE APPROACH TYPE N(30D)	
UNIT: 3591 CONTRACT NO.: 05-060701			DISREGARD PRINTS BEARING EARLIER REVISION DATES		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			REVISION DATES SHEET OF		
			6-25-12 14 18		

D5 OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11))  
 ORIGINAL SCALE IN INCHES FOR REDUCED PLANS  
 UNIT: 3591 PROJECT NUMBER & PHASE: 0500000055-1 CONTRACT NO.: 05-060701  
 DISREGARD PRINTS BEARING EARLIER REVISION DATES  
 REVISION DATES SHEET OF  
 6-25-12 14 18



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	341	343

8-29-12  
DATE

REGISTERED CIVIL ENGINEER

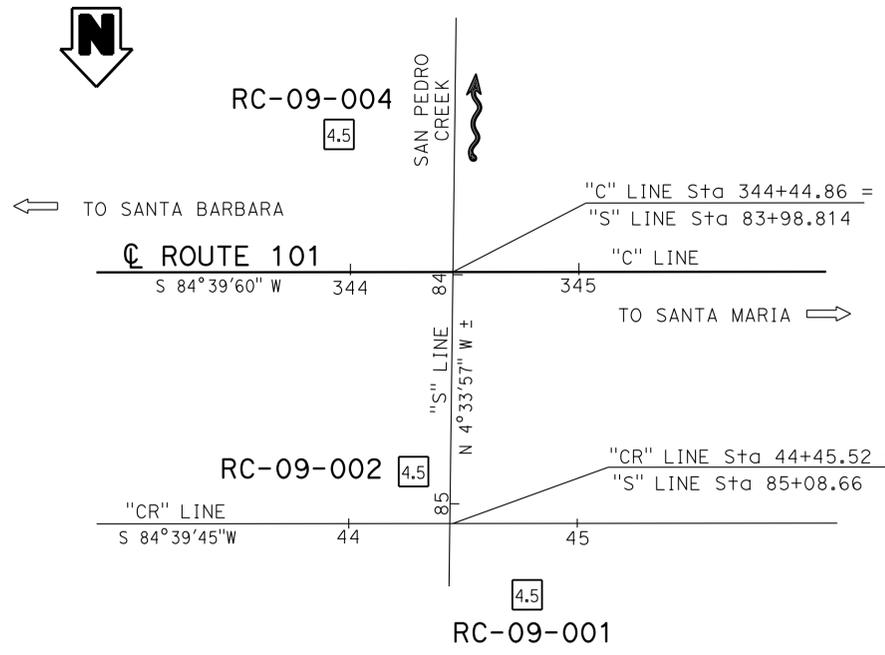
4-29-13  
PLANS APPROVAL DATE

Ryan Turner  
No. C73956  
Exp. 6-30-13  
CIVIL

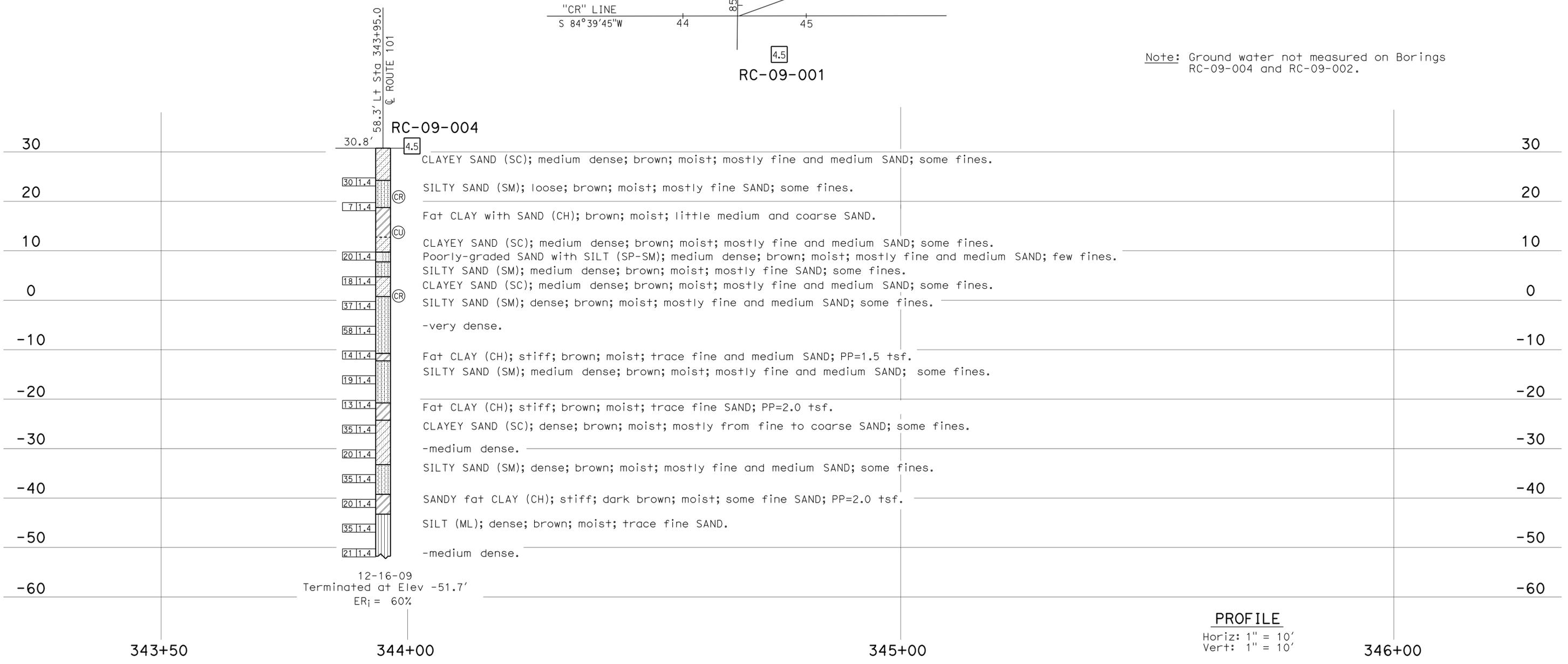
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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition). See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

**BENCH MARK**  
SB 101 PM 22.77  
Fnd 1" IP w/ CDOT PP & nail  
61.23' Lt @ Rte 101,  
Sta 342+50.79  
N 1987185.57  
E 6007989.41  
Elev 29.03'  
Vert Datum: NAVD88



Note: Ground water not measured on Borings RC-09-004 and RC-09-002.

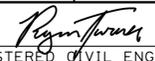


**PROFILE**  
Horiz: 1" = 10'  
Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION		<b>DIVISION OF ENGINEERING SERVICES</b> STRUCTURE DESIGN <b>DESIGN BRANCH 6</b>		<b>SAN PEDRO CREEK BRIDGE</b> <b>LOG OF TEST BORINGS 1 OF 3</b>	
FUNCTIONAL SUPERVISOR NAME: M. Finegan	DRAWN BY: I.G-Remmen CHECKED BY: D. Appelbaum	FIELD INVESTIGATION BY: R. Turner		BRIDGE NO. 51-0341		POST MILE 22.3-23.0		REVISION DATES 08-09-12 08-14-12 08-28-12	
06S CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643 PROJECT NUMBER & PHASE: 0500000055 & 1 CONTRACT NO.: 05-0G0701		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
								SHEET 16	OF 18

FILE => 51-0341-z-1+01.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	342	343

  
 REGISTERED CIVIL ENGINEER DATE 8-29-12

4-29-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Ryan Turner  
 No. C73956  
 Exp. 6-30-13  
 CIVIL  
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE  
 "LOG OF TEST BORINGS" 1 OF 3

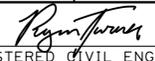
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 See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.



<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>SAN PEDRO CREEK BRIDGE</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		51-0341		<b>LOG OF TEST BORINGS 2 OF 3</b>	
NAME: M. Finegan		CHECKED BY: D. Appelbaum		PROJECT NUMBER & PHASE: 0500000055 & 1		DESIGN BRANCH <b>6</b>		POST MILE			
				CONTRACT NO.: 05-0G0701				22.3-23.0			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		UNIT: 3643		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
										SHEET 17 OF 18	

FILE => 51-0341-z-1+b02.dgn

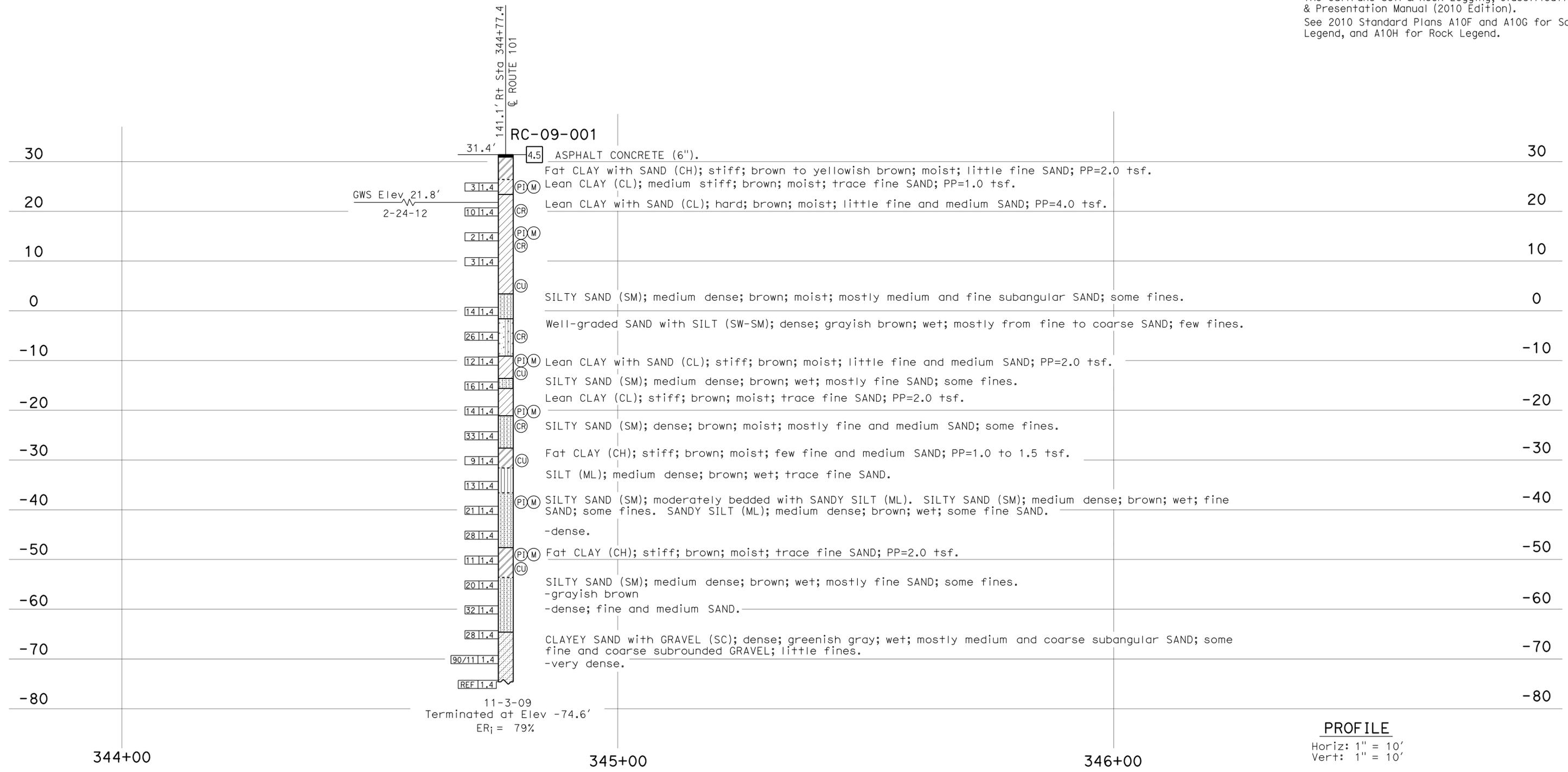
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	SB	101	22.3/23.0	343	343

  
 REGISTERED CIVIL ENGINEER DATE 8-29-12  
 PLANS APPROVAL DATE 4-29-13  
 No. C73956  
 Exp. 6-30-13  
 CIVIL  
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS" 1 OF 3

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



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

<b>ENGINEERING SERVICES</b>		<b>GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>BRIDGE NO.</b>		<b>SAN PEDRO CREEK BRIDGE</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I.G-Remmen		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		51-0341		<b>LOG OF TEST BORINGS 3 OF 3</b>	
NAME: M. Finegan		CHECKED BY: D. Appelbaum		PROJECT NUMBER & PHASE: 0500000055 & 1		DESIGN BRANCH <b>6</b>		POST MILE			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		CONTRACT NO.: 05-0G0701		22.3-23.0		REVISION DATES	
				0 1 2 3				DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 18 OF 18	