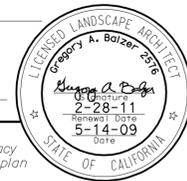


DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	101	154

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 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.

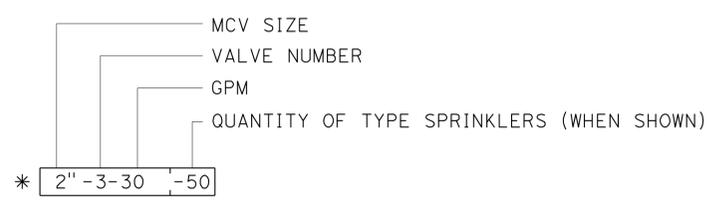
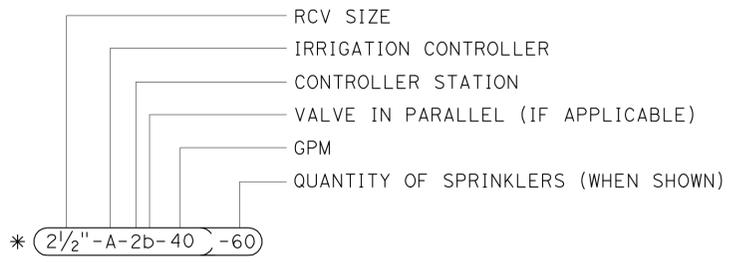


To accompany plans dated 2-14-11

EXISTING	PROPOSED	ITEM DESCRIPTION
		WATER METER (WM)
		BACKFLOW PREVENTER ASSEMBLY (BPA)
		BACKFLOW PREVENTER ASSEMBLY IN ENCLOSURE (BPAE)
		BACKFLOW PREVENTER ENCLOSURE (BPE)
		BOOSTER PUMP (BP)
		TRUCK LOADING STANDPIPE (TLS)
		FLOW SENSOR (FS)
		MASTER IRRIGATION CONTROLLER (MIC)
		AUXILIARY IRRIGATION CONTROLLER (AIC)
		IRRIGATION CONTROLLER (IC)/ IRRIGATION CONTROLLER (IC) (BATTERY) IRRIGATION CONTROLLER (IC) (SOLAR)
		IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET (ICC)
		CONTROL AND NEUTRAL CONDUCTORS (CNC)
		SPRINKLER CONTROL CONDUIT (SCC)
		IRRIGATION CROSSOVER
		EXTEND IRRIGATION CROSSOVER
		IRRIGATION SLEEVE
		DUCTILE IRON PIPE (SUPPLY LINE) (MAIN) (DIP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (MAIN) (GSP)
		GALVANIZED STEEL PIPE (SUPPLY LINE) (LATERAL) (GSP)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (MAIN)
		PLASTIC PIPE (PR 200) (SUPPLY LINE) (LATERAL)
		PLASTIC PIPE (IRRIGATION LINE)
		REMOTE CONTROL VALVE (RCV) REMOTE CONTROL VALVE (MASTER) (RCVM) REMOTE CONTROL VALVE (MASTER) W/FLOW METER (RCVMF)
		MANUAL CONTROL VALVE (MCV)
		VALVE ASSEMBLY UNIT (VAU)
		WYE STRAINER (WS)
		FILTER ASSEMBLY UNIT (FAU)
		GATE VALVE (GV)
		BALL VALVE (BV)

EXISTING	PROPOSED	ITEM DESCRIPTION
		QUICK COUPLING VALVE (QCV)
		CAM COUPLER ASSEMBLY (CCA)
		PRESSURE REDUCING VALVE (PRV)
		PRESSURE RELIEF VALVE (PRLV)
		FLOW CONTROL VALVE (FCV)
		COMBINATION AIR RELEASE VALVE (CARV)
		CHECK VALVE (CV)
		FLUSH VALVE (FV)
		NOZZLE LINE W/TURNING UNION
		IRRIGATION SYSTEM
		IRRIGATION SYSTEM TO BE REMOVED
		CHAIN LINK GATE
		QUICK COUPLING VALVE W/SPRINKLER PROTECTOR
		SPRINKLER W/SPRINKLER PROTECTOR
		CONNECT TO EXISTING SYSTEM
		CAP
		CAP EXISTING

VALVE CODE



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

PLANTING AND IRRIGATION SYMBOLS

NO SCALE

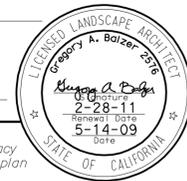
RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H2

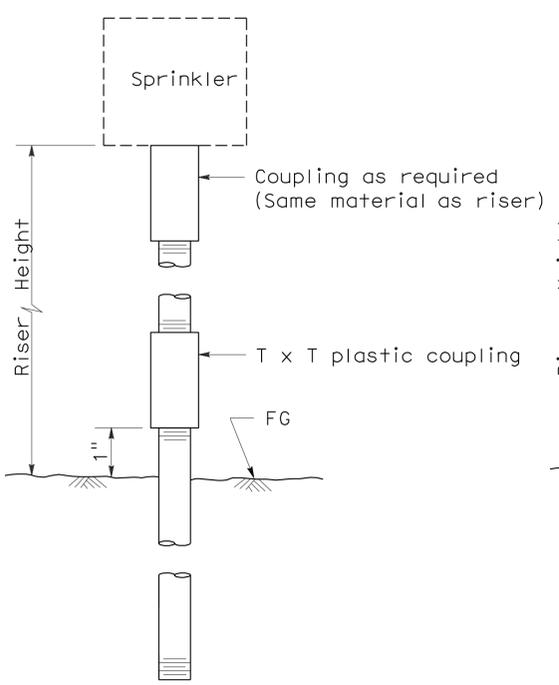
2006 REVISED STANDARD PLAN RSP H2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	102	154

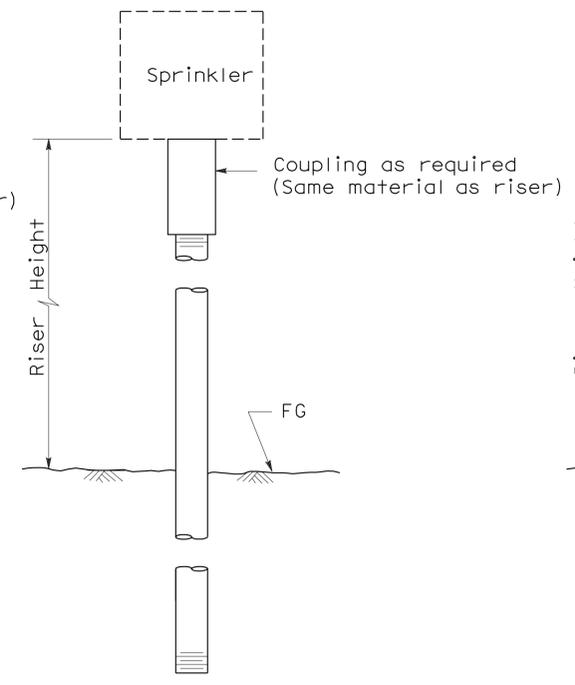
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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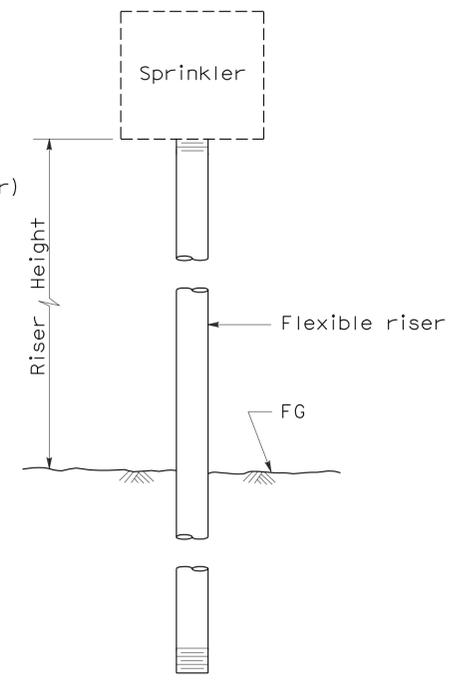
To accompany plans dated 2-14-11



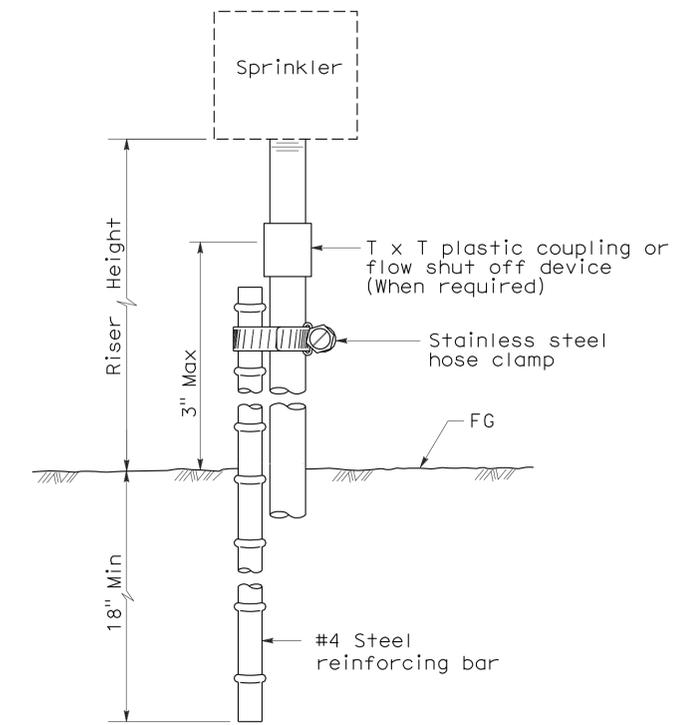
ELEVATION
RISER TYPE I



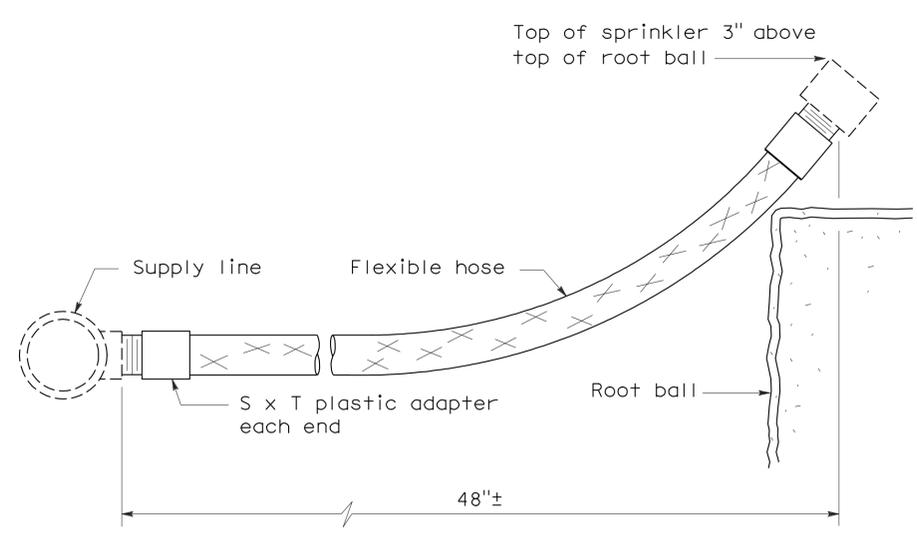
ELEVATION
RISER TYPE II



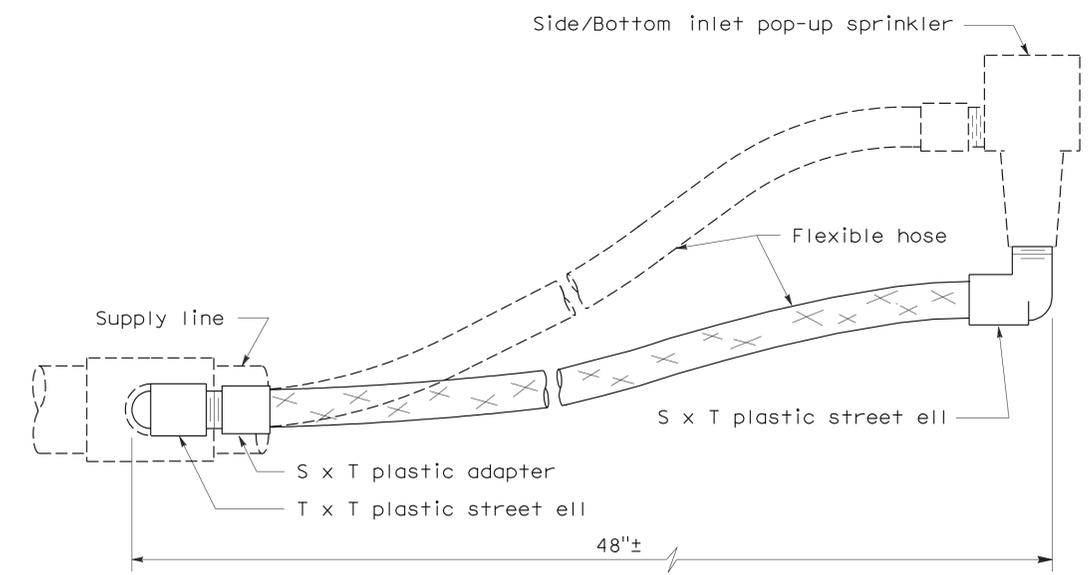
ELEVATION
RISER TYPE III



ELEVATION
RISER TYPE IV



ELEVATION
RISER TYPE V



ELEVATION
RISER TYPE VI

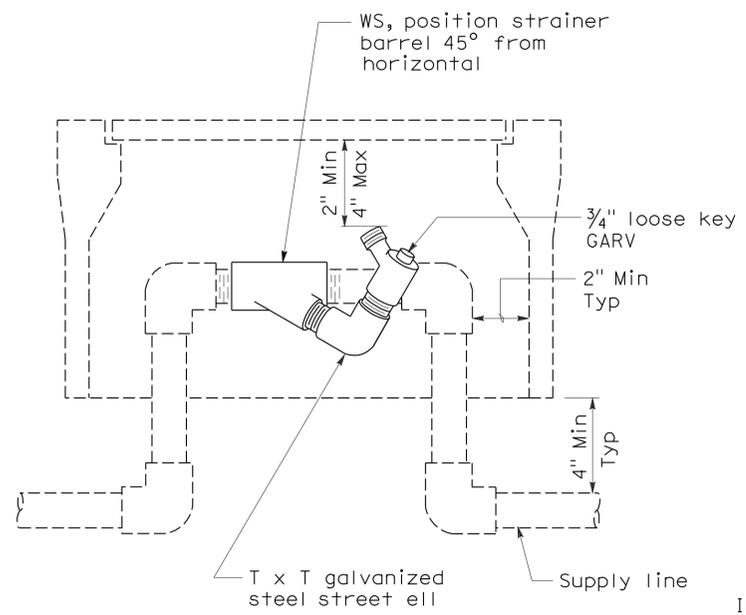
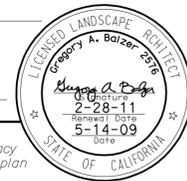
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PLANTING AND IRRIGATION
DETAILS**
NO SCALE

RSP H5 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H5
DATED MAY 1, 2006 - PAGE 205 OF THE STANDARD PLANS BOOK DATED MAY 2006.

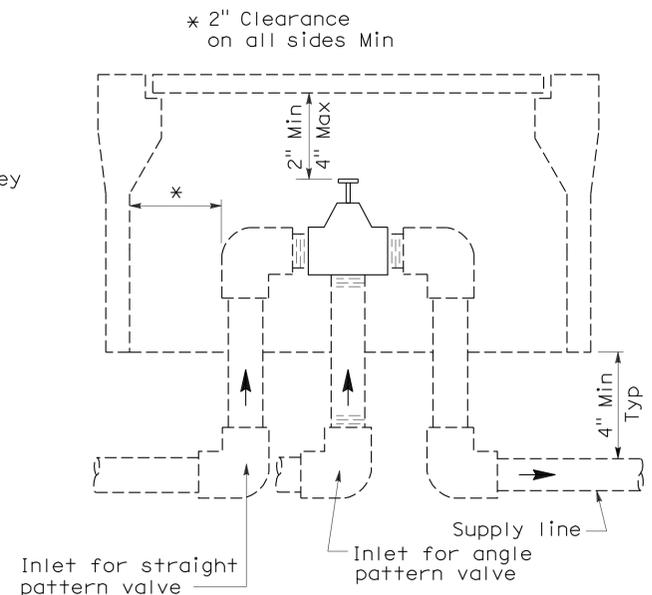
2006 REVISED STANDARD PLAN RSP H5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	103	154

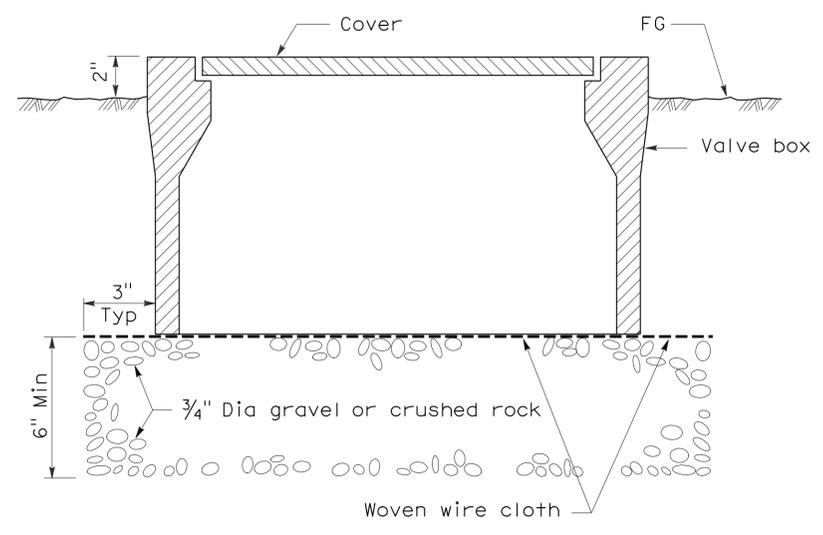
Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



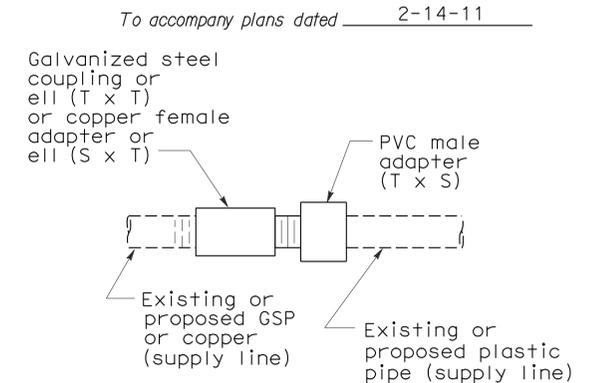
**ELEVATION
WYE STRAINER**



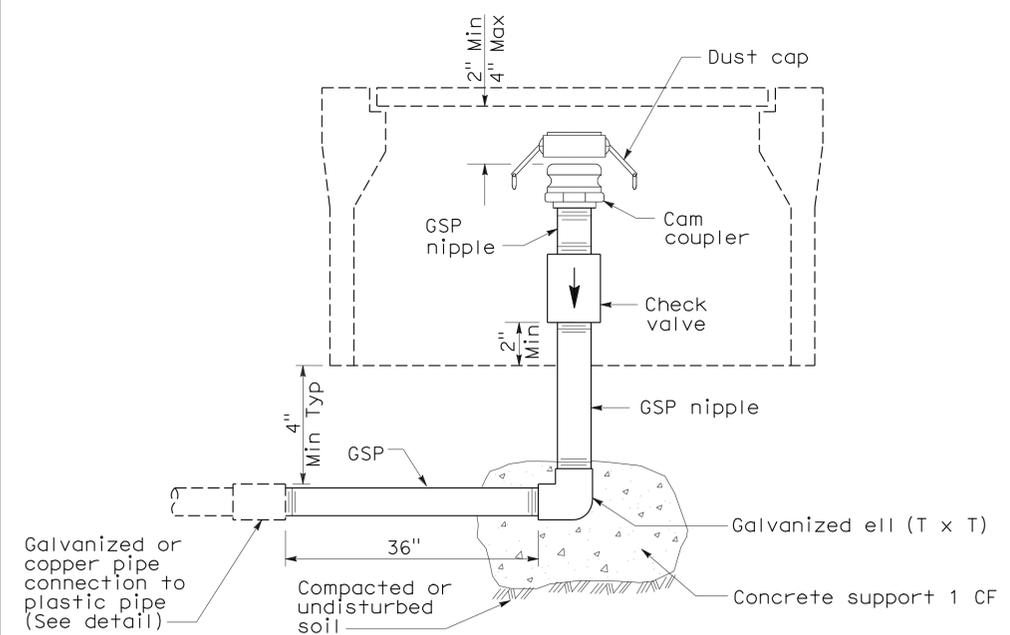
**ELEVATION
VALVE**



**SECTION
VALVE BOX**

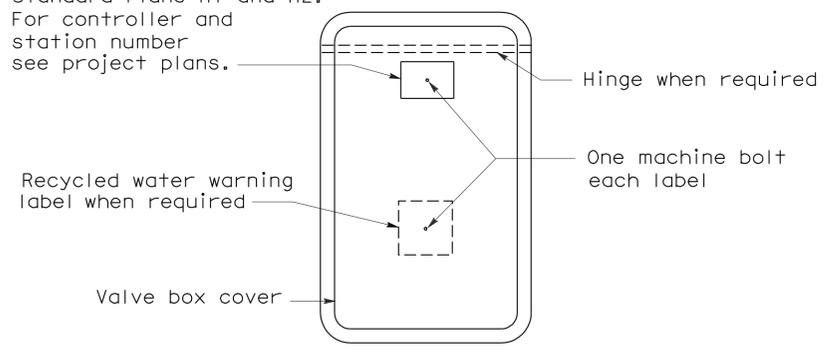


**PLAN
GALVANIZED OR COPPER PIPE
CONNECTION TO PLASTIC PIPE**

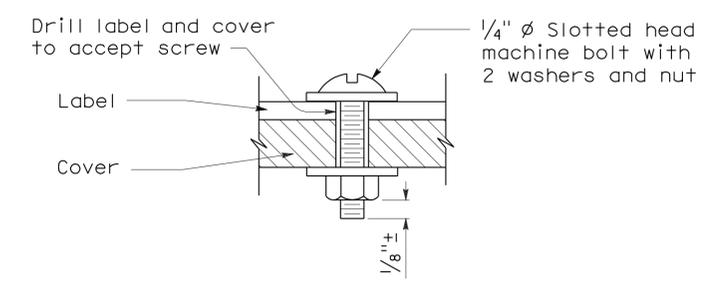


**ELEVATION
CAM COUPLER ASSEMBLY**

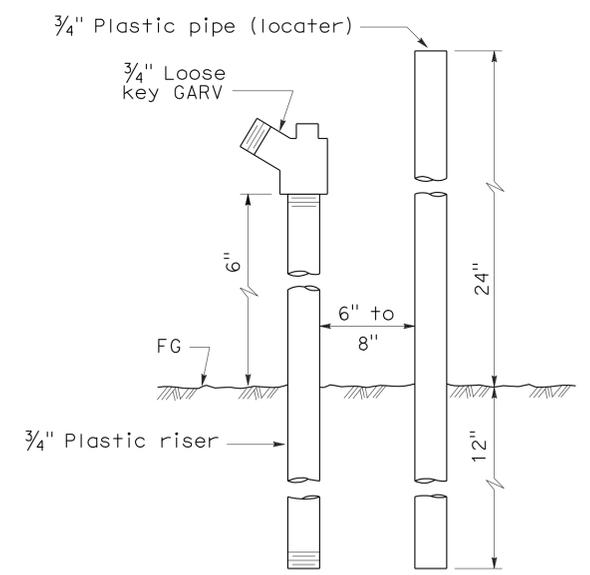
Identification label:
 For abbreviations see Revised Standard Plans H1 and H2.
 For controller and station number see project plans.



PLAN



**SECTION
VALVE BOX IDENTIFICATION**



**ELEVATION
FLUSH VALVE**

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**PLANTING AND IRRIGATION
DETAILS**

NO SCALE

RSP H7 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H7
 DATED MAY 1, 2006 - PAGE 207 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP H7

2006 REVISED STANDARD PLAN RSP H7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	104	154

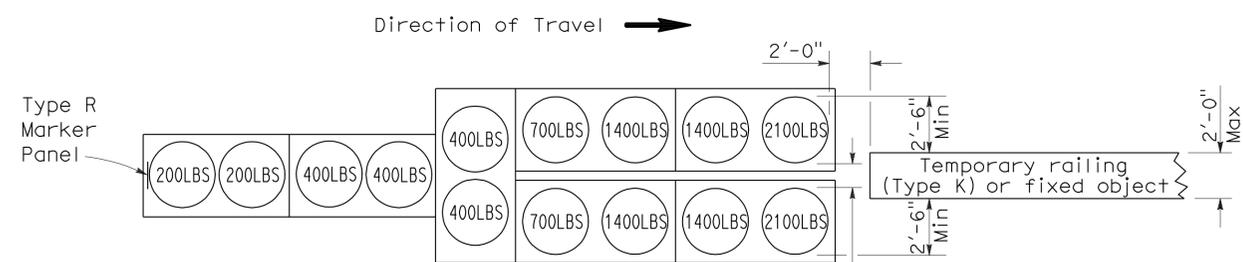
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

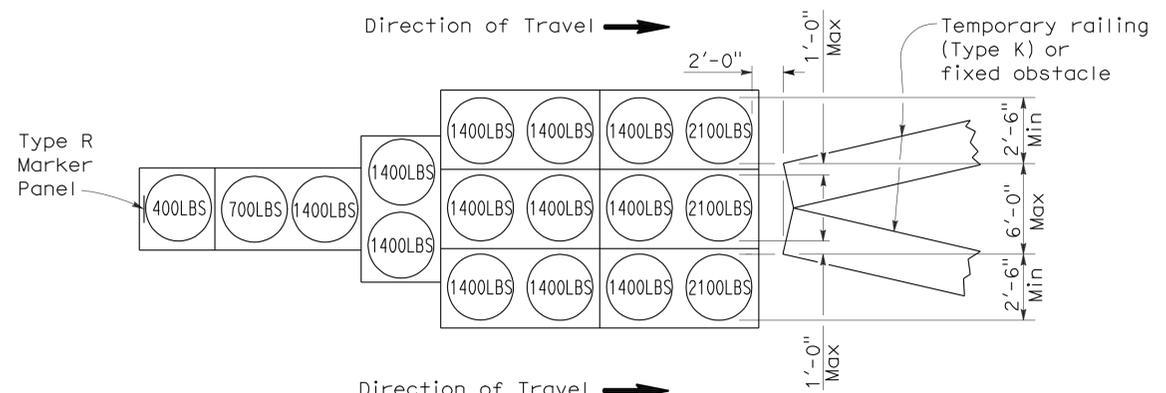
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To accompany plans dated 2-14-11



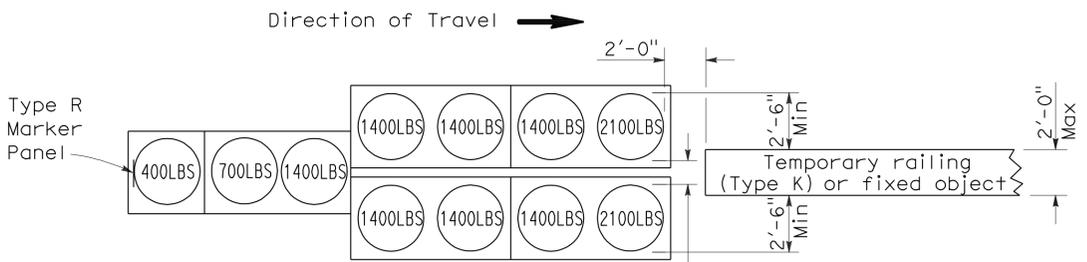
ARRAY 'TU14'

Approach speed 45 mph or more



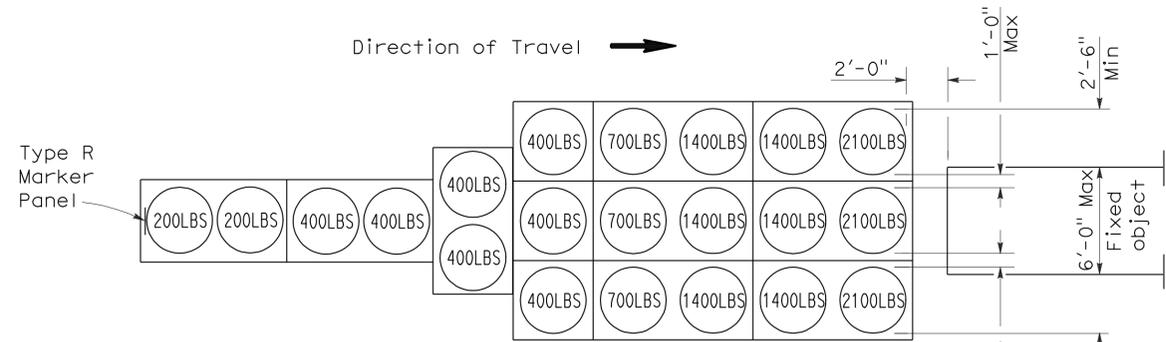
ARRAY 'TU17'

Approach speed less than 45 mph



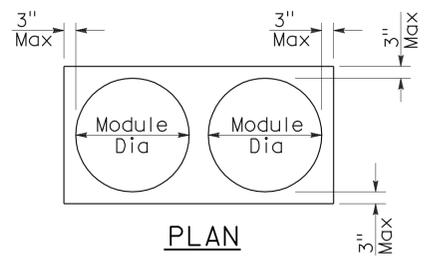
ARRAY 'TU11'

Approach speed less than 45 mph

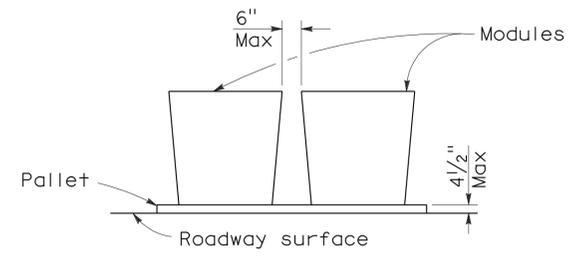


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

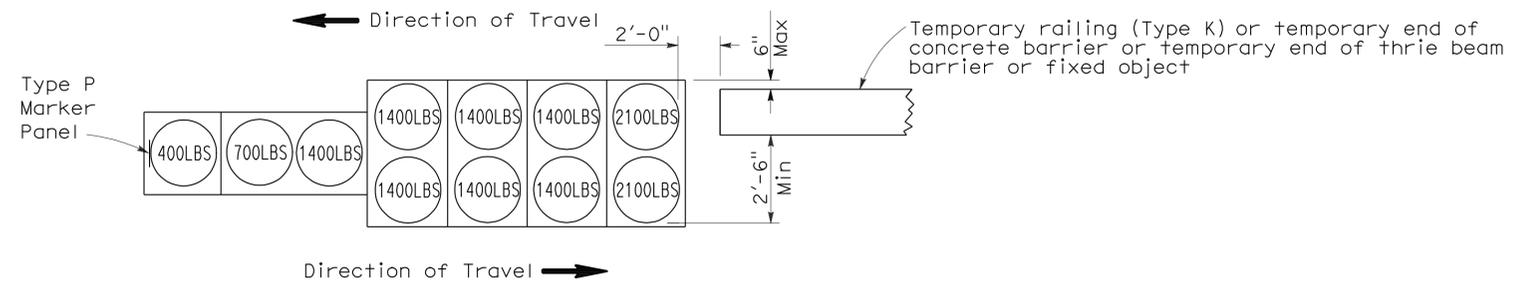
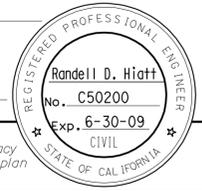
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	105	154

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

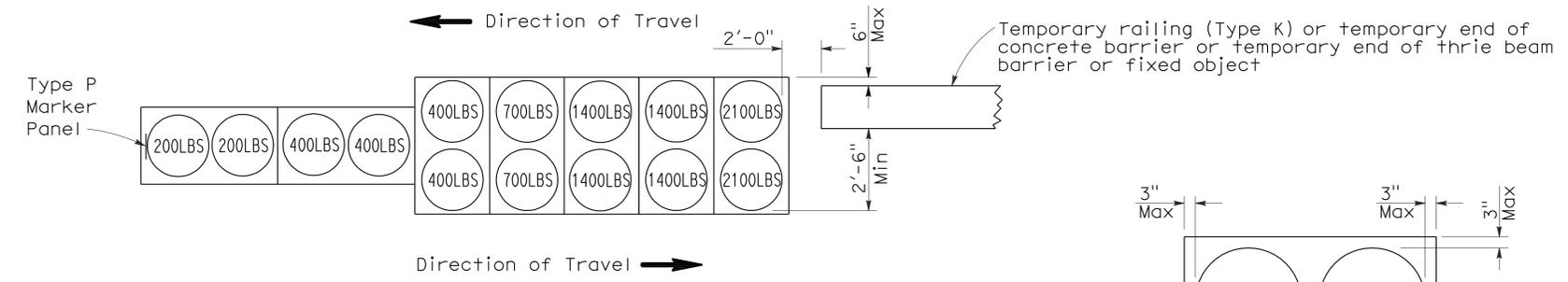
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 2-14-11



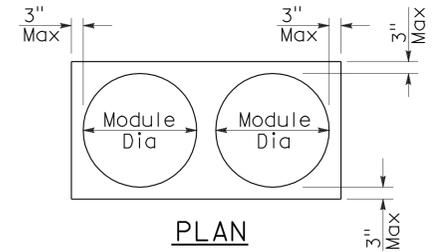
ARRAY 'TB11'

Approach speed less than 45 mph

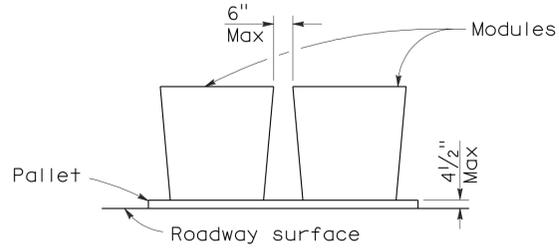


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	106	154

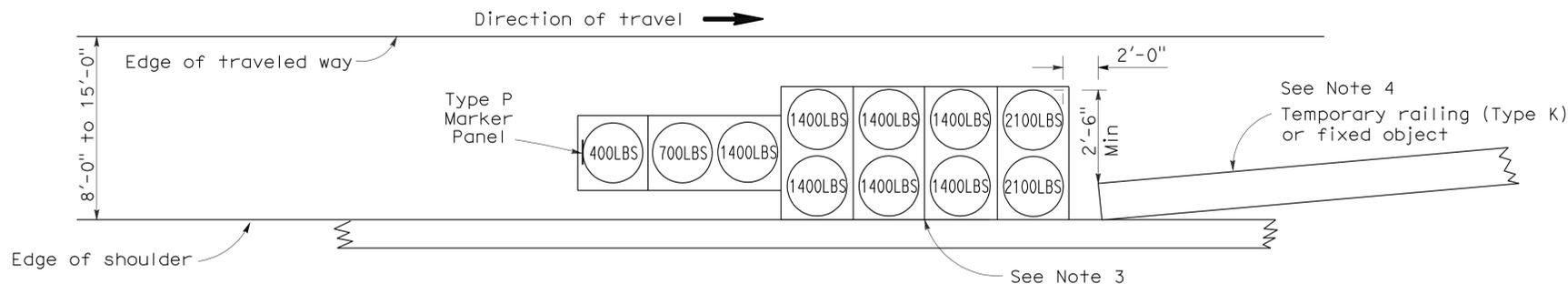
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

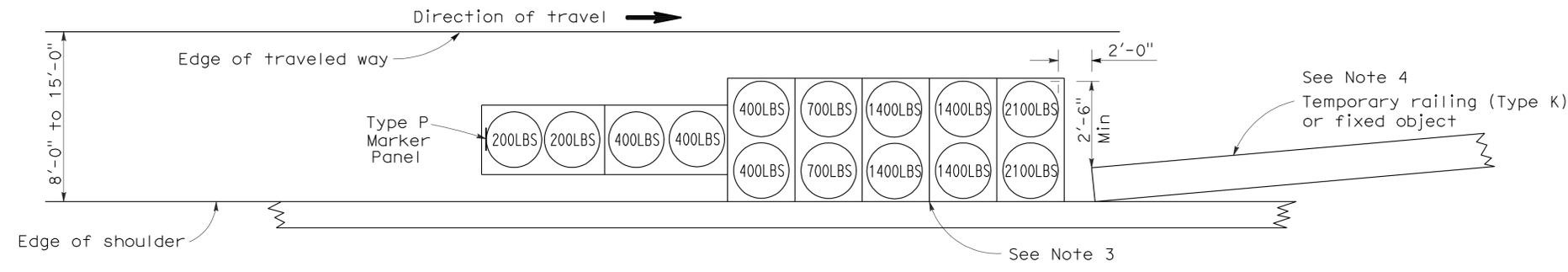
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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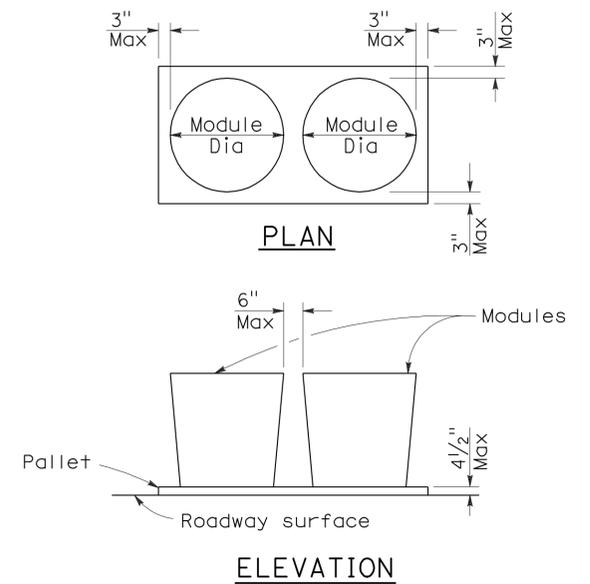
To accompany plans dated 2-14-11



ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
4. If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
10. Approach speeds indicated conform to NCHRP 350 Report criteria.
11. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

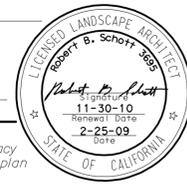
NO SCALE
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

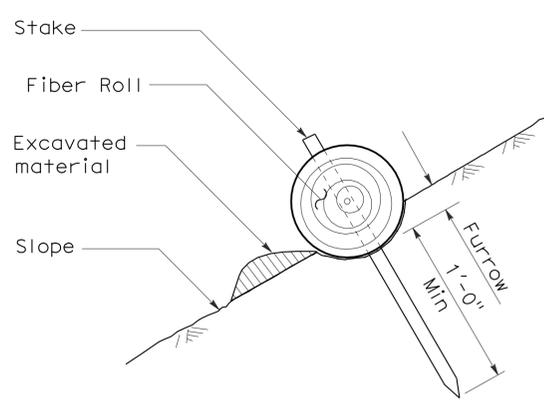
2006 REVISED STANDARD PLAN RSP T2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	108	154

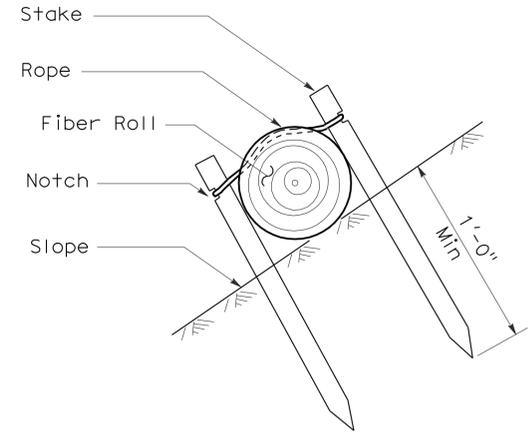
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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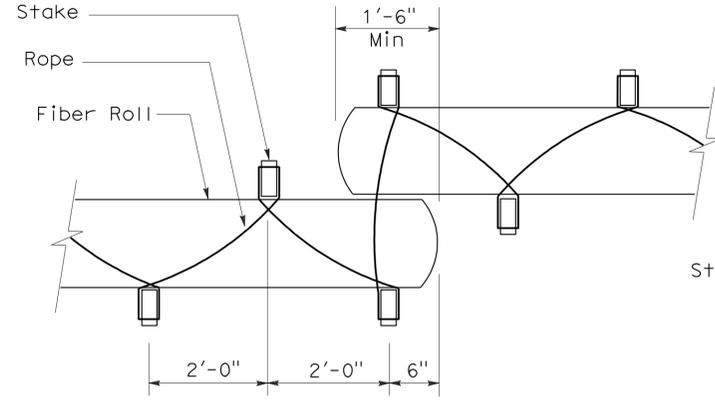
To accompany plans dated 2-14-11



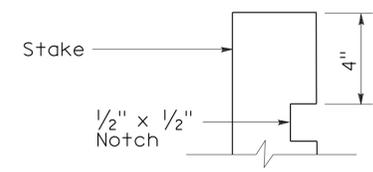
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



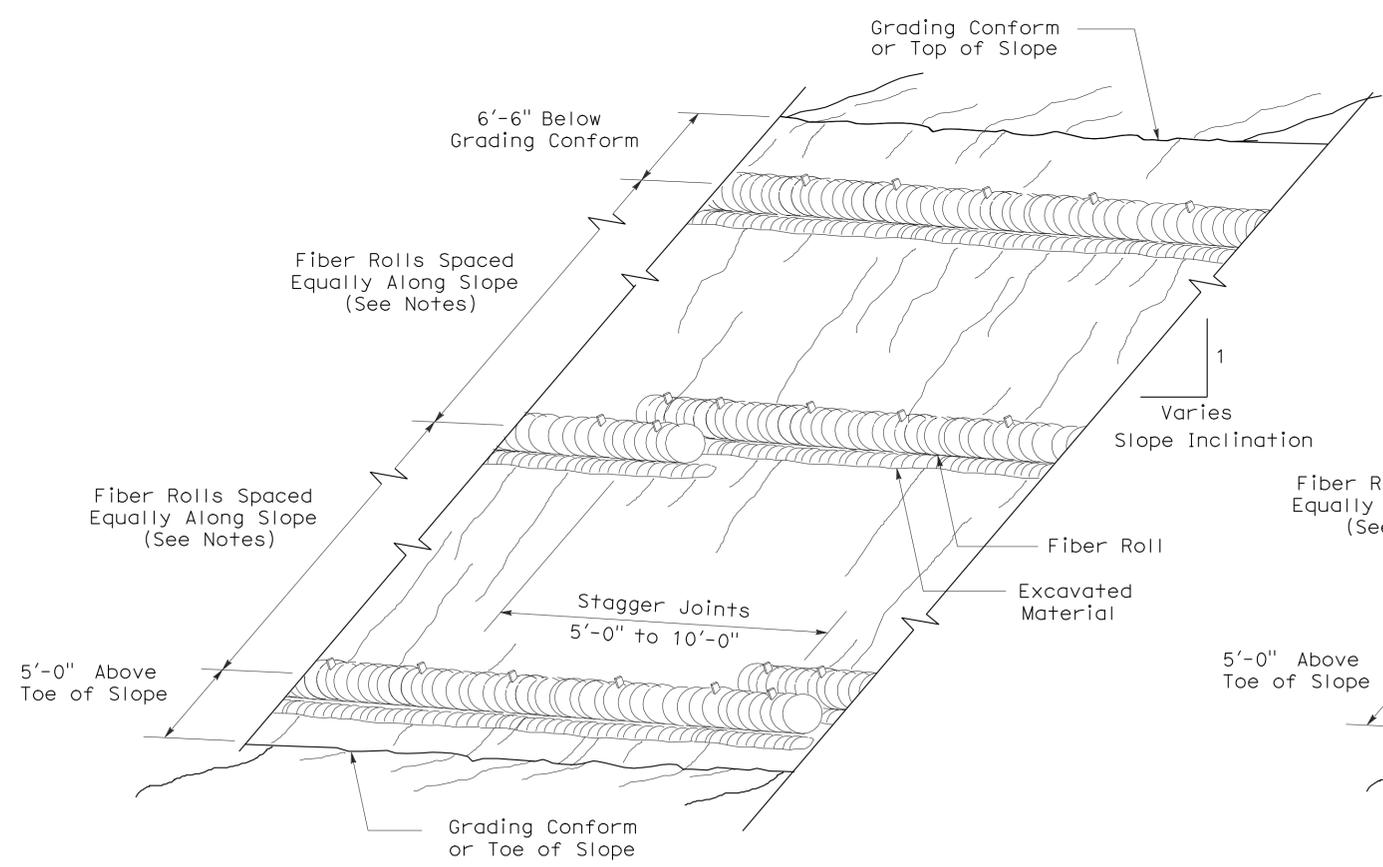
SECTION
TEMPORARY FIBER ROLL (TYPE 2)



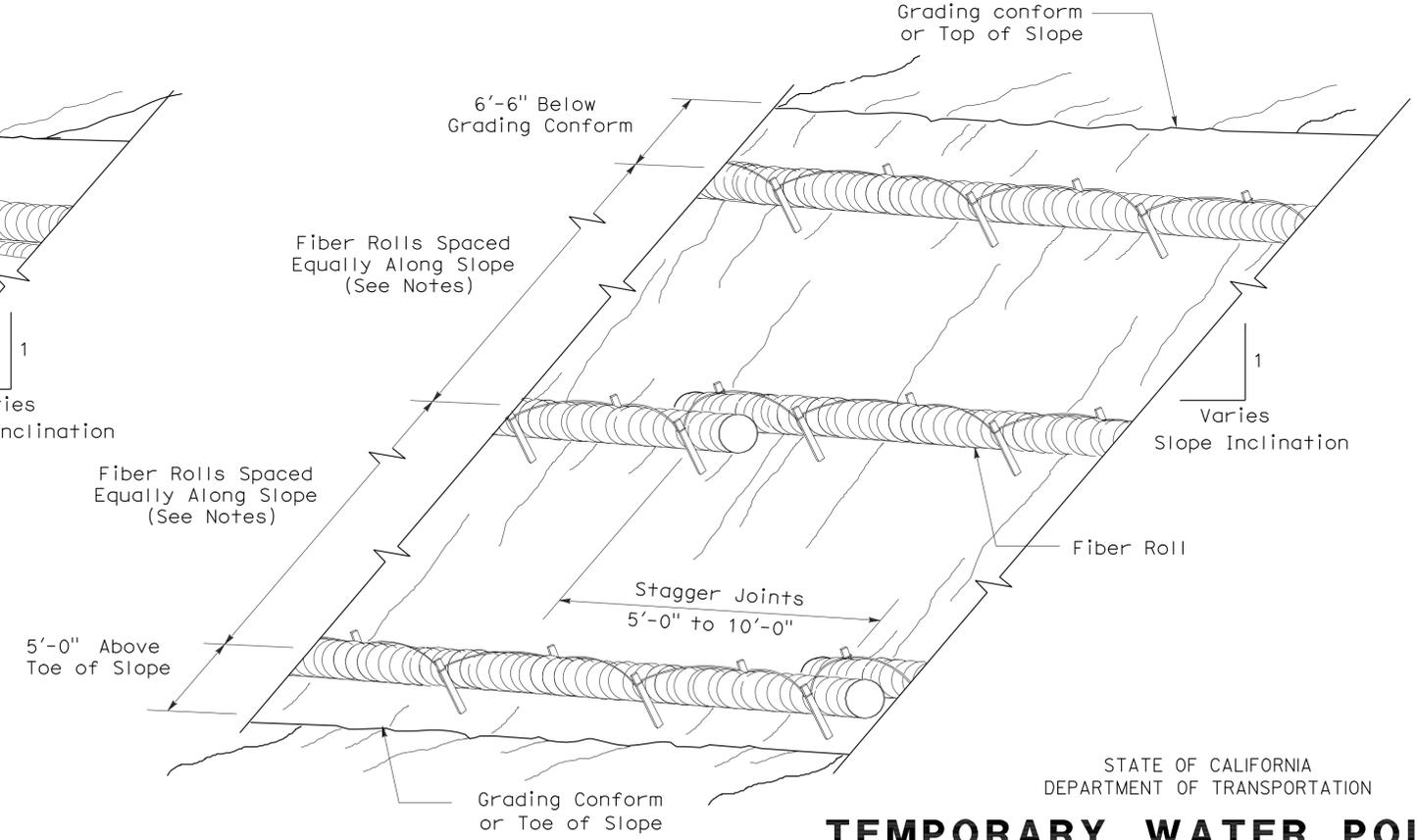
PLAN
ELEVATION
STAKE NOTCH DETAIL



- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

2006 REVISED STANDARD PLAN RSP T56

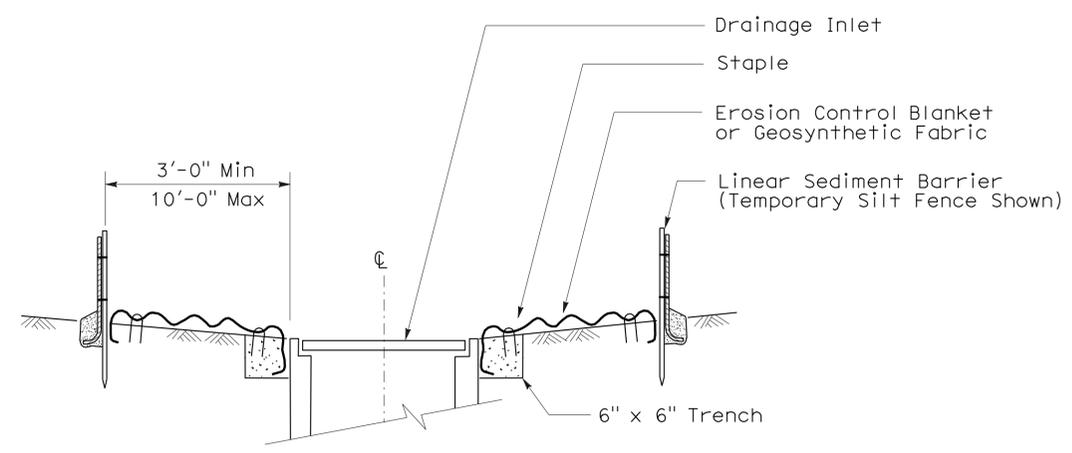
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	109	154

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 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.

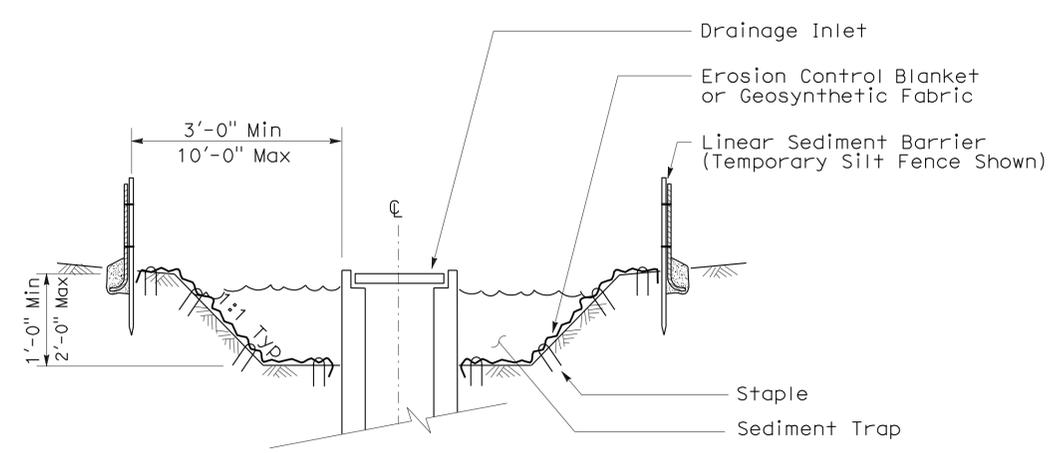


To accompany plans dated 2-14-11

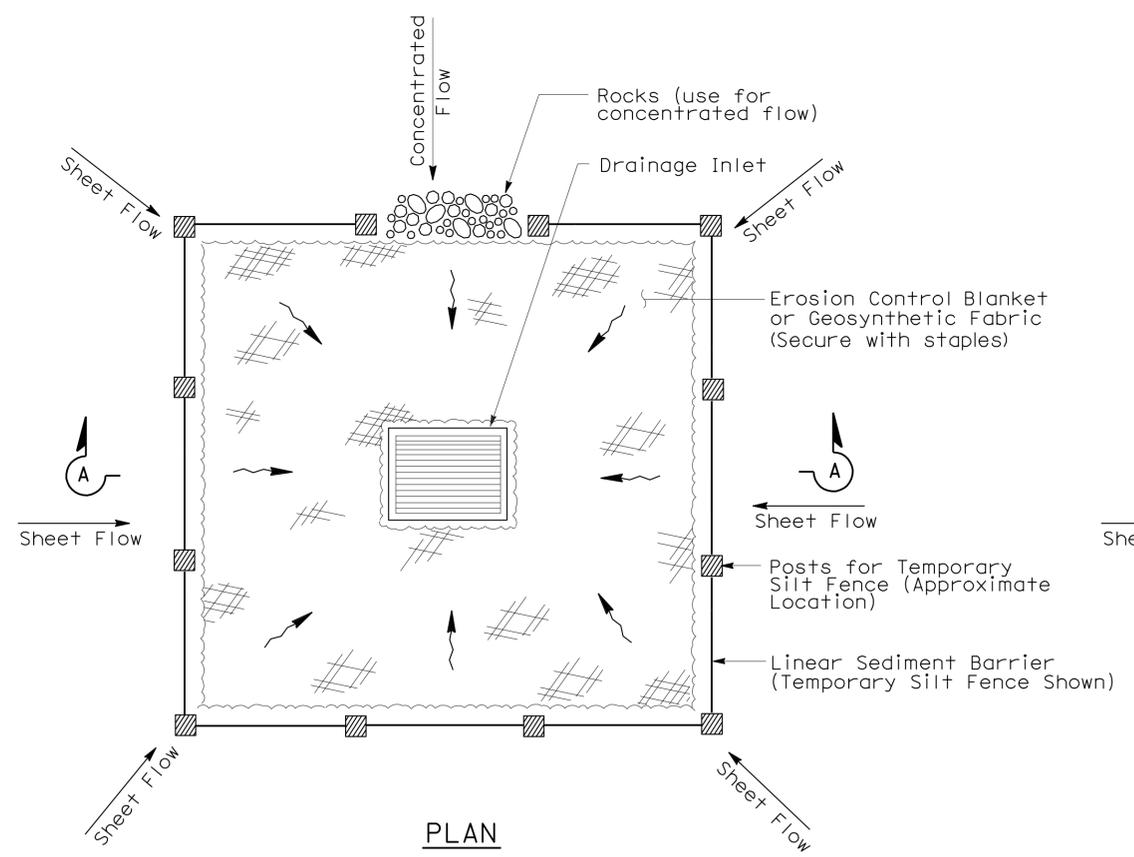
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
 - Dimensions may vary to fit field conditions.



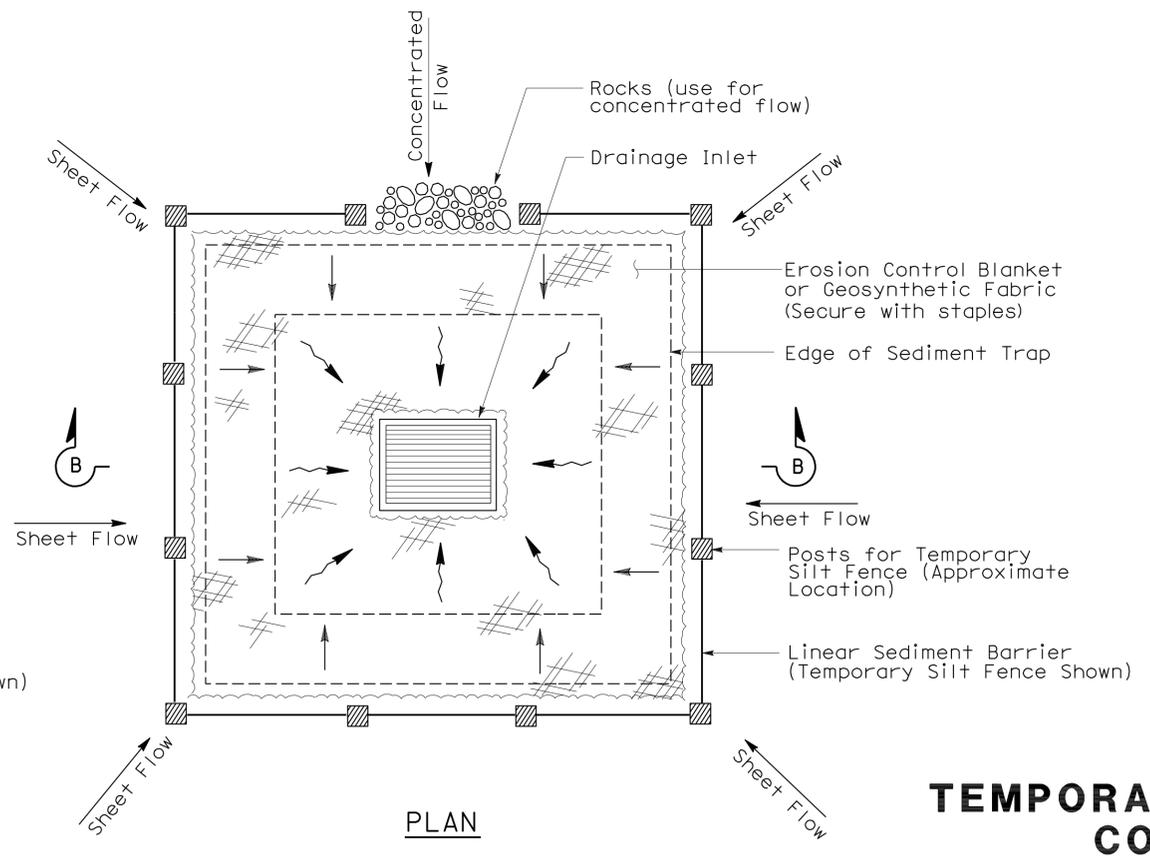
SECTION A-A



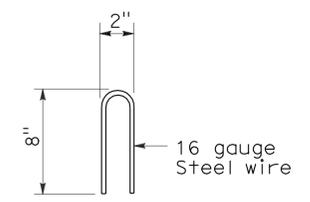
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

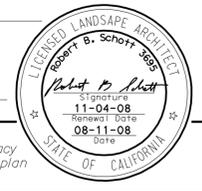
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY DRAINAGE INLET PROTECTION)
 NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	110	154

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 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.

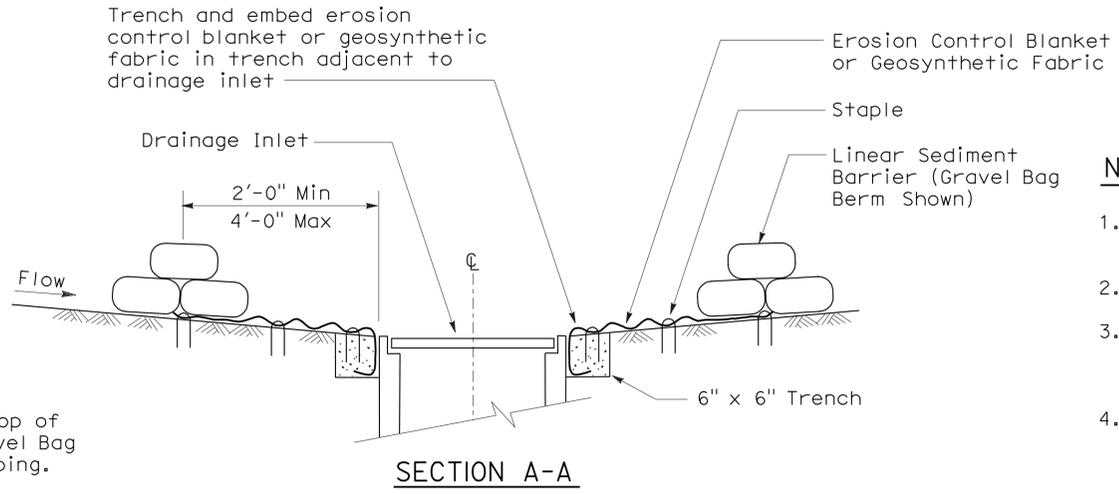
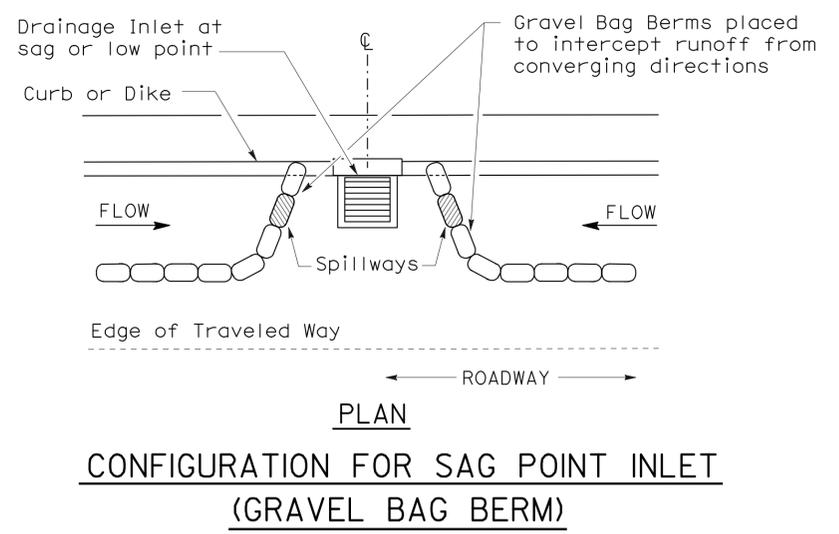


To accompany plans dated 2-14-11

GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

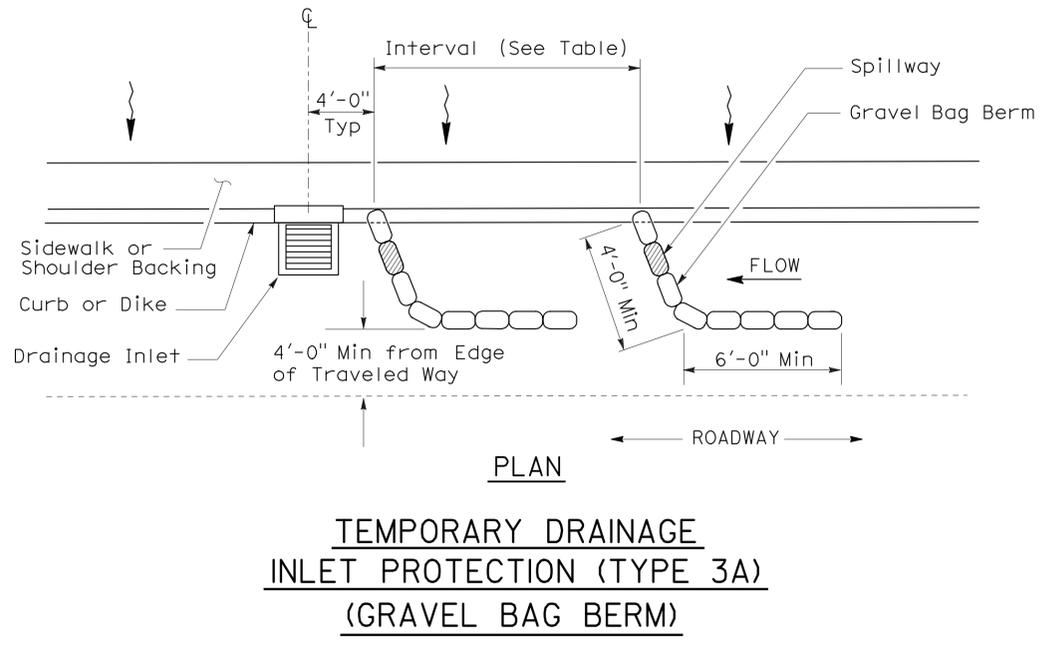
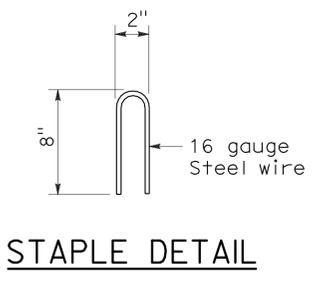
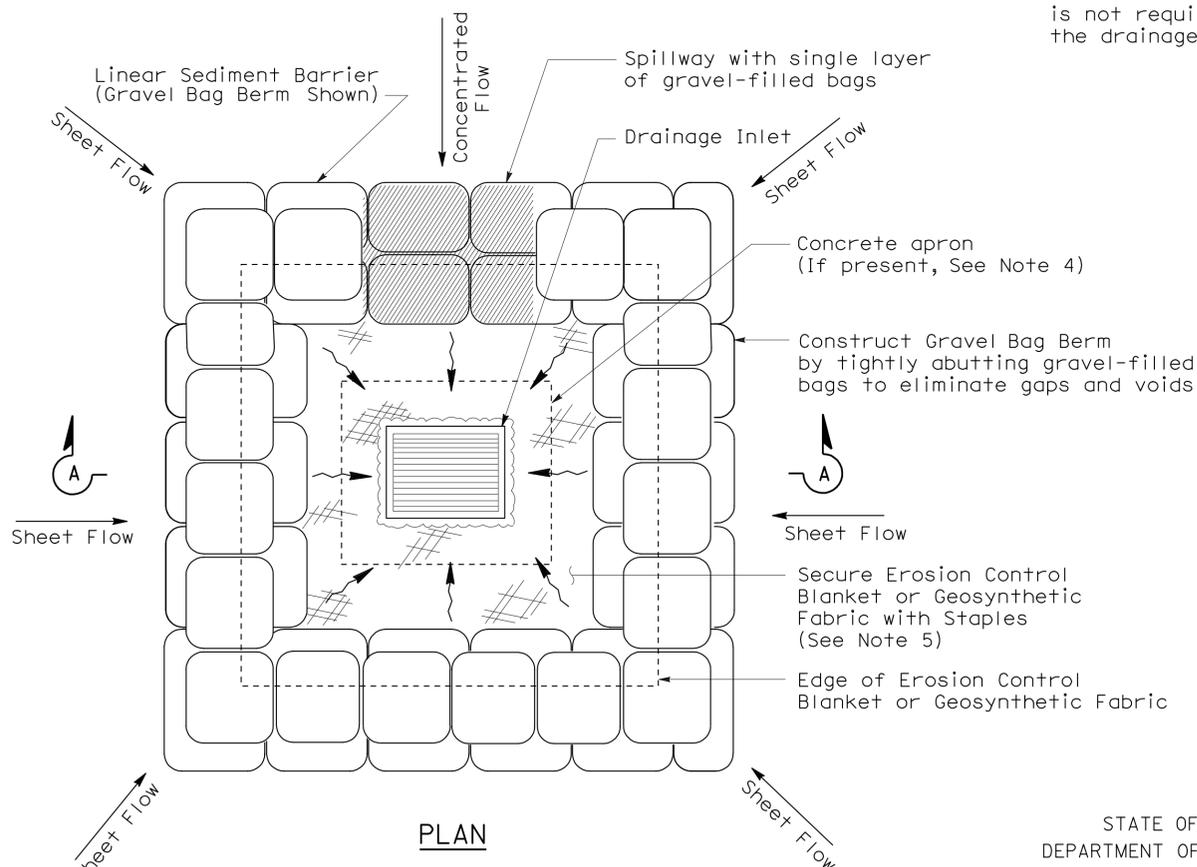
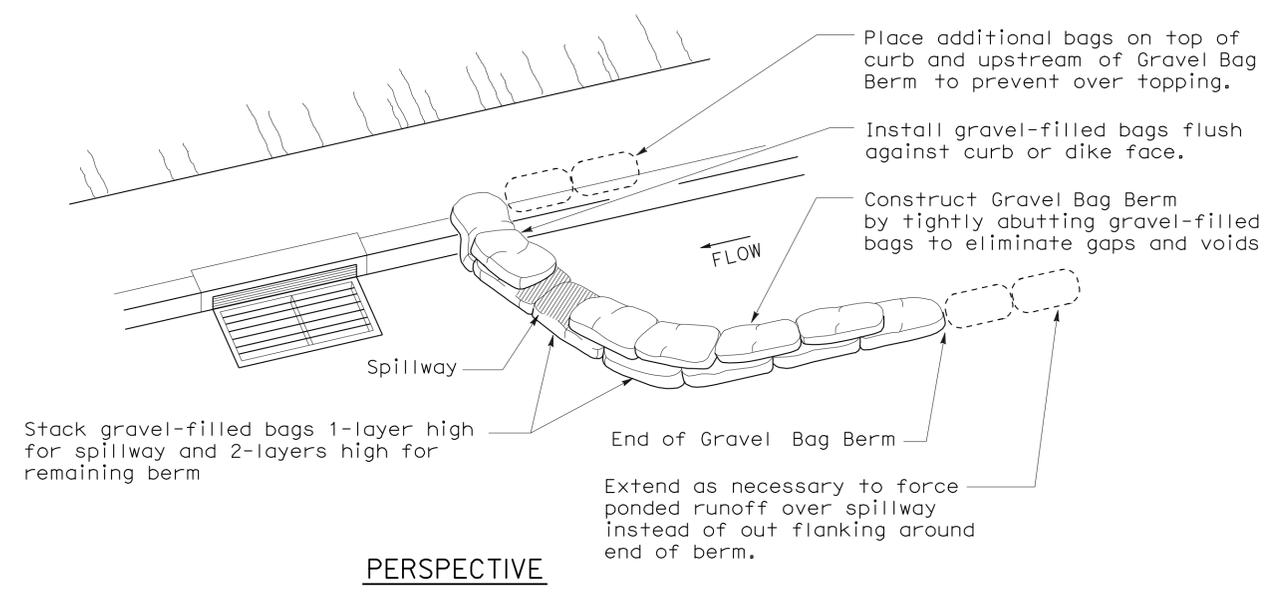
SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent



NOTES:

1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE
 NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T62

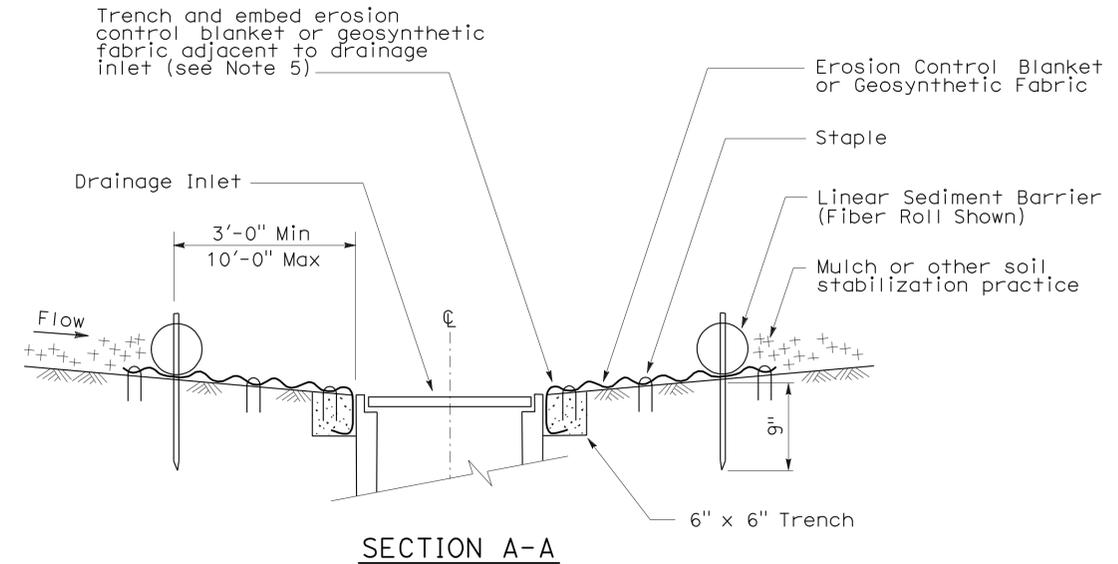
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	111	154

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
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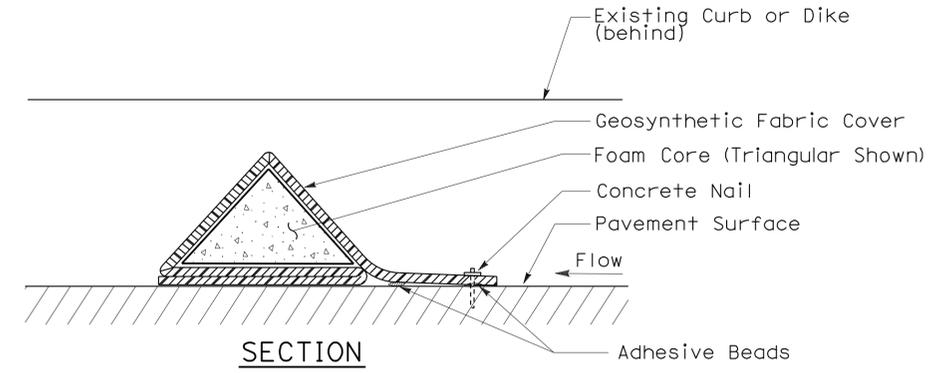
To accompany plans dated 2-14-11

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'



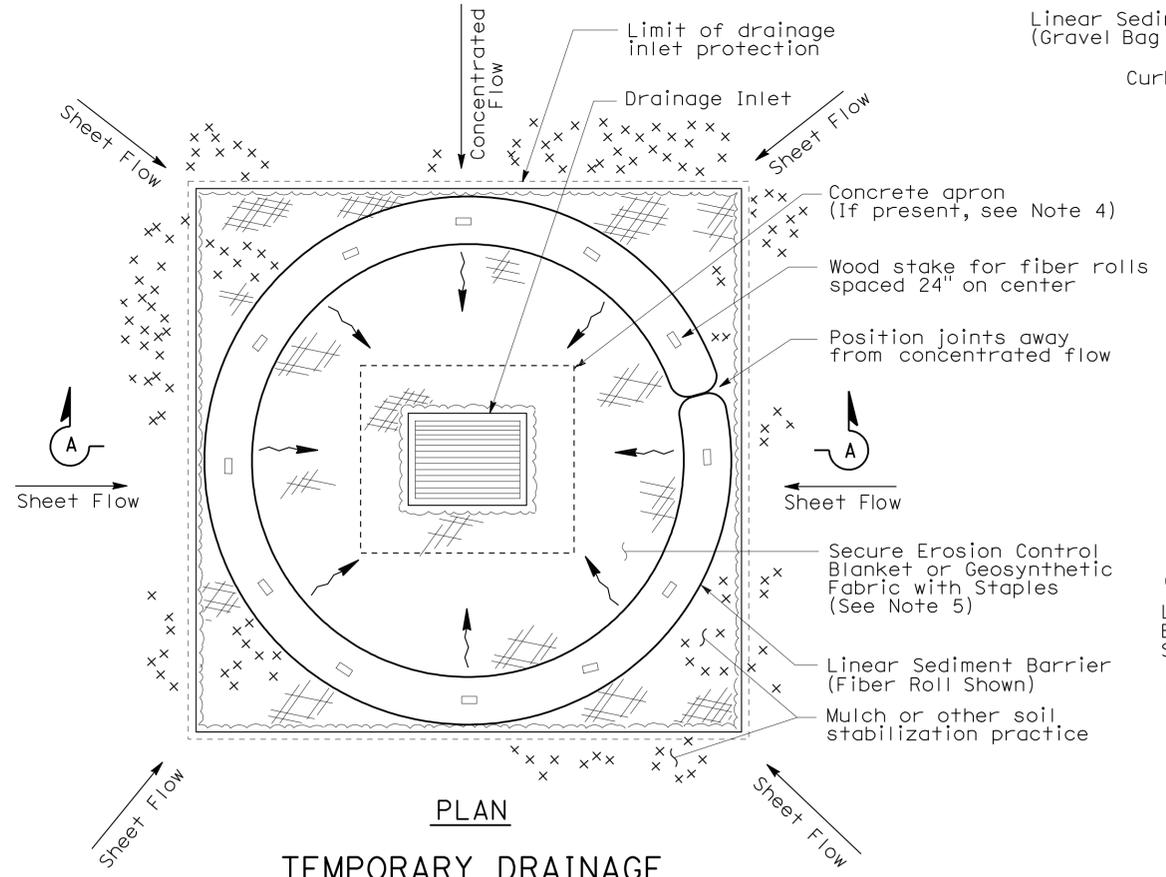
SECTION A-A



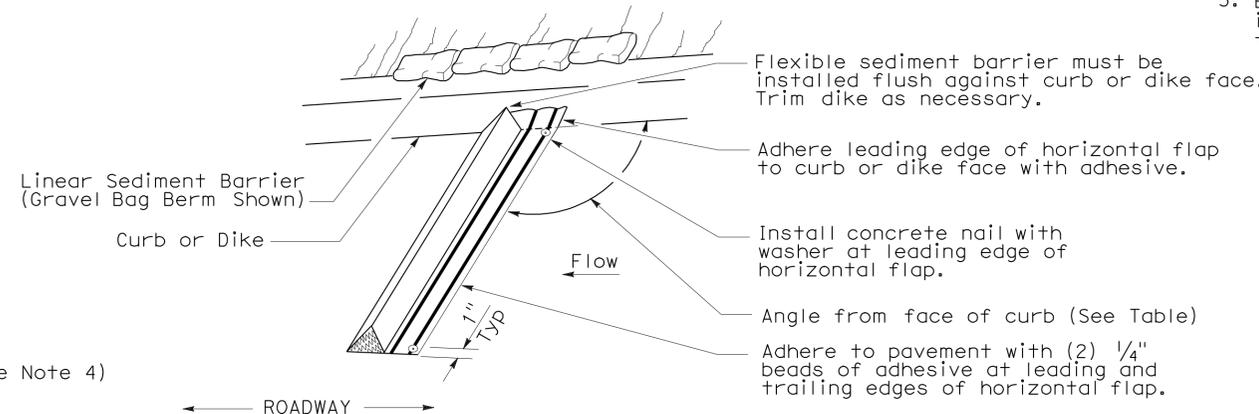
SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)

NOTES:

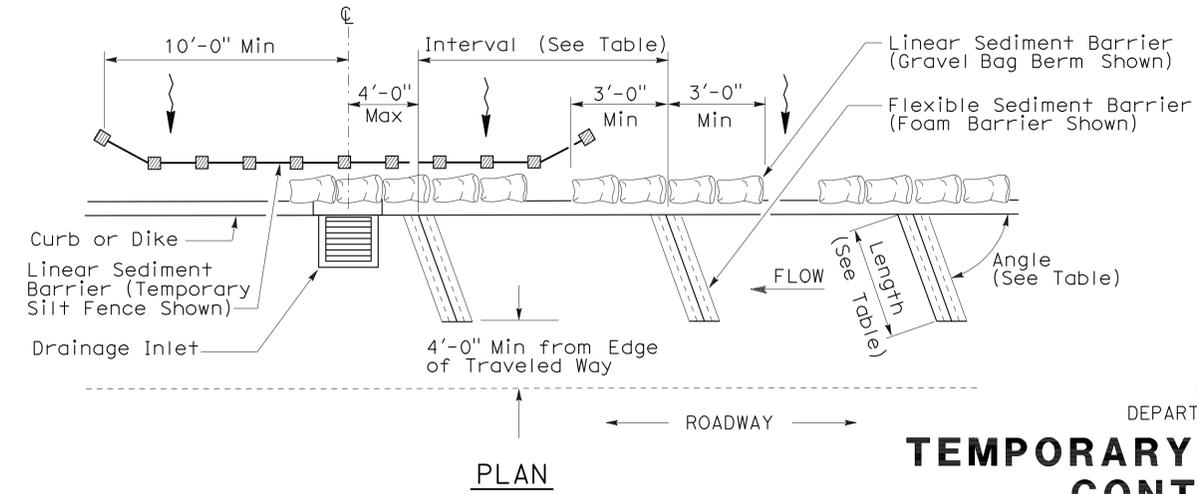
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.



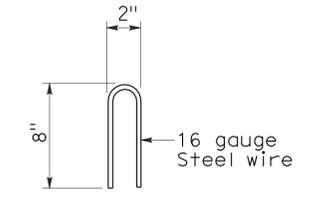
PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PERSPECTIVE



PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER



STAPLE DETAIL

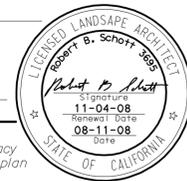
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE
NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

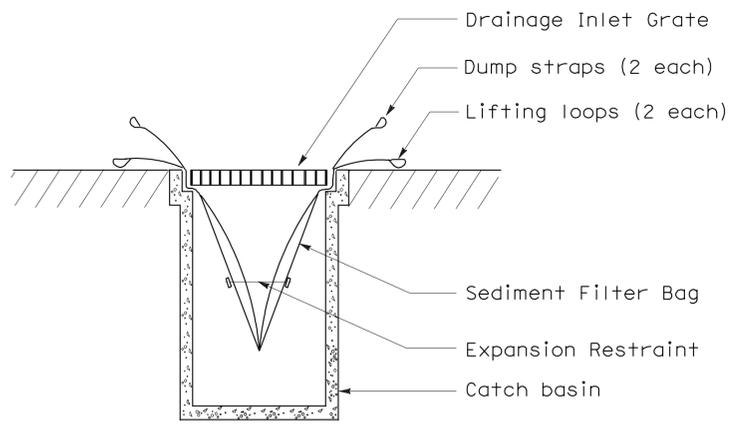
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	112	154

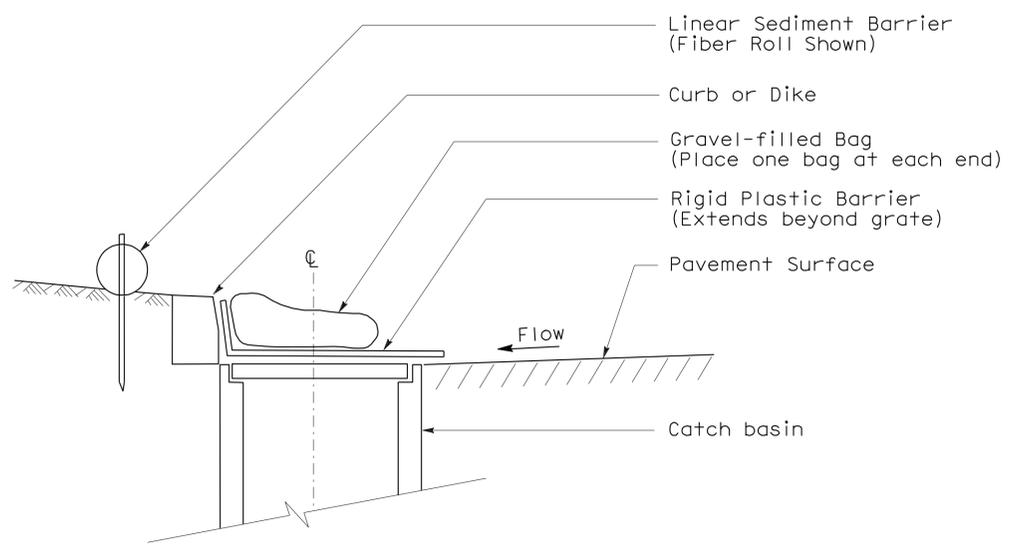
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
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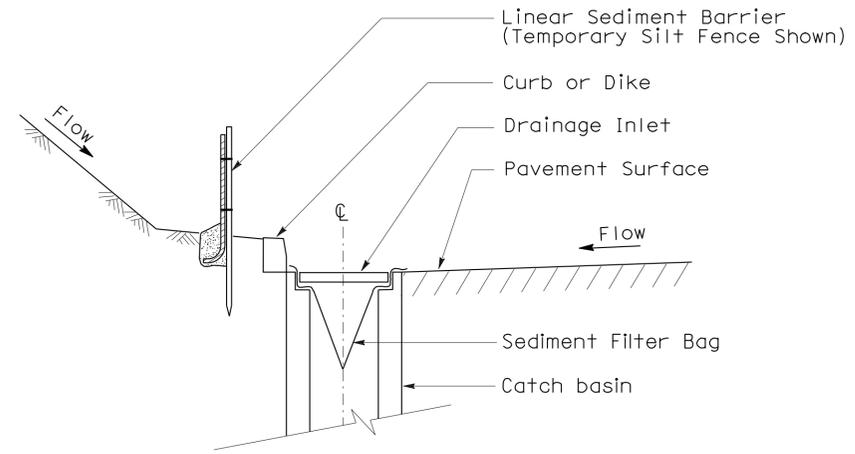
To accompany plans dated 2-14-11



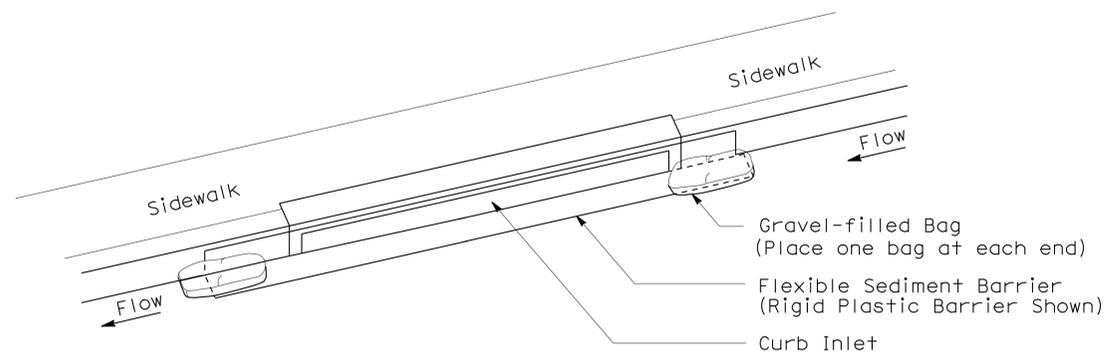
SECTION B-B
SEDIMENT FILTER BAG DETAIL



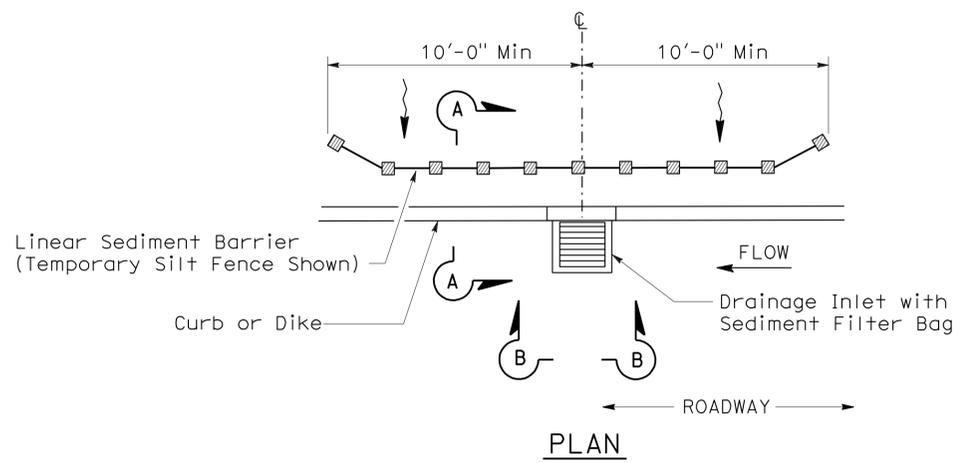
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



PERSPECTIVE
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6B)
(CURB INLET WITHOUT GRATE)



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 5)
(SEDIMENT FILTER BAG)

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

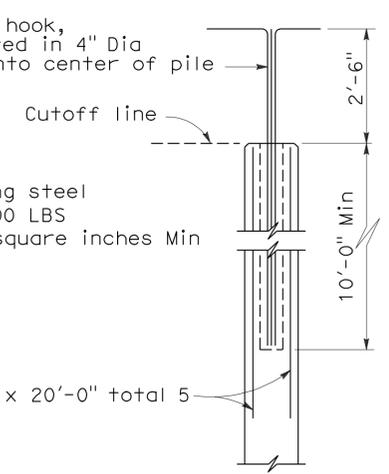
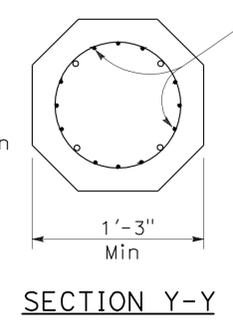
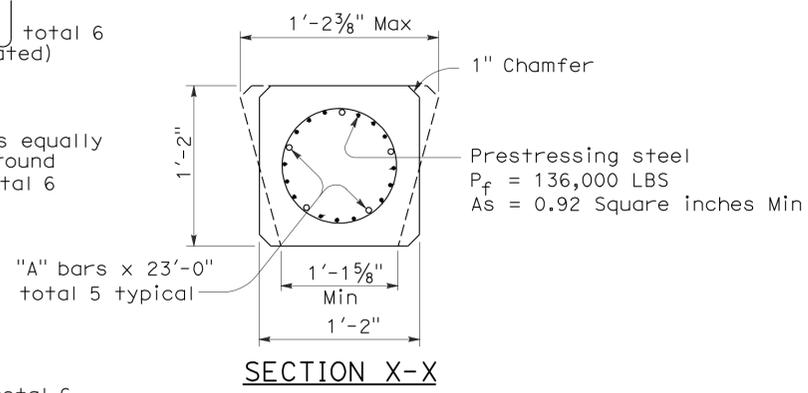
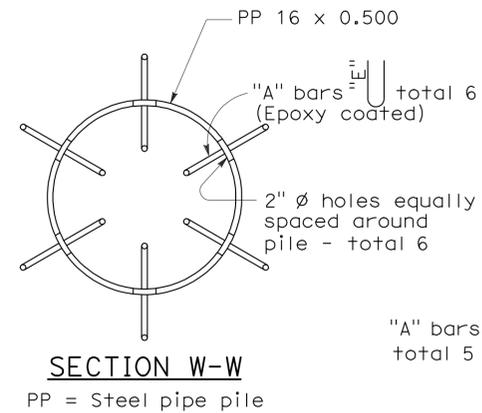
NO SCALE

NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

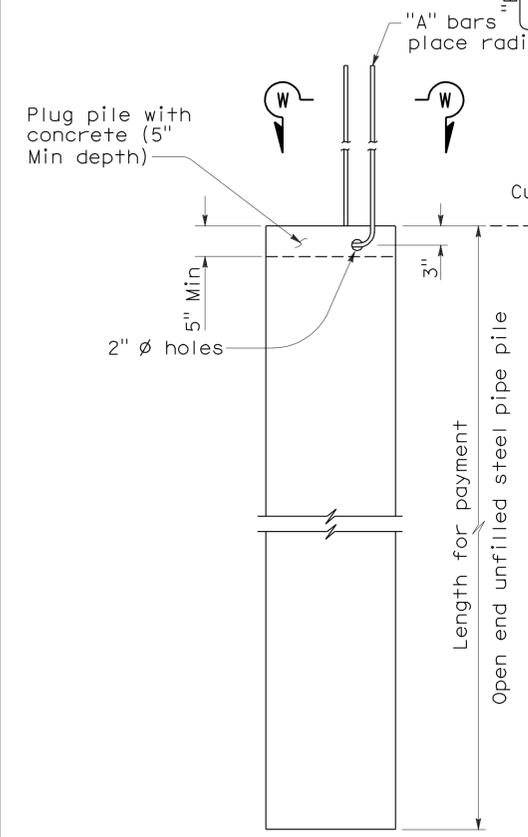
NEW STANDARD PLAN NSP T64

2006 NEW STANDARD PLAN NSP T64

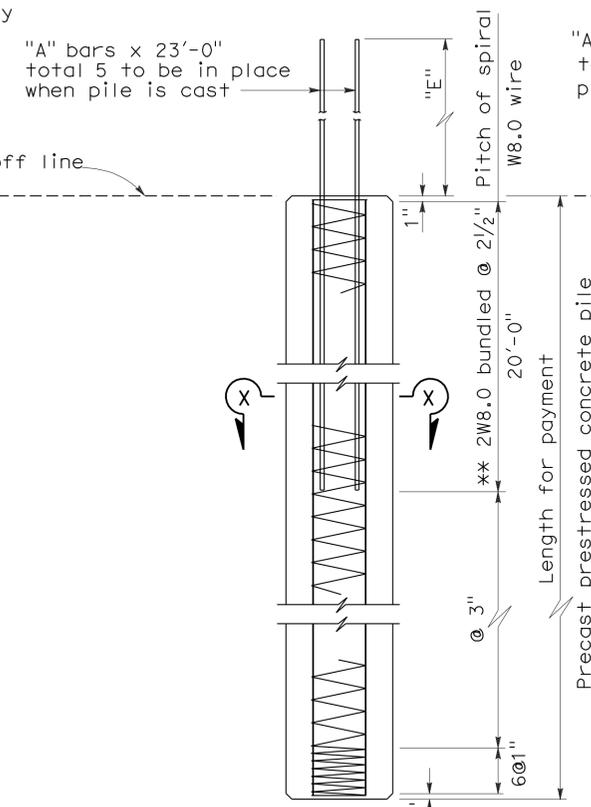
2006 REVISED STANDARD PLAN RSP B2-8



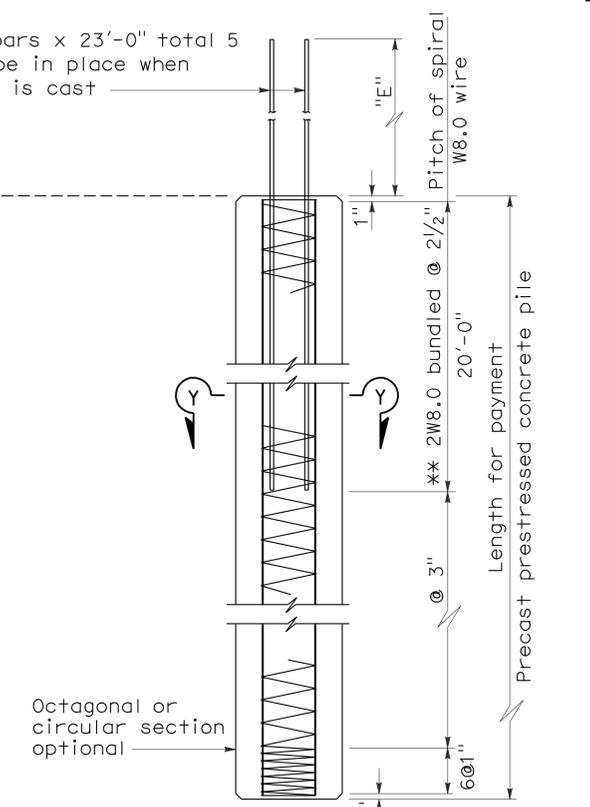
ALTERNATIVE PILE ANCHOR FOR PRESTRESSED PILE



ALTERNATIVE "W"



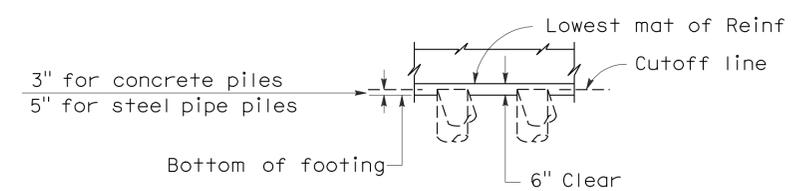
ALTERNATIVE "X"



ALTERNATIVE "Y"

	Nominal Resistance (Tension) *	
	Not Required	Required
"A" bars	#6	#8
"E" Dimension	2'-0"	2'-10"

* See Pile Data Table in the Project Plans for Nominal Resistance (Tension) Requirements



PILE EMBEDMENT

DESIGN NOTES:

DESIGN CAPACITY :

- Compression = 200 kip (Service state)
- = 400 kip (Nominal axial strength)
- Tension = 80 kip (Service state)
- = 200 kip (Nominal axial strength)

REINFORCED CONCRETE

$f'_c = 4,000$ psi
 $f_y = 60,000$ psi

PRECAST PRESTRESSED PILES

P_f = Prestress Force (After losses)
 Concrete Strength f'_c @ 28 days = 7,000 psi
 f'_c @ transfer = 4,000 psi

STEEL PIPE PILE

F_y (minimum yield strength) = 45,000 psi
 F_u (minimum tensile strength) = 66,000 psi

NOTES:

1. Pile reinforcement extending into footing shall be hooked as required to provide clearance to top of footing.
2. Lapped splices in spiral pile reinforcement shall be lapped 80 wire diameters minimum. Spiral pile reinforcement at splices and at ends shall be terminated by a 135° hook with 6" tail hooked around a longitudinal bar or strand.
3. At the Contractor's option, alternative steel pipe with at least the diameter and wall thickness shown on these plans may be used. The diameter shall not exceed 1'-6".
4. Alternative "W" piles shall not be used for corrosive environments.
5. Maximum cut-off length at the top of the Alternative "X" and Alternative "Y" piles is 10'-0".

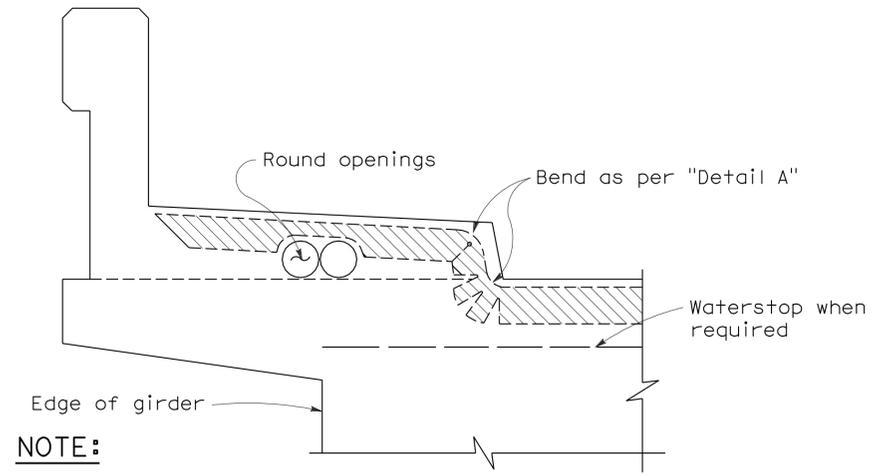
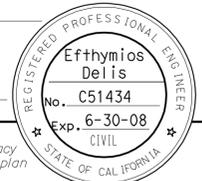
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

PILE DETAILS CLASS 200

NO SCALE

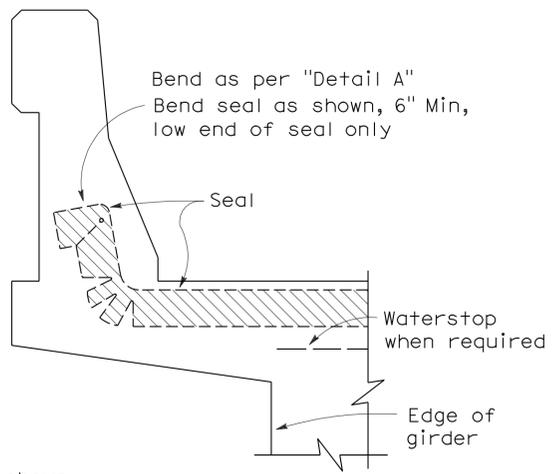
RSP B2-8 DATED OCTOBER 20, 2006 SUPERSEDES STANDARD PLAN B2-8 DATED MAY 1, 2006-PAGE 242 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP B2-8

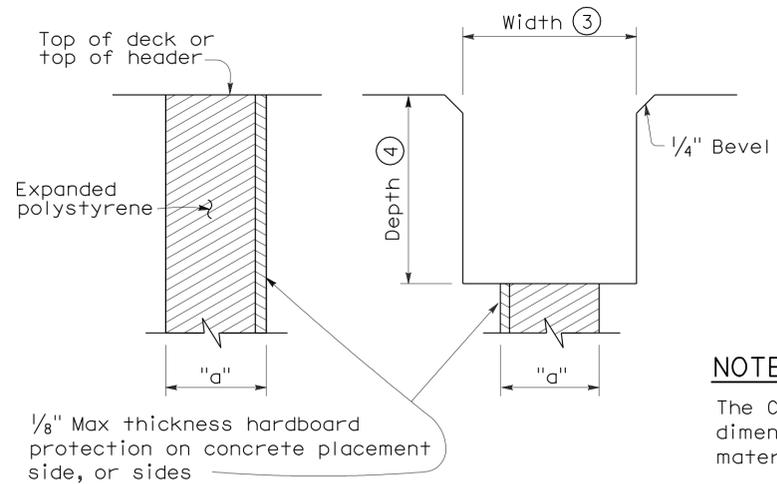


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



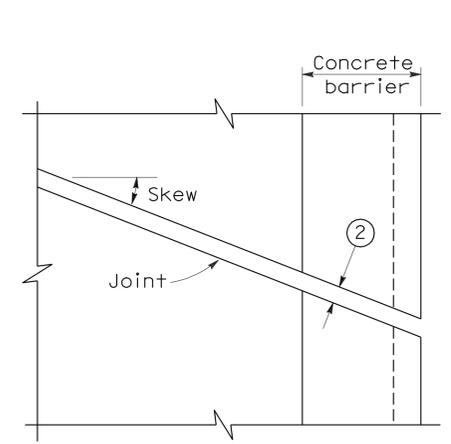
CONCRETE BARRIER



FORMING DETAIL SAWCUT DETAIL

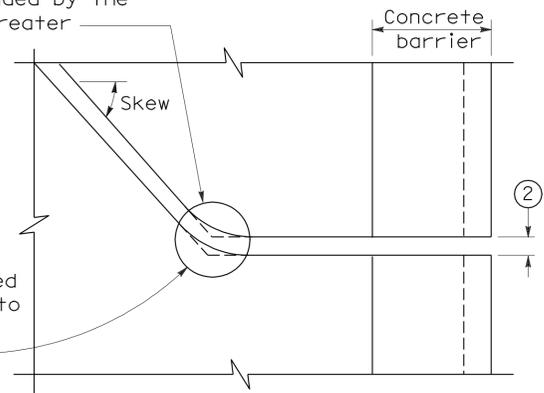
NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

JOINT SEALS DETAILS



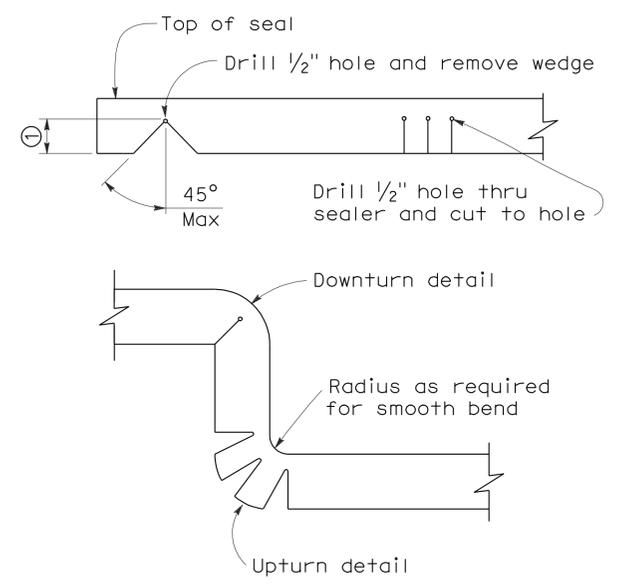
PLAN OF JOINT (SKEW ≤ 20°)

Min ϕ radius to be 4 times uncompressed width of seal or as recommended by the manufacturer, whichever is greater



PLAN OF JOINT (SKEW > 20°)

In lieu of saw cutting, this area may be blocked out and reconstructed to match saw cutting on both sides.

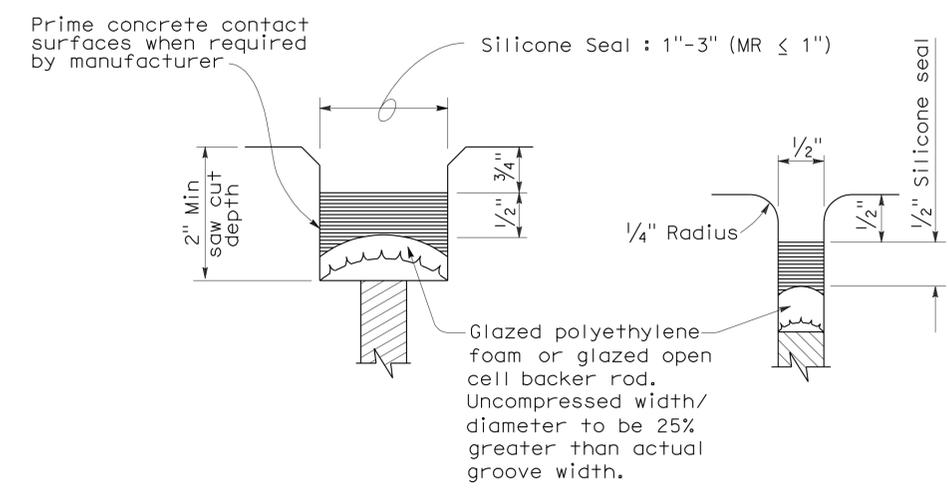


DETAIL A

- NOTES:**
- Make smooth cuts from the bottom of seal to 1 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
 - Opening in barrier to match width of sawn deck joint.
 - Sawcut groove widths shall be as ordered by the Engineer.
 - Depth of sawcut: Type A - Depth to be 2" minimum.
 Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
 - MR (movement rating) as shown on other plan sheets.
 - Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) (5)	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
2"	All except CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	All except CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	All except CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	All except CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

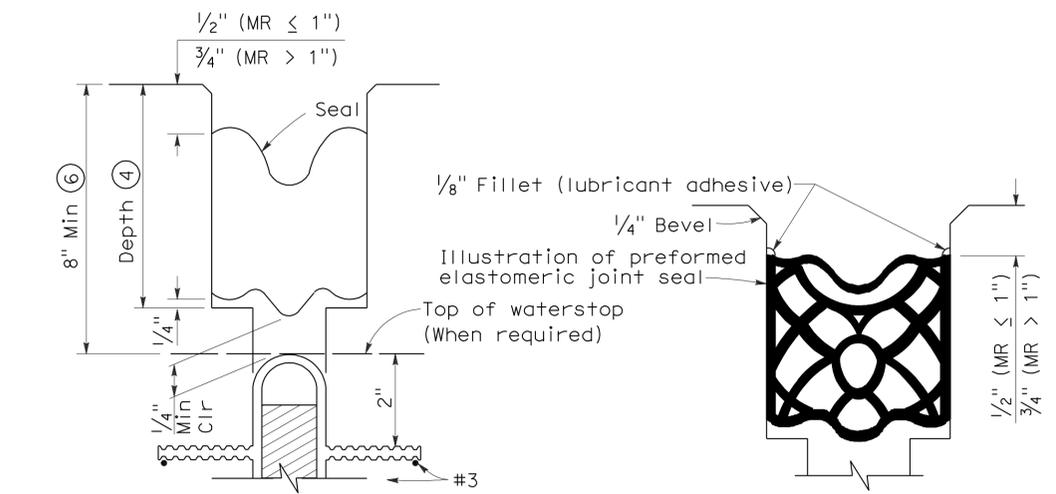


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

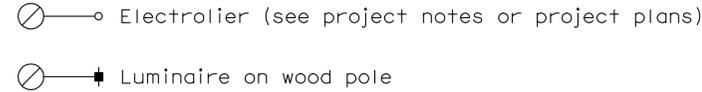
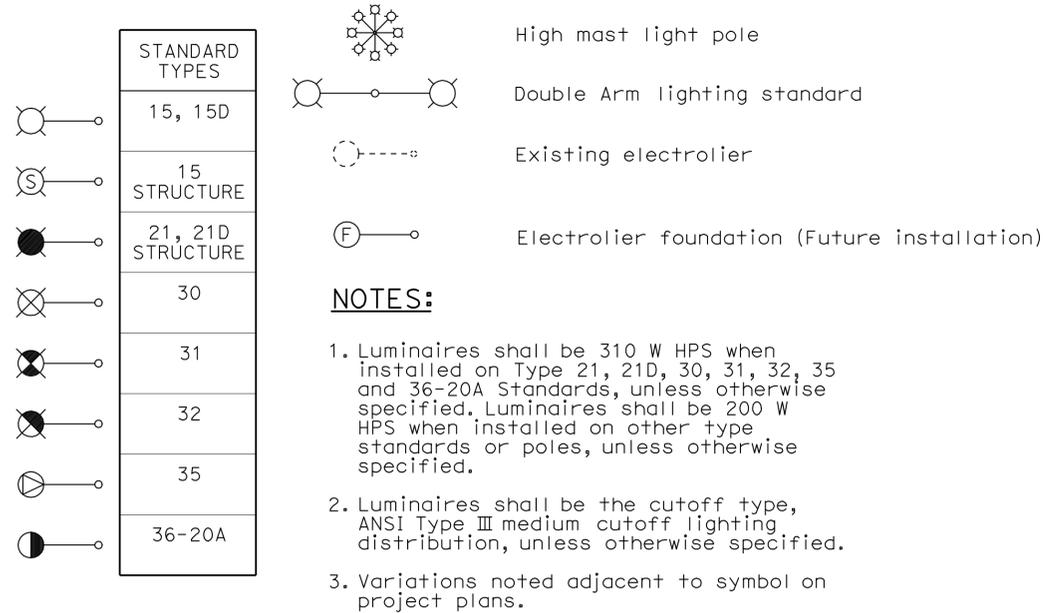
TYPE B SEAL

Movement Rating ≤ 2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

ELECTROLIERS



STANDARD NOTES:

- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, top attachment
MAS-4B	mas-4B	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, top attachment
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL	rl	Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	115	154

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

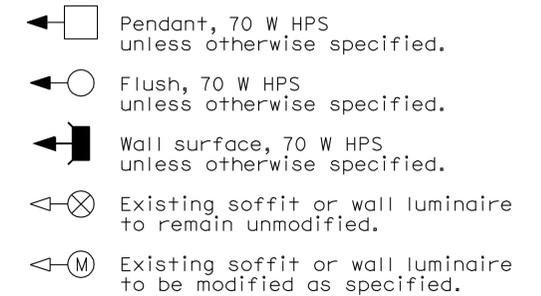
October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

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To accompany plans dated 2-14-11

SOFFIT AND WALL MOUNTED LUMINAIRES



NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	116	154

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

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To accompany plans dated 2-14-11

CONDUIT

PROPOSED	EXISTING	
		Lighting Conduit, unless otherwise indicated or noted
		Traffic signal conduit
		Communication conduit
		Telephone conduit
		Fire alarm conduit
		Fiber optic conduit
		Conduit termination
		Conduit riser in/on structure or service pole

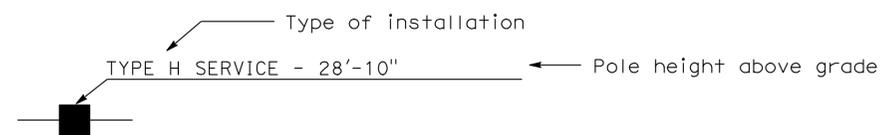
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SERVICE EQUIPMENT

PROPOSED	EXISTING	
		Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SYMBOLS AND ABBREVIATIONS)**
 NO SCALE

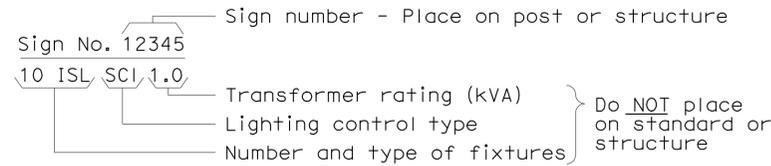
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

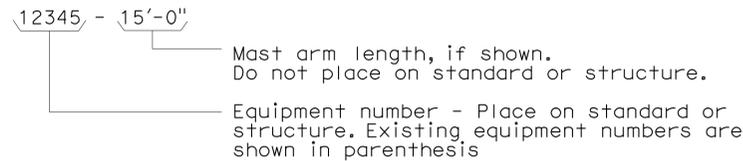
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

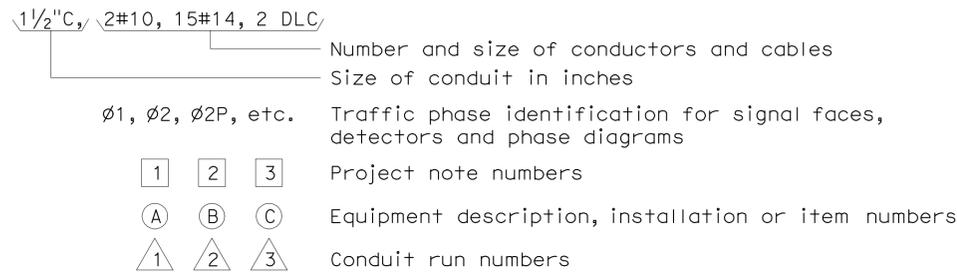
ILLUMINATED SIGN IDENTIFICATION NUMBER:



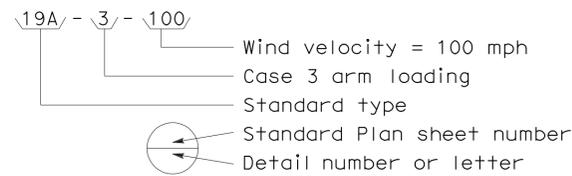
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



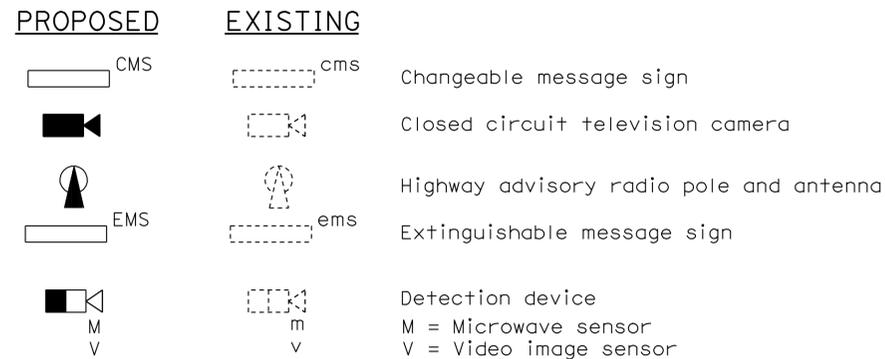
CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



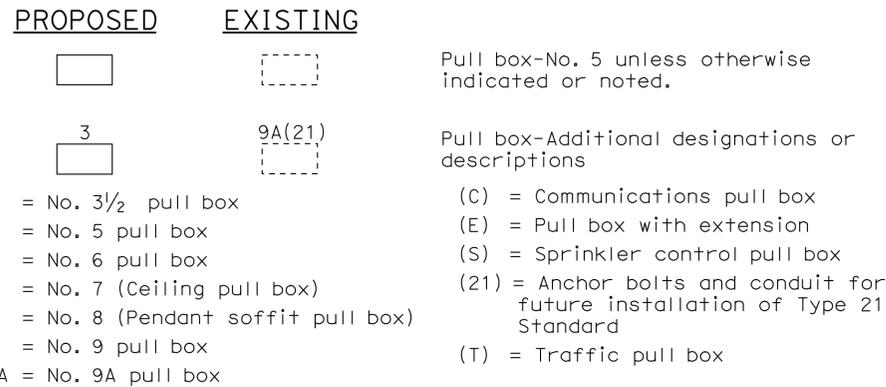
MISCELLANEOUS EQUIPMENT



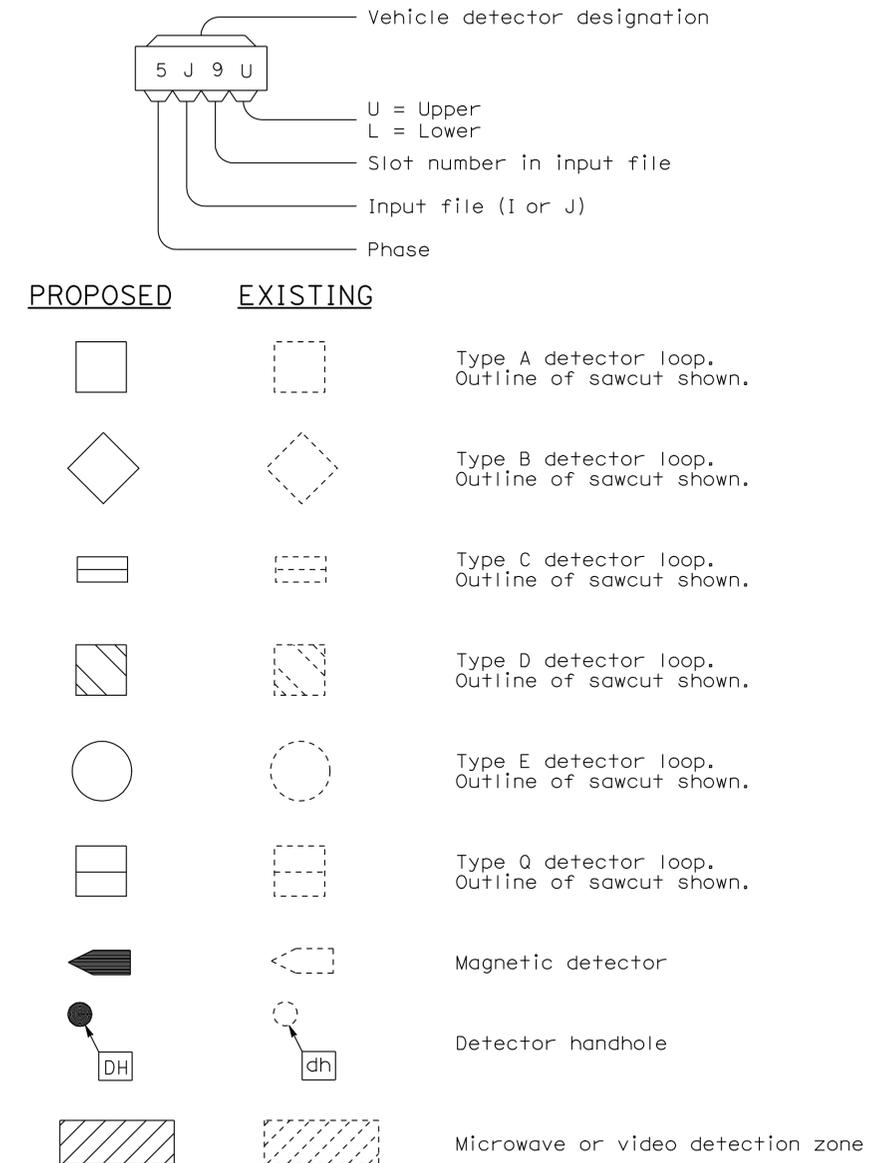
WIRING DIAGRAM LEGEND

- | | |
|---------------------------------|--------------------------|
| P Pole | ----- External conductor |
| CB Circuit breaker | — Conductor or bus |
| A Ampere | • Tie point |
| V Volt | — Contactor coil |
| M Metered | — Contactor, Contact NO |
| UM Unmetered | ⊗ Terminal blocks |
| NB Neutral bus | — Contactor, Contact NC |
| GB Ground bus | — Enclosure bond |
| G Equipment grounding conductor | ⋮ Grounding electrode |
| N Grounded conductor (Neutral) | — Circuit breaker |
| | Ⓜ Receptacle |

PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	118	154

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
No. E14512
Exp. 6-30-08
ELECTRICAL
STATE OF CALIFORNIA

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To accompany plans dated 2-14-11

NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of $\frac{1}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
 - a) Incoming terminals (landing lugs)
 - b) Neutral lugs
 - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces, $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - a) Adjacent to the breaker or device with character size a minimum of $\frac{1}{8}$ ".
 - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of $\frac{3}{16}$ ".
14. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
15. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
19. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
20. Type III-AR and Type III-BR service equipment enclosures shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

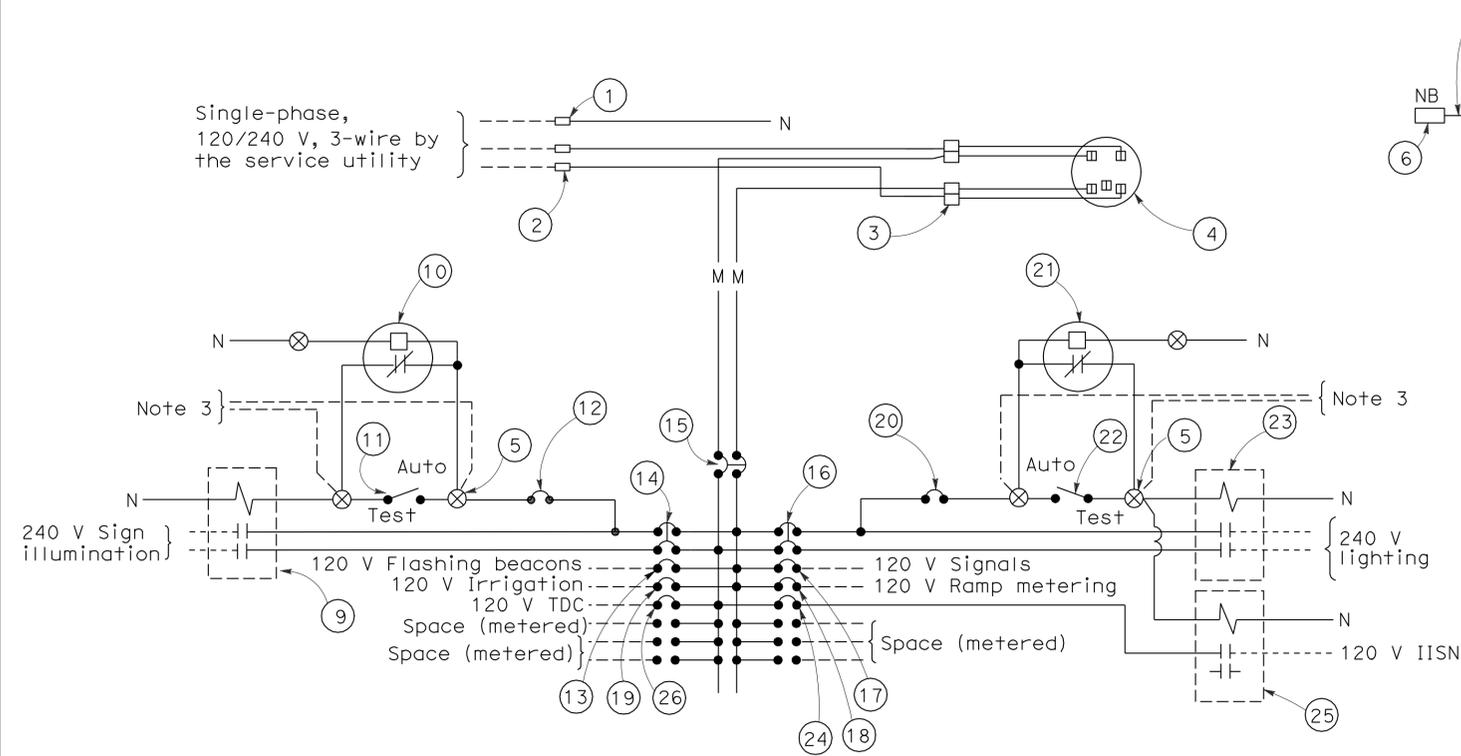
**ELECTRICAL SYSTEMS
(SERVICE EQUIPMENT NOTES
TYPE III SERIES)**

NO SCALE

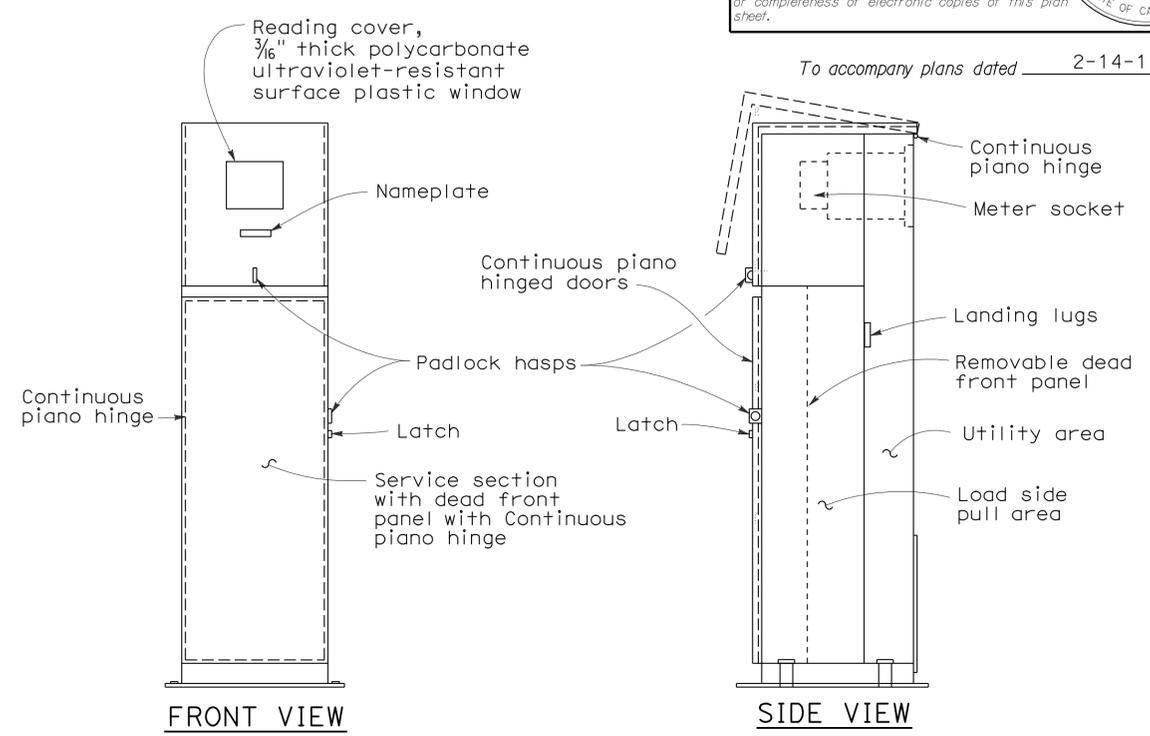
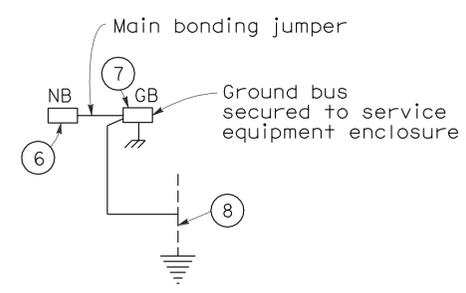
RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

2006 REVISED STANDARD PLAN RSP ES-2C



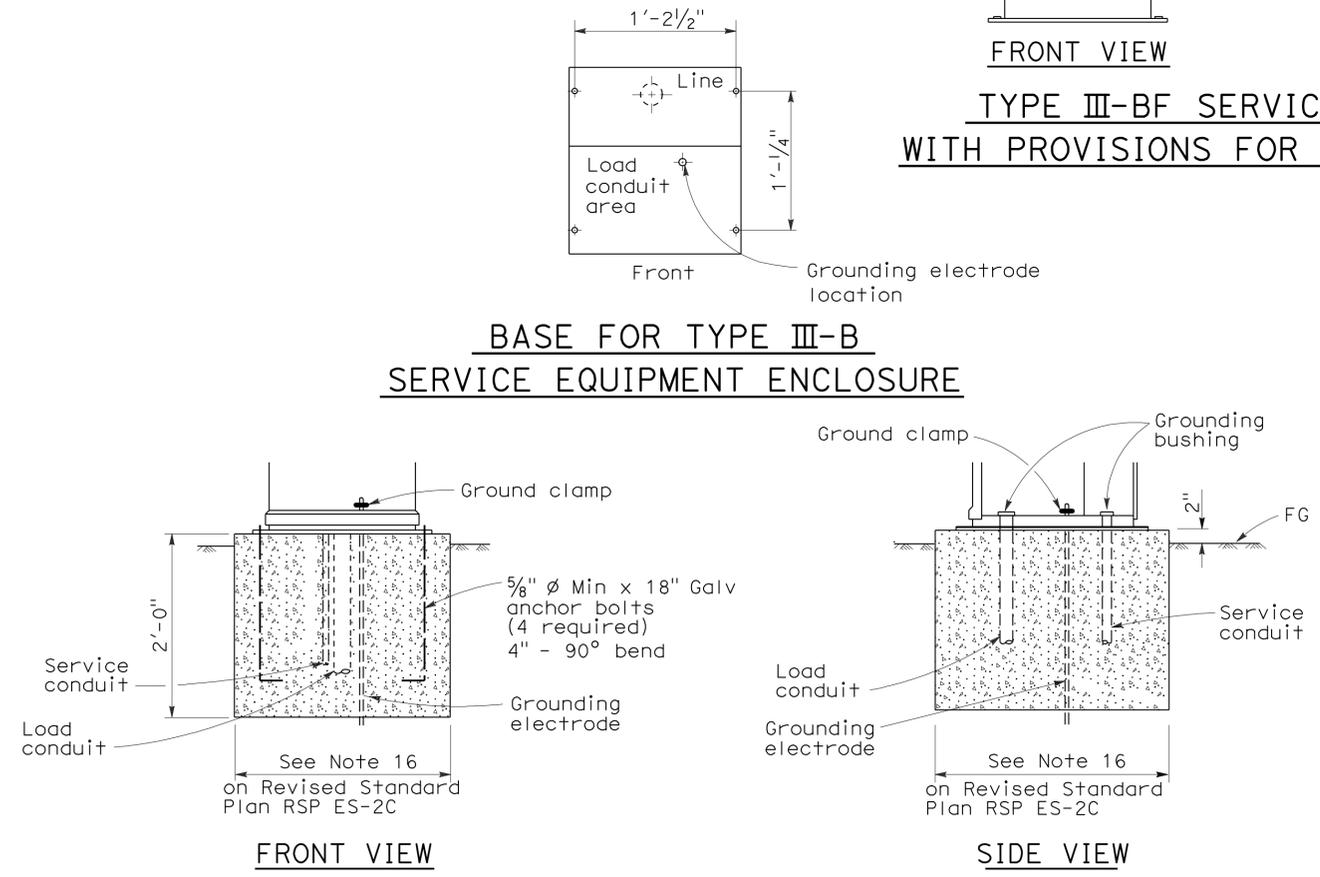
120/240 V SERVICE WIRING DIAGRAM (TYPICAL)



TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR ONE 100 A METER (TYPICAL)

TYPE III-B SERVICE (120/240 V) EQUIPMENT LEGEND		
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
①	Neutral lug	
②	Landing lug (Note 6)	
③	Test bypass facility	
④	Meter socket and support	
⑤	Terminal blocks	
⑥	Neutral bus	
⑦	Ground bus	
⑧	Grounding electrode	
⑨	30 A, 2PNO Contactor	Sign Illumination
⑩	Photoelectric unit (Note 7)	
⑪	15 A, 1P, Test switch	Sign Illumination Test Switch
⑫	15 A, 120 V, 1P, CB	Sign Illumination Control
⑬	15 A, 120 V, 1P, CB	Flashing Beacon
⑭	30 A, 240 V, 2P, CB	Sign Illumination
⑮	100 A, 240 V, 2P, CB	Main Breaker
⑯	30 A, 240 V, 2P, CB	Lighting
⑰	50 A, 120 V, 1P, CB	Signals
⑱	30 A, 120 V, 1P, CB	Ramp Metering
⑲	20 A, 120 V, 1P, CB	Irrigation
⑳	15 A, 120 V, 1P, CB	Lighting Control
㉑	Photoelectric unit (Note 7)	
㉒	15 A, 1P, Test switch	Lighting Test Switch
㉓	60 A, 2PNO Contactor	Lighting
㉔	15 A, 120 V, 1P, CB	IISNS
㉕	30 A, 2PNO Contactor	IISNS
㉖	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE



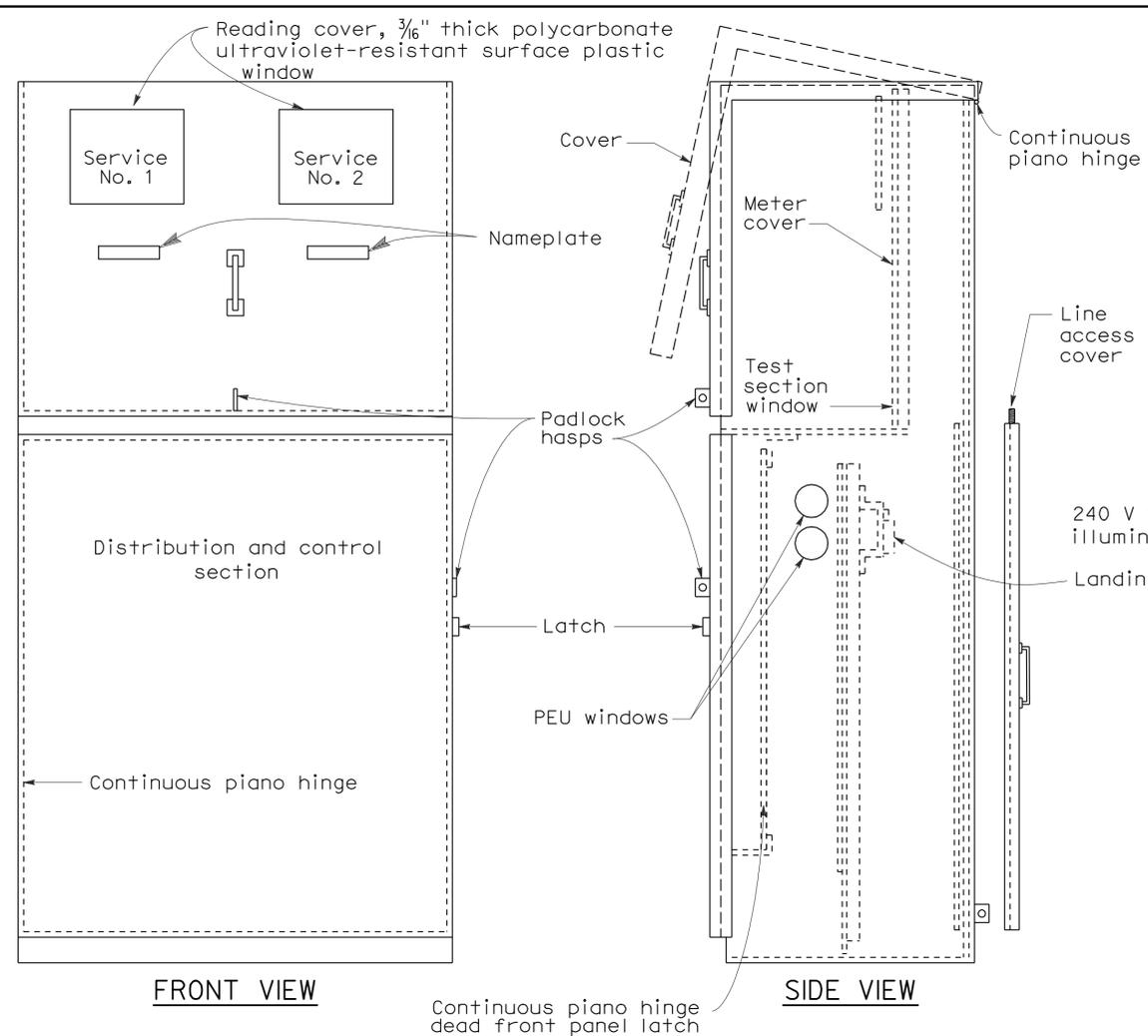
TYPE III-B SERVICE EQUIPMENT ENCLOSURE FOUNDATION DETAILS

- NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)**
- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
 - Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
 - Connect to remote test switch mounted on lighting standards, sign post or structure when required.
 - Items No. ① and ⑥ shall be isolated from the service equipment enclosure.
 - Meter sockets shall be 5 clip type.
 - The landing lug shall be suitable for multiple conductors.
 - Type I photoelectric control shall be used unless otherwise indicated on the plans.

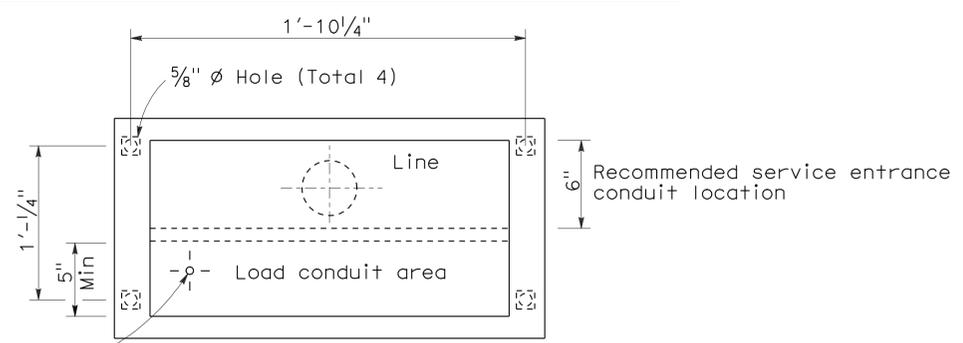
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT AND
 TYPICAL WIRING DIAGRAM,
 TYPE III-B SERIES)**
 NO SCALE

RSP ES-2E DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2E
 DATED MAY 1, 2006 - PAGE 407 OF THE STANDARD PLANS BOOK DATED MAY 2006.

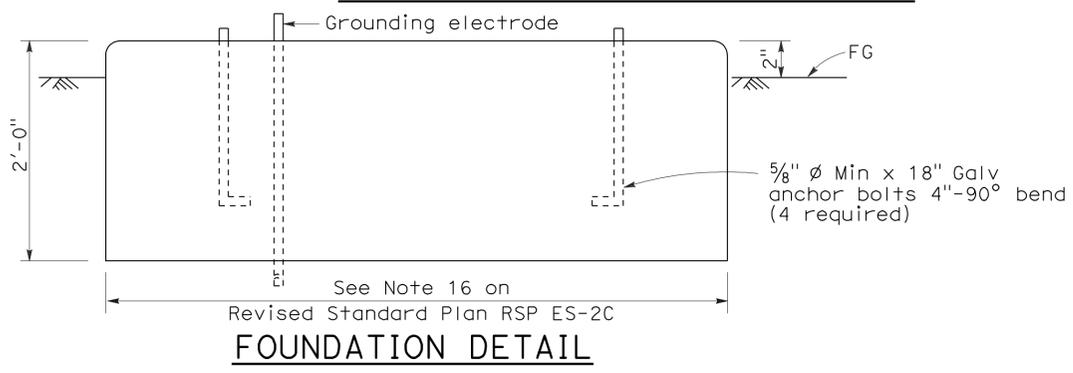
2006 REVISED STANDARD PLAN RSP ES-2E



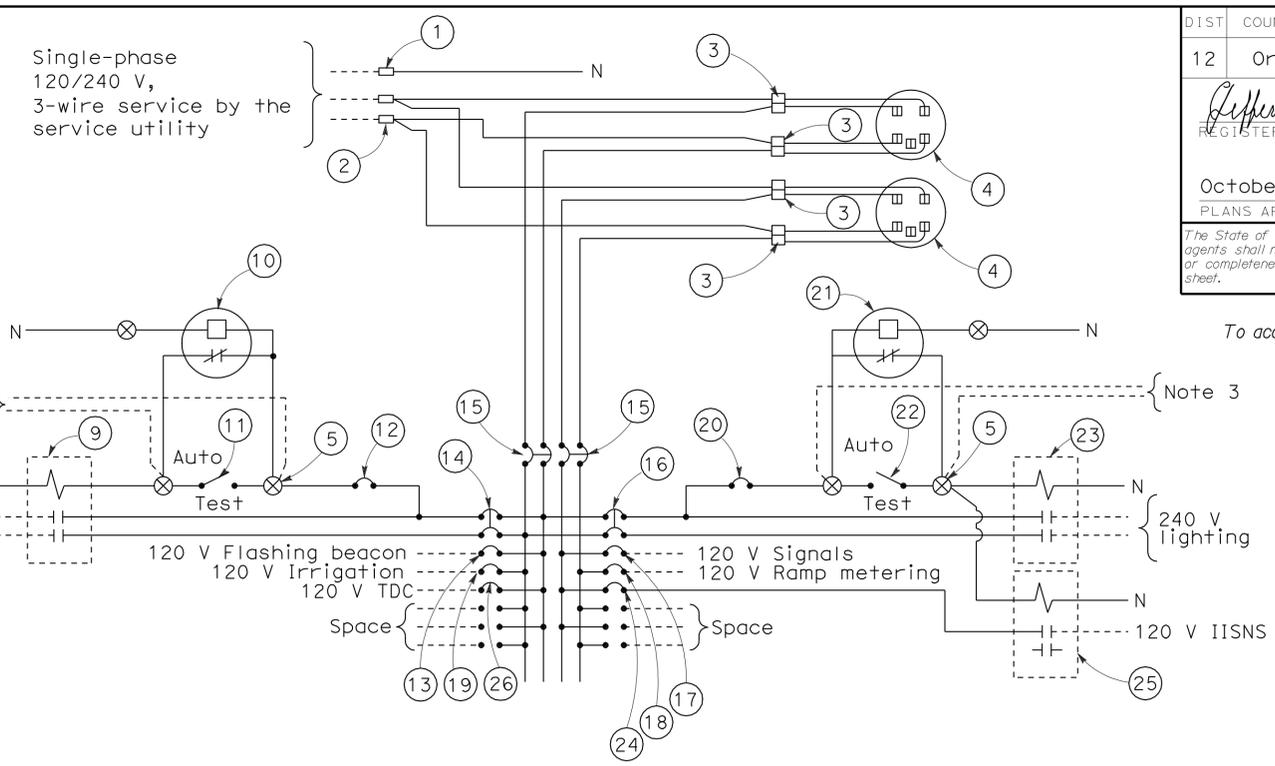
TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH PROVISIONS FOR TWO 100 A METERS (TYPICAL)



BASE FOR TYPE III-C SERVICE EQUIPMENT ENCLOSURE



FOUNDATION DETAIL



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

TYPE III-C SERVICE (120/240 V) EQUIPMENT LEGEND					
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		15	100 A, 240 V, 2P, CB	Main Breaker
3	Test bypass facility		16	30 A, 240 V, 2P, CB	Lighting
4	Meter socket and support		17	50 A, 120 V, 1P, CB	Signals
5	Terminal blocks		18	30 A, 120 V, 1P, CB	Ramp Metering
6	Neutral bus		19	20 A, 120 V, 1P, CB	Irrigation
7	Ground bus		20	15 A, 120 V, 1P, CB	Lighting Control
8	Grounding electrode		21	Photoelectric unit (Note 7)	
9	30 A, 2PNO, Contactor	Sign Illumination	22	15 A, 1P, Test switch	Lighting Control
10	Photoelectric unit (Note 7)		23	60 A, 2PNO Contactor	Lighting
11	15 A, 1P, Test switch	Sign Illumination Test Switch	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	Sign Illumination Control	25	30 A, 2PNO Contactor	IISNS
13	15 A, 120 V, 1P, CB	Flashing Beacon	26	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)

- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
- Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
- Connect to remote test switch mounted on lighting standards, sign post or structure when required.
- Items No. 1 and 6 shall be isolated from the service equipment enclosure.
- Meter sockets shall be 5 clip type.
- The landing lug shall be suitable for multiple conductors.
- Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT AND
 TYPICAL WIRING DIAGRAM
 TYPE III - C SERIES)**
 NO SCALE

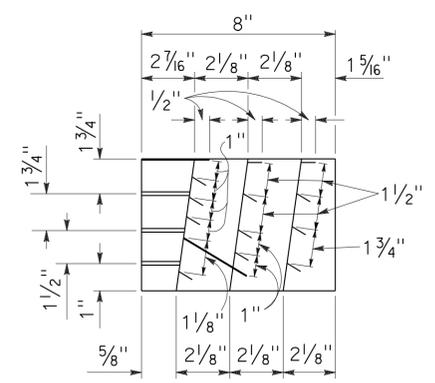
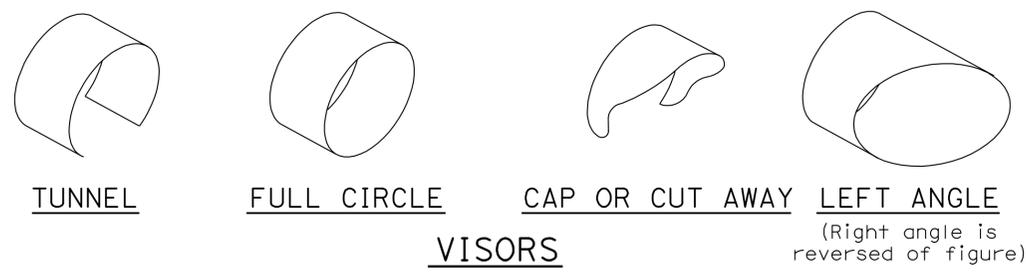
RSP ES-2F DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2F
 DATED MAY 1, 2006 - PAGE 408 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-2F

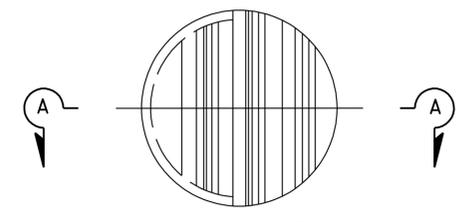
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	121	154

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 2-14-11



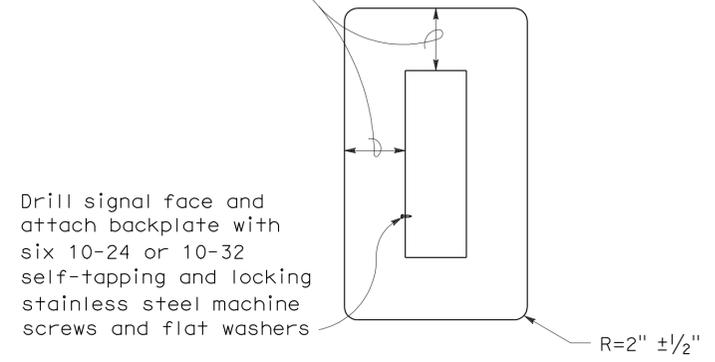
SECTION A-A



FRONT VIEW
DIRECTIONAL LOUVER

Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.

8" ± 1/2" for 8" sections
 5 1/2" ± 1/2" for 12" sections

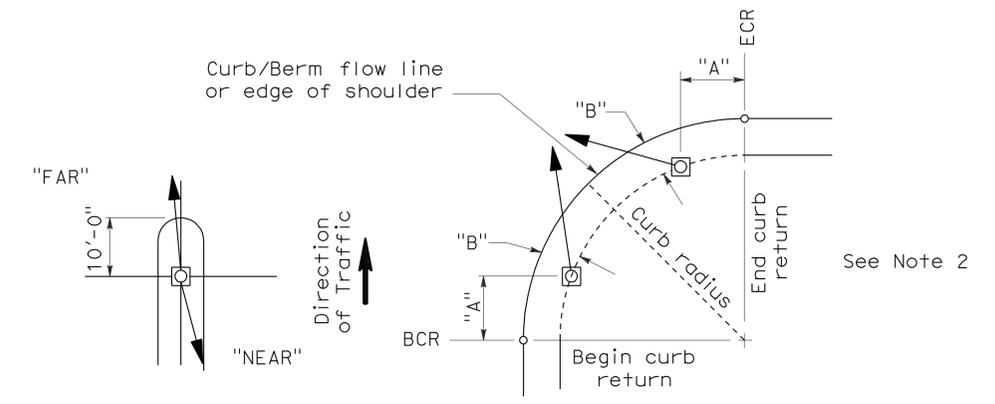


Drill signal face and attach backplate with six 10-24 or 10-32 self-tapping and locking stainless steel machine screws and flat washers

8" AND 12" SECTIONS

BACKPLATE

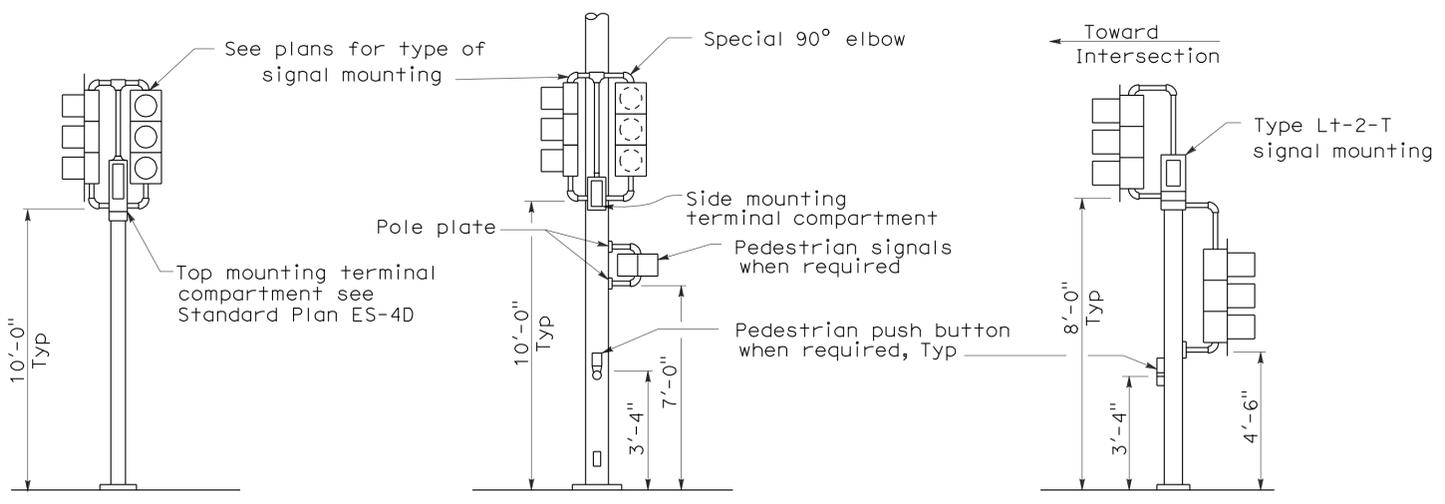
1/16" minimum thickness
 3001-14 aluminum, or plastic when specified



NOTES:

1. Typical signal pole placement unless dimensioned on plans.
2. For "A" and "B" dimensions, see Pole Schedule, or as directed by the Engineer.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

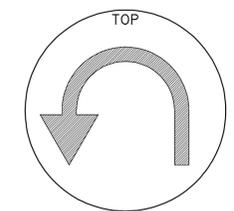
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

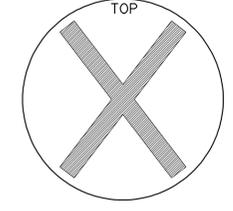
Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



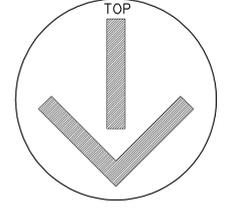
U-TURN SIGNAL FACE



BICYCLE SIGNAL FACE



LANE CONTROL SIGNAL FACE



LANE CONTROL SIGNAL FACE

TYPICAL SIGNAL INSTALLATIONS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN ES-4C DATED MAY 1, 2006 - PAGE 420 OF THE STANDARD PLANS BOOK DATED MAY 2006.

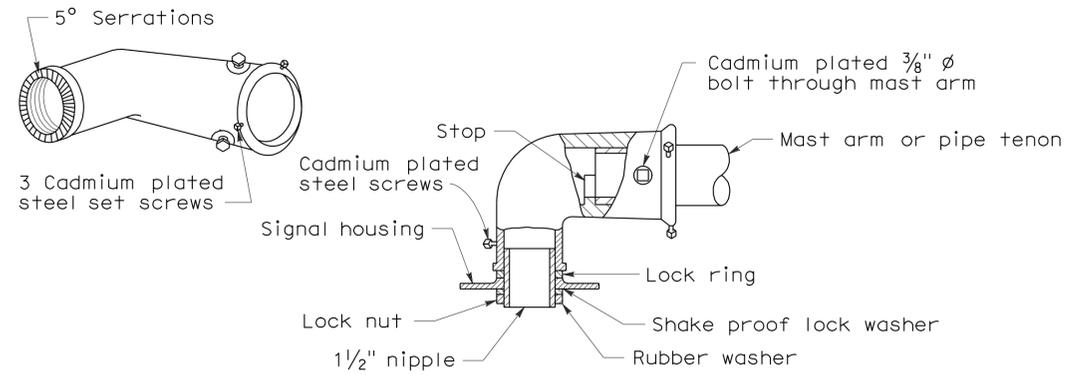
REVISED STANDARD PLAN RSP ES-4C

2006 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	122	154

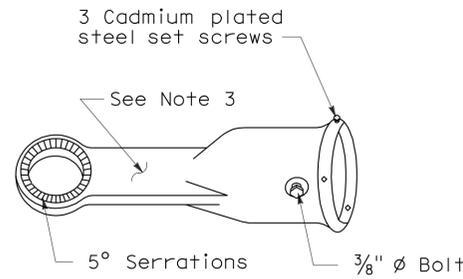
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-10
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 2-14-11



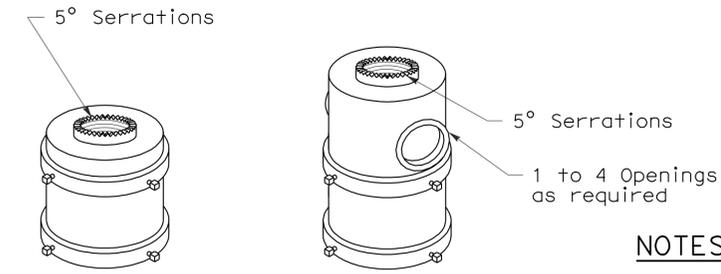
MAST ARM MOUNTING - TYPE "MAT"

For 2 NPS pipe, see Note 1.



MAST ARM MOUNTING - TYPE "MAS"

For 2 NPS pipe. See Note 1.

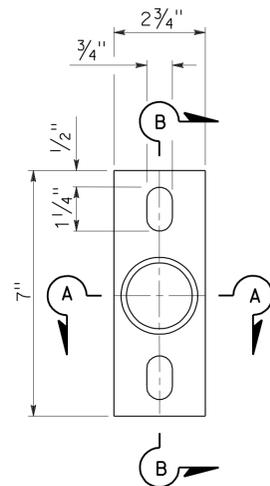


For one mounting For multiple mountings

TOP MOUNTINGS

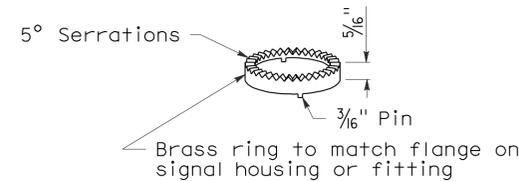
For 4 NPS pipe, see Note 2.

SIGNAL SLIP FITTERS



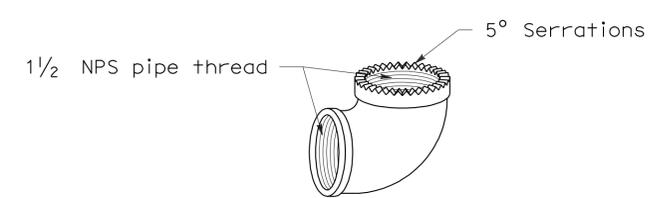
POLE PLATE

For side mountings



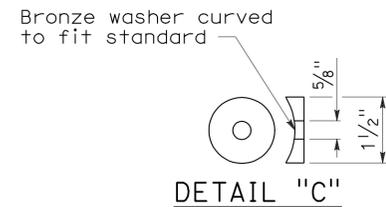
LOCK RING

Use where locking ring is not integral with signal housing or fitting.



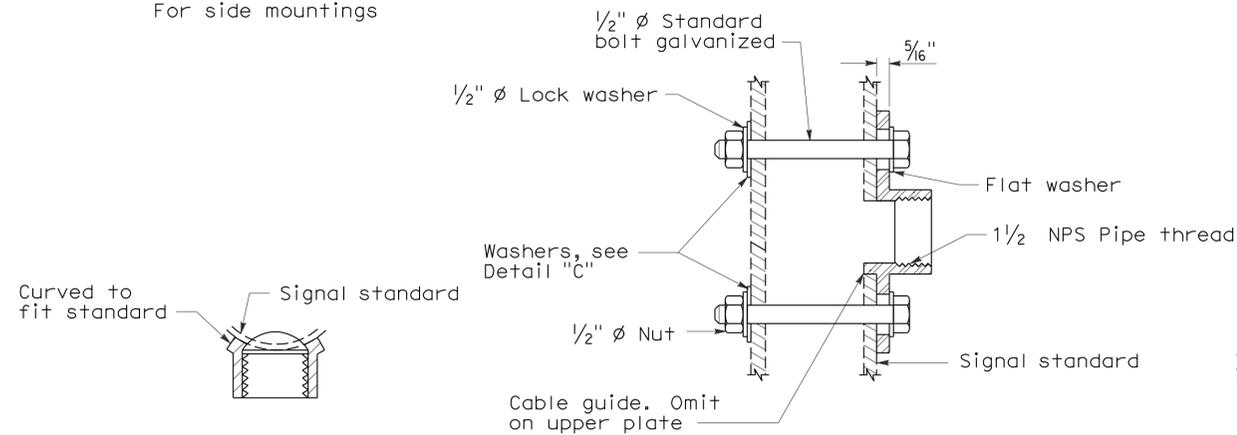
SPECIAL 90° ELBOW

One for each signal head, except those with special slip fitter mounting



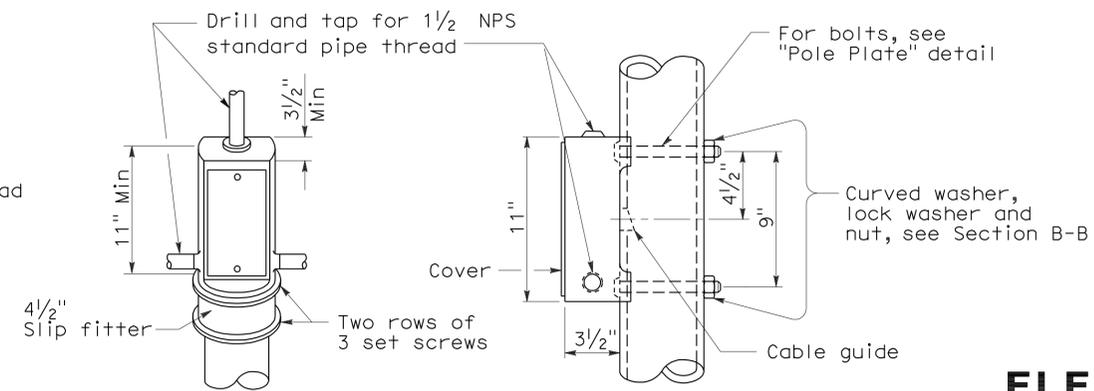
DETAIL "C"

MISCELLANEOUS MOUNTING HARDWARE



SECTION A-A

SECTION B-B



TOP MOUNTING

SIDE MOUNTING

TERMINAL COMPARTMENTS

ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4D DATED June 6, 2008 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 1, 2006 - PAGE 421 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-4D

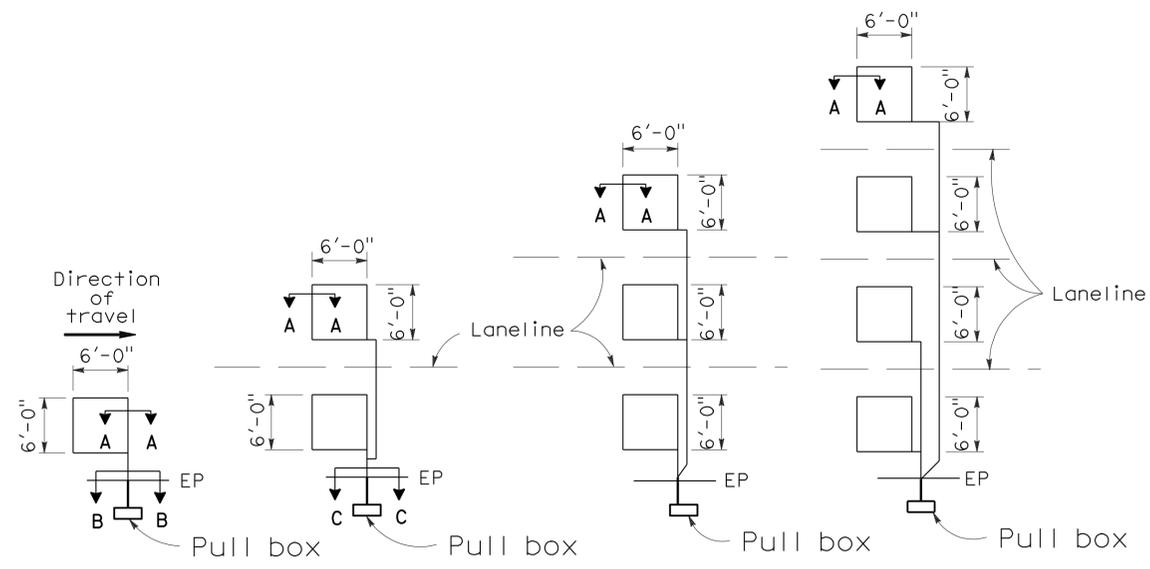
2006 REVISED STANDARD PLAN RSP ES-4D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	123	154

Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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 REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

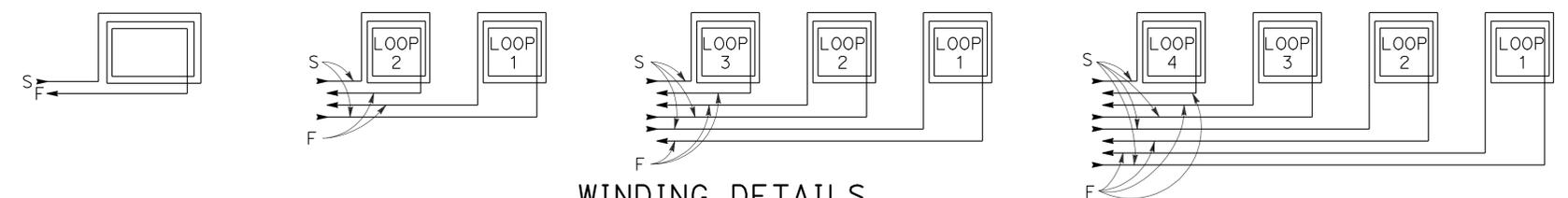
LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



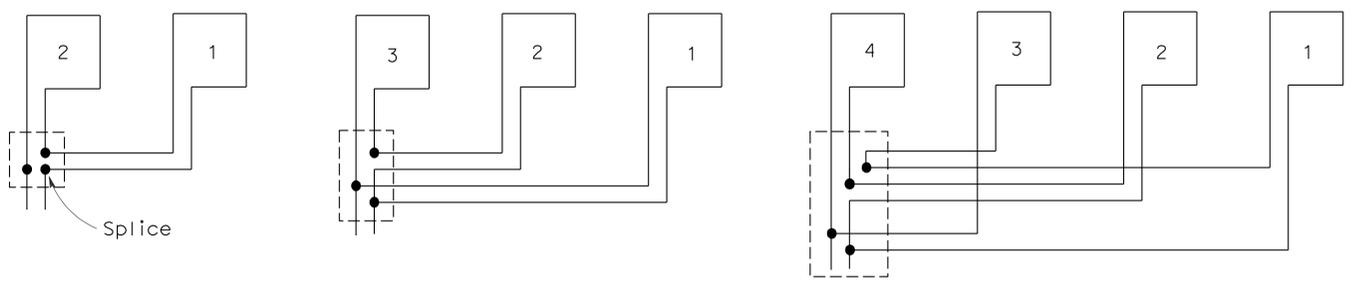
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION
SAWCUT DETAILS

- (Type A loop detector configurations illustrated)
- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- (Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans)



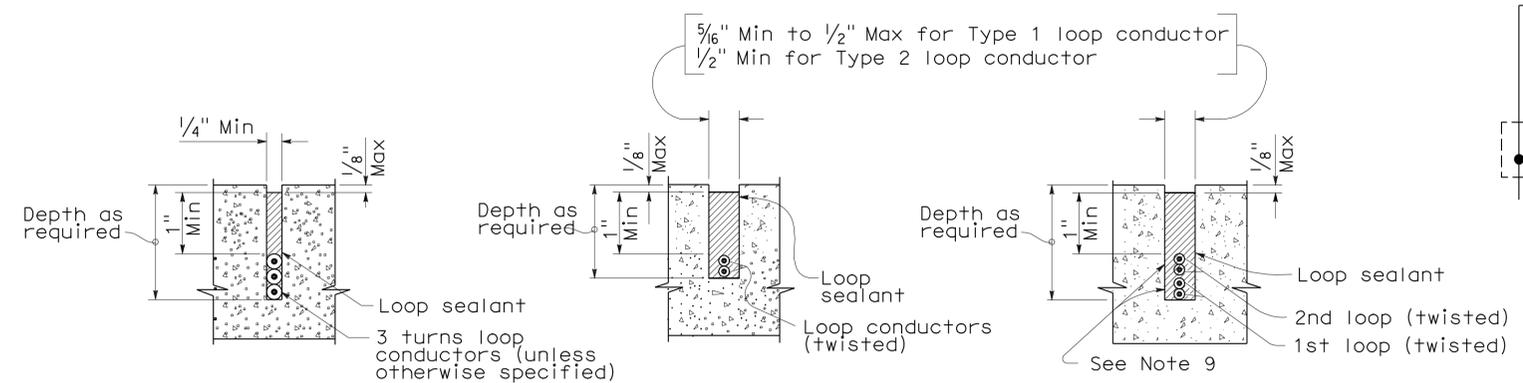
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



SECTION A-A SECTION B-B SECTION C-C
SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

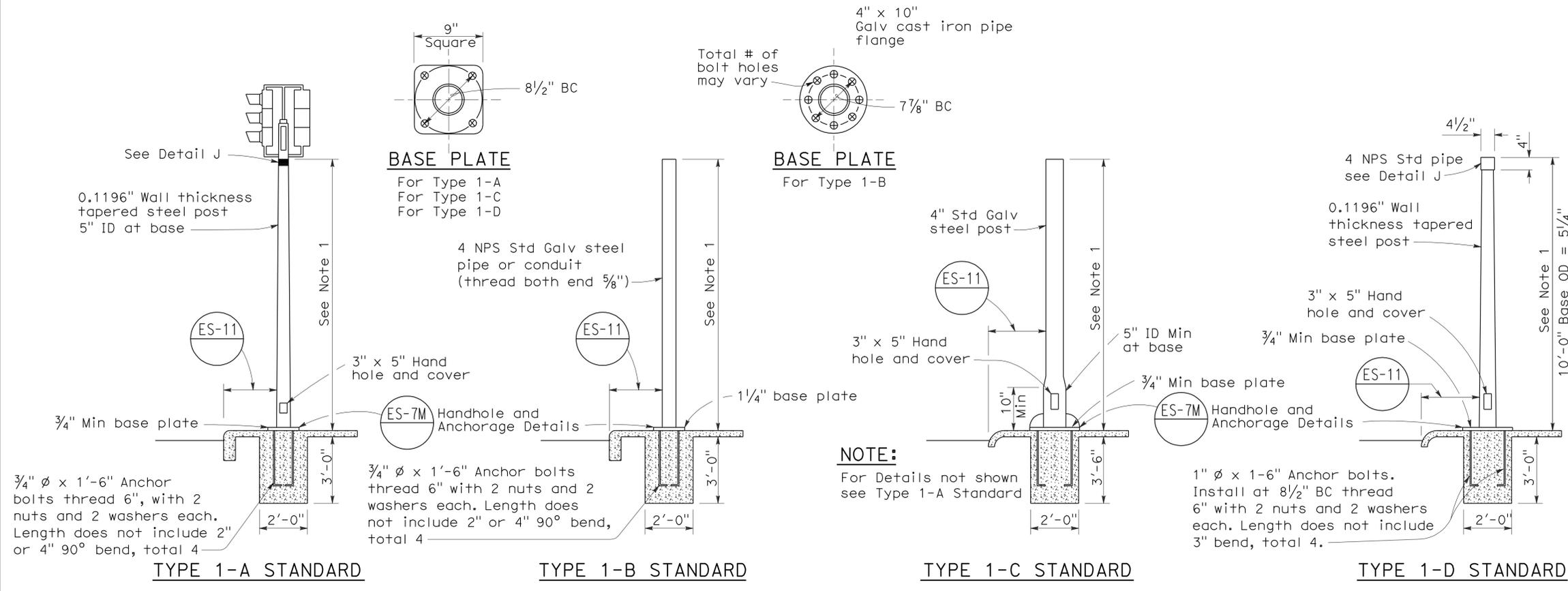
RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	124	154

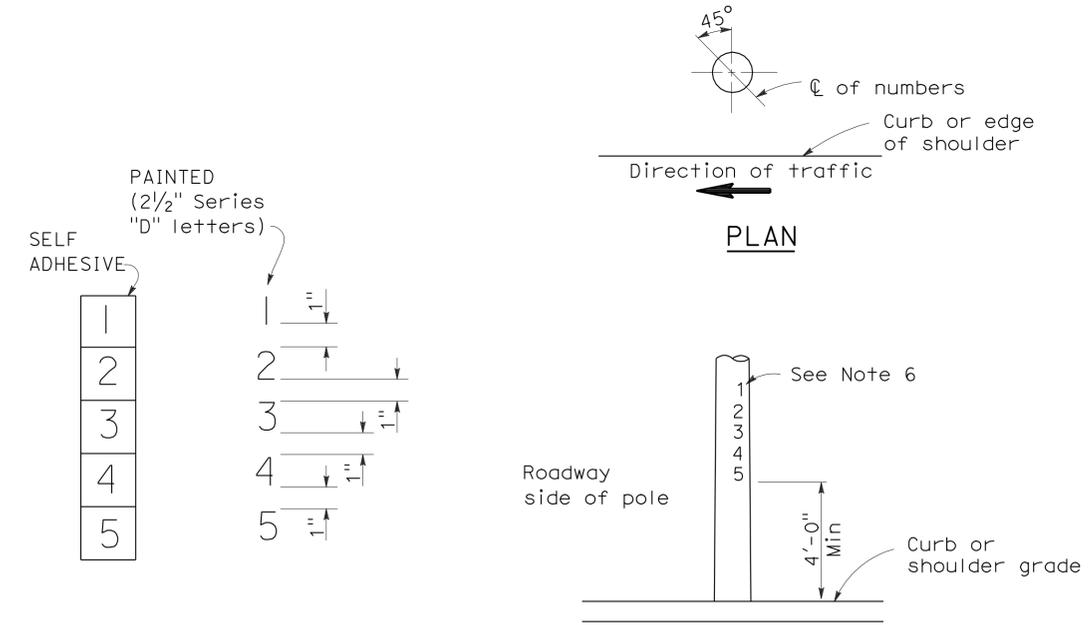
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.
 REGISTERED PROFESSIONAL ENGINEER
 Stanley P. Johnson
 No. C57793
 Exp. 3-31-08
 CIVIL
 STATE OF CALIFORNIA

To accompany plans dated 2-14-11

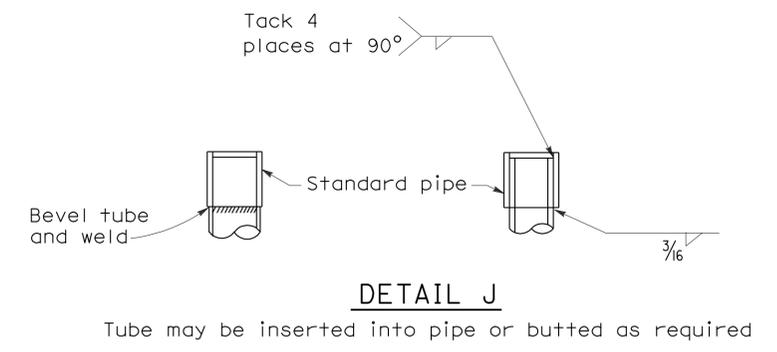
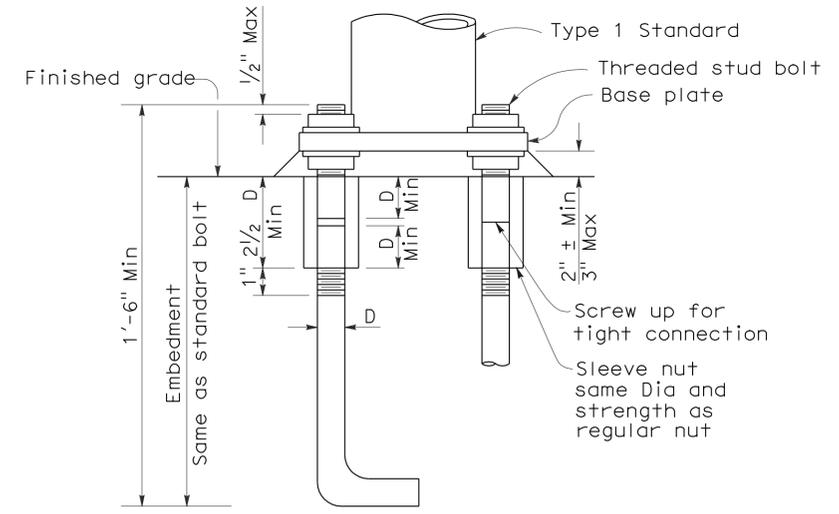


- NOTES:**
- Standards shall be 10'-0" \pm 2" for vehicle signals and 7'-0" \pm 2" for pedestrian signals unless otherwise noted on plans.
 - Top of standards shall be 4 1/2" OD.
 - Conduits shall extend 2" maximum above finished surface of foundation and for Types 1-A, 1-C and 1-D shall be sloped toward handhole.
 - Anchor bolts shall be bonded to conduit or grounding conductor.
 - Conduit between standard and adjacent pull box shall be 2" minimum.
 - Paint numbers on roadway side facing traffic when electrolier or post is left of direction of traffic.

TYPE 1 SIGNAL STANDARDS



LOCATION OF EQUIPMENT NUMBERS ON STANDARDS AND POSTS



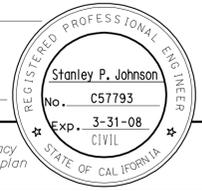
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD TYPE 1 STANDARD AND EQUIPMENT NUMBERING)

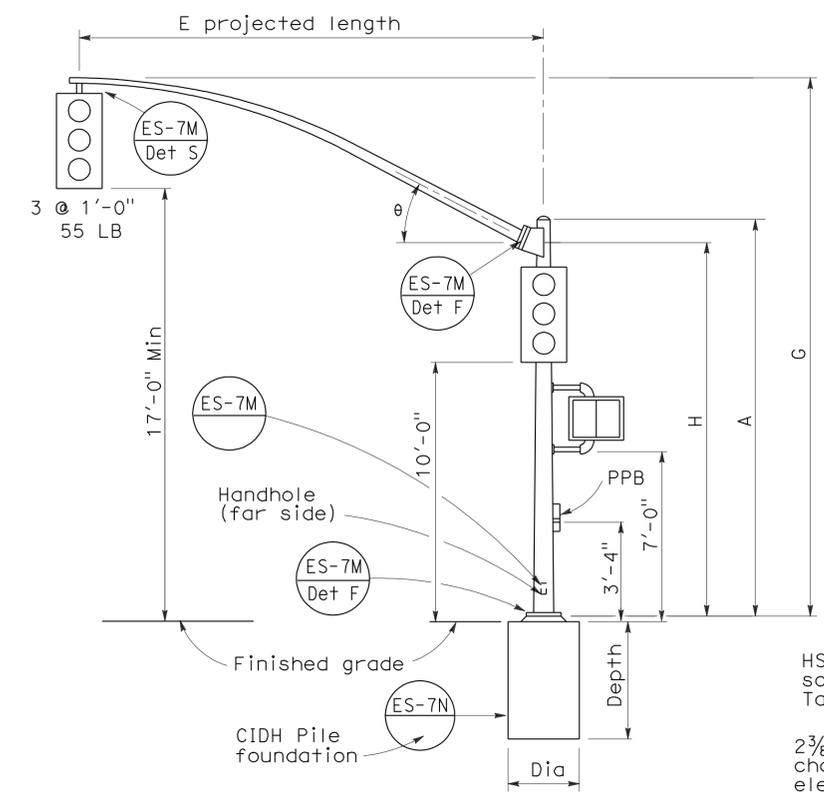
NO SCALE

RSP ES-7B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-7B DATED MAY 1, 2006 - PAGE 438 OF THE STANDARD PLANS BOOK DATED MAY 2006.

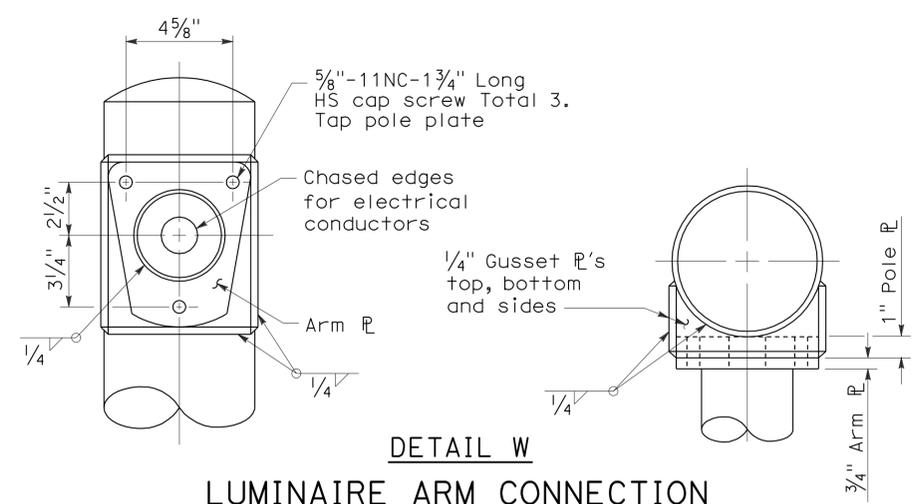
2006 REVISED STANDARD PLAN RSP ES-7B



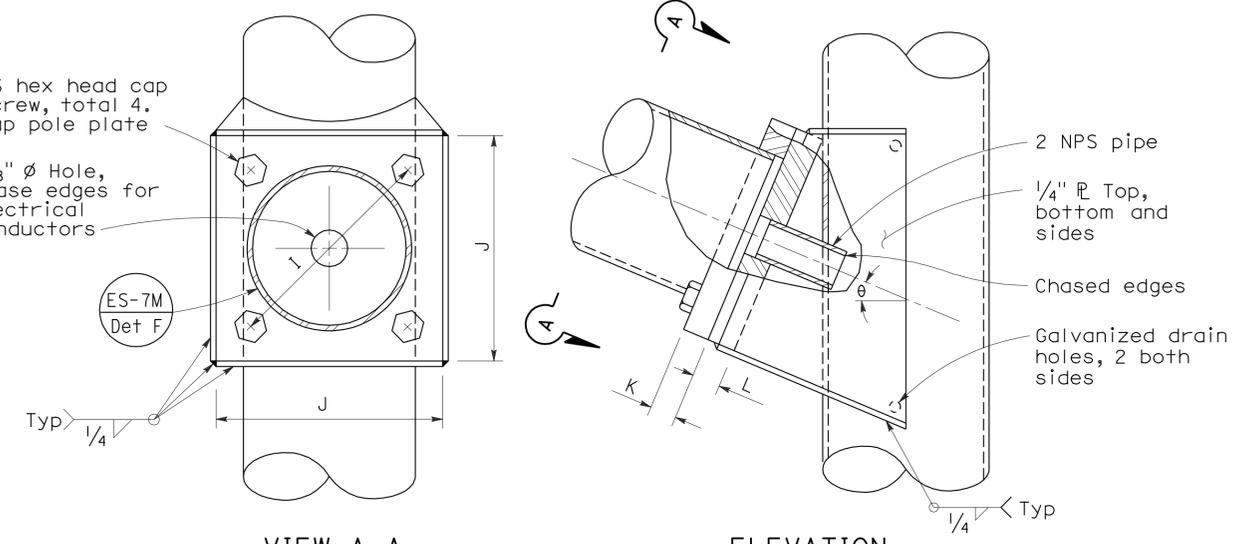
To accompany plans dated 2-14-11



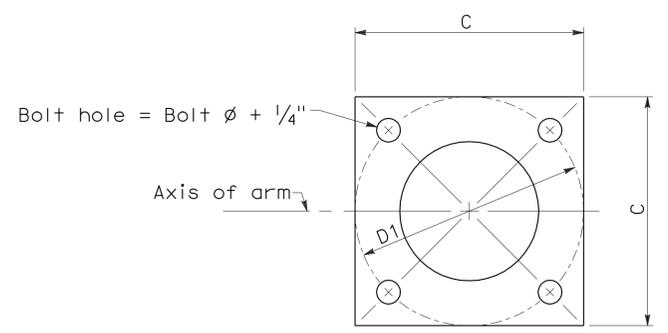
ELEVATION
TYPE 16-1-100, 18-1-100



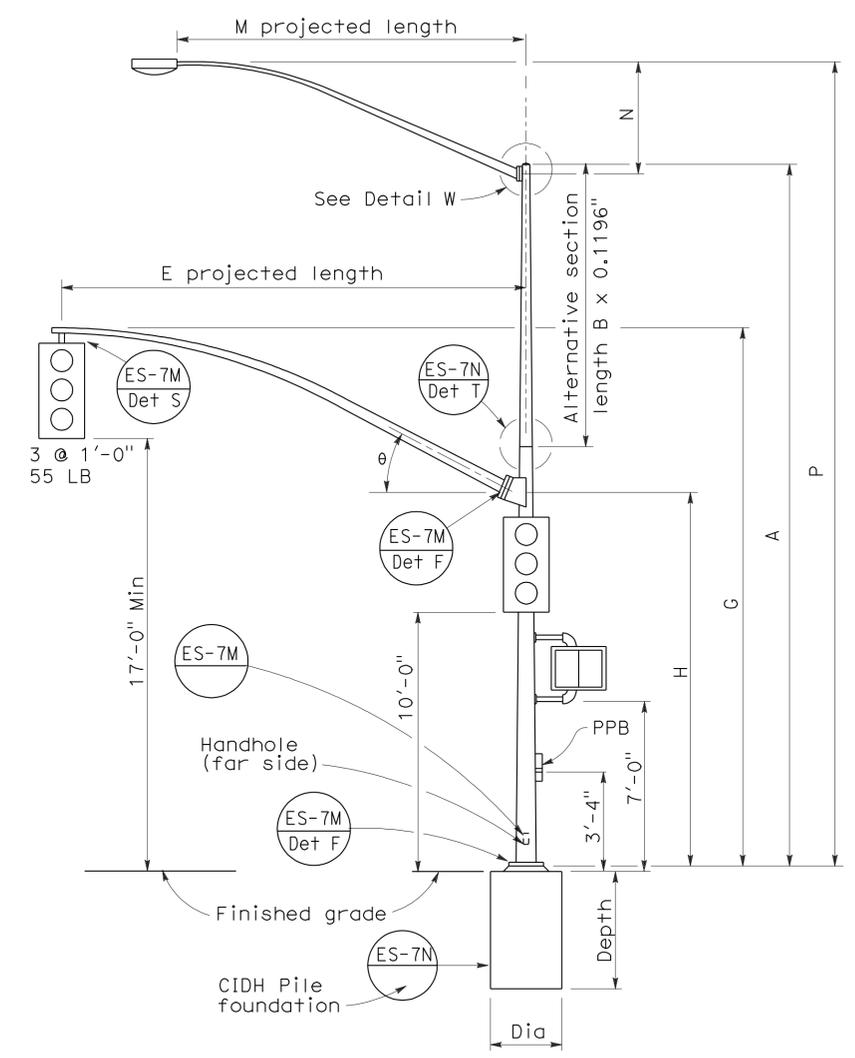
DETAIL W
LUMINAIRE ARM CONNECTION



VIEW A-A
SIGNAL ARM CONNECTION DETAILS



BASE PLATE



ELEVATION
TYPE 19-1-100, 19A-1-100

E Projected Length	G Mounting Height	H	Min OD At Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate size	K Arm PL Thickness	L Pole PL Thickness	θ
15'-0"	21'-8"±	17'-6"	7"	0.1196"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°
20'-0"	21'-8"±		7 1/8"							
25'-0"	22'-8"±	16'-0"	7 5/8"							
30'-0"	23'-0"±		8"							

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height	
				30'-0" Pole	35'-0" Pole
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

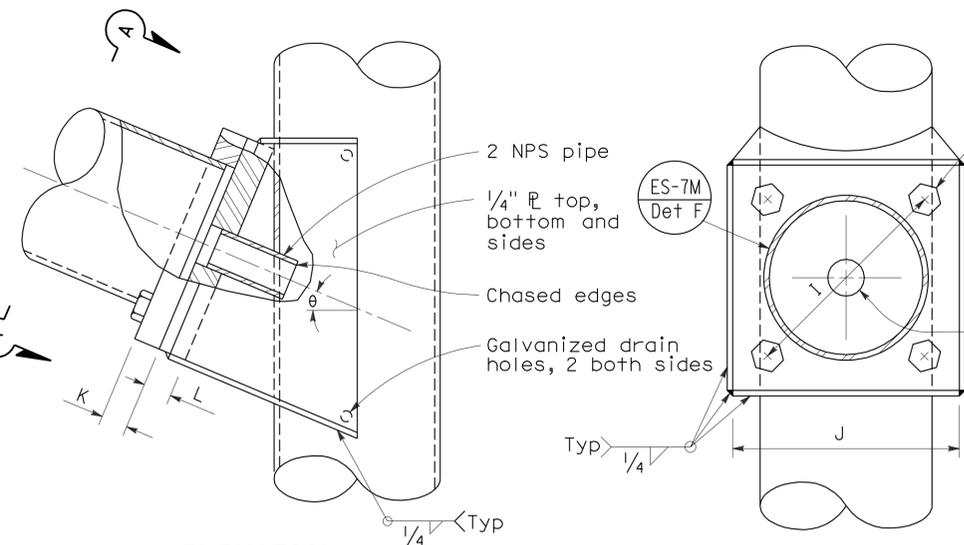
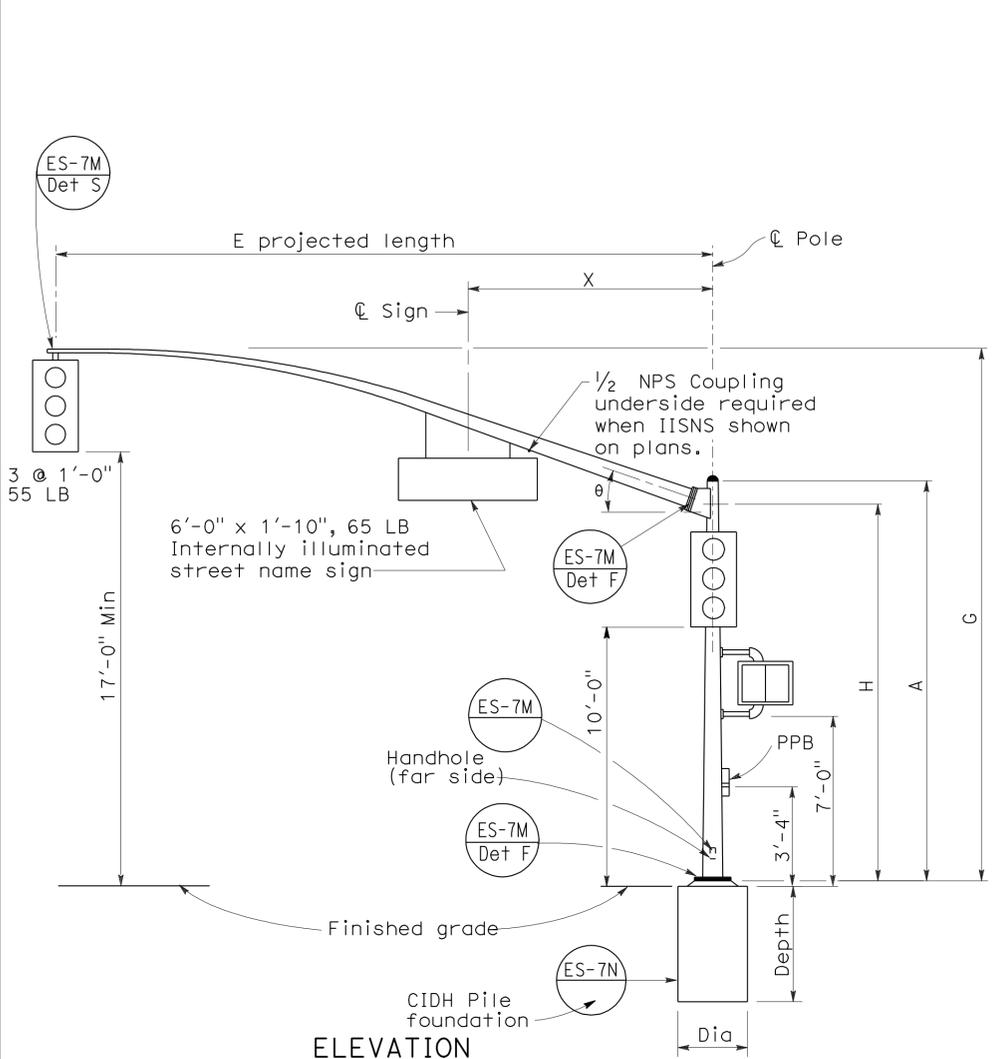
Pole Type	Load Case	Wind Velocity mph	POLE DATA					BASE PLATE DATA					CIDH PILE FOUNDATION					
			A Height	Min OD		Thickness	Alternative Section			C	D1 Bolt Circle	Thickness	Anchor Bolts Size	Luminaire Arm	Signal Arm	Diameter	Depth	Reinforced
				Base	Top		B Length	Bottom	Top									
16-1-100	1	100	18'-6"	8 1/4"	0.1793"	None			1'-6"	1'-5 1/2"	1 1/4"	1 1/2" ø x 42" x 6"	None	15'-0", 20'-0"	2'-6"	7'-2"	Yes	
18-1-100			17'-0"	8 7/16"		None												
19-1-100			30'-0"	6 5/8"		10'-0"	8"	6 5/8"										
19A-1-100			35'-0"	5 1/16"		15'-0"		5 1/16"										

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD
CASE 1 ARM LOADING
WIND VELOCITY = 100 MPH
ARM LENGTHS 15' TO 30')
 NO SCALE

RSP ES-7C DATED JUNE 15, 2007 SUPERSEDES STANDARD PLAN ES-7C DATED MAY 1, 2006 - PAGE 439 OF THE STANDARD PLANS BOOK DATED MAY 2006.

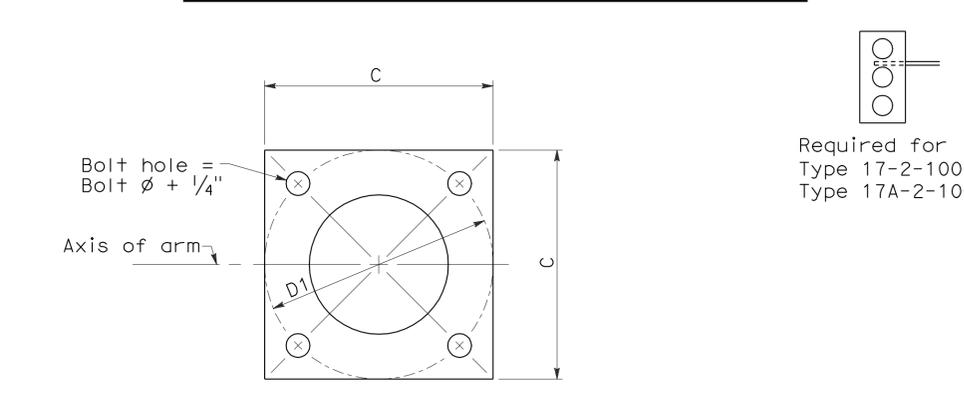
□ Indicates arm length to be used unless otherwise noted on plans.

2006 REVISED STANDARD PLAN RSP ES-7C

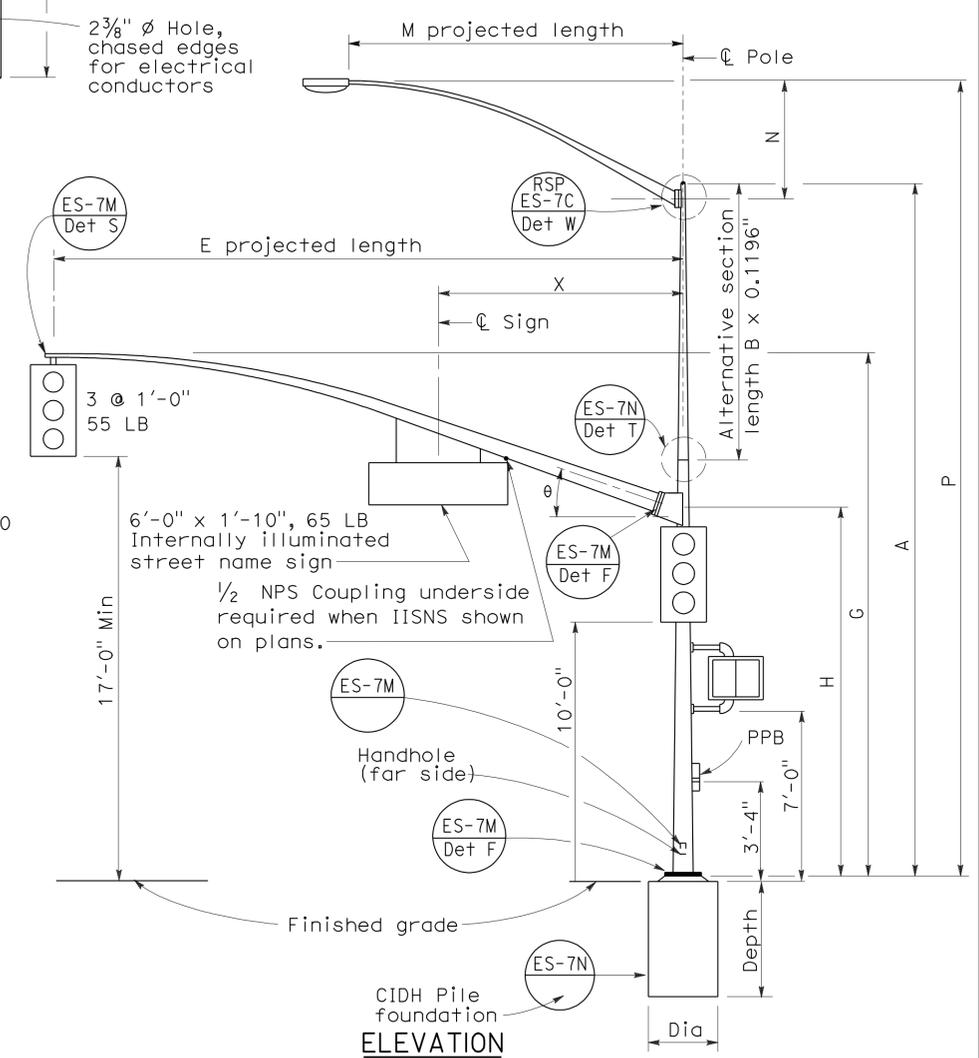


ELEVATION
TYPE 16-2-100, 18-2-100

ELEVATION
VIEW A-A
SIGNAL ARM CONNECTION DETAILS



BASE PLATE



ELEVATION
TYPE 17-2-100, 17A-2-100, 19-2-100, 19A-2-100

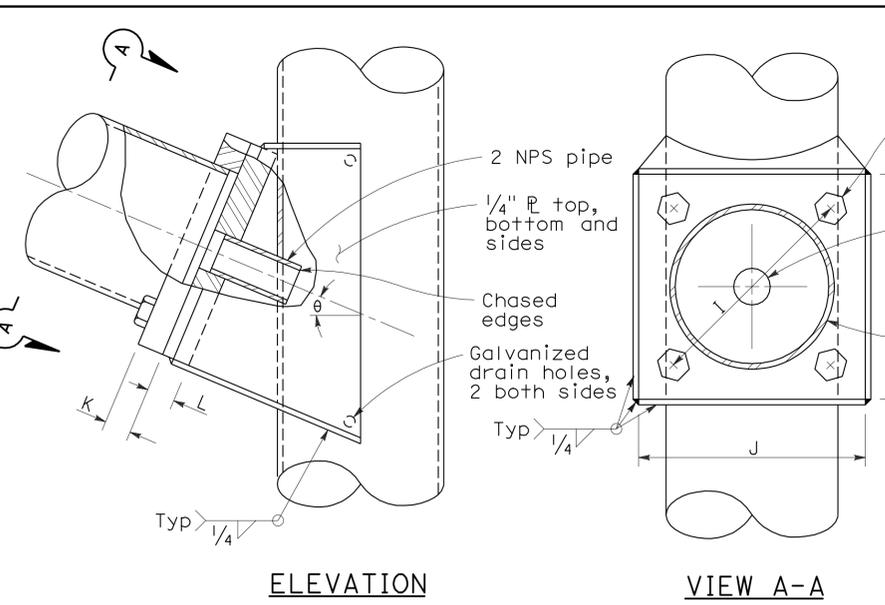
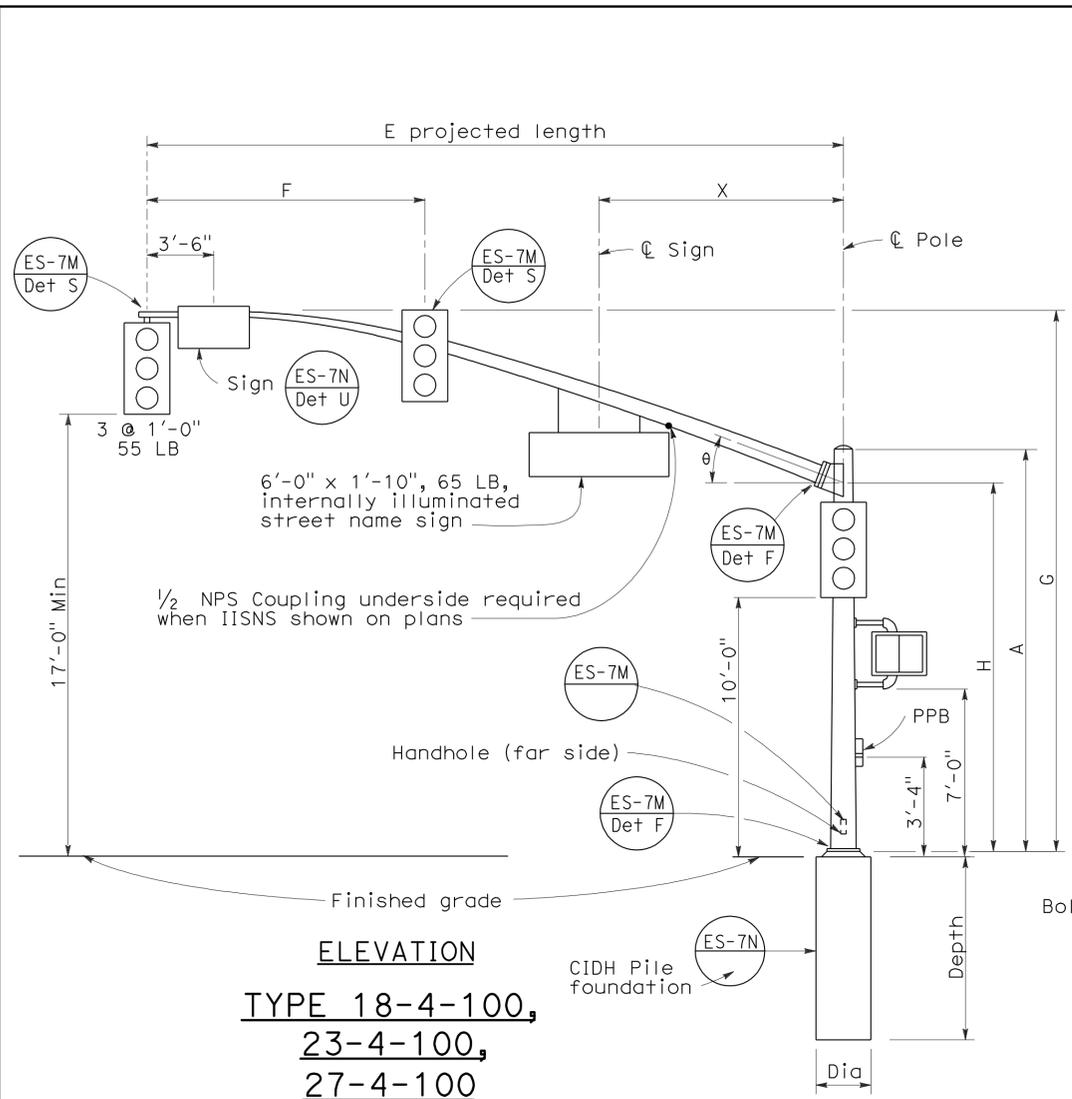
E Projected Length	G Mounting Height	H	Min OD At Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm R Thickness	L Pole R Thickness	θ	X Max
15'-0"	21'-8"±	17'-6"	6 5/8"	0.1793"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
20'-0"	21'-8"±	17'-6"	6 5/8"								
25'-0"	22'-8"±	16'-0"	7 5/16"	0.1793"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	23'-0"±		8"								

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height
6'-0"	2'-0"±	3/4"	0.1196"	30'-0" Pole
8'-0"	2'-6"±	3/2"		31'-6"± Pole
10'-0"	3'-3"±	3 7/8"	0.1196"	32'-0"± Pole
12'-0"	4'-3"±	4'-3"±		32'-9"± Pole
15'-0"	4'-9"±	4 1/4"	0.1196"	33'-9"± Pole
				34'-3"± Pole

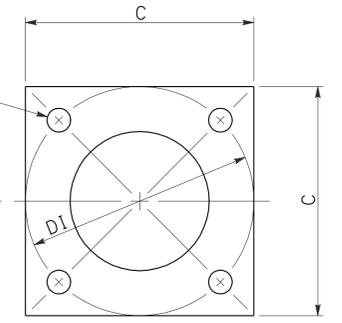
Pole Type	Load Case	Wind Velocity mph	POLE DATA				BASE PLATE DATA				Anchor Bolts Size	Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION					
			A Height	Min OD		Thickness	Alternative Section		C	D1 Bolt Circle				Thickness	Diameter	Depth	Reinforced		
				Base	Top		B Length	Bottom										Top	
16-2-100	2	100	18'-6"	10 3/4"	0.1793"	None	8"	6 5/8"	1'-6"	1'-5 1/2"	1 1/2"	2"φ x 42" x 6"	None	15'-0", 20'-0"	2'-6"	7'-2"	Yes		
17-2-100			30'-0"			None												8"	6 5/8"
17A-2-100			35'-0"			None												8"	5 15/16"
18-2-100			17'-0"			None												8"	5 15/16"
19-2-100			30'-0"			None												8"	6 5/8"
19A-2-100			35'-0"			None												8"	5 15/16"

□ Indicates arm length to be used unless otherwise noted on plans.

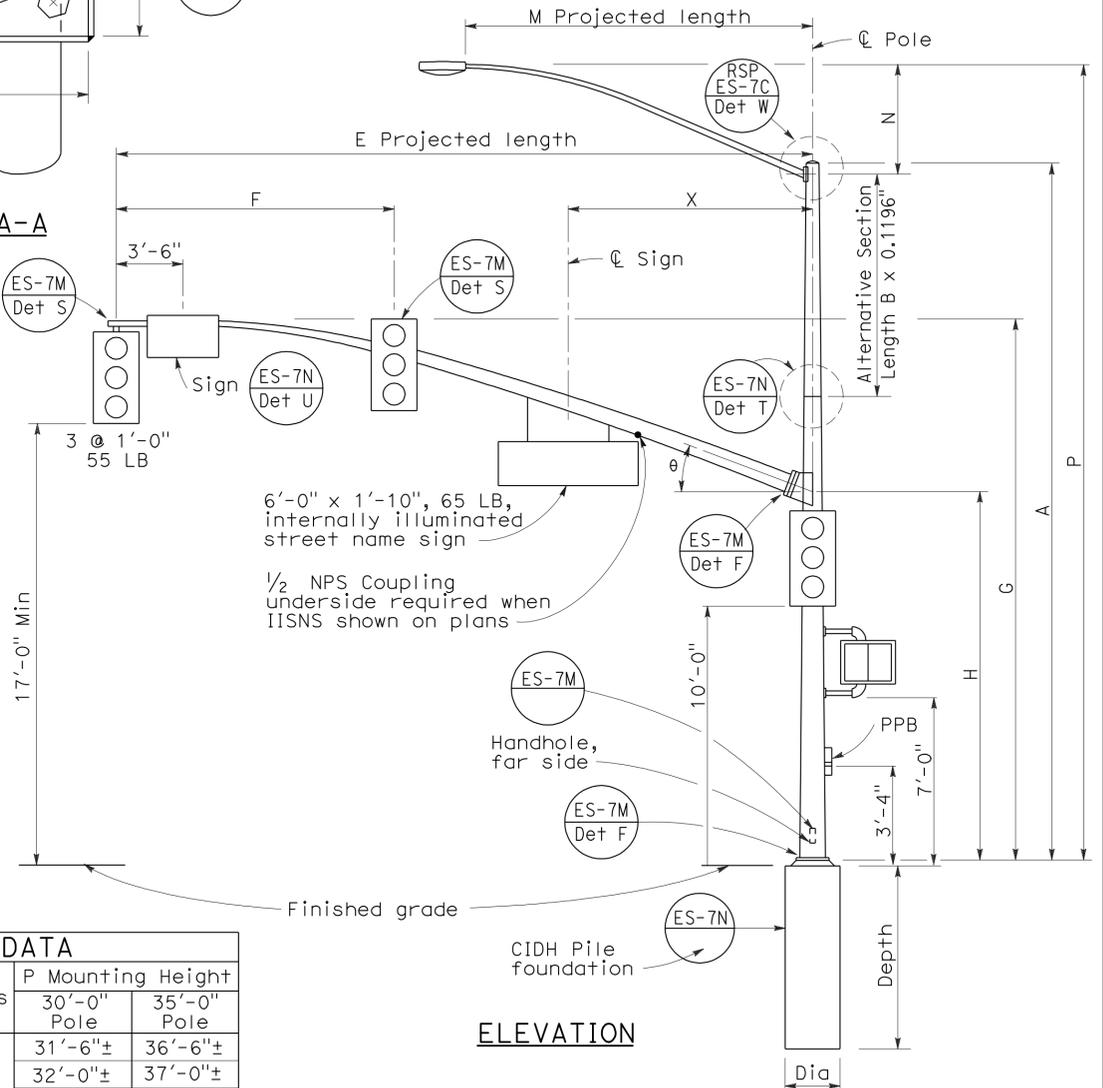
2006 REVISED STANDARD PLAN RSP ES-7D



SIGNAL ARM CONNECTION DETAILS



BASE PLATE



ELEVATION

TYPE 19-4-100, 19A-4-100,
 24-4-100, 24A-4-100,
 26-4-100, 26A-4-100

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD at Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm P Thickness	L Pole P Thickness	θ	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 5/16"	0.2391"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	8"										
35'-0"	14'-0"	8 1/16"										
40'-0"	15'-0"	9 3/8"										
45'-0"	15'-0"	23'-8"±		10 1/4"		13 1/2"		1'-1 1/2"	1 1/2"	1 3/4"	15°	13'-0"

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height	
				30'-0" Pole	35'-0" Pole
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±			33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

Pole Type	Load Case	Wind Velocity mph	POLE DATA						BASE PLATE DATA				Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION			
			A Height	Min OD		Thickness	Alternative Section			C	DI Bolt Circle	Thickness			Anchor Bolts Size	Dia	Depth	Reinforced
				Base	Top		B Length	Bottom	Top									
18-4-100	4	100	17'-0"	12"	0.2391"	None	9 3/8"	8"	1'-6"	1'-6"	1 1/2"	2" Ø x 42" x 6"	3'-0"	9'-0"	Yes			
19-4-100			30'-0"			8"										None	8"	
19A-4-100			35'-0"			7 5/16"										15'-0"	7 5/16"	
23-4-100			17'-0"			9"										None		
24-4-100			30'-0"	8"	10'-0"	8"												
24A-4-100			35'-0"	7 5/16"	15'-0"	7 5/16"												
26-4-100			30'-0"	8"	10'-0"	8 3/8"												
26A-4-100			35'-0"	7 5/16"	15'-0"	9 3/4"	7 1/16"											
27-4-100			17'-0"	9 3/4"	None													

□ Indicates arm length to be used unless otherwise noted on plans.

REVISED STANDARD PLAN RSP ES-7F

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SIGNAL AND LIGHTING STANDARD
 CASE 4 ARM LOADING
 WIND VELOCITY=100 MPH
 ARM LENGTHS 25' TO 45')**
 NO SCALE

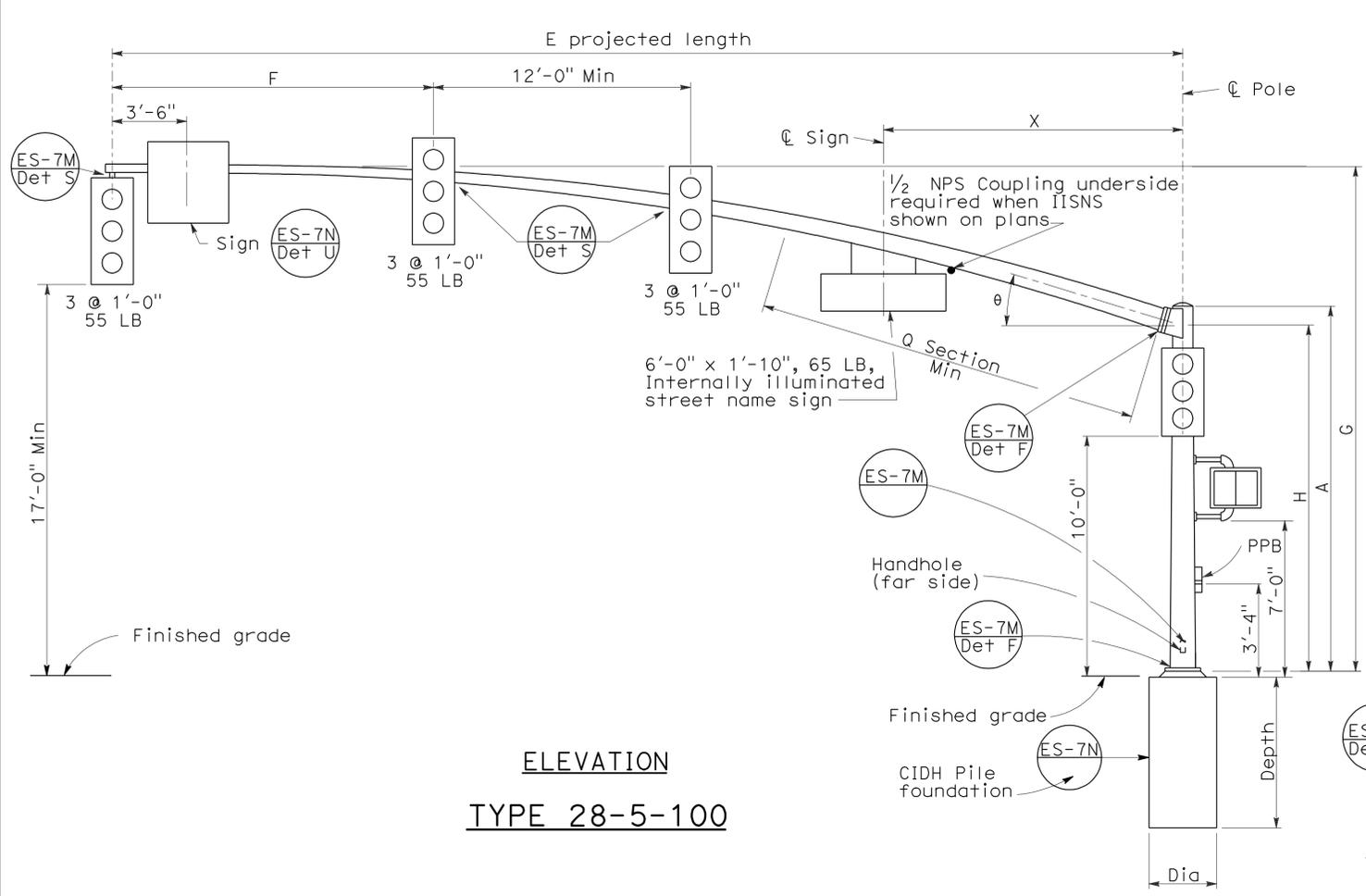
RSP ES-7F DATED OCTOBER 5, 2007 SUPERCEDES RSP ES-7F DATED
 NOVEMBER 17, 2006 AND STANDARD PLAN ES-7F DATED MAY 1, 2006 -
 PAGE 442 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-7F

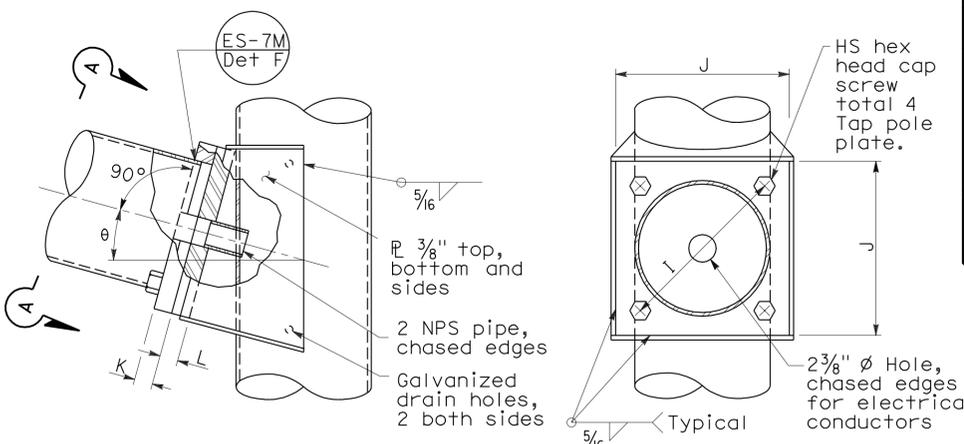
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	128	154

November 17, 2006
 PLANS APPROVAL DATE
 To accompany plans dated 2-14-11

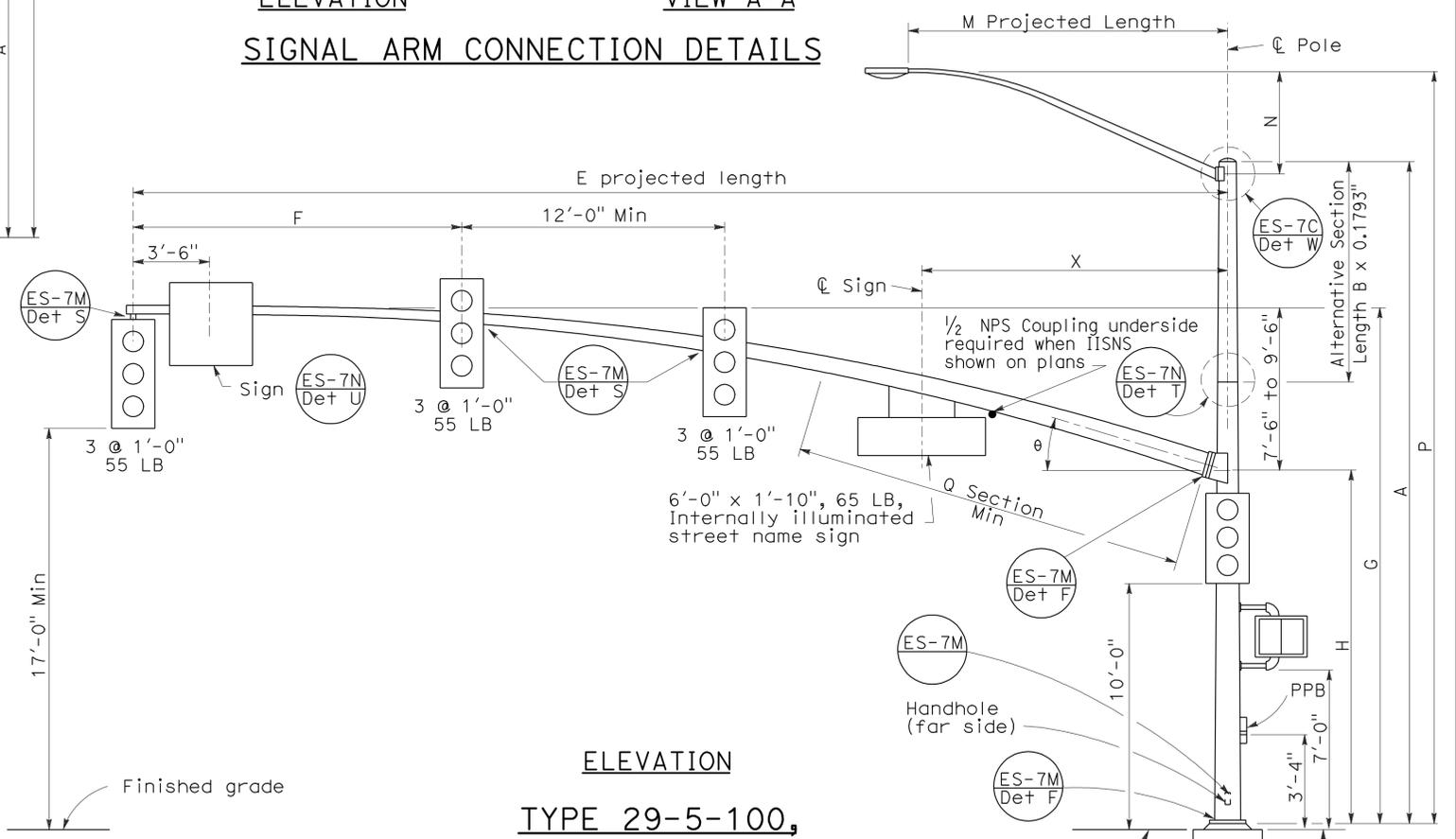
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 03-31-08
 CIVIL
 STATE OF CALIFORNIA



ELEVATION
TYPE 28-5-100

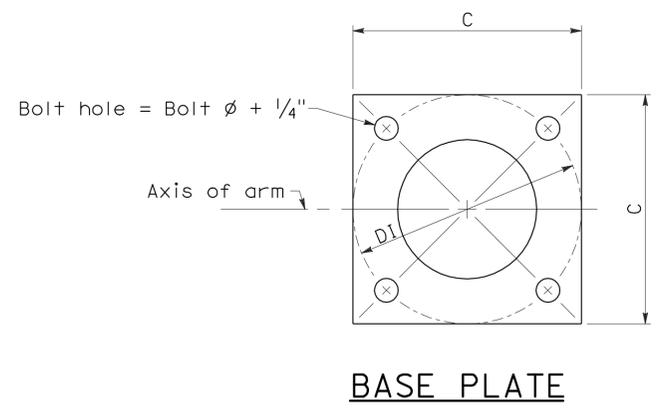


ELEVATION
VIEW A-A
SIGNAL ARM CONNECTION DETAILS



ELEVATION
TYPE 29-5-100,
29A-5-100

M Projected Length	N Rise	Min OD at Pole	Thickness	P Mounting Height
6'-0"	2'-0"±	3 1/4"	0.1196"	30'-0" Pole
8'-0"	2'-6"±	3 1/2"		31'-6"± Pole
10'-0"	3'-3"±	3 7/8"		32'-0"± Pole
12'-0"	4'-3"±	3 7/8"		32'-9"± Pole
15'-0"	4'-9"±	4 1/4"		33'-9"± Pole



BASE PLATE

E Projected Length	F Min Spacing	G Mounting Height	H	Min OD at Pole	Thickness	I Bolt Circle	HS Cap Screws	J Plate Size	K Arm Plate Thickness	L Pole Plate Thickness	θ	Q Section		X Max
												Length	Thickness	
50'-0" 55'-0"	15'-0"	23'-7"± to 25'-7"±	16'-0"	11 11/16" 1'-1/4"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-4"	1 3/4"	1 3/4"	15°	18'-0" 23'-0"	0.2391"	14'-0"

Pole Type	Load Case	Wind Velocity mph	POLE DATA					BASE PLATE DATA				Luminaire Arm	Signal Arm	CIDH PILE FOUNDATION					
			A Height	Min OD		Thickness	C	DI Bolt Circle	Thickness	Anchor Bolts Size				Dia	Depth	Reinforced			
				Base	Top					B Length	Bottom						Top		
28-5-100	5	100	17'-0"	14"	11 11/16"	21"	21"	2"	2" ø x 42" x 6"	6'-15'	15'-0"	3'-0"	9'-2"	Yes					
29-5-100			30'-0"		9 7/8"										10'-0"	11 1/4"	9 7/8"	23"	23"
29A-5-100			35'-0"		9 3/16"										15'-0"	9 3/16"	23"	23"	

□ Indicates arm length to be used unless otherwise noted on plans.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD
CASE 5 ARM LOADING
WIND VELOCITY=100 MPH,
ARM LENGTHS 50' TO 55')
 NO SCALE

RSP ES-7G DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN ES-7G
 DATED MAY 1, 2006 - PAGE 443 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-7G

2006 REVISED STANDARD PLAN RSP ES-7G

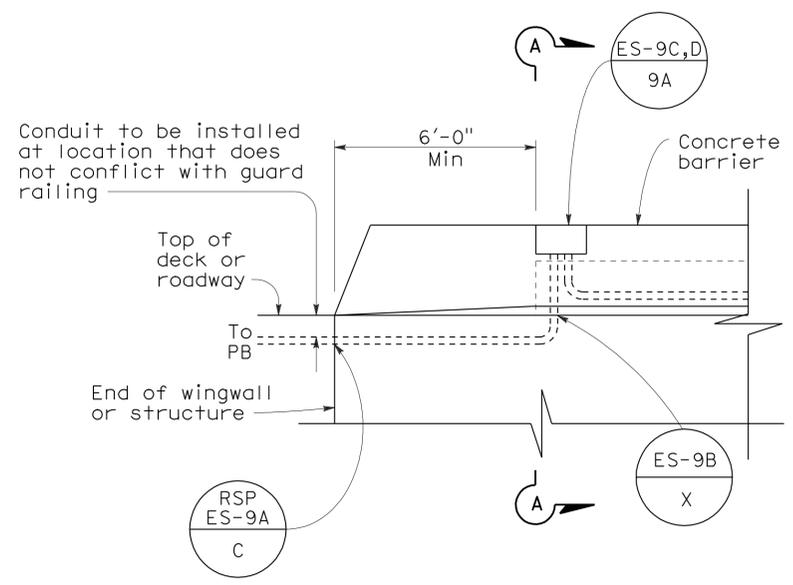
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	129	154

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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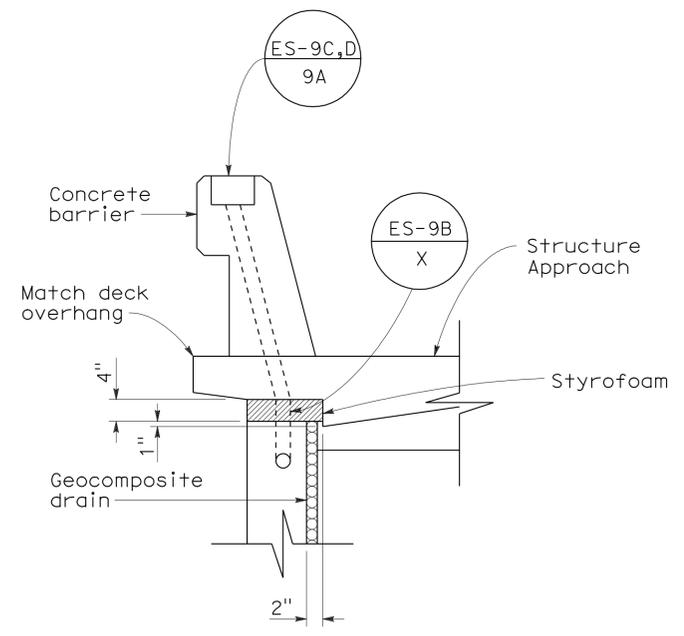
REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 2-14-11

2006 REVISED STANDARD PLAN RSP ES-9A

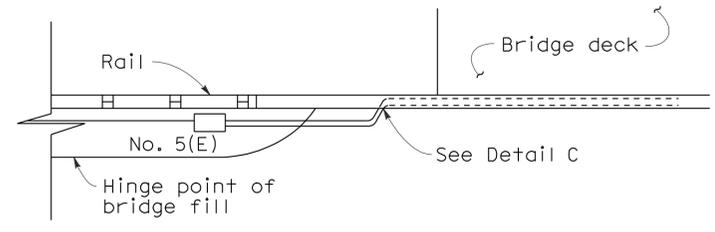


SIDEVIEW

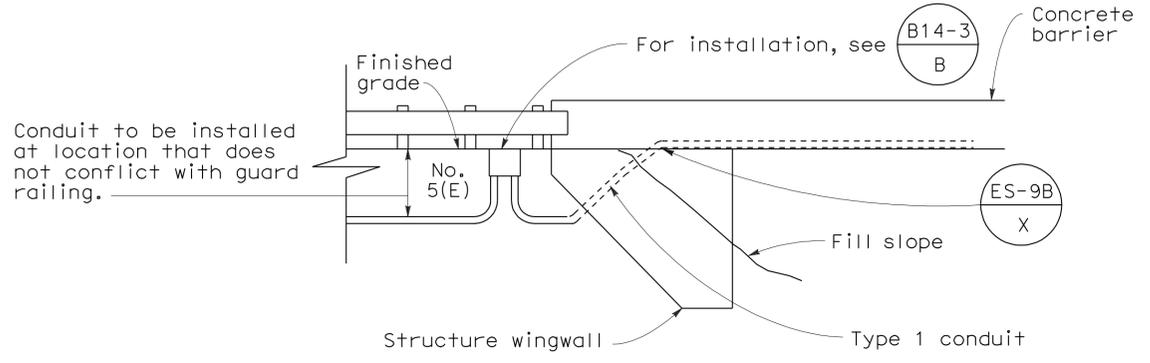


SECTION A-A

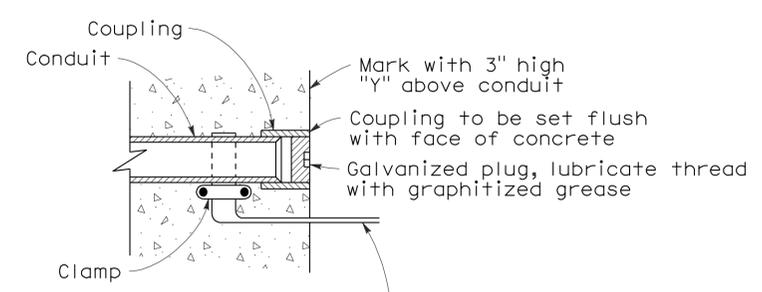
**DETAIL A
CONDUIT TERMINATION**



TOP VIEW



**SIDE VIEW
DETAIL I
CONDUIT TERMINATION**



**DETAIL C
CONDUIT TERMINATION**

Copper bonding strap install only at structure construction joint, extend at least 6" from face of concrete

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(ELECTRICAL DETAILS
STRUCTURE INSTALLATIONS)**

NO SCALE

RSP ES-9A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9A
DATED MAY 1, 2006 - PAGE 454 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-9A

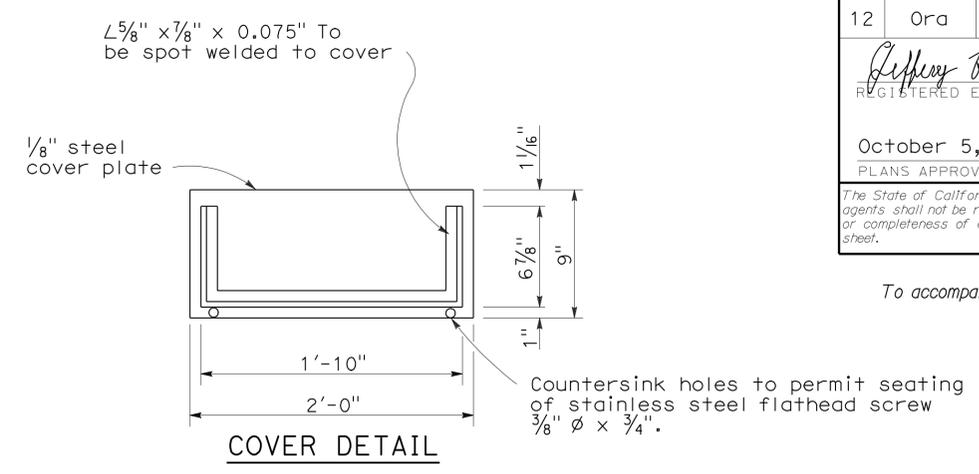
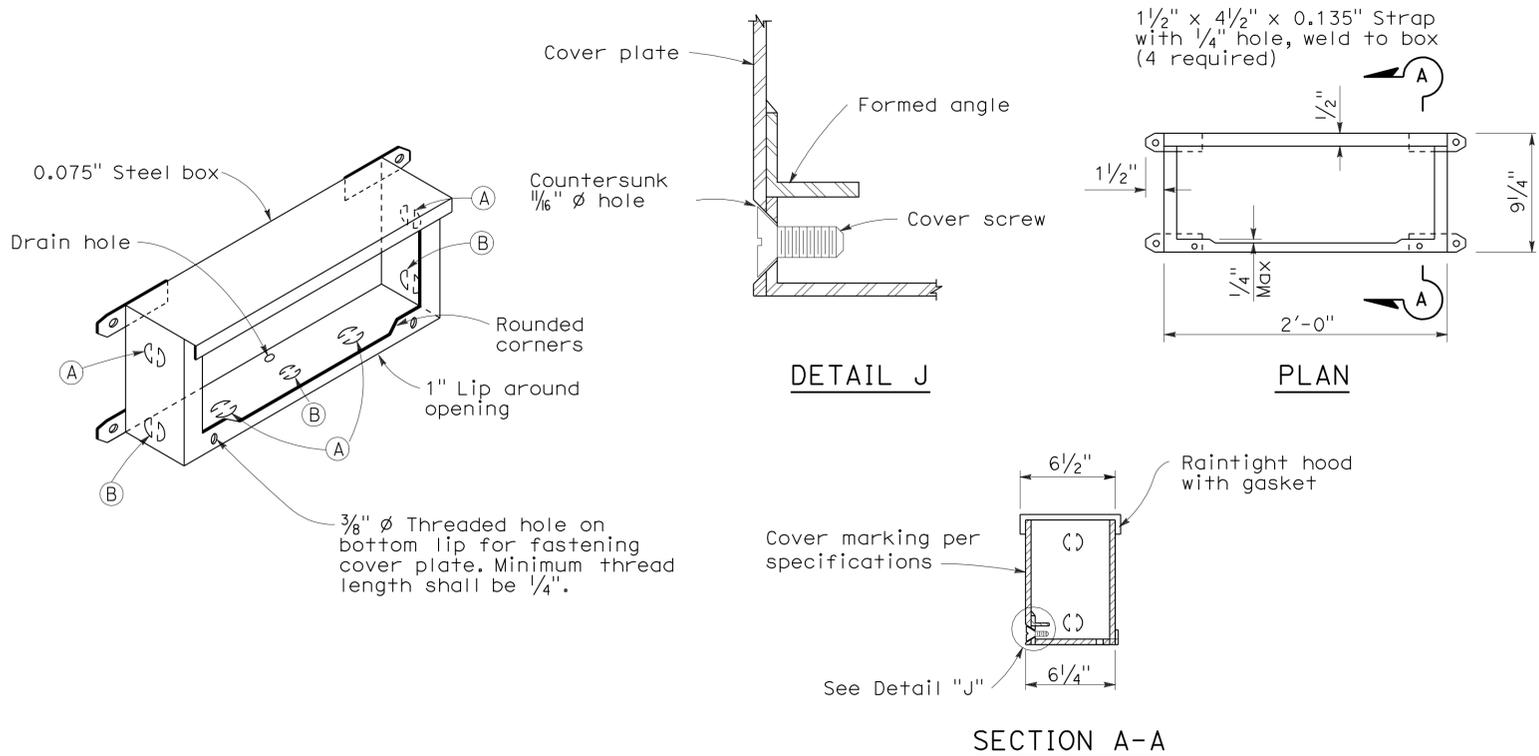
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	130	154

REGISTERED ELECTRICAL ENGINEER
Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

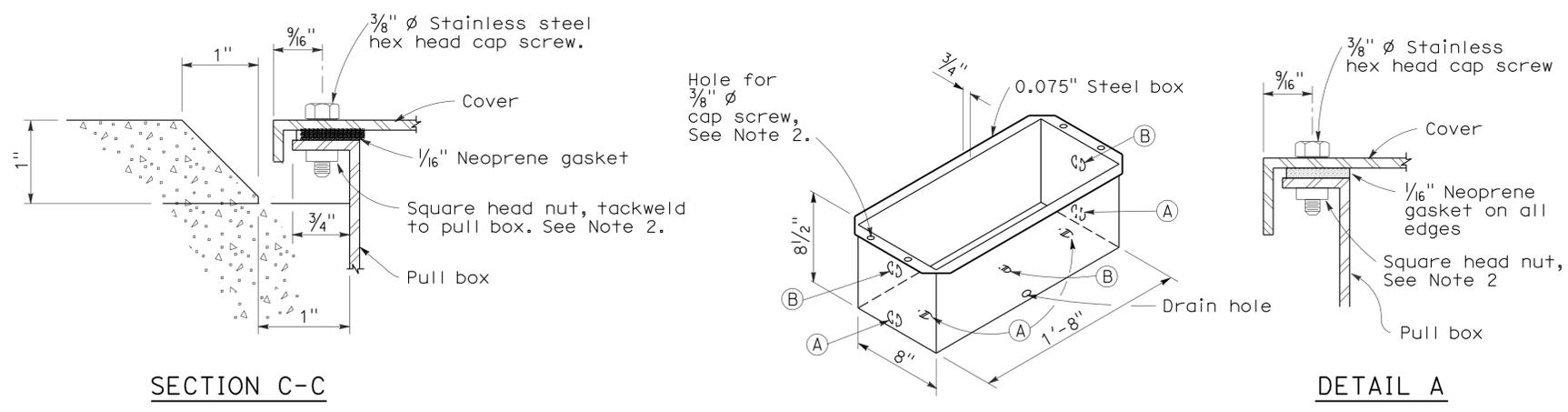
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 2-14-11



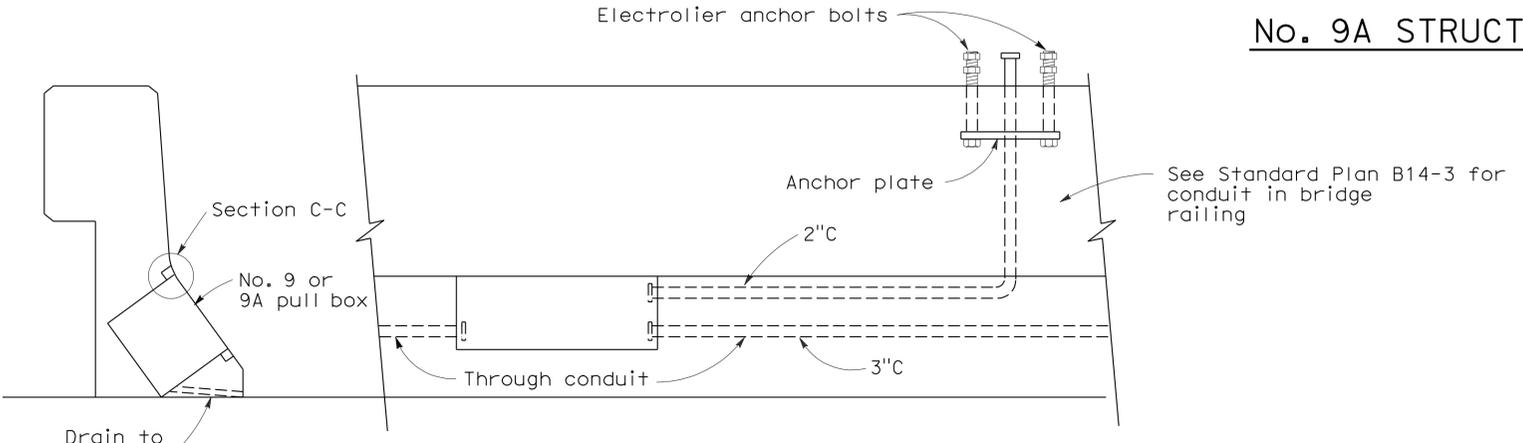
INSTALLATION NOTE:
 Box shall be parallel to top of railing. Close cover box during pouring with 1/4" plywood of sufficient size to provide 1:1 chamfer on 3 sides of cover. Upper edge of plywood shall fit against lower edge of raintight hood.

No. 9 STRUCTURE PULL BOX



- NOTES:** No. 9 and 9A Pull Box
- Corner joints shall be lapped and secured by spot welding or riveting.
 - Where cap screws are used to attach cover to box, either of the following methods of providing adequate threading may be used:
 - Tack weld square nut to bottom of flange (Total 4), or
 - Tack weld a 1/4" x 5/8" x 8" bar beneath flange (Total 2).
 - Pound knockouts flat after punching.
 - Multiple size knockouts shall not be permitted.
 - Pull box covers shall be marked as shown on Standard Plan ES-8.

No. 9A STRUCTURE PULL BOX



INSTALLATION IN SLOPING PARAPETS

For reinforcement in area of electrolier, see railing sheets. For electrolier anchor bolts, see Standard Plan ES-6B.

- KNOCKOUT SCHEDULE**
No. 9 AND 9A PULL BOX
- (A) 2"C, 1 each end, 2 on bottom.
 - (B) 3"C, 1 each end, 1 on bottom.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
 (ELECTRICAL DETAILS
 STRUCTURE INSTALLATIONS)**

NO SCALE
 RSP ES-9C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-9C
 DATED MAY 1, 2006 - PAGE 456 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-9C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	5	5.6/6.6	131	154

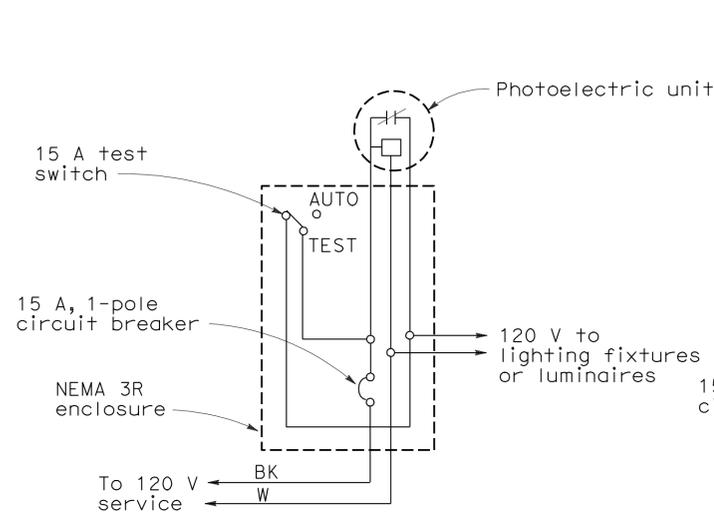
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

NOTES: (FOR LIGHTING AND SIGN ILLUMINATION CONTROL)

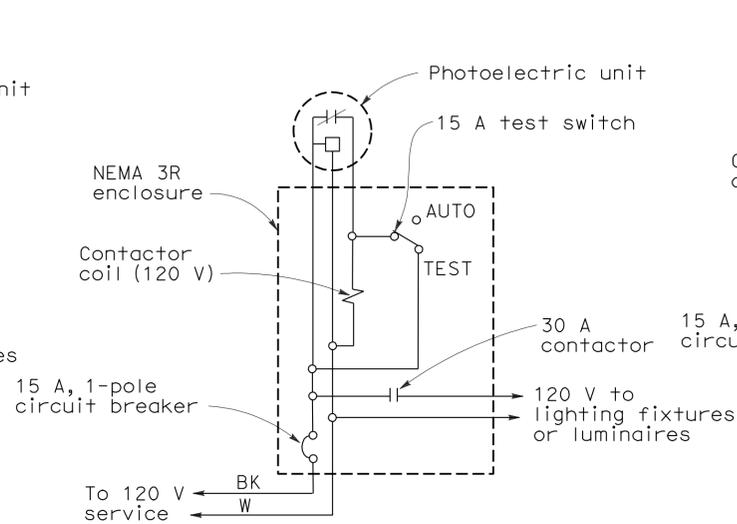
1. The ballast voltages of lighting fixtures and luminaires shall match line service voltages.
2. Voltage rating of photoelectric controls shall conform to the service voltage indicated on the plans.
3. Terminal strip shall be provided for wiring to fixtures.
4. Type SC1A, SC2A, SC3A controls are similar to Types SC1, SC2 and SC3 controls respectively except test switch and wiring are not required.

To accompany plans dated 2-14-11



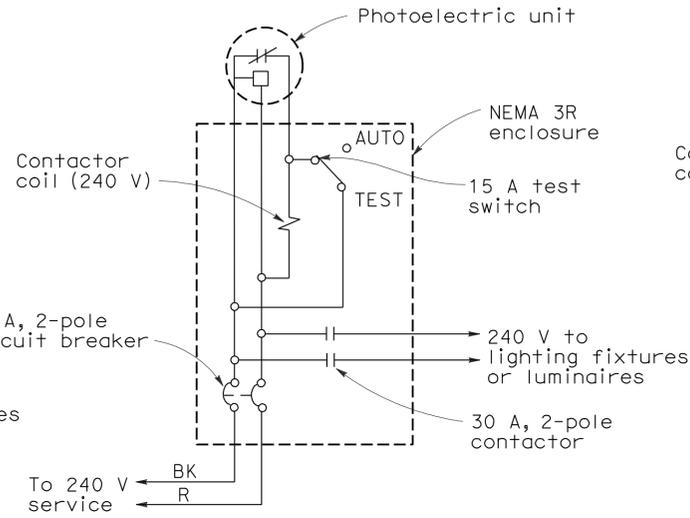
TYPE LC1 CONTROL

For 120 V unswitched circuit with no more than 800 W load.



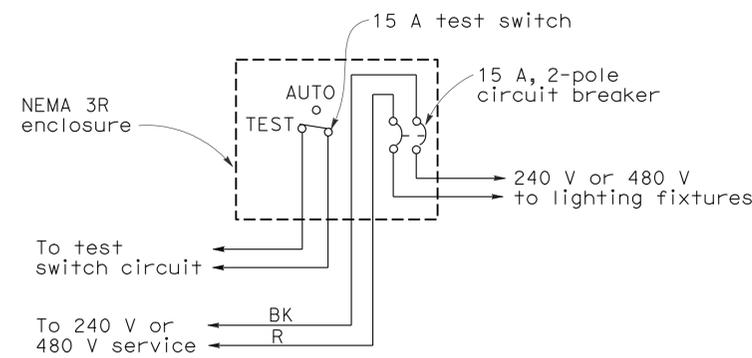
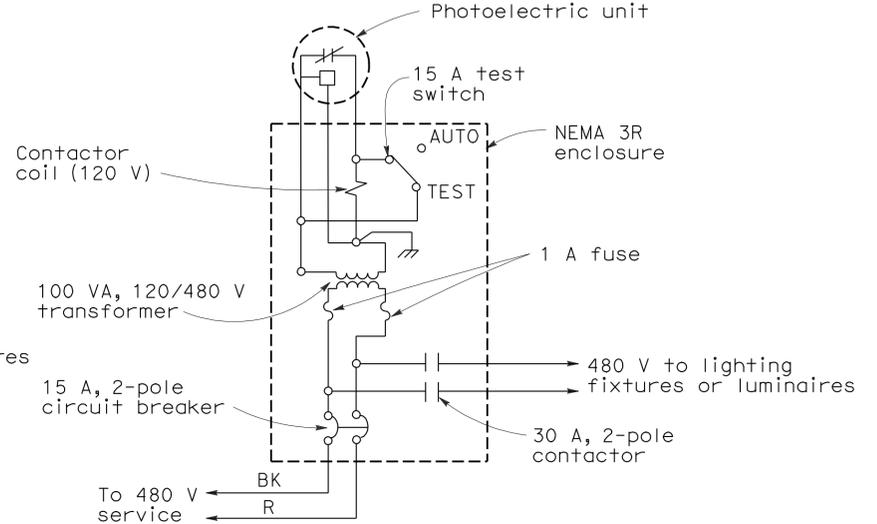
TYPE LC2 CONTROL

For 120 V unswitched circuit



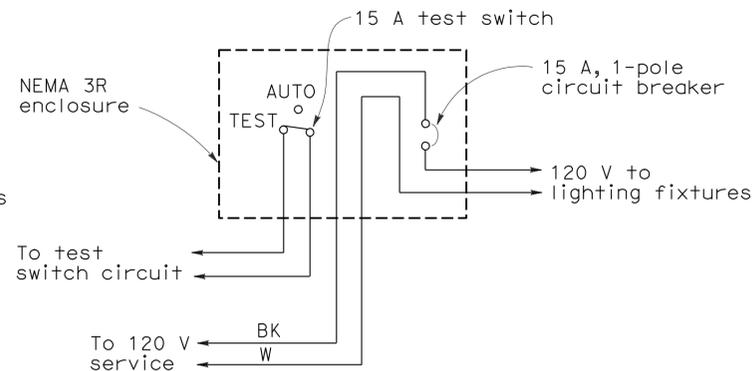
TYPE LC3 CONTROL

For 240 V and 480 V unswitched circuits



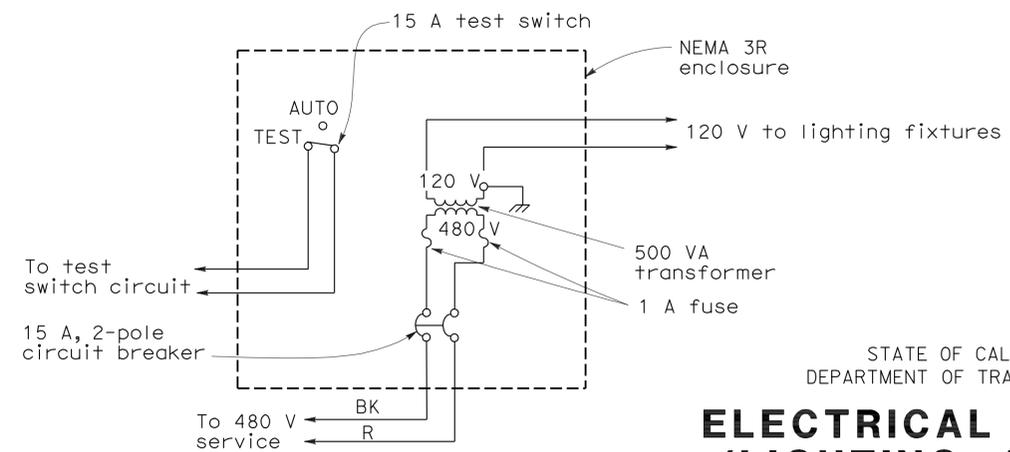
TYPE SC1 CONTROL

For 240 V or 480 V switched circuit, see Note 4 for Type SC1A



TYPE SC2 CONTROL

For 120 V switched circuit, see Note 4 for Type SC2A



TYPE SC3 CONTROL

For 480 V switched sign circuit, see Note 4 for Type SC3A

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (LIGHTING AND SIGN
 ILLUMINATION CONTROL)**

NO SCALE

RSP ES-15D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-15D DATED MAY 1, 2006 - PAGE 472 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-15D

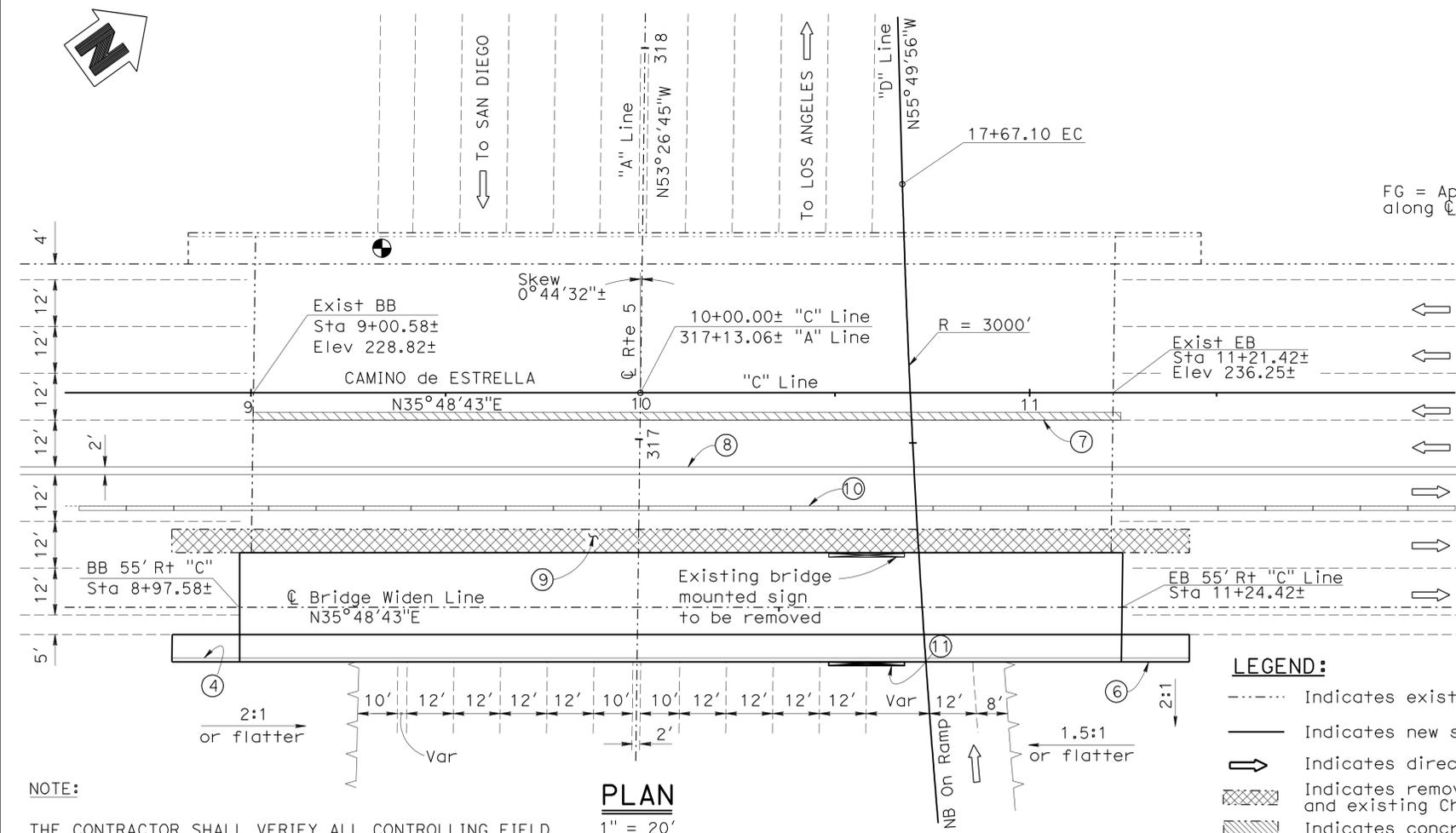
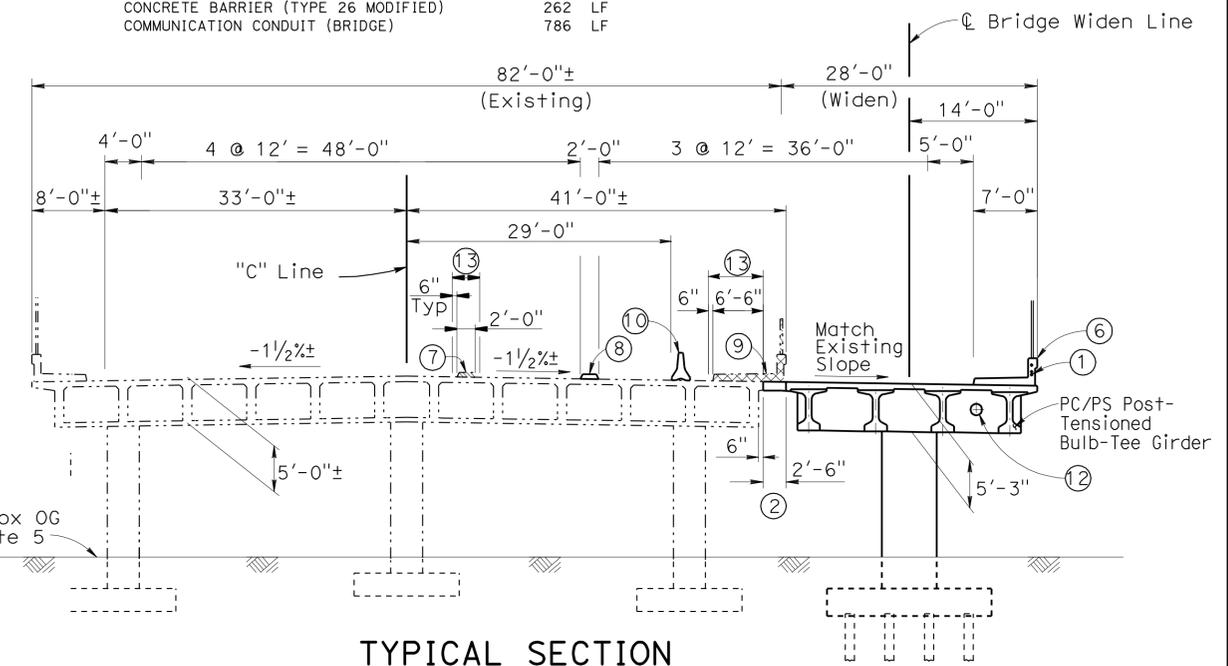
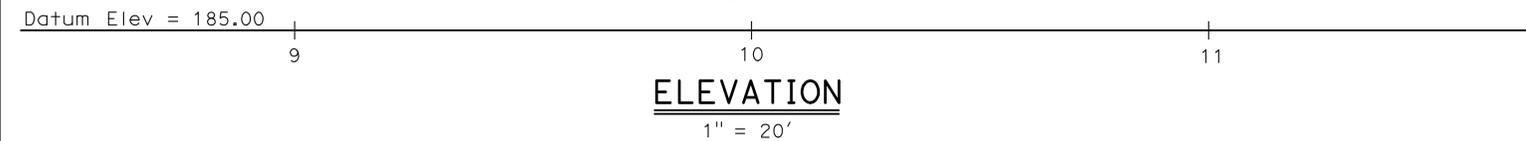
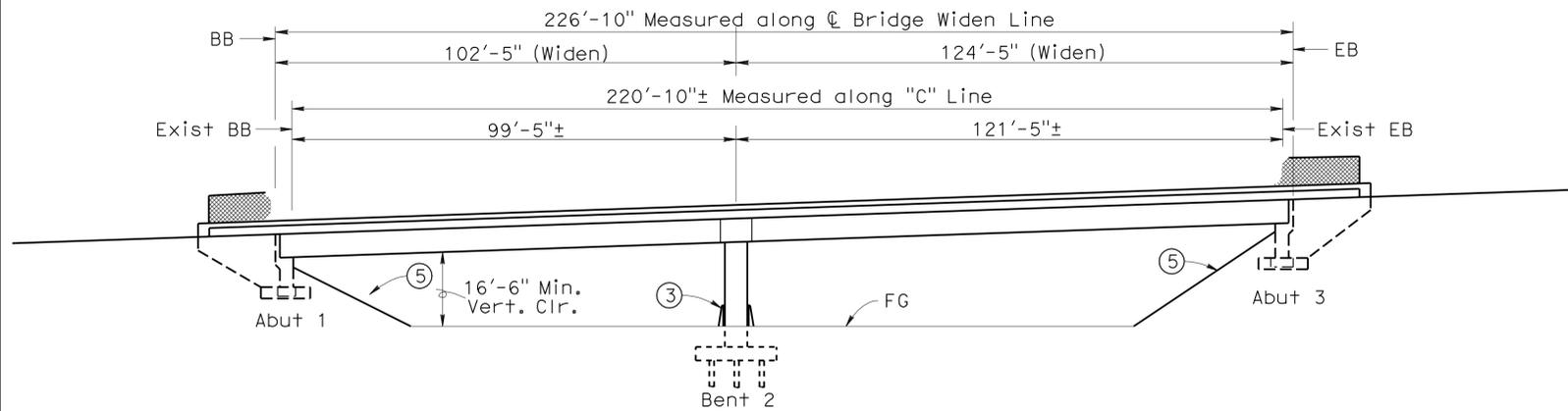
2006 REVISED STANDARD PLAN RSP ES-15D

QUANTITIES

PREPARE CONCRETE BRIDGE DECK SURFACE	2,098	SQFT
BRIDGE REMOVAL (PORTION)	LUMP	SUM
STRUCTURE EXCAVATION (BRIDGE)	240	CY
STRUCTURE BACKFILL (BRIDGE)	190	CY
FURNISH PILING (CLASS 200) (ALTERNATIVE X)	1,012	LF
DRIVE PILE (CLASS 200) (ALTERNATIVE X)	16	EA
PRESTRESSING PRECAST GIRDER	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE FOOTING	103	CY
STRUCTURAL CONCRETE, BRIDGE	306	CY
DRILL AND BOND DOWEL	35	LF
FURNISH PRECAST PRESTRESSED CONCRETE BULB-TEE GIRDER (90'-100')	4	EA
FURNISH PRECAST PRESTRESSED CONCRETE BULB-TEE GIRDER (110'-120')	4	EA
ERECT PRECAST PRESTRESSED CONCRETE GIRDER	8	EA
FURNISH POLYESTER CONCRETE OVERLAY	131	CF
PLACE POLYESTER CONCRETE OVERLAY	2,098	SQFT
JOINT SEAL (MR 2")	53	LF
BAR REINFORCING STEEL (BRIDGE)	130,000	LB
SLOPE PAVING (CONCRETE)	28	CY
CHAIN LINK RAILING (TYPE 7)	262	LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	262	LF
COMMUNICATION CONDUIT (BRIDGE)	786	LF

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	5	5.6/6.6	132	154

REGISTERED CIVIL ENGINEER DATE 04-30-10
 MINA PEZESHPOUR No. C 55999 Exp. 12/31/10
 PLANS APPROVAL DATE 2-14-11
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NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

FG = Approx OG along C Rte 5

- LEGEND:**
- Indicates existing structure.
 - Indicates new structure.
 - ➔ Indicates direction of traffic.
 - ▨ Indicates removal of Concrete Barrier Type 26 and existing Chain Link Type 7.
 - ▩ Indicates concrete island removal.
 - Point of minimum vertical clearance.

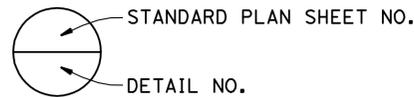
- NOTES:**
- ① Communication conduit (Bridge)
 - ② Closure pour. Pour upon completion of widen structure.
 - ③ Concrete Barrier Type 60GE, see "ROAD PLANS".
 - ④ Paint "Br. No. 55-0224" & "CAMINO DE ESTRELLA OC".
 - ⑤ Slope Paving.
 - ⑥ Concrete Barrier Type 26 (Mod) with Chain Link Railing Type 7.
 - ⑦ Remove existing concrete island, see "ROAD PLANS".
 - ⑧ Concrete island, see "ROAD PLANS".
 - ⑨ Remove existing overhang, sidewalk and exist Chain Link. Detour pedestrians to left sidewalk on bridge.
 - ⑩ Temporary K-Rail, see "ROAD PLANS".
 - ⑪ Bridge mounted sign, see "ROAD PLANS".
 - ⑫ Future Utilities Opening.
 - ⑬ Limits of prepare concrete bridge deck surface and place Polyester Concrete overlay (t = 3/4")

CHUNG-YUAN WEN DESIGN ENGINEER	DESIGN	BY Ken Vo/Mina Pezeshpour	CHECKED Carl Duan	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.	55-0224	CAMINO DE ESTRELLA OC (WIDEN) GENERAL PLAN
	DETAILS	BY Hector Iniguez/ Hemant	CHECKED Mina Pezeshpour	LAYOUT	BY Tom Dang		DESIGN BRANCH	21	
	QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan	SPECIFICATIONS	BY Rebecca Franti		POST MILE	5.8	

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS CU 12 220 EA OF 0601 DISREGARD PRINTS BEARING EARLIER REVISION DATES

STANDARD PLANS DATED MAY 2006

- A10A ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
- A10B ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
- A10C SYMBOLS (SHEET 1 OF 2)
- A10D SYMBOLS (SHEET 2 OF 2)
- A62C LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
- A76F CONCRETE BARRIER TYPE 60GE
- BO-1 BRIDGE DETAILS
- BO-3 BRIDGE DETAILS
- BO-5 BRIDGE DETAILS
- BO-13 BRIDGE DETAILS
- RSP B2-8 PILE DETAILS, CLASS 200
- B6-10 UTILITY OPENING T-BEAM
- RSP B6-21 JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
- B11-52 CHAIN LINK RAILING TYPE 7
- B14-3 COMMUNICATION & SPRINKLER CONTROL CONDUITS
- RSP P1 JOINTED PLAIN CONCRETE PAVEMENT
- RSP P10 CONCRETE PAVEMENT - DOWEL BAR DETAILS
- T3 TEMPORARY RAILING (TYPE K)



GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition and the Caltrans Amendments, preface dated 2008; except that Bridge Details, Barrier and Railings (details taken from Standard Plans May 2006 and earlier versions, Standard Bridge Details XS sheets, etc) are designed using Bridge Design Specifications ('96 AASTHO w/ Revisions by Caltrans).

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) version 1.4 dated June 2006

DEAD LOAD: (Including 10% Metal Deck Form) Includes 35 PSF future wearing surface. The Deck Dead Load has been increased by a factor of 10% to allow for the use of steel deck forms.

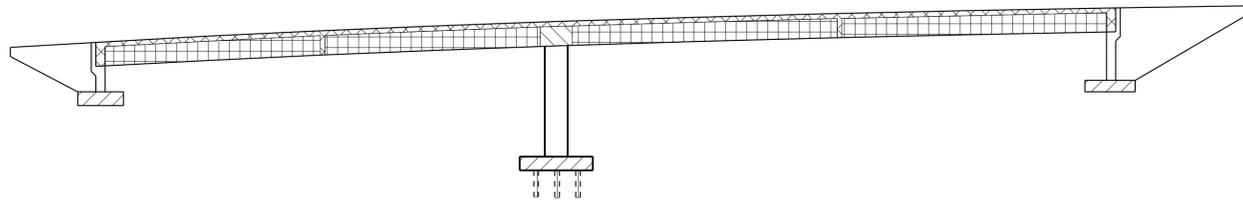
LIVE LOAD: HL93 and permit design load

SEISMIC LOADING: Modified SDC ARS Curve
Soil Type D, magnitude 7.25 ± 0.25
Peak Bed Rock Acceleration = 0.5g

REINFORCED CONCRETE: ASTM A706
 $f_y = 60,000$ psi
 f'_c , see "CONCRETE STRENGTH AND TYPE LIMITS"

PRESTRESSED CONCRETE: See "PRESTRESSING NOTES" on "GIRDER LAYOUT" sheet

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



CONCRETE STRENGTH AND TYPE LIMITS

No Scale

- Structural Concrete, Bridge (Wingwalls & Columns) ($f'_c = 4000$ psi @ 28 days)
- Structural Concrete, Bridge Footing ($f'_c = 4000$ psi)
- Structural Concrete, Bridge (Bent Cap) ($f'_c = 7000$ psi @ 28 days)
- Structural Concrete Bridge (Deck, Intermediate Diaphragm & End Diaphragm) ($f'_c = 5000$ psi @ 28 days)
- Precast Pre-stressed Concrete Girders (See "PRESTRESSED BULB-TEE GIRDER" sheet)
- Class 200 precast-prestressed concrete piles

INDEX TO PLANS

- | NO. | SHEET NAME |
|-----|-----------------------------|
| 1. | GENERAL PLAN NO. 1 |
| 2. | INDEX TO PLANS |
| 3. | CONSTRUCTION STAGES |
| 4. | FOUNDATION PLAN |
| 5. | ABUTMENT LAYOUT |
| 6. | ABUTMENT DETAILS NO. 1 |
| 7. | ABUTMENT DETAILS NO. 2 |
| 8. | BENT DETAILS NO. 1 |
| 9. | BENT DETAILS NO. 2 |
| 10. | TYPICAL SECTION |
| 11. | GIRDER LAYOUT |
| 12. | GIRDER REINFORCEMENT |
| 13. | PRESTRESSED BULB-TEE GIRDER |
| 14. | SLOPE PAVING- FULL SLOPE |
| 15. | BARRIER DETAILS |
| 16. | LOG OF TEST BORING 1 OF 8 |
| 17. | LOG OF TEST BORING 2 OF 8 |
| 18. | LOG OF TEST BORING 3 OF 8 |
| 19. | LOG OF TEST BORING 4 OF 8 |
| 20. | LOG OF TEST BORING 5 OF 8 |
| 21. | LOG OF TEST BORING 6 OF 8 |
| 22. | LOG OF TEST BORING 7 OF 8 |
| 23. | LOG OF TEST BORING 8 OF 8 |

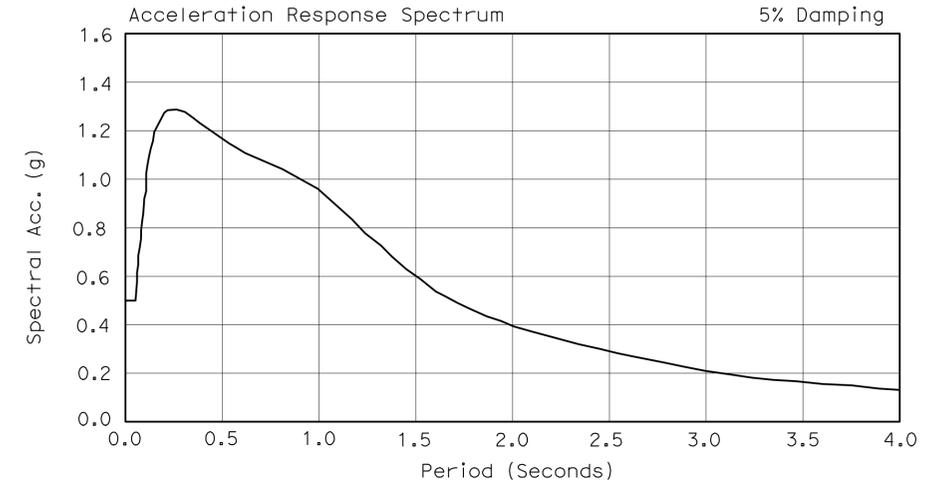
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	133	154

04-30-10
REGISTERED CIVIL ENGINEER DATE

2-14-11
PLANS APPROVAL DATE

MINA PEZESHPOUR
No. C 55999
Exp. 12/31/10
CIVIL
STATE OF CALIFORNIA

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ARS CURVE

Support Location	Working Stress Design (WSD)	
	Permissible Gross Contact Stress (ksf)	Allowable Gross Contact Stress (ksf)
Abut No. 1	4.0	4.5
Abut No. 3	4.0	4.5

SPREAD FOOTING DATA TABLE

Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elev (ft)	Specific Tip Elev (ft)	Nominal Driving Resistance Required (kips)
		Compression	Tension			
Bent 2	Class 200 (Alt "X" Std. Plans)	400	260	139 (a) 150 (b) 163 (c) 173 (d)	139	400

PILE DATA TABLE

NOTE:
1. Design Tip Elevations are controlled by: (a) Compression, (b) Tension, (c) Settlement, (d) Lateral Load

DESIGN BY K. Vo/Mina Pezeshpour	CHECKED Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO. 55-0224	CAMINO DE ESTRELLA OC (WIDEN) INDEX TO PLANS
DETAILS BY T. Nguyen/H.B./A. Ong	CHECKED Mina Pezeshpour		POST MILE 5.8	
QUANTITIES BY Mina Pezeshpour	CHECKED Carl Duan			

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 12220 EA OF0601 DISREGARD PRINTS BEARING EARLIER REVISION DATES 05-03-10 8-13-09 09-16-09 11-19-09 11-30-09 12-16-09 1-27-10 2-8-10 4-7-10 SHEET 2 OF 23

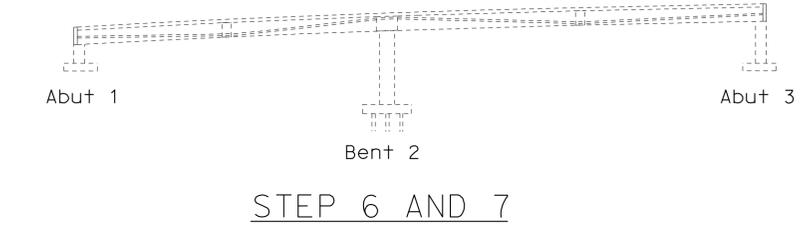
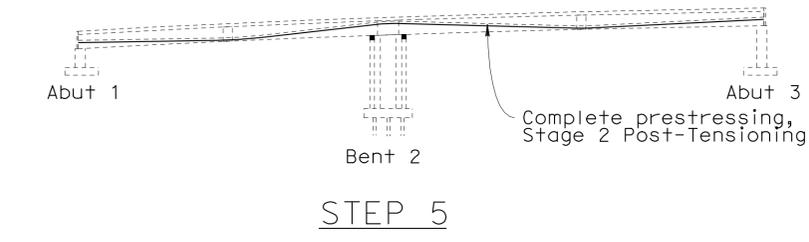
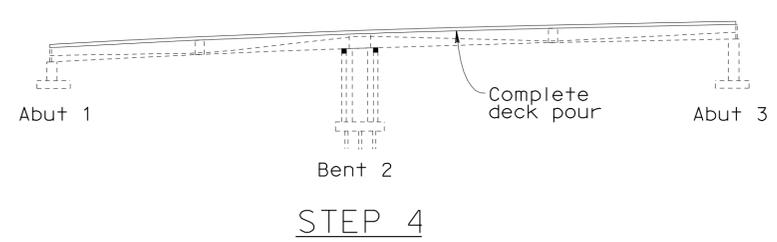
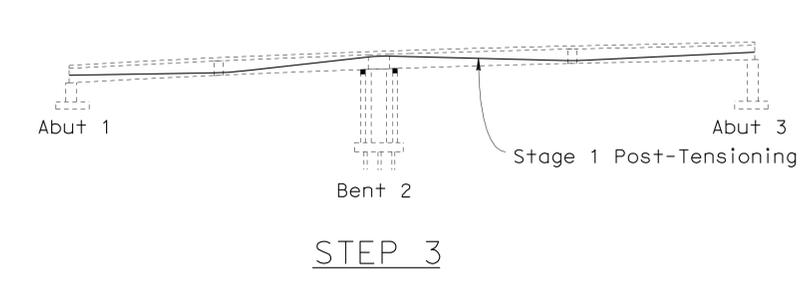
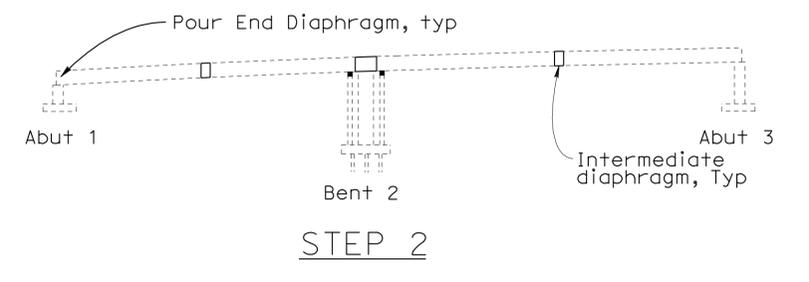
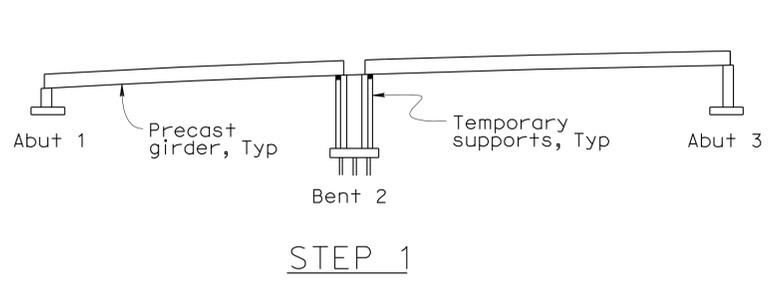
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	134	154
			04-30-10		
REGISTERED CIVIL ENGINEER			DATE		
2-14-11			PLANS APPROVAL DATE		
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

NOTES:

- Any alternatives to this construction sequence must be approved by the Engineer.
- For Prestressing notes and additional information, see "GIRDER LAYOUT" sheet.

LEGEND

----- Indicates previously completed steps



STAGE CONSTRUCTION

No Scale

- Construct abutments, bent footing, column and erect Precast Girders on temporary supports. Temporary supports shall be capable of supporting 65 kips per precast unit. This does not include forces due to wind, impact or construction loads, bent cap, deck concrete. Brace girders transversely.
- Construct intermediate diaphragms, end diaphragm and bentcap. Leave the blackout open for Post-Tensioning. See "ABUTMENT DETAILS NO. 2" sheet.
- Complete Stage 1 Post-Tensioning.
- Construct deck in span one and span two.
- Complete longitudinal prestressing (post-tensioning). Stage 2 Longitudinal prestressing shall not be permitted sooner than 10 days after the last concrete has been poured and the Concrete Compressive Strength at time of stressing has achieved minimum f_{ci} .
- Remove temporary supports, construct closure pour and complete remaining items of work. Closure pour shall not be placed sooner than 14 days after the temporary supports have been removed.
- Complete prestress blockouts & construct backwalls at abutments.

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

DESIGN	BY K. Vo/Mina Pezeshpour	CHECKED Carl Duan
DETAILS	BY H. Iniguez/A. Ong	CHECKED Mina Pezeshpour
QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH **21**

BRIDGE NO.	55-0224
POST MILE	5.8

CAMINO DE ESTRELLA OC (WIDEN)
CONSTRUCTION STAGES

USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:46

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	5	5.6/6.6	135	154

REGISTERED CIVIL ENGINEER DATE 04-30-10
 MINA PEZESHPOUR
 No. C 55999
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 CIVIL
 STATE OF CALIFORNIA

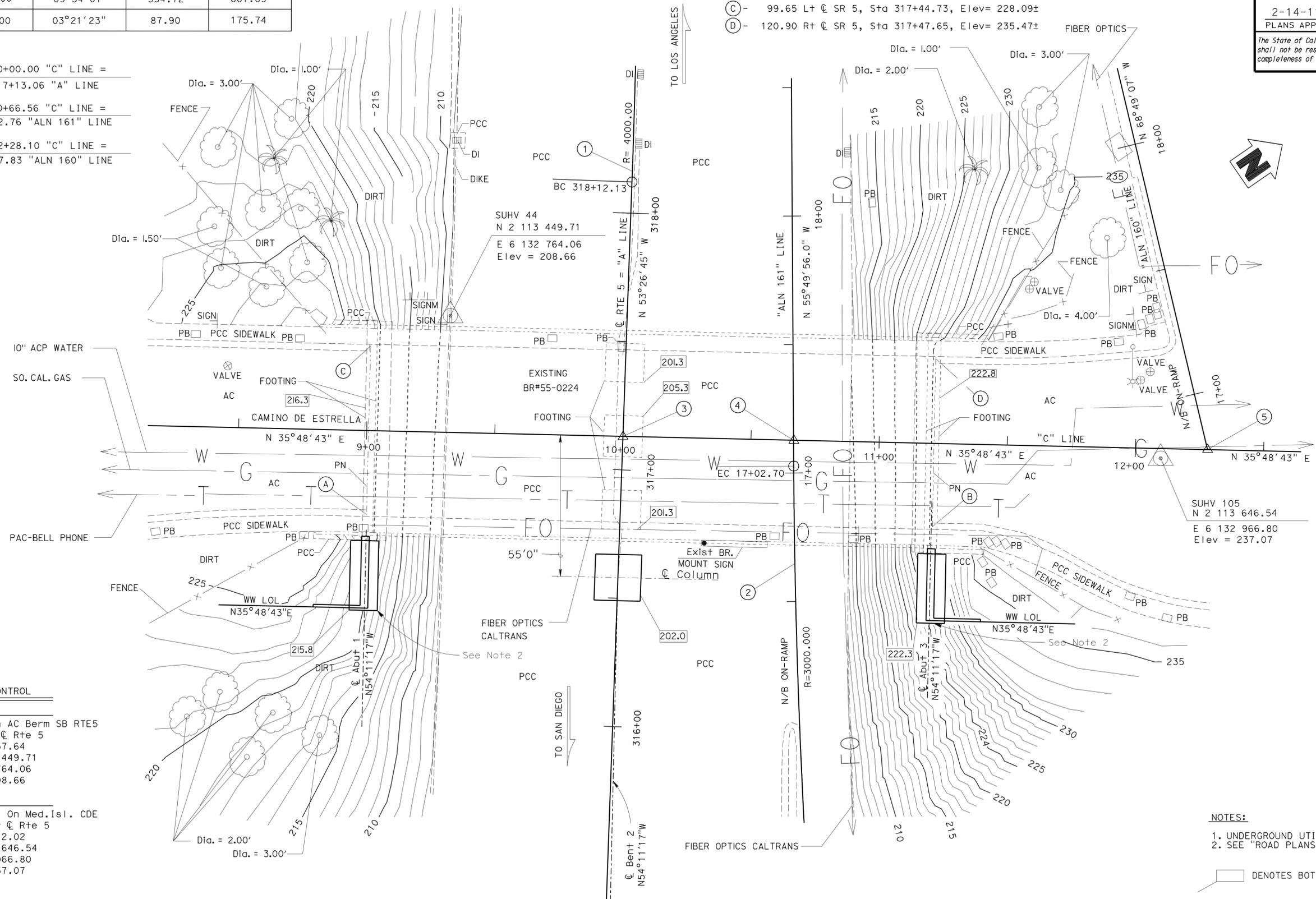
PLANS APPROVAL DATE 2-14-11

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CURVE DATA				
No.	R	Δ	T	L
①	4000.00	09°34'01"	334.72	667.89
②	3000.00	03°21'23"	87.90	175.74

- BRIDGE LOCATION (55-0224)
- ① - 98.93 Lt C SR 5, Sta 316+79.11, Elev= 228.00±
 - ② - 121.92 Rt C SR 5, Sta 316+81.92, Elev= 235.34±
 - ③ - 99.65 Lt C SR 5, Sta 317+44.73, Elev= 228.09±
 - ④ - 120.90 Rt C SR 5, Sta 317+47.65, Elev= 235.47±

- ③ Sta 10+00.00 "C" LINE = Sta 317+13.06 "A" LINE
- ④ Sta 10+66.56 "C" LINE = Sta 17+12.76 "ALN 161" LINE
- ⑤ Sta 12+28.10 "C" LINE = Sta 16+77.83 "ALN 160" LINE



SURVEY CONTROL
 SUHV 44
 Set PK On AC Berm SB RTE5
 68.92 Lt C Rte 5
 Sta 317+57.64
 N 2 113 449.71
 E 6 132 764.06
 Elev = 208.66

SUHV 105
 Chz1 "X" On Med. Isl. CDE
 209.94 Rt C Rte 5
 Sta 317+12.02
 N 2 113 646.54
 E 6 132 966.80
 Elev = 237.07

NOTES:
 1. UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE
 2. SEE "ROAD PLANS" FOR CONTOUR GRADING

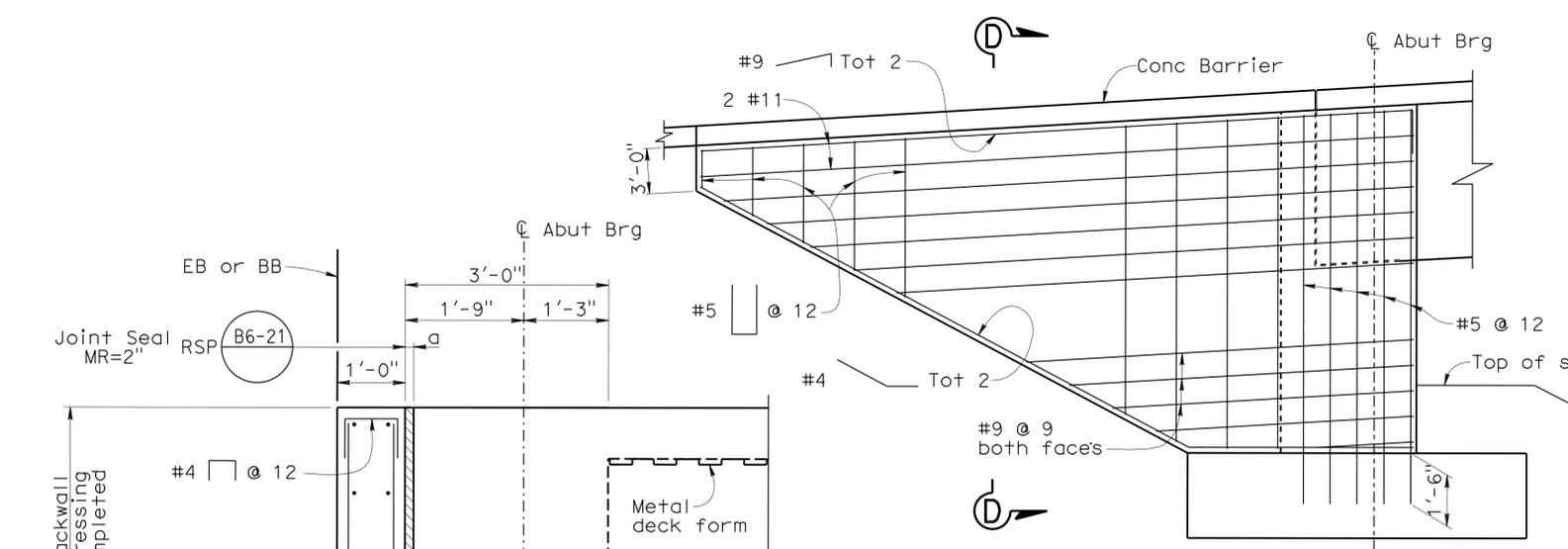
□ DENOTES BOTTOM OF FOOTING ELEVATION

PRELIMINARY INVESTIGATION SECTION				DESIGN BY: Mina Pezeshpour	CHECKED: Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	BRIDGE NO.: 55-0224	CAMINO DE ESTRELLA OC (WIDEN) FOUNDATION PLAN						
SCALE: VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	BY: Hemant Barbhaiya	CHECKED: Mina Pezeshpour	DESIGN BRANCH: 21	POST MILE: 5.6									
1:20	HORIZ. DATUM NAD 83(1991.351)	BY: Mina Pezeshpour	CHECKED: Carl Duan											
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 10/25/05)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 12220 EA OF 0601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1"> <tr> <th>REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>4-7-10</td> <td>4</td> <td>23</td> </tr> </table>	REVISION DATES	SHEET	OF	4-7-10	4	23
REVISION DATES	SHEET	OF												
4-7-10	4	23												

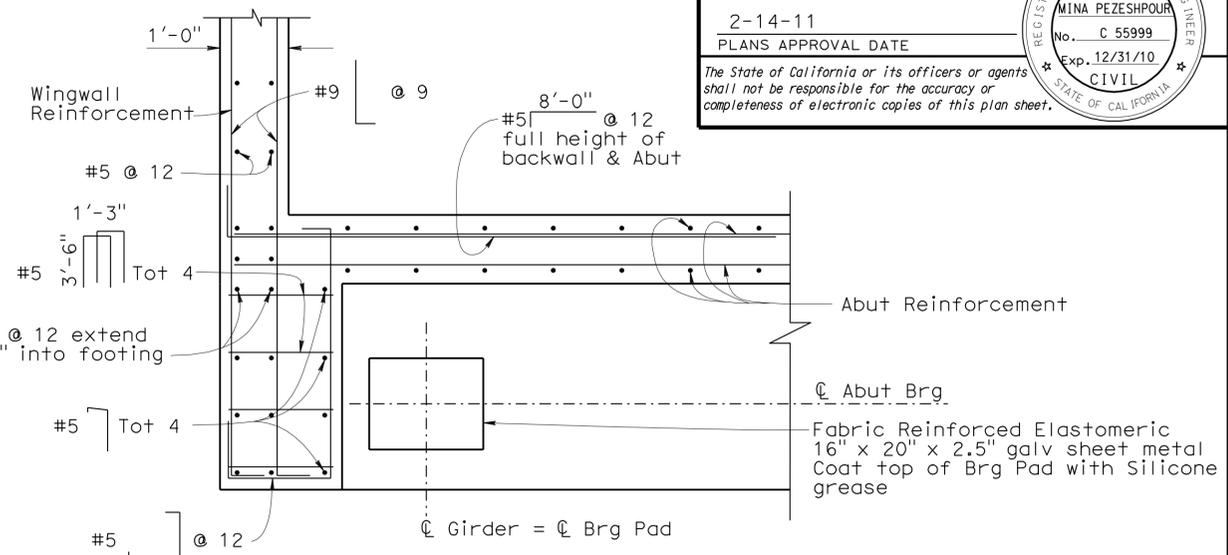
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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04-30-10
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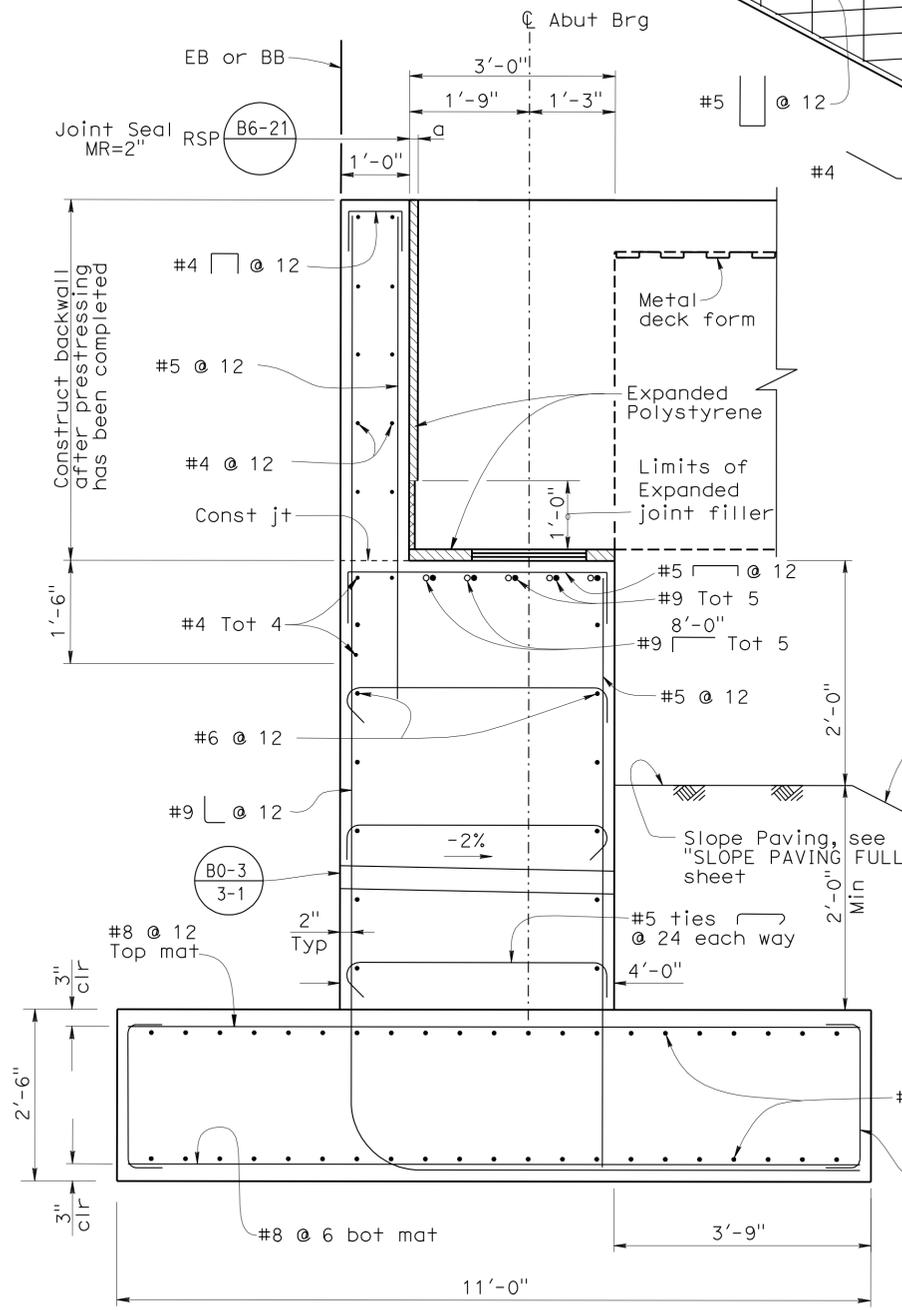
REGISTERED PROFESSIONAL ENGINEER
 MINA PEZESHPOUR
 No. C 55999
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA



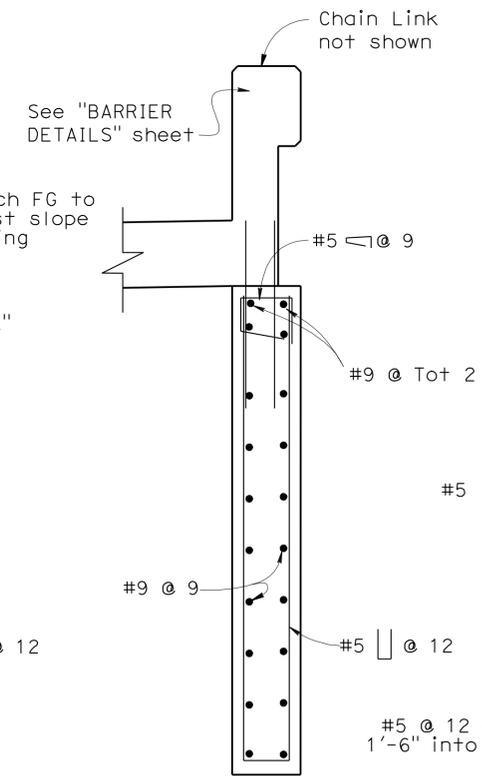
WINGWALL REINFORCEMENT
 $\frac{3}{8}'' = 1'-0''$



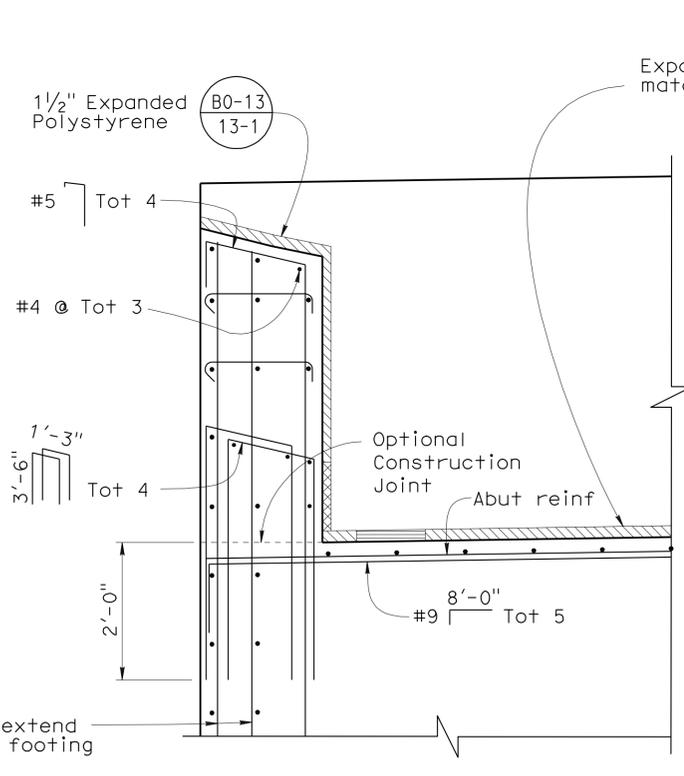
SECTION C-C
 $\frac{3}{4}'' = 1'-0''$



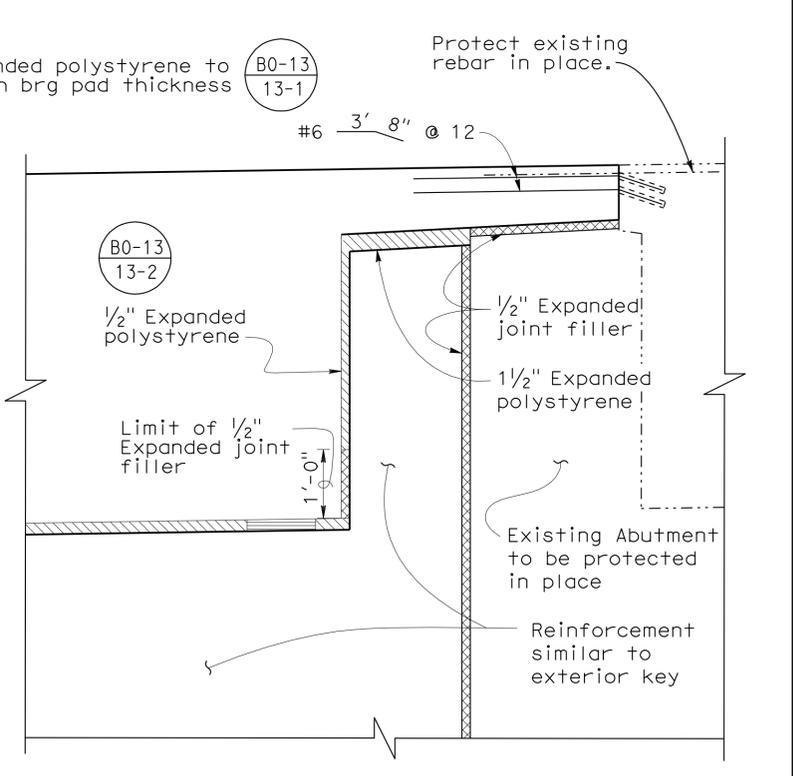
SECTION B-B
 $\frac{3}{4}'' = 1'-0''$



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



EXTERIOR KEY



INTERIOR KEY

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

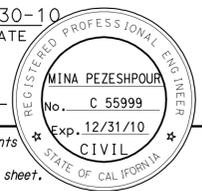
Notes: Abutment 1 details shown,
 Abutment 3 similar

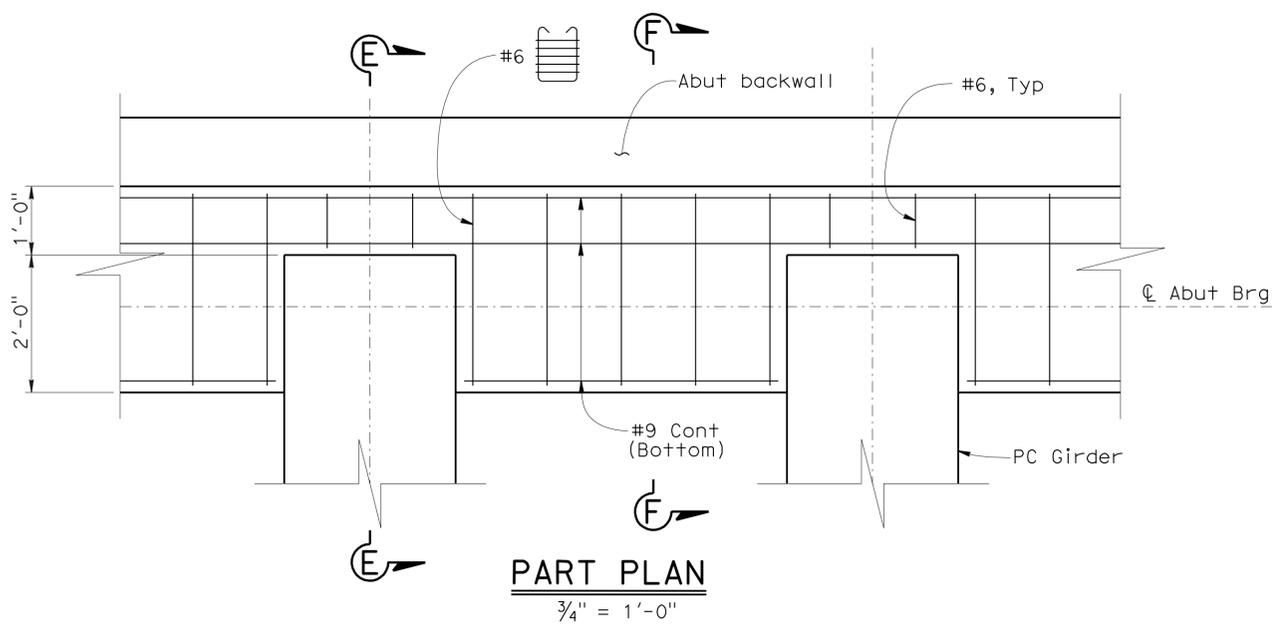
LEGEND:

	Expanded joint filler
	Expanded Polystyrene
	Elastomeric pad

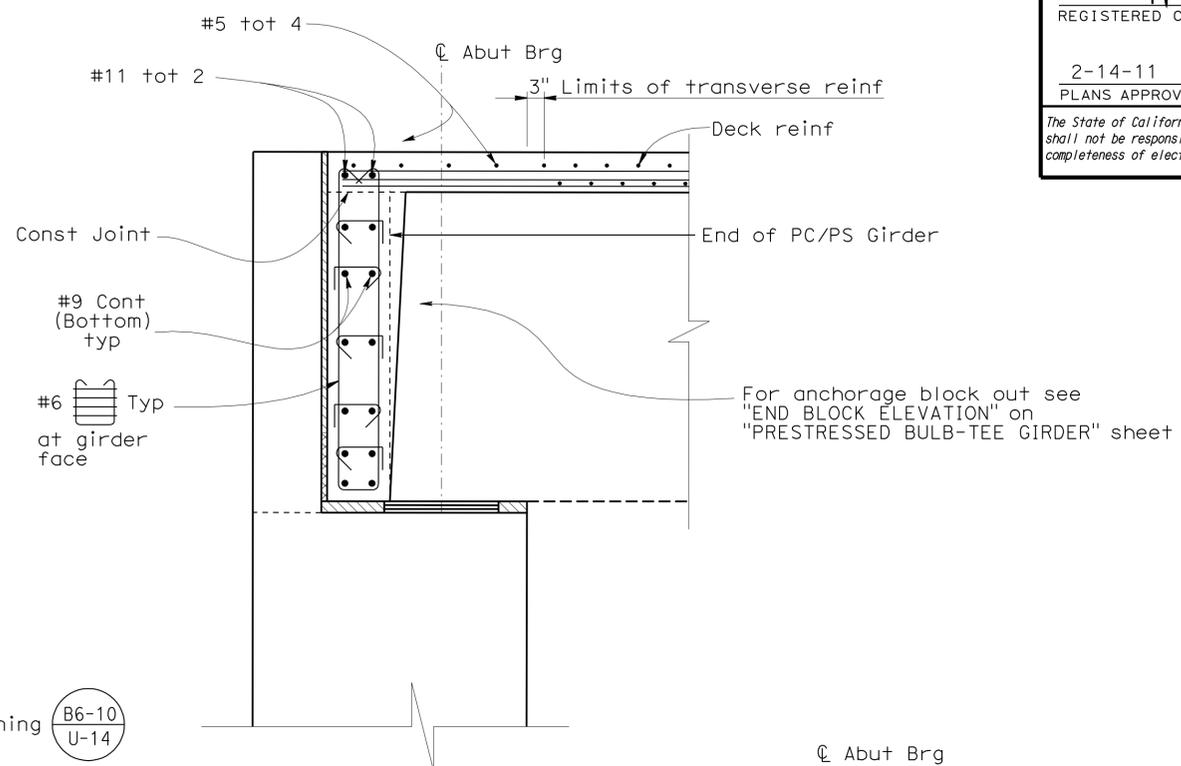
DESIGN	BY K. Vo/Mina Pezeshpour	CHECKED Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO.	55-0224	CAMINO DE ESTRELLA OC (WIDEN) ABUTMENT DETAILS NO. 1
DETAILS	BY T. Nguyen/JV/A. Ong	CHECKED Mina Pezeshpour			POST MILE	5.8	
QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 CU 12220 EA OF 0601
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES: 03/25/09, 8/12/09, 09/16/09, 11/19/09, 12-8-09, 12-17-09, 12-28-09, 1-27-10, 2-8-10, 8-3-10
 SHEET 6 OF 23
 USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:47
 FILE => 06-55-0224wd-f-abutdt_01.dgn

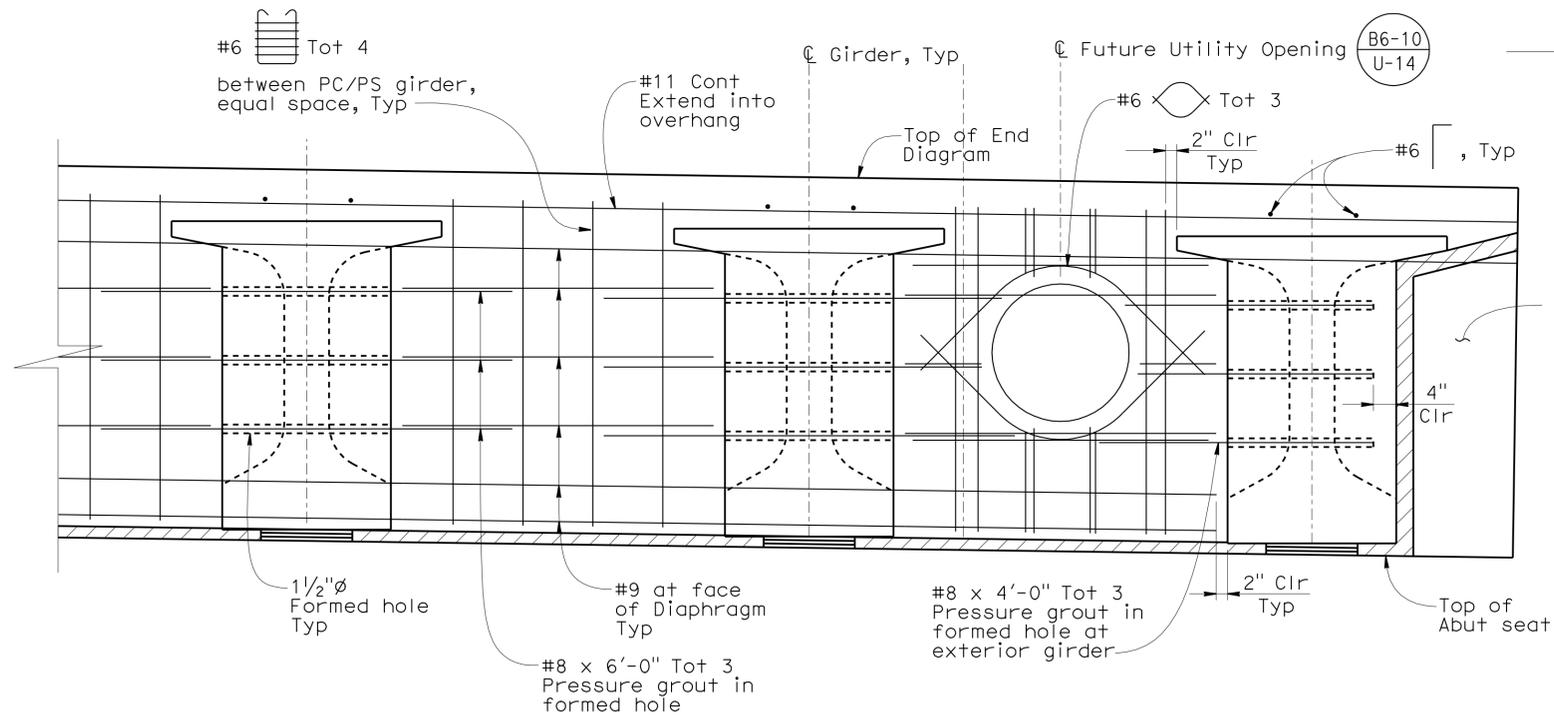
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	138	154
			04-30-10		
REGISTERED CIVIL ENGINEER			DATE		
2-14-11			PLANS APPROVAL DATE		
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



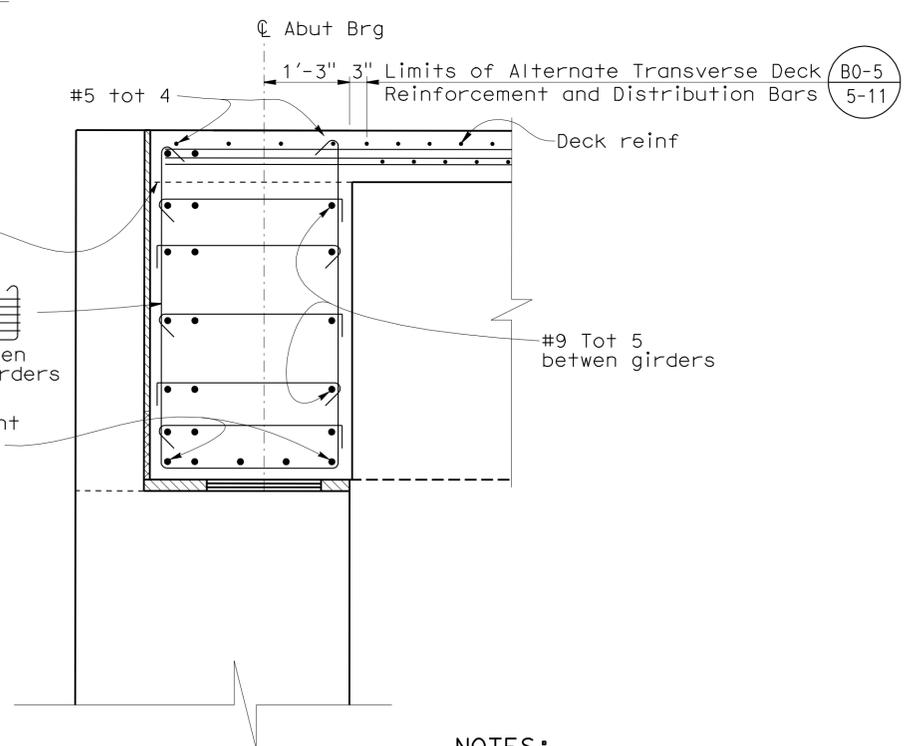
PART PLAN
3/4" = 1'-0"



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



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



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

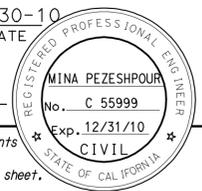
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

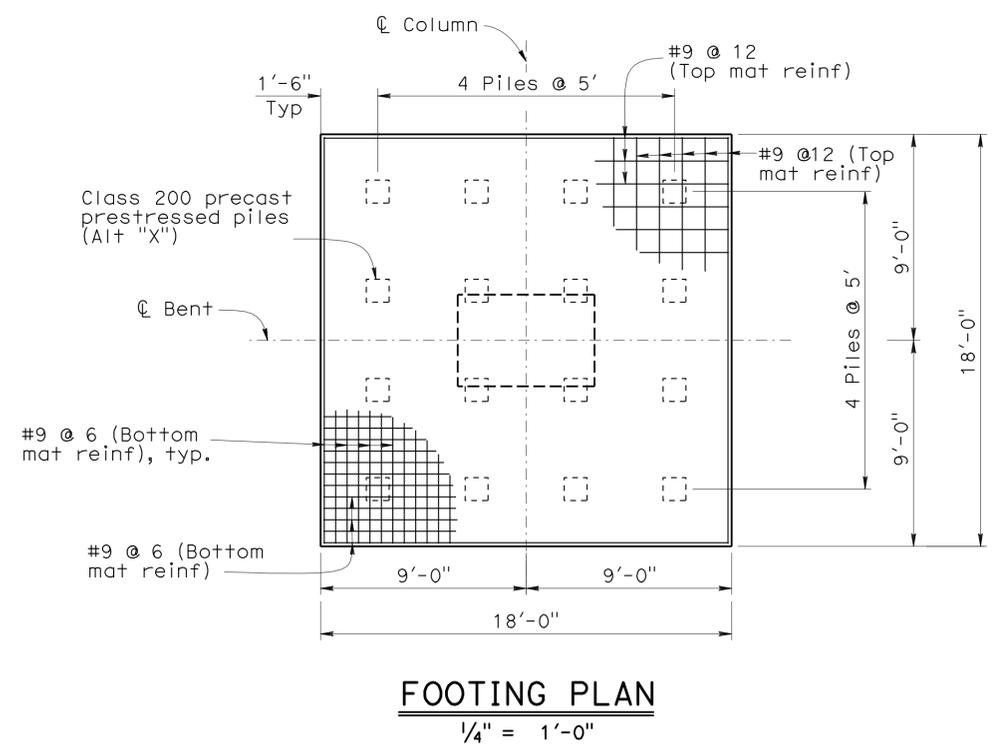
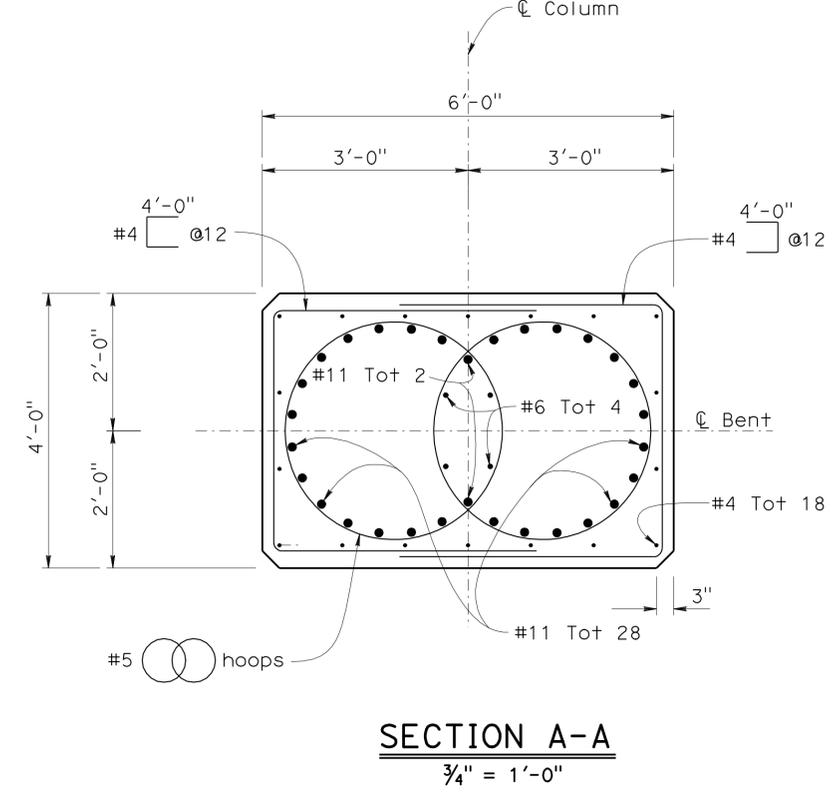
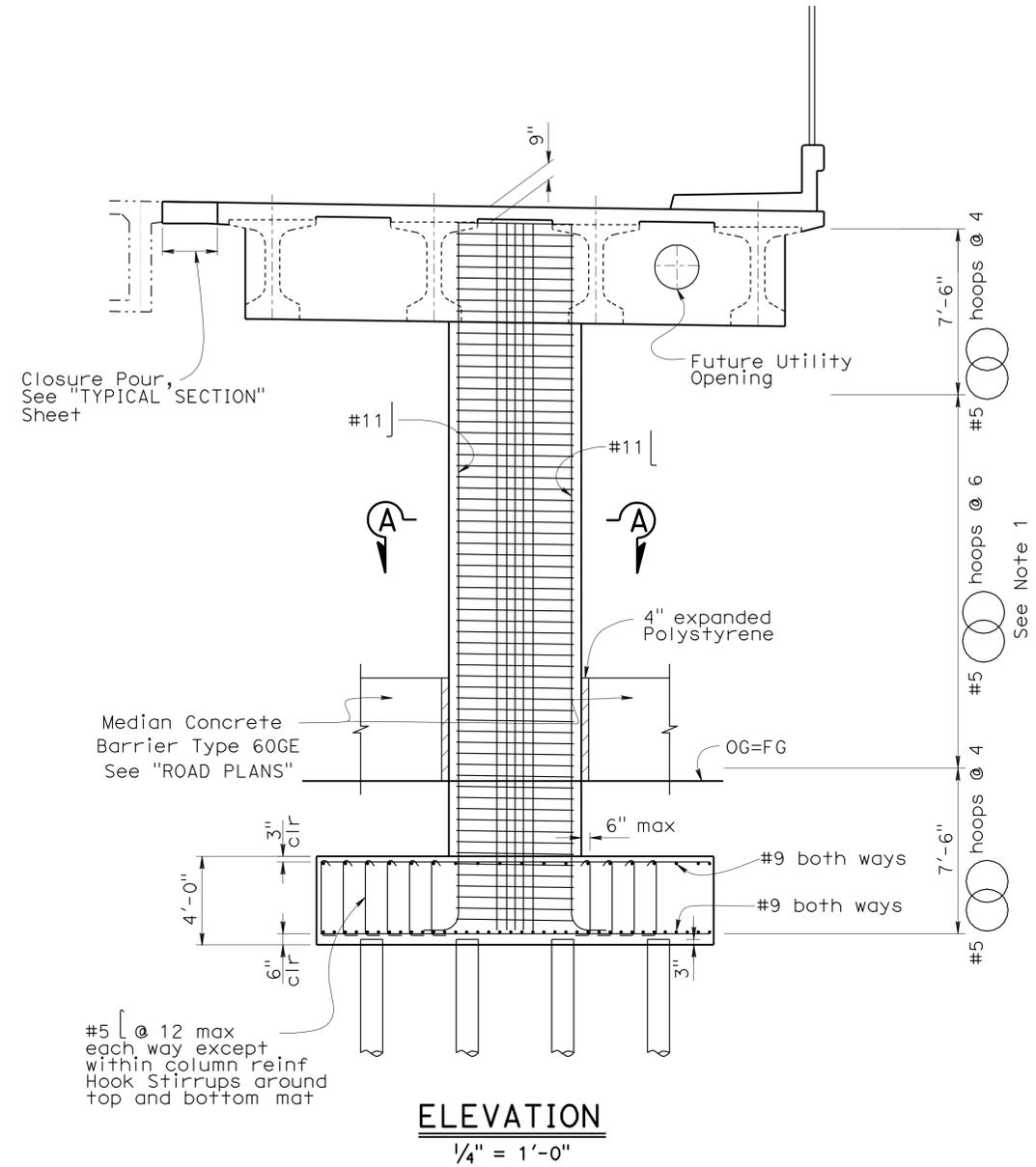
- NOTES:**
1. Stirrups at PS anchorage blockout may be adjusted for Prestressing.
 2. The contractor shall provide adequate anchorage zone reinforcement for the required PS force.

DESIGN BY: K. Vo/Mina Pezeshpour CHECKED: Carl Duan DETAILS BY: T. Nguyen/JV/A. Ong CHECKED: Mina Pezeshpour QUANTITIES BY: Mina Pezeshpour CHECKED: Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO. 55-0224	CAMINO DE ESTRELLA OC (WIDEN) ABUTMENT DETAILS NO. 2
			POST MILE 5.8	
			DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 12/18/09, 12/21/09, 2-2-10, 2-3-10, 3-2-10, 5-3-10	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3	CU 12220 EA 0F0601	SHEET 7 OF 23		

USERNAME => hmlkesl DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	139	154


 04-30-10
 REGISTERED CIVIL ENGINEER DATE
 2-14-11
 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.

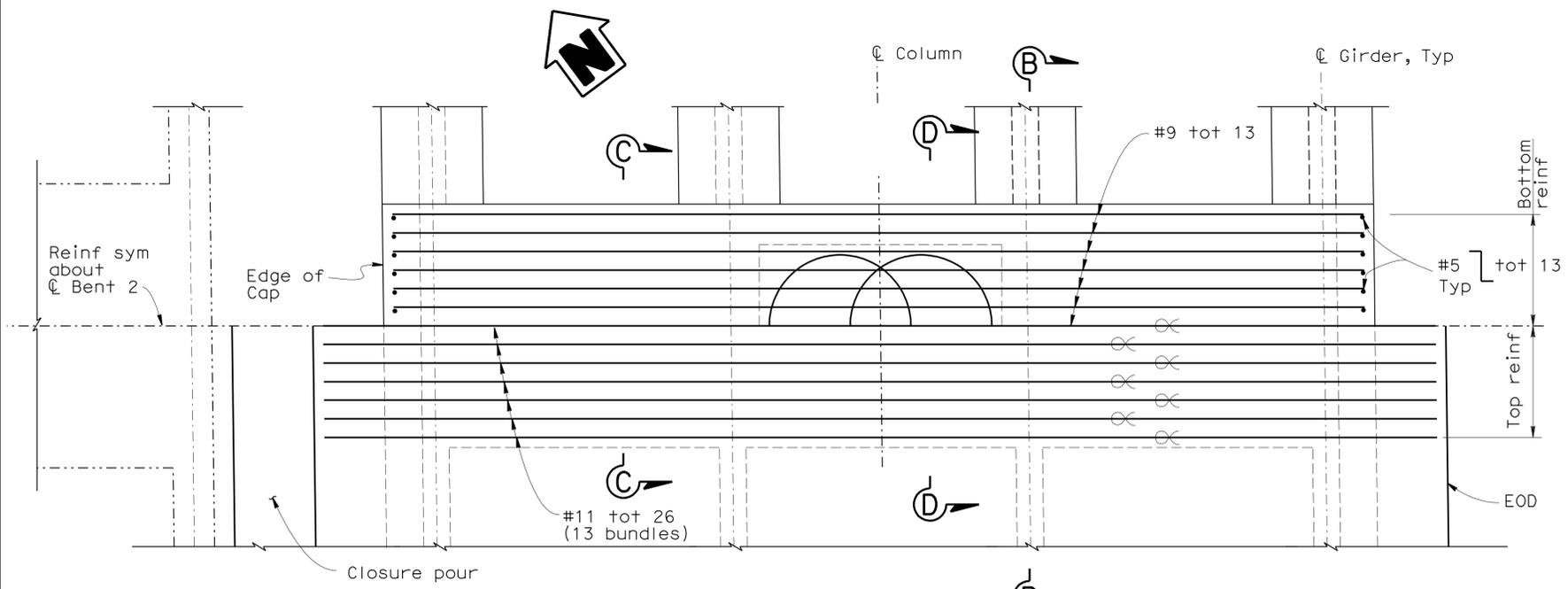


- NOTES:**
- No splices in main longitudinal column reinforcement.
 - All hoops are ultimate butt spliced continuous.
 - Adjust bent cap reinforcement to clear prestressing ducts.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY K. Vo/Mina Pezeshpour	CHECKED Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO.	55-0224	CAMINO DE ESTRELLA OC (WIDEN) BENT DETAILS NO. 1
	DETAILS	BY T. Nguyen/H.B./A. Ong	CHECKED Mina Pezeshpour			POST MILE	5.8	
	QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan			REVISION DATES	04/08/09 8/12/09 9/16/09 09/16/09 12/02/09 12/08/09 1-27-10 2-9-10 4-7-10	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				CU 12220 EA OF 0601	DISREGARD PRINTS BEARING EARLIER REVISION DATES		SHEET 8	OF 23

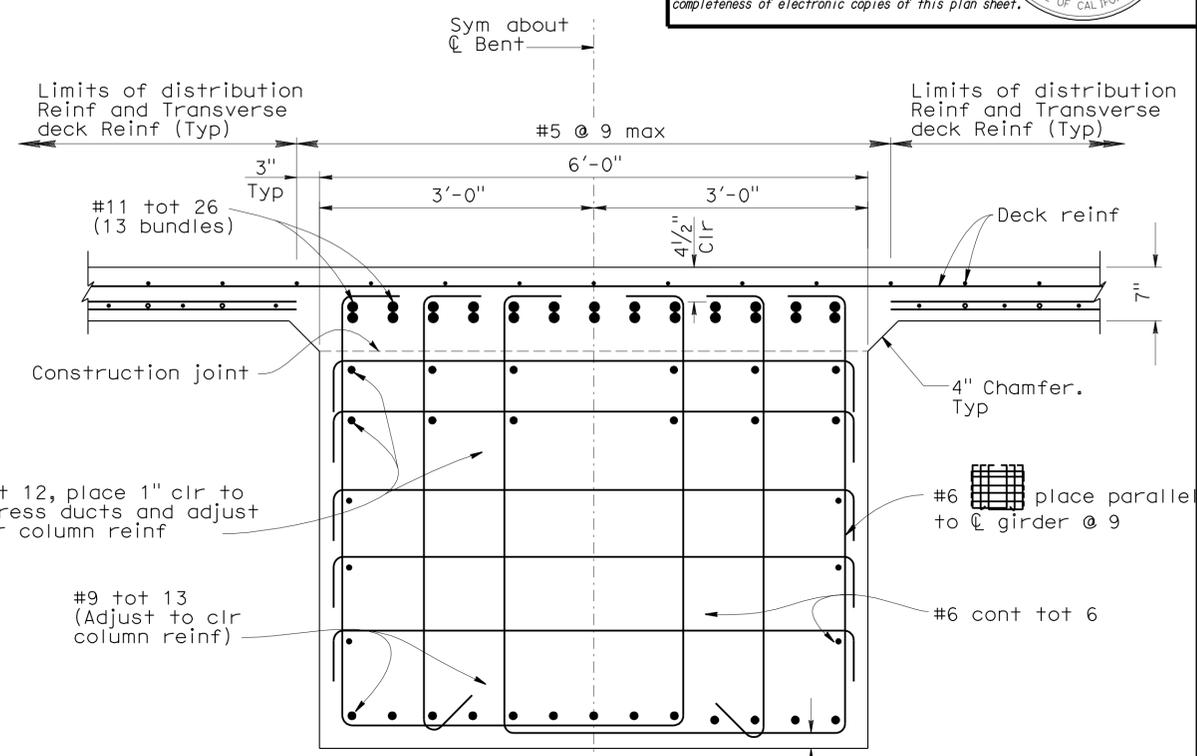
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	140	154

REGISTERED CIVIL ENGINEER DATE 04-30-10
 2-14-11
 PLANS APPROVAL DATE
 MINA PEZESHPOUR
 No. C 55999
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

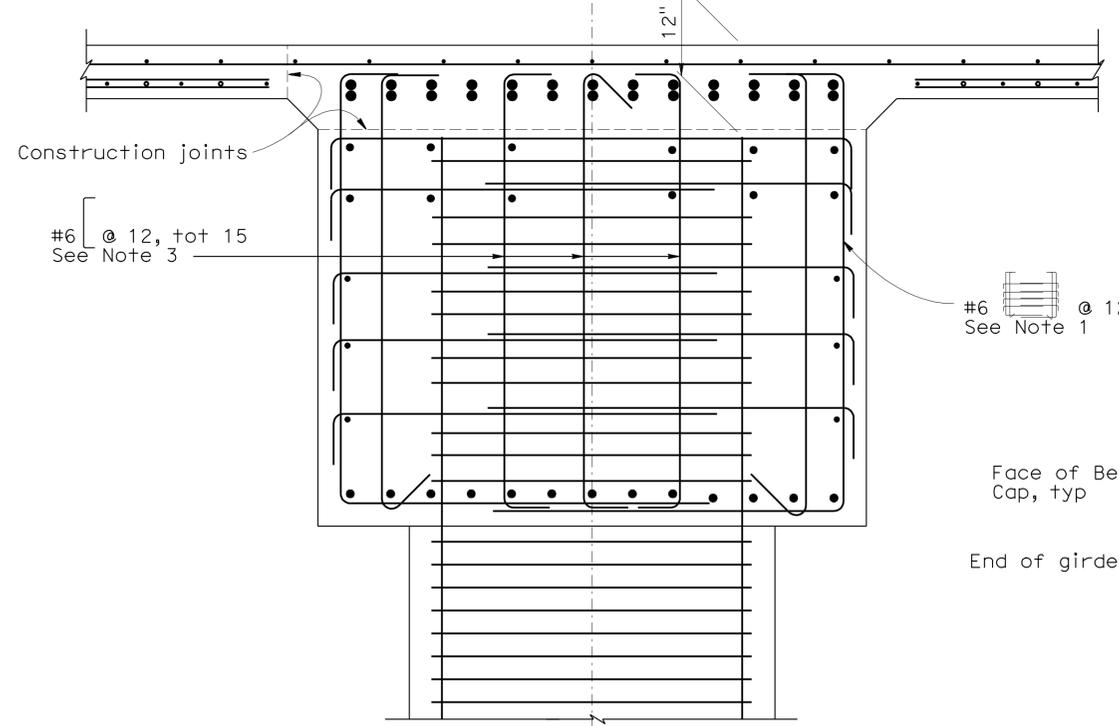


PARTIAL PLAN
1/2" = 1'-0"

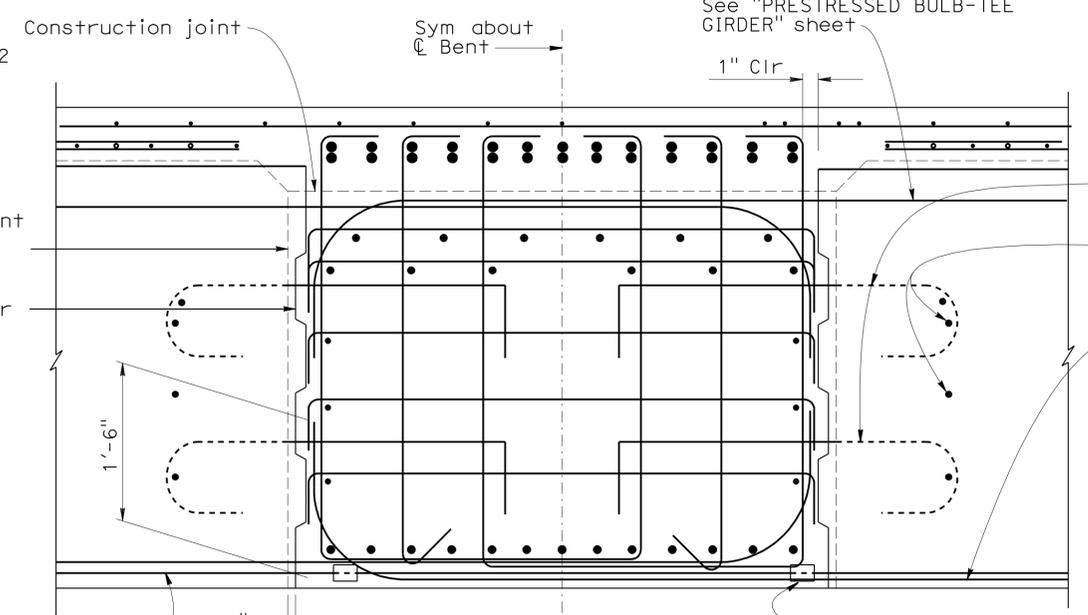
LEGEND
 ----- Indicates existing Structures.



SECTION C-C
1" = 1'-0"



SECTION D-D
1" = 1'-0"



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

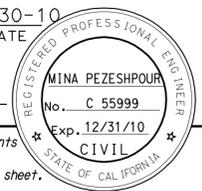
NOTE:
 THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

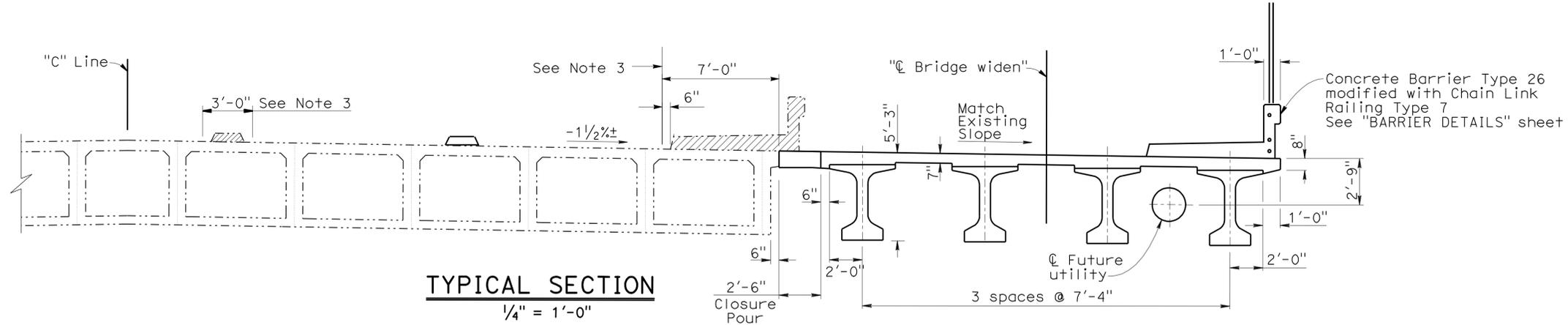
- NOTES:**
- For reinf not shown, see "SECTION C-C"
 - For additional reinforcement, see Closure Pour on "TYPICAL SECTION" sheet.
 - Reinforcement shall be placed symmetrical along $\text{\textcircled{C}}$ column.

LEGEND:
 ⊗ Indicates bundle bars.

DESIGN	BY Carl Duan	CHECKED Mina Pezeshpour	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO.	55-0224	CAMINO DE ESTRELLA OC (WIDEN) BENT DETAILS NO. 2
DETAILS	BY Lan T Tran/A. Ong	CHECKED Mina Pezeshpour			POST MILE	5.8	
QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan					

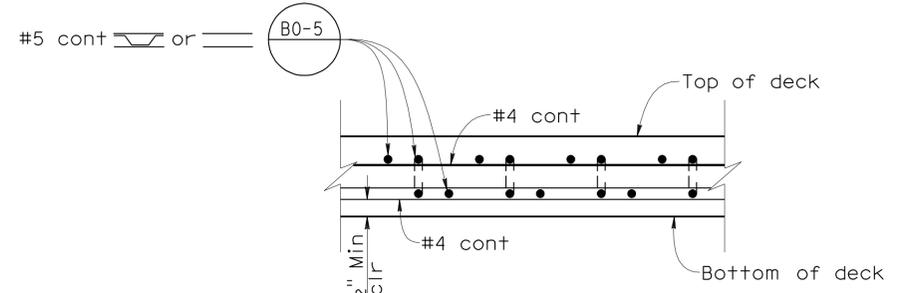
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS
 CU 12220 EA OF 0601
 DISREGARD PRINTS BEARING EARLIER REVISION DATES
 REVISION DATES: 11/02/09, 12/01/09, 12/28/09, 2-2-10, 2-9-10, 5-4-10
 SHEET 9 OF 23
 USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:47
 FILE => 09-55-0224wd-h-bent-dt02.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	141	154
 REGISTERED CIVIL ENGINEER DATE 04-30-10					
PLANS APPROVAL DATE 2-14-11 <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>					



TYPICAL SECTION
1/4" = 1'-0"

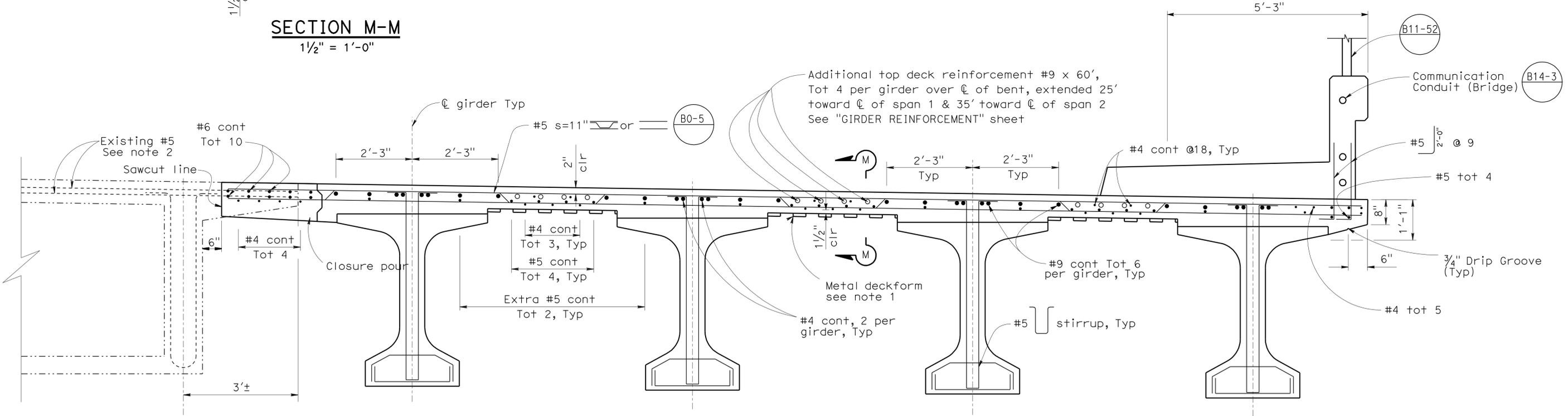
- NOTES:**
- Permanent metal deck forms are required for deck construction except at overhang. Contractor shall provide design calculations and support details to the Engineer for approval prior to construction.
 - Existing reinforcement to be protected in place in overhang removal.
 - Limits of remove concrete deck surface (+ = 3/4") Prepare concrete bridge deck surface and place Polyester Concrete Overlay (+ = 3/4")



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

LEGEND

-  Indicates concrete removal
-  Indicates existing structure



PART TYPICAL SECTION
3/4" = 1'-0"

DESIGN	BY K. Vo/Mina Pezeshpour	CHECKED Carl Duan
DETAILS	BY T. Nguyen/H. Barbhaiya	CHECKED Mina Pezeshpour
QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

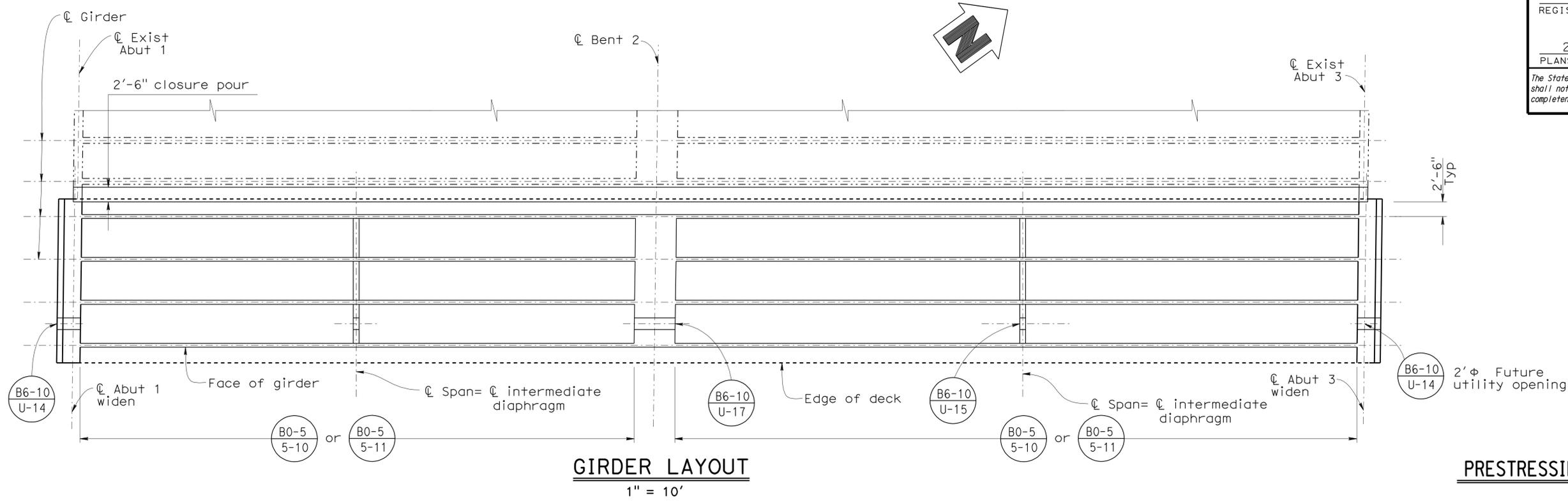
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH **21**

BRIDGE NO.	55-0224
POST MILE	5.8

CAMINO DE ESTRELLA OC (WIDEN)
TYPICAL SECTION

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Oran	5	5.6/6.6	142	154

REGISTERED CIVIL ENGINEER DATE 04-30-10
 REGISTERED CIVIL ENGINEER MINA PEZESHPOUR No. C 55999 Exp. 12/31/10 CIVIL STATE OF CALIFORNIA
 PLANS APPROVAL DATE 2-14-11
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GIRDER LAYOUT
1" = 10'

PRESTRESSING NOTES (POST TENSION ONLY)

270 ksi Low Relaxation Strands:

Pjack (Stage 1) = 400 kips per Girder

Pjack (Stage 2) = 1180 kips per Girder

Anchor Set = 3/8 in

Total Number of Girders = 4

Friction curvature coefficient $\mu = 15 \times 10^{-2} (1/\text{rad})$

Friction wobble coefficient $K = 2 \times 10^{-4} (1/\text{ft})$

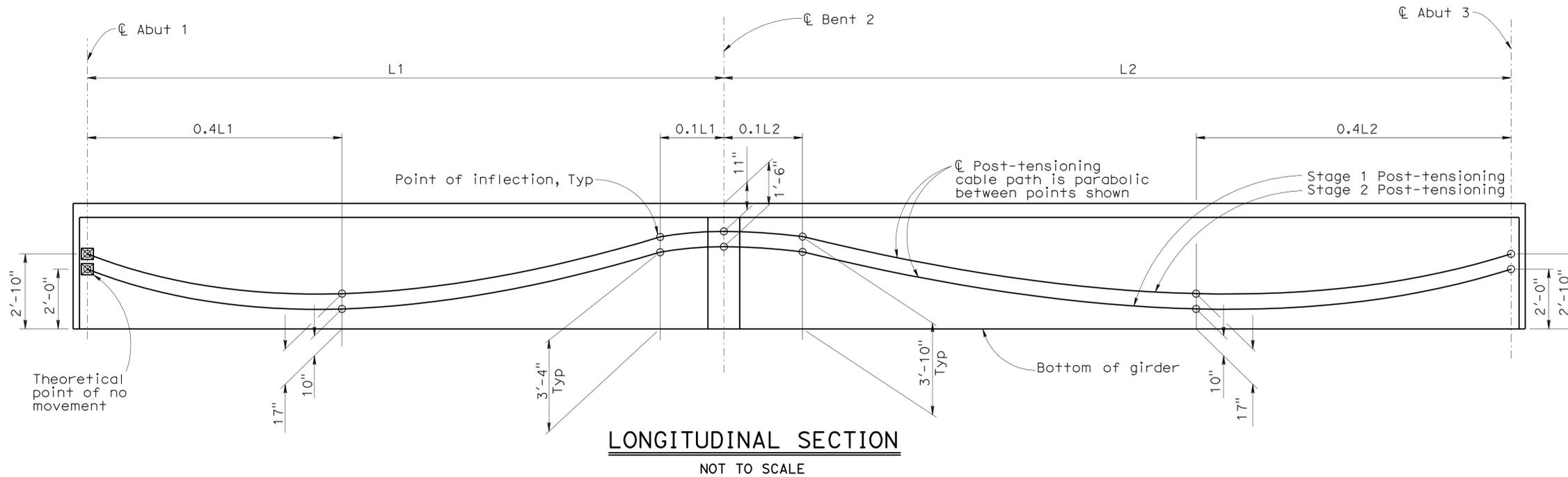
Distribution of prestress force (Pjack) between girders shall not exceed the ratio of 3:2.

Maximum final force variation between girders shall not exceed 725 kips.

Concrete: $f'_c = 5000 \text{ psi @ 28 days}$
(Stage 1 & 2 Post-Tension) $f'_{ci} = 4500 \text{ psi @ time of stressing}$

Contractor shall submit elongation calculations based on initial stress at $\square = 0.89$ times jacking stress

One end stressing shall be performed, from Abut No. 3



LONGITUDINAL SECTION
NOT TO SCALE

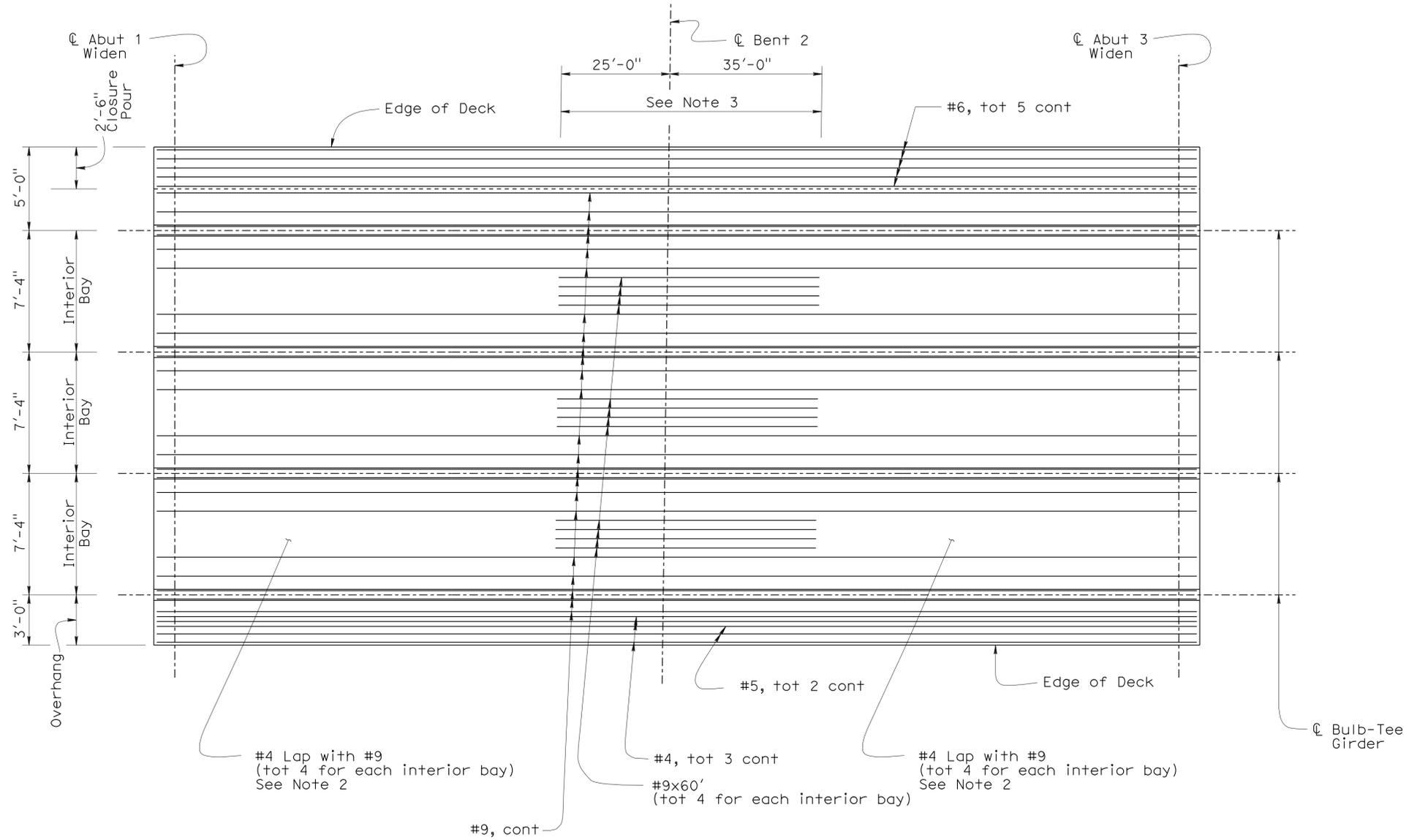
DESIGN BY K. Vo/Mina Pezeshpour DETAILS BY Hector Iniguez/ Hemant QUANTITIES BY Mina Pezeshpour	CHECKED Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO. 55-0224	CAMINO DE ESTRELLA OC (WIDEN) GIRDER LAYOUT
	CHECKED Mina Pezeshpour			POST MILE 5.8	
	CHECKED Carl Duan			SHEET 11 OF 23	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 12 220 EA 0F0601 DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES 7-9-10 09-16-09 11-19-09 12-07-09 12-08-09 12-16-09 12-17-09 1-27-10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	143	154

REGISTERED CIVIL ENGINEER DATE: 04-30-10
 PLANS APPROVAL DATE: 2-14-11
 REGISTERED PROFESSIONAL ENGINEER: MINA PEZESHPOUR
 No. C 55999
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

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NOTES:

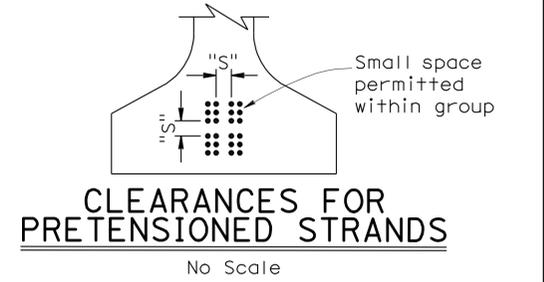
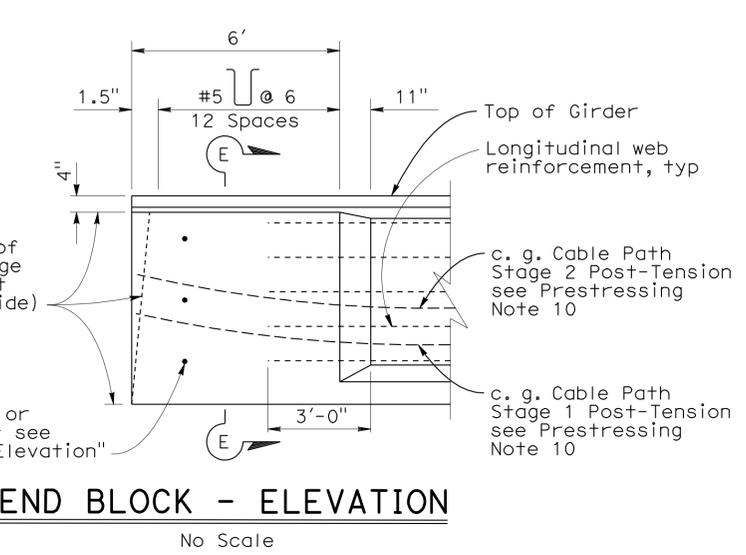
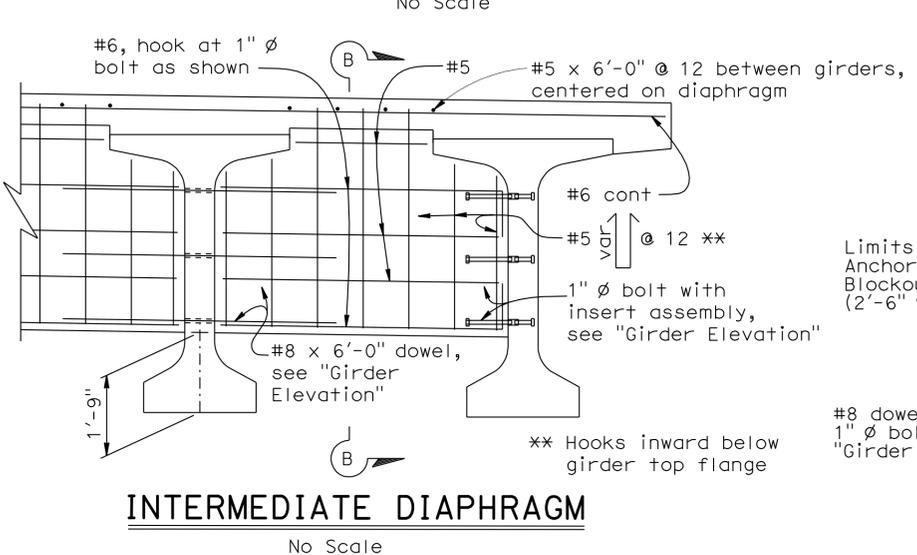
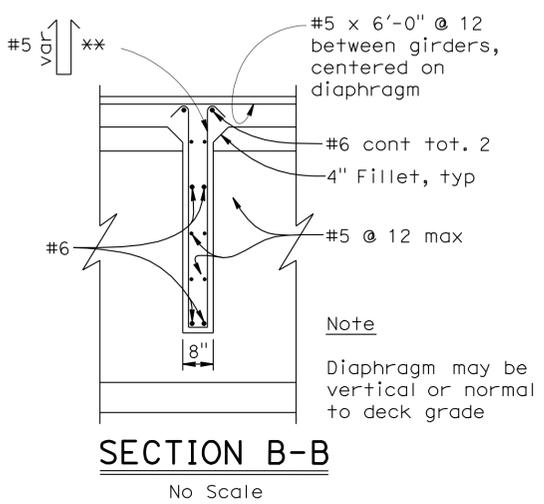
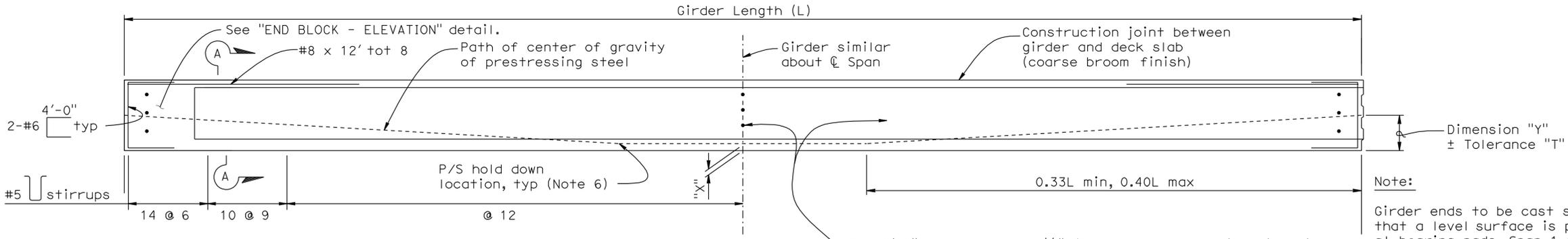
- ① FOR ADDITIONAL REINFORCEMENT AND DETAILS, SEE "TYPICAL SECTION" SHEET.
- ② FOR CLARITY NOT ALL #4 REINFORCEMENT ARE SHOWN.
- ③ NO LAP SPLICES ALLOWED IN THIS ZONE FOR TOP MAIN LONGITUDINAL REINFORCEMENT.

TOP DECK LONGITUDINAL REINFORCEMENT
NOT TO SCALE

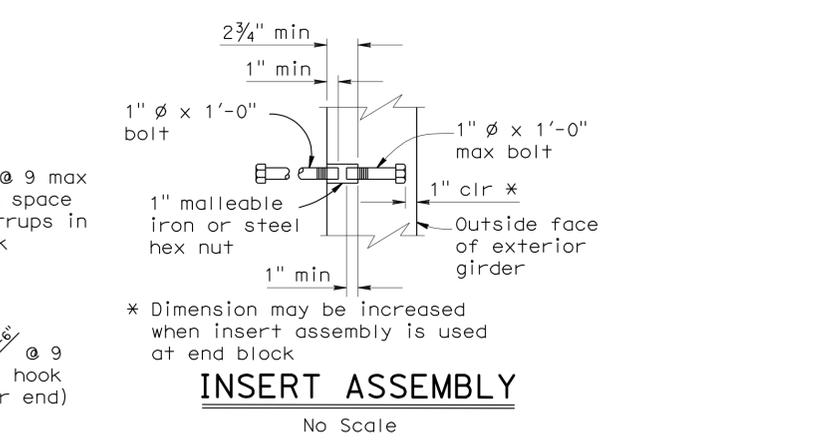
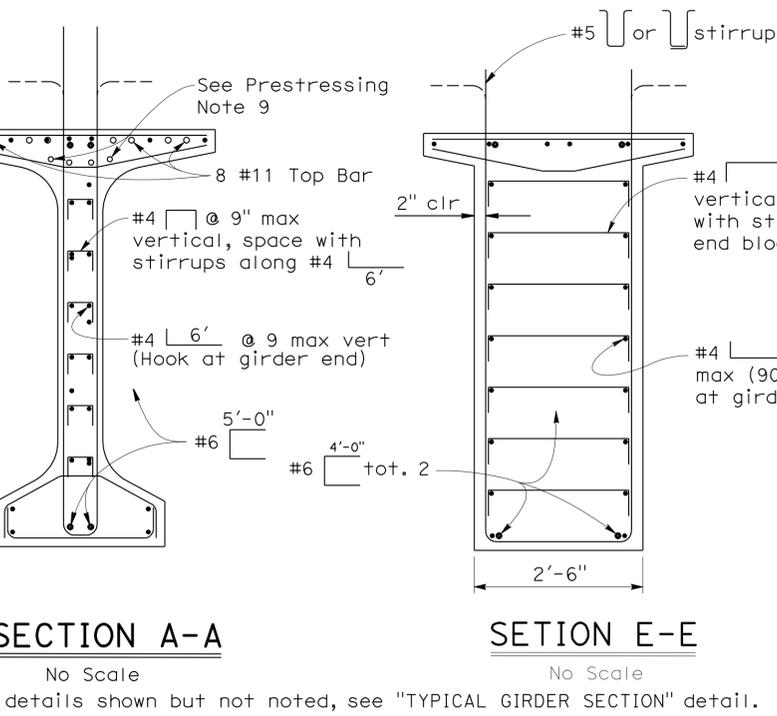
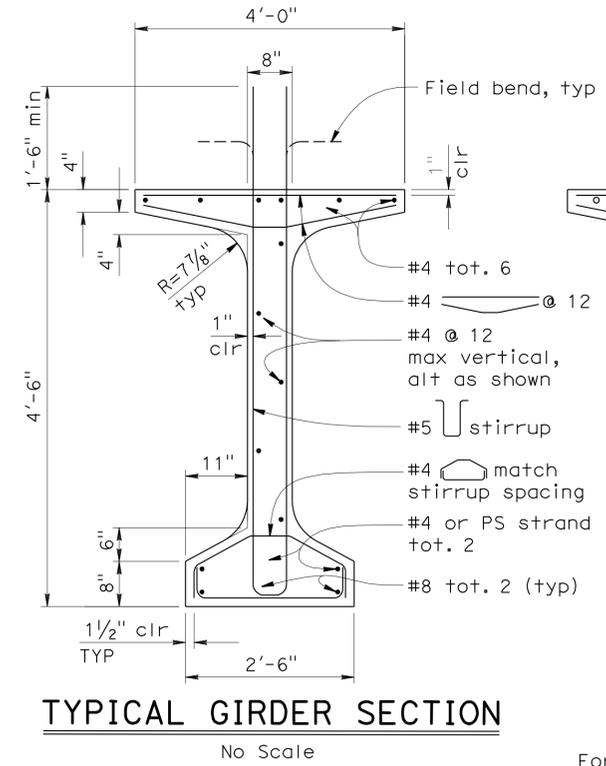
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY Mina Pezeshpour	CHECKED Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO.	55-0224	CAMINO DE ESTRELLA OC (WIDEN) GIRDER REINFORCEMENT
	DETAILS	BY Antonette L. Ong	CHECKED Mina Pezeshpour			POST MILE	5.8	
	QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan			REVISION DATES		
			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 12220 EA 0F0601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	12/09/09 12/16/09 1-21-10	SHEET 12 OF 23

FILE => 12-55-0224wd-o-gr_top01.dgn

USERNAME => hmgp11n DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:58



- PRESTRESSING NOTES:**
- Jacking Force (P) is the jacking force required at the point of control along the span. The jacking force does not include any fabrication specific losses.
 - The maximum tensile stress in the prestressing steel upon release shall not exceed 75 percent of the specified minimum ultimate tensile strength of the prestressing steel.
 - The maximum temporary tensile stress (jacking stress) in the prestressing steel shall not exceed 80 percent of the specified minimum ultimate tensile strength of the prestressing steel.
 - Concrete strength:
f'ci is at time of initial stressing.
f'c is at 28 days.
 - Deflection components are informational and will be used to set screed line elevations.
 - Screed line elevations for deck concrete will be determined by the Engineer.
 - Prestressing strand shall be 270 ksi low relaxation.
 - Minimum 8 strands shall be extended into bent cap. See "BENT DETAILS NO.2" sheet.
 - Total 4 continuous strands at top of the girder.
 - The Contractor shall coordinate cable end slope between post-tensioning and pre-tension sub contract.

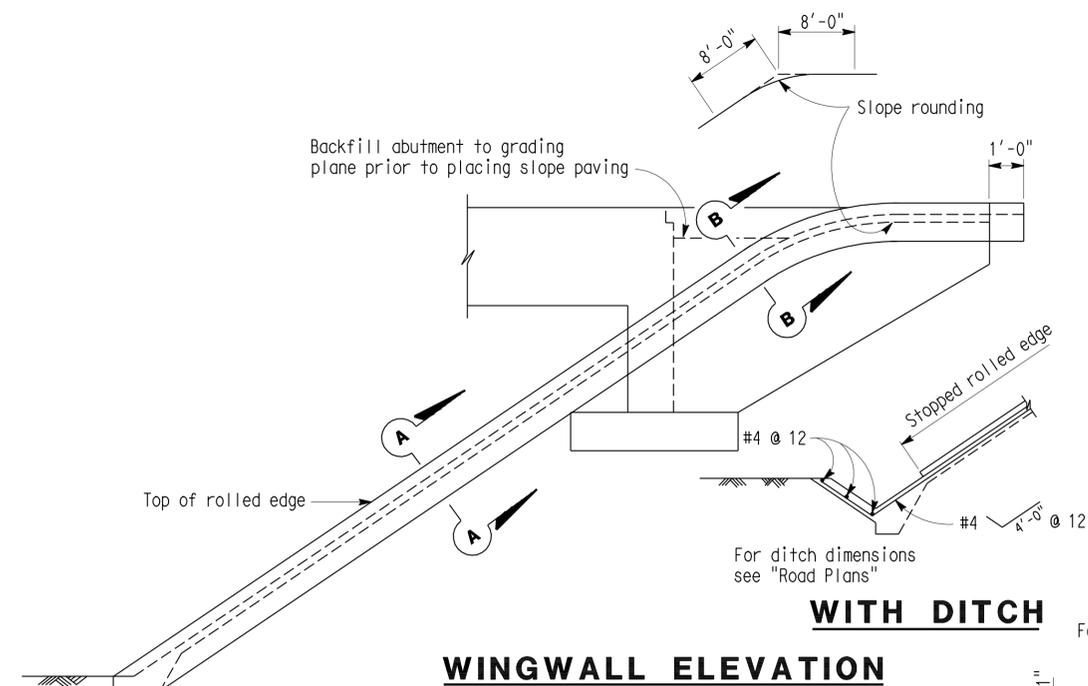


Location	Girder Length	"X" (in)	Jacking Force (P) (kips)	"Y" (in)	"T" (in)	Concrete Strength (ksi)		Midspan Dead Load Deflection (in)	
						f'ci	f'c	Deck	Rail
Girder A Span 1	97'-4"	5	820	27	6	5.5	7	0.25	0.14
Girder B Span 2	119'-4"	5	1200	27	6	5.5	7	0.95	0.54

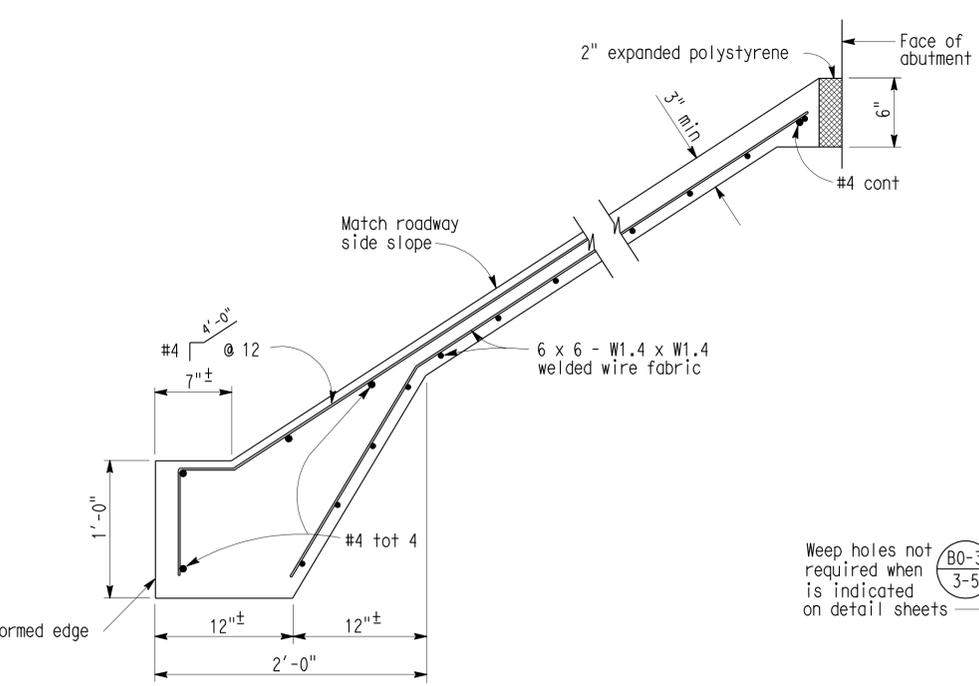
- NOTES:**
- Strands may be bundled in groups consisting of 3 vertically, 2 horizontally, and separated at the ends.
 - The minimum distance "S" between groups or individual strands is 1 3/4" for 0.5" ø strand and 2" for 0.6" ø strand.
 - "S" is measured between centers of adjacent strands.
 - Approval by Engineer is required for deviation.

DIST	COUNTY	ROUTE	KILOMETER TOTAL PROJECT	POST MILE	SHEET NO	TOTAL SHEETS
12	Ora	5	5.6/6.6		145	154

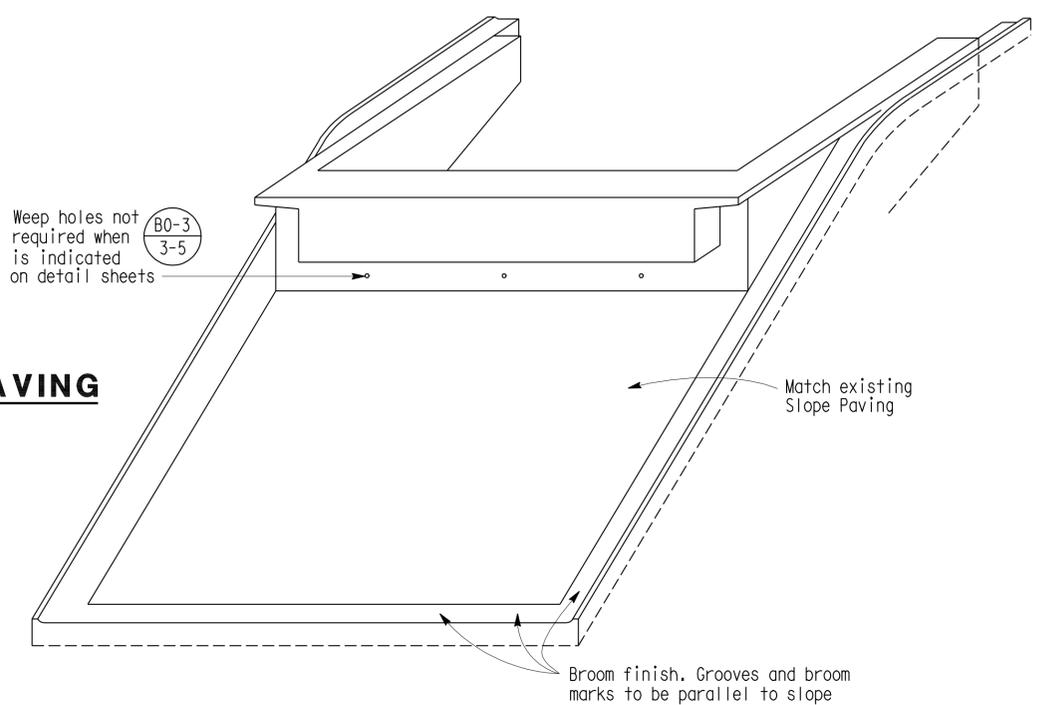
REGISTERED CIVIL ENGINEER DATE 04-30-10
 MINA PEZESHPOUR
 No. C55999
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA



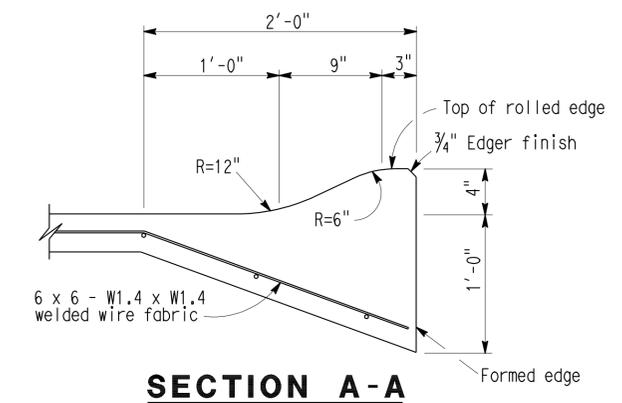
WINGWALL ELEVATION



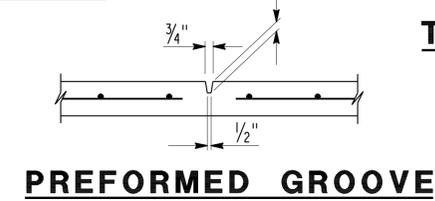
TYPICAL SECTION - CONCRETE PAVING



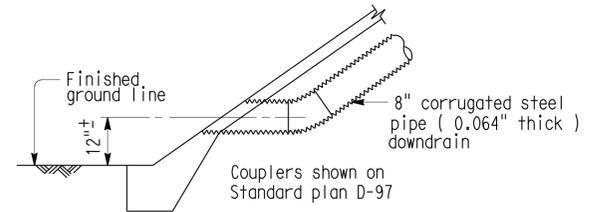
PICTORIAL VIEW OF TYPICAL INSTALLATION



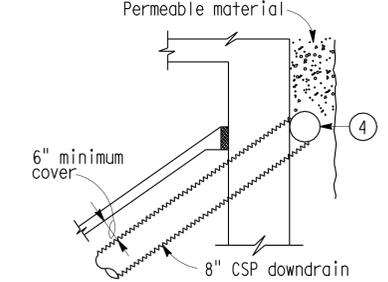
SECTION A-A



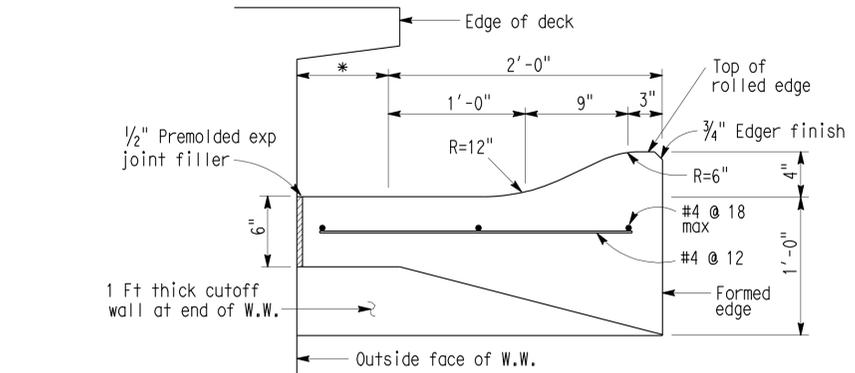
PREFORMED GROOVE



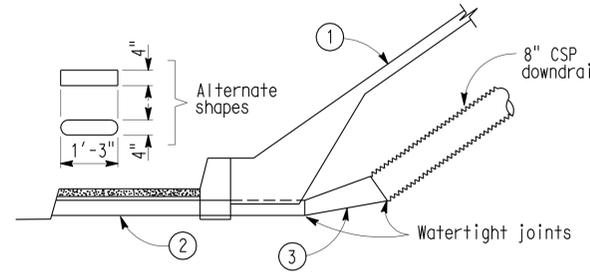
TYPICAL - NO CURB



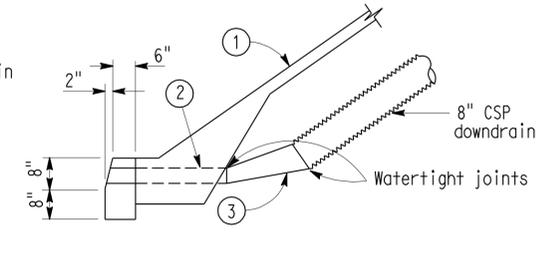
TYPICAL - DRAIN CONNECTION



SECTION B-B



TYPICAL - WITH SIDEWALK



TYPICAL - WITH CURB

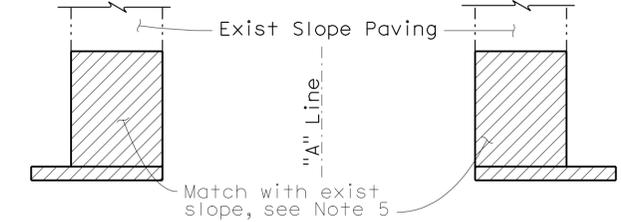
DRAINAGE DETAILS

Note: Drainage details are only applicable when is indicated on detail sheets.

(BO-3/3-5)

LEGEND:

Denotes limits of slope paving.



LIMITS OF SLOPE PAVING

NOTES:

- ① Match existing side slope, or as directed by Engineer.
- ② Conduit: 0.064" galv corrugated steel or 0.109" smooth galv steel
- ③ Taper: { 0.064" galv corrugated steel or 0.109" smooth galv steel
- ④ 8" perforated steel pipe (0.064" thick) underdrain behind abutment. Connect to down drain as shown on limits of Slope Paving & Drainage layout.
- ⑤ See "ROAD PLANS" for Contour Grading.

* This dimension becomes zero when edge of deck is at outside face of W.W.

STANDARD DRAWING				
RELEASE DATE	DESIGN BY	BY	CHECKED	RELEASED BY
	Mina Pezeshpour	D. Wooten	Carl Duan	Tom Ostrom
FILE NO. xs4-210	DETAILS BY	SUBMITTED BY	CHECKED	OFFICE CHIEF
	D. Wooten	Dan Adams	Mina Pezeshpour	Tom Ostrom
			DRAWING DATE	
			6/07	

① Added Detail, Legend and Note 5.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

BRIDGE NO. 55-0224
POST MILE 5.8

CAMINO DE ESTRELLA OC (WIDEN)
SLOPE PAVING - FULL SLOPE

DS OSD 2147A (CADD) (REV. 4/07)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

CU 12220
EA 0F0601

DISREGARD PRINTS BEARING EARLIER REVISION DATES

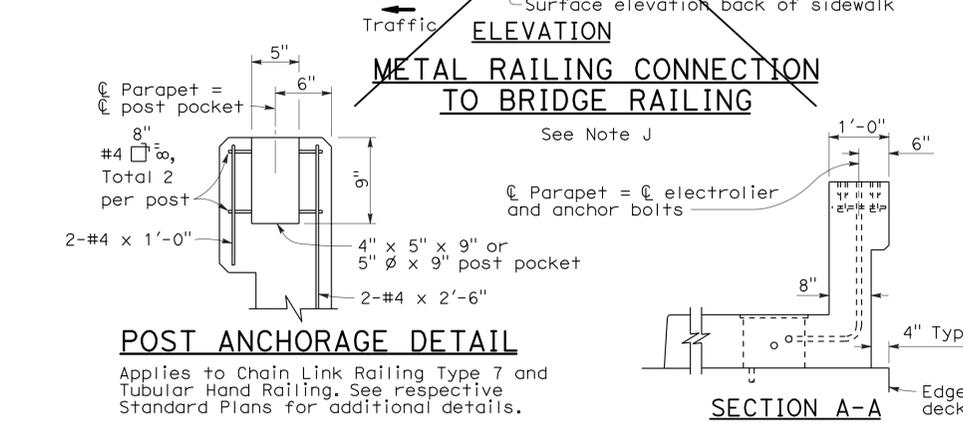
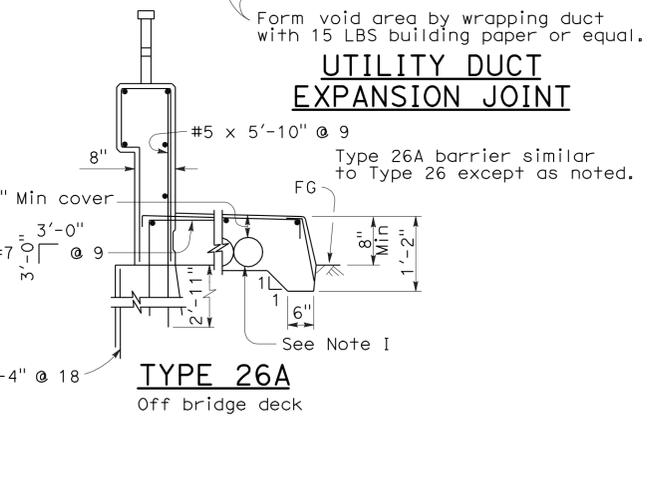
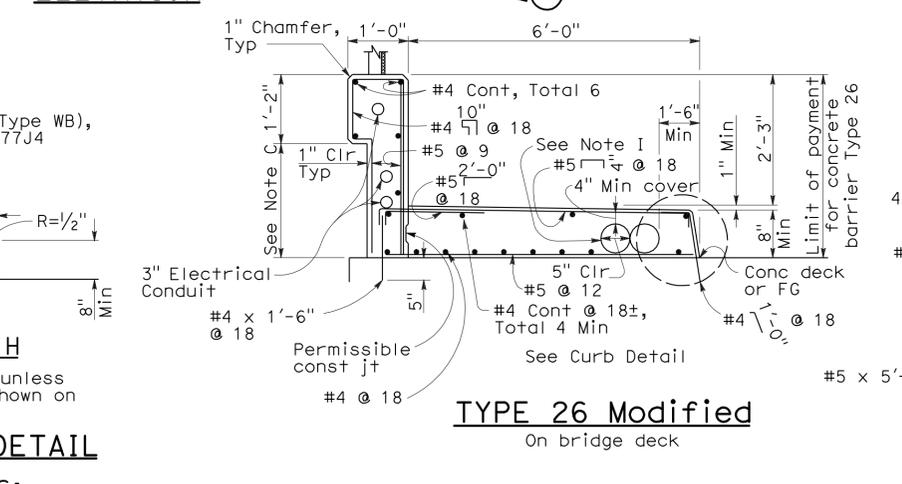
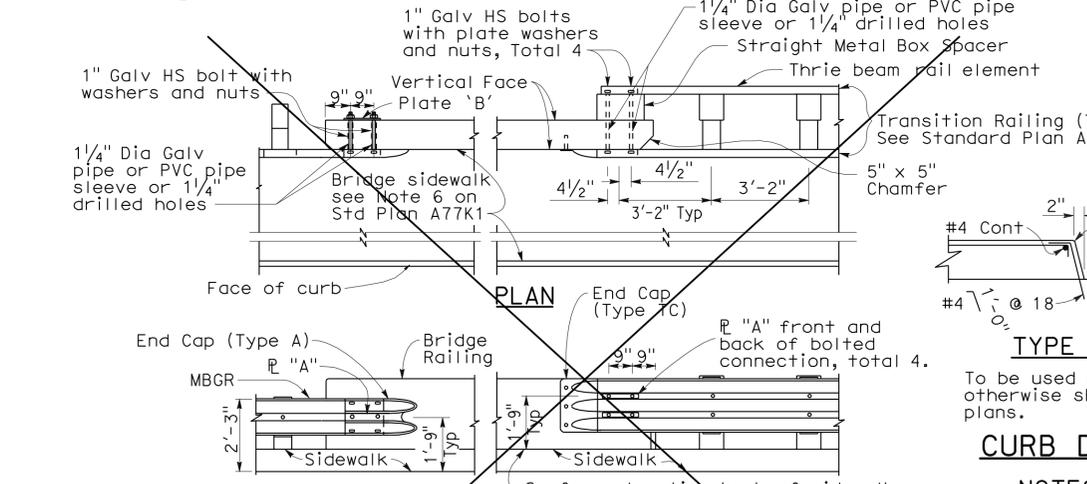
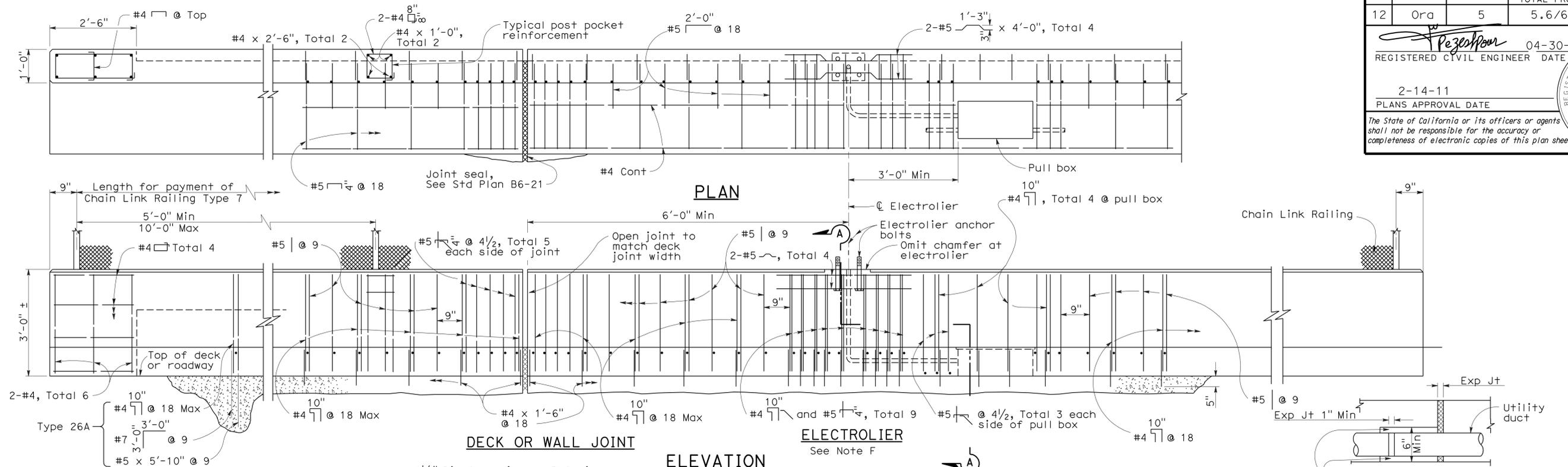
REVISION DATES						
04/24/09	8/18/09	09/16/09	11/18/09	12/08/09	1-27-10	4-7-10

SHEET 14 OF 23

14-55-0224wd-t-sp-dt_01.dgn

USERNAME => trmartin

DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 3:08:59



NOTES:

- For Chain Link Railing notes and details not shown, see Standard Plan B11-52.
- For Hand Railing notes and details not shown, see Standard Plan B11-51.
- Dimensions will vary with cross slope and with certain thicknesses of surfacing. See Project Plans.
- Walls are to be backfilled before railing is placed.
- Clearance to reinforcing steel in curb and railing to be 1" except as noted. Longitudinal reinforcement to stop at all expansion joints.
- See Project Plans for electrolier locations and pull box type.
- See Project Plans for limits of Chain Link Railing Type 7 and/or Tubular Hand Railing.
- For electrical details, see Standard Plans ES-9A, 9B, 9C, 9D, and 9E.

- A minimum of two - 5" round openings are required for future utilities in addition to those on other plan sheets. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down.
- For typical metal railing connection details not shown, see Standard Plan A77K1 and A77K2.
- This barrier is to be used only for speeds of 45 MPH or less. For speeds greater than 45 MPH, pedestrians should be protected by a separation traffic barrier.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE BARRIER TYPE 26 MODIFIED
NO SCALE

DESIGN	BY K. Vo/Mina Pezeshpour	CHECKED Carl Duan	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO.	CAMINO DE ESTRELLA OC (WIDEN) BARRIER DETAILS
DETAILS	BY H. Iniguez/A. Ong	CHECKED Mina Pezeshpour			55-0224	
QUANTITIES	BY Mina Pezeshpour	CHECKED Carl Duan			POST MILE 5.8	

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 12220 EA OF 0601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 15 OF 23
--	--	---------	------------------------	---	----------------	----------------

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	147	154

12-2-09
 PROFESSIONAL ENGINEER
 2-14-11
 PLANS APPROVAL DATE

REG. NO. GE2674
 No. GE2674
 Exp. 9-30-10

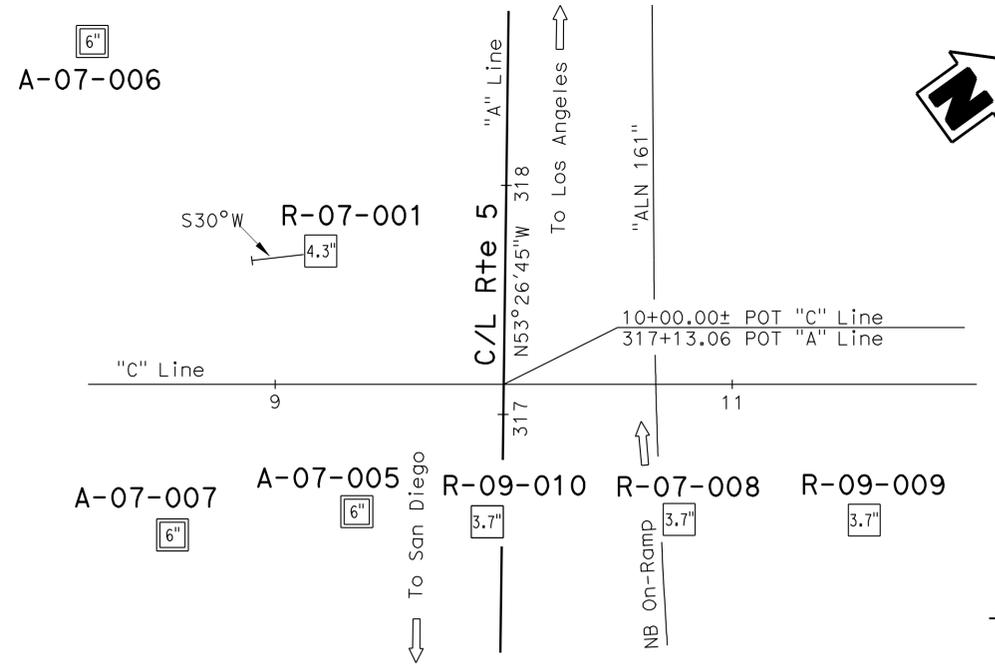
PROFESSIONAL ENGINEER
 Deepa Wathugala
 STATE OF CALIFORNIA
 GEOTECHNICAL

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.

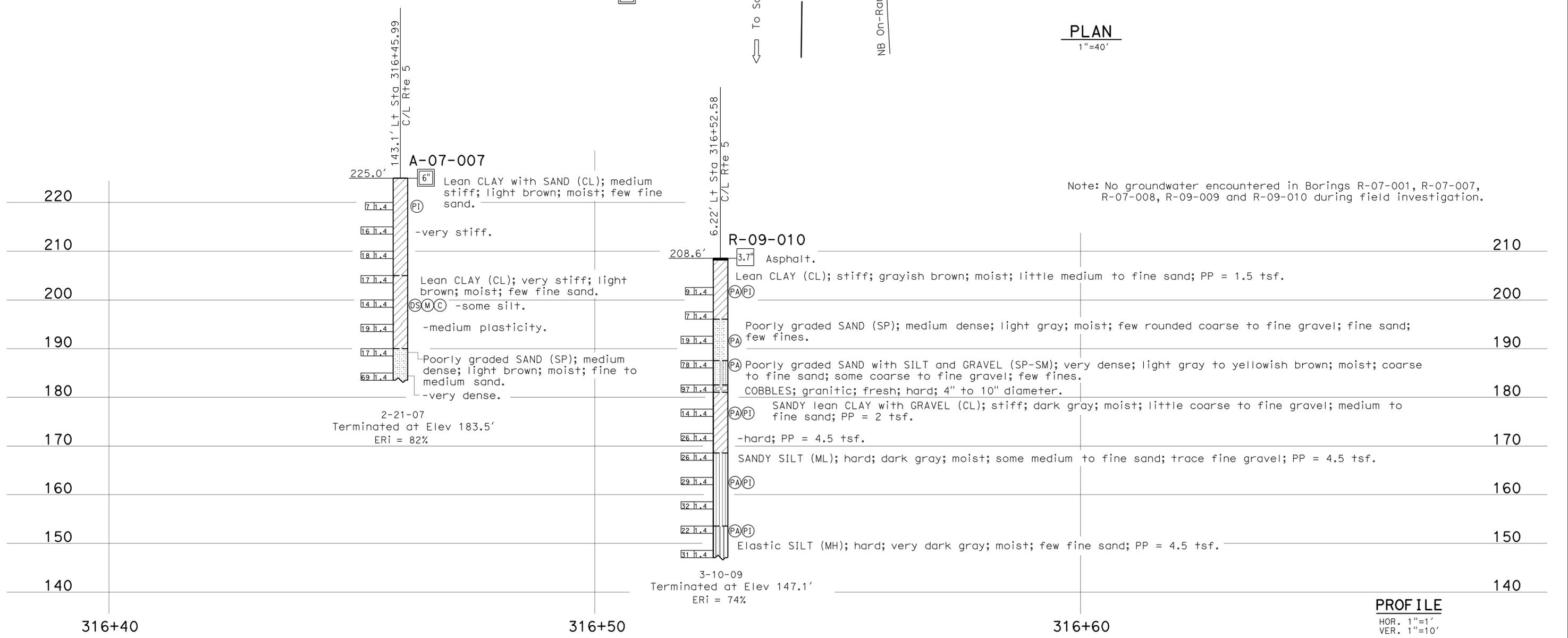
BENCH MARK

DESCRIBED BY OCS 2003 - FOUND 3 3/4" OCS ALUMINUM BENCHMARK DISK STAMPED "3SS-2-82", SET IN THE SOUTHEASTERLY CORNER OF A 4 FT. BY 4.5 FT. CONCRETE CATCH BASIN. MONUMENT IS LOCATED ALONG THE NORTHWESTERLY SIDE OF AVENIDA VAQUERO, 100 FT. NORTHERLY OF THE NORTHERLY EDGE OF THE SAN DIEGO FREEWAY OVERCROSSING OF AVENIDA VAQUERO, 23 FT. WESTERLY OF THE CENTERLINE OF VAQUERO AND 29.2 FT. SOUTHERLY OF A STREET STANDARD NO NUMBER. MONUMENT IS SET LEVEL WITH THE TOP OF THE CURB.

NAVD88 Elev 95.558'
 NGVD29 Elev 93.261'
 YEAR LEVELED 1991



PLAN
 1"=40'



Note: No groundwater encountered in Borings R-07-001, R-07-007, R-07-008, R-09-009 and R-09-010 during field investigation.

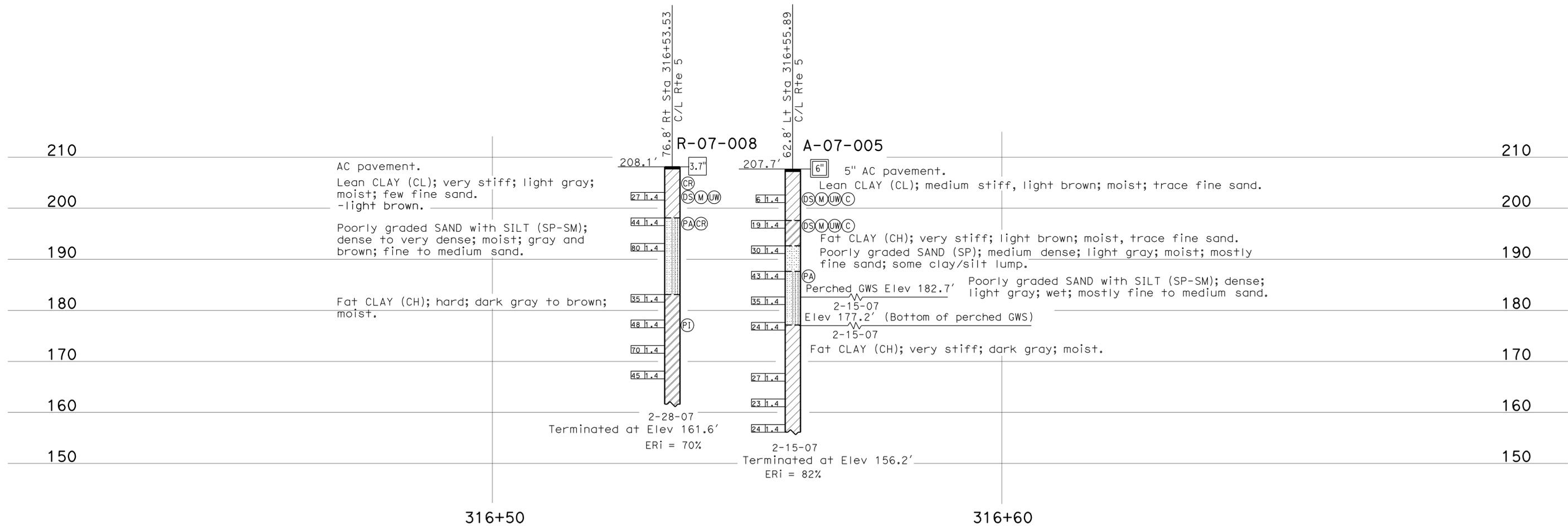
PROFILE
 HOR. 1"=1'
 VER. 1"=10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		CAMINO DE ESTRELLA OC (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 09/09		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		55-0224		LOG OF TEST BORINGS 1 OF 8	
NAME: C. Liu		CHECKED BY: F. Gerami		C. Lee/A. Tsegie		DESIGN BRANCH 21		POST MILES			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU EA		12220 0F0601		5.8		REVISION DATES	
										10-06-09 10-22-09 11-3-09 11-24-09 12-08-09 1-27-10	
										SHEET 16 OF 23	

USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	148	154
			12-2-09	PROFESSIONAL ENGINEER	
			2-14-11	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>					

FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 8"



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

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		CAMINO DE ESTRELLA OC (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 09/09		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		55-0224			
NAME: C. Liu		CHECKED BY: F. Gerami		C. Lee		DESIGN BRANCH 21		POST MILES			
065 CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 12220 EA 0F0601		5.8		REVISION DATES	
								DISREGARD PRINTS BEARING EARLIER REVISION DATES		17 23	

TIME PLOTTED => 08:52
USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	149	154

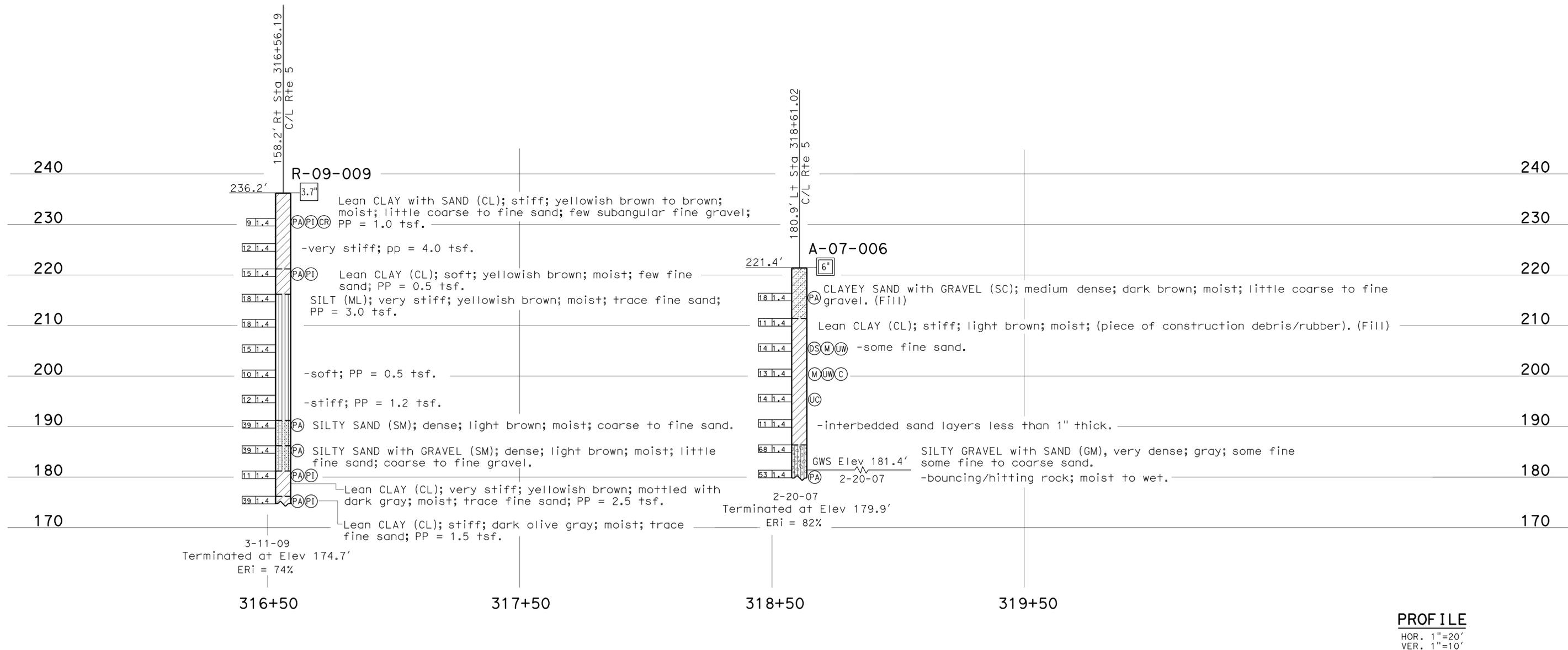
12-2-09
PROFESSIONAL ENGINEER

2-14-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Deepa Wathugala
No. GE2674
Exp. 9-30-10
STATE OF CALIFORNIA
GEO TECHNICAL

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 8"



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES		BRIDGE NO.		CAMINO DE ESTRELLA OC (WIDEN)	
FUNCTIONAL SUPERVISOR		DRAWN BY: W. Tang 09/09		DEPARTMENT OF TRANSPORTATION		STRUCTURE DESIGN		55-0224		LOG OF TEST BORINGS 3 OF 8	
NAME: C. Liu		CHECKED BY: F. Gerami		C. Lee/A. Tsegie		DESIGN BRANCH 21		POST MILES			
								5.8			
O&S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		CU 12220 EA 0F0601		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES	
								10-06-09 10-22-09 11-3-09 11-24-09 12-08-09 1-27-10		SHEET 18 OF 23	

USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:52

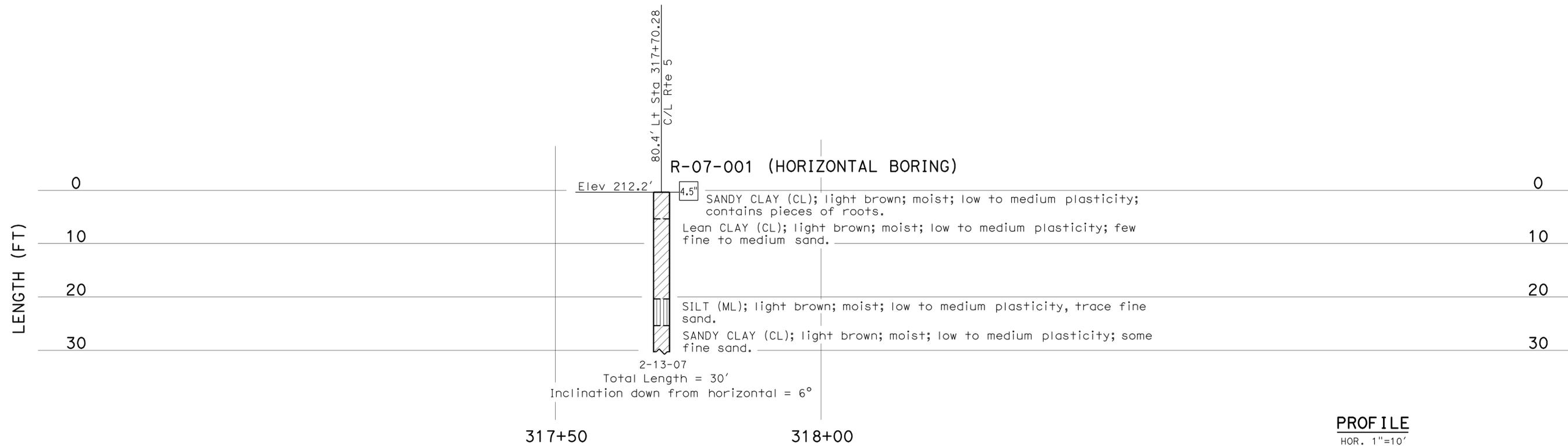
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	150	154

PROFESSIONAL ENGINEER *[Signature]* 12-2-09
 2-14-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Deepa Wathugala
 No. GE2674
 Exp. 9-30-10
 GEOTECHNICAL
 STATE OF CALIFORNIA

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FOR PLAN VIEW, SEE
"LOG OF TEST BORINGS 1 OF 8"



ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO. 55-0224	CAMINO DE ESTRELLA OC (WIDEN) LOG OF TEST BORINGS 4 OF 8
FUNCTIONAL SUPERVISOR NAME: C. Liu	DRAWN BY: W. Tang 09/09 CHECKED BY: F. Gerami	FIELD INVESTIGATION BY: C. Lee				POST MILES 5.8	
O&S CIVIL LOG OF TEST BORINGS SHEET				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU 12 EA 0F0601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	10-07-09 10-22-09 11-3-09 12-08-09 1-21-10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	151	154

PROFESSIONAL ENGINEER
 12-2-09
 2-14-11
 PLANS APPROVAL DATE

Deepta Wathugala
 No. GE2674
 Exp. 9-30-10
 REGISTERED PROFESSIONAL ENGINEER
 GEOTECHNICAL
 STATE OF CALIFORNIA

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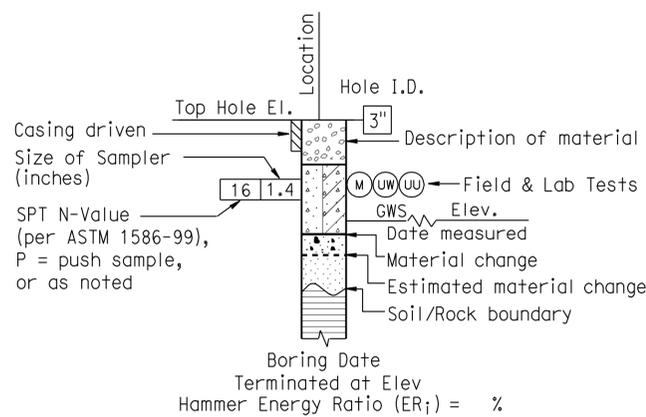
CEMENTATION	
Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

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

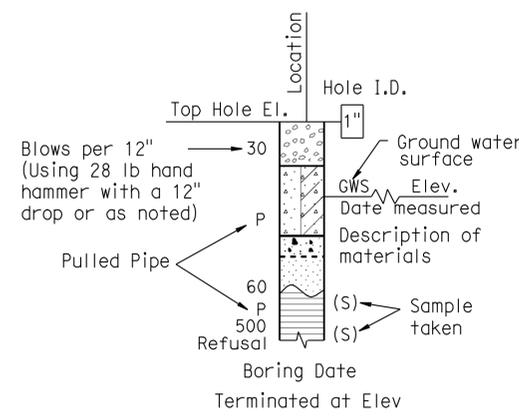
BOREHOLE IDENTIFICATION		
Symbol	Hole Type	Description
	A	Auger Boring
	R	Rotary drilled boring
	P	Rotary percussion boring (air)
	R	Rotary drilled diamond core
	HD	Hand driven (1-inch soil tube)
	HA	Hand Auger
	D	Dynamic Cone Penetration Boring
	CPT	Cone Penetration Test (ASTM D 5778-95)
	O	Other

Note: Size in inches.

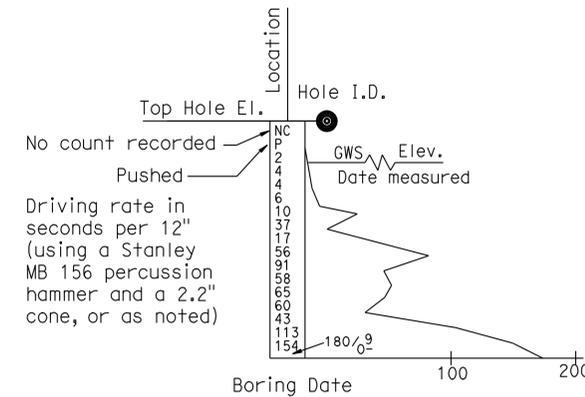
PLASTICITY OF FINE-GRAINED SOILS	
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the 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.



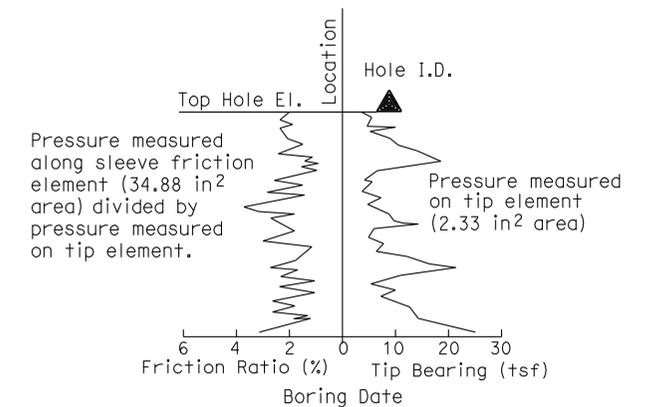
ROTARY BORING



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 21	BRIDGE NO. 55-0224 POST MILE 5.8	CAMINO DE ESTRELLA OC (WIDEN) LOG OF TEST BORINGS 5 OF 8
PREPARED BY: W. Tang 09/09		CU 12220 EA OF0601		DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 12-08-09 1-27-10
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3		SHEET 20	OF 23

FILE => 20-55-0224wd-z-1otb_05.dgn

USERNAME => hrmikes DATE PLOTTED => 17-FEB-2011 TIME PLOTTED => 08:52

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	5	5.6/6.6	152	154

12-2-09
 PROFESSIONAL ENGINEER
 2-14-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Deepa Wathugala
 No. GE2674
 Exp. 9-30-10
 STATE OF CALIFORNIA

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

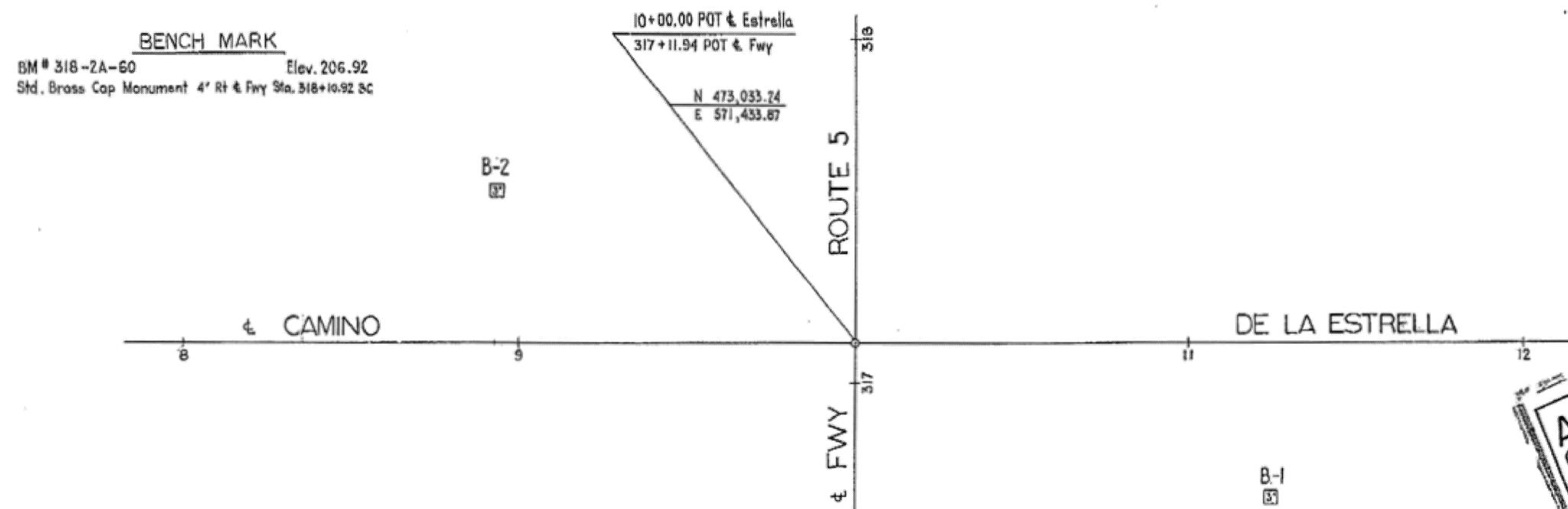
PARTICLE SIZE		
Description	Size	
Boulder	> 12"	
Cobble	3" to 12"	
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 21	BRIDGE NO. 55-0224	CAMINO DE ESTRELLA OC (WIDEN) LOG OF TEST BORINGS 6 OF 8
				POST MILE 5.8	
PREPARED BY: W. Tang 09/09	ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	CU EA	12220 0F0601	REVISION DATES	SHEET 21 OF 23

GS LOTB SOIL LEGEND

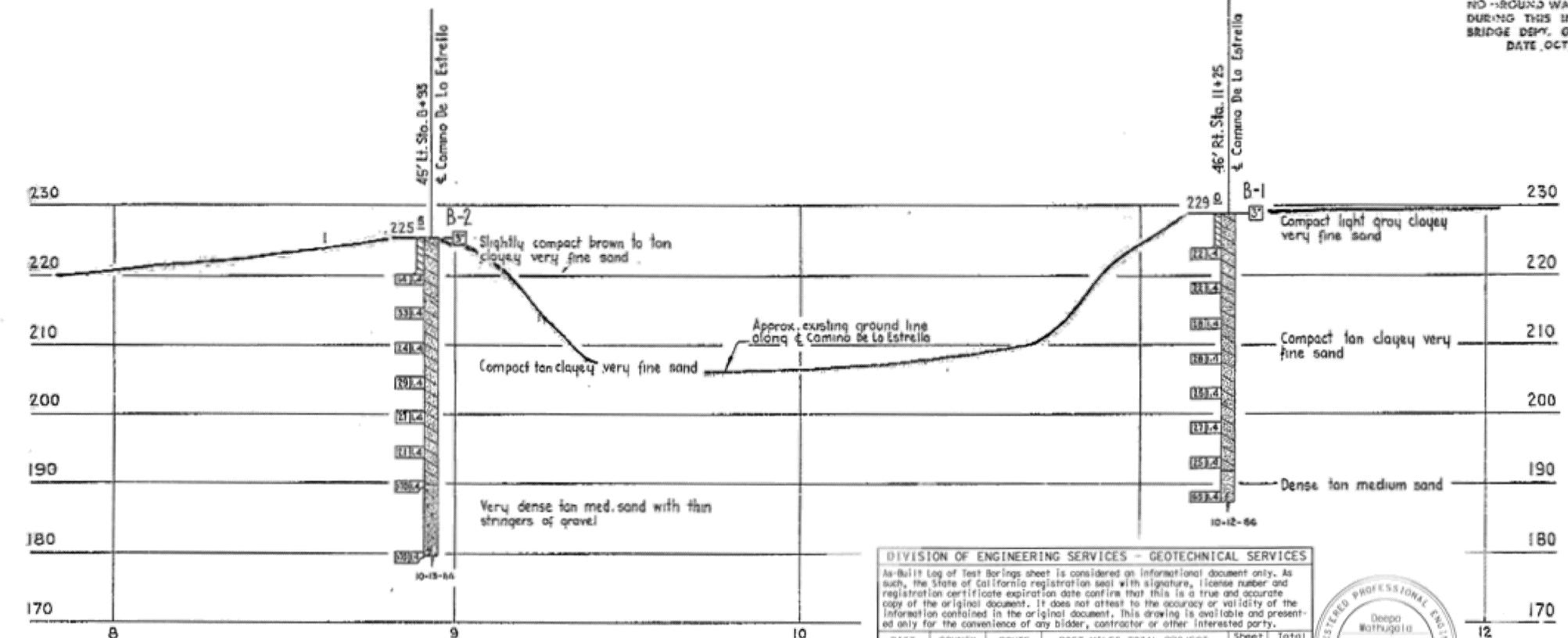
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Date: 07 Ora 5
 COUNTY: ORA 5
 ROUTE: 5
 PROJECT: 55-0224
 SHEET: 7 OF 8
 TOTAL SHEETS: 154
 Geotechnical Engineer: Robert W. Gagnier #1665
 DATE APPROVED: March 12, 1979



AS BUILT PLANS
 Contract No. 07-105274
 Date Completed _____
 Document No. _____
 PLAN
 Scale 1" = 20'

NO THROUGH WATER ENCOUNTERED
 DURING THIS INVESTIGATION BY
 BRIDGE DEPT. GEOLOGY SECTION
 DATE: OCTOBER, 1956



NO AS BUILT CORRECTION
AS BUILT
 CORRECTIONS BY W. Lohse
 CONTRACT NO. 07-105274
 DATE 4-1-83 and 10-18-83

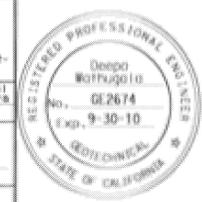
PROFILE
 Scale: Vert. 1" = 10
 Horiz. 1" = 20

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. It does not attest to the accuracy or validity of the information contained in the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	5	5.6/6.6	153	154

PROFESSIONAL ENGINEER: *[Signature]* DATE: 12-2-09
CAMINO DE ESTRELLA OC (WIDEN)
LOG OF TEST BORINGS 7 OF 8
 NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA. CUI 12 EAI OF 0601 BRIDGE NO. 55-0224
 Sheet of



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
CAMINO DE ESTRELLA OVERCROSSING REPLACE
LOG OF TEST BORINGS
 SCALE As Noted BRIDGE 55-224 FILE DRAWING 55-224-11

LEGEND OF OPERATIONS

LEGEND OF EARTH MATERIALS

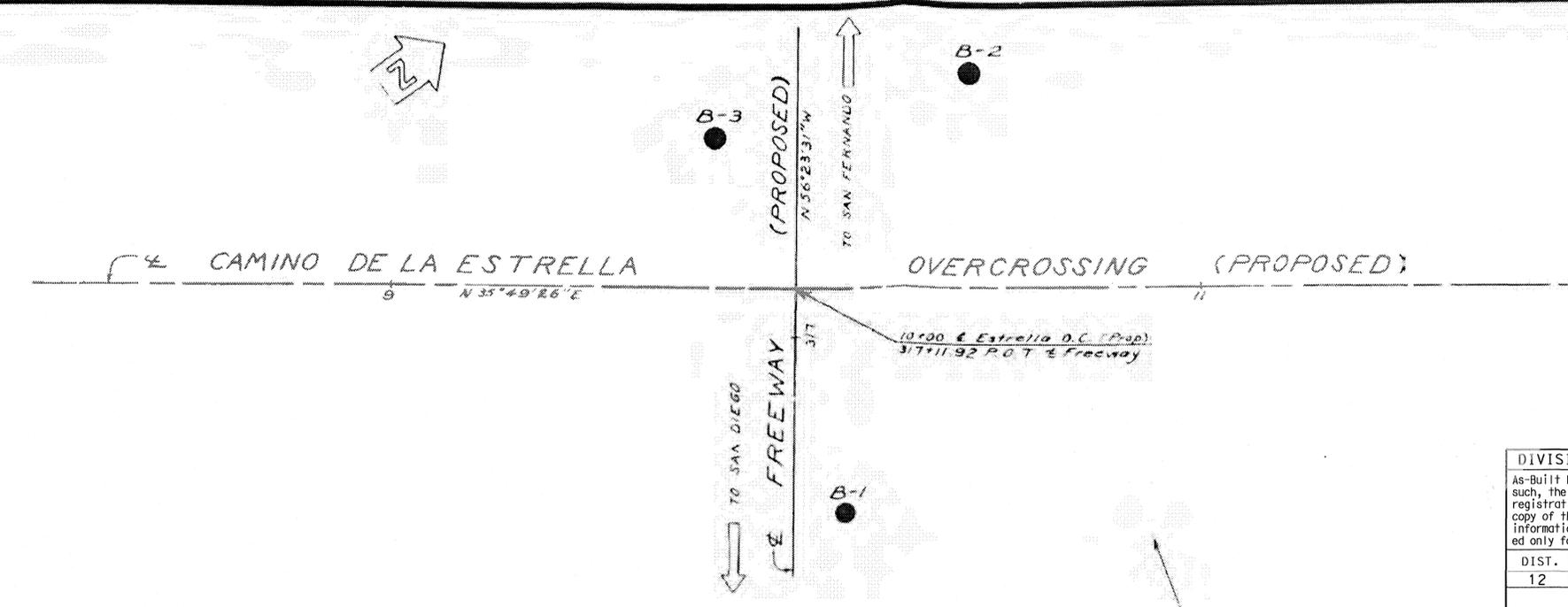
LEGEND OF MATERIALS BASED ON STANDARD GRADE SIZE LIMITS

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

BRIDGE DEPARTMENT ENGINEERING GEOLOGY SECTION

FILED STUDY: N. G. GAGNIER 07-105274
 DRAWN: N. V. SESHAN 11-16-78
 CHECKED: B. D. HARTZ 02-21-79
 Approved: *[Signature]*

538



DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

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DIST.	COUNTY	ROUTE	POST MILES-TOTAL PROJECT	Sheet No.	Total Sheets
12	Orca	5	5.6/6.6	154	154

PROFESSIONAL ENGINEER: *[Signature]* DATE: 12-2-09

CAMINO DE ESTRELLA OC (WIDEN)

LOG OF TEST BORINGS 8 OF 8

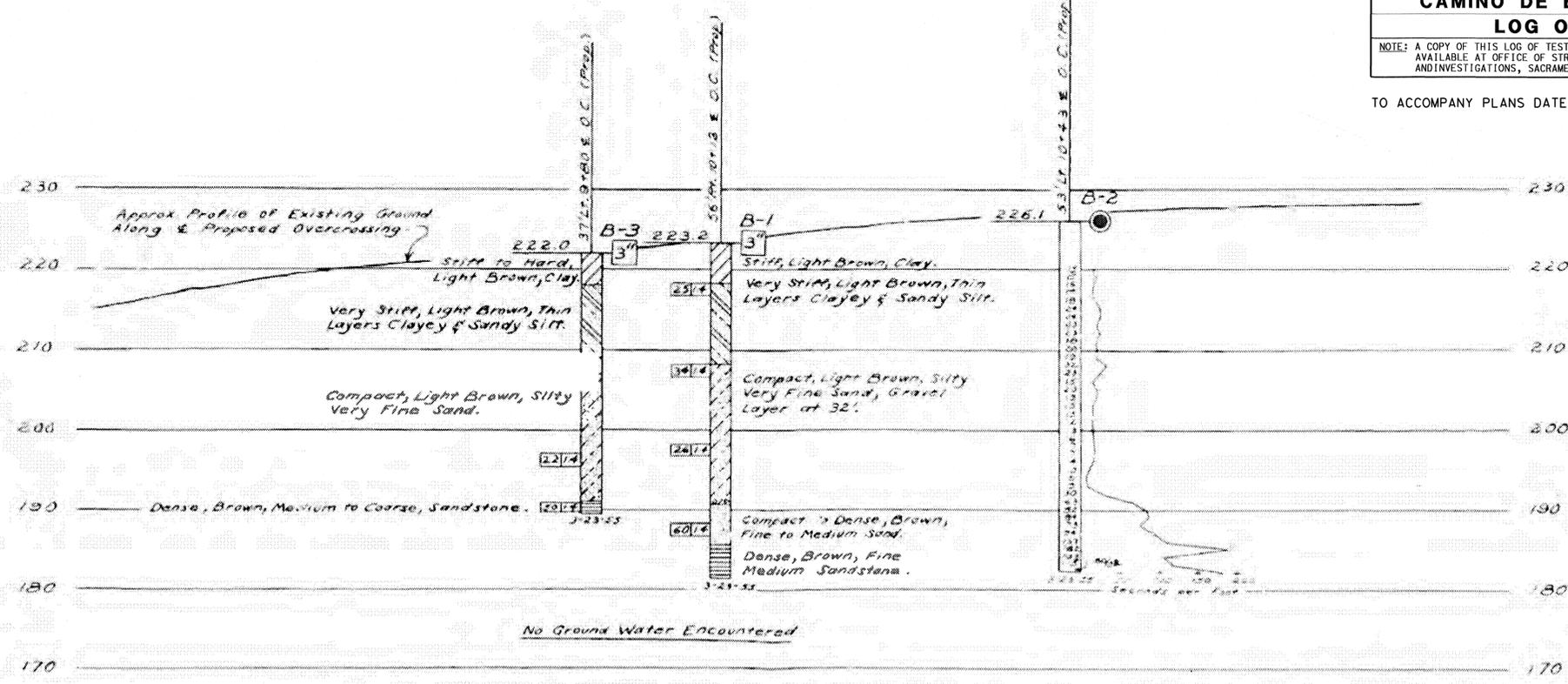
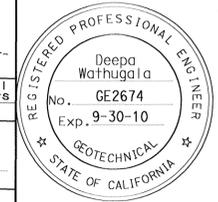
NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 12
EA: OF0601

BRIDGE No. 55-0224

Sheet 23 of 23

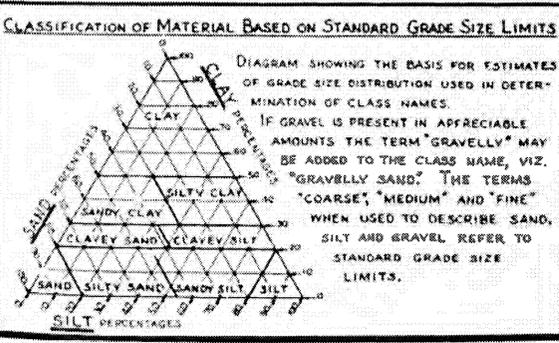
TO ACCOMPANY PLANS DATED 2-14-11



B.M. # 32 - Scale 54
L&T in apparent M.P.C. of Curb
Return on N.W. Corner of Calle Dolores
& Calle Maria; 33' N. of Dolores &
31' W of Maria.
Elev. 188.53'

B.M. # 33 - Scale 54
L&T in P.C. Curb 15' W of Calle
Paloma & 182' N of Calle Real.
Elev. 203.28'

Test Boring by Bridge Dept.



LEGEND OF EARTH MATERIALS

GRAVEL	SILTY CLAY OR CLAYEY SILT
SAND	PEAT AND/OR ORGANIC MATTER
SILT	FILL MATERIAL
CLAY	IGNEOUS ROCK
SANDY CLAY OR CLAYEY SAND	SEDIMENTARY ROCK
SANDY SILT OR SILTY SAND	METAMORPHIC ROCK

LEGEND OF BORING OPERATIONS

- PLAN OF ANY BORING
- PENETROMETER
- 2 1/2" CORE PENETROMETER
- SAMPLER BORING (DRY)
- ROTARY BORING (WET)
- AUGER BORING (DRY)
- JET BORING
- CORE BORING
- TEST PIT

NOTES

The contractor's attention is directed to Section 2, Article (c) of the Standard Specifications and to the Special Provisions accompanying this set of plans. Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

CAMINO DE LA ESTRELLA OVERCROSSING

LOG OF TEST BORINGS

SCALE: VERT. 1" = 20'
BRIDGE: 55-0224
FILE: _____
DRAWING: _____