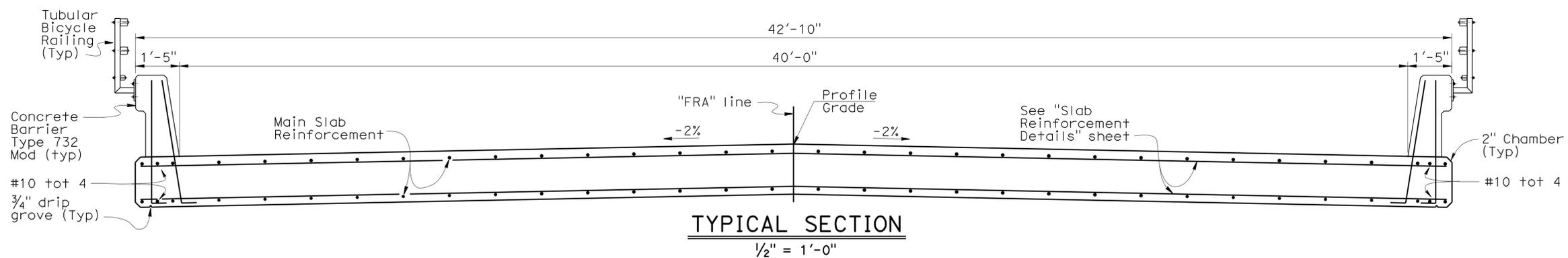


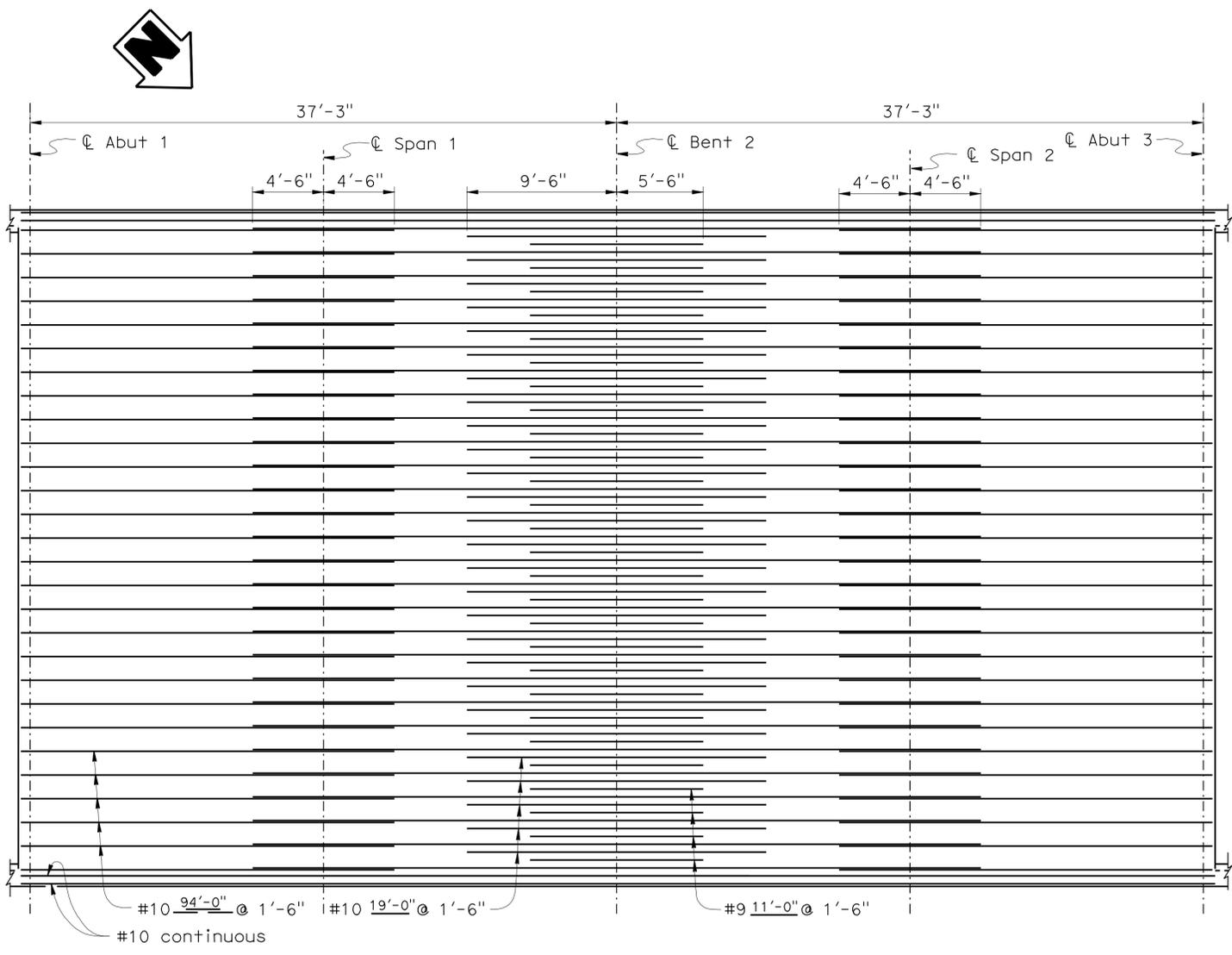
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	701	751

REGISTERED CIVIL ENGINEER
 DATE 07-31-09
 10-11-10
 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.

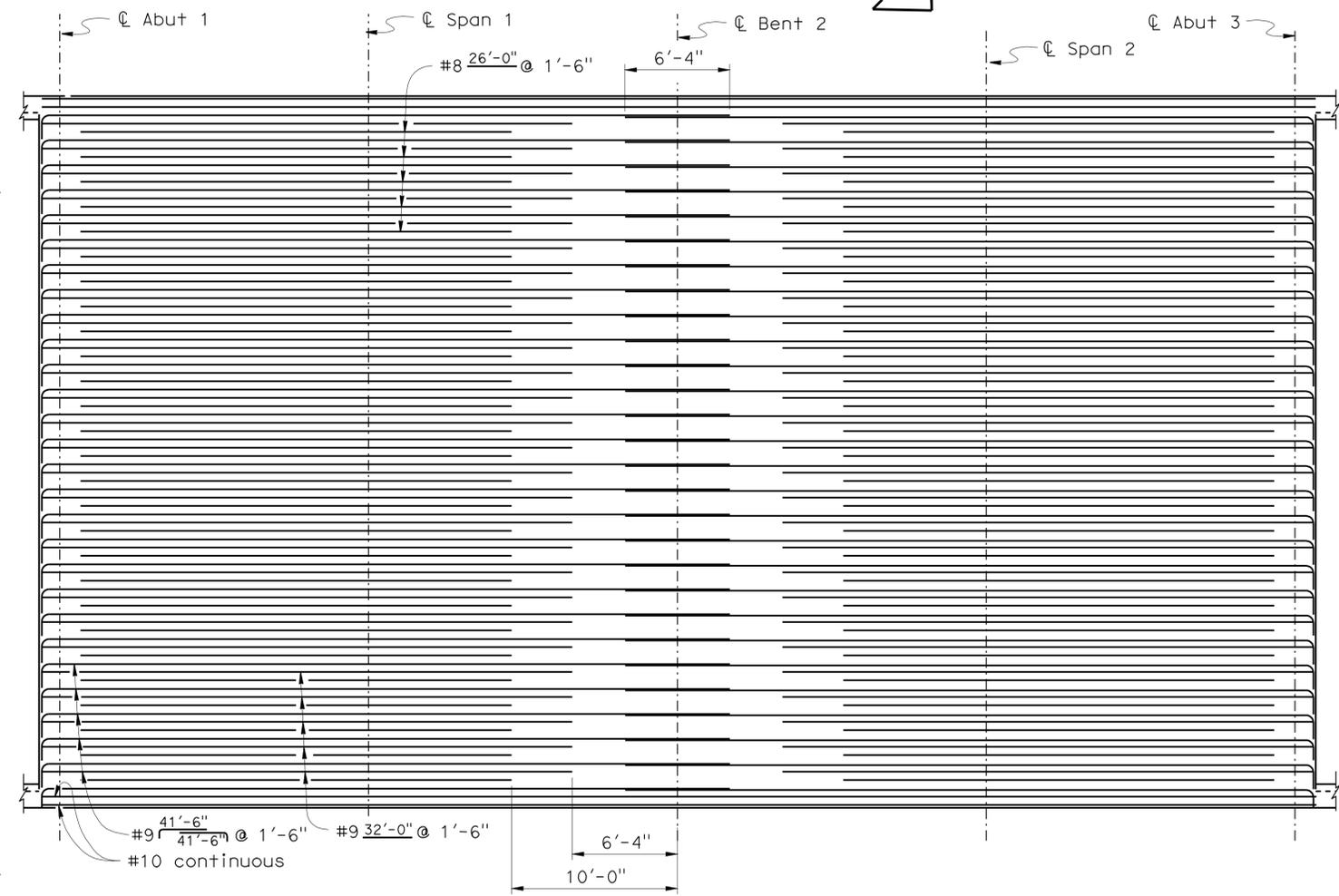
G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA



TYPICAL SECTION
1/2" = 1'-0"



TOP SLAB REINFORCEMENT
1" = 5'-0"



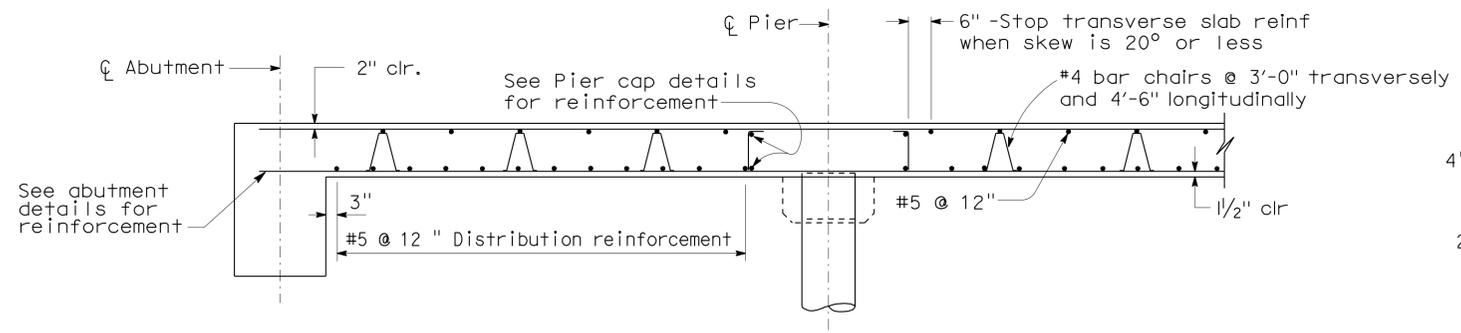
BOTTOM SLAB REINFORCEMENT
1" = 5'-0"

DESIGN BY G. Schuster DETAILS BY S. Jiang QUANTITIES BY C. Siegenthaler				CHECKED BY N. Terzis CHECKED BY N. Terzis CHECKED BY N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5		BRIDGE NO. 39C0373 POST MILE 5.22		DEADMAN CREEK BRIDGE EAST FRONTAGE ROAD TYPICAL SECTION			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 10 EA 415701		DISREGARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES: 03-04-08, 03-12-08, 07-04-08, 12-14-08, 01-27-09, 02-19-09, 02-25-09, 9-16-09		SHEET 7 OF 14	

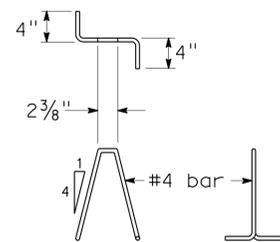
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	702	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

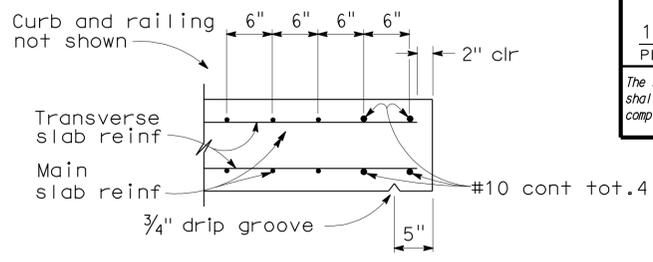
10-11-10
 PLANS APPROVAL DATE
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LONGITUDINAL SECTION



BAR CHAIR DETAIL

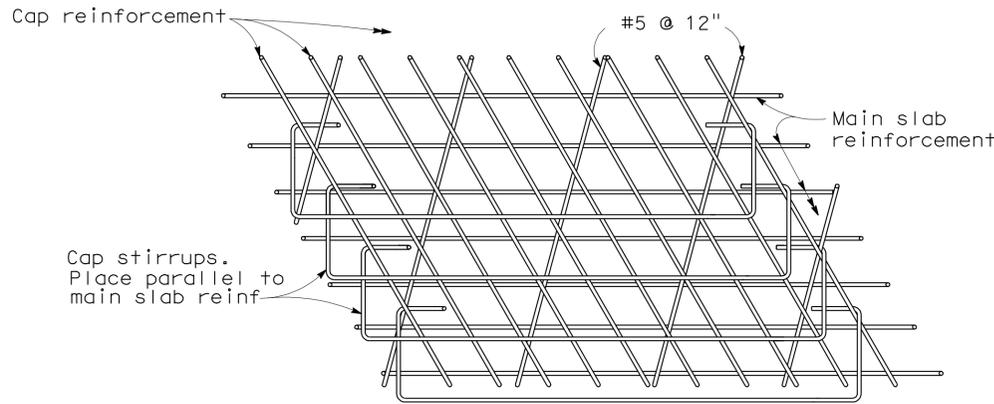


EDGE OF SLAB DETAILS

BAR SPLICE LENGTH								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars in spans over 23'	23	28	34	39	45	68	76	85
Top bars in spans over 23'	23	28	34	53	60	77	97	120

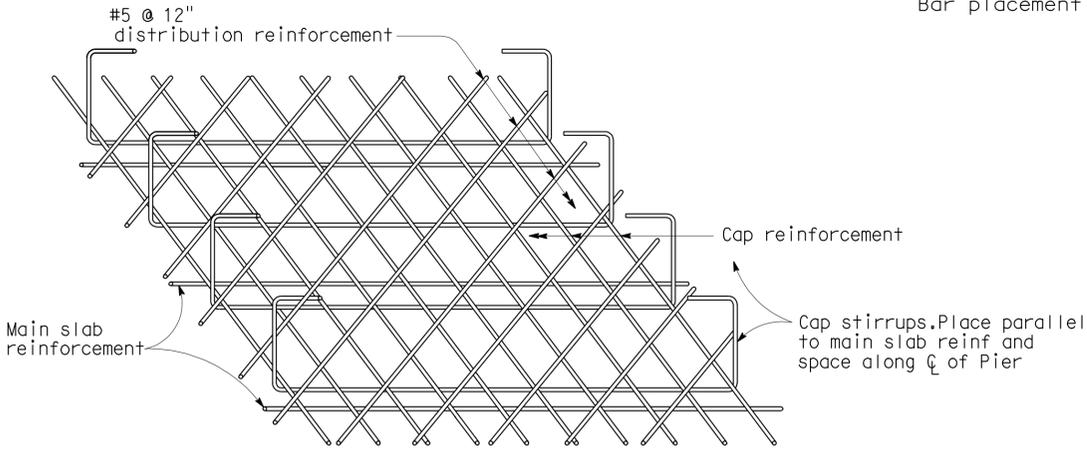
REINFORCEMENT NOTES:

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



TOP SLAB REINFORCEMENT AT PIER

Note: View for main span over 23'.
 Bar placement similar for spans under 23'.



FLUSH CAP
BOTTOM SLAB REINFORCEMENT AT PIER

**GENERAL NOTES
 LOAD FACTOR DESIGN**

Design: CALTRANS Bridge Design Specifications - April 2000 (LDF) (1996 AASHTO with Interims and revisions by CALTRANS)

Dead load: Includes 1.7 KPa for future wearing surface.
 Live loading: HS20-44 and alternative and permit design load.
 Reinforced concrete: $f_y = 420$ MPa
 $f'_c = 25$ MPa
 $n = 9$

**SPECIAL DETAILS
 NO SCALE**

DEADMAN CREEK BRIDGE
EAST FRONTAGE ROAD
SLAB REINFORCEMENT DETAILS

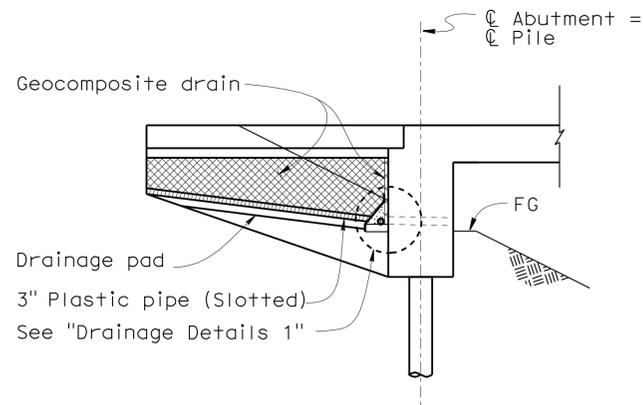
DESIGN BY G. Schuster	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 39C0373
DETAILS BY S. Jiang	CHECKED N. Terzis		POST MILE 5.22
QUANTITIES BY C. Siegenthaler	CHECKED N. Terzis		DESIGN BRANCH 5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	703	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

10-11-10
 PLANS APPROVAL DATE

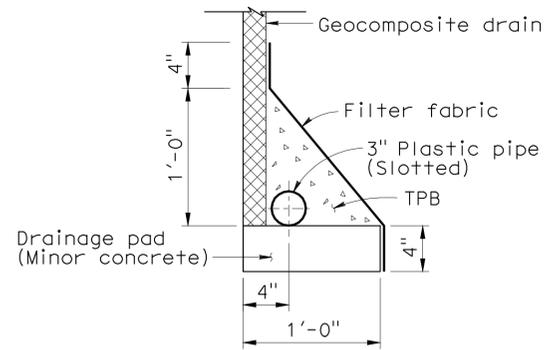
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CANTILEVER WINGWALL

SECTION F-F

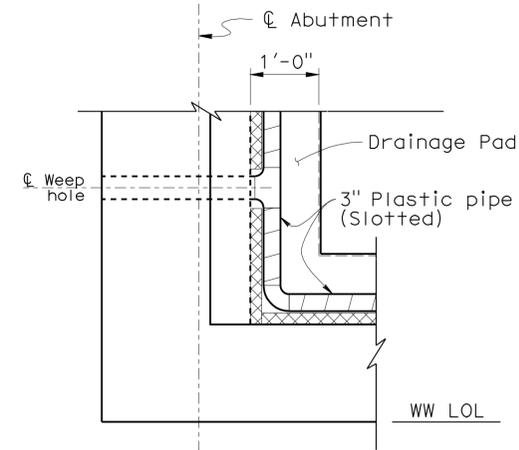
1/4" = 1'-0"



WITHOUT FOOTING

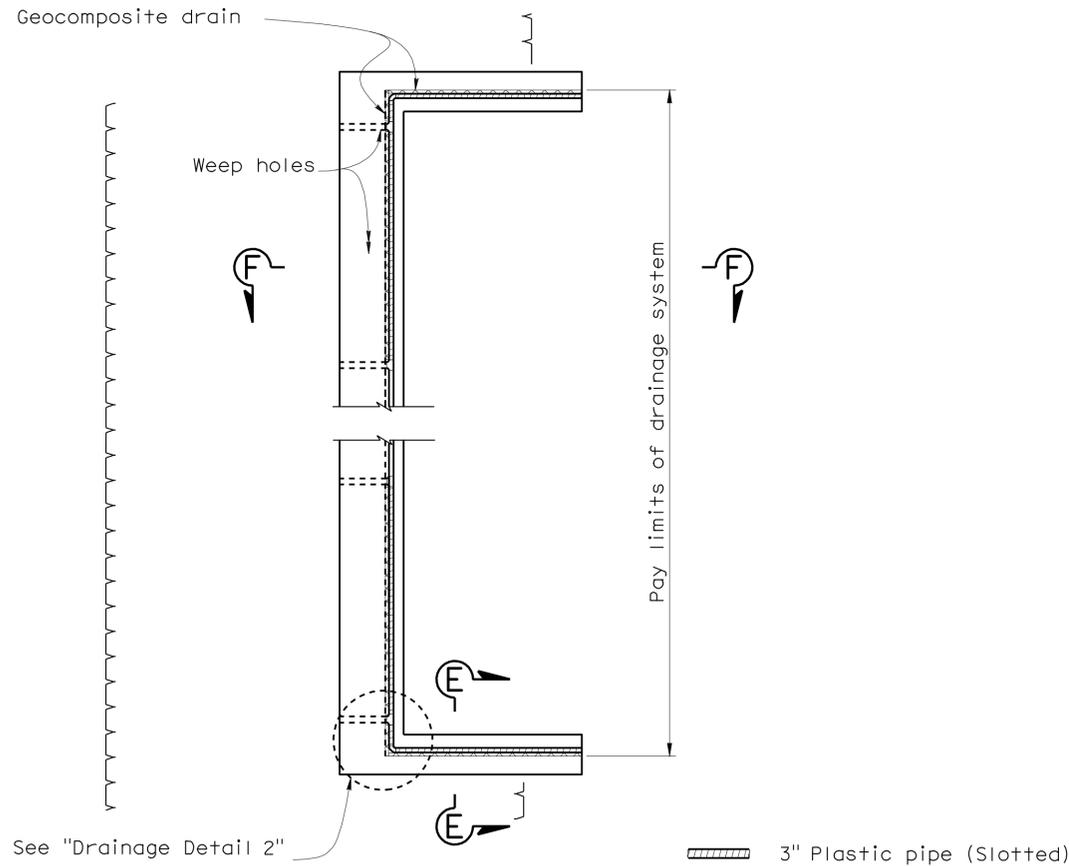
DRAINAGE DETAIL 1

1/2" = 1'-0"



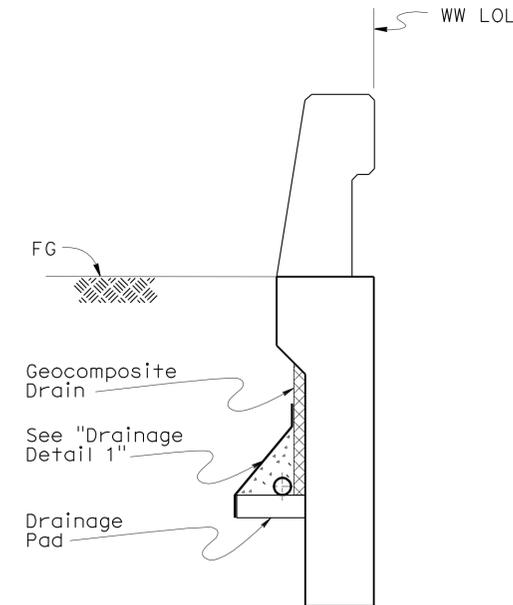
DRAINAGE DETAIL 2

3/4" = 1'-0"



TYPICAL PLAN

1" = 5'-0"



SECTION E-E

3/4" = 1'-0"

DESIGN	BY G. Schuster	CHECKED N. Terzis
DETAILS	BY A. Chen/S. Jiang	CHECKED N. Terzis
QUANTITIES	BY C. Siegenthaler	CHECKED N. Terzis

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH **5**

BRIDGE NO.	39C0373
POST MILE	5.22

DEADMAN CREEK BRIDGE
EAST FRONTAGE ROAD
ABUTMENT DRAINAGE DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES
6-14-08 6-16-08 6-23-08 7-18-08 1-27-09 2-19-09

SHEET	OF
9	14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	706	751

5-13-09

Xing Zheng
CERTIFIED ENGINEERING GEOLOGIST

10-11-10
PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST

Xing Zheng

No. 2130

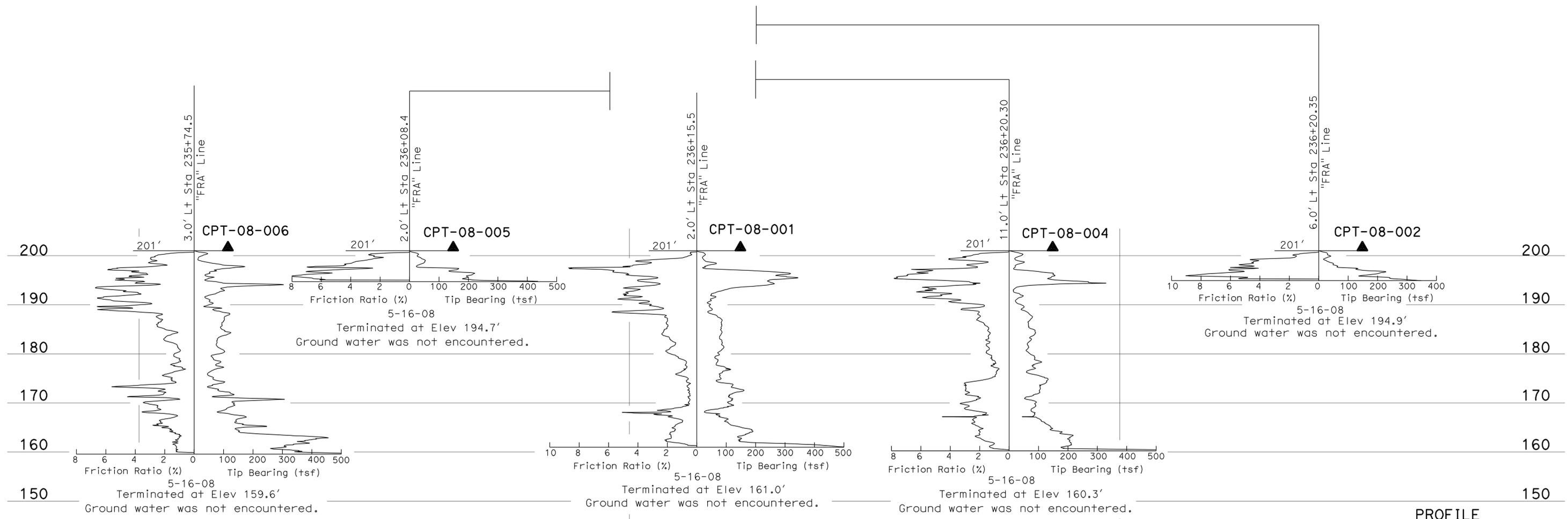
Exp. 3-31-11

CERTIFIED ENGINEERING GEOLOGIST

STATE OF CALIFORNIA

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 4"

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).



PROFILE
HOR. 1/4" = 1'
VER. 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		DEADMAN CREEK BRIDGE	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 01/09		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		39C0373		EAST FRONTAGE ROAD	
NAME: R. Buehl		CHECKED BY: J. Thorne		FIELD INVESTIGATION BY: X. Zheng		DESIGN BRANCH		POST MILES		LOG OF TEST BORINGS 2 OF 4	
								5.22			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 10		EA 415701		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
				0 1 2 3				02-26-09 03-13-09 05-08-09		SHEET 12 OF 14	

USERNAME => H11engr DATE PLOTTED => 11-OCT-2010 TIME PLOTTED => 13:53

FILE => 39C0373-z-lotb2of4.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	707	751

5-13-09
 CERTIFIED ENGINEERING GEOLOGIST
 Xing Zheng
 No. 2130
 Exp. 3-31-11
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA

10-11-10
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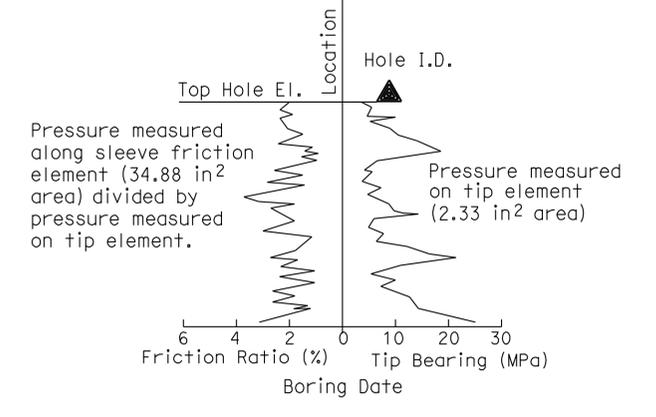
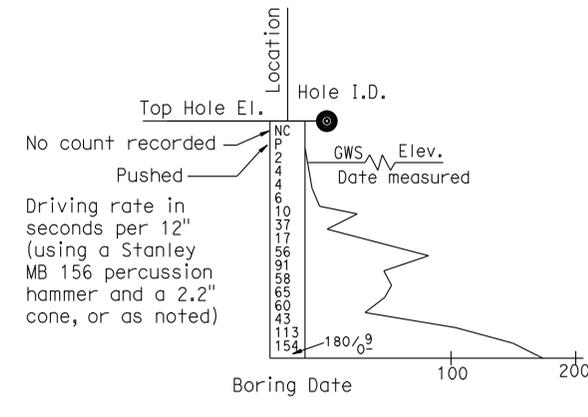
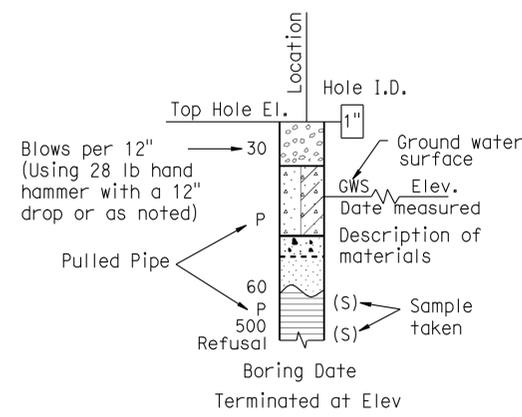
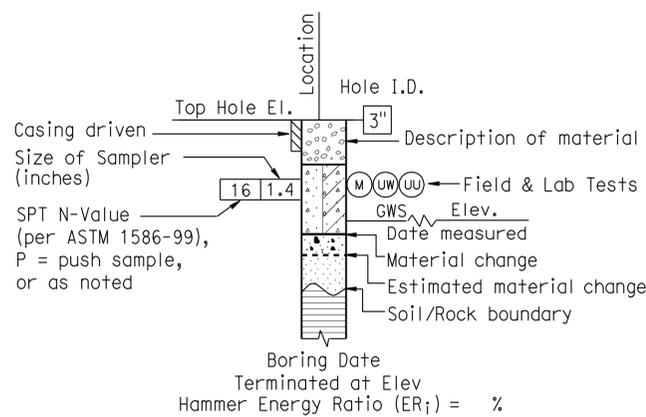
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 39C0373	DEADMAN CREEK BRIDGE
	PREPARED BY: F. Nguyen 01/09			POST MILE 5.22	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 13 OF 14

LOG OF TEST BORINGS 3 OF 4

FILE => 39C0373-z-lotb3of4.dgn

5-13-09

Xing Zheng
CERTIFIED ENGINEERING GEOLOGIST

10-11-10
PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST

Xing Zheng

No. 2130

Exp. 3-31-11

CERTIFIED ENGINEERING GEOLOGIST

STATE OF CALIFORNIA

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY		GRAVELLY lean CLAY with SAND
	(or SILTY CLAY)		SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with SAND
	(or SILTY CLAY and SAND)		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT		SANDY SILTY CLAY
	Poorly graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY		GRAVELLY SILTY CLAY with SAND
	(or SILTY CLAY)		SILT
	Poorly graded GRAVEL with CLAY and SAND		SILT with SAND
	(or SILTY CLAY and SAND)		SILT with GRAVEL
	SILTY GRAVEL		SANDY SILT
	SILTY GRAVEL with SAND		SANDY SILT with GRAVEL
	CLAYEY GRAVEL		GRAVELLY SILT
	CLAYEY GRAVEL with SAND		GRAVELLY SILT with SAND
	SILTY, CLAYEY GRAVEL		ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY with SAND
	Well-graded SAND		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with GRAVEL		SANDY ORGANIC lean CLAY
	Poorly graded SAND		SANDY ORGANIC lean CLAY with GRAVEL
	Poorly graded SAND with GRAVEL		GRAVELLY ORGANIC lean CLAY
	Well-graded SAND with SILT		GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND with SILT and GRAVEL		Elastic SILT
	Well-graded SAND with CLAY		Elastic SILT with SAND
	(or SILTY CLAY)		Elastic SILT with GRAVEL
	Well-graded SAND with CLAY and GRAVEL		SANDY elastic SILT
	(or SILTY CLAY and GRAVEL)		SANDY elastic SILT with GRAVEL
	Poorly graded SAND with SILT		GRAVELLY elastic SILT
	Poorly graded SAND with SILT and GRAVEL		GRAVELLY elastic SILT with SAND
	Poorly graded SAND with CLAY		ORGANIC fat CLAY
	(or SILTY CLAY)		ORGANIC fat CLAY with SAND
	Poorly graded SAND with CLAY and GRAVEL		ORGANIC fat CLAY with GRAVEL
	(or SILTY CLAY and GRAVEL)		SANDY ORGANIC fat CLAY
	SILTY SAND		SANDY ORGANIC fat CLAY with GRAVEL
	SILTY SAND with GRAVEL		GRAVELLY ORGANIC fat CLAY
	CLAYEY SAND		GRAVELLY ORGANIC fat CLAY with SAND
	CLAYEY SAND with GRAVEL		ORGANIC elastic SILT
	SILTY, CLAYEY SAND		ORGANIC elastic SILT with SAND
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with GRAVEL
	PEAT		SANDY ORGANIC elastic SILT
	COBBLES		GRAVELLY ORGANIC elastic SILT
	COBBLES and BOULDERS		GRAVELLY ORGANIC elastic SILT with SAND
	BOULDERS		ORGANIC SOIL
			ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UU)	Unconfined Compression-Rock (ASTM D 2938)
(UW)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(VS)	Unit Weight (ASTM D 4767)
(V)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES

GEOTECHNICAL SERVICES

PREPARED BY: F. Nguyen 01/09

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

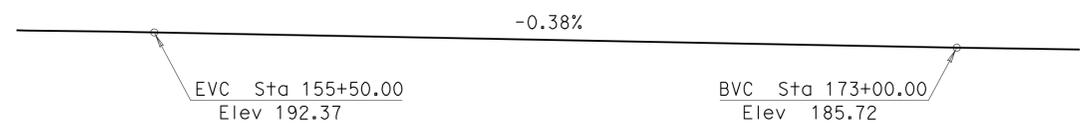
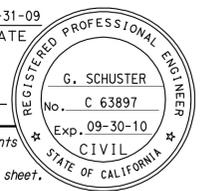
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE NO. 39C0373
POST MILE 5.22

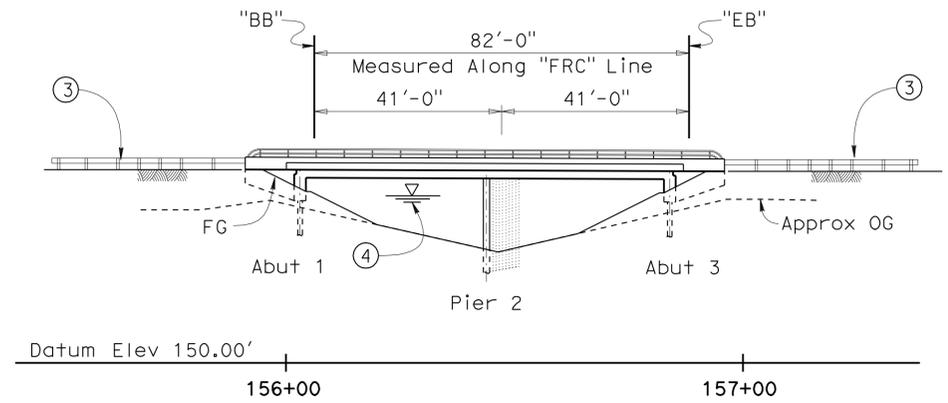
DEADMAN CREEK BRIDGE
EAST FRONTAGE ROAD
LOG OF TEST BORINGS 4 OF 4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	709	751

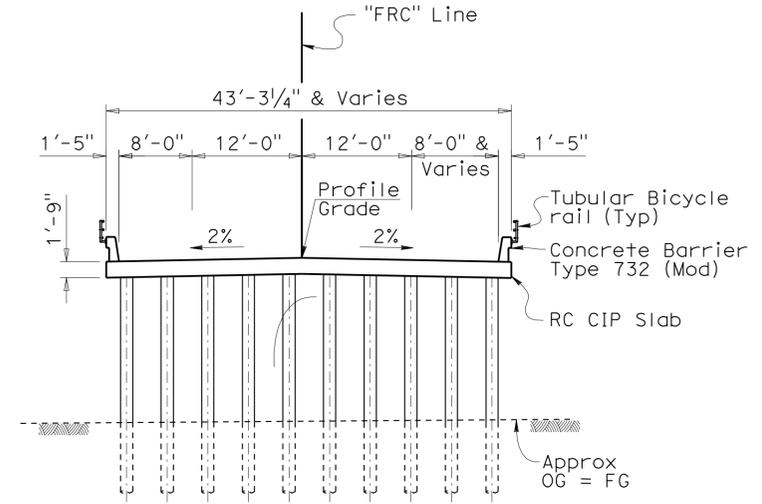

 REGISTERED CIVIL ENGINEER DATE 07-31-09
 10-11-10
 PLANS APPROVAL DATE
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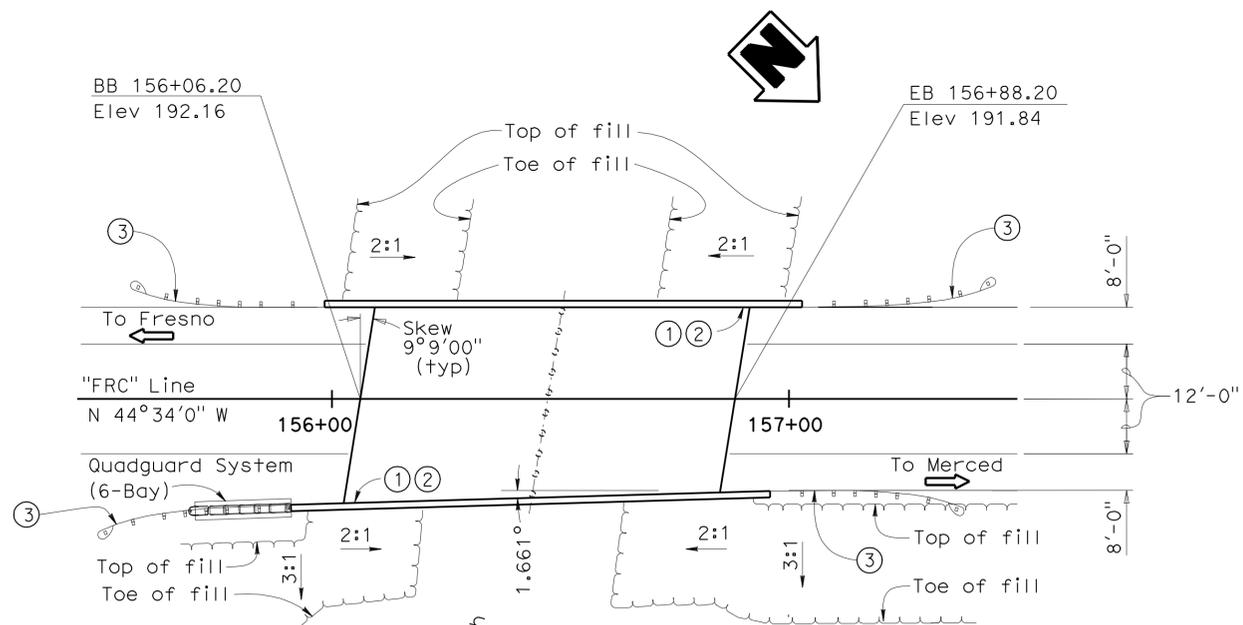
PROFILE GRADE
No Scale



ELEVATION
1" = 20'-0"



TYPICAL SECTION
1" = 10'-0"



PLAN
1" = 20'-0"

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

- Legend:
- ① Paint "Duck Slough Bridge".
 - ② Paint Bridge No. 39C0375.
 - ③ Metal Beam Guard Rail, See "Road Plan".
 - ④ For Hydrologic Summary, See "Foundation Plan".
- Note: For "General Notes", "Index Plans", "Standard Plans", "Quantities", See "Index To Plans" sheet.

x Gary Blakesley
DESIGN ENGINEER

DESIGN BY G. Schuster
CHECKED N. Terzis
DETAILS BY A. Chen/G. Souza/S. J
CHECKED N. Terzis
QUANTITIES BY N. Terzis
CHECKED A. Chen

LOAD & RESISTANCE FACTOR DESIGN
LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
BY G. Schuster
CHECKED N. Terzis
SPECIFICATIONS BY Aiman Abdel-Malak
CHECKED N. Terzis
PLANS AND SPECS COMPARED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO. 39C0375
POST MILE 9.43

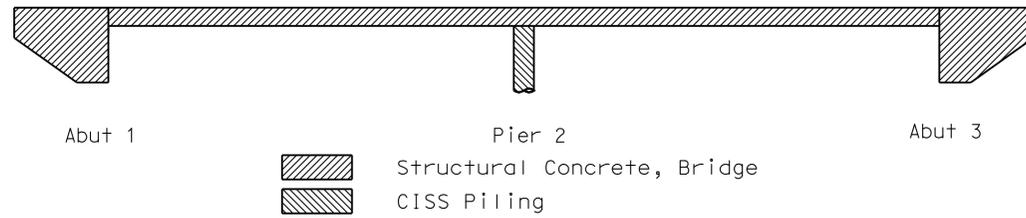
DUCK SLOUGH BRIDGE
EAST FRONTAGE ROAD
GENERAL PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	710	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA
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GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.4, June, 2006
DEAD LOAD: Includes 35 Psf for future wearing surface.
LIVE LOADING: HL93 Alternative loading and "Low-Boy" permit design vehicle
SEISMIC LOADING: Caltrans SDC ARS curve for soil profile type D (M = 6.5 ± 0.25), (Peak Rock Acceleration = 0.2g)
REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$

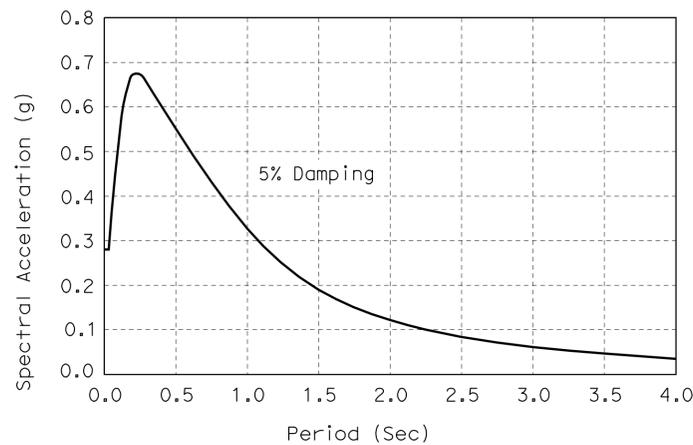


CONCRETE STRENGTH AND TYPE LIMITS

No Scale

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	70	CY
STRUCTURE BACKFILL (BRIDGE)	40	CY
FURNISH PILING (CLASS 90)	645	LF
DRIVE PILE (CLASS 90)	15	EA
FURNISH 16" CAST-IN-STEEL SHELL	800	LF
CONCRETE PILING		
DRIVE 16" CAST-IN-STEEL SHELL CONCRETE PILE	10	EA
STRUCTURAL CONCRETE, BRIDGE	290	CY
BAR REINFORCING STEEL (BRIDGE)	60,000	LB
TUBULAR BICYCLE RAILING	209	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	209	LF



SOIL PROFILE TYPE D: $M_w = 6.5$, $PBA = 0.2g$

INDEX TO PLANS

Sheet No.	Title
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	DECK CONTOURS
4.	FOUNDATION PLAN
5.	ABUTMENT LAYOUT
6.	PIER DETAILS
7.	TYPICAL SECTION
8.	SLAB REINFORCEMENT DETAILS NO. 1
9.	SLAB REINFORCEMENT DETAILS NO. 2
10.	ABUTMENT DRAINAGE DETAILS
11.	TUBULAR BICYCLE RAILING
12.	LOG OF TEST BORINGS 1 OF 4
13.	LOG OF TEST BORINGS 2 OF 4
14.	LOG OF TEST BORINGS 3 OF 4
15.	LOG OF TEST BORINGS 4 OF 4

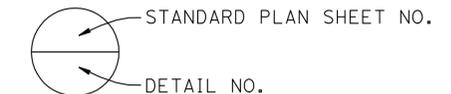
PILE DATA TABLE B2-5

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 90	180	0	142.0 (1) 154.0 (2)	142.0	180
Pier 2	CISS NPS 16x0.500	280	0	110.0 (1) 135.0 (2)	110.0	280
Abut 3	Class 90	180	0	142.0 (1) 154.0 (2)	142.0	180

NOTE: Design tip elevations are controlled by the following demands: (1) Compression, (2) Lateral.

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
B0-1	BRIDGE DETAILS
B2-5	PILE DETAILS CLASS 90 AND CLASS 140
B11-55	CONCRETE BARRIER TYPE 732



DUCK SLOUGH BRIDGE

EAST FRONTAGE ROAD

INDEX TO PLANS

DESIGN	BY G. Schuster	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	39C0375
DETAILS	BY G. Souza/S. Jiang	CHECKED N. Terzis			POST MILE	9.43
QUANTITIES	BY N. Terzis	CHECKED A. Chen				

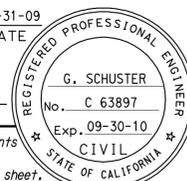
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

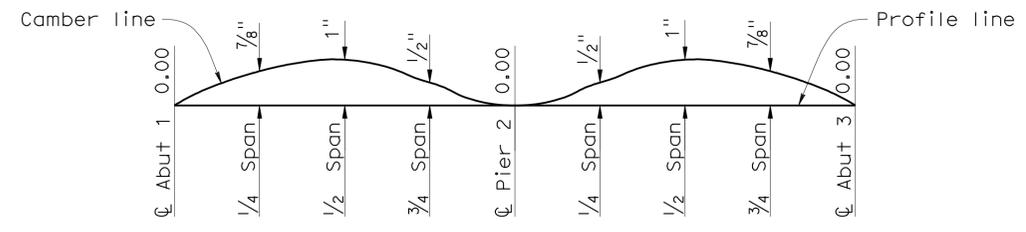


CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES										SHEET	OF
11-11-07	06-24-08	08-21-08	12-11-08	01-23-09	01-26-09	02-19-09	03-19-09	06-25-09	8-11-09	2	15

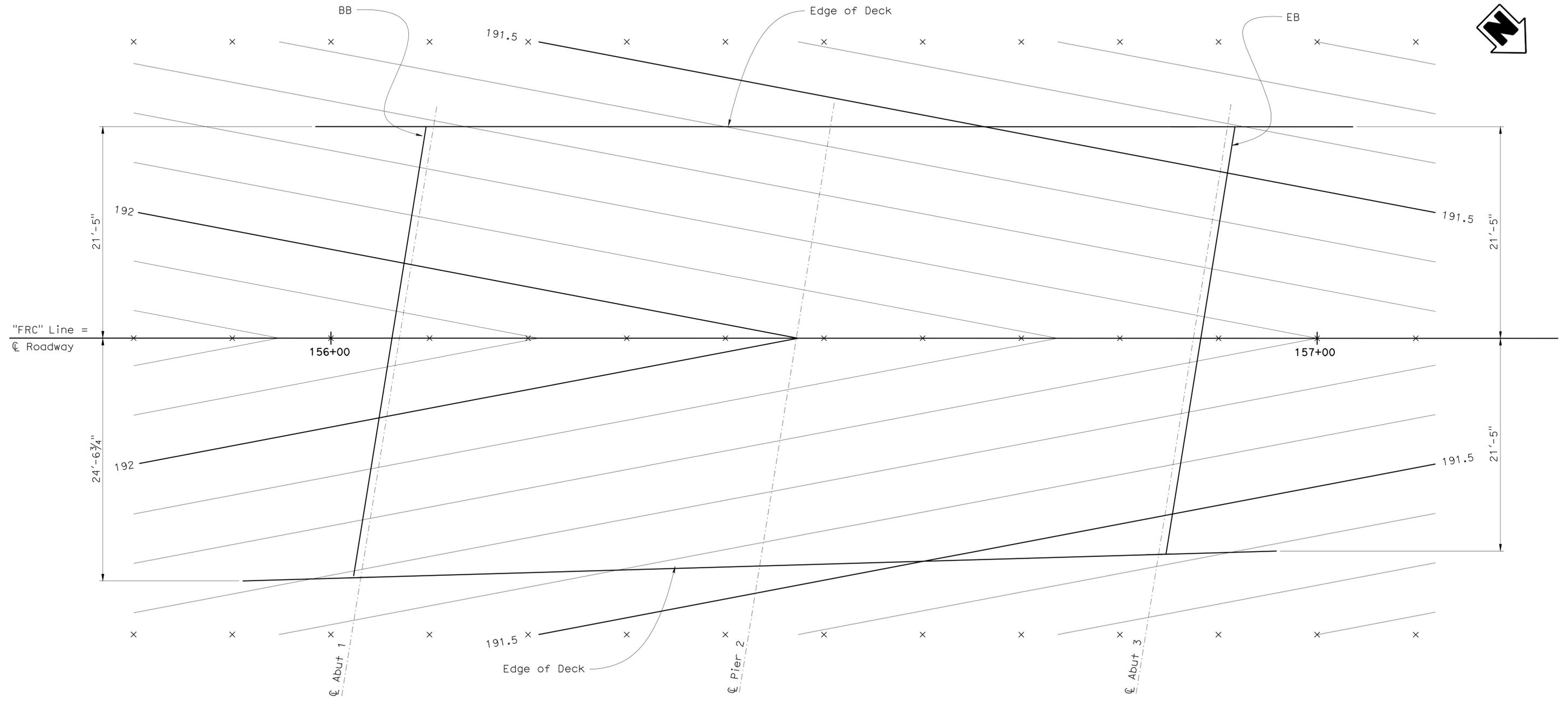
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	711	751
 REGISTERED CIVIL ENGINEER DATE 07-31-09					
10-11-10 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



Note: Does not include allowance for falsework settlement.

CAMBER DIAGRAM
no scale

Notes:
 x = 10' interval along station line.
 Contours do not include camber.
 Contour interval = 0.1'



DECK CONTOURS
1" = 5'-0"

DESIGN BY G. Schuster CHECKED N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0375	DUCK SLOUGH BRIDGE EAST FRONTAGE ROAD DECK CONTOURS
DETAILS BY G. M. Souza CHECKED N. Terzis				POST MILE 9.43	
QUANTITIES BY N. Terzis CHECKED A. Chen				REVISION DATES 03-27-08 04-24-08 06-13-08 08-25-08 1-27-09	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3			CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 3 OF 15

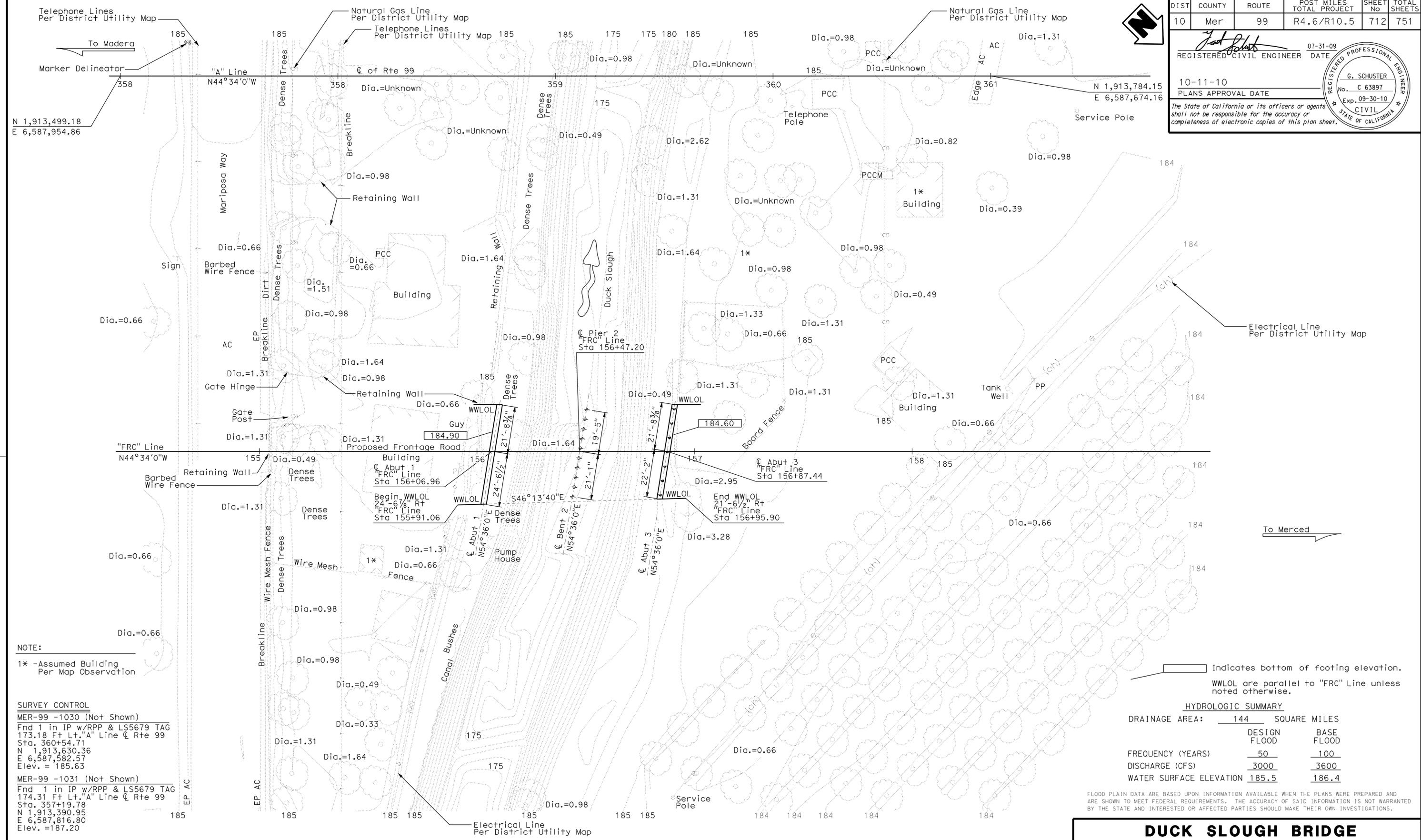
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	712	751

REGISTERED CIVIL ENGINEER
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

07-31-09
 DATE

10-11-10
 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.



NOTE:
1* - Assumed Building Per Map Observation

SURVEY CONTROL
 MER-99 -1030 (Not Shown)
 Fnd 1 in IP w/RPP & LS5679 TAG
 173.18 Ft Lt. "A" Line C of Rte 99
 Sta. 360+54.71
 N 1,913,630.36
 E 6,587,582.57
 Elev. = 185.63
 MER-99 -1031 (Not Shown)
 Fnd 1 in IP w/RPP & LS5679 TAG
 174.31 Ft Lt. "A" Line C of Rte 99
 Sta. 357+19.78
 N 1,913,390.95
 E 6,587,816.80
 Elev. = 187.20

Indicates bottom of footing elevation.
 WWLOL are parallel to "FRC" Line unless noted otherwise.

HYDROLOGIC SUMMARY

DRAINAGE AREA:	144	SQUARE MILES
FREQUENCY (YEARS)	50	100
DISCHARGE (CFS)	3000	3600
WATER SURFACE ELEVATION	185.5	186.4
	DESIGN FLOOD	BASE FLOOD

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

DUCK SLOUGH BRIDGE

EAST FRONTAGE ROAD

FOUNDATION PLAN

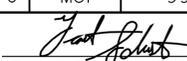
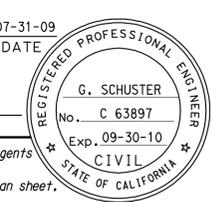
PRELIMINARY INVESTIGATION SECTION			
SCALE	VERT. DATUM	NGVD 29	PHOTOGRAMMETRY AS OF: X
1"=20'	HORZ. DATUM	NAD 83 1991.35	SURVEYED BY District
ALIGNMENT TIES	Dist. Traverse Sheet	DRAFTED BY T. Marchenko 11/2007	CHECKED BY J. Palares 12/2007
			CHECKED BY T. Zolnikova 12/2007

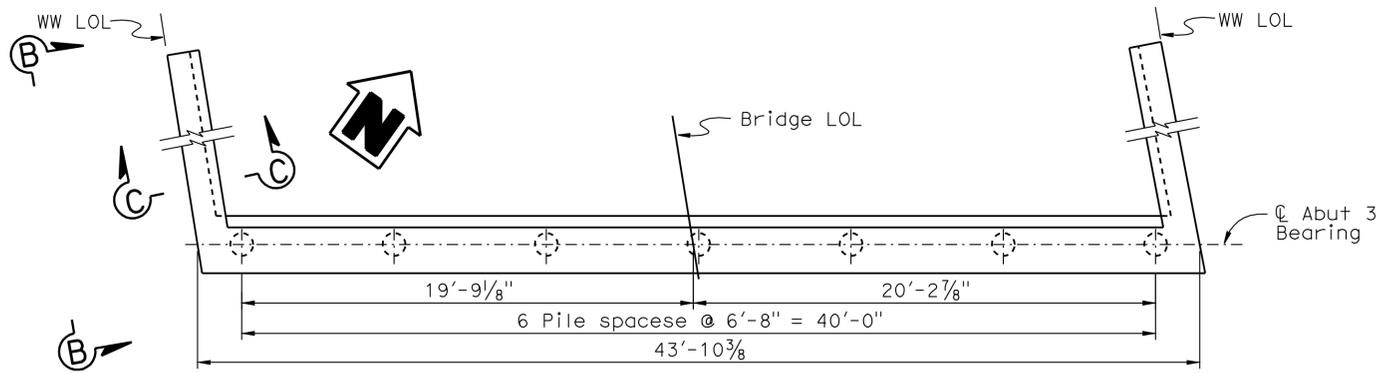
DESIGN	BY G. Schuster	CHECKED N. Terzis
DETAILS	BY G. M. Souza/S. Jiang	CHECKED N. Terzis
QUANTITIES	BY N. Terzis	CHECKED A. Chen

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

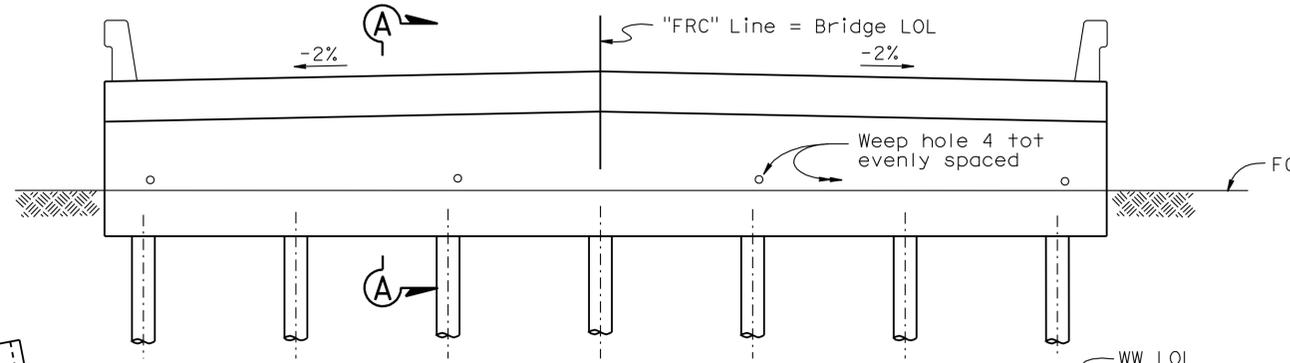
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	39C0375
POST MILE	9.43

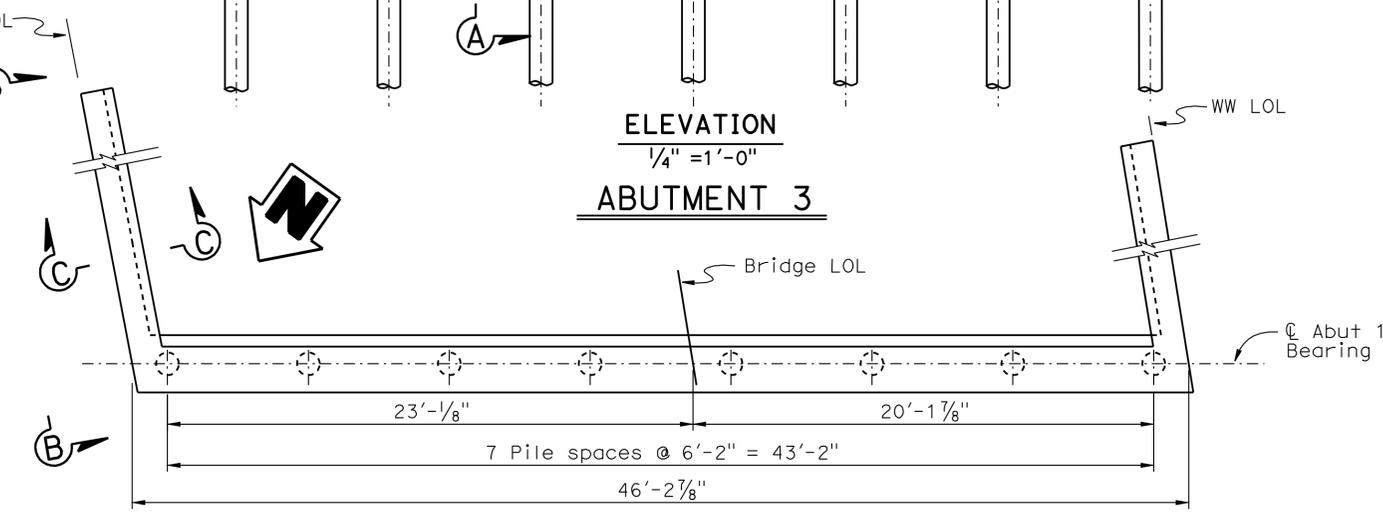
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	713	751
 REGISTERED CIVIL ENGINEER DATE 07-31-09					
10-11-10 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



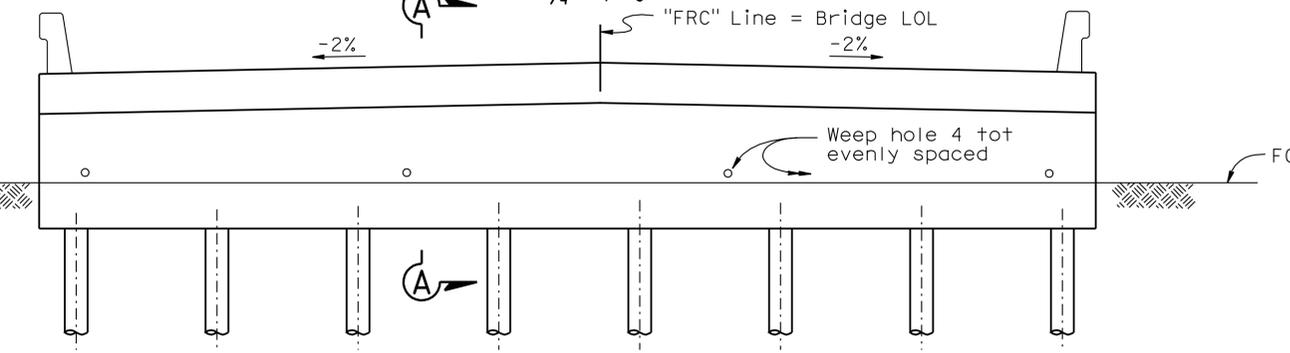
PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"
ABUTMENT 3

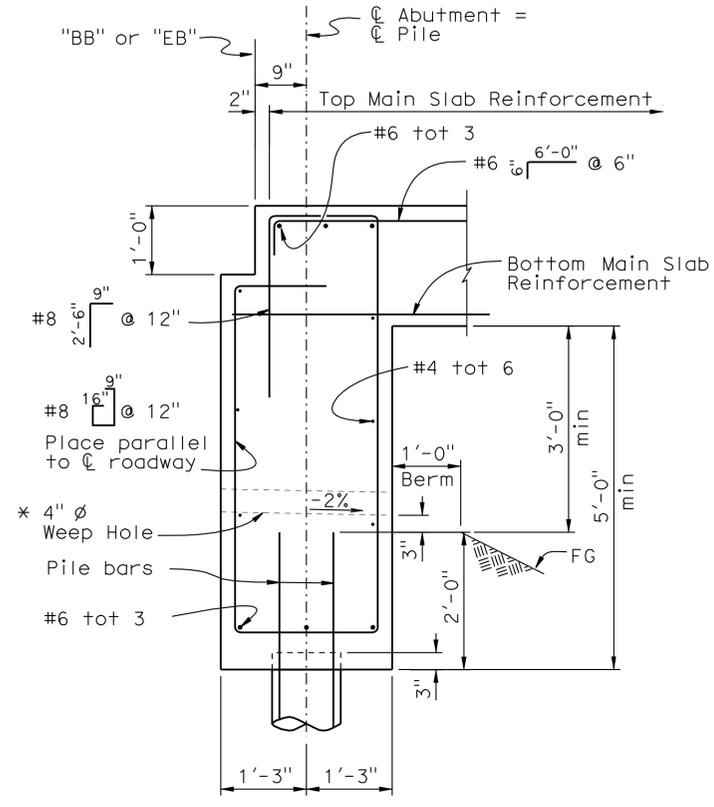


PLAN
1/4" = 1'-0"



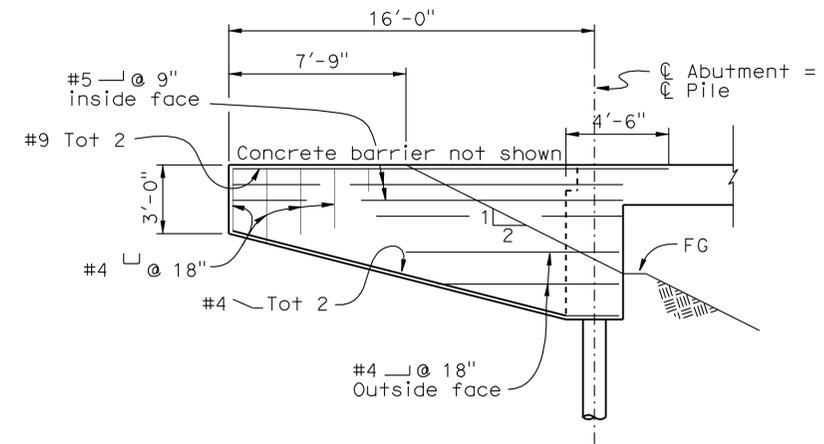
ELEVATION
1/4" = 1'-0"
ABUTMENT 1

Note: For Drainage Details see "Abutment Drainage Details" sheet

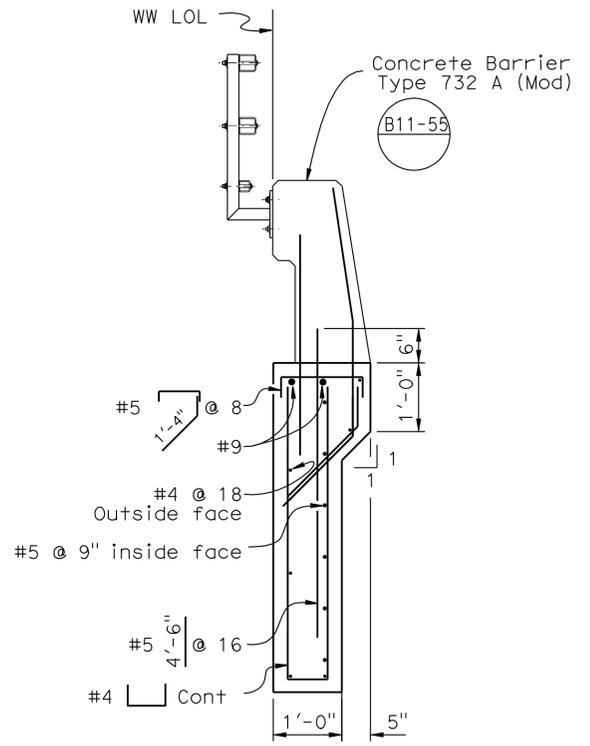


SECTION A-A
3/4" = 1'-0"

* See "Abutment Drainage Details" sheet

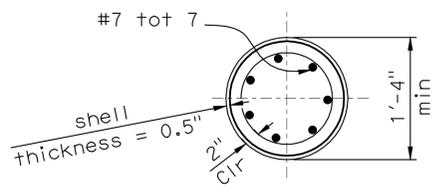


VIEW B-B
1/4" = 1'-0"

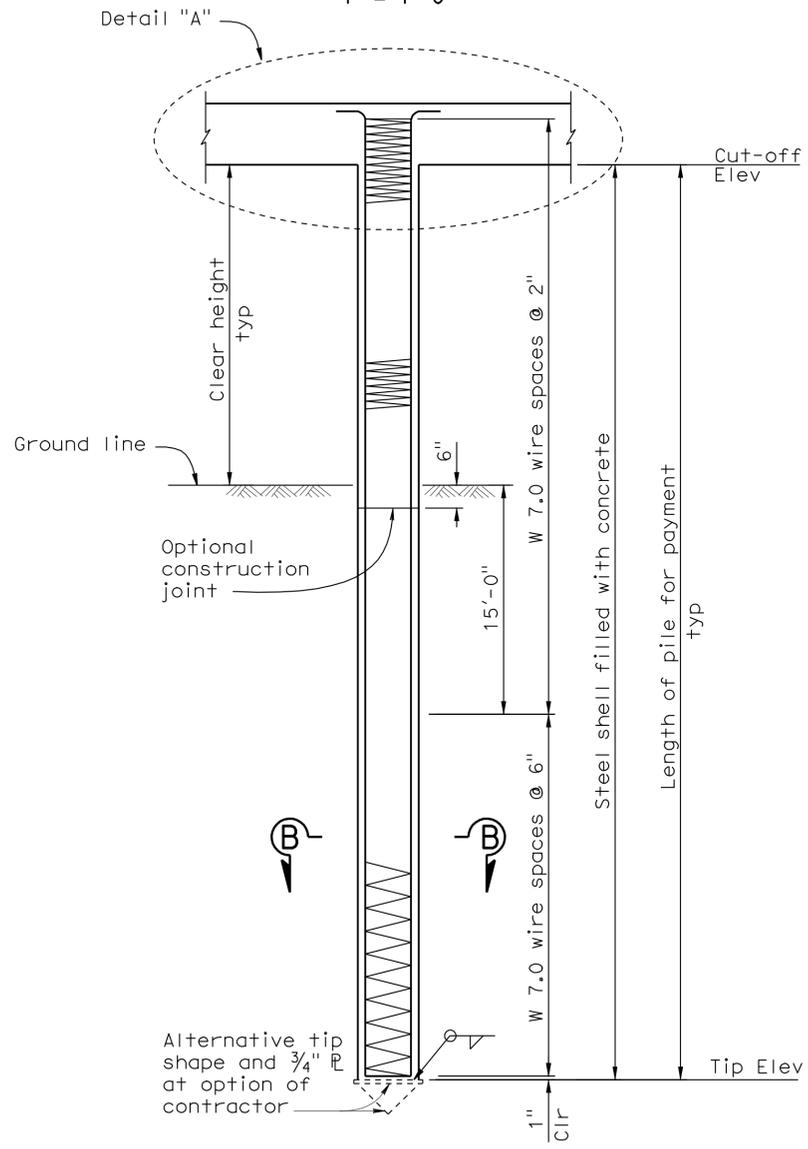
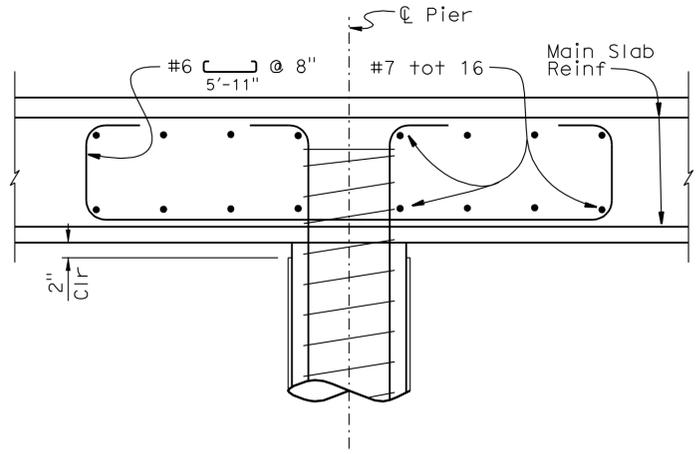


SECTION C-C
3/4" = 1'-0"

DESIGN BY G. Schuster CHECKED N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	DUCK SLOUGH BRIDGE EAST FRONTAGE ROAD ABUTMENT LAYOUT	
DETAILS BY S. Jiang\A.C.\G.M.S. CHECKED N. Terzis				39C0375		
QUANTITIES BY N. Terzis CHECKED A. Chen				POST MILE 9.43		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 07-27-08, 06-25-09, 8-06-09, 05-29-08, 06-11-08, 06-17-08, 08-28-08, 12-17-08, 1-27-09		SHEET 5 OF 15



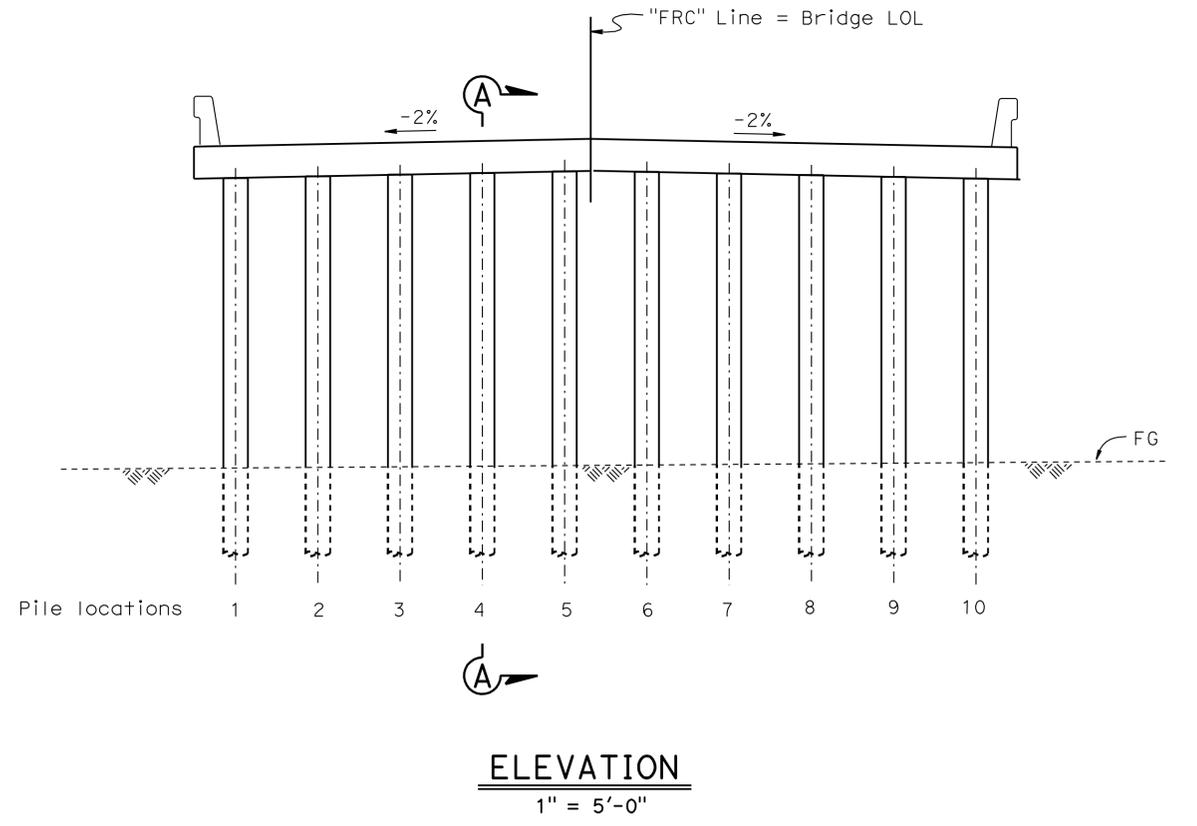
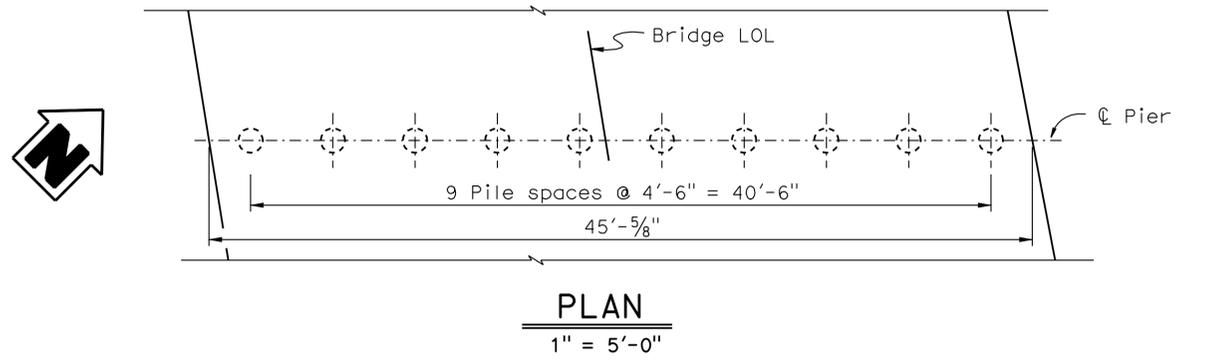
SECTION B-B
1" = 1'-0"



CAST-IN-STEEL SHELL
CONCRETE PILE
SECTION A-A
1/2" = 1'-0"

PILE CUT-OFF ELEVATION TABLE

Pile	Cut-off Elevation (ft)
1	189.87
2	189.96
3	190.05
4	190.14
5	190.23
6	190.18
7	190.09
8	190.00
9	189.91
10	189.82

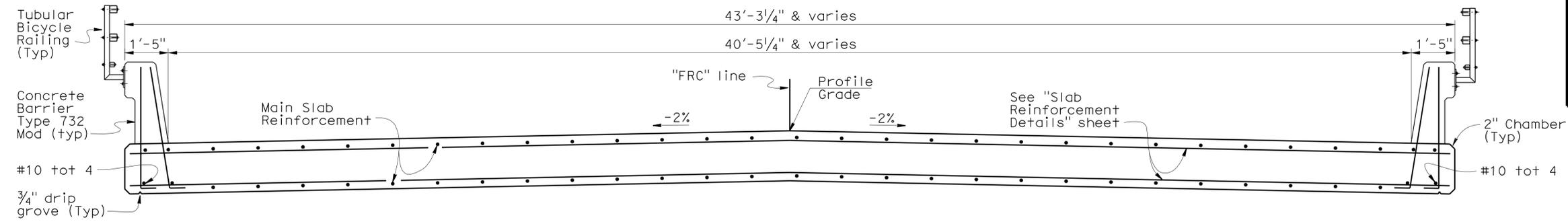


DESIGN BY G. Schuster CHECKED N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0375	DUCK SLOUGH BRIDGE EAST FRONTAGE ROAD PIER DETAILS	
DETAILS BY S. Jiang/G. Souza/A. Chen CHECKED N. Terzis				POST MILE 9.43		
QUANTITIES BY N. Terzis CHECKED A. Chen				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES

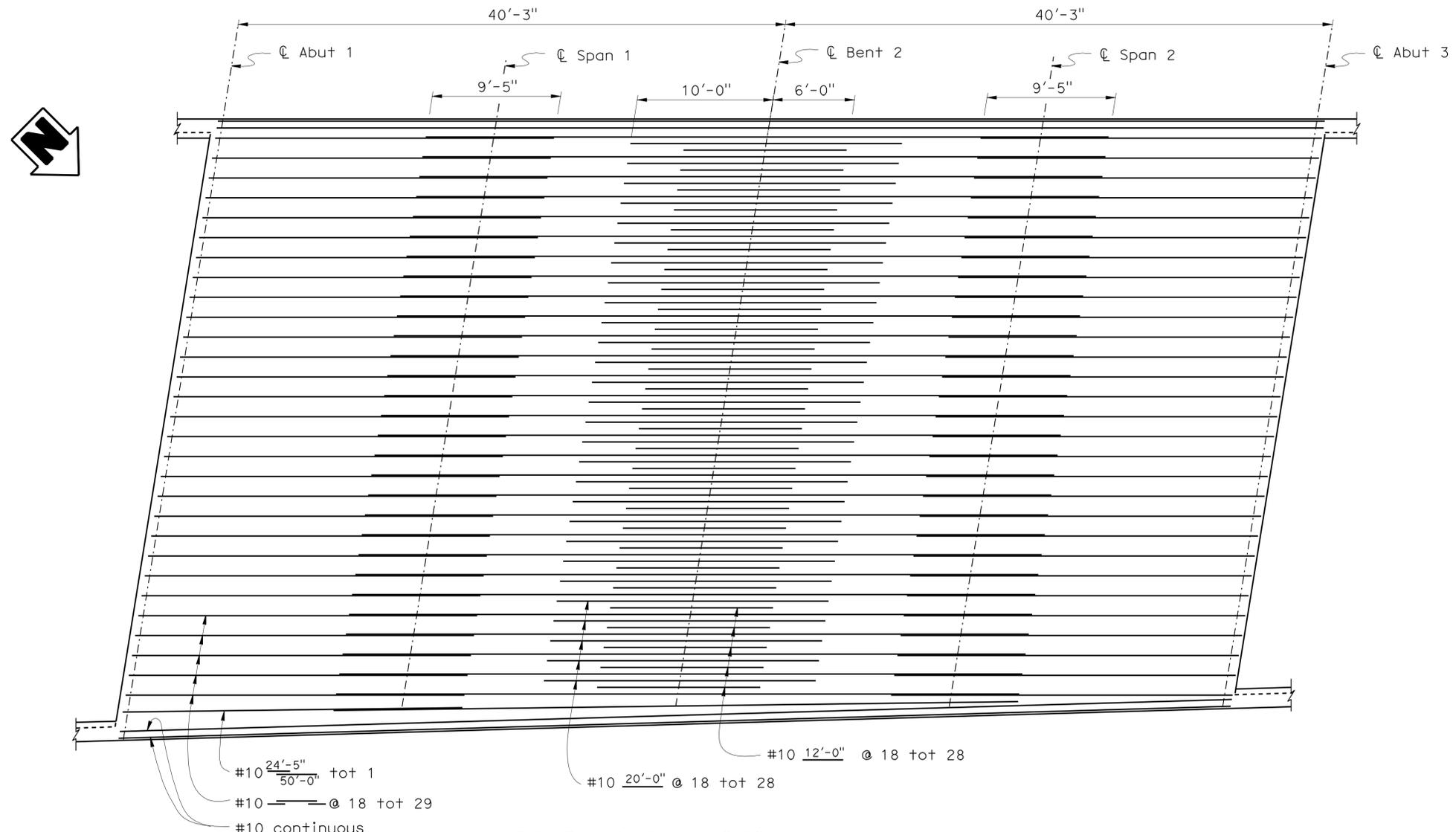
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) FILE => 39C0375-i-pierdt.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	715	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 10-11-10
 PLANS APPROVAL DATE
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TYPICAL SECTION
1/2" = 1'-0"



TOP SLAB REINFORCEMENT
1" = 5'-0"

DESIGN	BY G. Schuster	CHECKED N. Terzis
DETAILS	BY S. Jiang/A. Chen	CHECKED N. Terzis
QUANTITIES	BY N. Terzis	CHECKED A. Chen

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	39C0375
POST MILE	9.43

DUCK SLOUGH BRIDGE
EAST FRONTAGE ROAD
TYPICAL SECTION

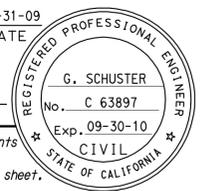
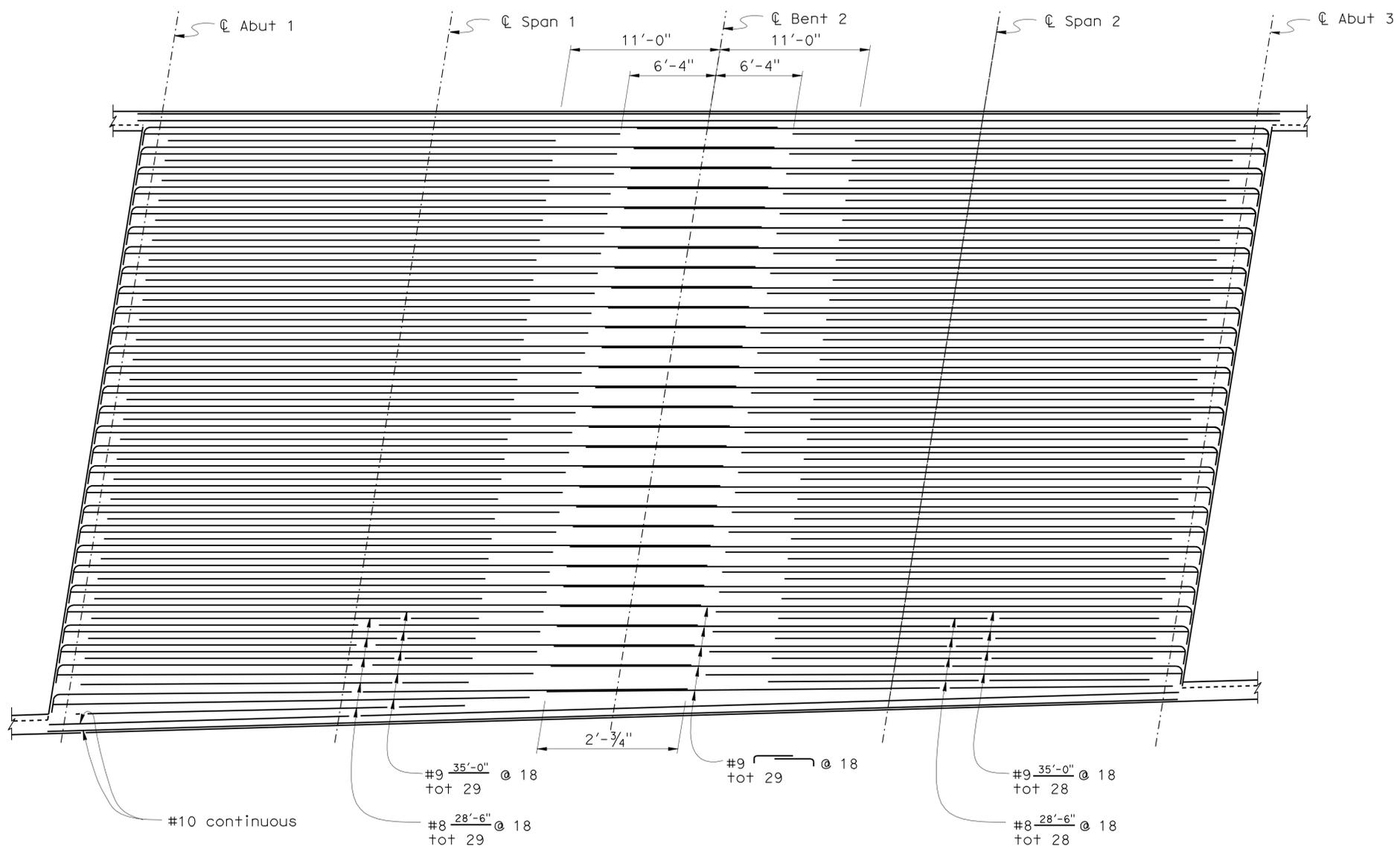
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES	3-04-08	3-11-08	4-14-08	5-09-08	12-09-08	12-17-08	1-27-09	SHEET 7 OF 15
---	---------	---------	---------	---------	----------	----------	---------	---------------

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	716	751


 REGISTERED CIVIL ENGINEER DATE 07-31-09
 10-11-10
 PLANS APPROVAL DATE
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BOTTOM SLAB REINFORCEMENT
 1" = 5'-0"

DESIGN	BY G. Schuster	CHECKED N. Terzis
DETAILS	BY S. Jiang/A. Chen	CHECKED N. Terzis
QUANTITIES	BY N. Terzis	CHECKED A. Chen

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	39C0375
POST MILE	9.43

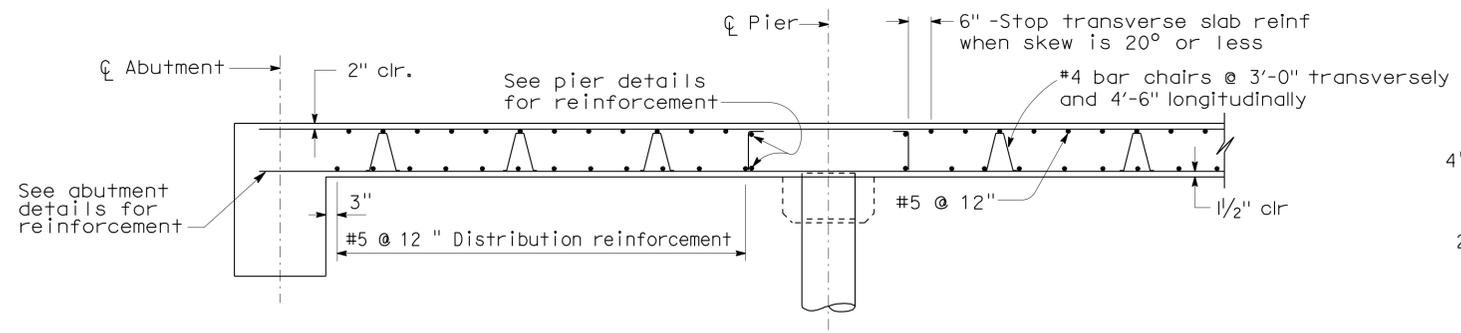
DUCK SLOUGH BRIDGE
EAST FRONTAGE ROAD
SLAB REINFORCEMENT DETAILS NO. 1

USERNAME => hrlengard DATE PLOTTED => 11-OCT-2010 TIME PLOTTED => 13:54

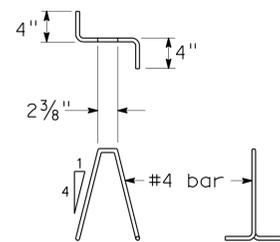
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	717	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

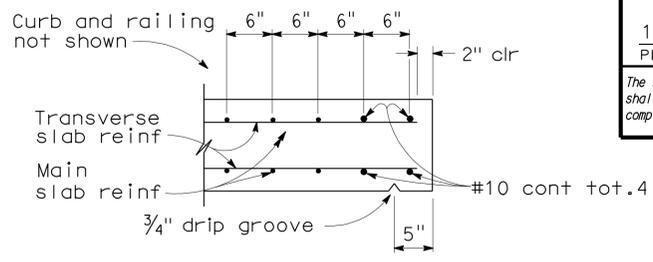
10-11-10
 PLANS APPROVAL DATE
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LONGITUDINAL SECTION



BAR CHAIR DETAIL

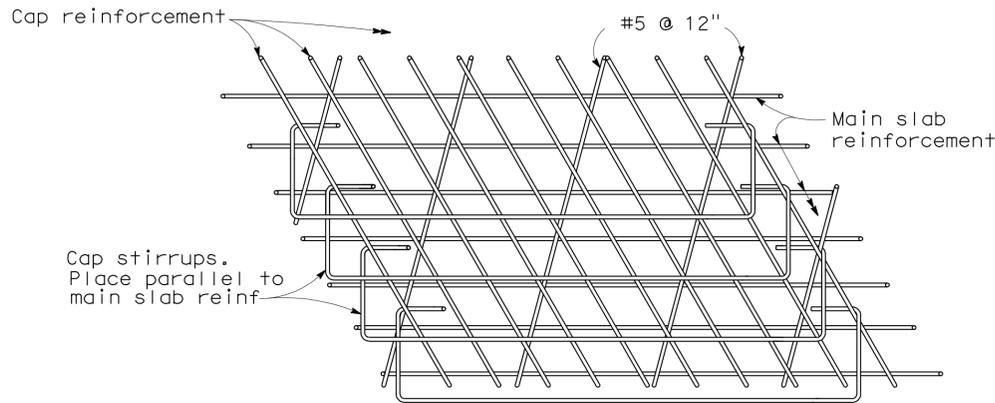


EDGE OF SLAB DETAILS

BAR SPLICE LENGTH (Inch)								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars in spans over 23'	23	28	34	39	45	68	76	85
Top bars in spans over 23'	23	28	34	53	60	77	97	120

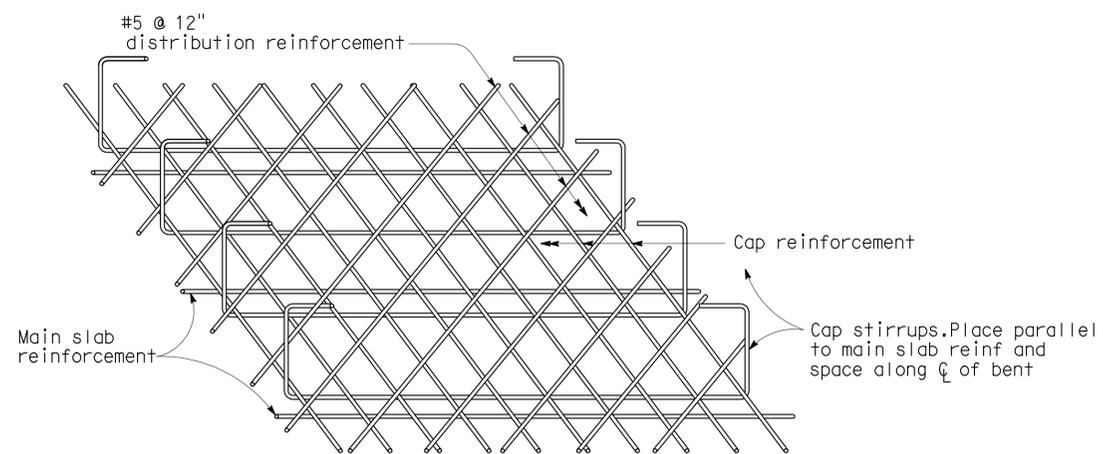
REINFORCEMENT NOTES:

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



TOP SLAB REINFORCEMENT AT PIER

Note: View for main span over 23'.
 Bar placement similar for spans under 23'.



FLUSH CAP

BOTTOM SLAB REINFORCEMENT AT PIER

**GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN**

DESIGN: AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
 DEAD LOAD: Includes 35 Psf for future wearing surface.
 LIVE
 LOADING: HL93 Alternative loading and "Low-Boy" permit design vehicle
 REINFORCED
 CONCRETE: $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$

**SPECIAL DETAILS
NO SCALE**

DUCK SLOUGH BRIDGE
EAST FRONTAGE ROAD
SLAB REINFORCEMENT DETAILS NO. 2

DESIGN BY	G. Schuster	CHECKED	N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	39C0375
DETAILS BY	S. Jiang	CHECKED	N. Terzis			POST MILE	9.43
QUANTITIES BY	N. Terzis	CHECKED	A. Chen				

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10
EA 415701

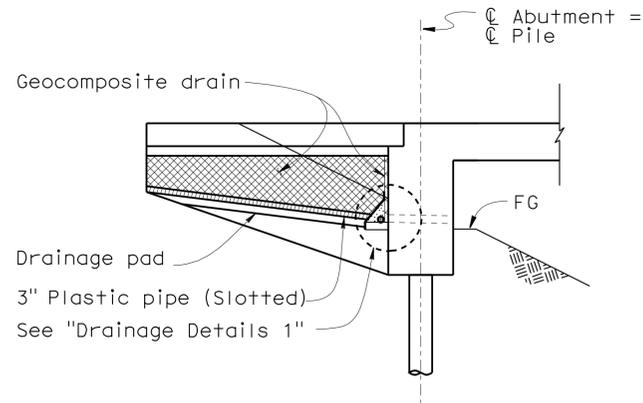
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	06-18-08 06-24-08 12-18-08 01-21-09 06-25-09	9	15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	718	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

10-11-10
 PLANS APPROVAL DATE

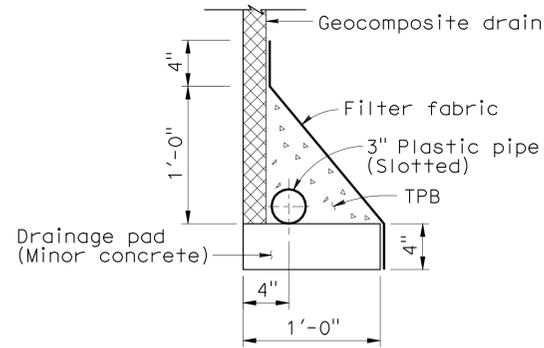
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CANTILEVER WINGWALL

SECTION F-F

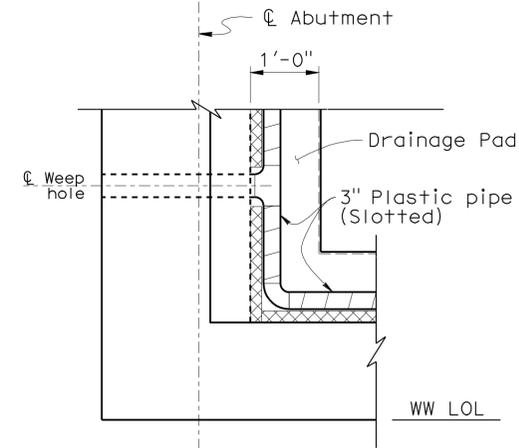
1/4" = 1'-0"



WITHOUT FOOTING

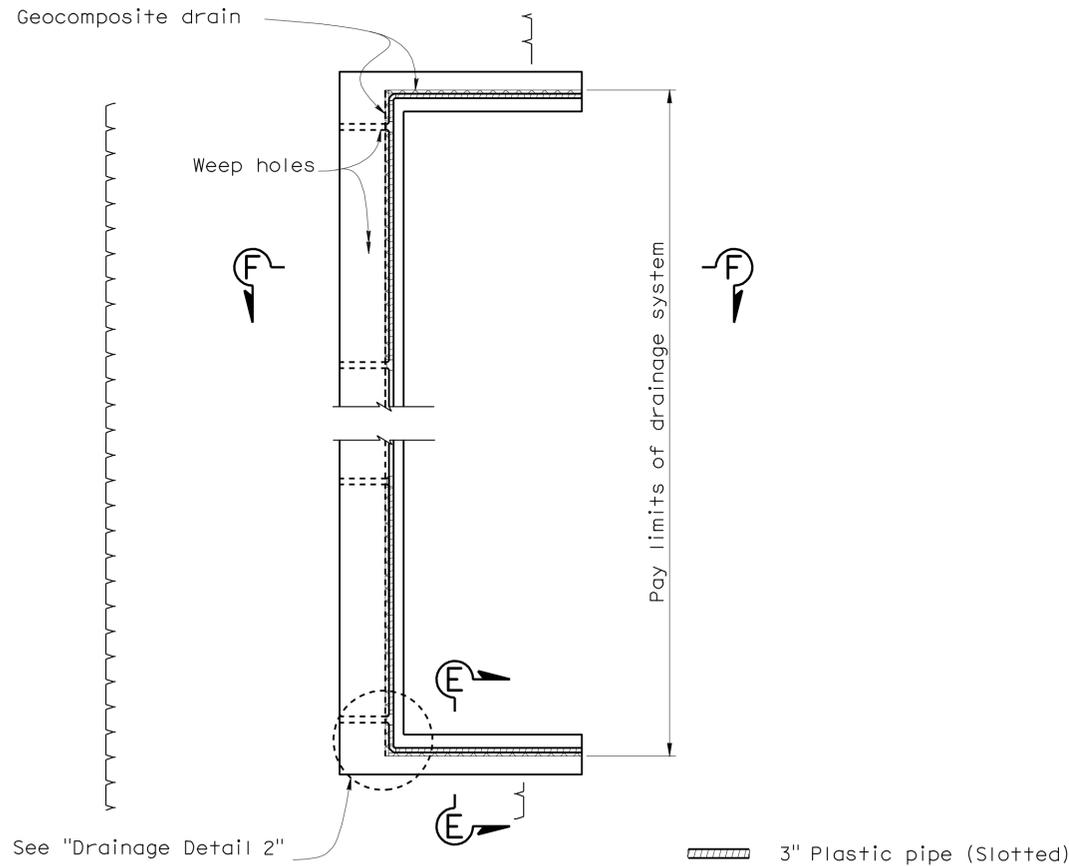
DRAINAGE DETAIL 1

1/2" = 1'-0"



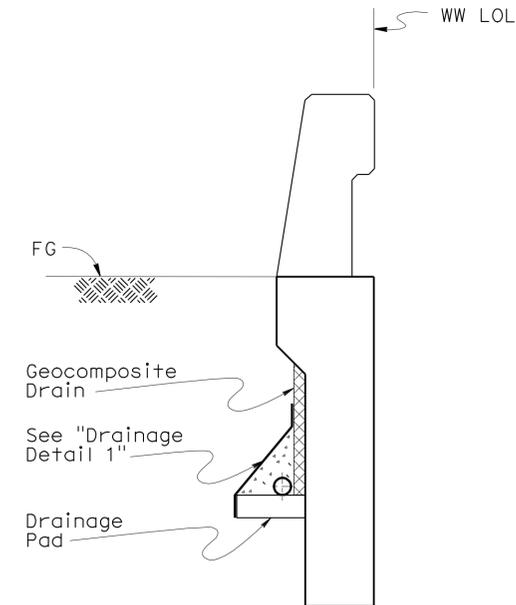
DRAINAGE DETAIL 2

3/4" = 1'-0"



TYPICAL PLAN

1" = 5'-0"



SECTION E-E

3/4" = 1'-0"

DESIGN	BY G. Schuster	CHECKED N. Terzis
DETAILS	BY A. Chen/S. Jiang	CHECKED N. Terzis
QUANTITIES	BY N. Terzis	CHECKED A. Chen

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 5

BRIDGE NO.	39C0375
POST MILE	9.43

DUCK SLOUGH BRIDGE
EAST FRONTAGE ROAD
ABUTMENT DRAINAGE DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10 EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES
6-14-08 6-16-08 6-25-08 7-10-08

SHEET	OF
10	15

BENCH MARK

SURVEY CONTROL

MER-99 -1030 (Not Shown)

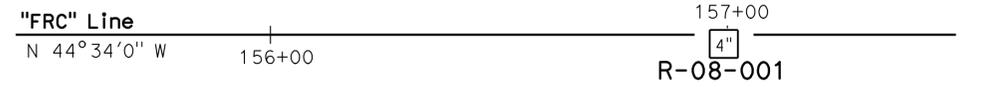
Fnd 1" IP w/RPP & LS5679 TAG
 173.18' Lt "A" Line @ Rte 99
 Sta 360+54.71
 N 1,913,630.36
 E 6,587,582.57
 Elev = 185.63'

MER-99 -1031 (Not Shown)

Fnd 1" IP w/RPP & LS5679 TAG
 174.31' Lt "A" Line @ Rte 99
 Sta 357+19.78
 N 1,913,390.95
 E 6,587,816.80
 Elev = 187.20'
 NGVD 29



← To Fresno



To Merced →

CPT-08-004
 ▲ CPT-08-002
 ▲ CPT-08-003



PLAN

1" = 20'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	720	751

Xing Zheng 5-13-09
 CERTIFIED ENGINEERING GEOLOGIST

10-11-10
 PLANS APPROVAL DATE

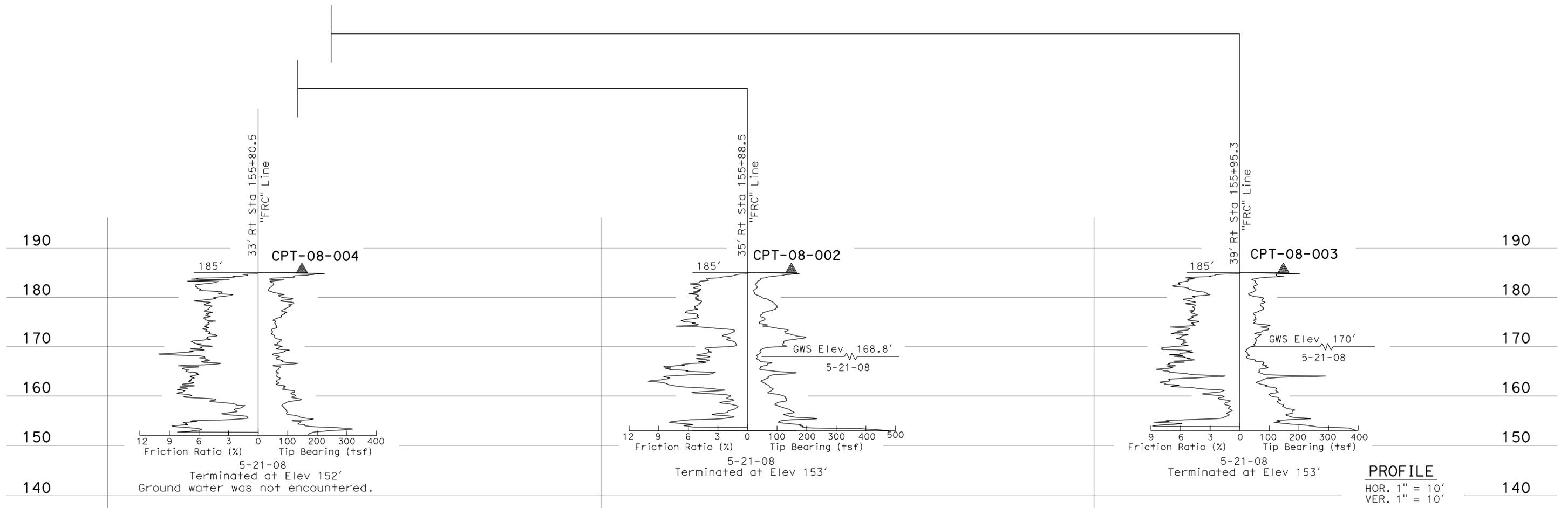
Xing Zheng
 No. 2130
 Exp. 3-31-11
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).

Notes:

1. CME-75 Truck Mounted rig (C# 5677) with automatic hammer was used to obtain SPT samples in Borings R-08-001.
2. pp= Pocket Penetrometer Test (tsf).



PROFILE
 HOR. 1" = 10'
 VER. 1" = 10'

155+50

156+50

157+50

DUCK SLOUGH BRIDGE

EAST FRONTAGE ROAD

LOG OF TEST BORINGS 1 OF 4

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 39C0375	LOG OF TEST BORINGS 1 OF 4	SHEET 12 OF 15
FUNCTIONAL SUPERVISOR NAME: R. Buehl	DRAWN BY: F. Nguyen 01/09 CHECKED BY: J. Thorne	FIELD INVESTIGATION BY: X. Zheng				POST MILES 9.43		
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	721	751

5-13-09

Chang Xing
CERTIFIED ENGINEERING GEOLOGIST

10-11-10
PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST

Xing Zheng

No. 2130

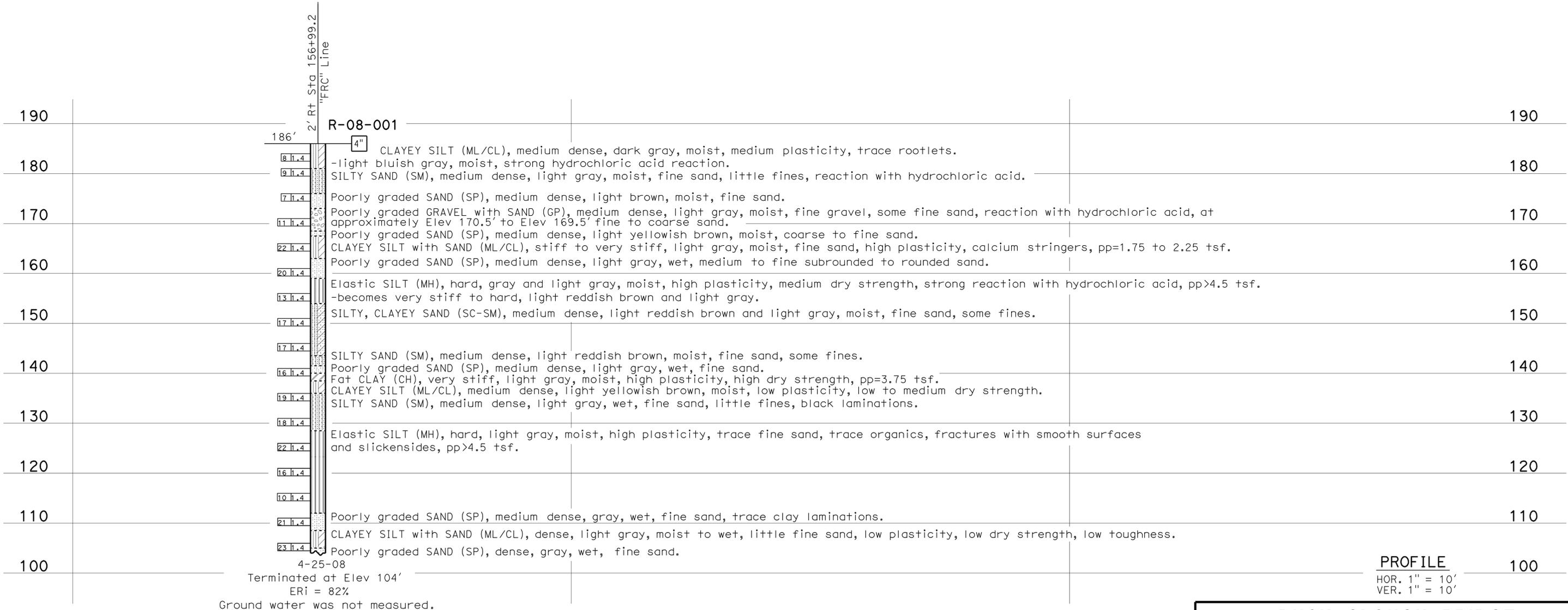
Exp. 3-31-11

CERTIFIED ENGINEERING GEOLOGIST

STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 4"



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 39C0375	DUCK SLOUGH BRIDGE
FUNCTIONAL SUPERVISOR NAME: R. Buehl	DRAWN BY: F. Nguyen 01/09 CHECKED BY: J. Thorne	FIELD INVESTIGATION BY: X. Zheng	POST MILES 9.43	EAST FRONTAGE ROAD
			DESIGN BRANCH	LOG OF TEST BORINGS 2 OF 4
065 CIVIL LOG OF TEST BORINGS SHEET			CU 10 EA 415701	REVISION DATES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 13 OF 15

USERNAME => h1tenard DATE PLOTTED => 11-OCT-2010 TIME PLOTTED => 14:25

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	722	751

Xing Zheng 5-13-09
 CERTIFIED ENGINEERING GEOLOGIST
 No. 2130
 Exp. 3-31-11
 PROFESSIONAL GEOLOGIST
 STATE OF CALIFORNIA

10-11-10
PLANS APPROVAL DATE

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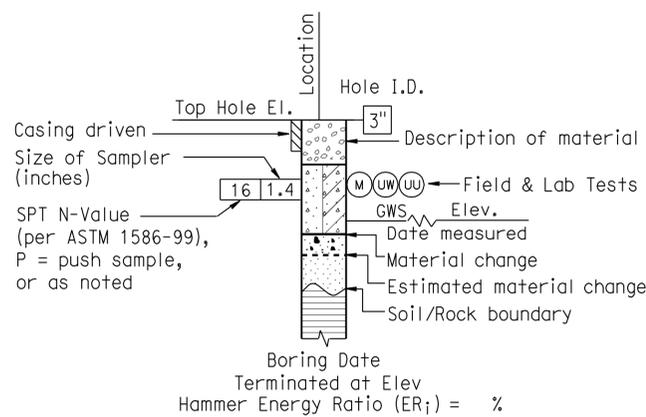
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

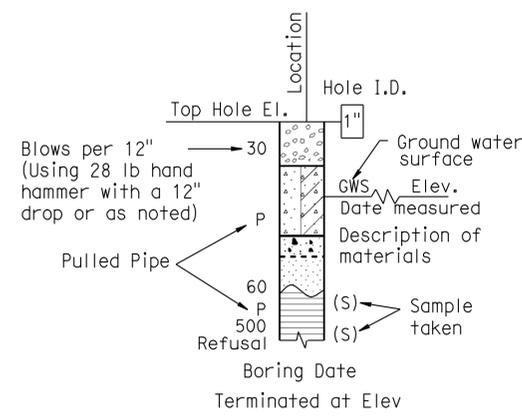
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

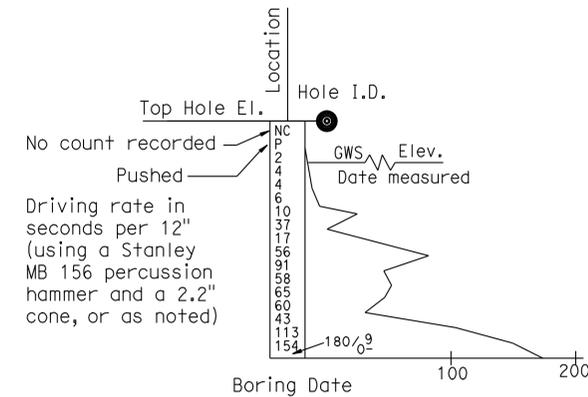
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



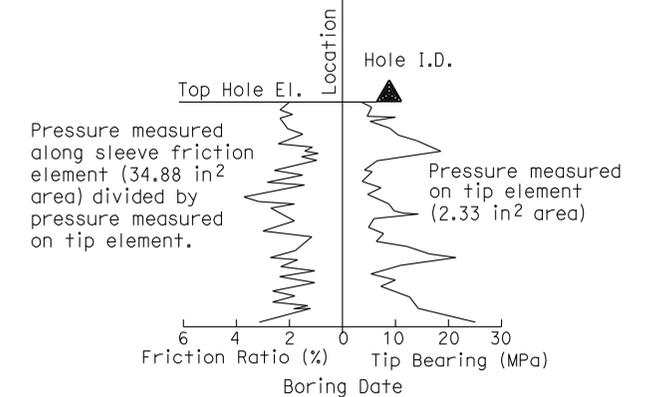
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 39C0375 POST MILE 9.43	DUCK SLOUGH BRIDGE EAST FRONTAGE ROAD LOG OF TEST BORINGS 3 OF 4
PREPARED BY: F. Nguyen 01/09		CU 10 EA 415701		REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
GS LOTB SOIL LEGEND		FILE => 39C0375-z-lotb3of4.dgn		14 15	

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5-13-09

Xing Zheng
CERTIFIED ENGINEERING GEOLOGIST

10-11-10
PLANS APPROVAL DATE

No. 2130
Exp. 3-31-11
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY		GRAVELLY lean CLAY with SAND
	(or SILTY CLAY)		SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with SAND
	(or SILTY CLAY and SAND)		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT		SANDY SILTY CLAY
	Poorly graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY		GRAVELLY SILTY CLAY with SAND
	(or SILTY CLAY)		SILT
	Poorly graded GRAVEL with CLAY and SAND		SILT with SAND
	(or SILTY CLAY and SAND)		SILT with GRAVEL
	SILTY GRAVEL		SANDY SILT
	SILTY GRAVEL with SAND		SANDY SILT with GRAVEL
	CLAYEY GRAVEL		GRAVELLY SILT
	CLAYEY GRAVEL with SAND		GRAVELLY SILT with SAND
	SILTY, CLAYEY GRAVEL		ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY with SAND
	Well-graded SAND		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with GRAVEL		SANDY ORGANIC lean CLAY
	Poorly graded SAND		SANDY ORGANIC lean CLAY with GRAVEL
	Poorly graded SAND with GRAVEL		GRAVELLY ORGANIC lean CLAY
	Well-graded SAND with SILT		GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND with SILT and GRAVEL		Elastic SILT
	Well-graded SAND with CLAY		Elastic SILT with SAND
	(or SILTY CLAY)		Elastic SILT with GRAVEL
	Well-graded SAND with CLAY and GRAVEL		SANDY elastic SILT
	(or SILTY CLAY and GRAVEL)		SANDY elastic SILT with GRAVEL
	Poorly graded SAND with SILT		GRAVELLY elastic SILT
	Poorly graded SAND with SILT and GRAVEL		GRAVELLY elastic SILT with SAND
	Poorly graded SAND with CLAY		ORGANIC fat CLAY
	(or SILTY CLAY)		ORGANIC fat CLAY with SAND
	Poorly graded SAND with CLAY and GRAVEL		ORGANIC fat CLAY with GRAVEL
	(or SILTY CLAY and GRAVEL)		SANDY ORGANIC fat CLAY
	SILTY SAND		SANDY ORGANIC fat CLAY with GRAVEL
	SILTY SAND with GRAVEL		GRAVELLY ORGANIC fat CLAY
	CLAYEY SAND		GRAVELLY ORGANIC fat CLAY with SAND
	CLAYEY SAND with GRAVEL		ORGANIC elastic SILT
	SILTY, CLAYEY SAND		ORGANIC elastic SILT with SAND
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT
			SANDY ORGANIC elastic SILT with GRAVEL
	PEAT		GRAVELLY ORGANIC elastic SILT
			GRAVELLY ORGANIC elastic SILT with SAND
	COBBLES		ORGANIC SOIL
	COBBLES and BOULDERS		ORGANIC SOIL with SAND
	BOULDERS		ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UC)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

DUCK SLOUGH BRIDGE
EAST FRONTAGE ROAD
LOG OF TEST BORINGS 4 OF 4

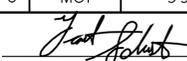
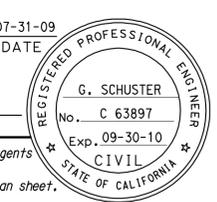
ENGINEERING SERVICES

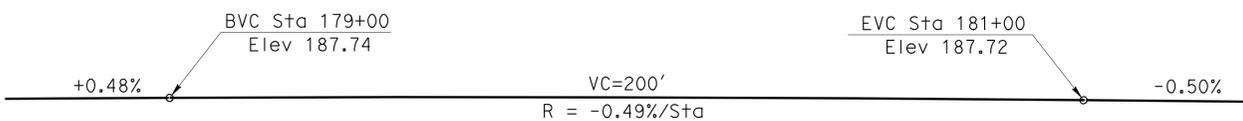
GEOTECHNICAL SERVICES
PREPARED BY: F. Nguyen 01/09

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

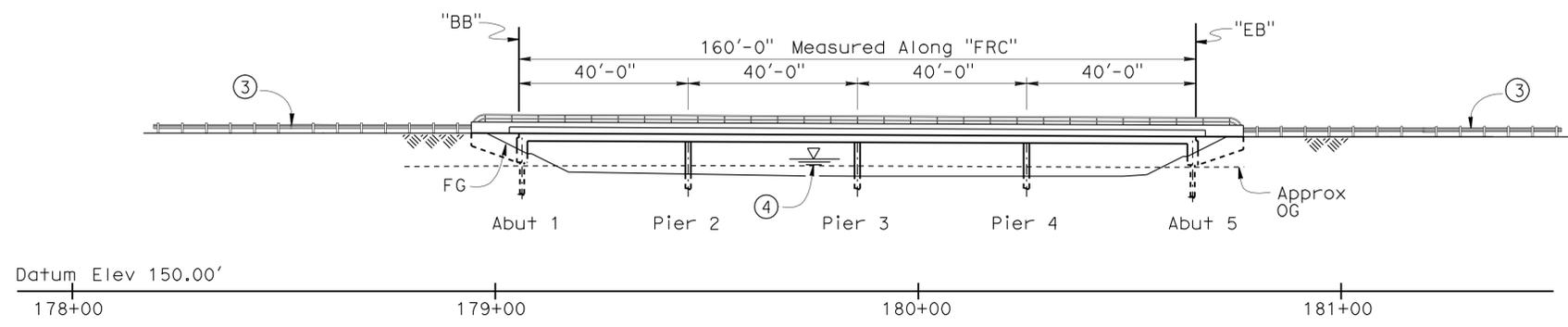
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH

BRIDGE No. 39C0375
POST MILE 9.43

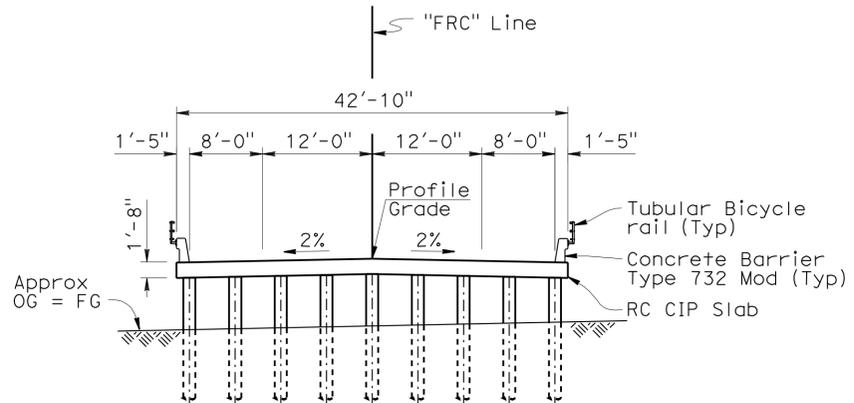
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	724	751
 REGISTERED CIVIL ENGINEER			07-31-09	DATE	
10-11-10			PLANS APPROVAL DATE		
					
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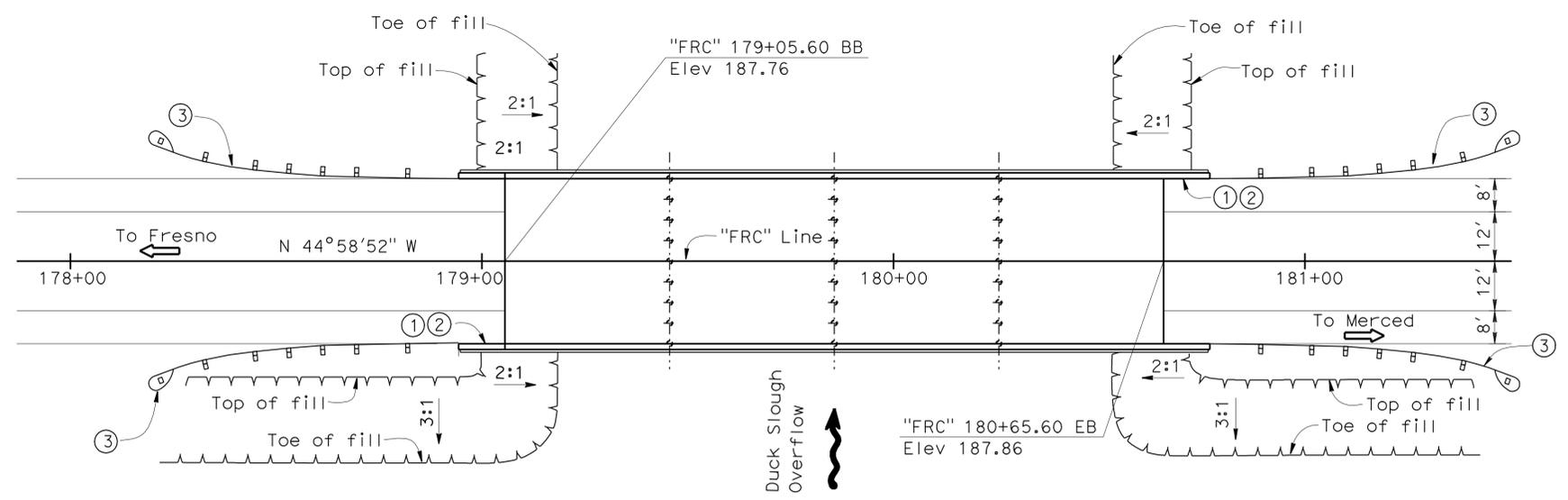
PROFILE GRADE
No Scale



ELEVATION
1" = 20'-0"



TYPICAL SECTION
1" = 10'-0"



PLAN
1" = 20'-0"

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

- Legend:
- ① Paint "Duck Slough Overflow".
 - ② Paint Bridge No. 39C0377.
 - ③ Metal Beam Guard Rail, See "Road Plan".
 - ④ For Hydrologic Summary, See "Foundation Plan".
- Note: For "General Notes", "Index Plans", "Standard Plans", "Quantities", See "Index To Plans" sheet.

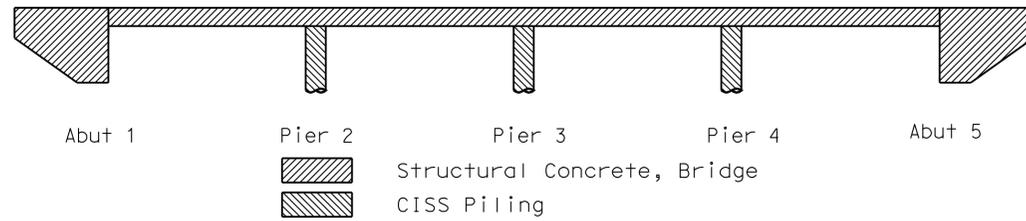
Gary Blakesley DESIGN ENGINEER	DESIGN BY G. Schuster	CHECKED N. Terzis	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0377	DUCK SLOUGH OVERFLOW BRIDGE EAST FRONTAGE ROAD GENERAL PLAN	
	DETAILS BY S. Jiang/G. Souza	CHECKED N. Terzis	LAYOUT BY G. Schuster	CHECKED N. Terzis			POST MILE 9.86		
	QUANTITIES BY C. Siegenthaler	CHECKED N. Terzis	SPECIFICATIONS BY Aiman Abdel-Malak	PLANS AND SPECS COMPARED					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 12-06-07, 07-19-08, 04-11-08, 04-25-08, 5-22-08, 6-15-08, 12-18-08, 1-27-09, 2-19-09, 9-16-09	SHEET 1 OF 14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	725	751

10-11-10
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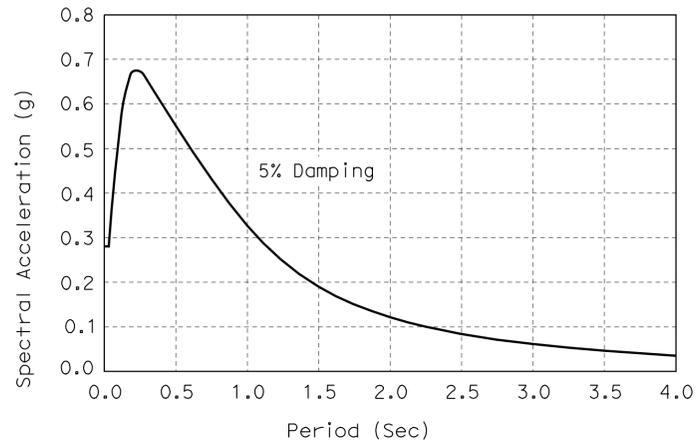
GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.4, June, 2006
DEAD LOAD: Includes 35 Psf for future wearing surface.
LIVE LOADING: HL93 Alternative loading and "Low-Boy" permit design vehicle
SEISMIC LOADING: Caltrans SDC ARS curve for soil profile type D (M = 6.5 ± 0.25), (Peak Rock Acceleration = 0.2g)
REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$



CONCRETE STRENGTH AND TYPE LIMITS

No Scale



SOIL PROFILE TYPE D: Mw = 6.5, PBA = 0.2g

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	65	CY
STRUCTURE BACKFILL (BRIDGE)	45	CY
FURNISH PILING (CLASS 90)	433	LF
DRIVE PILE (CLASS 90)	14	EA
FURNISH 16" CAST-IN-STEEL SHELL CONCRETE PILING	1,757	LF
DRIVE 16" CAST-IN-STEEL SHELL CONCRETE PILE	27	EA
STRUCTURAL CONCRETE, BRIDGE	480	CY
BAR REINFORCING STEEL (BRIDGE)	110,000	LB
TUBULAR BICYCLE RAILING	365	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	365	LF

INDEX TO PLANS

Sheet No.	Title
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	DECK CONTOURS
4.	FOUNDATION PLAN
5.	ABUTMENT LAYOUT
6.	PIER DETAILS
7.	TYPICAL SECTION
8.	SLAB REINFORCEMENT DETAILS NO. 1
9.	SLAB REINFORCEMENT DETAILS NO. 2
10.	ABUTMENT DRAINAGE DETAILS
11.	TUBULAR BICYCLE RAILING
12.	LOG OF TEST BORINGS 1 OF 3
13.	LOG OF TEST BORINGS 2 OF 3
14.	LOG OF TEST BORINGS 3 OF 3

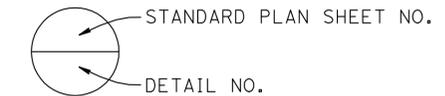
PILE DATA TABLE B2-5

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 90	180	0	149.0 (1) 140.0 (2)	149.0	180
Pier 2	CISS NPS 16x0.500	280	0	121.0 (1) 139.0 (2)	121.0	280
Pier 3	CISS NPS 16x0.500	280	0	121.0 (1) 139.0 (2)	121.0	280
Pier 4	CISS NPS 16x0.500	280	0	121.0 (1) 139.0 (2)	121.0	280
Abut 5	Class 90	180	0	149.0 (1) 140.0 (2)	149.0	180

NOTE: Design tip elevations are controlled by the following demands: (1) Compression, (2) Lateral.

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
B0-1	BRIDGE DETAILS
B2-5	PILE DETAILS CLASS 90 AND CLASS 140
B11-55	CONCRETE BARRIER TYPE 732



DUCK SLOUGH OVERFLOW BRIDGE

EAST FRONTAGE ROAD

INDEX TO PLANS

DESIGN BY G. Schuster	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 39C0377	DESIGN BRANCH 5
DETAILS BY G. M. Souza/S. Jiang/T. Cotton	CHECKED N. Terzis		POST MILE 9.86	
QUANTITIES BY C. Siegenthaler	CHECKED N. Terzis			

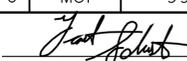
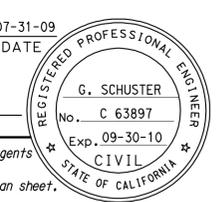
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

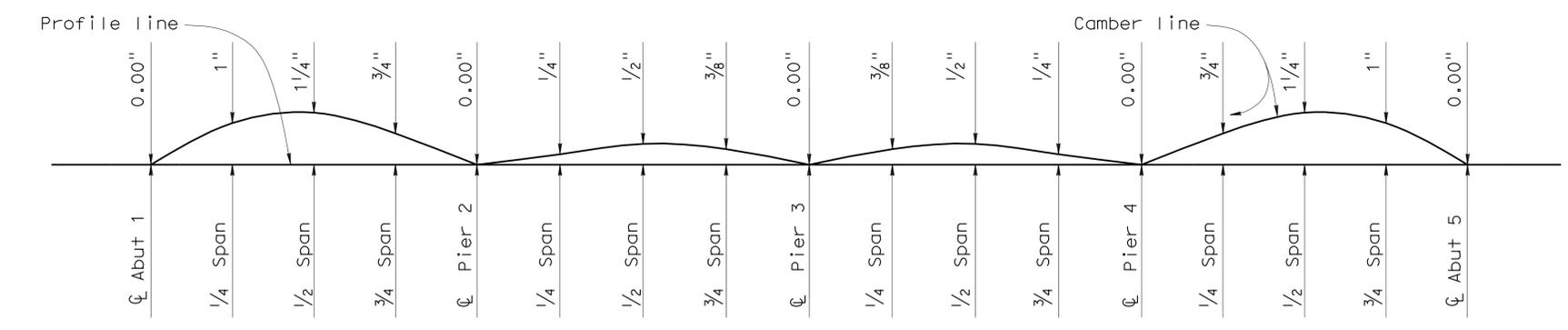


CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES										SHEET	OF
11-11-07	07-24-08	08-13-08	12-18-08	01-23-09	2-19-09	02-25-09	03-19-09	06-25-09	8-11-09	2	14

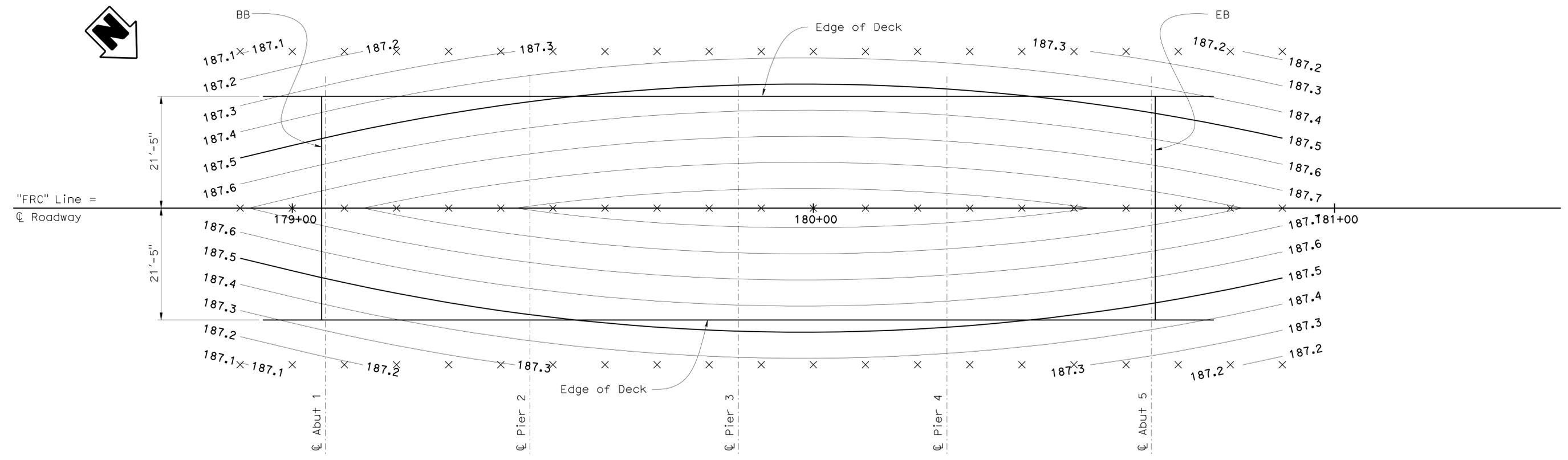
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	726	751
 REGISTERED CIVIL ENGINEER DATE 07-31-09					
10-11-10 PLANS APPROVAL DATE					
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Notes:
 x = 10' interval along station line.
 Contours do not include camber.
 Contour interval = 0.1'

Note:
 Does not include allowance for false work settlement.

CAMBER DIAGRAM
no scale

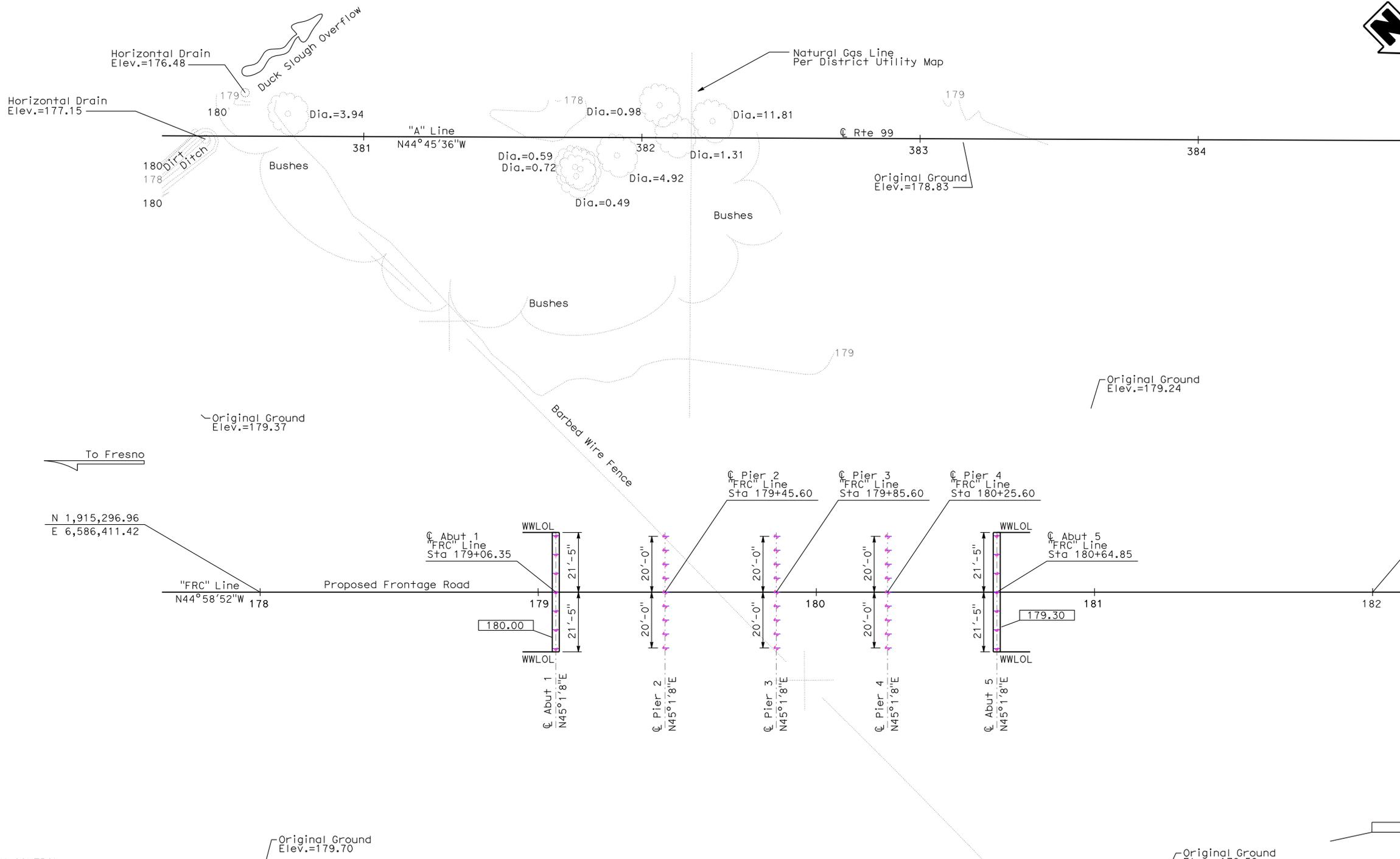


DECK CONTOURS
1" = 10'-0"

DESIGN BY G. Schuster DETAILS BY G. M. Souza/S. Jiang QUANTITIES BY C. Siegenthaler		CHECKED BY N. Terzis CHECKED BY N. Terzis CHECKED BY N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5		BRIDGE NO. 39C0377 POST MILE 9.86		DUCK SLOUGH OVERFLOW BRIDGE EAST FRONTAGE ROAD DECK CONTOURS					
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3						CU 10 EA 415701		DISREGARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES: 04-24-08, 04-25-08, 08-14-08, 08-25-08, 1-27-09		SHEET 3 OF 14	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	727	751

REGISTERED CIVIL ENGINEER **G. SCHUSTER** No. C 63897 Exp. 09-30-10
 DATE 07-31-09
 PLANS APPROVAL DATE 10-11-10
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[Symbol] Indicates bottom of footing elevation.
 WWLOL are parallel to "FRC" Line

HYDROLOGIC SUMMARY

DRAINAGE AREA: NA SQUARE MILES

FREQUENCY (YEARS)	DESIGN FLOOD	BASE FLOOD
50	2500	3500
100	183.4	183.4

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

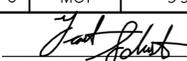
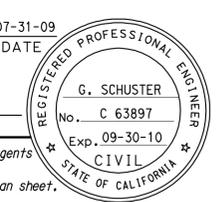
SURVEY CONTROL

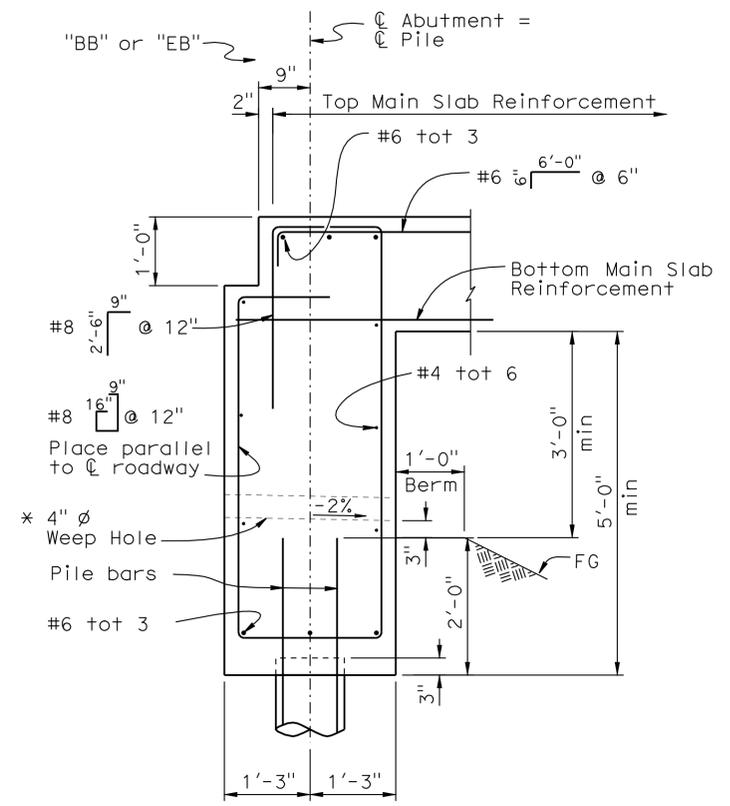
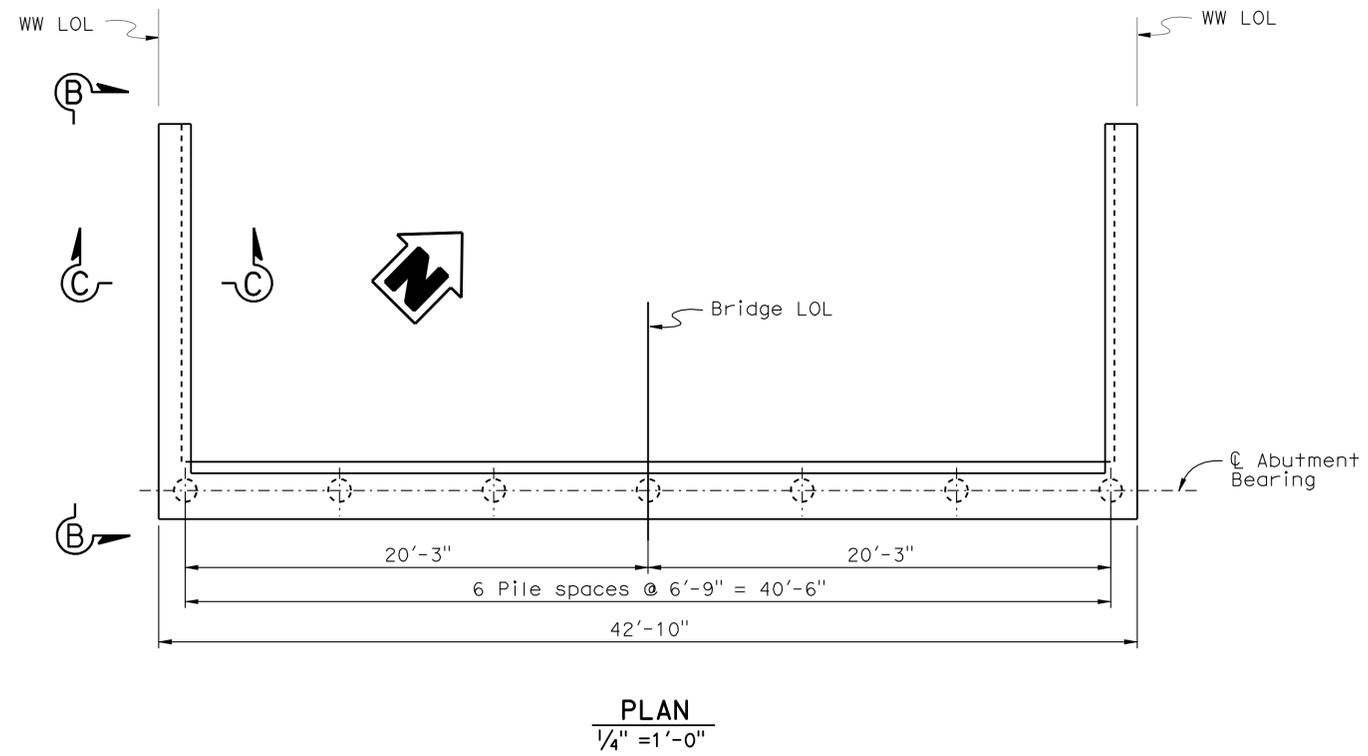
MER-99-1021 (Not Shown)
 Fnd 1 in IP w/RPP & LS5679 TAG
 171.23 Ft Lt. "A" Line C Rte 99
 Sta. 380+41.73
 N 1,915,045.89
 E 6,586,188.93
 Elev. = 180.91

MER-99-2434 (Not Shown)
 Fnd 3/4 in Rebar
 76.51 Ft Lt. "A" Line C Rte 99
 Sta. 383+41.96
 N 1,915,325.77
 E 6,586,044.79
 Elev. = 171.23

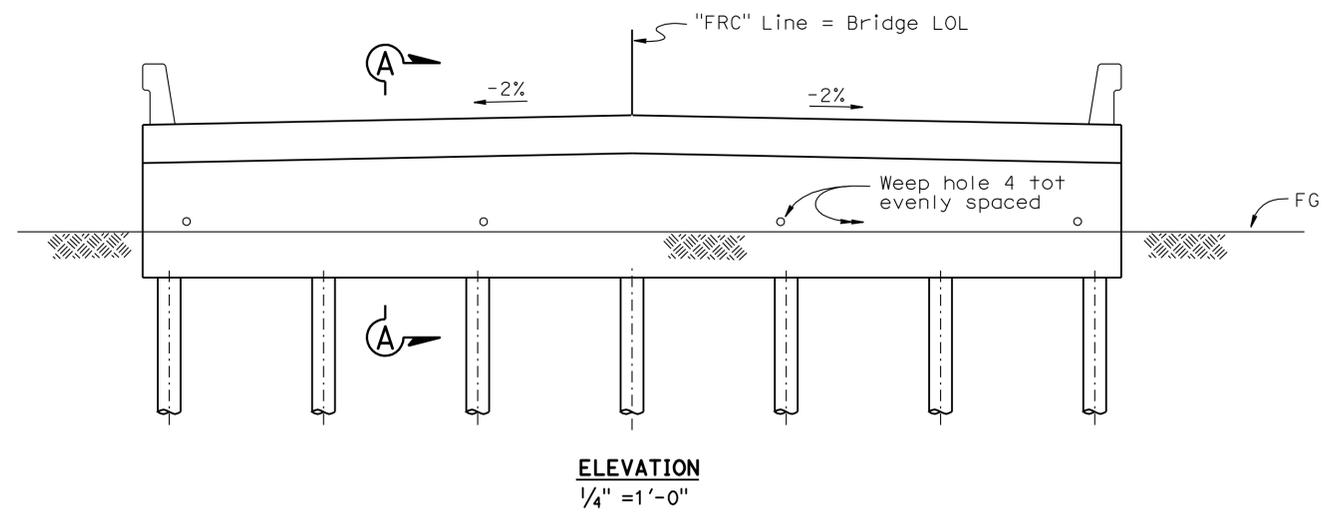
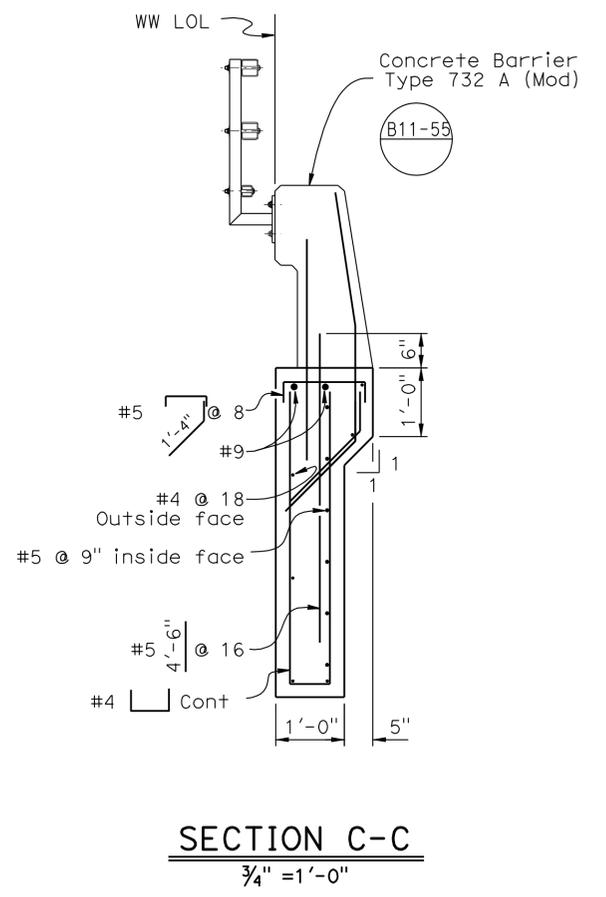
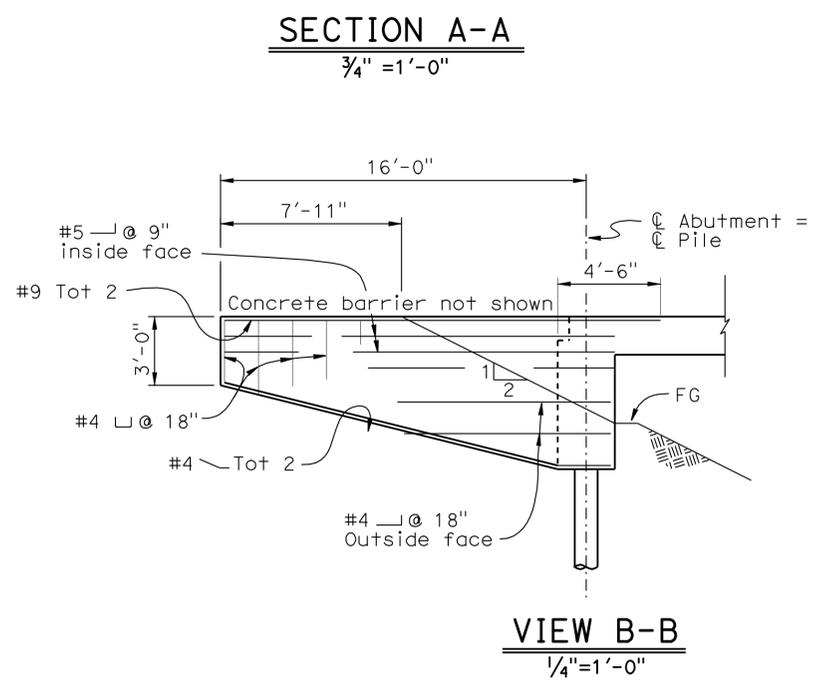
PRELIMINARY INVESTIGATION SECTION				DESIGN BY H. Fang	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0377	DUCK SLOUGH OVERFLOW BRIDGE	
SCALE 1"=20'	VERT. DATUM NGVD 29	PHOTOGRAMMETRY AS OF: X	DETAILS BY G. M. Souza/S. Jiang	CHECKED N. Terzis	POST MILE 9.86			EAST FRONTAGE ROAD		
ALIGNMENT TIES Dist. Traverse Sheet	DRAFTED BY T. Marchenko 12/2007	CHECKED BY J. Paliares 12/2007	QUANTITIES BY C. Siegenthaler	CHECKED N. Terzis	FOUNDATION PLAN					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES

USERNAME => H:\lenard DATE PLOTTED => 11-OCT-2010 TIME PLOTTED => 14:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	728	751
 REGISTERED CIVIL ENGINEER DATE 07-31-09					
10-11-10 PLANS APPROVAL DATE					
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* See "Abutment Drainage Details" sheet



ABUTMENT 5
Abutment 1 Similar

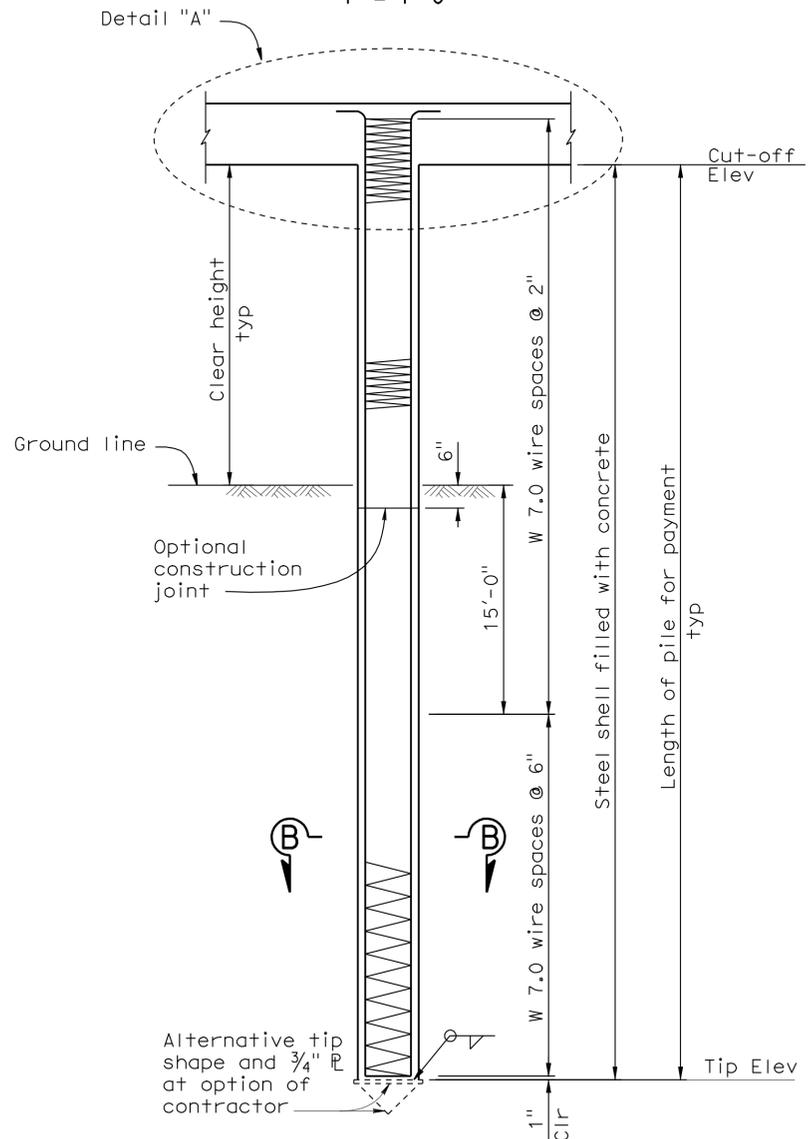
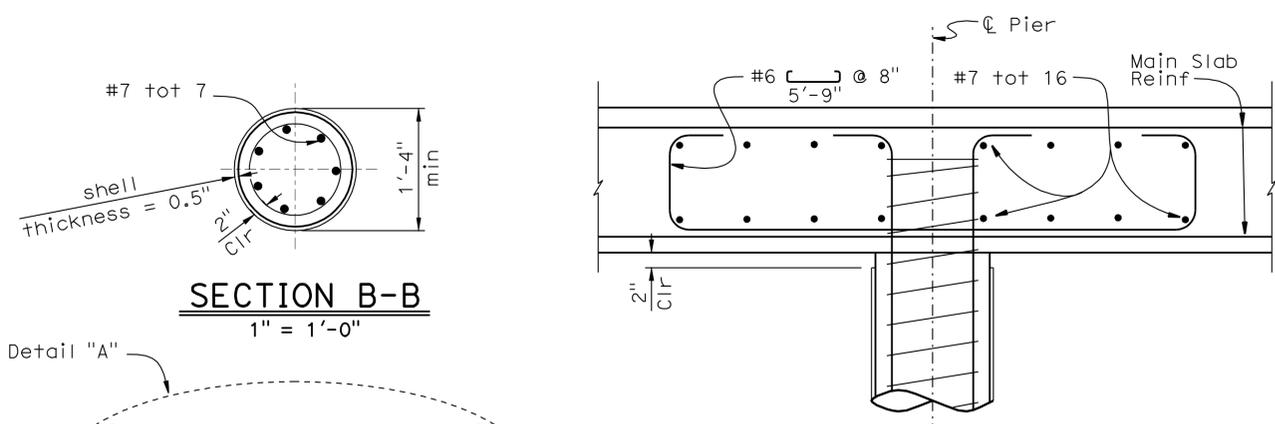
Note:
For drainage details see
"Abutment Drainage Details" sheet

DESIGN BY G. Schuster CHECKED N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0377	DUCK SLOUGH OVERFLOW BRIDGE EAST FRONTAGE ROAD ABUTMENT LAYOUT	
DETAILS BY S. Jiang\A.C.\G.M.S. CHECKED N. Terzis				POST MILE 9.86		
QUANTITIES BY C. Siegenthaler CHECKED N. Terzis				CU 10 EA 415701		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 02-27-08 8-06-09 05-22-08 06-19-08 08-13-08 08-28-08 1-27-09 2-19-09 06-25-09	SHEET 5 OF 14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	729	751

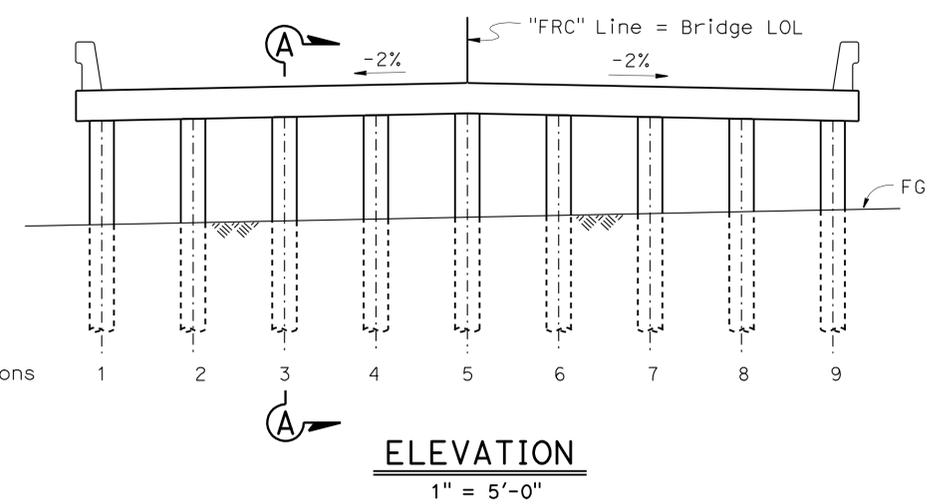
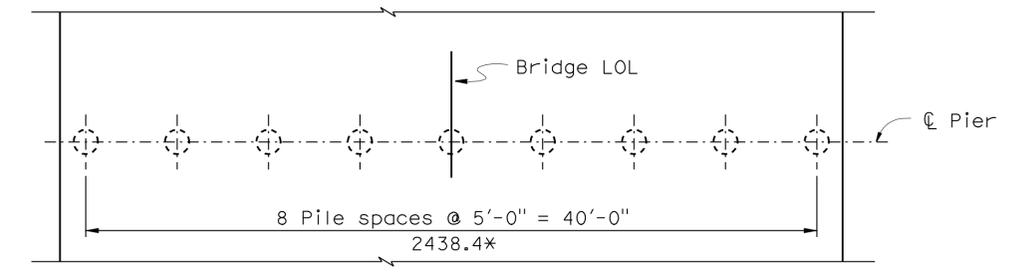

 REGISTERED CIVIL ENGINEER DATE 07-31-09
 PLANS APPROVAL DATE 10-11-10
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

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PILE CUT-OFF ELEVATION TABLE

Pile	Cut-off Elevation (ft)		
	Pier 2	Pier 3	Pier 4
1	185.84	185.90	185.89
2	185.94	186.00	185.99
3	186.04	186.01	186.09
4	186.14	186.20	186.19
5	186.24	186.30	186.29
6	186.14	186.20	186.19
7	186.04	186.10	186.09
8	185.94	186.00	185.99
9	185.84	185.90	185.89



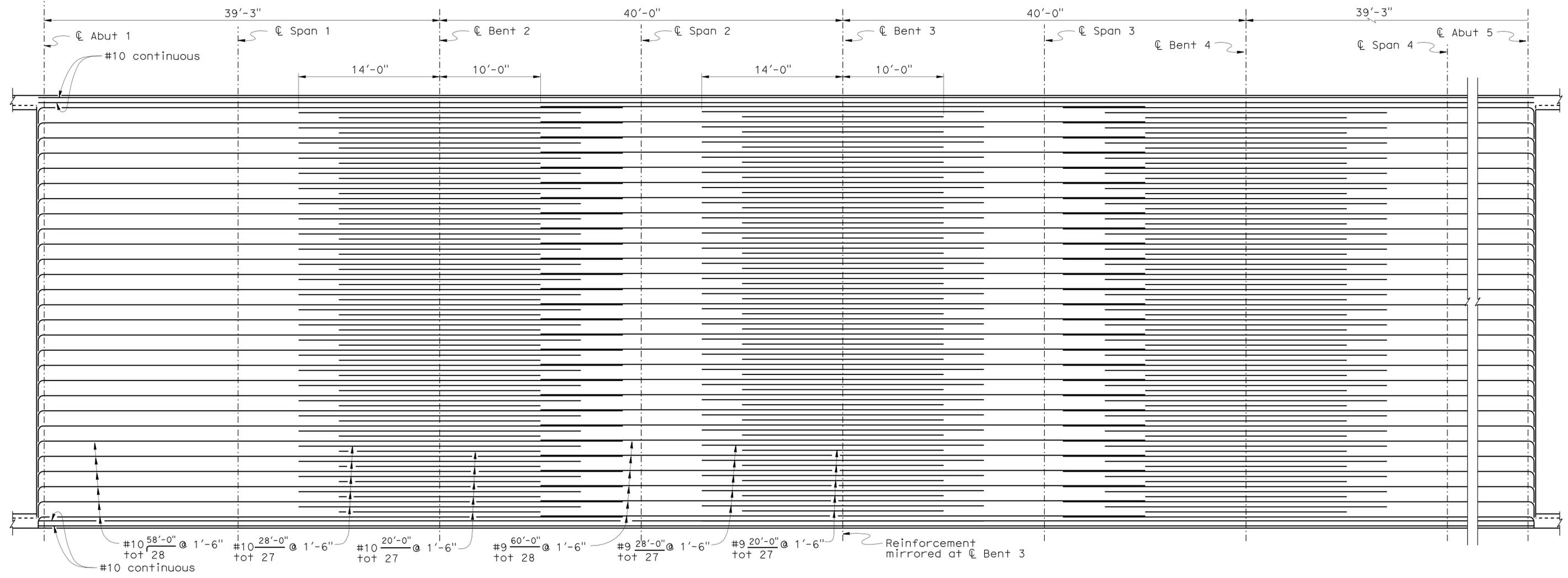
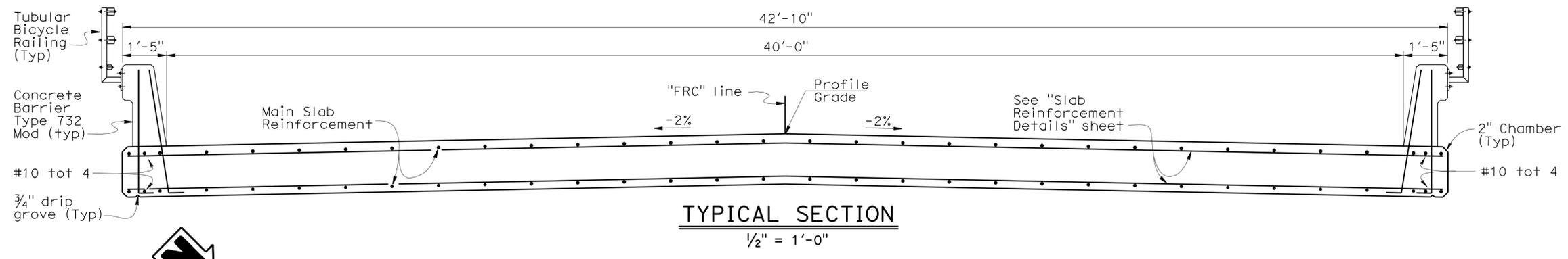
DUCK SLOUGH OVERFLOW BRIDGE
EAST FRONTAGE ROAD
PIER DETAILS

DESIGN BY G. Schuster	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0377
DETAILS BY S. Jiang/G. M. Souza	CHECKED N. Terzis			POST MILE 9.86
QUANTITIES BY C. Siegenthaler	CHECKED N. Terzis			

REVISION DATES										SHEET	OF
03-14-08	04-11-08	04-22-08	05-22-08	06-13-08	08-13-08	08-28-08	01-27-09	02-25-09	04-02-09	6	14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	730	751


 REGISTERED CIVIL ENGINEER DATE 07-31-09
 10-11-10
 PLANS APPROVAL DATE
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DUCK SLOUGH OVERFLOW BRIDGE
EAST FRONTAGE ROAD
TYPICAL SECTION

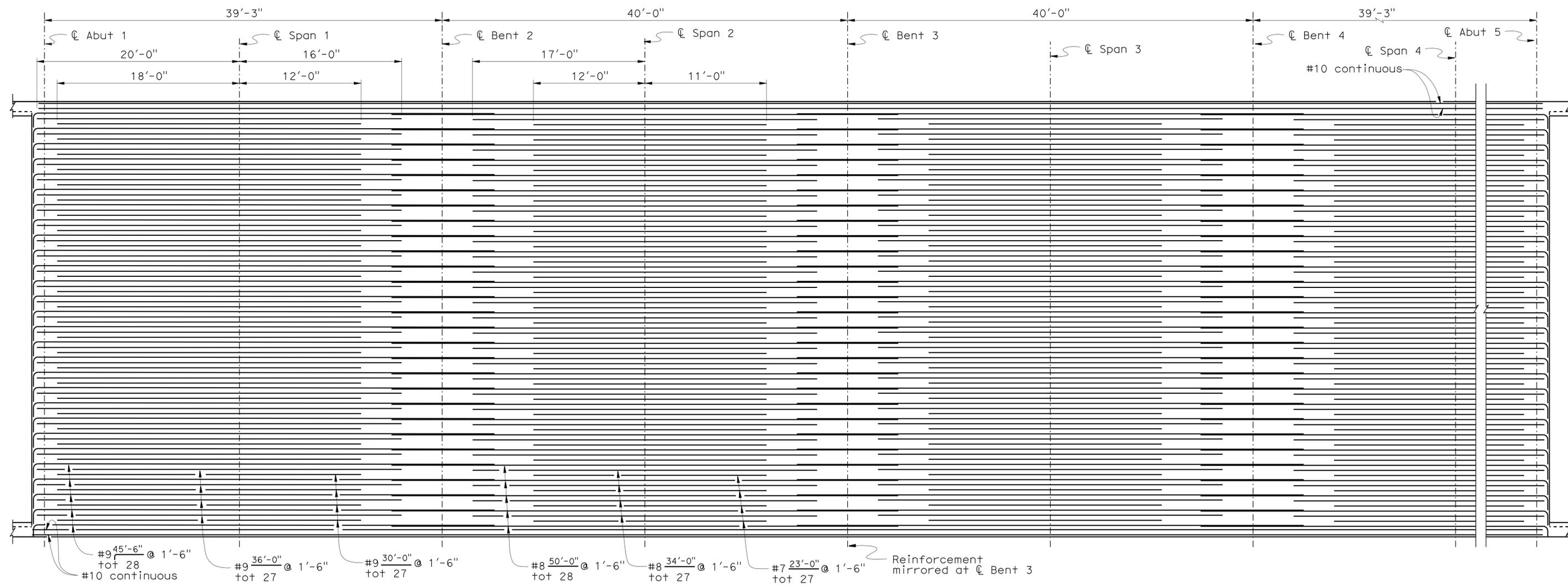
DESIGN	BY G. Schuster	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	39C0377
DETAILS	BY S. Jiang/G. Souza	CHECKED N. Terzis			POST MILE	9.86
QUANTITIES	BY C. Siegenthaler	CHECKED N. Terzis				

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	731	751


 REGISTERED CIVIL ENGINEER DATE 07-31-09
 PLANS APPROVAL DATE 10-11-10
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

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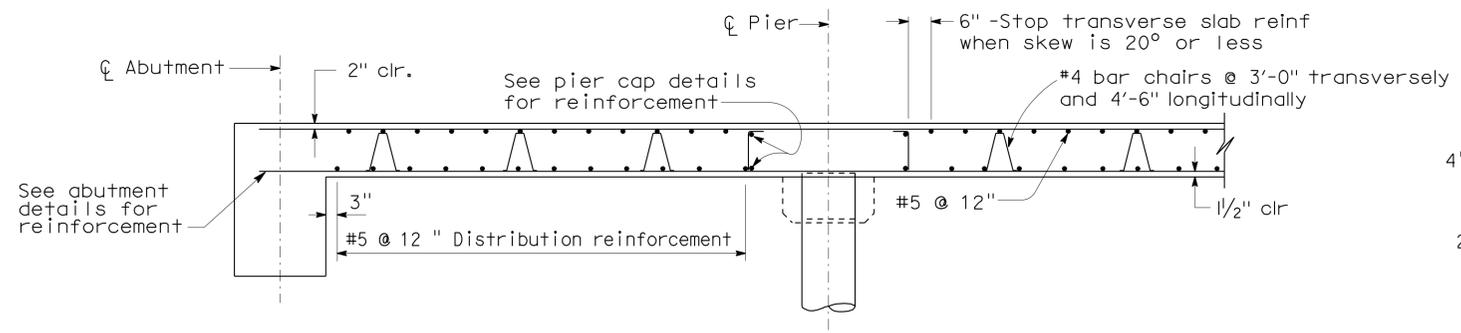
BOTTOM SLAB REINFORCEMENT
1" = 5'-0"

DESIGN BY G. Schuster CHECKED N. Terzis				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0377	DUCK SLOUGH OVERFLOW BRIDGE EAST FRONTAGE ROAD SLAB REINFORCEMENT DETAILS NO. 1
DETAILS BY S. Jiang CHECKED N. Terzis						POST MILE 9.86	
QUANTITIES BY C. Siegenthaler CHECKED N. Terzis						DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 5-08-08, 8-15-08, 8-21-08, 12-18-08, 06-25-09	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3				CU 10 EA 415701	SHEET 8 OF 14		

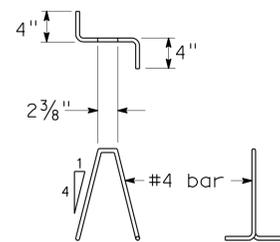
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	732	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

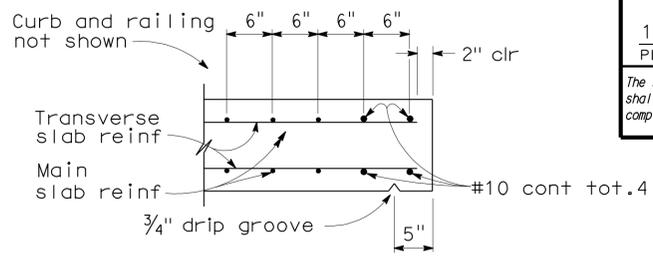
10-11-10
 PLANS APPROVAL DATE
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LONGITUDINAL SECTION



BAR CHAIR DETAIL

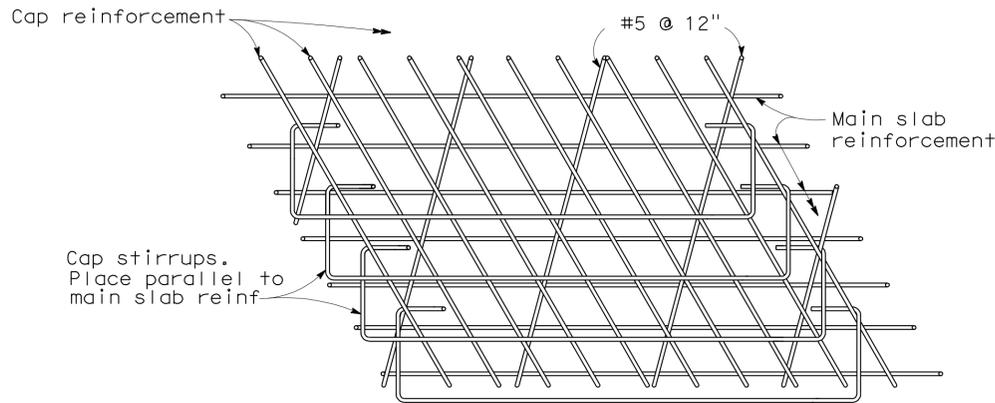


EDGE OF SLAB DETAILS

BAR SPLICE LENGTH (Inch)								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars in spans over 23'	23	28	34	39	45	68	76	85
Top bars in spans over 23'	23	28	34	53	60	77	97	120

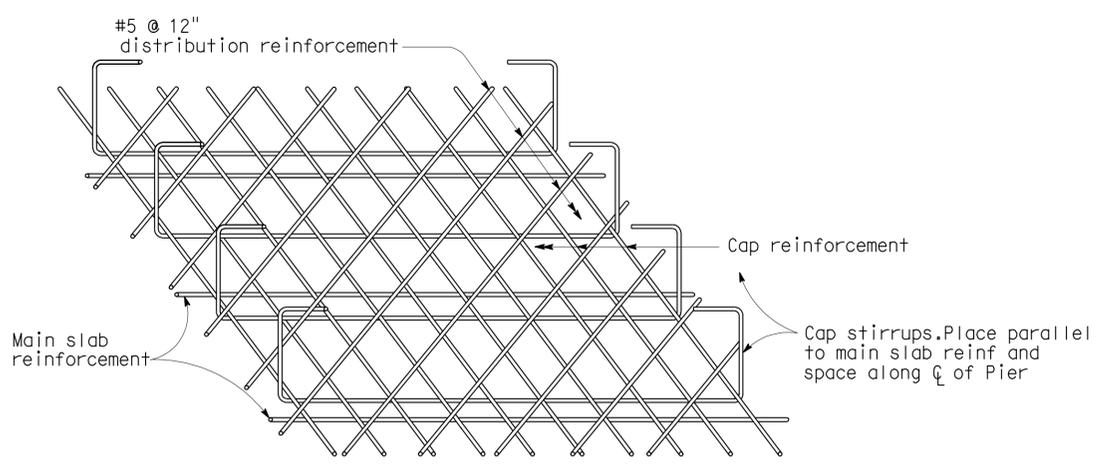
REINFORCEMENT NOTES:

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



TOP SLAB REINFORCEMENT AT PIER

Note: View for main span over 23'.
 Bar placement similar for spans under 23'.



FLUSH CAP
BOTTOM SLAB REINFORCEMENT AT PIER

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
 DEAD LOAD: Includes 35 Psf for future wearing surface.
 LIVE
 LOADING: HL93 Alternative loading and "Low-Boy" permit design vehicle
 REINFORCED
 CONCRETE: $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$

SPECIAL DETAILS
 NO SCALE

DUCK SLOUGH OVERFLOW BRIDGE
EAST FRONTAGE ROAD
SLAB REINFORCEMENT DETAILS NO. 2

DESIGN	BY G. Schuster	CHECKED N. Terzis	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	39C0377
DETAILS	BY S. Jiang	CHECKED N. Terzis			POST MILE	9.86
QUANTITIES	BY C. Siegenthaler	CHECKED N. Terzis				

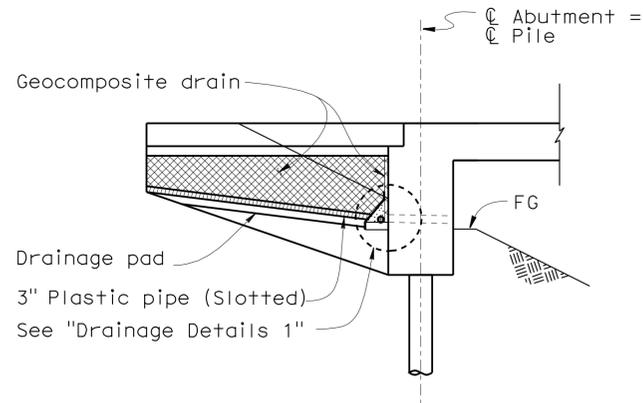
DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	06-18-08 6-24-08 12-18-08 1-27-09 06-25-09	9	14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	733	751

REGISTERED CIVIL ENGINEER
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

07-31-09
 DATE
 10-11-10
 PLANS APPROVAL DATE

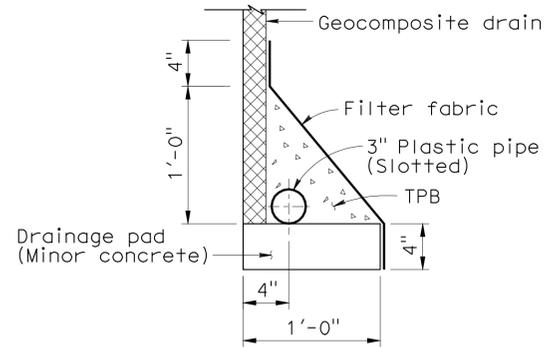
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CANTILEVER WINGWALL

SECTION F-F

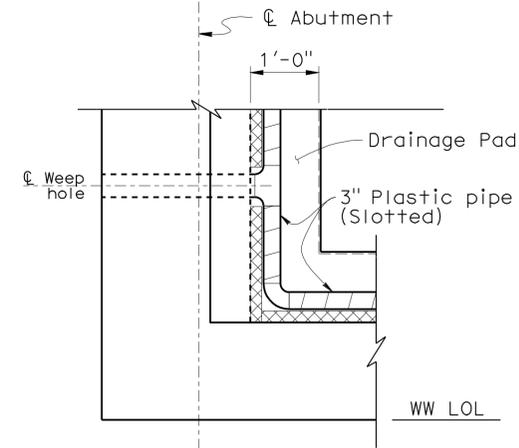
1/4" = 1'-0"



WITHOUT FOOTING

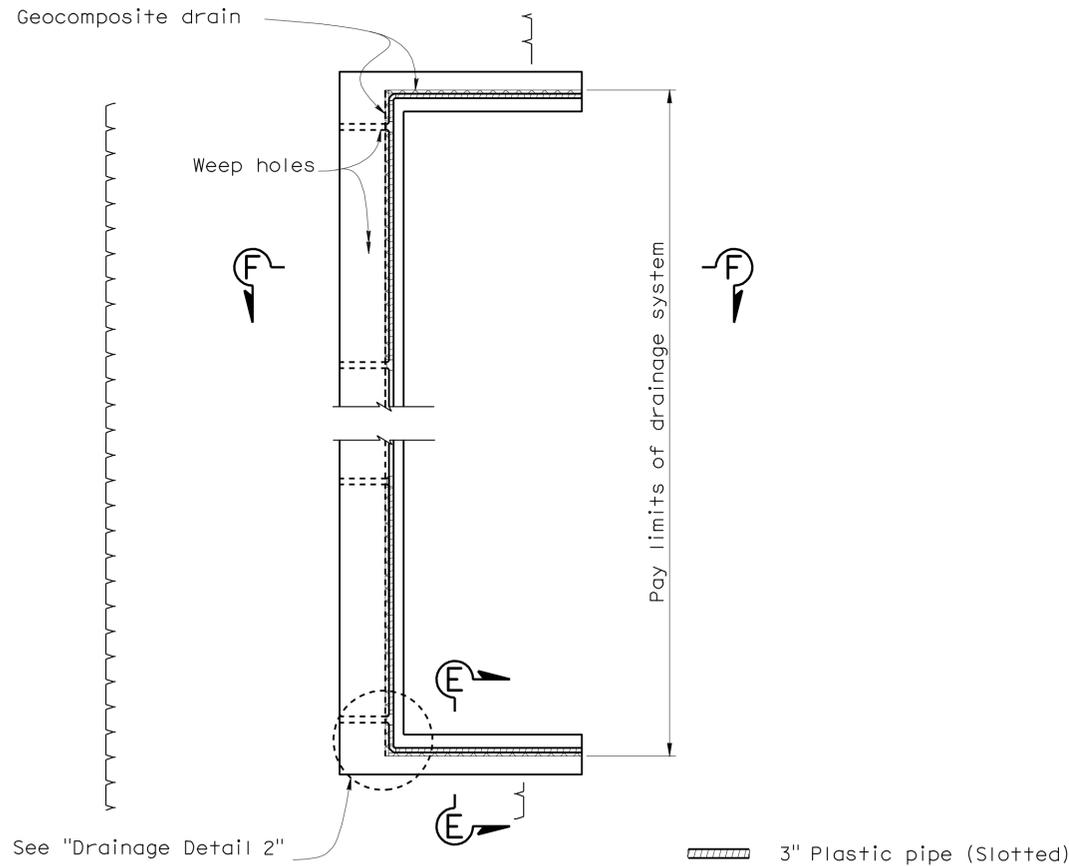
DRAINAGE DETAIL 1

1/2" = 1'-0"



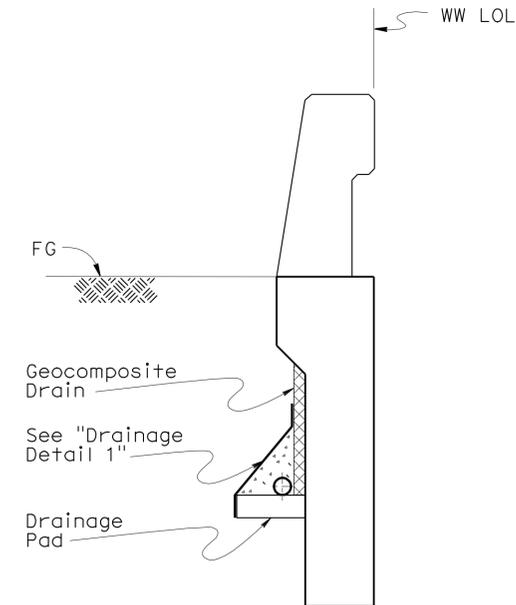
DRAINAGE DETAIL 2

3/4" = 1'-0"



TYPICAL PLAN

1" = 5'-0"



SECTION E-E

3/4" = 1'-0"

DESIGN	BY G. Schuster	CHECKED N. Terzis
DETAILS	BY A. Chen/S. Jiang	CHECKED N. Terzis
QUANTITIES	BY C. Siegenthaler	CHECKED N. Terzis

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH **5**

BRIDGE NO.	39C0377
POST MILE	9.86

DUCK SLOUGH OVERFLOW BRIDGE
EAST FRONTAGE ROAD
ABUTMENT DRAINAGE DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES
6-14-08 6-16-08 6-25-08 7-18-08 1-27-09

SHEET	OF
10	14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	736	751

Cheng Xing 4-23-09
 CERTIFIED ENGINEERING GEOLOGIST

PROFESSIONAL GEOLOGIST
 Xing Zheng
 No. 2130
 Exp. 3-31-11
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA

10-11-10
PLANS APPROVAL DATE

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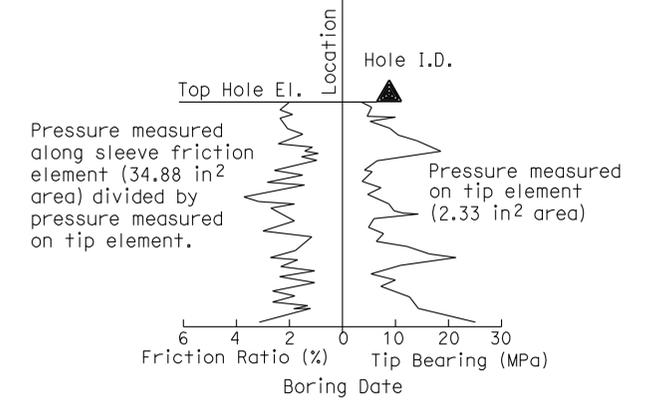
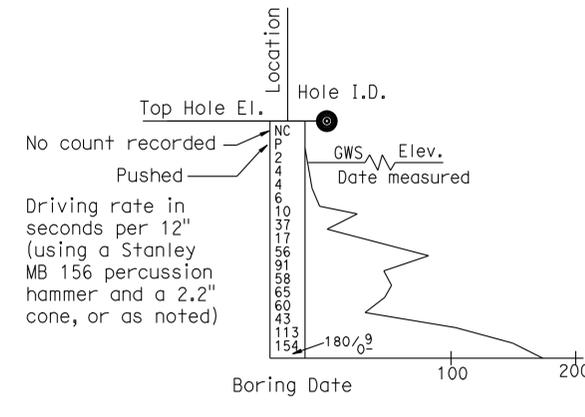
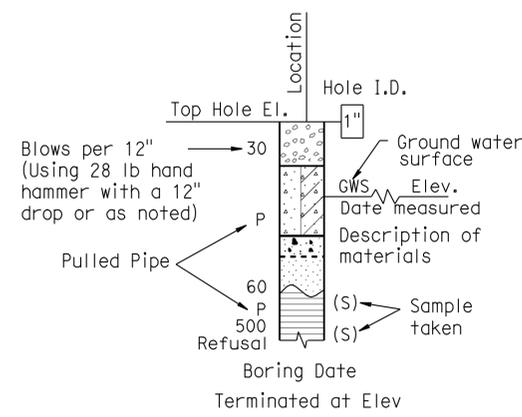
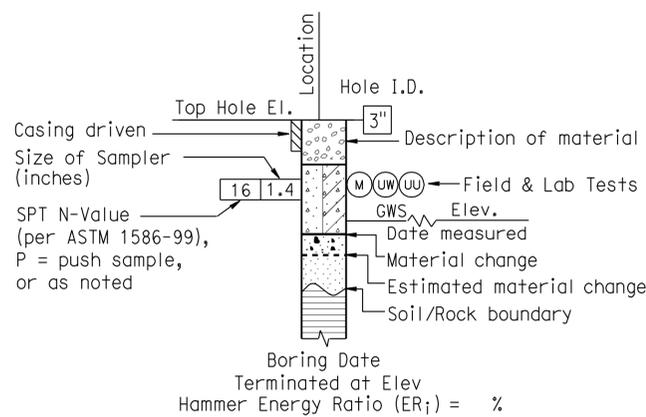
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. 39C0377	DUCK SLOUGH OVERFLOW BRIDGE EAST FRONTAGE ROAD LOG OF TEST BORINGS 2 OF 3
	PREPARED BY: F. Nguyen 01/09	DEPARTMENT OF TRANSPORTATION	DESIGN BRANCH	POST MILE 9.86	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 03-12-09 04-22-09	

SHEET 13 OF 14

USERNAME => H11engard DATE PLOTTED => 11-OCT-2010 TIME PLOTTED => 14:27

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	737	751

4-23-09

Xing Zheng
CERTIFIED ENGINEERING GEOLOGIST

10-11-10
PLANS APPROVAL DATE

No. 2130
Exp. 3-31-11
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

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GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY		GRAVELLY lean CLAY with SAND
	(or SILTY CLAY)		SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with SAND
	(or SILTY CLAY and SAND)		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT		SANDY SILTY CLAY
	Poorly graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY		GRAVELLY SILTY CLAY with SAND
	(or SILTY CLAY)		SILT
	Poorly graded GRAVEL with CLAY and SAND		SILT with SAND
	(or SILTY CLAY and SAND)		SILT with GRAVEL
	SILTY GRAVEL		SANDY SILT
	SILTY GRAVEL with SAND		SANDY SILT with GRAVEL
	CLAYEY GRAVEL		GRAVELLY SILT
	CLAYEY GRAVEL with SAND		GRAVELLY SILT with SAND
	SILTY, CLAYEY GRAVEL		ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY with SAND
	Well-graded SAND		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with GRAVEL		SANDY ORGANIC lean CLAY
	Poorly graded SAND		ORGANIC lean CLAY with GRAVEL
	Poorly graded SAND with GRAVEL		SANDY ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with SILT		GRAVELLY ORGANIC lean CLAY
	Well-graded SAND with SILT and GRAVEL		GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND with CLAY		ORGANIC SILT
	(or SILTY CLAY)		ORGANIC SILT with SAND
	Well-graded SAND with CLAY and GRAVEL		ORGANIC SILT with GRAVEL
	(or SILTY CLAY and GRAVEL)		SANDY ORGANIC SILT
	Poorly graded SAND with SILT		SANDY ORGANIC SILT with GRAVEL
	Poorly graded SAND with SILT and GRAVEL		GRAVELLY ORGANIC SILT
	Poorly graded SAND with CLAY		GRAVELLY ORGANIC SILT with SAND
	(or SILTY CLAY)		ORGANIC fat CLAY
	Poorly graded SAND with CLAY and GRAVEL		ORGANIC fat CLAY with SAND
	(or SILTY CLAY and GRAVEL)		ORGANIC fat CLAY with GRAVEL
	SILTY SAND		SANDY ORGANIC fat CLAY
	SILTY SAND with GRAVEL		SANDY ORGANIC fat CLAY with GRAVEL
	CLAYEY SAND		GRAVELLY ORGANIC fat CLAY
	CLAYEY SAND with GRAVEL		GRAVELLY ORGANIC fat CLAY with SAND
	SILTY, CLAYEY SAND		ORGANIC elastic SILT
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with SAND
	SILTY, CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with GRAVEL
			SANDY ORGANIC elastic SILT
	PEAT		SANDY ORGANIC elastic SILT with GRAVEL
			GRAVELLY ORGANIC elastic SILT
	COBBLES		GRAVELLY ORGANIC elastic SILT with SAND
	COBBLES and BOULDERS		ORGANIC SOIL
	BOULDERS		ORGANIC SOIL with SAND
			ORGANIC SOIL with GRAVEL
			SANDY ORGANIC SOIL
			SANDY ORGANIC SOIL with GRAVEL
			GRAVELLY ORGANIC SOIL
			GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UU)	Unconfined Compression-Rock (ASTM D 2938)
(UW)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

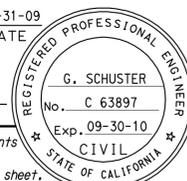
PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

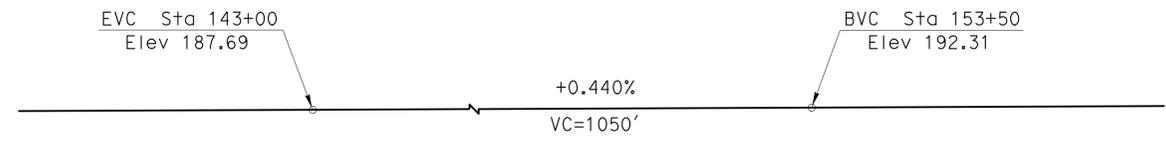
PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH	BRIDGE NO. 39C0377	DUCK SLOUGH OVERFLOW BRIDGE
				POST MILE 9.66	
PREPARED BY: F. Nguyen 01/09				LOG OF TEST BORINGS 3 OF 3	
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 14 OF 14

FILE => 39C0377-z-1o1b3of3.dgn

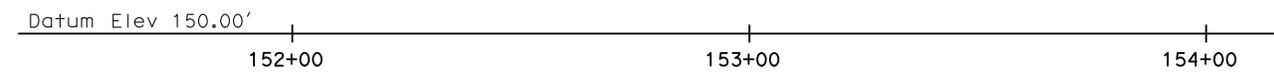
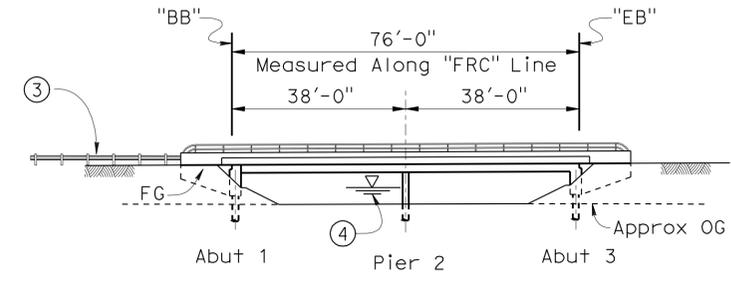
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	738	751


 07-31-09
 REGISTERED CIVIL ENGINEER DATE
 10-11-10
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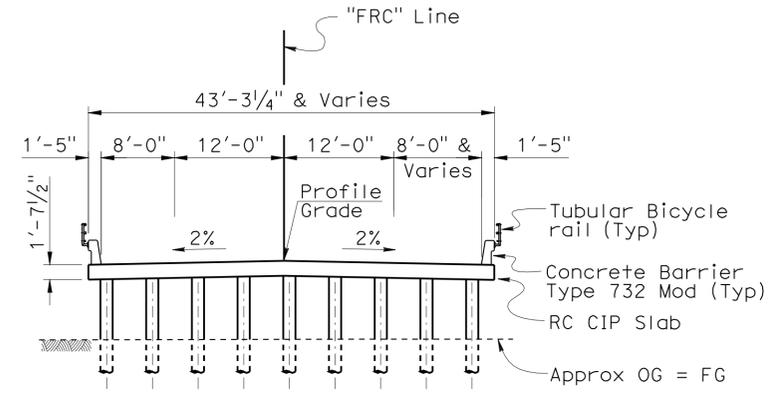
PROFILE GRADE

No Scale



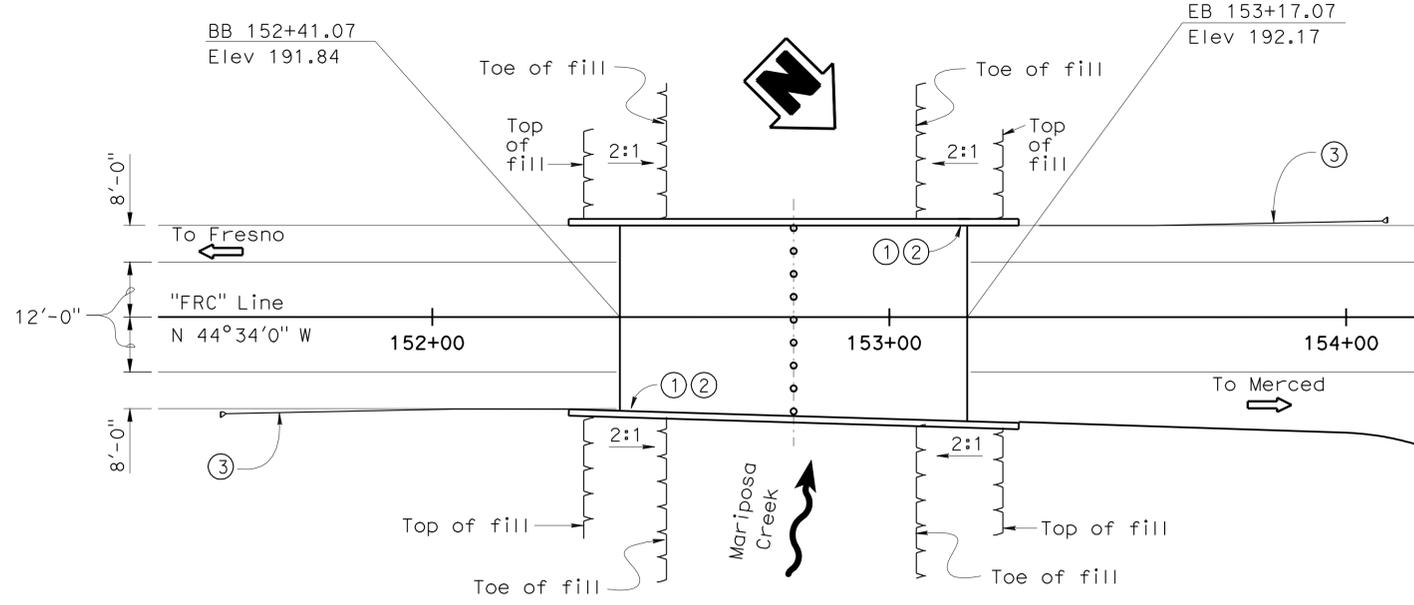
ELEVATION

1" = 20'-0"



TYPICAL SECTION

1" = 10'-0"



PLAN

1" = 20'-0"

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

Legend:

- ① Paint "Mariposa Creek Bridge".
- ② Paint Bridge No. 39C0379.
- ③ Metal Beam Guard Rail, see "Road Plan".
- ④ For Hydrologic Summary, see "Foundation Plan".

Note: For "General Notes", "Index Plans", "Standard Plans", "Quantities", See "Index To Plans" sheet.

x Gary Blakesley DESIGN ENGINEER	DESIGN	BY G. Schuster	CHECKED C. Siegenthaler	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 5	BRIDGE NO.	MARIPOSA CREEK BRIDGE					
	DETAILS	BY A. Chen/G. Souza/S. J	CHECKED C. Siegenthaler	LAYOUT	BY G. Schuster			CHECKED C. Siegenthaler	39C0379	EAST FRONTAGE ROAD				
	QUANTITIES	BY G. Souza	CHECKED N. Terzis	SPECIFICATIONS	BY Aiman Abdel-Malak			PLANS AND SPECS COMPARED	9.35	GENERAL PLAN				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						0 1 2 3	CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 7-7-07 2-28-07 4-14-08 4-28-08 6-13-08 7-11-08 7-27-09 2-19-09					
STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)								SHEET	OF					
								1	14					

USERNAME => hrmikes DATE PLOTTED => 19-OCT-2010 TIME PLOTTED => 08:40

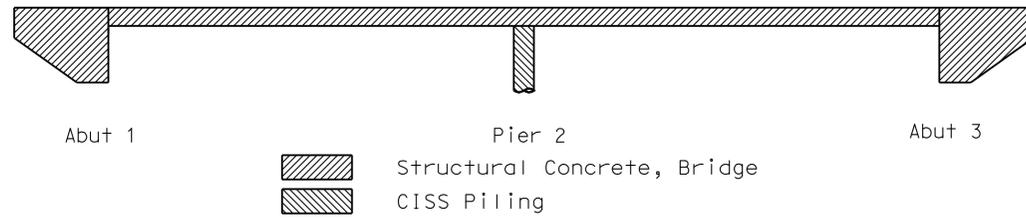
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	739	751

REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

10-11-10
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GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.4, June, 2006
DEAD LOAD: Includes 35 Psf for future wearing surface.
LIVE LOADING: HL93 Alternative loading and "Low-Boy" permit design vehicle
SEISMIC LOADING: Caltrans SDC ARS curve for soil profile type D (M = 6.5 ± 0.25), (Peak Rock Acceleration = 0.2g)
REINFORCED CONCRETE: $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$

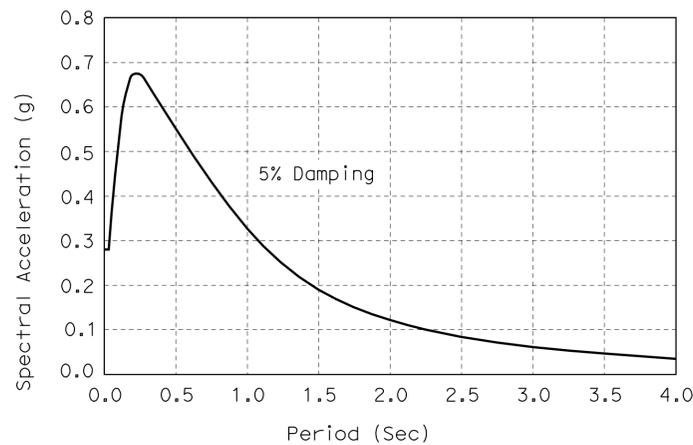


CONCRETE STRENGTH AND TYPE LIMITS

No Scale

QUANTITIES

STRUCTURE EXCAVATION (BRIDGE)	80	CY
STRUCTURE BACKFILL (BRIDGE)	35	CY
FURNISH PILING (CLASS 90)	561	LF
DRIVE PILE (CLASS 90)	14	EA
FURNISH 16" CAST-IN-STEEL SHELL CONCRETE PILING	587	LF
DRIVE 16" CAST-IN-STEEL SHELL CONCRETE PILE	9	EA
STRUCTURAL CONCRETE, BRIDGE	250	CY
BAR REINFORCING STEEL (BRIDGE)	60,000	LB
TUBULAR BICYCLE RAILING	197	LF
CONCRETE BARRIER (TYPE 732 MODIFIED)	197	LF



INDEX TO PLANS

Sheet No.	Title
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	DECK CONTOURS
4.	FOUNDATION PLAN
5.	ABUTMENT LAYOUT
6.	PIER DETAILS
7.	TYPICAL SECTION
8.	SLAB REINFORCEMENT DETAILS NO. 1
9.	SLAB REINFORCEMENT DETAILS NO. 2
10.	ABUTMENT DRAINAGE DETAILS
11.	TUBULAR BICYCLE RAILING
12.	LOG OF TEST BORINGS 1 OF 3
13.	LOG OF TEST BORINGS 2 OF 3
14.	LOG OF TEST BORINGS 3 OF 3

SOIL PROFILE TYPE D: Mw = 6.5, PBA = 0.2g

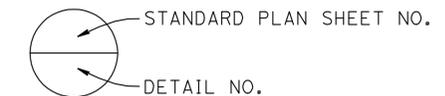
PILE DATA TABLE B2-5

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevations (ft)	Specified Tip Elevations (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut 1	Class 90	180	0	145.0 (1) 150.0 (2)	145.0	180
Pier 2	CISS NPS 16x0.500	280	0	125.0 (1) 138.0 (2)	125.0	280
Abut 3	Class 90	180	0	145.0 (1) 150.0 (2)	145.0	180

NOTE: Design tip elevations are controlled by the following demands: (1) Compression, (2) Lateral.

STANDARD PLANS DATED MAY 2006

A10A	ACRONYMS AND ABBREVIATIONS (A-L)
A10B	ACRONYMS AND ABBREVIATIONS (M-Z)
A10C	SYMBOLS (SHEET 1 OF 2)
A10D	SYMBOLS (SHEET 2 OF 2)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL-BRIDGE
B0-1	BRIDGE DETAILS
B2-5	PILE DETAILS CLASS 90 AND CLASS 140
B11-55	CONCRETE BARRIER TYPE 732



MARIPOSA CREEK BRIDGE

EAST FRONTAGE ROAD

INDEX TO PLANS

DESIGN	BY G. Schuster	CHECKED C. Siegenthaler	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	39C0379
DETAILS	BY G. M. Souza/S. Jiang	CHECKED C. Siegenthaler			POST MILE	9.35
QUANTITIES	BY G. Souza	CHECKED N. Terzis				

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



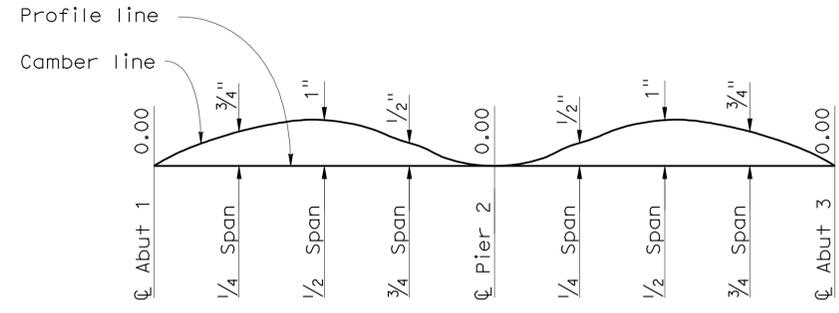
CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES								SHEET	OF
11-11-07	03-18-09	06-24-09	8-11-09	12-18-08	01-23-09	01-26-09	02-19-09	2	14

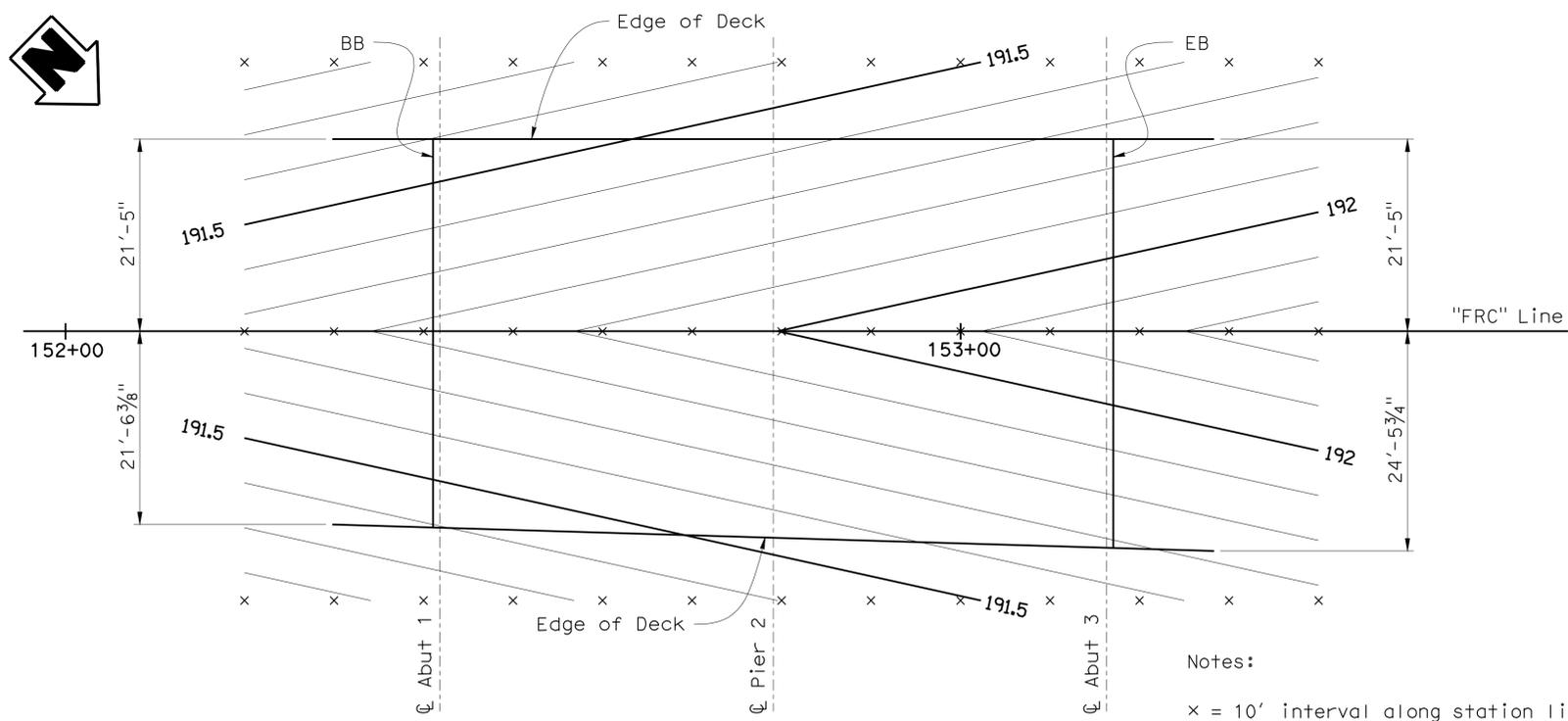
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	740	751


 REGISTERED CIVIL ENGINEER DATE 07-31-09
 10-11-10
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Note:
Does not include allowance for falsework settlement.

CAMBER DIAGRAM
no scale



Notes:
x = 10' interval along station line.
Contours do not include camber.
Contour interval = 0.1'

DECK CONTOURS
1" = 10'-0"

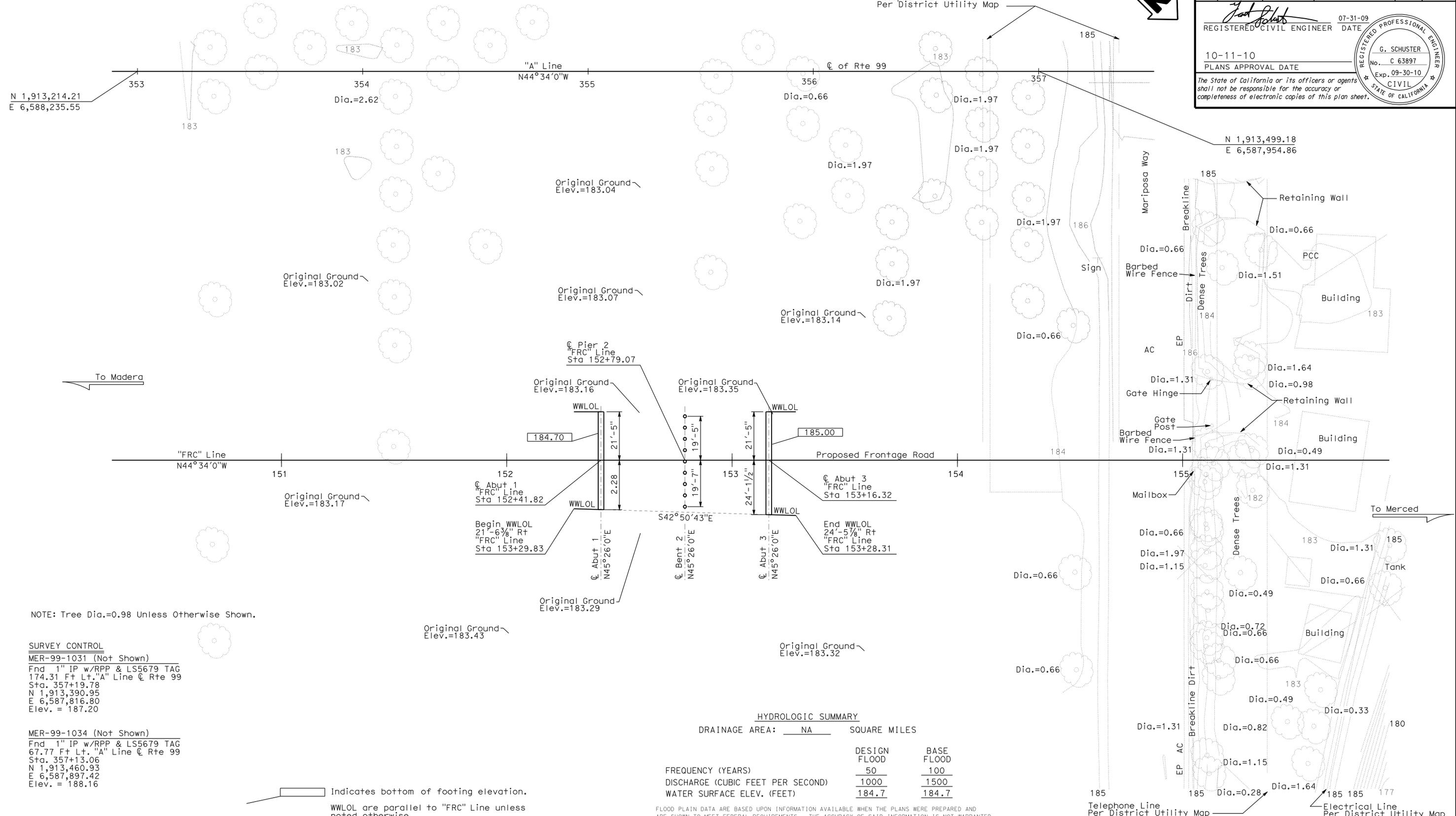
DESIGN BY G. Schuster CHECKED C. Siegenthaler DETAILS BY G. M. Souza\A. Chen CHECKED C. Siegenthaler QUANTITIES BY G. Souza CHECKED N. Terzis			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0379 POST MILE 9.35	MARIPOSA CREEK BRIDGE EAST FRONTAGE ROAD DECK CONTOURS
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3				CU 10 EA 415701 FILE => 39C0379-d-dc.dgn	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 04-01-08, 04-29-08, 06-13-08, 07-08-08, 1-27-09	SHEET 3 OF 14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	741	751



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REGISTERED PROFESSIONAL ENGINEER
 G. SCHUSTER
 No. C 63897
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 STATE OF CALIFORNIA



NOTE: Tree Dia.=0.98 Unless Otherwise Shown.

SURVEY CONTROL
 MER-99-1031 (Not Shown)
 Fnd 1" IP w/RPP & LS5679 TAG
 174.31 Ft Lt. "A" Line C Rte 99
 Sta. 357+19.78
 N 1,913,390.95
 E 6,587,816.80
 Elev. = 187.20

MER-99-1034 (Not Shown)
 Fnd 1" IP w/RPP & LS5679 TAG
 67.77 Ft Lt. "A" Line C Rte 99
 Sta. 357+13.06
 N 1,913,460.93
 E 6,587,897.42
 Elev. = 188.16

 Indicates bottom of footing elevation.
 WWLOL are parallel to "FRC" Line unless noted otherwise.

HYDROLOGIC SUMMARY
 DRAINAGE AREA: NA SQUARE MILES

FREQUENCY (YEARS)	DESIGN FLOOD	BASE FLOOD
50	1000	1500
DISCHARGE (CUBIC FEET PER SECOND)	184.7	184.7
WATER SURFACE ELEV. (FEET)	184.7	184.7

FLOOD PLAIN DATA ARE BASED UPON INFORMATION AVAILABLE WHEN THE PLANS WERE PREPARED AND ARE SHOWN TO MEET FEDERAL REQUIREMENTS. THE ACCURACY OF SAID INFORMATION IS NOT WARRANTED BY THE STATE AND INTERESTED OR AFFECTED PARTIES SHOULD MAKE THEIR OWN INVESTIGATIONS.

PRELIMINARY INVESTIGATION SECTION			
SCALE	VERT. DATUM	NGVD 29	PHOTOGRAMMETRY AS OF: X
1"=20'	HORZ. DATUM	NAD 83 (1991.35)	SURVEYED BY District
ALIGNMENT TIES	Dist. Traverse Sheet	DRAFTED BY T.Marchenko 12/2007	CHECKED BY T.ZoInikova 12/2007

DESIGN	BY G. Schuster	CHECKED C. Siegenthaler
DETAILS	BY G. M. Souza	CHECKED C. Siegenthaler
QUANTITIES	BY G. Souza	CHECKED N. Terzis

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	39C0379
POST MILE	9.35

MARIPOSA CREEK BRIDGE

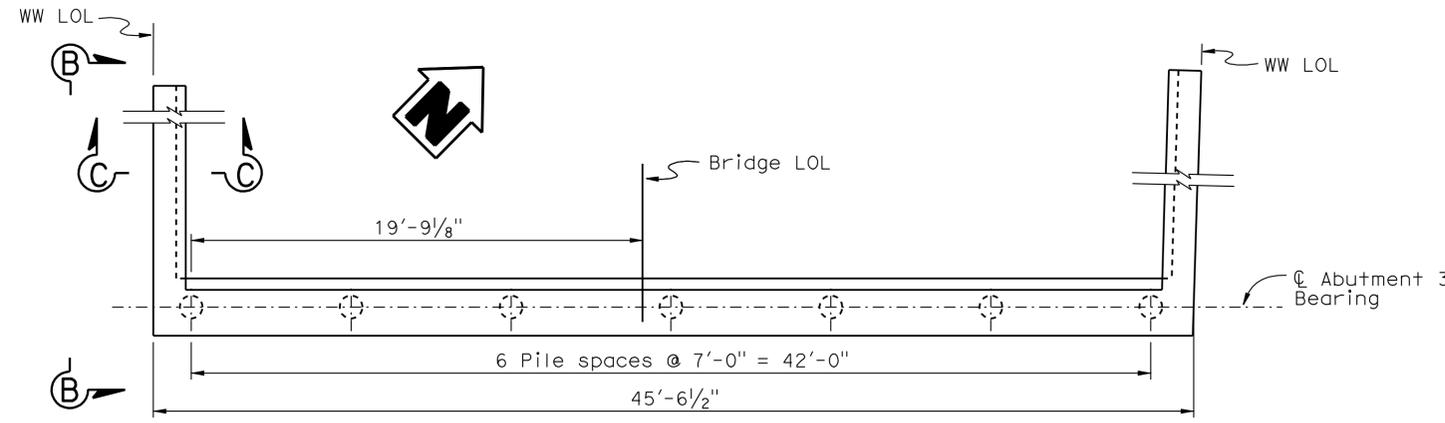
EAST FRONTAGE ROAD

FOUNDATION PLAN

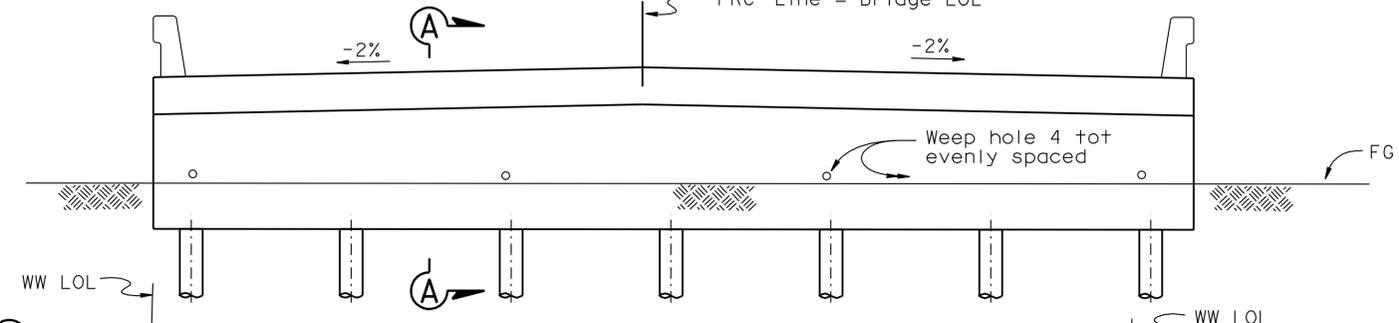
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	742	751

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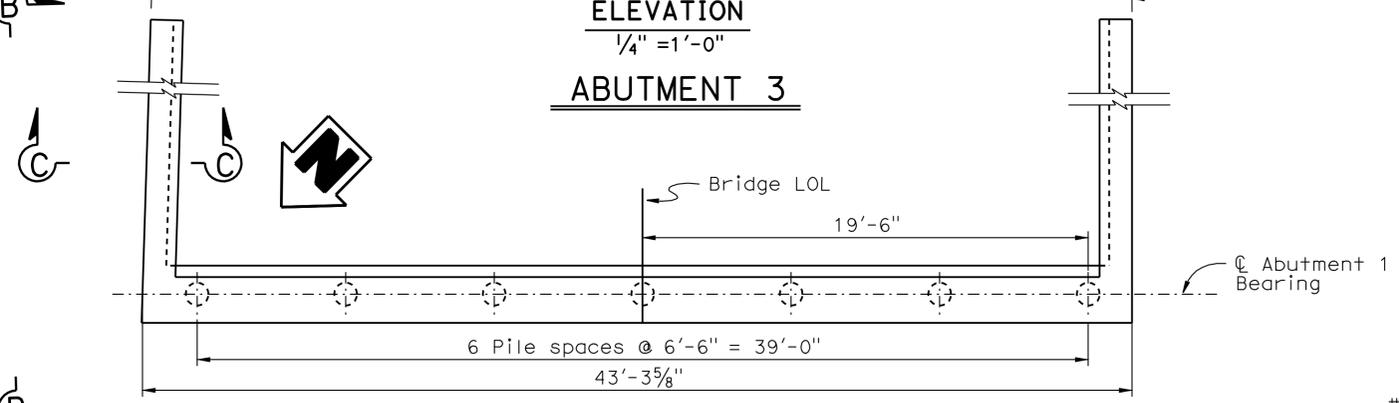
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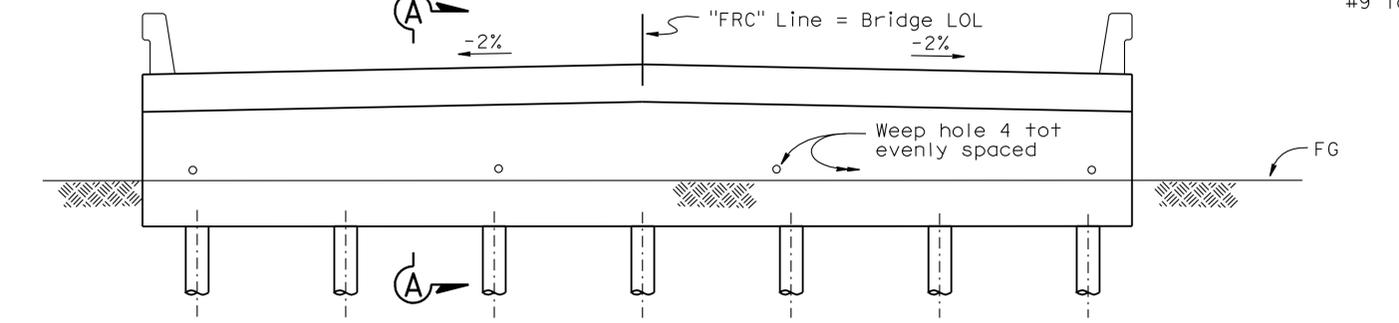
PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"
ABUTMENT 3

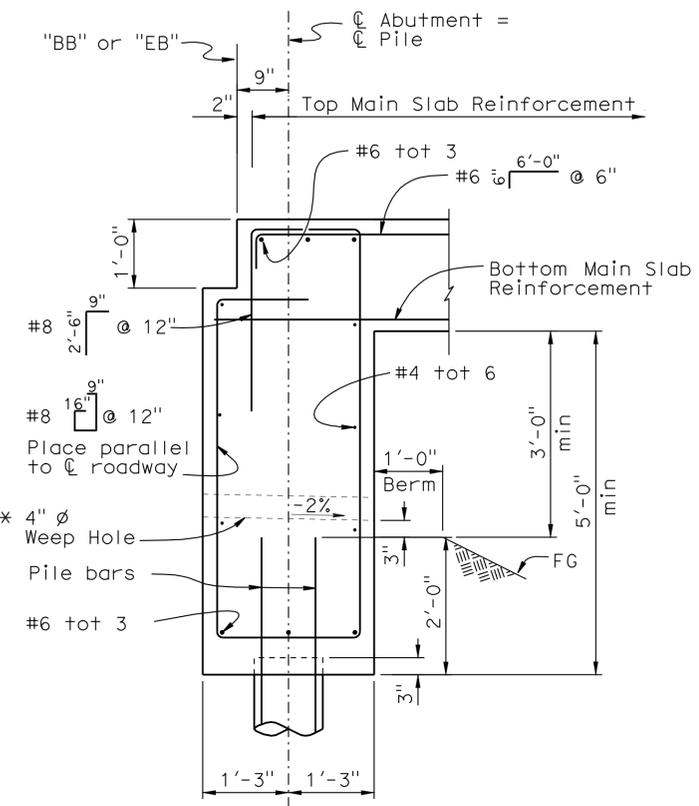


PLAN
1/4" = 1'-0"

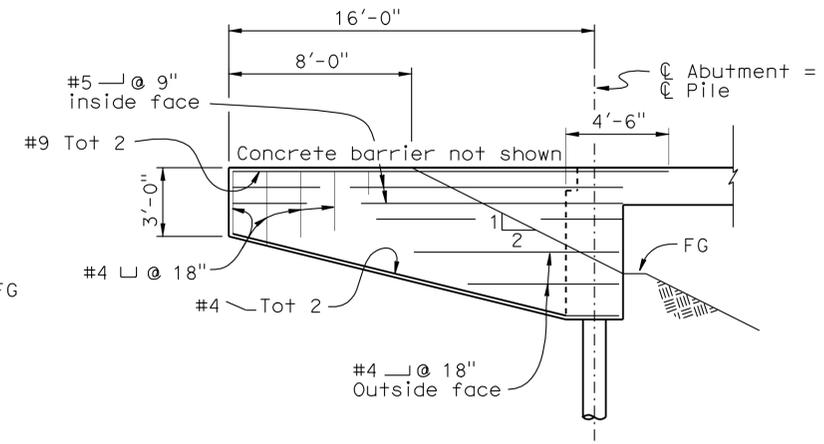


ELEVATION
1/4" = 1'-0"
ABUTMENT 1

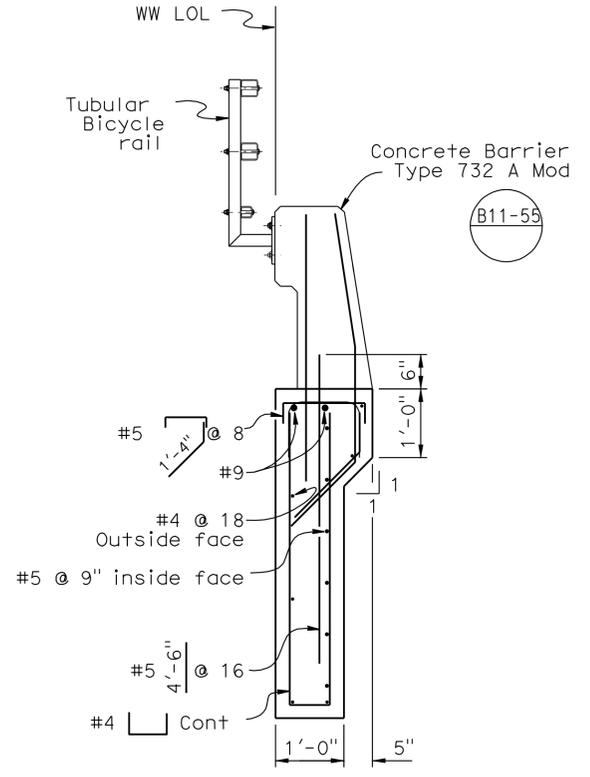
Note:
For drainage details see "Abutment Drainage Details" sheet



SECTION A-A
3/4" = 1'-0"



VIEW B-B
1/4" = 1'-0"

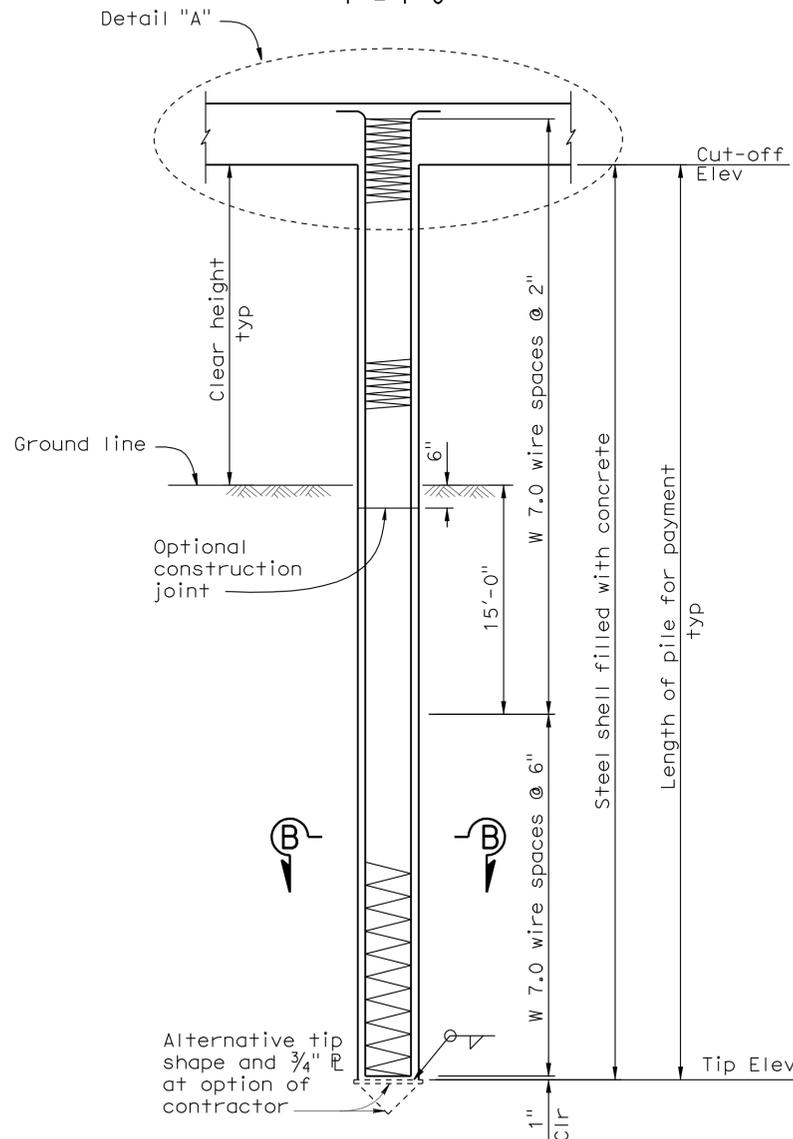
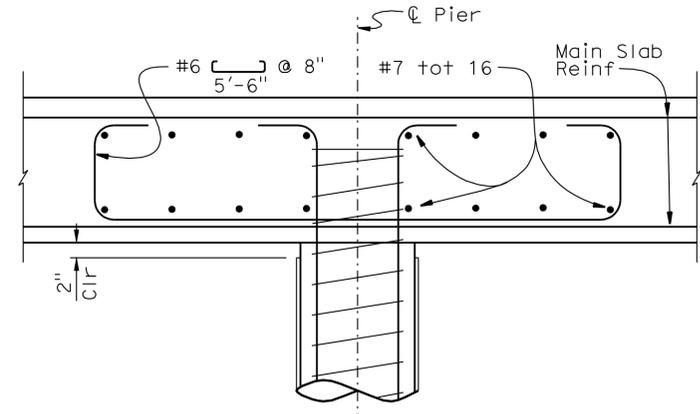
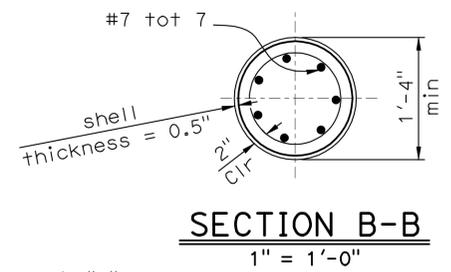


SECTION C-C
3/4" = 1'-0"

DESIGN BY G. Schuster DETAILS BY S. Jiang/A. Chen QUANTITIES BY G. Souza		CHECKED BY C. Siegenthaler CHECKED BY C. Siegenthaler CHECKED BY N. Terzis		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5		BRIDGE NO. 39C0379 POST MILE 9.35		MARIPOSA CREEK BRIDGE EAST FRONTAGE ROAD ABUTMENT LAYOUT			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 10 EA 415701		DISREGARD PRINTS BEARING EARLIER REVISION DATES				REVISION DATES 2-7-08 8-06-09 6-18-08 6-13-08 07-09-08 08-22-08 12-18-08 1-27-09 2-19-09		SHEET 5 OF 14	

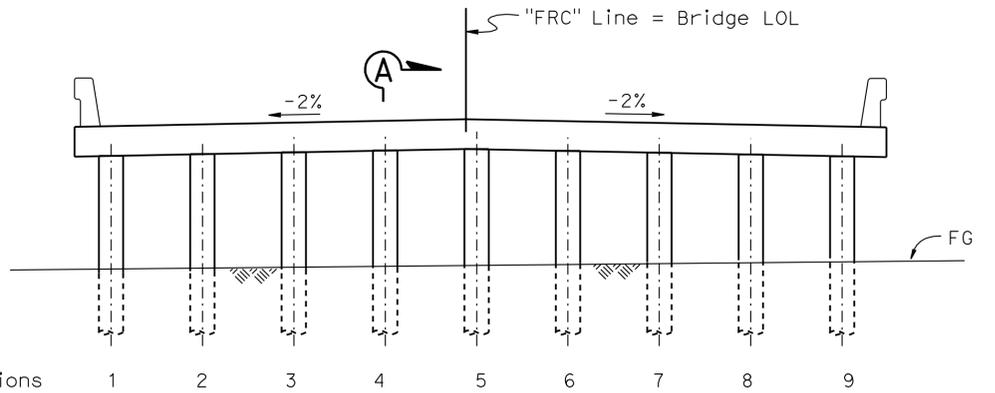
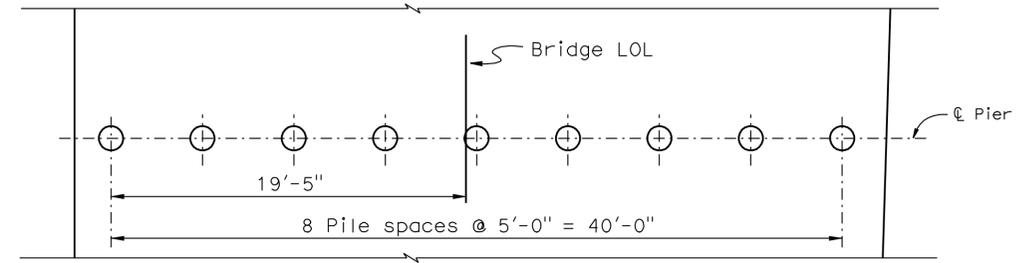
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	743	751

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PILE CUT-OFF ELEVATION TABLE

Pile	Cut-off Elevation (ft)
1	190.00
2	190.10
3	190.20
4	190.30
5	190.38
6	190.28
7	190.18
8	190.08
9	189.98



CAST-IN-STEEL SHELL
CONCRETE PILE
SECTION A-A
1/2" = 1'-0"

MARIPOSA CREEK BRIDGE
EAST FRONTAGE ROAD
PIER DETAILS

DESIGN	BY G. Schuster	CHECKED C. Siegenthaler
DETAILS	BY S. Jiang/G. M. Souza	CHECKED C. Siegenthaler
QUANTITIES	BY G. Souza	CHECKED N. Terzis

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	39C0379
POST MILE	9.35

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10
EA 415701

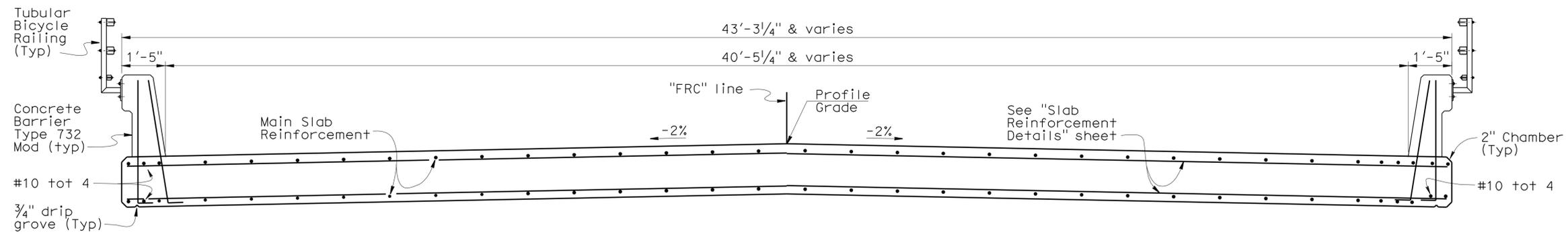
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	744	751

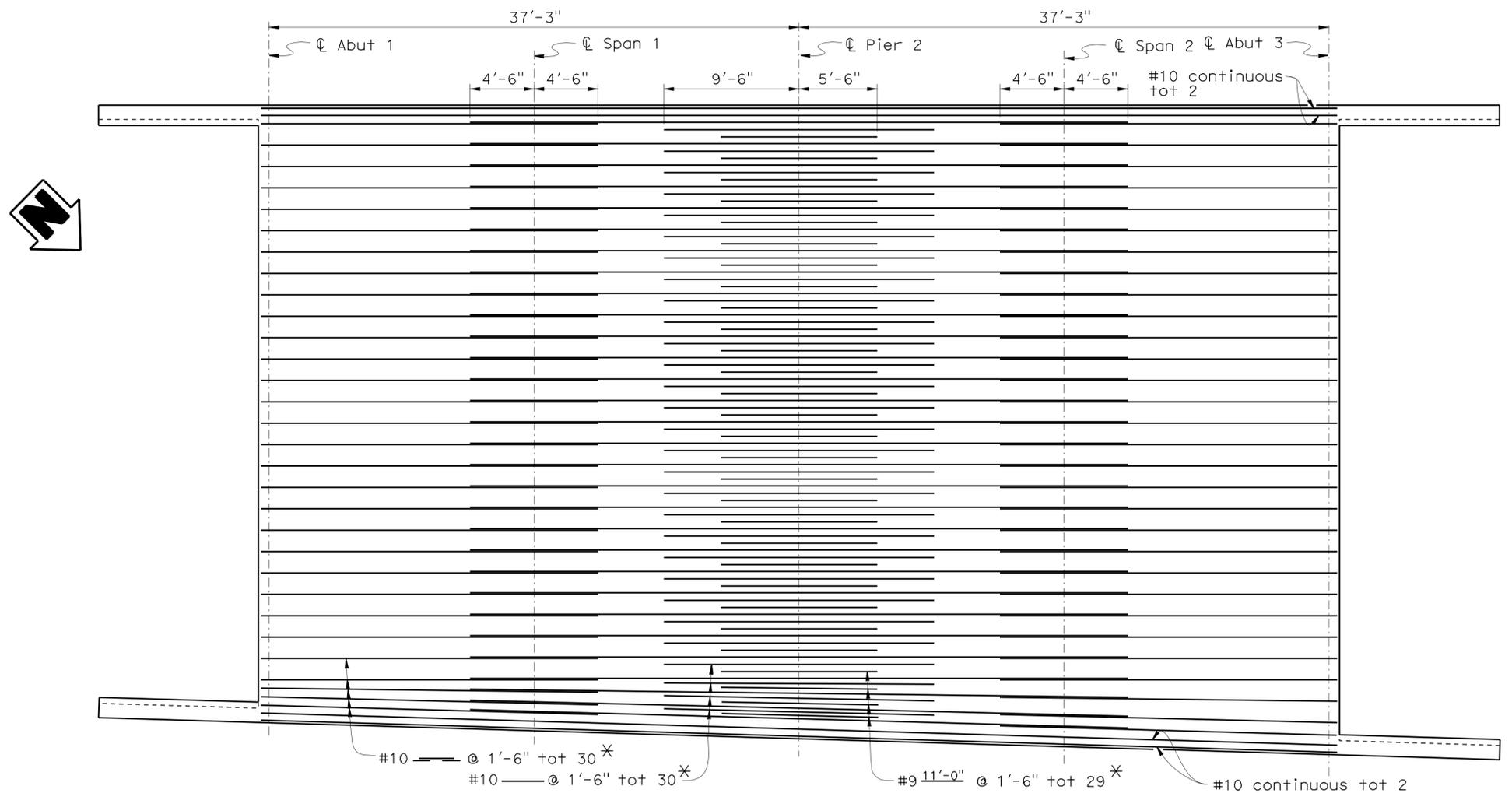
REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

10-11-10
 PLANS APPROVAL DATE

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TYPICAL SECTION
1/2" = 1'-0"



Note:
* Adjust spacing as necessary to fit bars in flare region

TOP SLAB REINFORCEMENT
1" = 5'-0"

DESIGN	BY G. Schuster	CHECKED C. Siegenthaler
DETAILS	BY S. Jiang/G. Souza	CHECKED C. Siegenthaler
QUANTITIES	BY G. Souza	CHECKED N. Terzis

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 5

BRIDGE NO.	39C0379
POST MILE	9.35

MARIPOSA CREEK BRIDGE
EAST FRONTAGE ROAD
TYPICAL SECTION

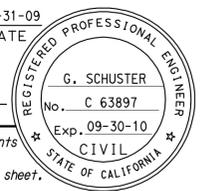
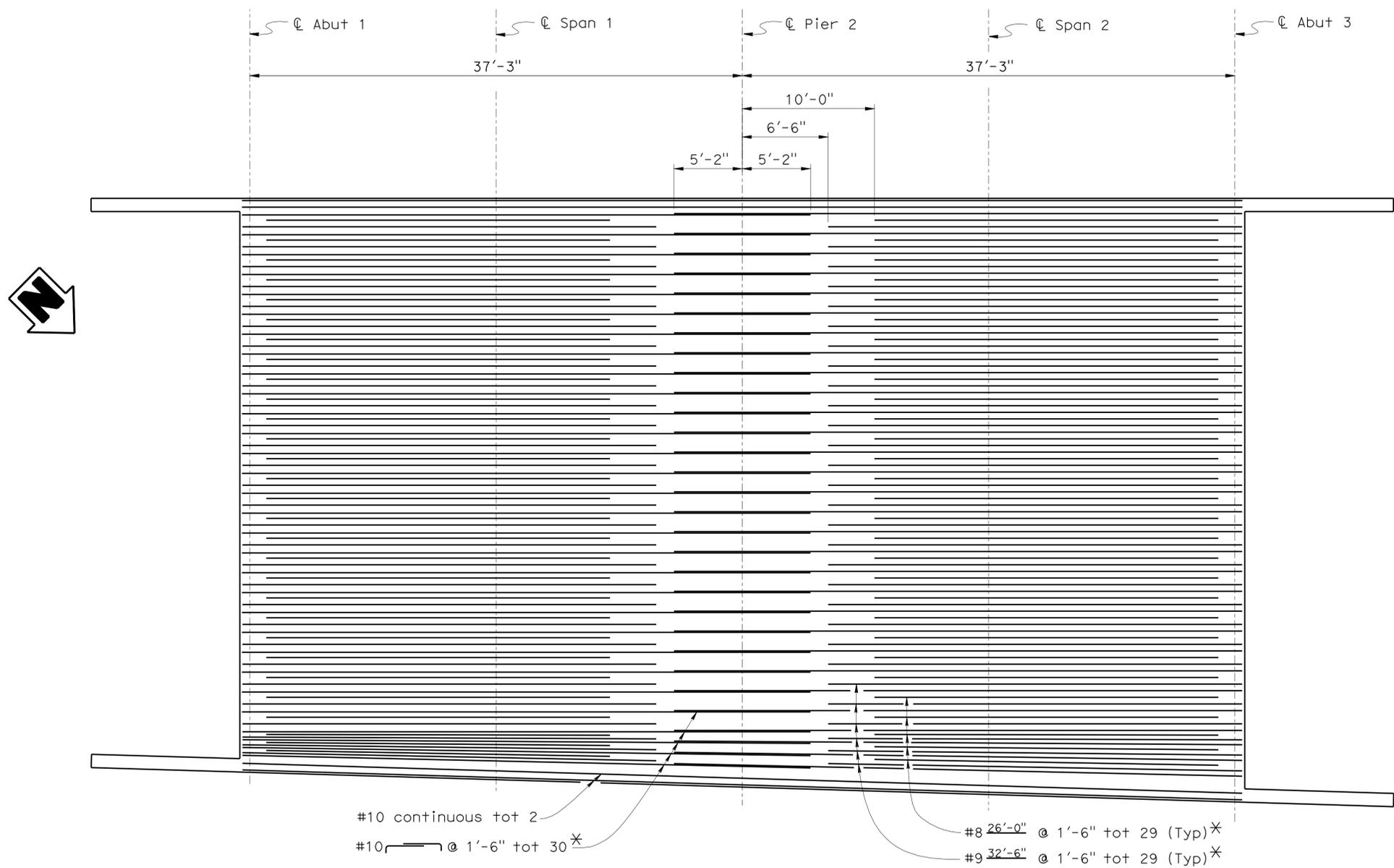
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES	3-05-08	3-06-08	4-17-08	5-09-08	5-09-08	7-05-08	7-11-08	1-27-09	2-19-09	SHEET 7 OF 14
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	745	751


 REGISTERED CIVIL ENGINEER DATE 07-31-09
 10-11-10
 PLANS APPROVAL DATE
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Note:
 * Adjust spacing as necessary to fit bars in flare region

BOTTOM SLAB REINFORCEMENT
 1" = 5'-0"

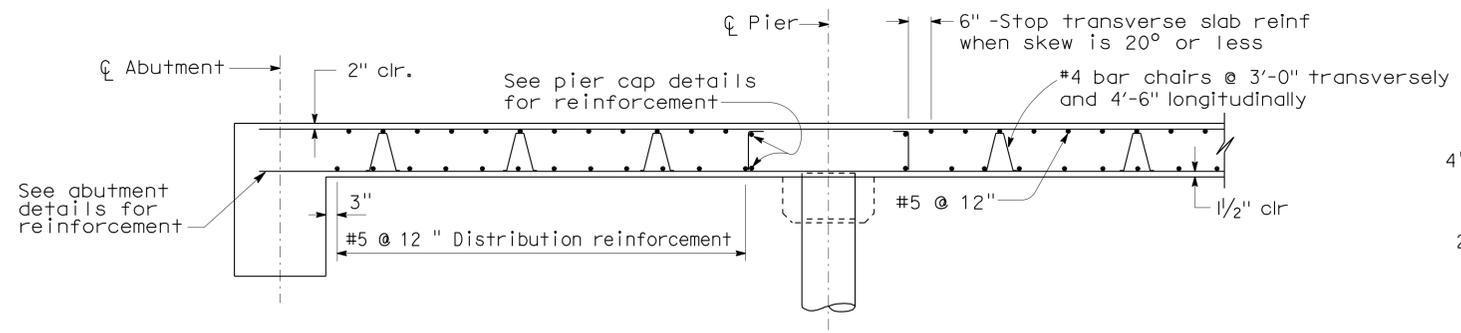
DESIGN BY G. Schuster CHECKED C. Siegenthaler DETAILS BY A. Chen CHECKED C. Siegenthaler QUANTITIES BY G. Souza CHECKED N. Terzis				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO. 39C0379 POST MILE 9.35	MARIPOSA CREEK BRIDGE EAST FRONTAGE ROAD SLAB REINFORCEMENT DETAILS NO. 1	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3						CU 10 EA 415701	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 7-08-08 7-11-08	SHEET 8 OF 14

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) FILE => 39C0379-o-slabreinf01.dgn

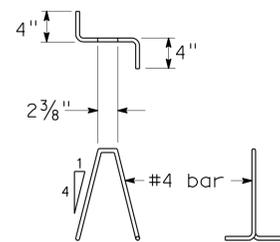
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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REGISTERED CIVIL ENGINEER DATE 07-31-09
 G. SCHUSTER
 No. C 63897
 Exp. 09-30-10
 CIVIL
 STATE OF CALIFORNIA

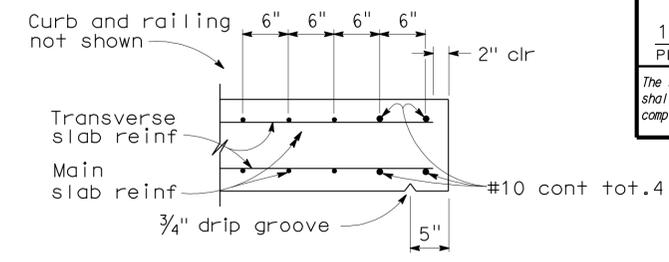
10-11-10
 PLANS APPROVAL DATE
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LONGITUDINAL SECTION



BAR CHAIR DETAIL

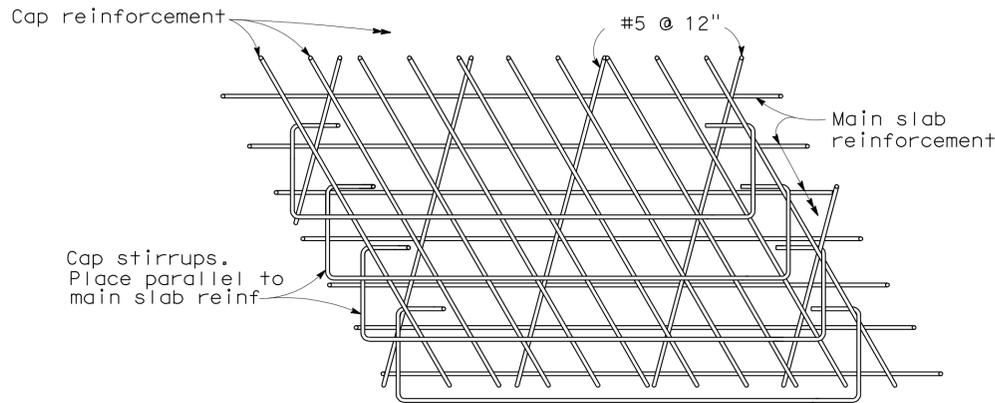


EDGE OF SLAB DETAILS

BAR SPLICE LENGTH (Inch)								
Bar size	#4	#5	#6	#7	#8	#9	#10	#11
All bars, except top bars in spans over 23'	23	28	34	39	45	68	76	85
Top bars in spans over 23'	23	28	34	53	60	77	97	120

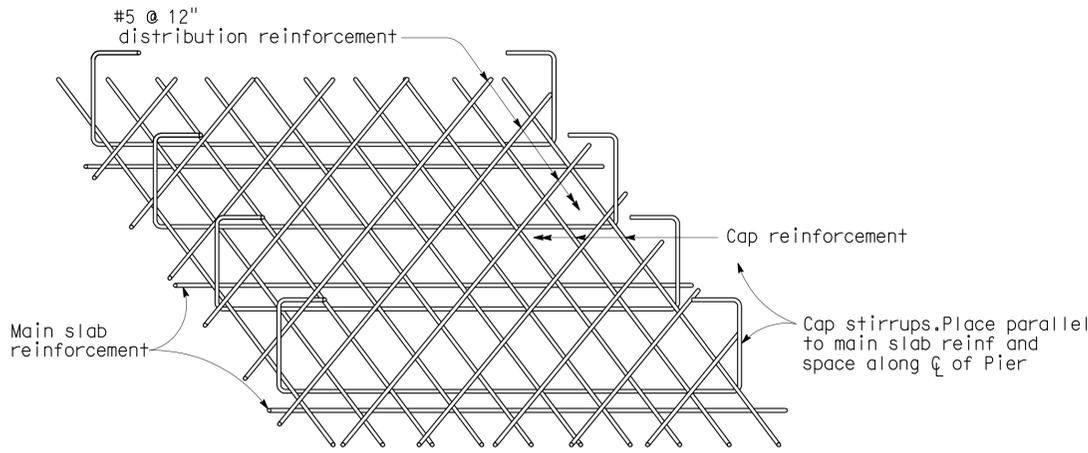
REINFORCEMENT NOTES:

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



TOP SLAB REINFORCEMENT AT BENT

Note: View for main span over 23'.
 Bar placement similar for spans under 23'.



FLUSH CAP
BOTTOM SLAB REINFORCEMENT AT BENT

GENERAL NOTES
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, Third Edition with 2005 & 2006 Interim Revisions and Caltrans Amendments 03.06.01
 DEAD LOAD: Includes 35 Psf for future wearing surface.
 LIVE
 LOADING: HL93 Alternative loading and "Low-Boy" permit design vehicle
 REINFORCED CONCRETE:
 $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$

SPECIAL DETAILS
 NO SCALE

MARIPOSA CREEK BRIDGE
EAST FRONTAGE ROAD
SLAB REINFORCEMENT DETAILS NO. 2

DESIGN	BY G. Schuster	CHECKED C. Siegenthaler	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 5	BRIDGE NO.	39C0379
DETAILS	BY S. Jiang	CHECKED C. Siegenthaler			POST MILE	9.35
QUANTITIES	BY G. Souza	CHECKED N. Terzis				

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

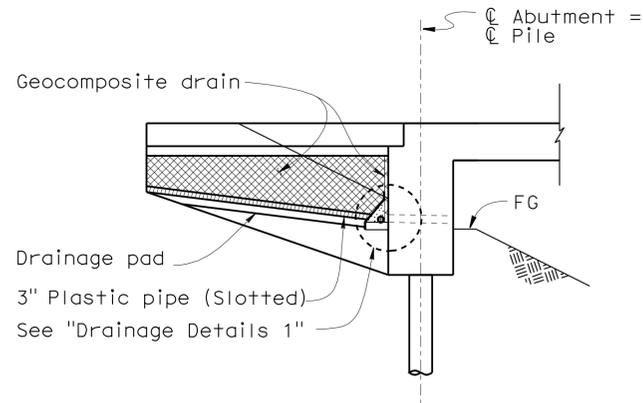


CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 9	OF 14
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	747	751

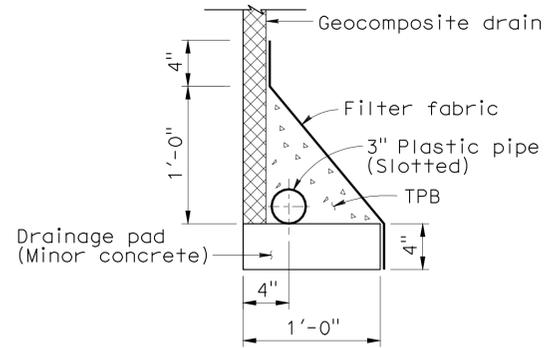
07-31-09
 REGISTERED CIVIL ENGINEER DATE
 10-11-10
 PLANS APPROVAL DATE
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CANTILEVER WINGWALL

SECTION F-F

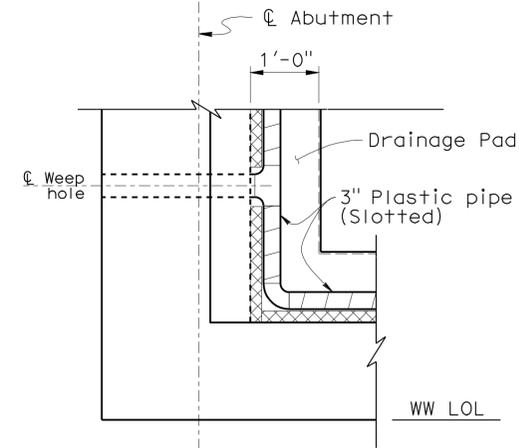
1/4" = 1'-0"



WITHOUT FOOTING

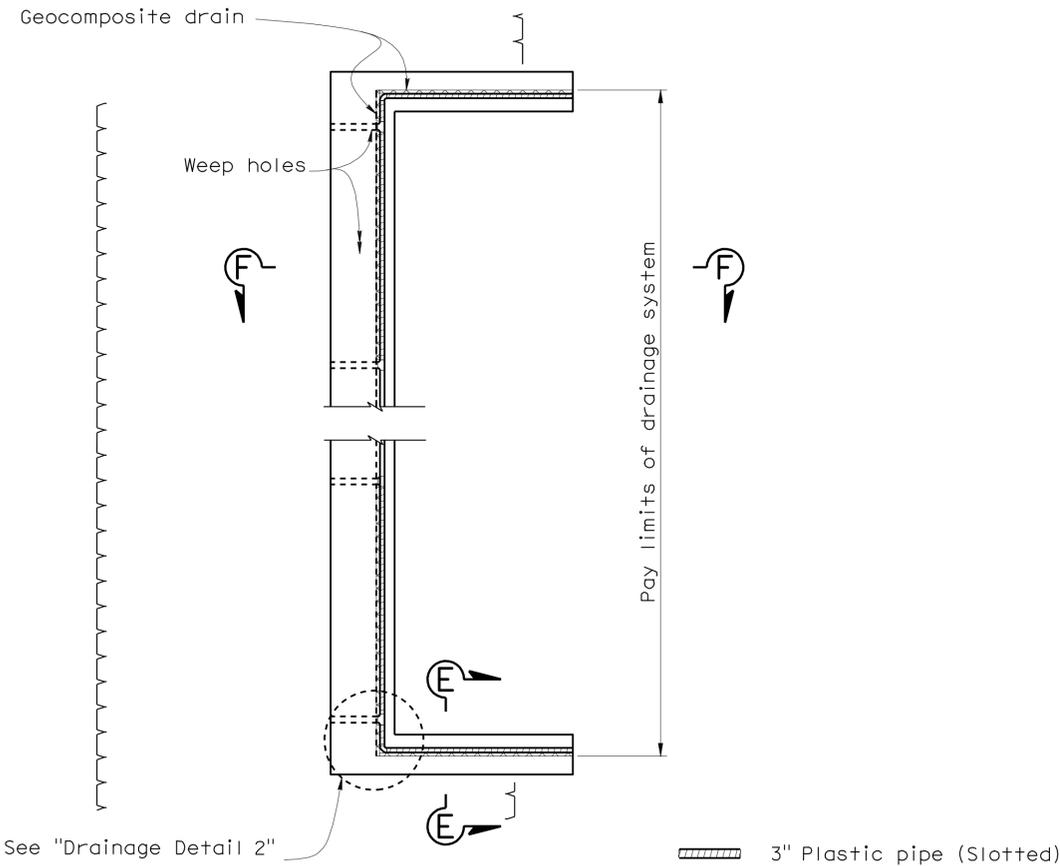
DRAINAGE DETAIL 1

1/2" = 1'-0"



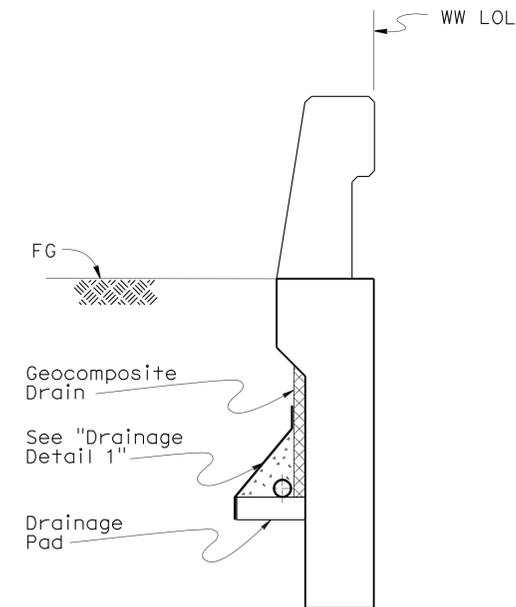
DRAINAGE DETAIL 2

3/4" = 1'-0"



TYPICAL PLAN

1" = 5'-0"



SECTION E-E

3/4" = 1'-0"

DESIGN	BY G. Schuster	CHECKED C. Siegenthaler
DETAILS	BY A. Chen/S. Jiang	CHECKED C. Siegenthaler
QUANTITIES	BY G. Souza	CHECKED N. Terzis

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH **5**

BRIDGE NO.	39C0379
POST MILE	9.35

MARIPOSA CREEK BRIDGE
EAST FRONTAGE ROAD
ABUTMENT DRAINAGE DETAILS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



CU 10
EA 415701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES						SHEET	OF
6-14-08	6-16-08	6-25-08	7-18-08	1-27-09		10	14

BENCH MARK

SURVEY CONTROL

MER-99-1031

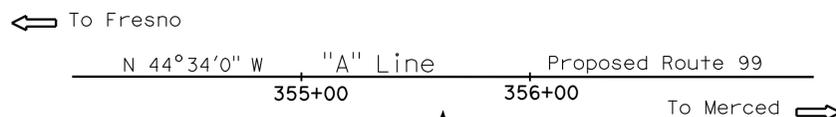
Fnd 1" IP w/RPP & LS5679 TAG
 174.31' Lt "A" Line @ Rte 99
 Sta 357+19.74
 N 1,913,390.95
 E 6,587,816.85
 Elev = 187.20

MER-99-1034

Fnd 1" IP w/RPP & LS5679 Tag
 67.77' Rt "A" Line @ Rte 99
 Sta 357+13.06
 N 1,913,460.93
 E 6,587,897.42
 Elev = 188.16
 NGVD 29



4.5
R-08-001



PLAN

1" = 40'

Notes:

1. CS 2000 Truck Mounted rig (C# 8435) with automatic hammer was used to obtain SPT samples in Borings R-08-001.
2. SPT N values shown on the Log of Test Borings (LOTB) sheet are the actual values recorded in the field.
3. pp= Pocket Penetrometer Test (tsf).

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	749	751

4-29-09

Xing Zheng
 CERTIFIED ENGINEERING GEOLOGIST

10-11-10
 PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST

Xing Zheng
 No. 2130
 Exp. 3-31-11
 CERTIFIED ENGINEERING GEOLOGIST
 STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).



PROFILE

HOR. 1" = 10'
 VER. 1" = 10' 357+00

MARIPOSA CREEK BRIDGE

EAST FRONTAGE ROAD

LOG OF TEST BORINGS 1 OF 3

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		LOG OF TEST BORINGS 1 OF 3											
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen 02/09		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		39C0379		LOG OF TEST BORINGS 1 OF 3											
NAME: R. Buehl		CHECKED BY: J. Thorne		A. Barrie		DESIGN BRANCH		POST MILES													
065 CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 10 EA 415701		9.35		REVISION DATES											
				0 1 2 3				DISREGARD PRINTS BEARING EARLIER REVISION DATES		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td> </tr> <tr> <td style="text-align: center;">02-24-09</td> <td style="text-align: center;">03-17-09</td> <td style="text-align: center;">04-23-09</td> <td style="text-align: center;">04-29-09</td> <td style="text-align: center;"></td> </tr> </table>							02-24-09	03-17-09	04-23-09	04-29-09	
02-24-09	03-17-09	04-23-09	04-29-09																		
										SHEET 12 OF 14											

DATE PLOTTED => 11-OCT-2010 USERNAME =>

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	750	751

 4-29-09
 CERTIFIED ENGINEERING GEOLOGIST

PROFESSIONAL GEOLOGIST
 Xing Zheng
 No. 2130
 Exp. 3-31-11
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 STATE OF CALIFORNIA

10-11-10
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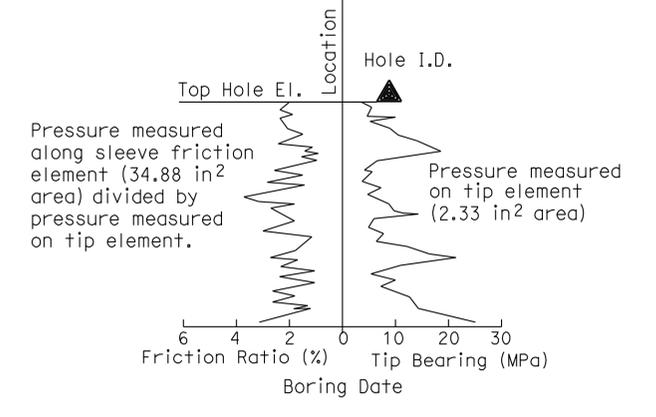
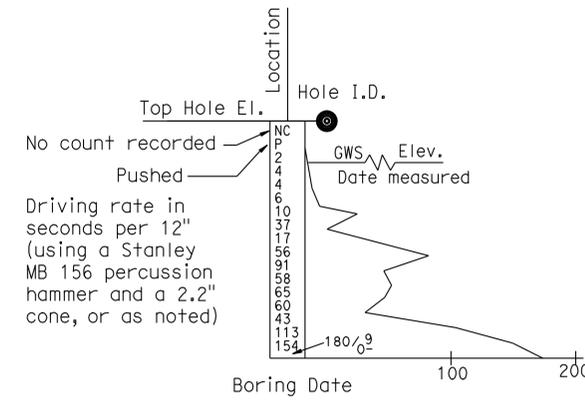
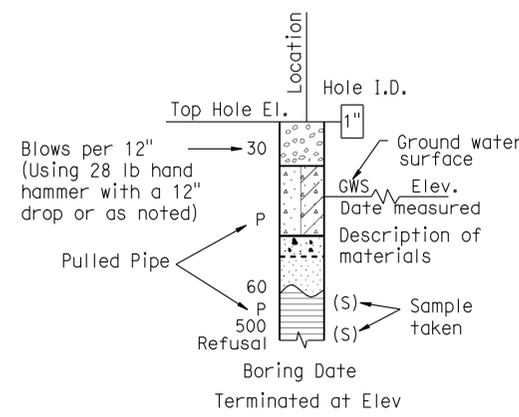
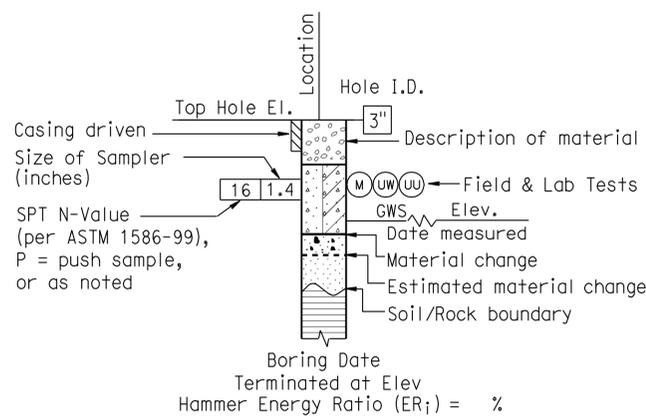
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

CONSISTENCY OF COHESIVE SOILS				
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO. 39C0379	MARIPOSA CREEK BRIDGE
	PREPARED BY: F. Nguyen 02/09	DEPARTMENT OF TRANSPORTATION	DESIGN BRANCH	POST MILE 9.35	EAST FRONTAGE ROAD
		CU 10 EA 415701			LOG OF TEST BORINGS 2 OF 3
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 13 OF 14

FILE => 39C0379-z-lotb2of3.dgn

USERNAME => H:\engrad DATE PLOTTED => 11-OCT-2010 TIME PLOTTED => 14:28

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
10	Mer	99	R4.6/R10.5	751	751

4-29-09

Xing Zheng
CERTIFIED ENGINEERING GEOLOGIST

10-11-10
PLANS APPROVAL DATE

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PROFESSIONAL GEOLOGIST

Xing Zheng
No. 2130
Exp. 3-31-11
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

GROUP SYMBOLS AND NAMES			
Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
	Well-graded GRAVEL		Lean CLAY
	Well-graded GRAVEL with SAND		Lean CLAY with SAND
	Poorly graded GRAVEL		Lean CLAY with GRAVEL
	Poorly graded GRAVEL with SAND		SANDY lean CLAY
	Well-graded GRAVEL with SILT		SANDY lean CLAY with GRAVEL
	Well-graded GRAVEL with SILT and SAND		GRAVELLY lean CLAY
	Well-graded GRAVEL with CLAY		GRAVELLY lean CLAY with SAND
	(or SILTY CLAY)		SILTY CLAY
	Well-graded GRAVEL with CLAY and SAND		SILTY CLAY with SAND
	(or SILTY CLAY and SAND)		SILTY CLAY with GRAVEL
	Poorly graded GRAVEL with SILT		SANDY SILTY CLAY
	Poorly graded GRAVEL with SILT and SAND		GRAVELLY SILTY CLAY
	Poorly graded GRAVEL with CLAY		GRAVELLY SILTY CLAY with SAND
	(or SILTY CLAY)		SILT
	Poorly graded GRAVEL with CLAY and SAND		SILT with SAND
	(or SILTY CLAY and SAND)		SILT with GRAVEL
	SILTY GRAVEL		SANDY SILT
	SILTY GRAVEL with SAND		SANDY SILT with GRAVEL
	CLAYEY GRAVEL		GRAVELLY SILT
	CLAYEY GRAVEL with SAND		GRAVELLY SILT with SAND
	SILTY, CLAYEY GRAVEL		ORGANIC lean CLAY
	SILTY, CLAYEY GRAVEL with SAND		ORGANIC lean CLAY with SAND
	Well-graded SAND		ORGANIC lean CLAY with GRAVEL
	Well-graded SAND with GRAVEL		SANDY ORGANIC lean CLAY
	Poorly graded SAND		GRAVELLY ORGANIC lean CLAY
	Poorly graded SAND with GRAVEL		GRAVELLY ORGANIC lean CLAY with SAND
	Well-graded SAND with SILT		ORGANIC SILT
	Well-graded SAND with SILT and GRAVEL		ORGANIC SILT with SAND
	Well-graded SAND with CLAY		ORGANIC SILT with GRAVEL
	(or SILTY CLAY)		SANDY ORGANIC SILT
	Well-graded SAND with CLAY and GRAVEL		SANDY ORGANIC SILT with GRAVEL
	(or SILTY CLAY and GRAVEL)		GRAVELLY ORGANIC SILT
	Poorly graded SAND with SILT		GRAVELLY elastic SILT
	Poorly graded SAND with SILT and GRAVEL		GRAVELLY elastic SILT with SAND
	Poorly graded SAND with CLAY		ORGANIC fat CLAY
	(or SILTY CLAY)		ORGANIC fat CLAY with SAND
	Poorly graded SAND with CLAY and GRAVEL		ORGANIC fat CLAY with GRAVEL
	(or SILTY CLAY and GRAVEL)		SANDY ORGANIC fat CLAY
	SILTY SAND		GRAVELLY ORGANIC fat CLAY
	SILTY SAND with GRAVEL		GRAVELLY ORGANIC fat CLAY with SAND
	CLAYEY SAND		ORGANIC elastic SILT
	CLAYEY SAND with GRAVEL		ORGANIC elastic SILT with SAND
	SILTY, CLAYEY SAND		ORGANIC elastic SILT with GRAVEL
	SILTY, CLAYEY SAND with GRAVEL		SANDY ORGANIC elastic SILT
	PEAT		GRAVELLY ORGANIC elastic SILT
	COBBLES		GRAVELLY ORGANIC elastic SILT with SAND
	COBBLES and BOULDERS		ORGANIC SOIL
	BOULDERS		ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTING	
(C)	Consolidation (ASTM D 2435)
(CL)	Collapse Potential (ASTM D 5333)
(CP)	Compaction Curve (CTM 216)
(CR)	Corrosivity Testing (CTM 643, CTM 422, CTM 417)
(CU)	Consolidated Undrained Triaxial (ASTM D 4767)
(DS)	Direct Shear (ASTM D 3080)
(EI)	Expansion Index (ASTM D 4829)
(M)	Moisture Content (ASTM D 2216)
(OC)	Organic Content-% (ASTM D 2974)
(P)	Permeability (CTM 220)
(PA)	Particle Size Analysis (ASTM D 422)
(PI)	Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
(PL)	Point Load Index (ASTM D 5731)
(PM)	Pressure Meter
(PP)	Pocket Penetrometer
(R)	R-Value (CTM 301)
(SE)	Sand Equivalent (CTM 217)
(SG)	Specific Gravity (AASHTO T 100)
(SL)	Shrinkage Limit (ASTM D 427)
(SW)	Swell Potential (ASTM D 4546)
(TV)	Pocket Torvane
(UC)	Unconfined Compression-Soil (ASTM D 2166)
(UC)	Unconfined Compression-Rock (ASTM D 2938)
(UU)	Unconsolidated Undrained Triaxial (ASTM D 2850)
(UW)	Unit Weight (ASTM D 4767)
(VS)	Vane Shear (AASHTO T 223)

APPARENT DENSITY OF COHESIONLESS SOILS	
Description	SPT N ₆₀ (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE	
Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS	
Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA	DIVISION OF ENGINEERING SERVICES	MARIPOSA CREEK BRIDGE
	PREPARED BY: F. Nguyen 02/09	DEPARTMENT OF TRANSPORTATION	STRUCTURE DESIGN	EAST FRONTAGE ROAD
		CU 10 EA 415701	DESIGN BRANCH	LOG OF TEST BORINGS 3 OF 3
GS LOTB SOIL LEGEND	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	BRIDGE No. 39C0379 POST MILE 9.35	REVISION DATES
			DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 14 OF 14

FILE => 39C0379-z-1o+3of3.dgn