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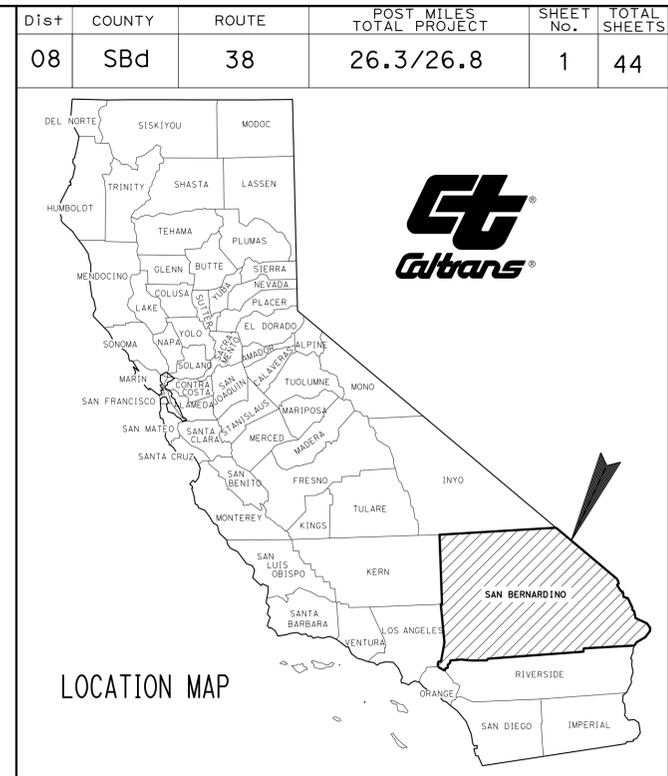
SHEET No.	DESCRIPTION
36-44	GENERAL PLANS AND MISCELLANEOUS DETAILS

THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO CONTRACTORS AND SPECIAL PROVISIONS BOOK

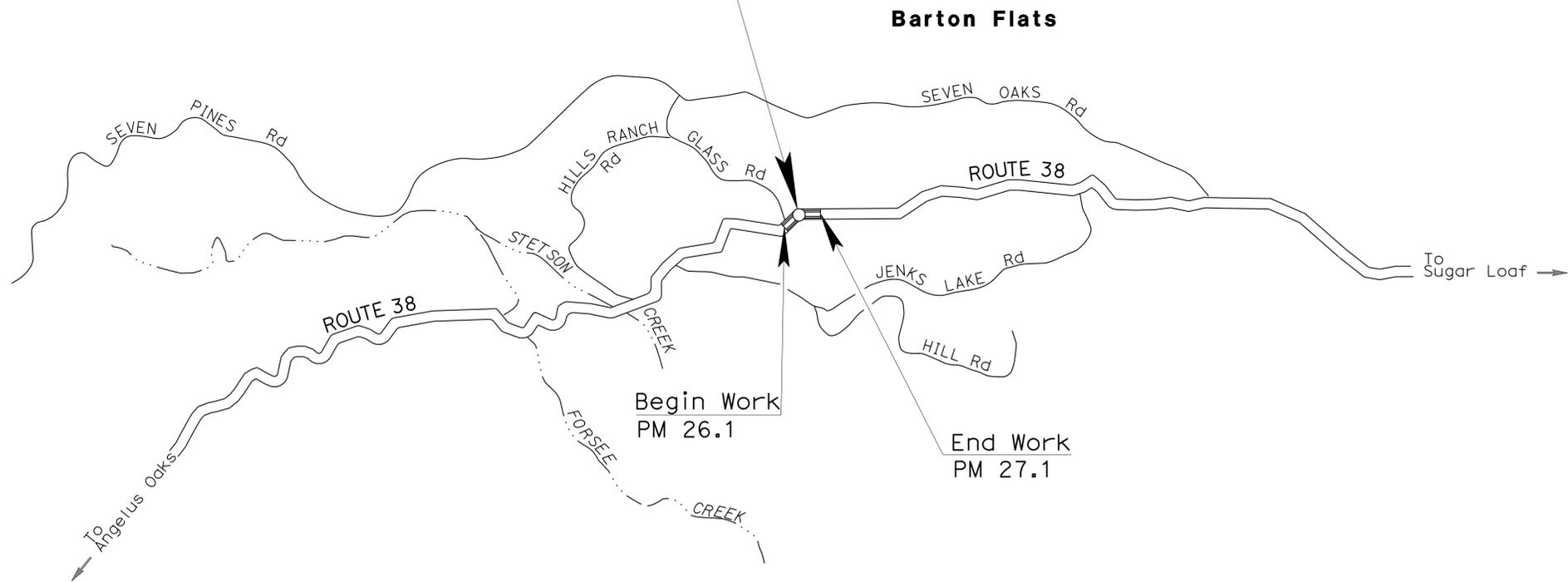
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY**

**IN SAN BERNARDINO COUNTY  
 NEAR BARTON FLATS  
 AT HATHAWAY CREEK BRIDGE**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



**LOCATION OF CONSTRUCTION  
 HATHAWAY CREEK BRIDGE  
 Br No. 54-0015 PM 26.6**



NO SCALE

PROJECT MANAGER  
**RAFAEL YOUSSEF**  
 DESIGN ENGINEER  
**ANH PHAN**

*Renee L. Sasse* 04-01-14  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**April 01, 2014**  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



CONTRACT No.	<b>08-336304</b>
PROJECT ID	<b>080000608</b>

DATE PLOTTED => 03-APR-2014  
 TIME PLOTTED => 13:19  
 04-01-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	2	44
			4-01-14	DATE	
REGISTERED CIVIL ENGINEER			4-01-14	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

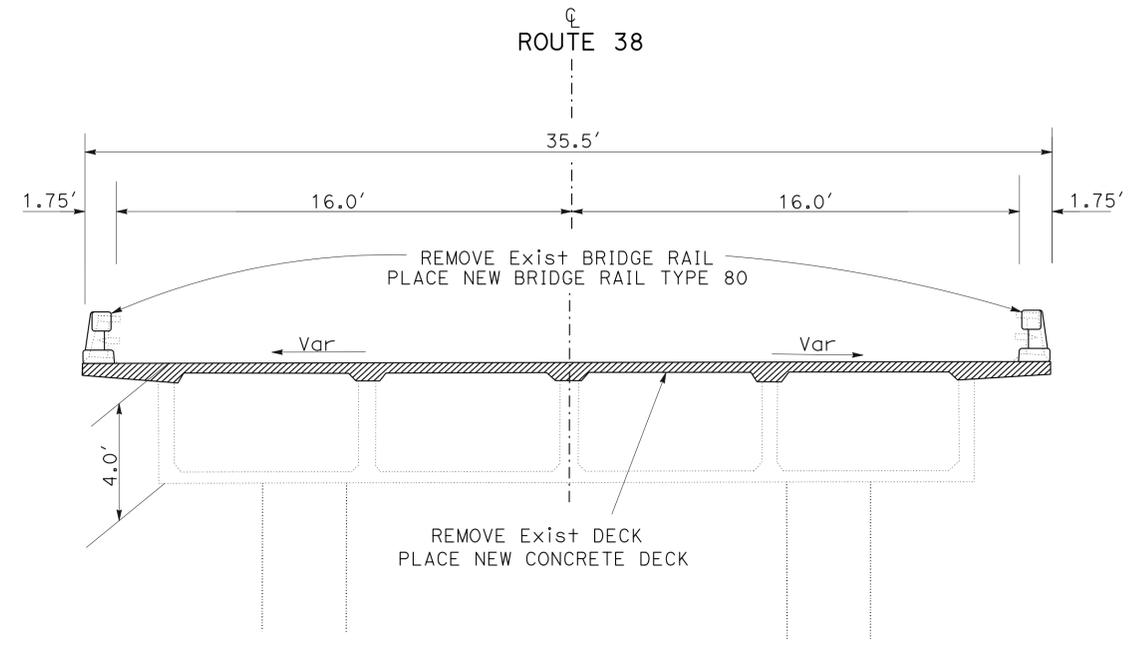
**ROUTE 38  
DESIGN DESIGNATION**

ADT (2013)	2,700	D	60%
ADT (2034)	5,000	T	10%
DHV	470	V	50 mph
ESAL	854,495	TI <sub>20</sub>	9.0

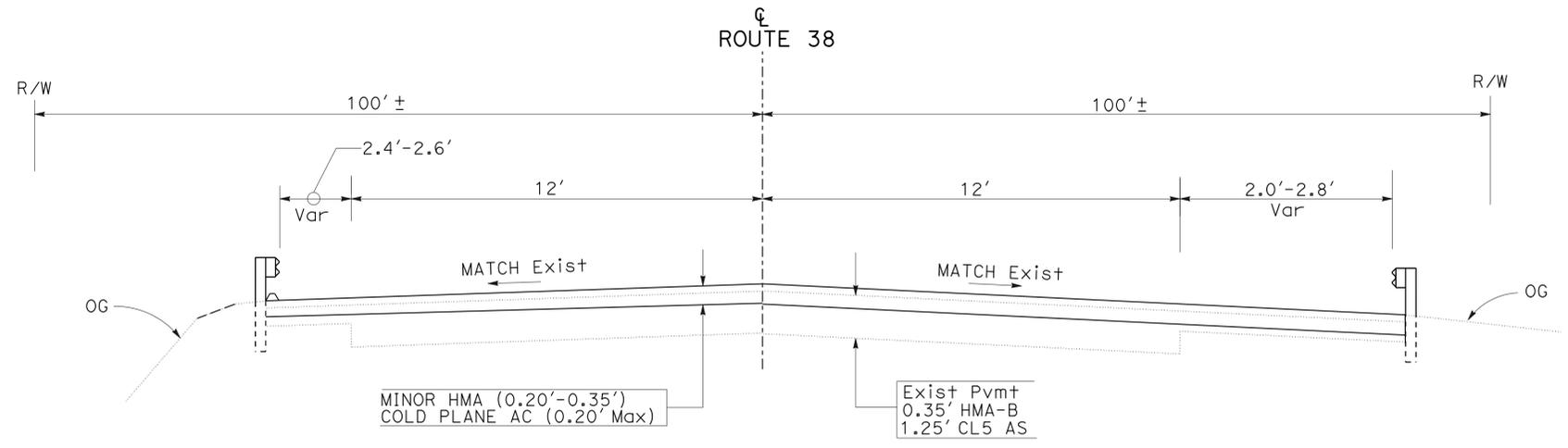
**PAVEMENT CLIMATE REGION  
SOUTH MOUNTAIN**

**NOTES:**

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATIONS ARE SHOWN ON THE SUPERELEVATION DIAGRAMS.
- FOR LOCATIONS AND DETAILS OF MIDWEST GUARDRAIL SYSTEM AND HMA DIKES, SEE SHEETS C-1 AND Q-1.
- FOR BRIDGE WORK DETAILS, SEE STRUCTURE PLANS.



**HATHAWAY CREEK BRIDGE (Br No. 54-0015)  
STA 19+63.00 (BB) TO STA 20+48.00 (EB)**



**ROADWAY (BRIDGE APPROACH)  
STA 20+78.00 TO STA 21+44.00  
STA 18+67.00 TO STA 19+33.00**

**ROUTE 38**

**TYPICAL CROSS SECTIONS**

NO SCALE **X-1**

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	RENEE SASSE
CALCULATED/DESIGNED BY	CHECKED BY
ANH PHAN	RENEE SASSE
REVISED BY	DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	3	44

*Renee Sasse*  
 REGISTERED CIVIL ENGINEER DATE 4-01-14  
 4-01-14  
 PLANS APPROVAL DATE

RENE L. SASSE  
 No. C41092  
 Exp. 03/31/15  
 CIVIL  
 STATE OF CALIFORNIA

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

**NOTES:**

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- FOR LOCATIONS AND DETAILS OF MIDWEST GUARDRAIL SYSTEM AND HMA DIKES, SEE SHEETS C-1 AND Q-1.
- FOR LOCATIONS OF TEMPORARY ESA FENCE, SEE CONSTRUCTION DETAILS SHEET C-3.
- FOR BRIDGE WORK AND APPROACH SLAB DETAILS, SEE STRUCTURE PLANS.

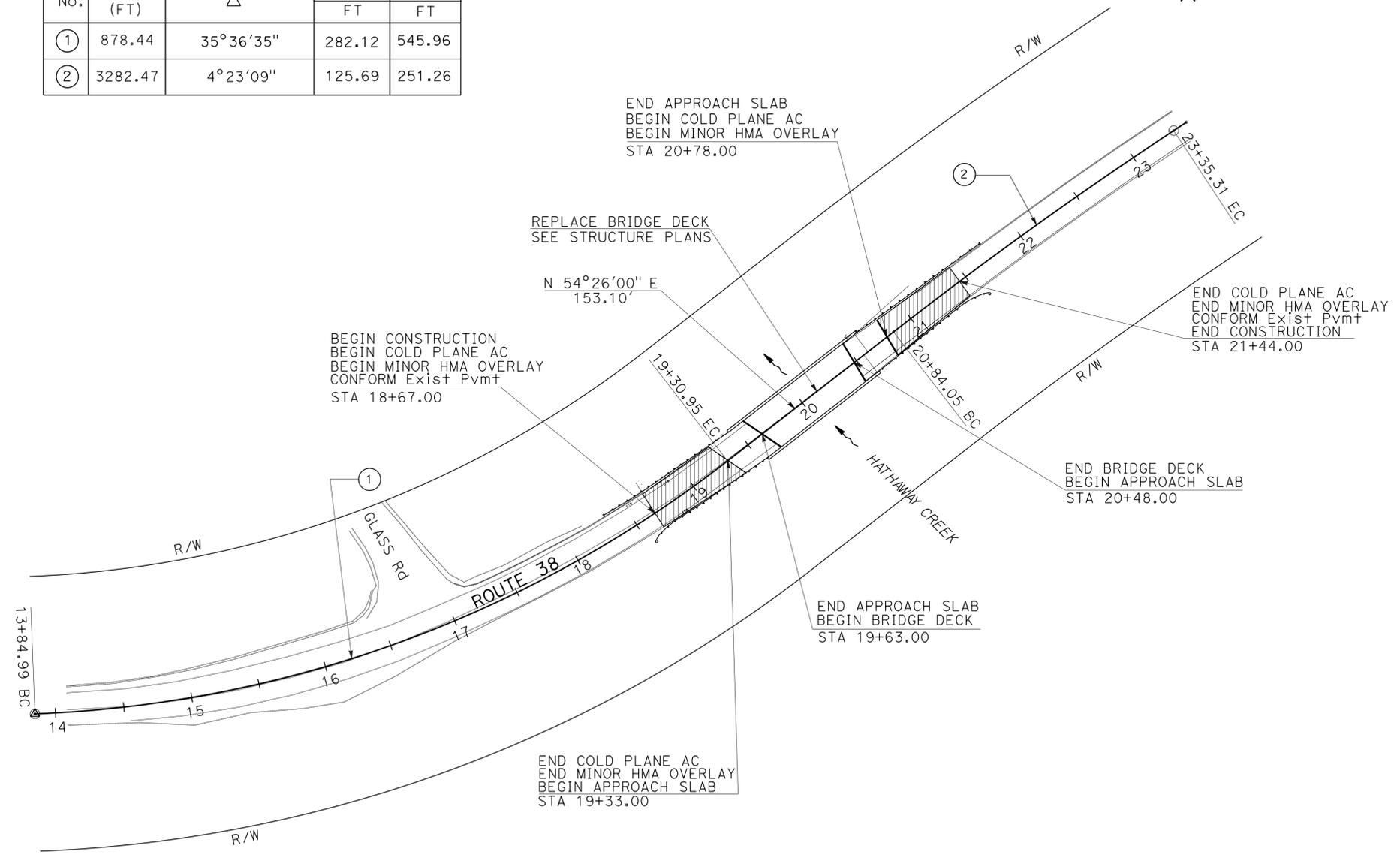
**LEGEND:**

 HMA-A OVERLAY



**CURVE DATA**

No.	R (FT)	Δ	T	L
			FT	FT
①	878.44	35°36'35"	282.12	545.96
②	3282.47	4°23'09"	125.69	251.26



**HATHAWAY CREEK BRIDGE (Br No. 54-0015)  
ROUTE 38**

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

**LAYOUT**  
SCALE: 1"=50' L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  


FUNCTIONAL SUPERVISOR	RENEE SASSE
CALCULATED/DESIGNED BY	CHECKED BY
ANH PHAN	RENEE SASSE
REVISED BY	DATE REVISED

LAST REVISION    DATE PLOTTED => 03-APR-2014    TIME PLOTTED => 13:19







Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	7	44

<i>Renée L. Sasse</i>	4-01-14
REGISTERED CIVIL ENGINEER	DATE
4-01-14	
PLANS APPROVAL DATE	

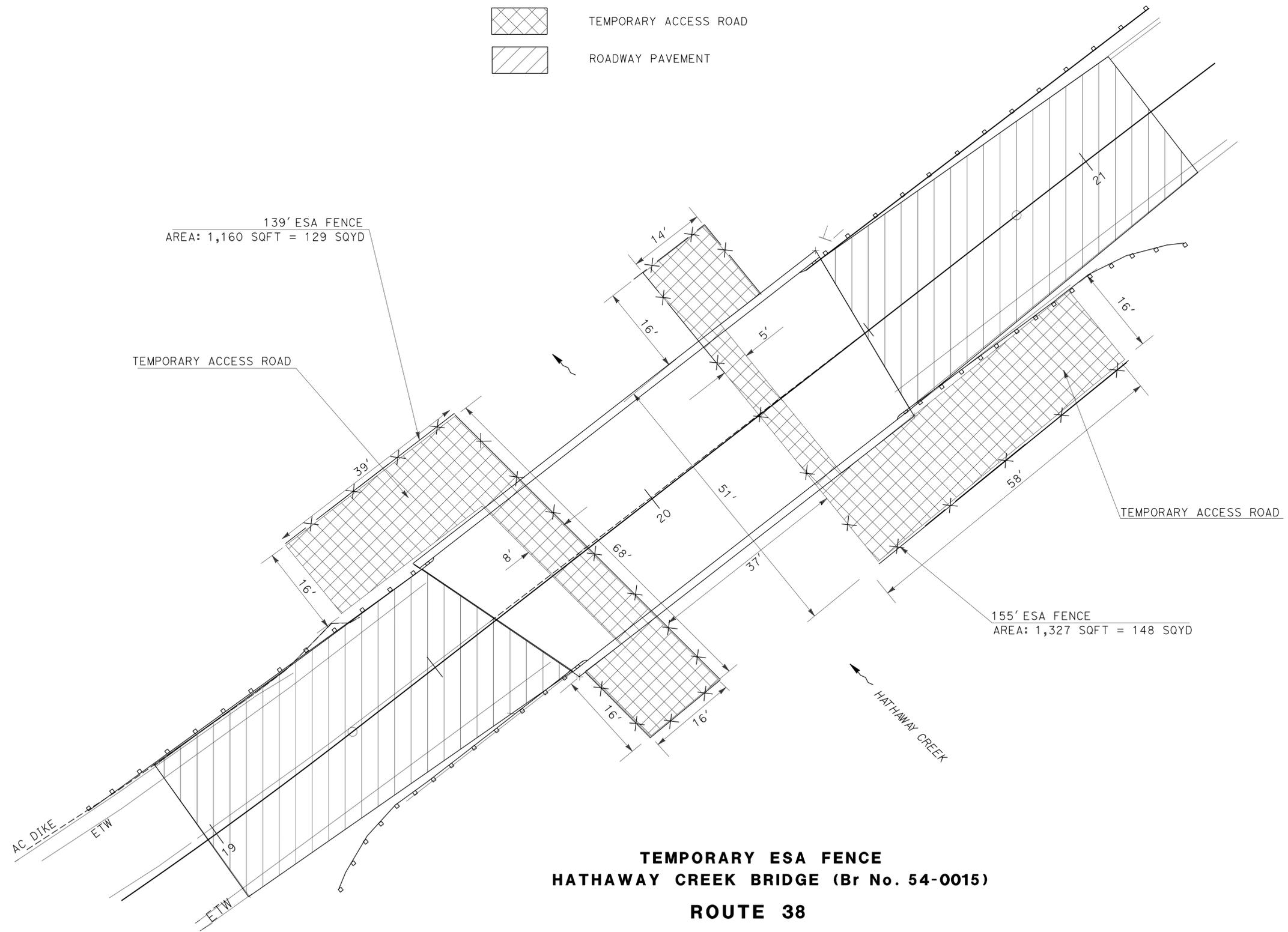
REGISTERED PROFESSIONAL ENGINEER
RENEE L. SASSE
No. C41092
Exp. 03/31/15
CIVIL
STATE OF CALIFORNIA

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

**LEGEND:**

 TEMPORARY ACCESS ROAD

 ROADWAY PAVEMENT



**TEMPORARY ESA FENCE  
HATHAWAY CREEK BRIDGE (Br No. 54-0015)  
ROUTE 38**



EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

**CONSTRUCTION DETAILS**

SCALE: 1":10'

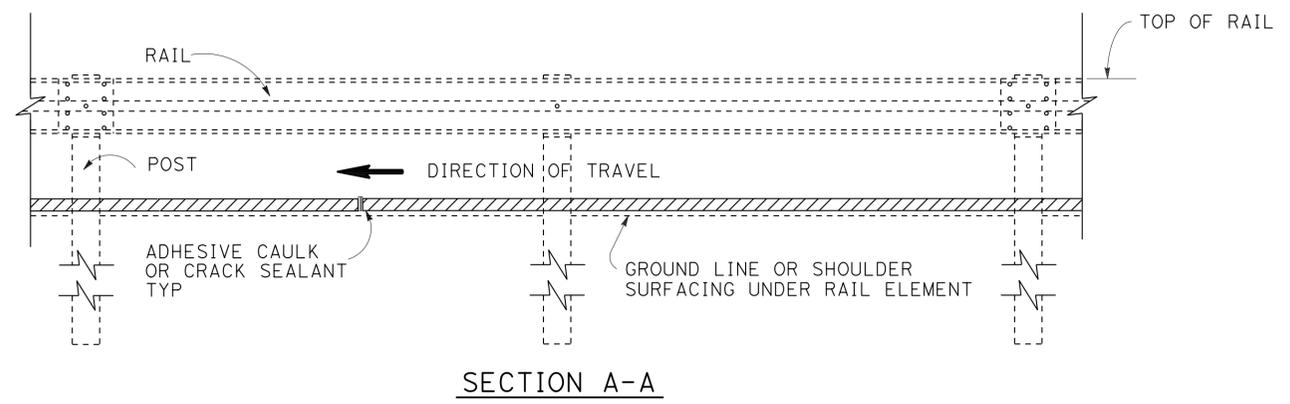
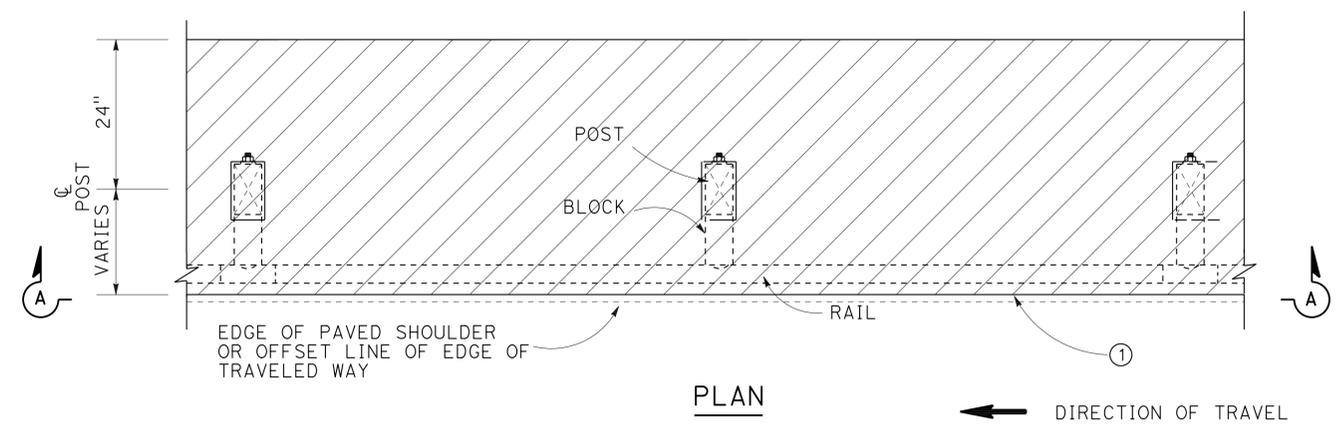
**C-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	RENEE SASSE
CALCULATED/DESIGNED BY	CHECKED BY
ANH PHAN	RENEE SASSE
REVISED BY	DATE REVISED

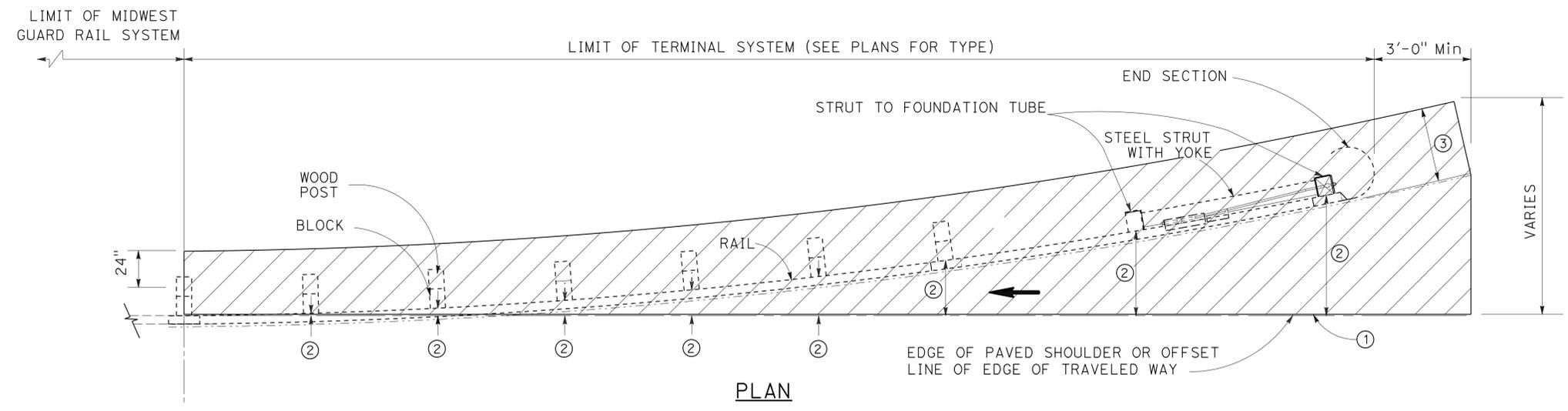


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	8	44

Signature: *Michael Stivers*  
 LICENSED LANDSCAPE ARCHITECT  
 4-01-14  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**WEED CONTROL MAT (FIBER) UNDER MGS**



- LEGEND:**
- WEED CONTROL MAT (FIBER)
  - DIRECTION OF TRAVEL

- NOTES:**
- ① TRIM WEED CONTROL MAT FLUSH WITH EDGE OF SHOULDER, OR PAVEMENT.
  - ② SEE STANDARD PLANS FOR CORRESPONDING POST OFFSET DIMENSIONS FOR TERMINAL SYSTEM.
  - ③ DIMENSION: 3'-0" OR GREATER. ALIGN WITH RAIL AT END SECTION.

**WEED CONTROL MAT (FIBER) AT MGS TERMINAL SYSTEM**

**CONSTRUCTION DETAILS**

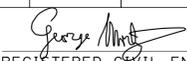
EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

NO SCALE **C-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - LANDSCAPE ARCHITECTURE  
 SENIOR LANDSCAPE ARCHITECT: RAY DESSELLE  
 MIKE STIVERS  
 RAY DESSELLE  
 REVISIONS: 00/00/00, 00/00/00  
 REVISED BY: DATE  
 CALCULATED/DESIGNED BY: CHECKED BY:

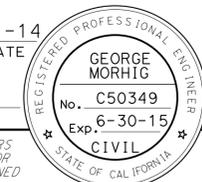
LAST REVISION: 04-01-14  
 DATE PLOTTED => 03-APR-2014  
 TIME PLOTTED => 1:3:19

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	9	44

 04-01-14  
 REGISTERED CIVIL ENGINEER DATE

04-01-14  
 PLANS APPROVAL DATE

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



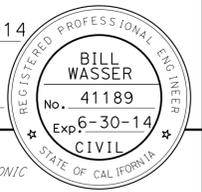
**TEMPORARY WATER POLLUTION CONTROL**

STATION*	DIRECTION	TEMPORARY SILT FENCE	TEMPORARY DRAINAGE INLET PROTECTION	TEMPORARY CONSTRUCTION ENTRANCE	TEMPORARY CONSTRUCTION ROADWAY	TEMPORARY HYDROSEED	REMARK
	EB/WB	LF	EA	EA	SQYD	SQYD	
19+40± TO 20+40±	WB	137		1	114		
19+60± TO 20+80±	EB	158		1	163		
19+00 TO 21+50			2			5800	
TOTAL		295	2	2	277	5800	

\* STATION AND STATION OFFSET ARE APPROXIMATE LOCATIONS,  
 EXACT LOCATION TO BE DETERMINED ON FIELD.

**TEMPORARY WATER POLLUTION  
 CONTROL QUANTITIES  
 WPCQ-1**

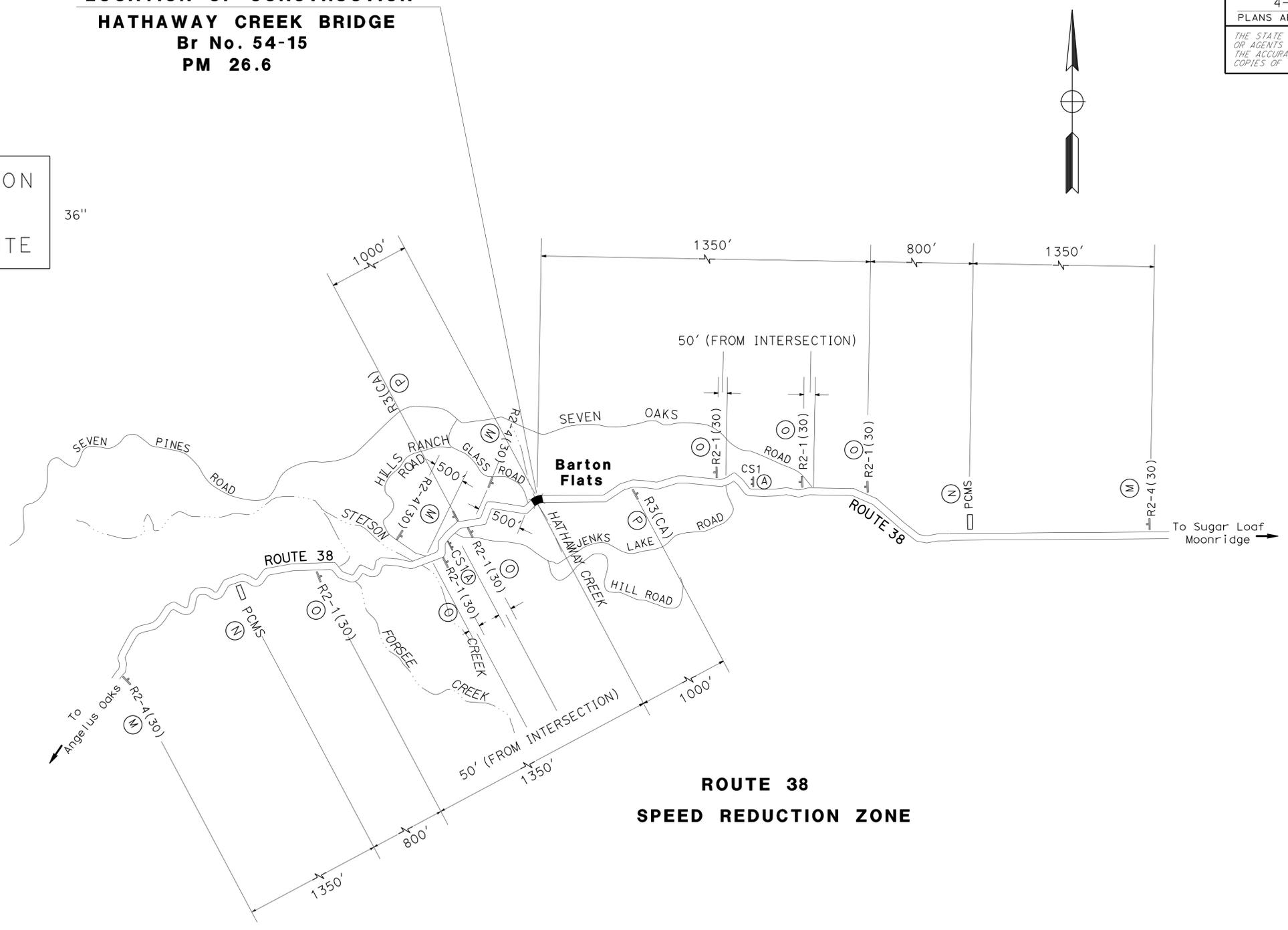
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	10	44
W E Wasser			4-01-14	REGISTERED CIVIL ENGINEER DATE	
4-01-14			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.					



**LOCATION OF CONSTRUCTION**  
**HATHAWAY CREEK BRIDGE**  
 Br No. 54-15  
 PM 26.6

102"  
 BRIDGE CONSTRUCTION  
 EXPECT DELAYS  
 USE ALTERNATE ROUTE

CS1  
 ON ORANGE REFLECTIVE SHEETING  
 USE BLACK 6" D SIZE LETTERS



**NOTES:**

1. THE EXACT SIGN LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. ALL SIGNS SHALL BE STATIONARY.
3. SIGN CS1 WILL BE INSTALLED 2 WEEKS PRIOR TO THE HATHAWAY CREEK BRIDGE CONSTRUCTION.
4. THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY.

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN

SUPERVISING ENGINEER  
 BILL WASSER

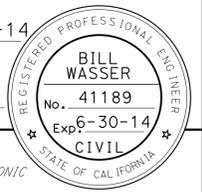
CALCULATED/DESIGNED BY  
 CHECKED BY

JAMES LIANG  
 THANH TRINH

REVISED BY  
 DATE REVISED

REVISIONS

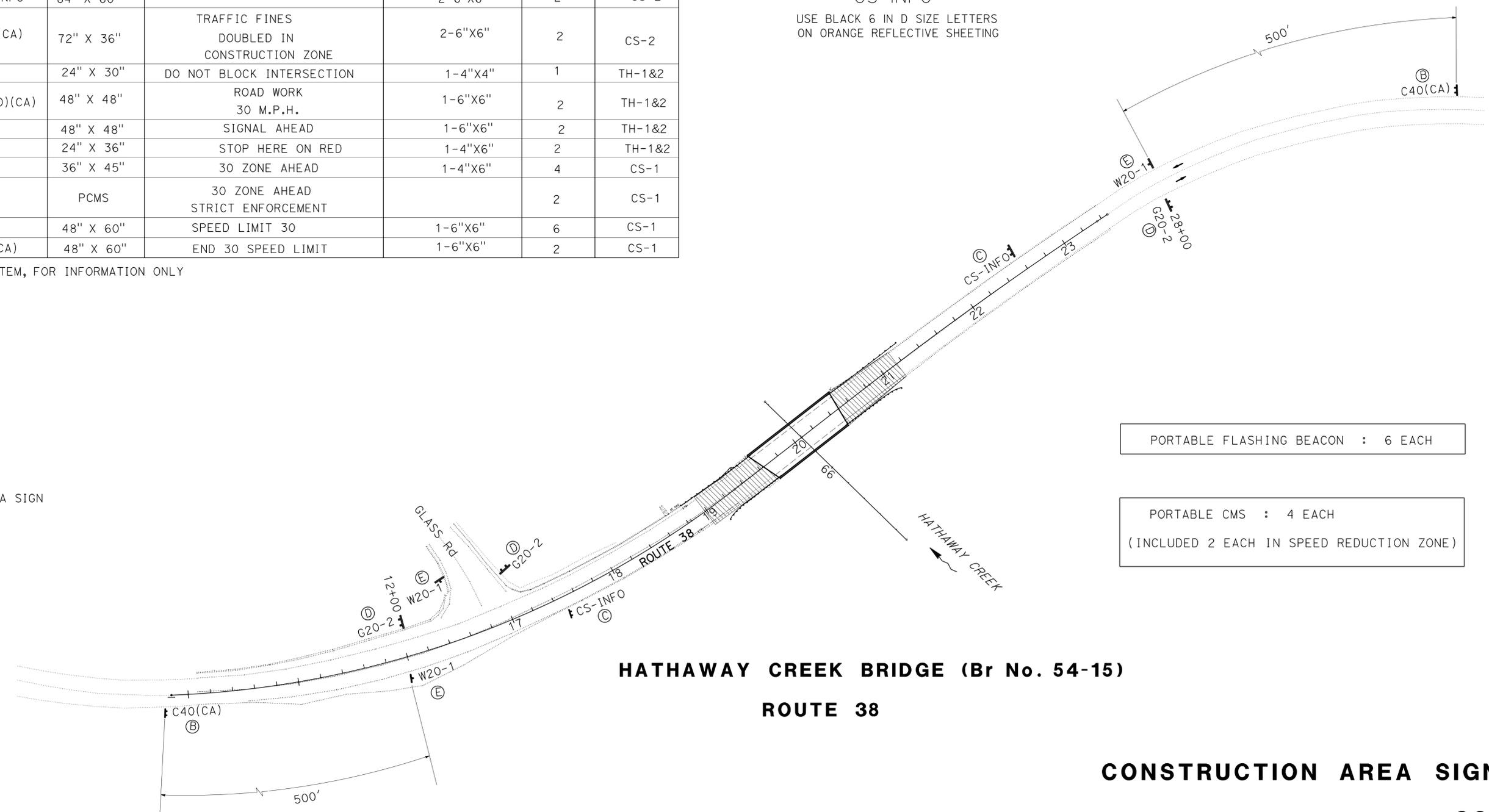
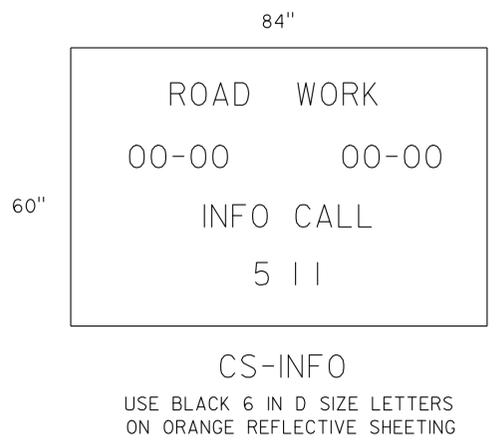
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	11	44
W E Wasser			4-01-14	REGISTERED CIVIL ENGINEER DATE	
4-01-14			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.					



### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No. (X)	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGN	REMARK
	FEDERAL	CALIFORNIA					
(K)	W1-3(RT)		30" X 30"	REVERSE CURVE	1-4"X4"	2	TH-1&2
(D)	G20-2		36" X 18"	END ROAD WORK	1-4"X4"	3	CS-2
(G)	W20-4		48" X 48"	ONE LANE ROAD AHEAD	1-6"X6"	2	TH-1&2
(E)	W20-1		48" X 48"	ROAD WORK AHEAD	1-6"X6"	3	CS-2
(L)		C30(CA)	30" X 30"	LANE CLOSED	ON BARRICADE	4(N)	TH-1&2
(A)		CS1	102" X 36"	ALTERNATE ROUTE	2-4"X6"	2	CS-1
(C)		CS-INFO	84" X 60"		2-6"X6"	2	CS-2
(B)		C40(CA)	72" X 36"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	2-6"X6"	2	CS-2
(J)	R10-7		24" X 30"	DO NOT BLOCK INTERSECTION	1-4"X4"	1	TH-1&2
(F)		C17(30)(CA)	48" X 48"	ROAD WORK 30 M.P.H.	1-6"X6"	2	TH-1&2
(H)	W3-3		48" X 48"	SIGNAL AHEAD	1-6"X6"	2	TH-1&2
(I)	R10-6		24" X 36"	STOP HERE ON RED	1-4"X6"	2	TH-1&2
(M)	R2-4(30)		36" X 45"	30 ZONE AHEAD	1-4"X6"	4	CS-1
(N)			PCMS	30 ZONE AHEAD STRICT ENFORCEMENT		2	CS-1
(O)	R2-1(30)		48" X 60"	SPEED LIMIT 30	1-6"X6"	6	CS-1
(P)		R3(CA)	48" X 60"	END 30 SPEED LIMIT	1-6"X6"	2	CS-1

(N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY



**LEGEND:**

† CONSTRUCTION AREA SIGN

PORTABLE FLASHING BEACON : 6 EACH

PORTABLE CMS : 4 EACH  
(INCLUDED 2 EACH IN SPEED REDUCTION ZONE)

**HATHAWAY CREEK BRIDGE (Br No. 54-15)**  
**ROUTE 38**

**CONSTRUCTION AREA SIGNS**

NO SCALE **CS-2**

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN  
 SUPERVISING ENGINEER: BILL WASSER  
 CHECKED BY: THANH TRINH  
 DESIGNED BY: JAMES LIANG  
 REVISIONS: (None)  
 DATE: 11/1/2006



USERNAME => s106356  
DGN FILE => 08000006081a002.dgn

CU 082284

EA 0800000608

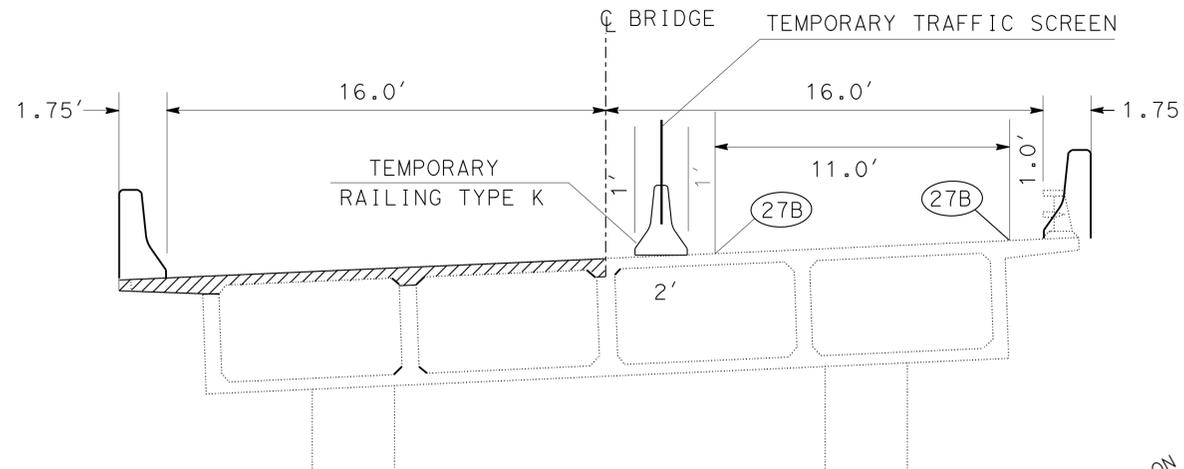
LAST REVISION: DATE PLOTTED => 03-APR-2014  
 TIME PLOTTED => 13:19  
 04-01-14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	12	44
W E Wasser		4-01-14		REGISTERED CIVIL ENGINEER DATE	
4-01-14		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>					

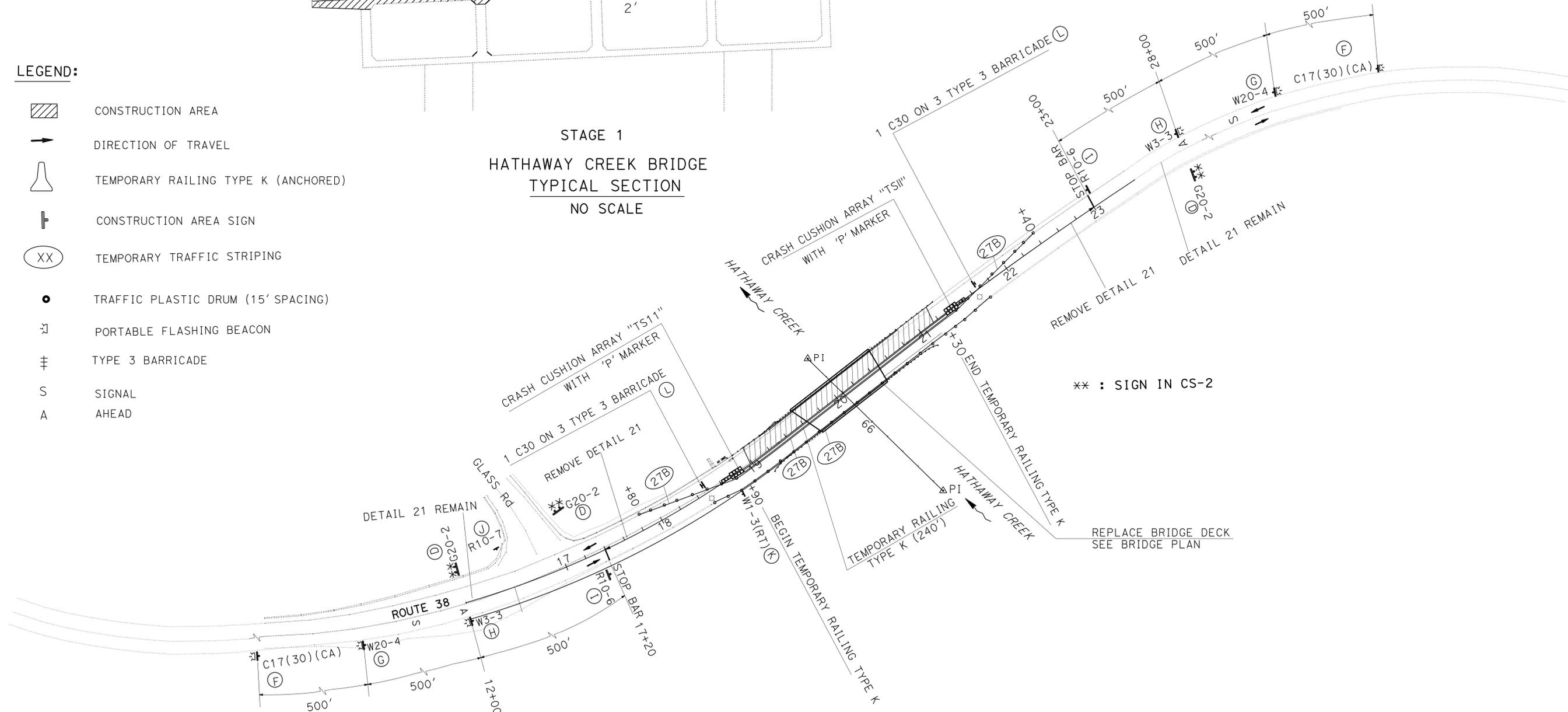
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN  
 SUPERVISING ENGINEER: BILL WASSER  
 CALCULATED/DESIGNED BY: JAMES LIANG  
 CHECKED BY: THANH TRINH  
 REVISED BY: DATE REVISION

**LEGEND:**

- CONSTRUCTION AREA
- DIRECTION OF TRAVEL
- TEMPORARY RAILING TYPE K (ANCHORED)
- CONSTRUCTION AREA SIGN
- TEMPORARY TRAFFIC STRIPING
- TRAFFIC PLASTIC DRUM (15' SPACING)
- PORTABLE FLASHING BEACON
- TYPE 3 BARRICADE
- SIGNAL
- AHEAD



**STAGE 1  
 HATHAWAY CREEK BRIDGE  
 TYPICAL SECTION  
 NO SCALE**



**NOTES:**

1. THE EXACT SIGN LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. ALL SIGNS SHALL BE STATIONARY.
3. THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

**STAGE 1  
 TRAFFIC HANDLING PLAN**

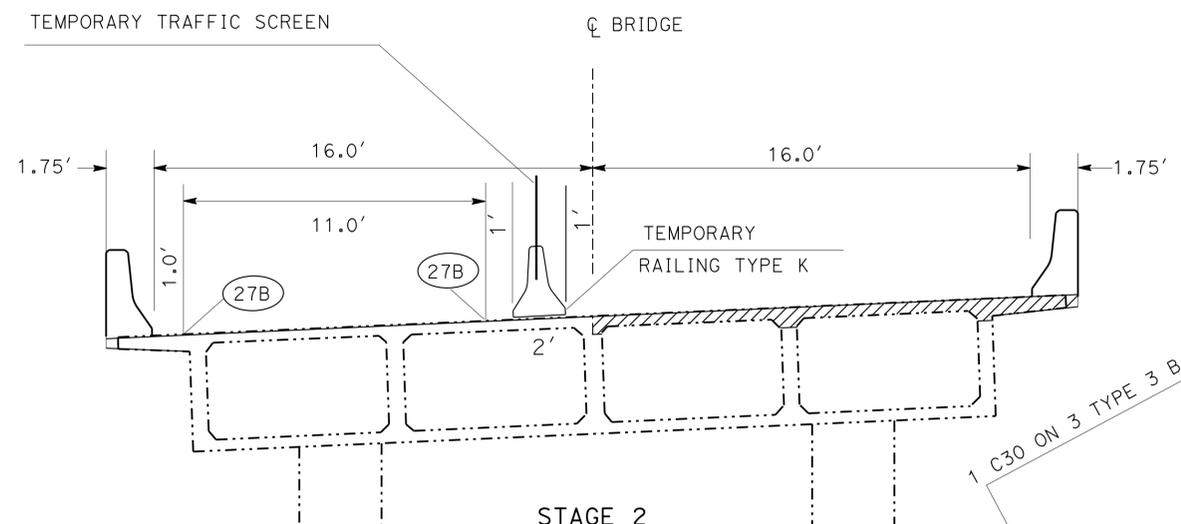
NO SCALE

**TH-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	13	44
W E Wasser		4-01-14		REGISTERED CIVIL ENGINEER DATE	
4-01-14		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>					

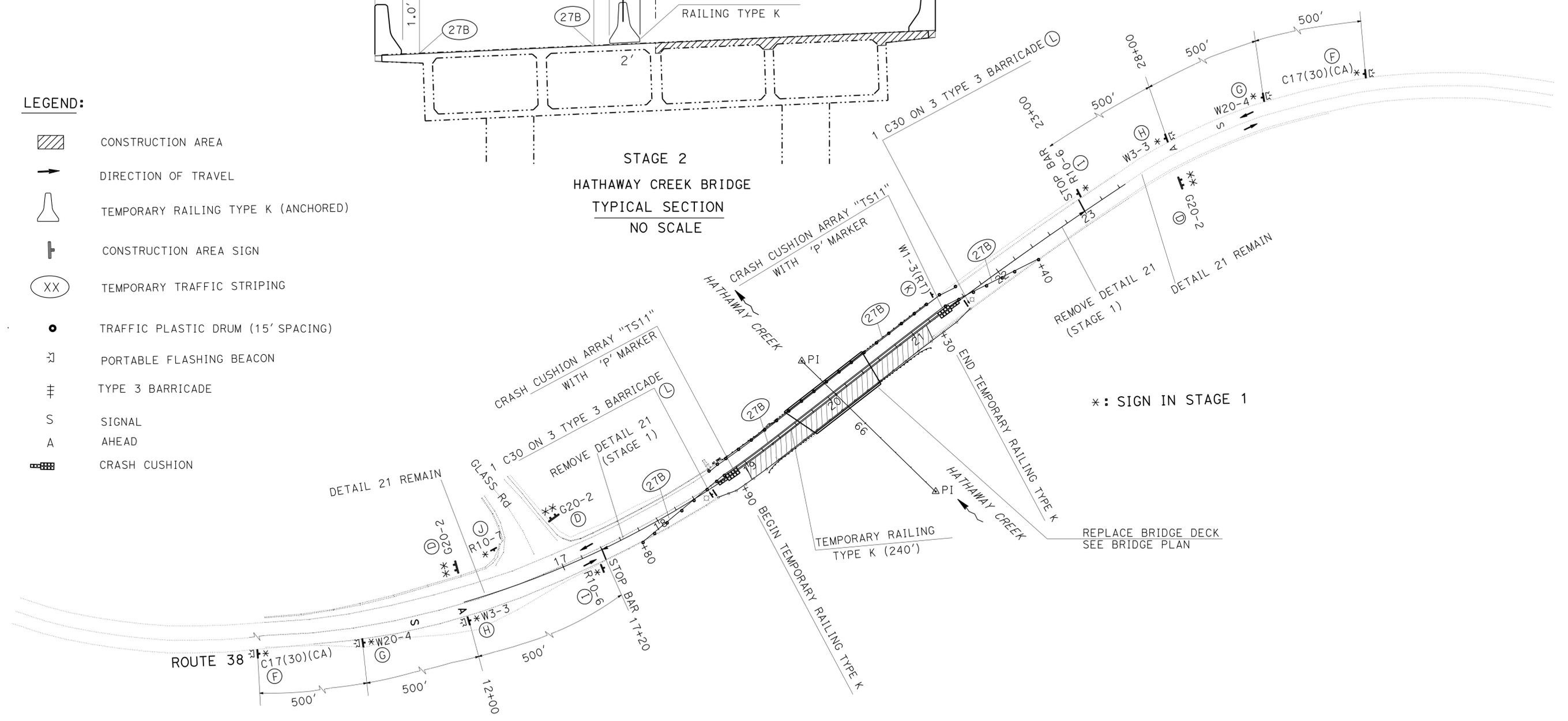
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN  
 SUPERVISING ENGINEER: BILL WASSER  
 CHECKED BY: THANH TRINH  
 DESIGNED BY: JAMES LIANG  
 REVISIONS: (None listed)



**STAGE 2**  
**HATHAWAY CREEK BRIDGE**  
**TYPICAL SECTION**  
 NO SCALE

**LEGEND:**

- CONSTRUCTION AREA
- DIRECTION OF TRAVEL
- TEMPORARY RAILING TYPE K (ANCHORED)
- CONSTRUCTION AREA SIGN
- TEMPORARY TRAFFIC STRIPING
- TRAFFIC PLASTIC DRUM (15' SPACING)
- PORTABLE FLASHING BEACON
- TYPE 3 BARRICADE
- SIGNAL AHEAD
- CRASH CUSHION



\* : SIGN IN STAGE 1

**NOTES :**

1. THE EXACT SIGN LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. ALL SIGNS SHALL BE STATIONARY.
3. THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

**STAGE 2**  
**TRAFFIC HANDLING PLAN**  
 NO SCALE  
**TH-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	14	44

*W E Wasser* 4-01-14  
 REGISTERED CIVIL ENGINEER DATE  
 4-01-14  
 PLANS APPROVAL DATE

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

**LEGEND:**

CONSTRUCTION AREA SIGN  
 PAVEMENT DELINEATION DETAIL

**PAVEMENT DELINEATION**

DETAIL #	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	
	4" WHITE	4" YELLOW
27B	2400	
21		1200
TOTAL	3600	

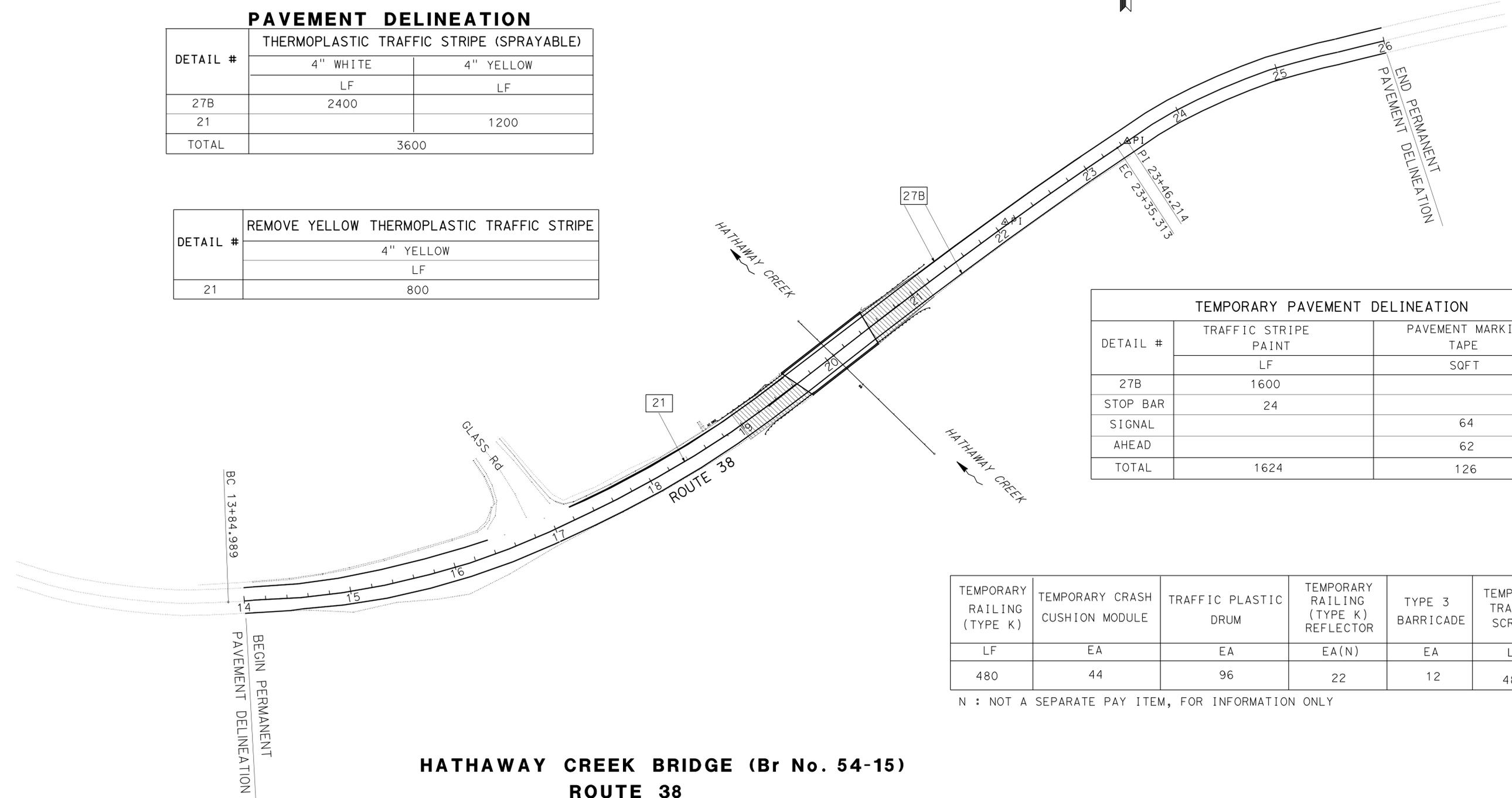
DETAIL #	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE	
	4" YELLOW	
21	800	

**TEMPORARY PAVEMENT DELINEATION**

DETAIL #	TRAFFIC STRIPE PAINT	PAVEMENT MARKINGS TAPE
		LF
27B	1600	
STOP BAR	24	
SIGNAL AHEAD		64
		62
TOTAL	1624	126

TEMPORARY RAILING (TYPE K)	TEMPORARY CRASH CUSHION MODULE	TRAFFIC PLASTIC DRUM	TEMPORARY RAILING (TYPE K) REFLECTOR	TYPE 3 BARRICADE	TEMPORARY TRAFFIC SCREEN
LF	EA	EA	EA(N)	EA	LF
480	44	96	22	12	480

N : NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY



**HATHAWAY CREEK BRIDGE (Br No. 54-15)  
ROUTE 38**

THIS PLAN ACCURATE FOR PAVEMENT DELINEATION WORK ONLY  
 EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

**PAVEMENT DELINEATION PLAN**

NO SCALE **PD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 TRAFFIC DESIGN  
 SUPERVISING ENGINEER: BILL WASSER  
 CALCULATED/DESIGNED BY: [blank]  
 CHECKED BY: [blank]  
 JAMES LIANG  
 THANH TRINH  
 REVISED BY: [blank]  
 DATE REVISED: [blank]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	15	44

*Renée L. Sasse*  
 REGISTERED CIVIL ENGINEER DATE 4-01-14  
 4-01-14  
 PLANS APPROVAL DATE

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

**NOTES:**

- SEE SHEETS L-1 AND C-1 FOR LOCATIONS OF MIDWEST GUARDRAIL SYSTEM AND HMA DIKE.
- SEE STRUCTURE PLANS FOR BRIDGE WORK QUANTITIES.

**ROADWAY QUANTITIES**

LOCATION	REMOVE AC DIKE	PLACE HMA DIKE		COLD PLANE AC (0.20' Max)	MINOR HOT MIX ASPHALT	TACK COAT (N)	REMOVE BRIDGE APPROACH RAIL	MIDWEST GUARDRAIL SYSTEM				TEMPORARY FENCE (ESA)
		TYPE C	TYPE F					STANDARD RAILING SECTION (STEEL POST)	TRANSITION RAILING (TYPE WB-31)	ALTERNATIVE IN-LINE TERMINAL SYSTEM	ALTERNATIVE FLARED TERMINAL SYSTEM	
		LF										
SOUTH OF BRIDGE	18+07.1 TO 19+44.6 Lt	137.5	75	62.5								155
	18+32.1 TO 19+44.6 Lt						40	37.5	1	1		
	18+67.0 TO 19+33.0				235	44	0.5					
	18+55.4 TO 19+55.4 Rt							40	37.5	1	1	
NORTH OF BRIDGE	20+60.5 TO 21+73.0 Lt						40	37.5	1	1		171
	20+78.0 TO 21+44.0				235	44	0.5					
	20+57.6 TO 21+57.6 Rt							40	37.5	1	1	
<b>TOTAL</b>	137.5	75	62.5	470	90	1	160	150	4	2	2	326

(N) : NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

**ROUTE 38**

**SUMMARY OF QUANTITIES**

**Q-1**

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR  
 RENE SASSE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 ANH PHAN  
 RENE SASSE  
 REVISED BY  
 DATE REVISED



**NOTE:**  
 UNDERLINED PORTIONS OF BOTANICAL NAME INDICATE ABBREVIATIONS USED ON PLANTING PLANS.

**PLANT LEGEND**

PLANT GROUP	PLANT No.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY EACH	HOLE SIZE (INCH)		BASIN TYPE	IRON SULFATE ①	SOIL AMEND ①	COMMERCIAL FERTILIZER ①		BASIN MULCH (CY)	STAKING	PLANTING LIMITS						REMARKS			
							Dia	DEPTH				PLANTING	PLT ESTB			MINIMUM DISTANCE (FT) FROM				ON CENTER (FT)					
																ETW	Pvm+	FENCE	WALL		PAVED DITCH		EARTH DITCH		
<b>A</b>	1		<u>CALOCEDRUS</u> <u>DECURRENS</u>	INCENSE CEDAR	No. 1	6	③	③	1	---	---	---	---	---	---	---	---	---	---	---	---	---	⑦		
	2		<u>ALNUS</u> <u>RHOMBIFOLIA</u>	SIERRA ALDER	No. 1	3	③	③	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	⑦	
<b>H</b>	3		<u>SALIX</u> <u>LASIOLEPIS</u>	ARROYO WILLOW	WILLOW CUTTING	20	③	③	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3'	
	4		<u>SALIX</u> <u>EXIGUA</u>	NARROWLEAF WILLOW	WILLOW CUTTING	19	③	③	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3'	
<b>I</b>	5		RIBES NEVADENSE	PINK SIERRA CURRANT	4" POT	36	③	③	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5'	RANDOM PLACEMENT 5' SPACING BETWEEN GROUP 'L' PLANTING WITHIN DESIGNATED AREA
	6		ARTEMISIA TRIDENTATA	BASIN BIG SAGEBRUSH	4" POT	36	③	③	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	5'	

- APPLICABLE WHEN CIRCLED:**
- ① - QUANTITIES SHOWN ARE "PER PLANT" UNLESS SHOWN AS SQFT OR SQYD APPLICATION RATES
  - ② - BASIN MULCH IS INCLUDED WITH MULCH QUANTITIES SHOWN ON PLANTING PLAN
  - ③ - SUFFICIENT TO RECEIVE ROOT BALL AND AMENDMENTS IF REQUIRED
  - 4 - SEE DETAIL
  - 5 - SEE SPECIAL PROVISIONS
  - 6 - SEE STANDARD SPECIFICATIONS
  - ⑦ - AS SHOWN ON PLANS
  - 8 - UNLESS OTHERWISE SHOWN ON PLANS
  - 9 - FOLIAGE PROTECTOR REQUIRED
  - 10 - ROOT PROTECTOR REQUIRED
  - 11 - ROOT BARRIER REQUIRED
  - 12 - STATE-FURNISHED

**DRY BROADCAST SEED MIX**

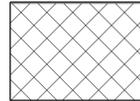
SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX 1	Bromus carinatus (California Mountain Brome)	40	50
TOTAL		50	

**EROSION CONTROL & PLANTING MITIGATION QUANTITIES**

TYPE	SEED APPLICATION (SQFT)
SEED MIX	1800
TOTAL	1800

**PLANTING QUANTITIES TABLE**

ITEM	UNIT	QUANTITY
PLANT (GROUP A)	EA	9
PLANT (GROUP I)	EA	72
PLANT (GROUP H)	EA	39

**LEGEND:**  
 DRY BROADCAST SEED MIX AREA

**PLANT LIST  
 PL-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Et Caltrans LANDSCAPE ARCHITECTURE  
 SENIOR LANDSCAPE ARCHITECT  
 RAY DESSELLE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 MIKE STIVERS  
 RAY DESSELLE  
 REVISED BY  
 DATE REVISED

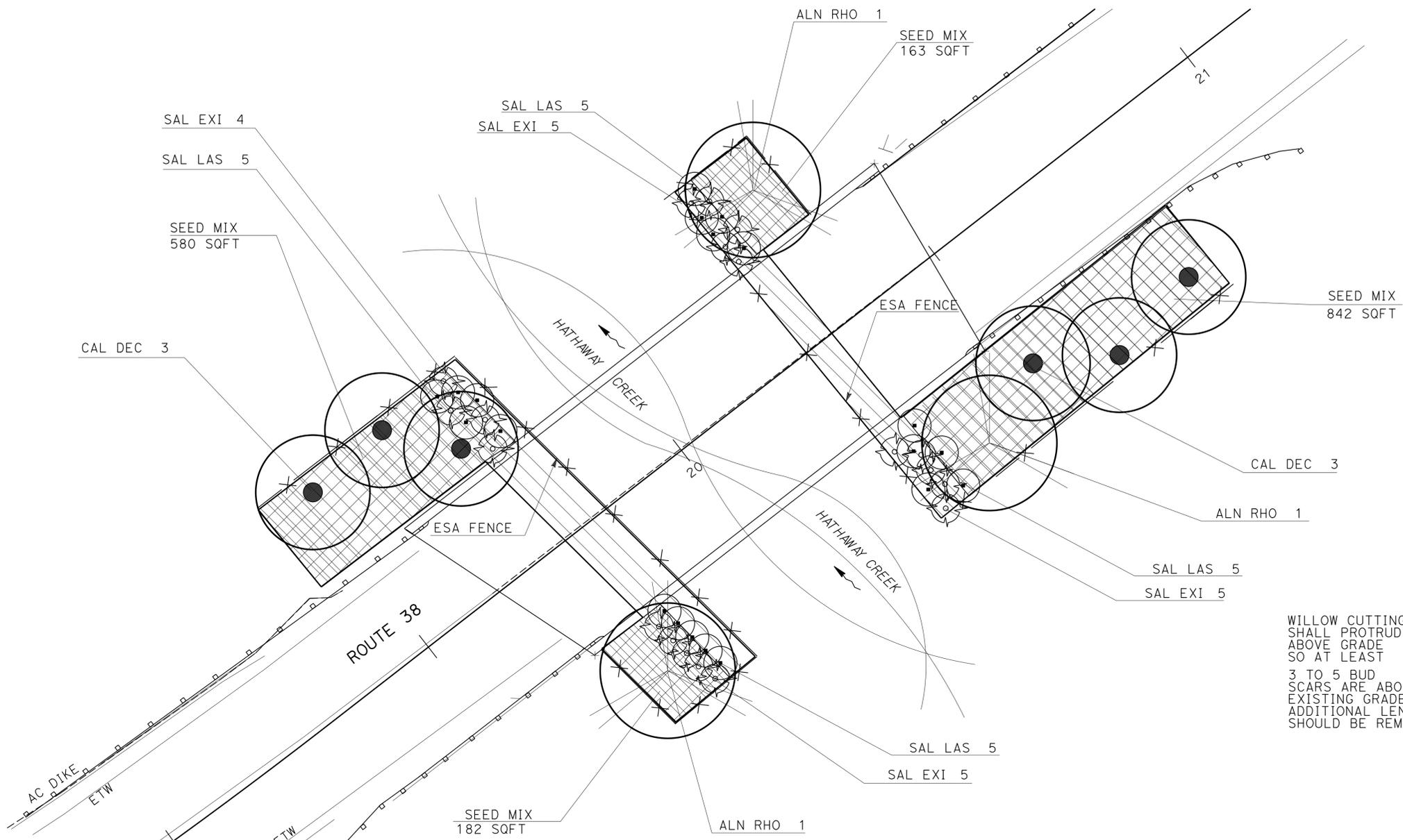
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 04-01-14 TIME PLOTTED => 1:31:20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	17	44

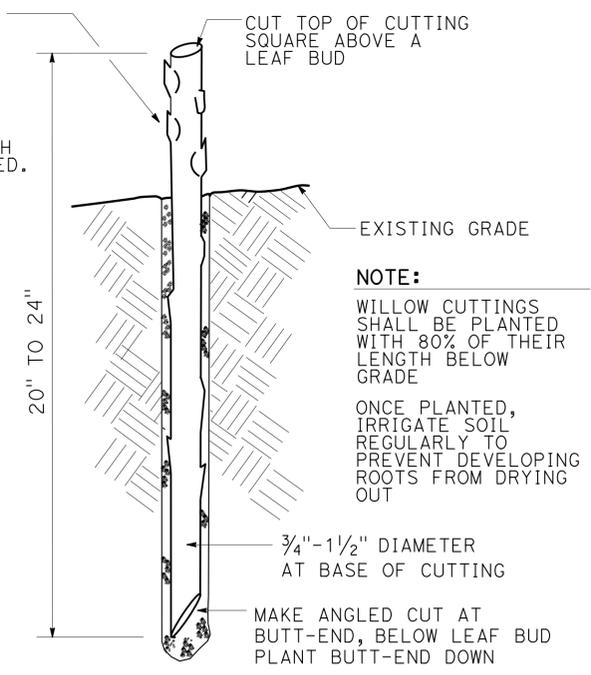
Signature: *Michael Stivers*  
 LICENSED LANDSCAPE ARCHITECT  
 Signature No. 08-31-15  
 Signature Date: 04-01-14  
 Signature Date: 04-01-14  
 Date: 04-01-14

4-01-14  
 PLANS APPROVAL DATE

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



WILLOW CUTTINGS SHALL PROTRUDE ABOVE GRADE SO AT LEAST 3 TO 5 BUD SCARS ARE ABOVE EXISTING GRADE. ADDITIONAL LENGTH SHOULD BE REMOVED.



**NOTE:**  
 WILLOW CUTTINGS SHALL BE PLANTED WITH 80% OF THEIR LENGTH BELOW GRADE  
 ONCE PLANTED, IRRIGATE SOIL REGULARLY TO PREVENT DEVELOPING ROOTS FROM DRYING OUT

SECTION CUTTINGS NO SCALE

**PLANTING REPLACEMENT AREA  
 HATHAWAY CREEK BRIDGE (Br No. 54-0015)  
 ROUTE 38**

**EROSION CONTROL & PLANTING MITIGATION**

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	DEPTH	REMARKS
		DESCRIPTION	TYPE			
STEP 1	DRY BROADCAST SEED	SEED	MIX 1	50 LB/ACRE		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Caltrans LANDSCAPE ARCHITECTURE  
 SENIOR LANDSCAPE ARCHITECT: RAY DESSELLE  
 ARCHITECT: RAY DESSELLE  
 MIKE STIVERS  
 RAY DESSELLE  
 REVISOR: MIKE STIVERS  
 DATE: 04-01-14  
 REVISOR: RAY DESSELLE  
 DATE: 04-01-14

USERNAME => s106356  
 DGN FILE => 0800000608su001.dgn



UNIT 2272

PROJECT NUMBER & PHASE

08000006081

**PLANTING PLAN**

SCALE: 1"=10' PP-1

LAST REVISION: 04-01-14  
 DATE PLOTTED => 03-APR-2014  
 TIME PLOTTED => 1:31:20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	18	44

Katherine Dinh		4-01-14
REGISTERED CIVIL ENGINEER	DATE	
4-01-14		
PLANS APPROVAL DATE		

KATHERINE DINH	
No. E17157	Exp 9-30-15
ELECTRICAL	

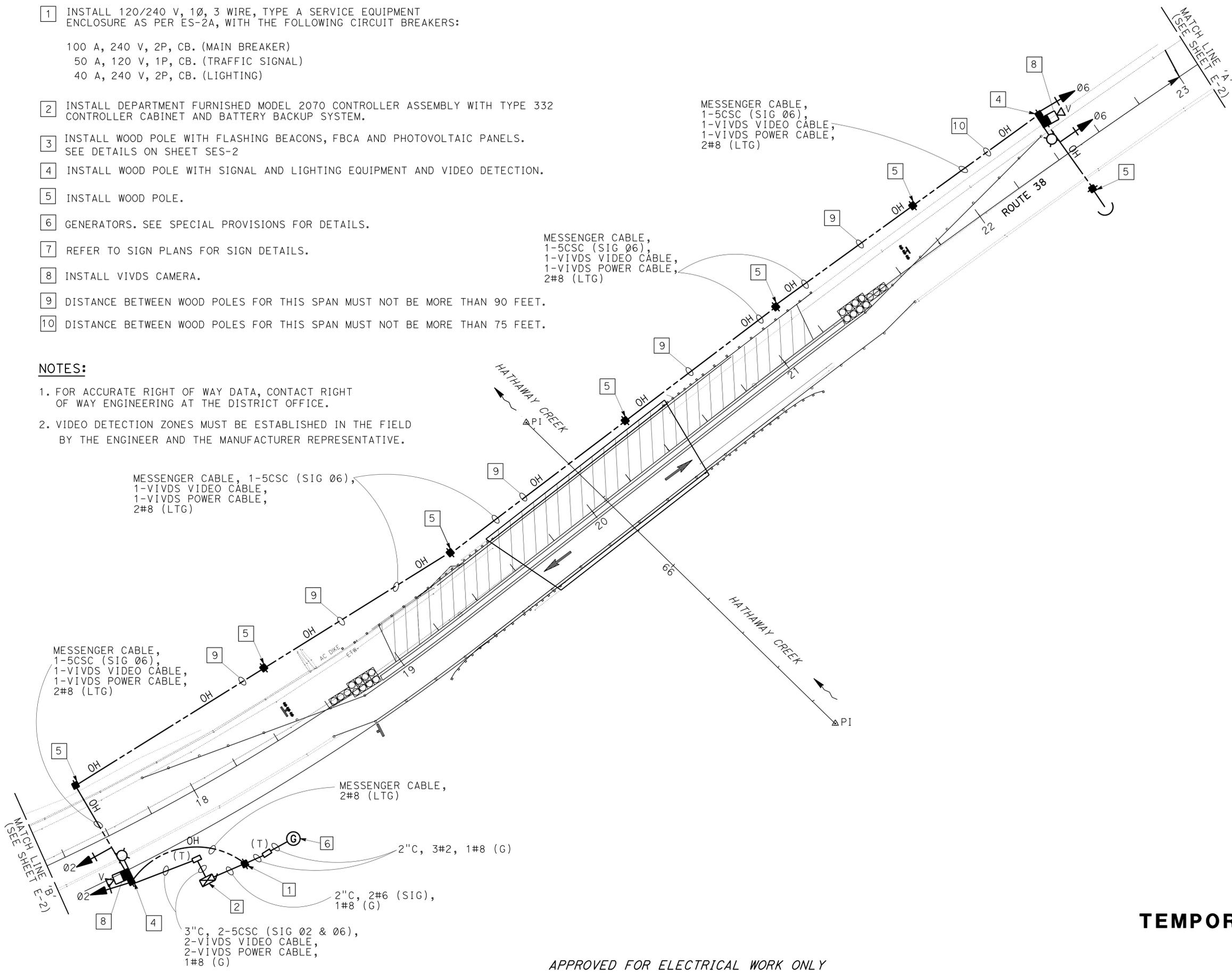
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**LEGEND: (SHEETS E-1 AND E-2)**

- 1 INSTALL 120/240 V, 1Ø, 3 WIRE, TYPE A SERVICE EQUIPMENT ENCLOSURE AS PER ES-2A, WITH THE FOLLOWING CIRCUIT BREAKERS:  
 100 A, 240 V, 2P, CB. (MAIN BREAKER)  
 50 A, 120 V, 1P, CB. (TRAFFIC SIGNAL)  
 40 A, 240 V, 2P, CB. (LIGHTING)
- 2 INSTALL DEPARTMENT FURNISHED MODEL 2070 CONTROLLER ASSEMBLY WITH TYPE 332 CONTROLLER CABINET AND BATTERY BACKUP SYSTEM.
- 3 INSTALL WOOD POLE WITH FLASHING BEACONS, FBCA AND PHOTOVOLTAIC PANELS. SEE DETAILS ON SHEET SES-2
- 4 INSTALL WOOD POLE WITH SIGNAL AND LIGHTING EQUIPMENT AND VIDEO DETECTION.
- 5 INSTALL WOOD POLE.
- 6 GENERATORS. SEE SPECIAL PROVISIONS FOR DETAILS.
- 7 REFER TO SIGN PLANS FOR SIGN DETAILS.
- 8 INSTALL VIVDS CAMERA.
- 9 DISTANCE BETWEEN WOOD POLES FOR THIS SPAN MUST NOT BE MORE THAN 90 FEET.
- 10 DISTANCE BETWEEN WOOD POLES FOR THIS SPAN MUST NOT BE MORE THAN 75 FEET.

**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. VIDEO DETECTION ZONES MUST BE ESTABLISHED IN THE FIELD BY THE ENGINEER AND THE MANUFACTURER REPRESENTATIVE.



**TEMPORARY SIGNAL SYSTEM**

SCALE: 1"=20' **E-1**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 WALEED ABDOUL-HOSN KATHERINE DINH  
 REVISED BY: DATE REVISED:  
 BORDER LAST REVISED 7/2/2010

LAST REVISION: DATE PLOTTED => 03-APR-2014  
 04-01-14 TIME PLOTTED => 13:20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	19	44

Katherine Dinh		4-01-14
REGISTERED CIVIL ENGINEER	DATE	
4-01-14		
PLANS APPROVAL DATE		

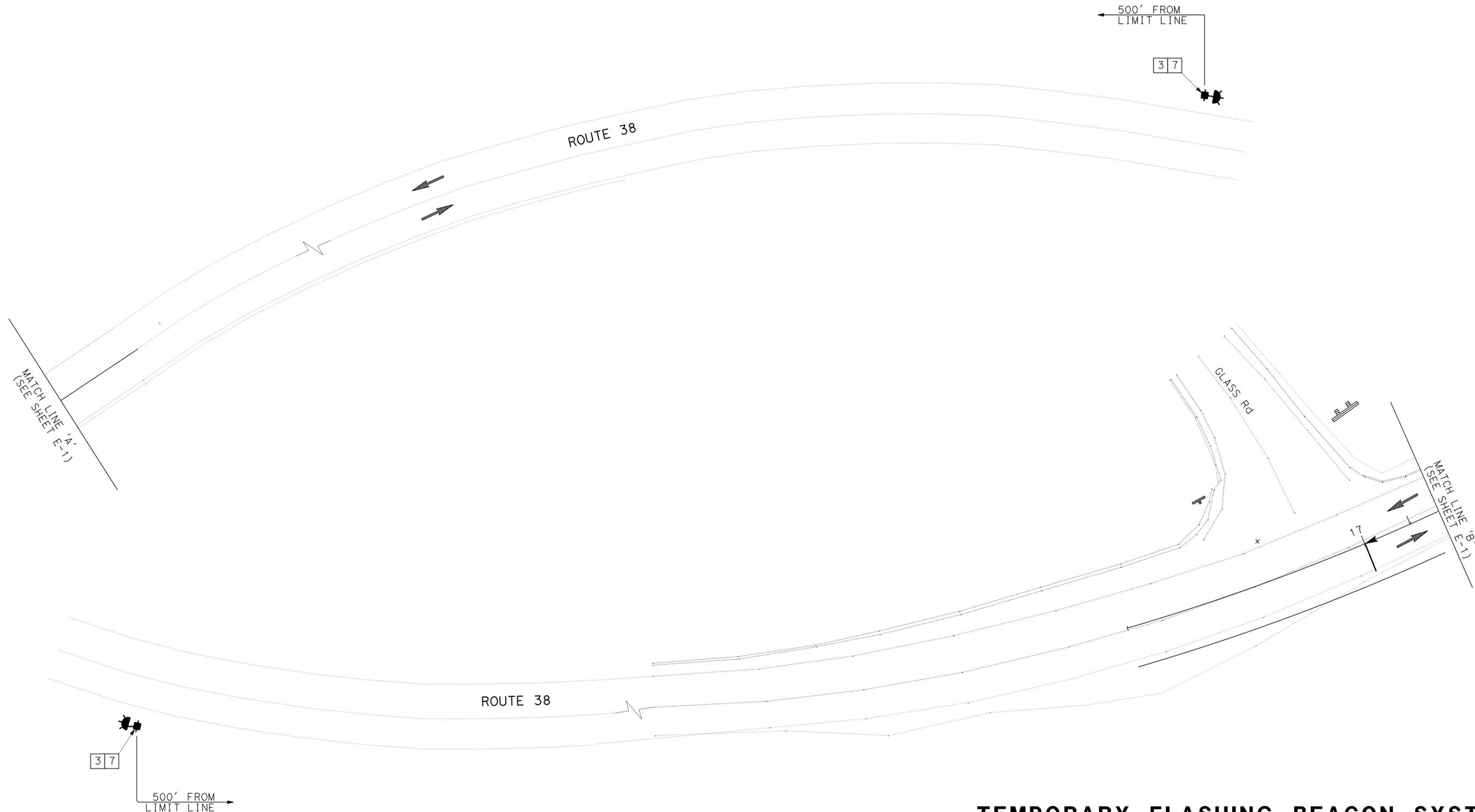
KATHERINE DINH	
No. E17157	Exp 9-30-15

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**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	WALEED ABOUL-HOSN	REVISOR	DATE
<b>Caltrans</b>	FERDINAND DE LA CRUZ	CHECKED BY	KATHERINE DINH		
<b>ELECTRICAL DESIGN</b>					



**TEMPORARY FLASHING BEACON SYSTEM**

SCALE: 1"=20'

**E-2**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR  
 FERDINAND DE LA CRUZ  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 WALEED ABOUL-HOSN  
 KATHERINE DINH  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	20	44

KATHERINE DINH  
 REGISTERED CIVIL ENGINEER  
 No. E17157  
 Exp 9-30-15  
 ELECTRICAL  
 STATE OF CALIFORNIA

4-01-14  
 DATE  
 PLANS APPROVAL DATE

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

**LEGEND:**

1. THE QUANTITIES ON THIS SHEET ARE NOT A SEPARATE PAY ITEM AND ARE FOR INFORMATION ONLY.

**TEMPORARY SIGNAL SYSTEM**

SHEET No.	2 "C TYPE 3	3 "C TYPE 3	MESSENGER CABLE	SPAN WIRE	No. 5 PB	No. 8 (G)	CONDUCTOR #8	CONDUCTOR #2	5 CSC CABLE	VIVDS POWER CABLE	VIVDS VIDEO CABLE	VIVDS CAMERA ASSEMBLY	LUMINAIRE	LUMINAIRE MASTARM 8 FT
E-1	50	50	600	100	2	100	1200	100	600	700	700	2	2	2

SHEET No.	TYPE A SERVICE ENCLOSURE	WOOD POLE	MODEL 332 CABINET	MODEL 332 CABINET FOUNDATION	BATTERY BACK-UP SYSTEM	3-SECTION SIGNAL HEAD	GENERATOR
E-1	1	10	1	1	1	4	2

**TEMPORARY FLASHING BEACON SYSTEM**

SHEET No.	WOOD POLE (30 FT Max)	FBCA	FB FLASHER (HOUSING AND LED)	SOLAR PANELS (25' SQFT Max)
E-2	2	2	4	2

**ELECTRICAL QUANTITIES**

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

**E-3**

LAST REVISION | DATE PLOTTED => 03-APR-2014  
 04-01-14 | TIME PLOTTED => 1:3:20

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	21	44

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Grace M. Tsushima  
No. C49814  
Exp. 9-30-14  
CIVIL  
STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 4-01-14

**UNIT OF MEASUREMENT SYMBOLS:**

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

**TABLE A**

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

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

**TABLE B**

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

**REVISED STANDARD PLAN RSP A10B**

	<b>M</b>
Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
Mt	MOUNTAIN, MOUNT
MtI	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT
	<b>N</b>
N	NORTH
NB	NORTHBOUND
No.	NUMBER (MUST HAVE PERIOD)
Nos.	NUMBERS (MUST HAVE PERIOD)
NPS	NOMINAL PIPE SIZE
NS	NEAR SIDE
NSP	NEW STANDARD PLAN
NTS	NOT TO SCALE
	<b>O</b>
Obir	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN
	<b>P</b>
p	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE, PRECAST
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm MtI	PERMEABLE MATERIAL

	<b>P continued</b>
PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
PL, PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE, TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE, PLASTIC PIPE, POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT
	<b>Q</b>
Qty	QUANTITY
	<b>R</b>
R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
Rd	ROAD
Reinf	REINFORCED, REINFORCEMENT, REINFORCING
Rel	RELOCATE
Repl	REPLACEMENT
Ret	RETAINING
Rev	REVISED, REVISION
Rdwy	ROADWAY
RHMA	RUBBERIZED HOT MIX ASPHALT
Riv	RIVER
RM	ROAD-MIXED
RP	RADIUS POINT, REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

	<b>S</b>
S	SOUTH, SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SAND CUSHION
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND, SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
Sht	SHEET
Sim	SIMILAR
⊥	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL, SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK, SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES
	<b>T</b>
T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TeI	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

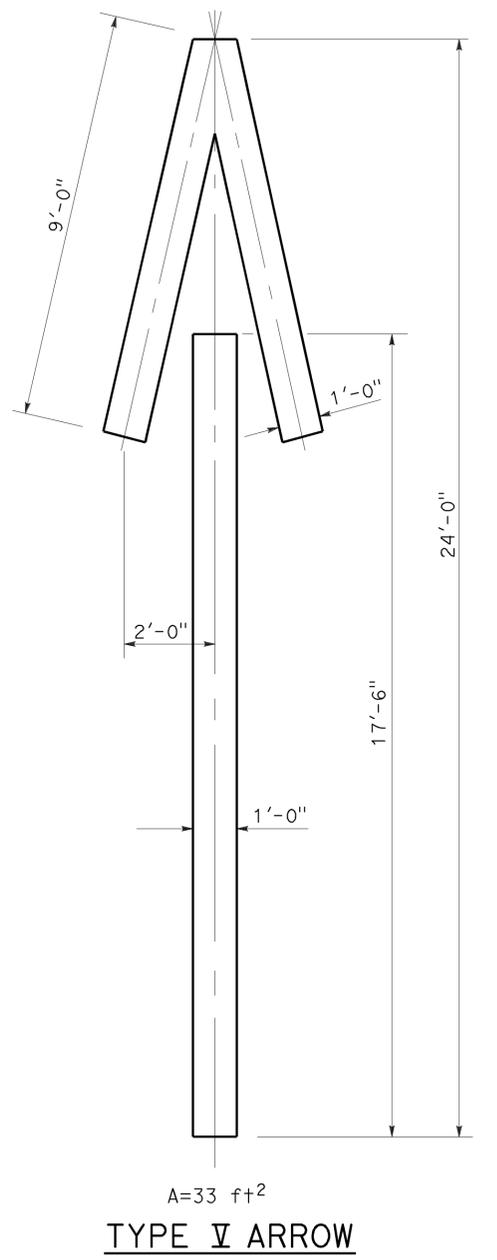
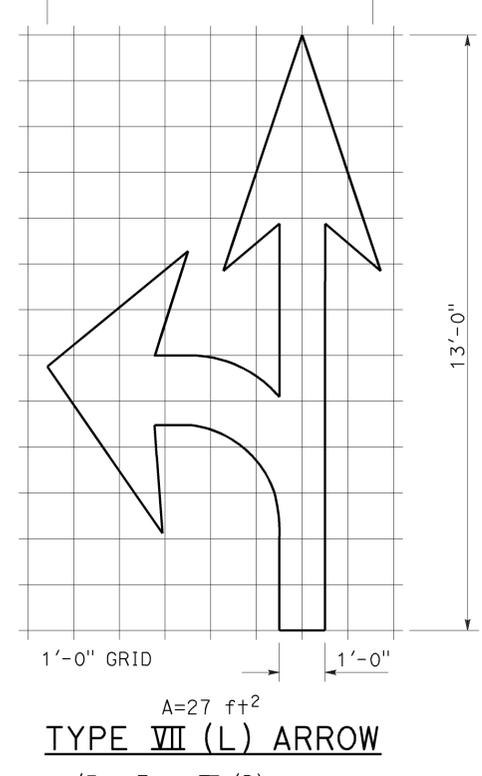
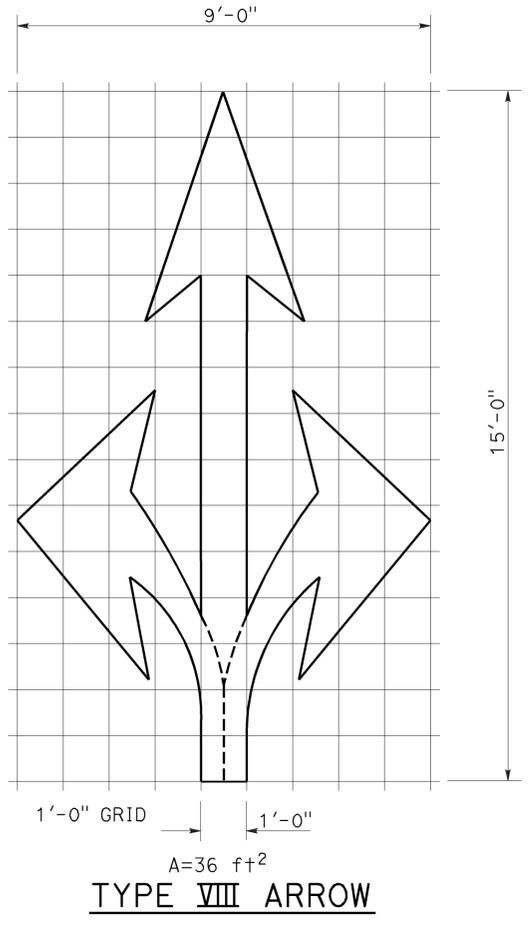
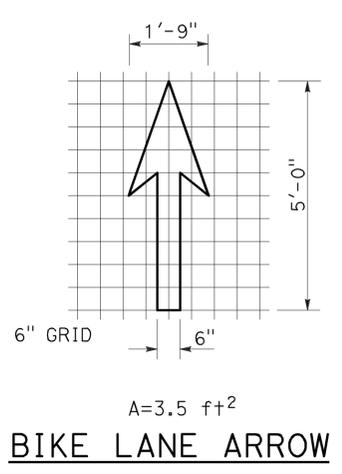
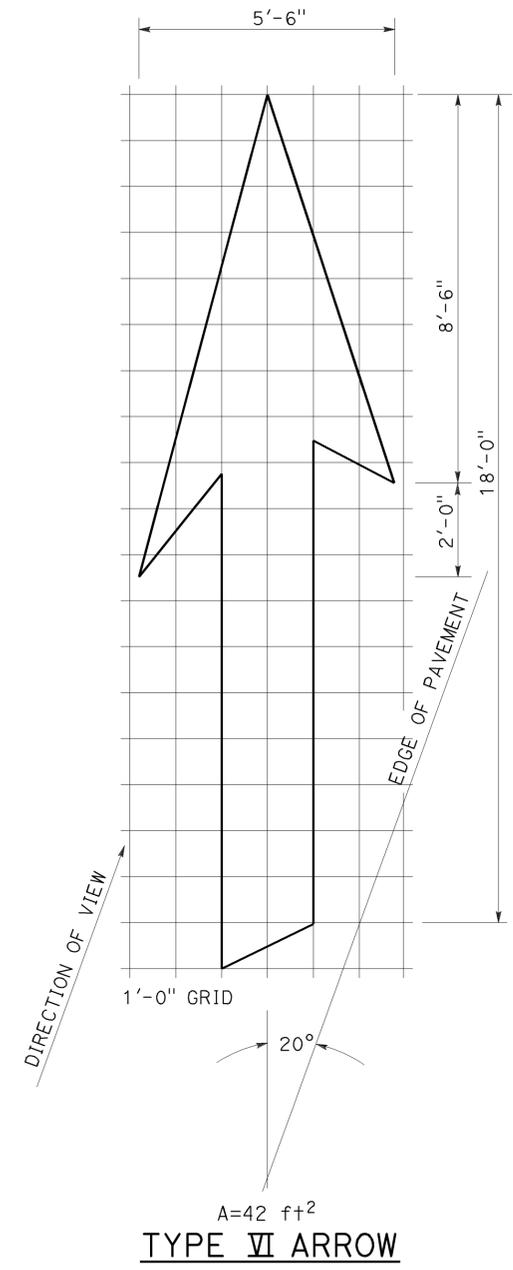
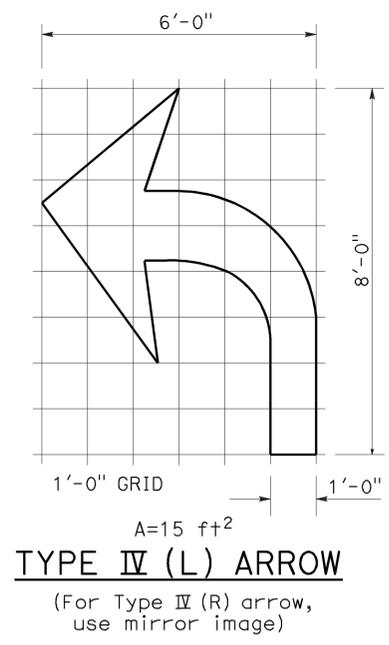
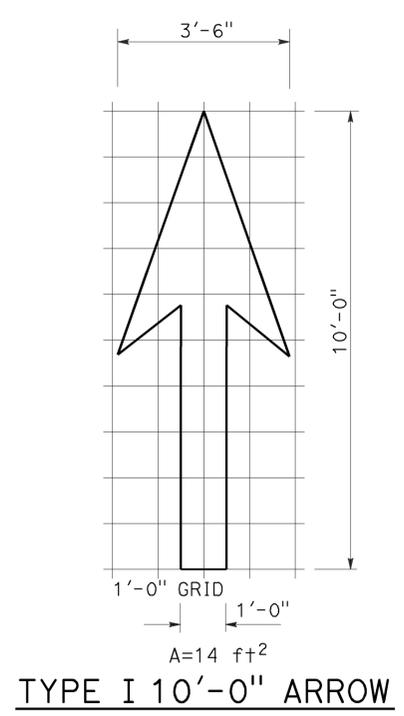
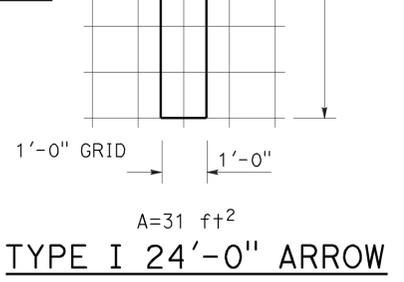
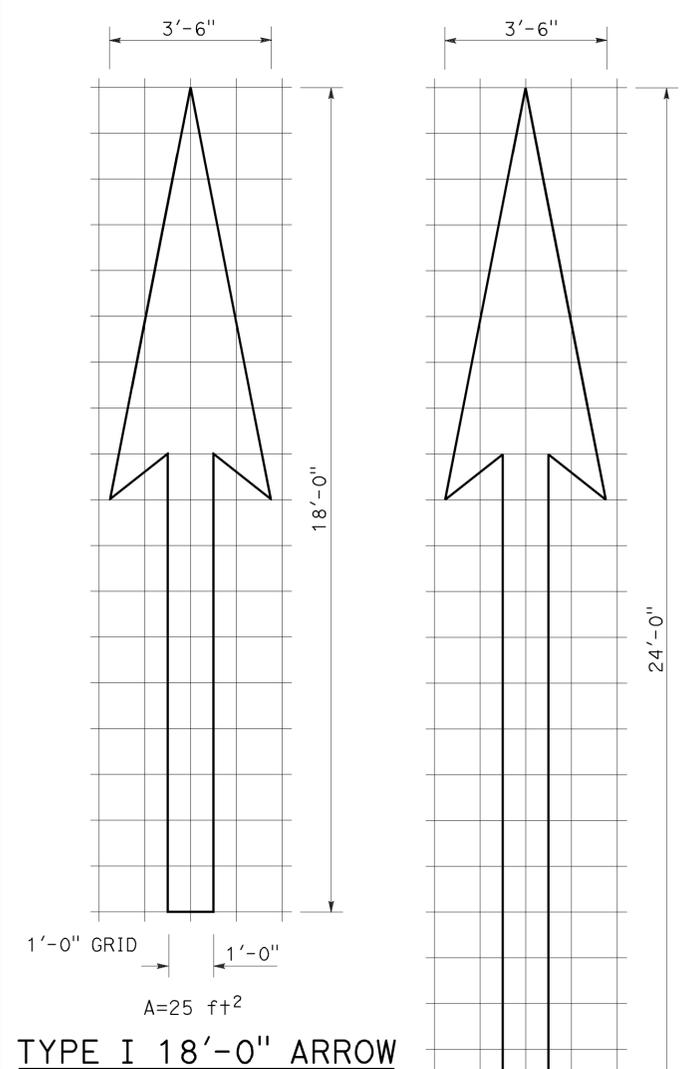
	<b>T continued</b>
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
	<b>U</b>
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
	<b>V</b>
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
	<b>W</b>
W	WEST, WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE
	<b>X</b>
X Sec	CROSS SECTION
Xing	CROSSING
	<b>Y</b>
Yr	YEAR
Yrs	YEARS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SbD	38	26.3/26.8	22	44

*Roberta L. McLaughlin*  
 REGISTERED CIVIL ENGINEER  
 April 20, 2012  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 4-01-14



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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
ARROWS**  
NO SCALE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	23	44

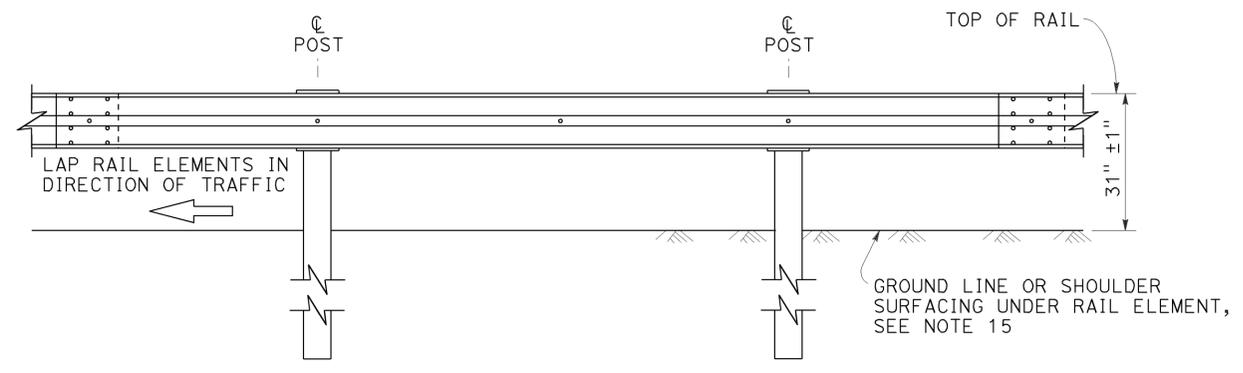
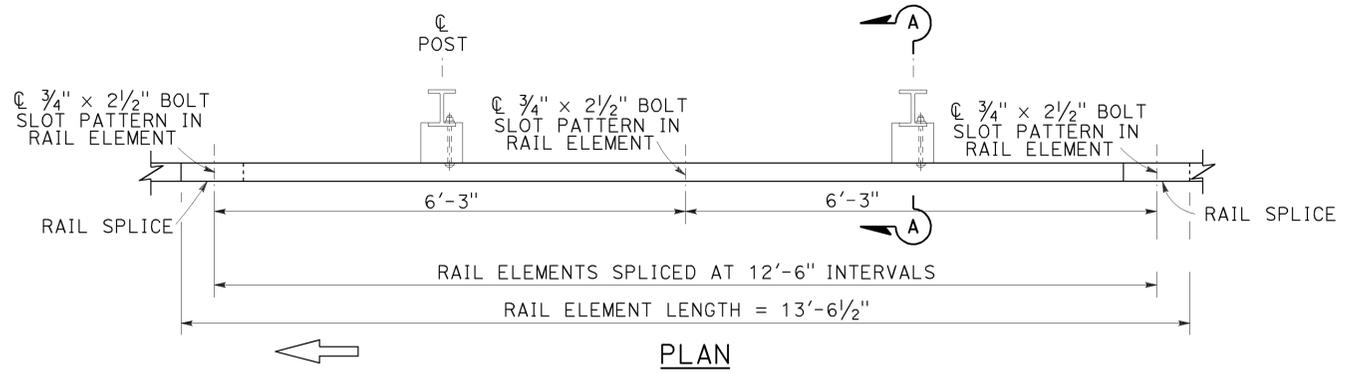
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

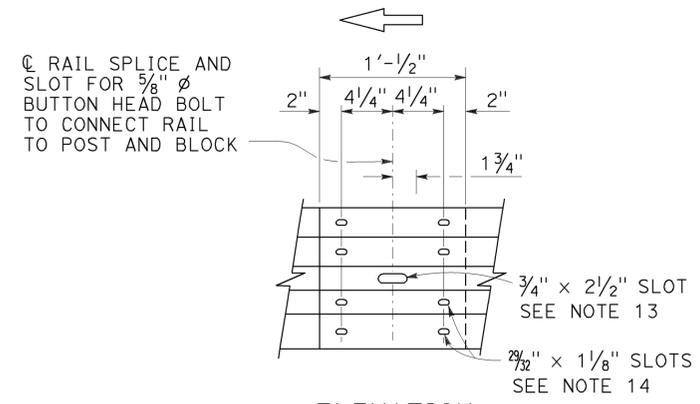
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

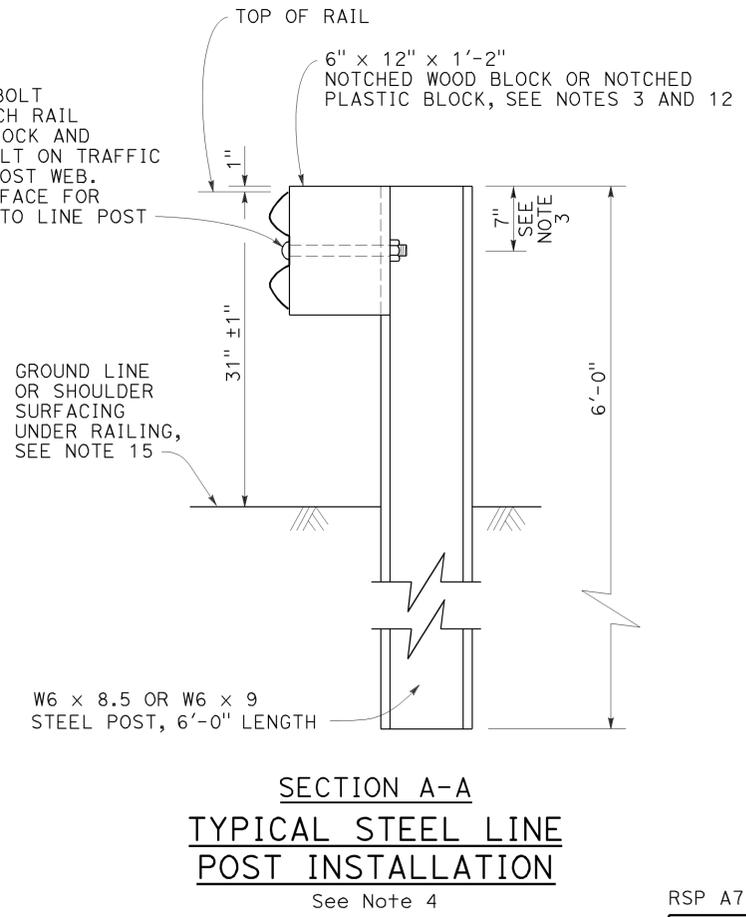
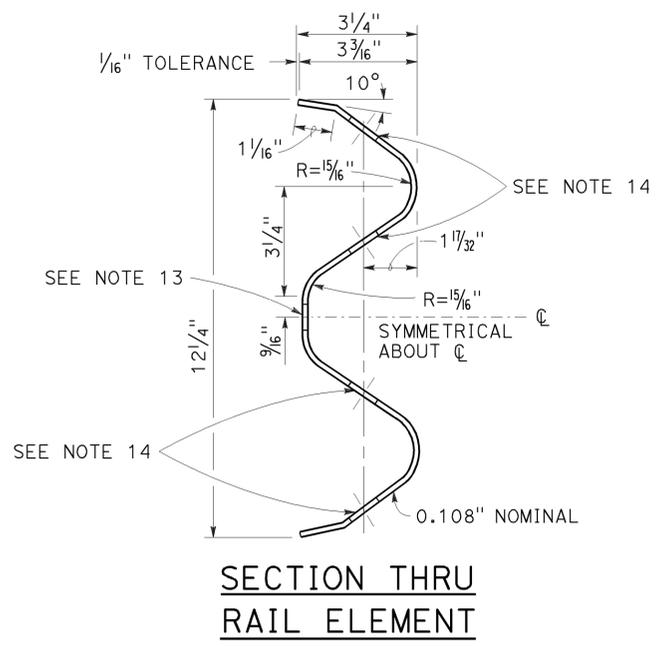
TO ACCOMPANY PLANS DATED 4-01-14



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



- Connect the overlapped end of the rail elements with 5/8"  $\phi$  x 1 3/8" button head oval shoulder splice bolts inserted into the 7/32" x 1 1/8" slots and bolted together with 5/8"  $\phi$  recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

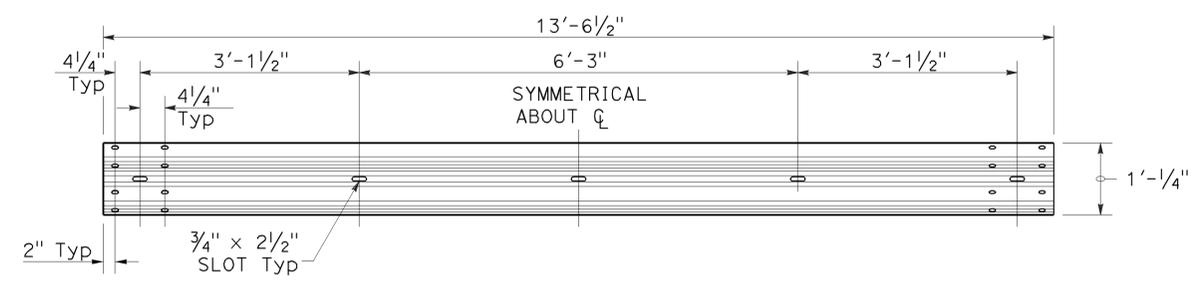
NO SCALE

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

**REVISED STANDARD PLAN RSP A77L2**

2010 REVISED STANDARD PLAN RSP A77L2

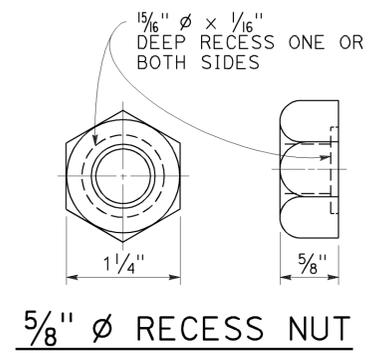
TO ACCOMPANY PLANS DATED 4-01-14



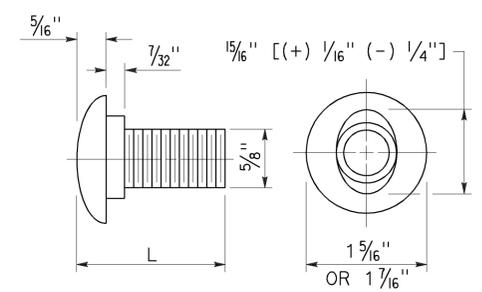
**TYPICAL RAIL ELEMENT**

**NOTE:**

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



**5/8" Ø RECESS NUT**

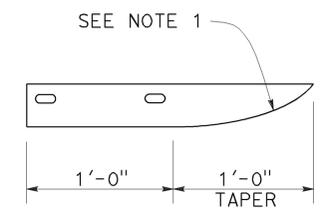


**5/8" Ø BUTTON HEAD BOLT**

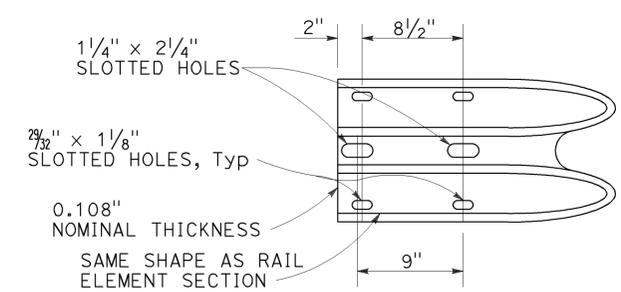
**BUTTON HEAD BOLT**

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

\*\* For nested rail applications.



**PLAN**



**ELEVATION  
END CAP  
(TYPE A)**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
STANDARD HARDWARE**

NO SCALE

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

**REVISED STANDARD PLAN RSP A77M1**

2010 REVISED STANDARD PLAN RSP A77M1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBD	38	26.3/26.8	25	44

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

November 15, 2013  
PLANS APPROVAL DATE

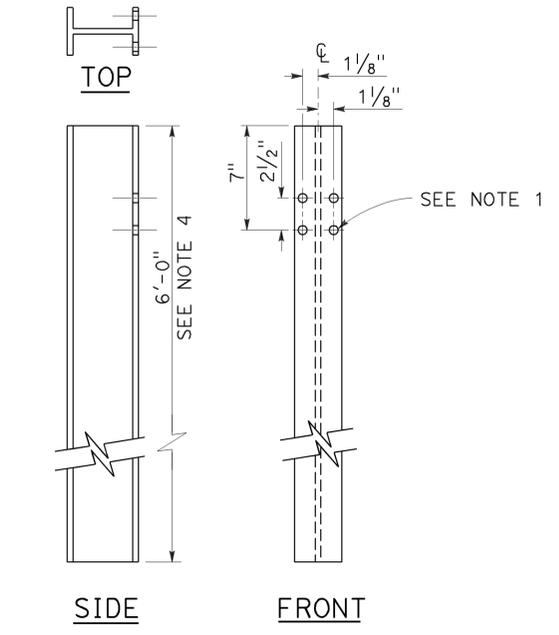
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TO ACCOMPANY PLANS DATED 4-01-14

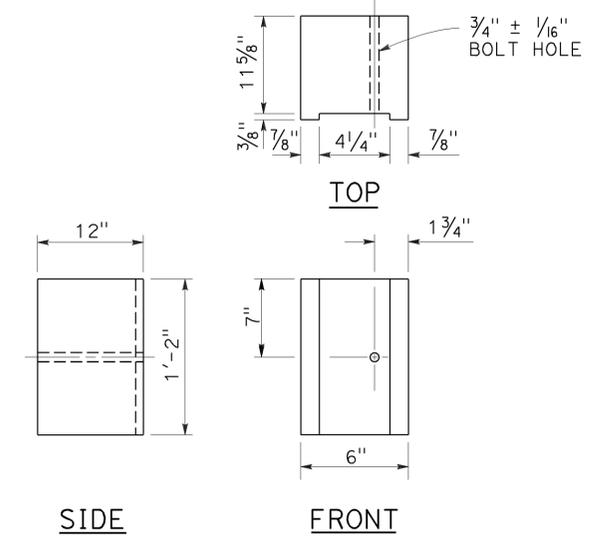
**NOTES:**

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

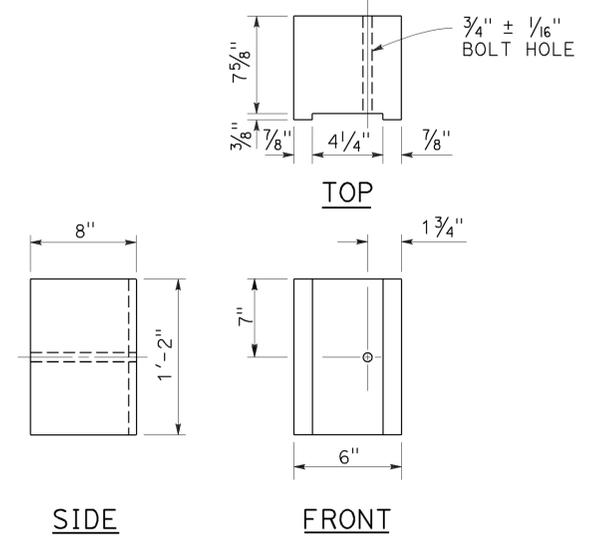
2010 REVISED STANDARD PLAN RSP A77N2



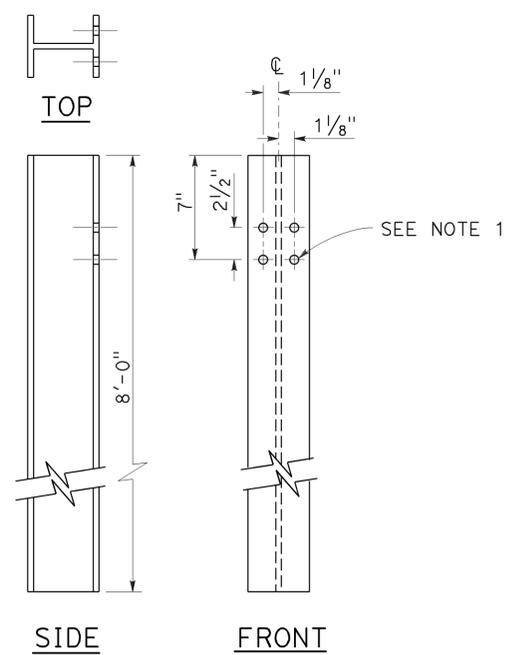
**W6 x 9 OR W6 x 8.5  
STEEL POST**  
See Note 4



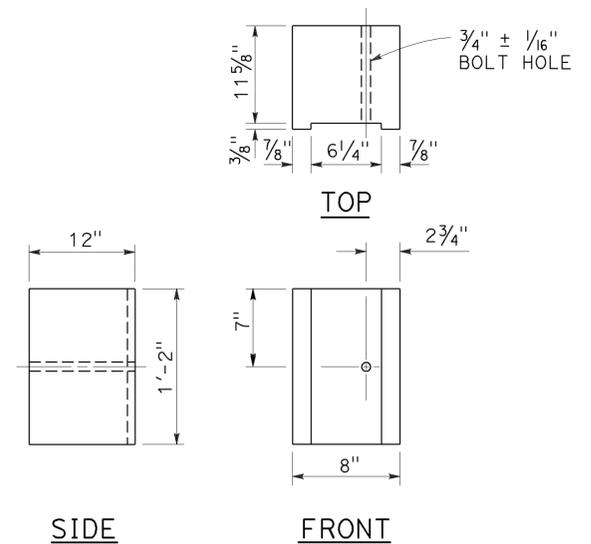
**6" x 12"  
NOTCHED WOOD BLOCK**  
See Notes 2 and 3



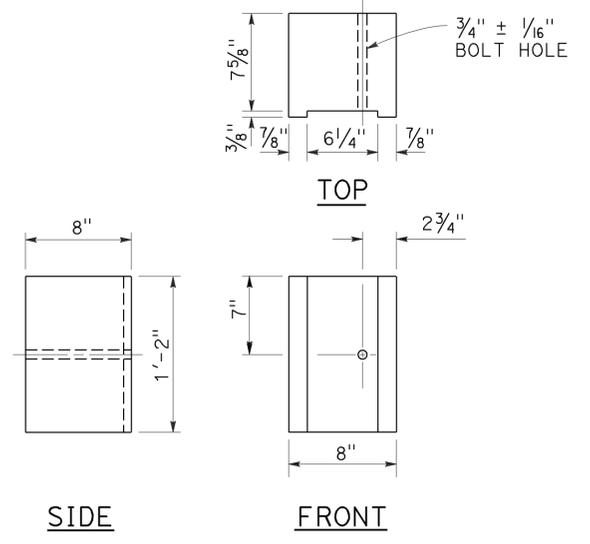
**6" x 8"  
NOTCHED WOOD BLOCK**  
Only for use with metal beam guard railing. See Note 5



**W6 x 15  
STEEL POST**  
See Note 6



**8" x 12"  
NOTCHED WOOD BLOCK**  
See Notes 2 and 3



**8" x 8"  
NOTCHED WOOD BLOCK**  
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
STEEL POST AND  
NOTCHED WOOD BLOCK DETAILS**

NO SCALE

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

**REVISED STANDARD PLAN RSP A77N2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	26	44

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

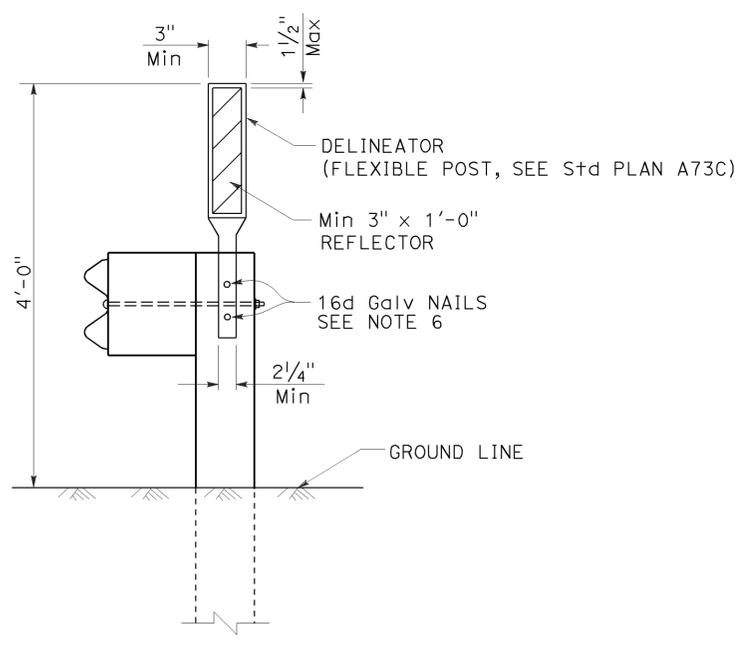
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-15  
CIVIL  
STATE OF CALIFORNIA

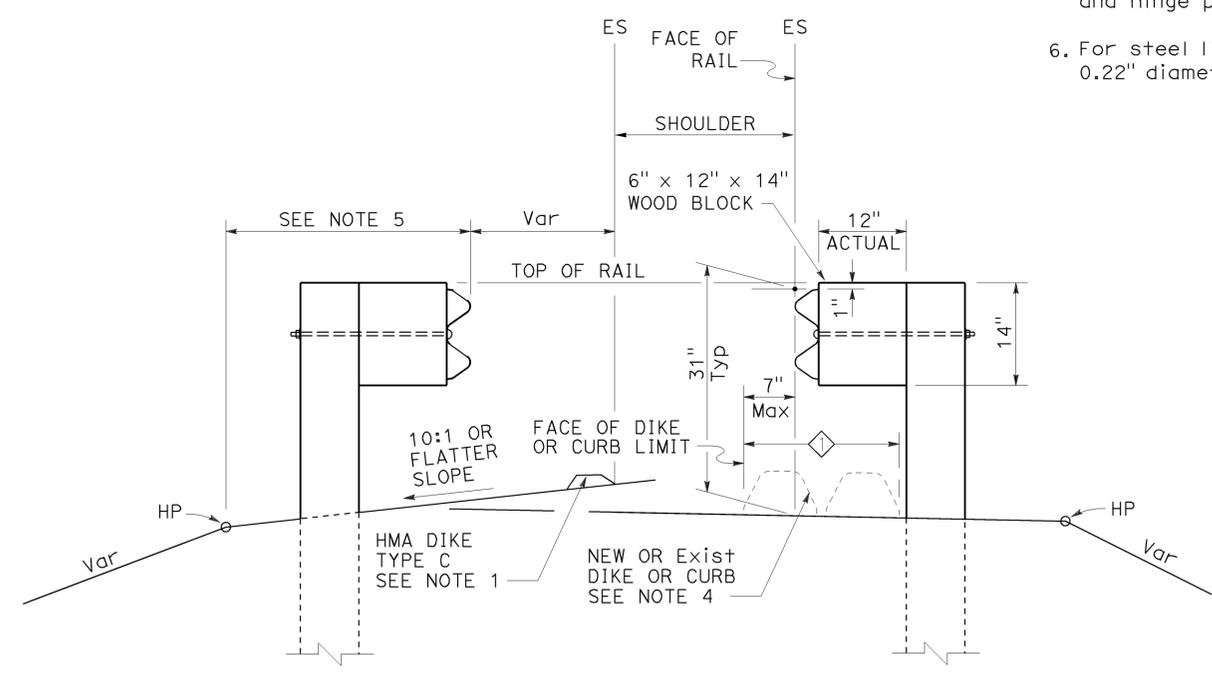
TO ACCOMPANY PLANS DATED 4-01-14

**NOTES:**

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



**MGS DELINEATION**  
See Note 3



**DIKE POSITIONING**  
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM  
TYPICAL RAILING DELINEATION  
AND DIKE POSITIONING DETAILS**  
NO SCALE

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

**REVISED STANDARD PLAN RSP A77N4**

2010 REVISED STANDARD PLAN RSP A77N4



**LEGEND:**

<b>AB</b>	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
<b>BC</b>	INSTALL PULL BOX IN EXISTING CONDUIT RUN
<b>BP</b>	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
<b>CB</b>	INSTALL CONDUIT INTO EXISTING PULL BOX
<b>CC</b>	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
<b>CF</b>	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
<b>DH</b>	DETECTOR HANDHOLE
<b>FA</b>	FOUNDATION TO BE ABANDONED
<b>IS</b>	INSTALL SIGN ON SIGNAL MAST ARM
<b>NS</b>	NO SLIP BASE ON STANDARD
<b>PEC</b>	PHOTOELECTRIC CONTROL
<b>PEU</b>	PHOTOELECTRIC UNIT
<b>RC</b>	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
<b>RE</b>	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
<b>RL</b>	RELOCATE EQUIPMENT
<b>RR</b>	REMOVE AND REUSE EQUIPMENT
<b>RS</b>	REMOVE AND SALVAGE EQUIPMENT
<b>SC</b>	SPLICE NEW TO EXISTING CONDUCTORS
<b>SD</b>	SERVICE DISCONNECT
<b>TSP</b>	TELEPHONE SERVICE POINT

**ABBREVIATIONS**

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	28	44

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Theresa  
Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 4-01-14

**SOFFIT AND WALL MOUNTED LUMINAIRES**

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

**NOTE:**  
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
$\Omega$	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
$\mu$	MICRO
P	PICO
HZ	HERTZ

**MISCELLANEOUS ELECTROLIERS**

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
  - LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
  - Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

**STANDARD ELECTROLIER**

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1A**

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	29	44

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA  
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### CONDUIT

### SIGNAL EQUIPMENT

NEW	EXISTING	
---	---	LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
---	---	TRAFFIC SIGNAL CONDUIT
---C---	---c---	COMMUNICATION CONDUIT
---T---	---t---	TELEPHONE CONDUIT
---F---	---f---	FIRE ALARM CONDUIT
---FO---	---fo---	FIBER OPTIC CONDUIT
---	---	CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

### SIGNAL EQUIPMENT Cont

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

### SERVICE EQUIPMENT

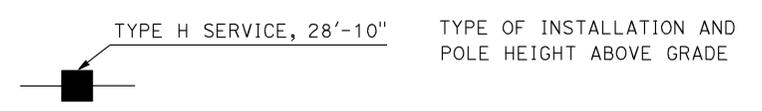
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

### NOTES:

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

### POLE-MOUNTED SERVICE DESIGNATION



### FLASHING BEACON

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

### ILLUMINATED OVERHEAD SIGN

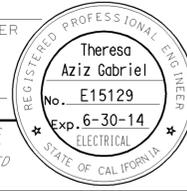
NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE  
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1B**

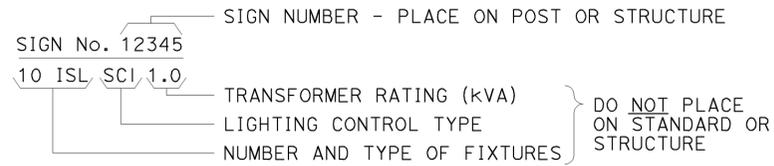
2010 REVISED STANDARD PLAN RSP ES-1B



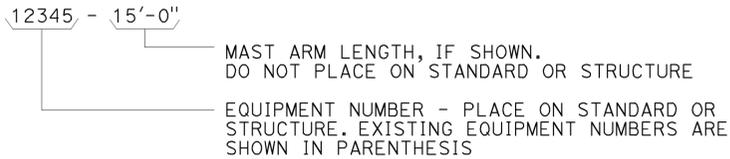
TO ACCOMPANY PLANS DATED 4-01-14

### EQUIPMENT IDENTIFICATION

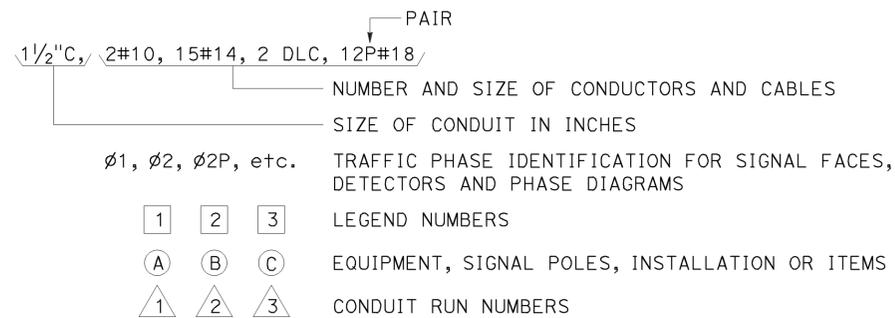
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



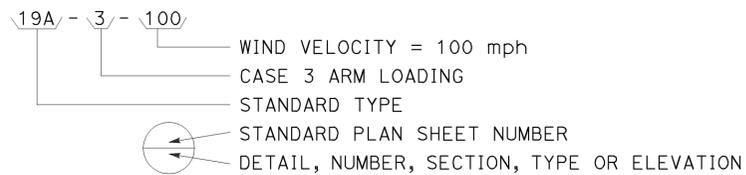
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



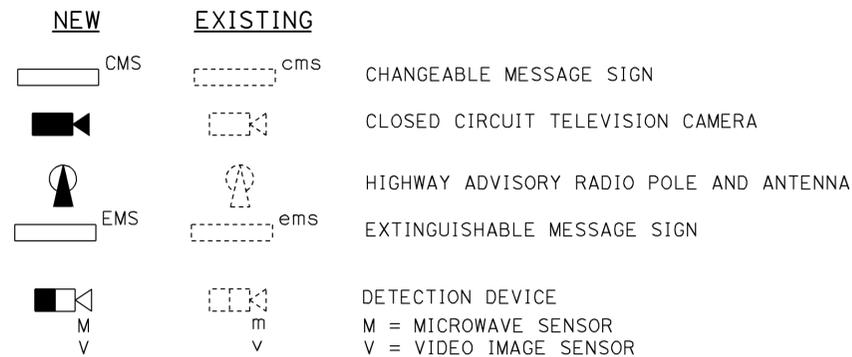
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



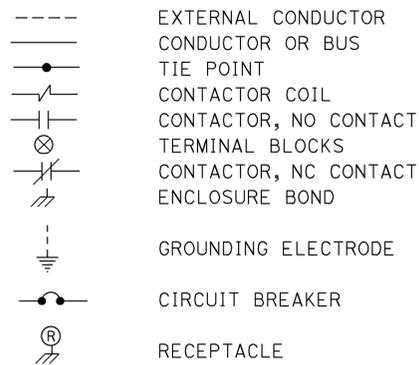
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



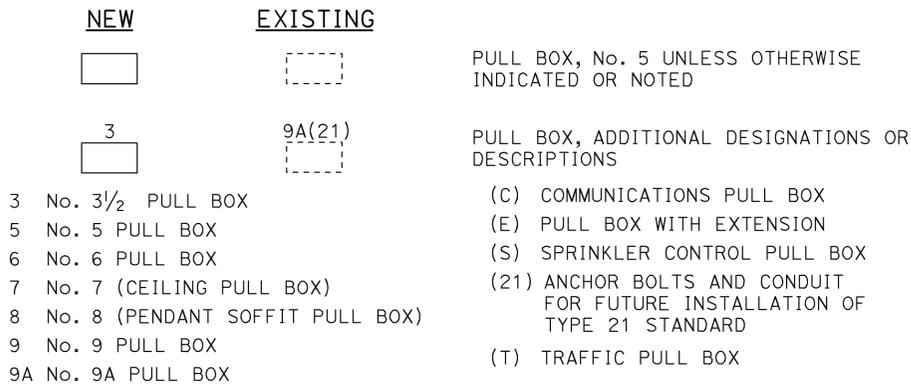
### MISCELLANEOUS EQUIPMENT



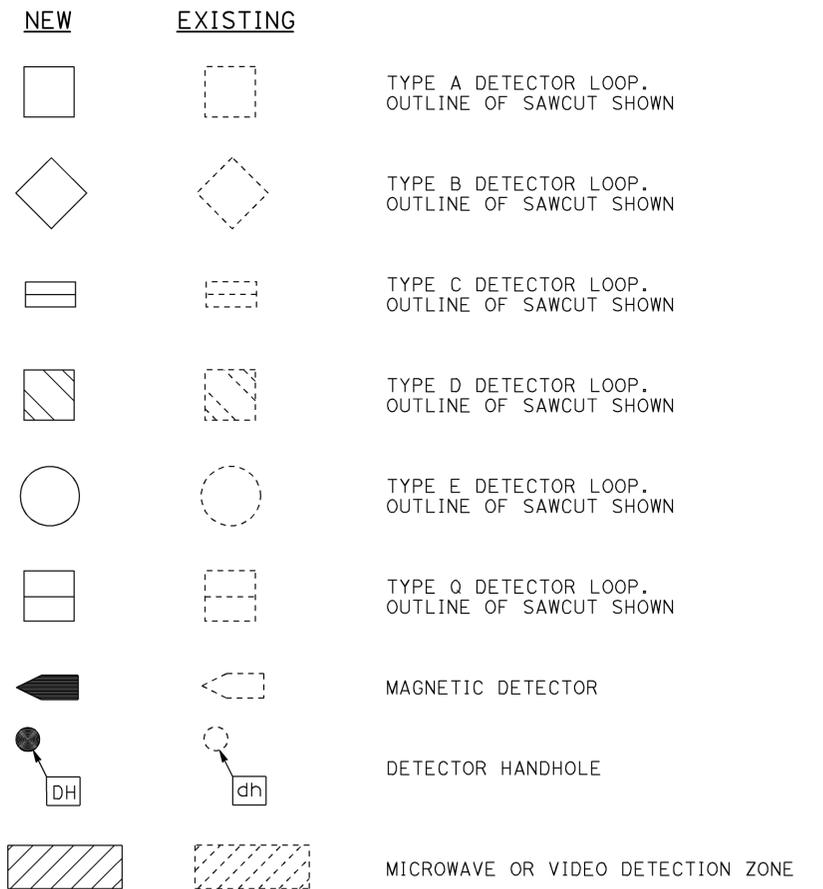
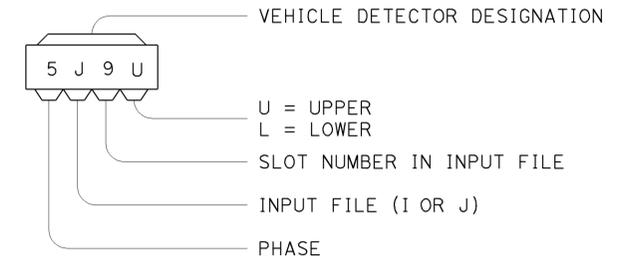
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

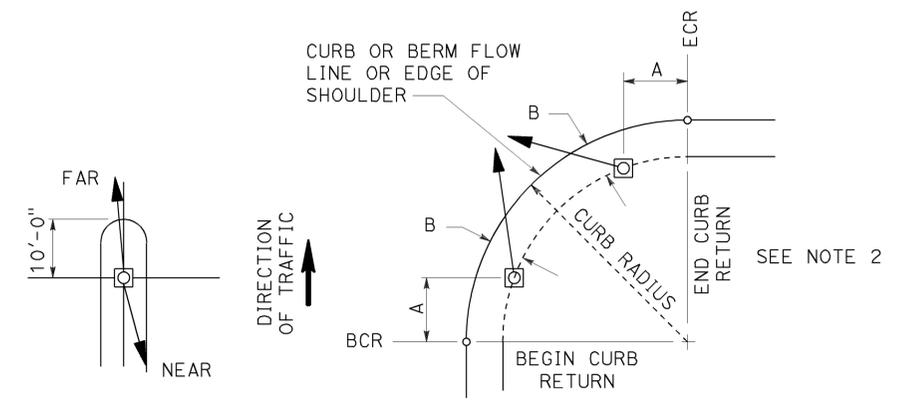
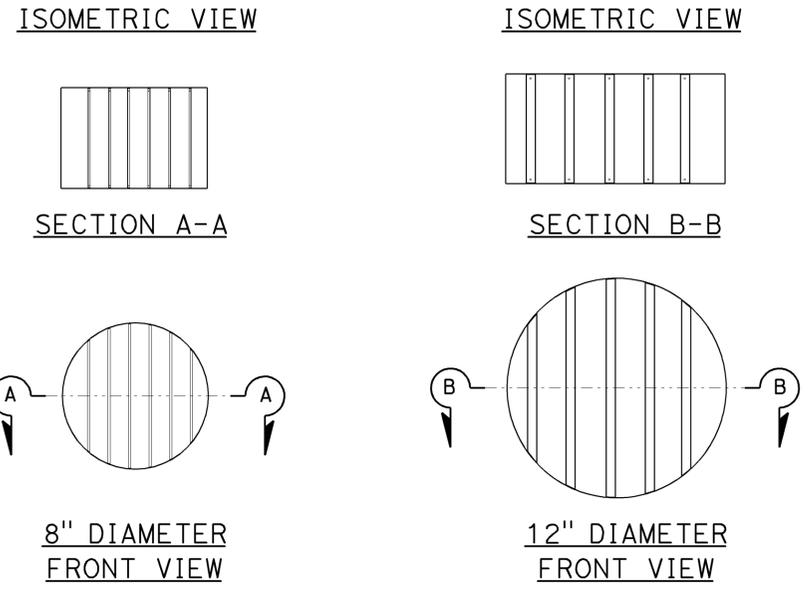
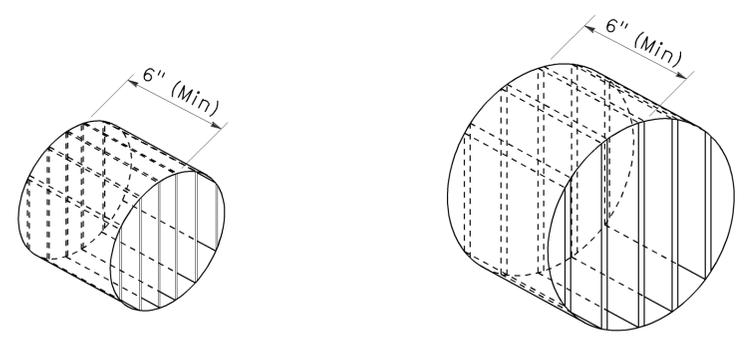
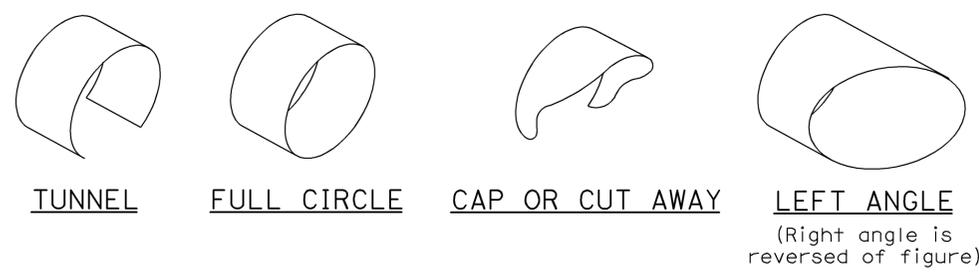
**REVISED STANDARD PLAN RSP ES-1C**

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SbD	38	26.3/26.8	31	44

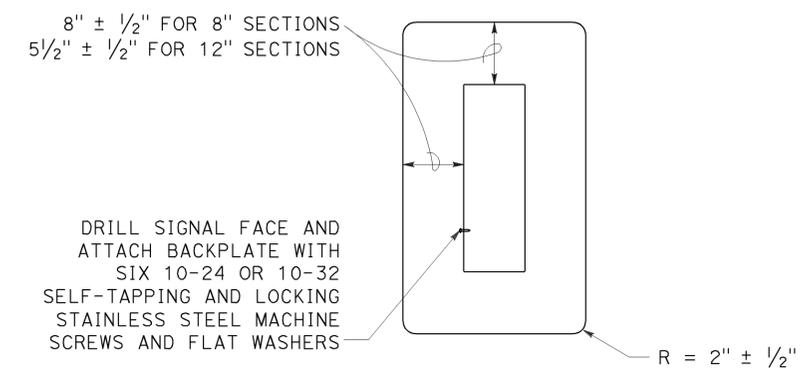
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 4-01-14



- 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.

**VISORS**



**8" AND 12" SECTIONS**

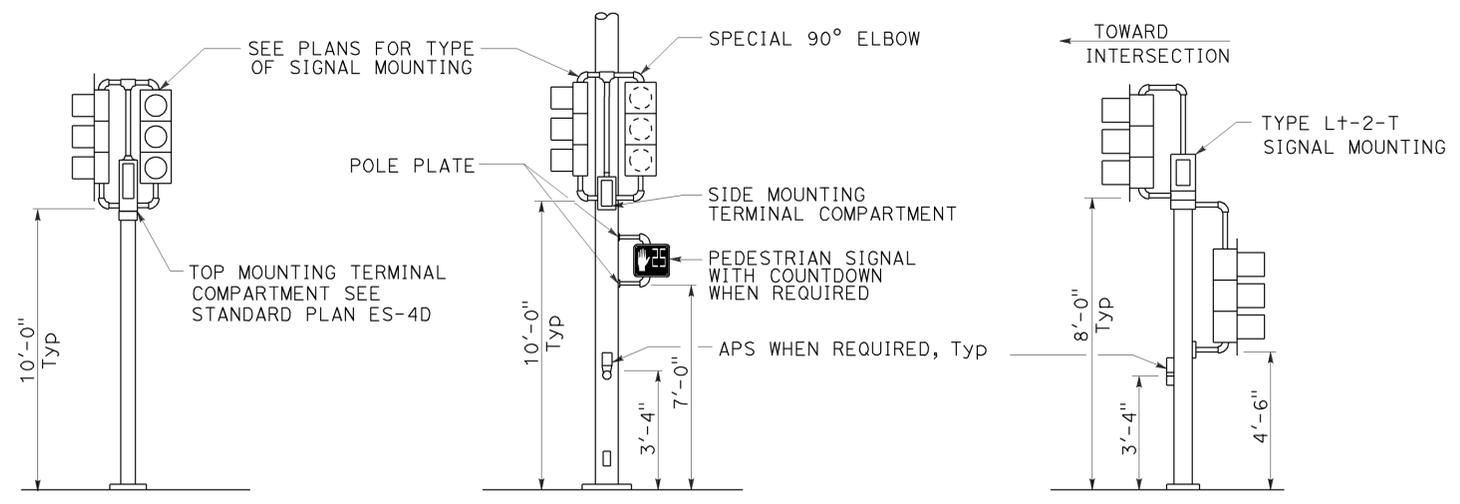
**BACKPLATE**

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

**DIRECTIONAL LOUVER**

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

**SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS**



**TOP MOUNTED SIGNALS (TV)**

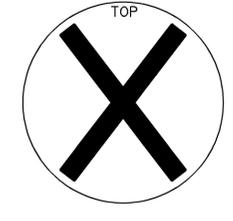
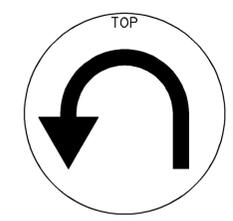
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

**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



**SIGNAL FACES**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

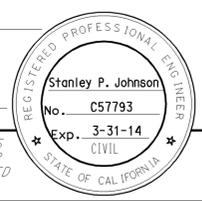
RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-4C**

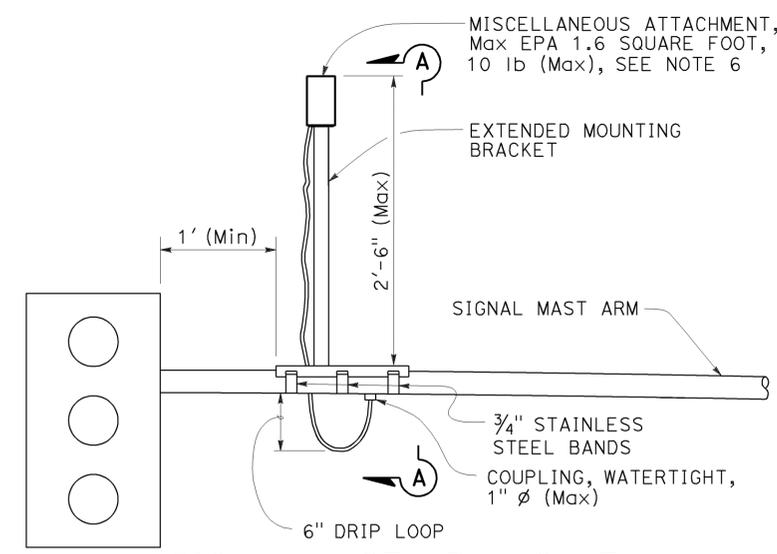
2010 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SbD	38	26.3/26.8	32	44

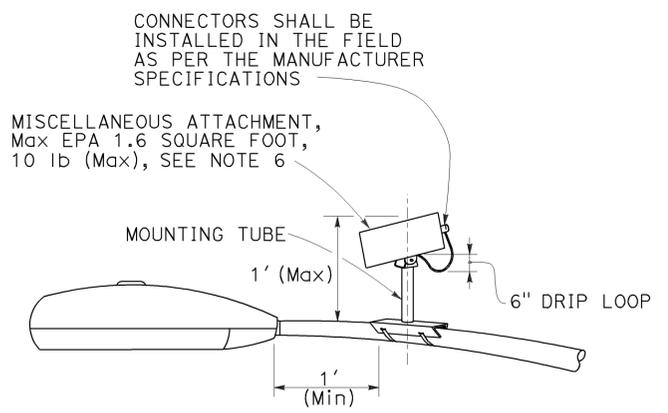
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



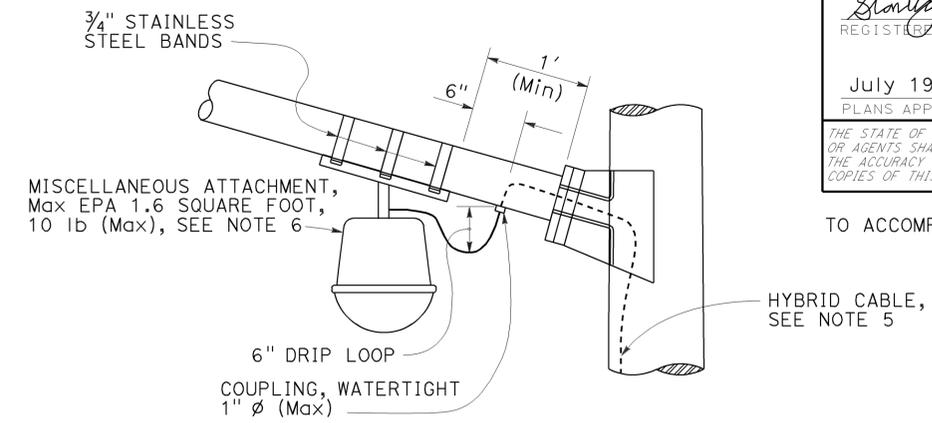
TO ACCOMPANY PLANS DATED 4-01-14



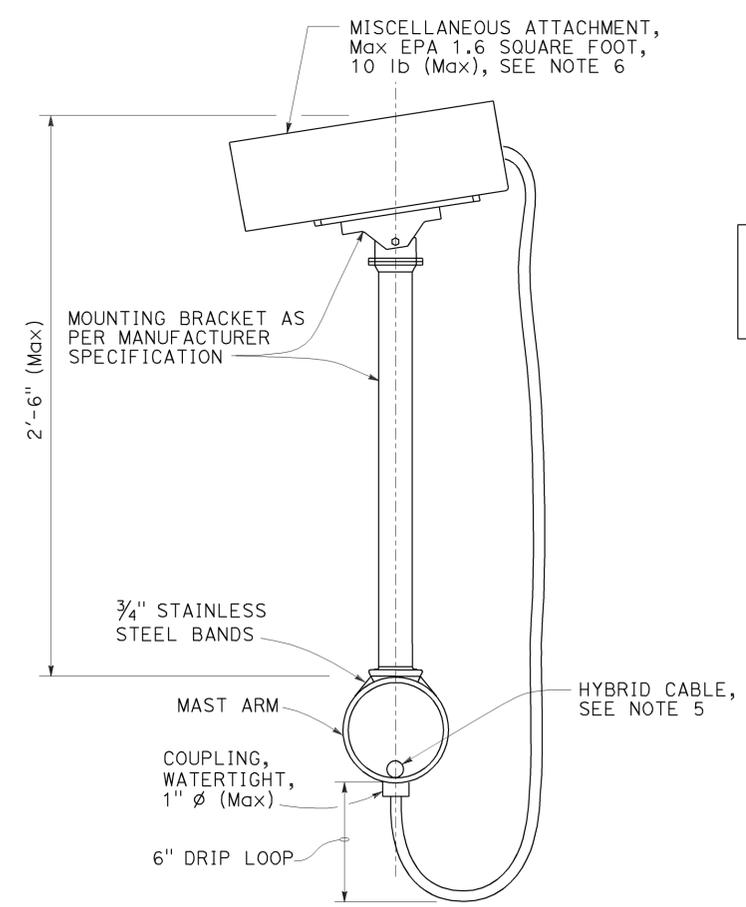
**SIGNAL MAST ARM MOUNT  
DETAIL A**



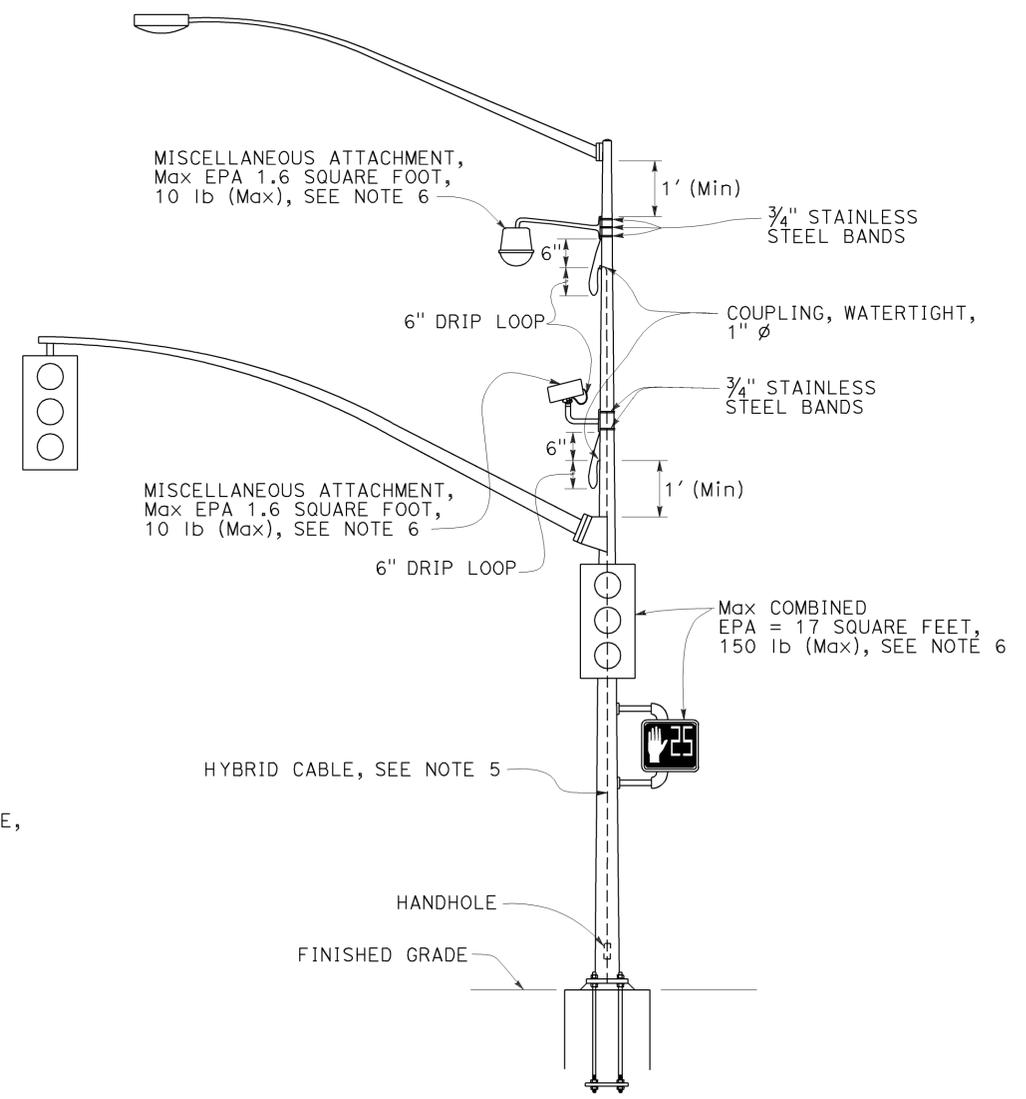
**LUMINAIRE MAST ARM MOUNT  
DETAIL B**



**LUMINAIRE MAST ARM MOUNT  
DETAIL C**



**SECTION A-A**



**SIGNAL POLE MOUNT  
DETAIL D**

**NOTES:**

- Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
- Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
- Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
- Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
- A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
- Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet.
- Maximum of two miscellaneous attachments per traffic signal structure.
- Maximum of one miscellaneous attachment per mast arm.
- Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(SIGNAL AND LIGHTING,  
MISCELLANEOUS ATTACHMENT)**  
NO SCALE

RSP ES-7R DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7R DATED MAY 20, 2011 - PAGE 479 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-7R**

2010 REVISED STANDARD PLAN RSP ES-7R

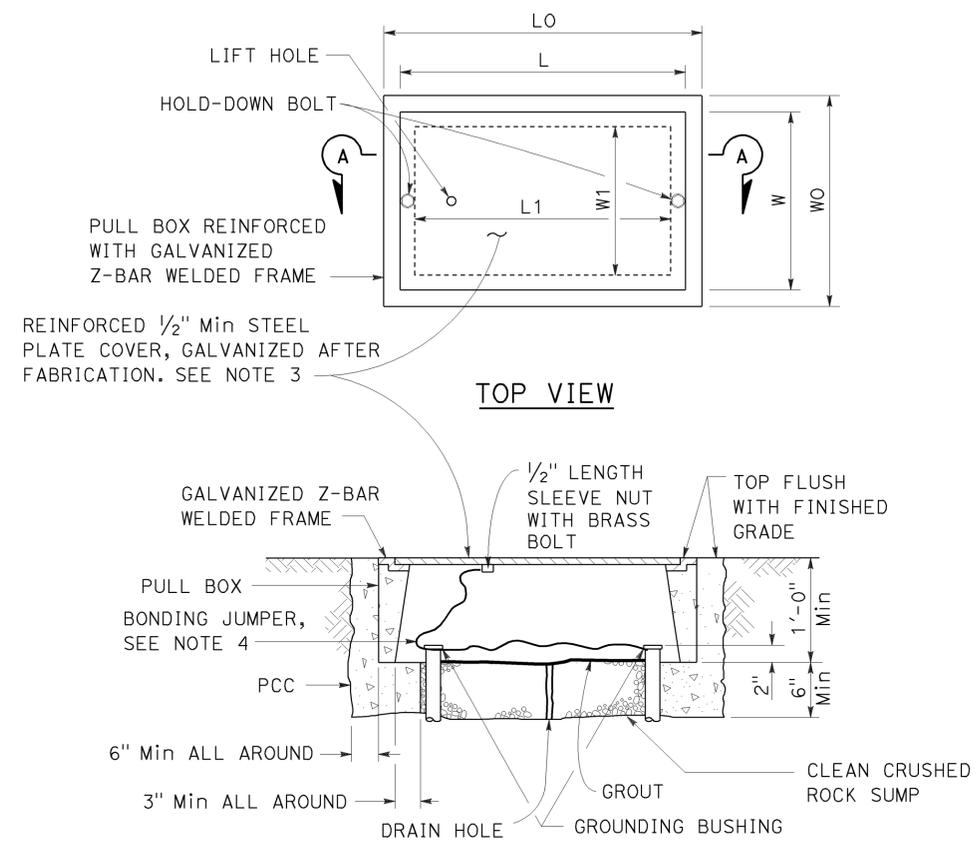
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	38	26.3/26.8	33	44

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
 Theresa Aziz Gabriel  
 No. E15129  
 Exp. 6-30-14  
 ELECTRICAL  
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 4-01-14



**SECTION A-A**  
**No. 3 1/2(T), No. 5(T) AND**  
**No. 6(T) TRAFFIC PULL BOX**

**NOTES:**

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
  - No. 3 1/2(T) pull box.
    - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
  - No. 5(T) or 6(T) pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
    - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATION" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communications line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
    - "BOOSTER PUMP" - Booster pump circuit.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".

PULL BOX	PULL BOX						COVER				
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	W0	L0	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 3/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	NONE
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	NONE
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	NONE

\* EXCLUDING CONDUIT WEB \*\* TOP DIMENSION

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(TRAFFIC PULL BOX)**  
 NO SCALE

RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

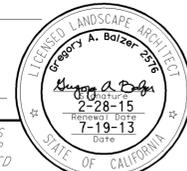
**REVISED STANDARD PLAN RSP ES-8B**

2010 REVISED STANDARD PLAN RSP ES-8B

*Gregory A. Balzer*  
LICENSED LANDSCAPE ARCHITECT

July 19, 2013  
PLANS APPROVAL DATE

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



TO ACCOMPANY PLANS DATED 4-01-14

2010 REVISED STANDARD PLAN RSP H1

**A**

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

**B**

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

**C**

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

**D**

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

**E**

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

**F**

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

**G**

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

**H**

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

**I**

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

**L**

L LENGTH

**M**

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

**N**

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

**O**

O/C ON CENTER  
 OD OUTSIDE DIAMETER  
 OL OVERLAP

**P**

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

**Q**

Q QUARTER CIRCLE  
 QCV QUICK COUPLING VALVE

**R**

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

**S**

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

**T**

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

**U**

UG UNDERGROUND

**W**

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

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**LANDSCAPE AND  
 EROSION CONTROL ABBREVIATIONS**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP H1**

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

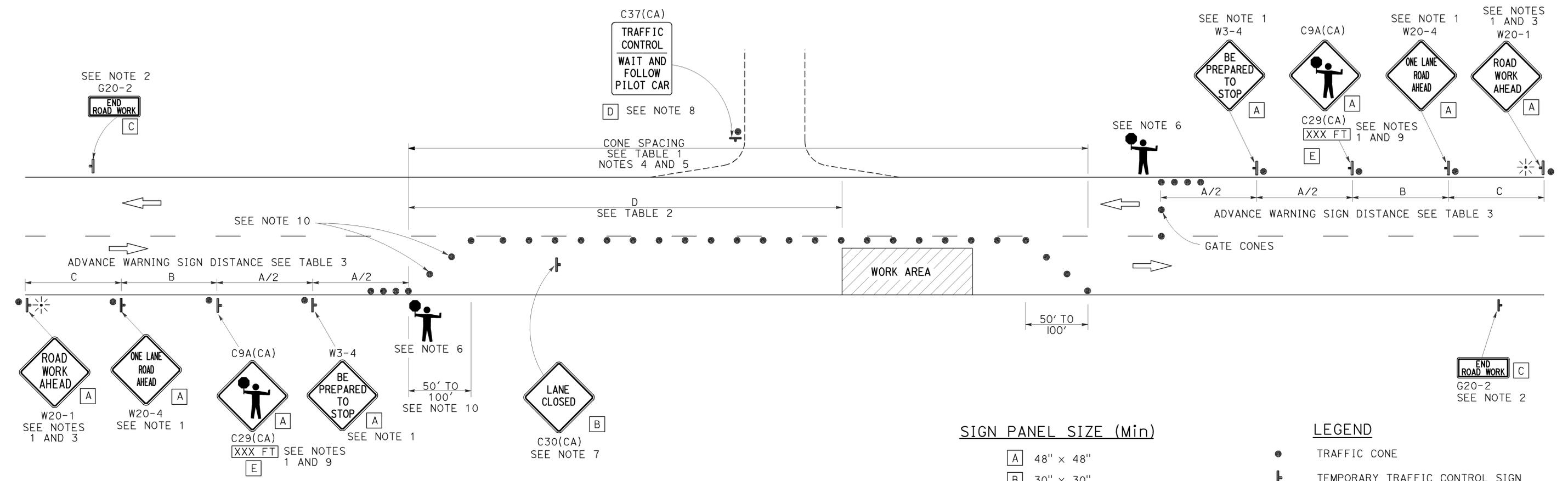
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

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

**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 4-01-14



**NOTES:**

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

**SIGN PANEL SIZE (Min)**

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

**LEGEND**

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 👤 FLAGGER

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

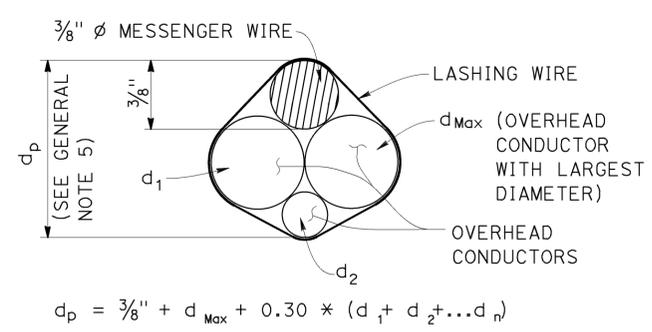
**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURE ON  
 TWO LANE CONVENTIONAL  
 HIGHWAYS**

NO SCALE

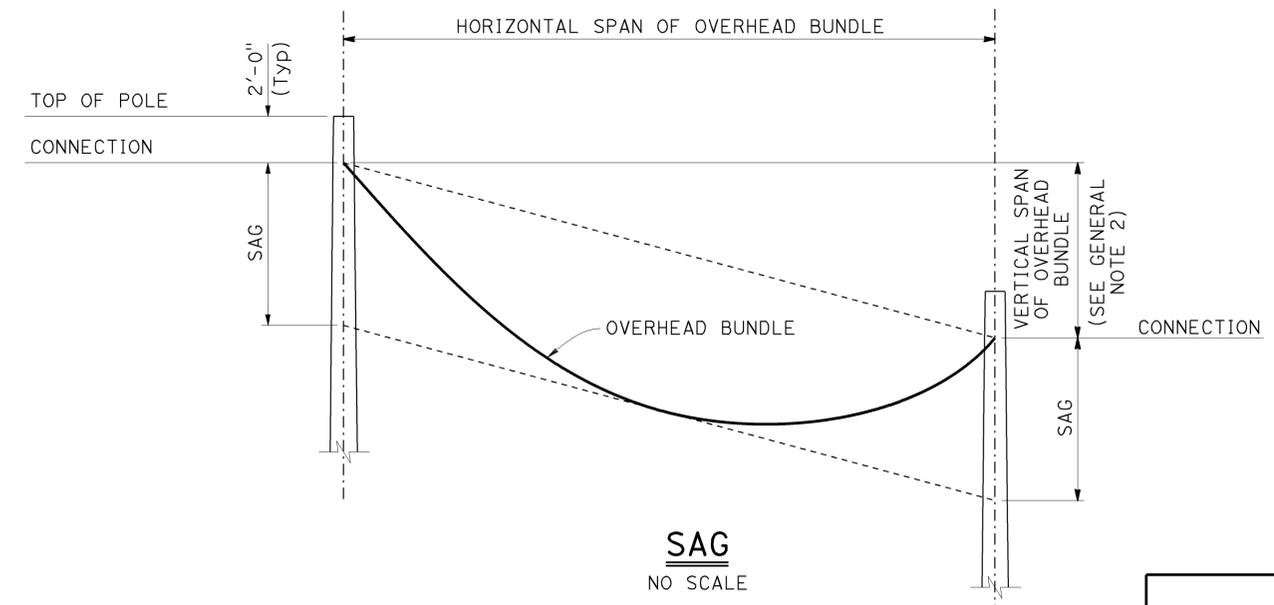
RSP T13 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T13  
 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T13**

2010 REVISED STANDARD PLAN RSP T13



**PROJECTED DEPTH OF OVERHEAD BUNDLE, ( $d_p$ )**



Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

**GROUP LOAD COMBINATIONS:**

- I Dead Load
- II Dead Load + Wind Load
- III Dead Load + 0.5 (Wind Load) + Ice Load
- IV Fatigue: Not used

**LOADING:**

Wind Loading: 100 mph (3-second gust)  
 Wind Recurrence Interval: 10 years  
 Combined height, exposure, and elevated terrain factor = 1.05  
 (Exposure C, structure is not located on or over the top half of a ridge, hill, or escarpment)

Ice Loading: 3.0 psf on surfaces, 0.60 in radial thickness of ice at a unit weight of 60 pcf on overhead bundles

**BASIC DESIGN VALUES:**

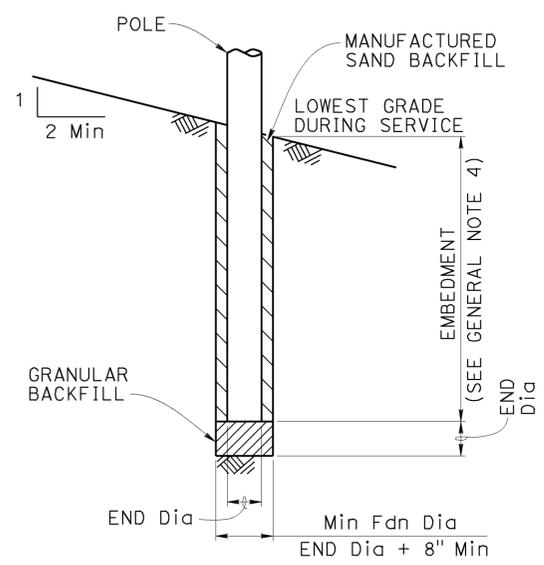
Timber Poles:  $F_b = 1850$  psi  
 $F_v = 110$  psi  
 $F_{cp} = 230$  psi  
 $F_c = 950$  psi  
 $E = 1500 \times 10^3$  psi

**DESIGN WIRE BREAKING STRENGTHS:**

ASTM A475, Utilities Grade, 7 strand modified by termination efficiency factor of 0.8.

**FOUNDATION DESIGN NOTES:**

1. Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
2. Embedment depth is calculated based on following soil parameters, Cohesive Soil: Shear strength of soil  $c = 1500$  psf. Cohesionless Soil:  $\phi = 30$  deg,  $\gamma = 120$  pcf. Soil assumed to be unsaturated.
3. An overload factor of 2.0 and an under capacity factor of 0.7 were used for safety factor of 2.86.
4. Allowable vertical bearing pressure at the end bearing of poles is 3000 psf at 6 feet or more embedment.



**POLE FOUNDATION**

**GENERAL NOTES:**

1. The messenger wire and any combination of overhead conductors must not exceed either a self weight of 3.0 lb/ft or the maximum  $d_p$ .
2. The maximum vertical span is 10% of the horizontal span.
3. For poles with adjacent unbalanced horizontal spans, the shortest horizontal span must be at least 50% of the largest horizontal span.
4. Add 2'-0" for slopes above 1V:4H.
5. For a pole supporting multiple spans, calculate  $d_p$  for each span and use the largest value.
6. Do not exceed the attachments shown.

**DIAMETERS AND SELF WEIGHT OF OVERHEAD CONDUCTORS**

CONDUCTOR OR CABLE TYPE	DIAMETER d (in)	WEIGHT w (plf)
3 CONDUCTOR SIGNAL CABLE (3CSC)	0.400	0.0980
5 CONDUCTOR SIGNAL CABLE (5CSC)	0.500	0.1560
9 CONDUCTOR SIGNAL CABLE (9CSC)	0.650	0.2760
12 CONDUCTOR SIGNAL CABLE (12CSC)	0.800	0.3970
28 CONDUCTOR SIGNAL CABLE (28CSC)	0.900	0.6490
1-#14	0.166	0.0235
1-#12	0.185	0.0330
1-#10	0.210	0.0476
1-#8	0.271	0.0774
1-#6	0.310	0.1130
1-#4	0.359	0.1690
1-#3	0.388	0.2080
1-#2	0.420	0.2560
1-#1	0.498	0.3340
6-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.350	0.0860
12-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.500	0.1440
DETECTOR LEAD-IN CABLE (DLC)	0.310	0.0440
12 to 48-STRAND FIBER OPTIC CABLE (48FOC)	0.424	0.0600
72-STRAND FIBER OPTIC CABLE (72FOC)	0.484	0.0770
96-STRAND FIBER OPTIC CABLE (96FOC)	0.535	0.1050
144-STRAND FIBER OPTIC CABLE (144FOC)	0.670	0.1890
3/8" Ø MESSENGER WIRE	0.375	0.2730
VIVDS CABLE	0.59	0.1520

NO SCALE

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

BRANCH CHIEF DAVID NEUMANN	DESIGN BY A MALAK	CHECKED YU SONG	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO. N/A	TEMPORARY WOOD POLES GENERAL NOTES	SES-1
	DETAILS BY H NGUYEN	CHECKED A MALAK			POST MILE 26.3/26.8		
	QUANTITIES BY	CHECKED					

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	37	44

1-13-14  
DATE

4-01-14  
PLANS APPROVAL DATE

No. C73369  
Exp. 12-31-2014  
CIVIL

REGISTERED CIVIL ENGINEER  
STATE OF CALIFORNIA

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### POLE SELECTION TABLE

#### LEGEND

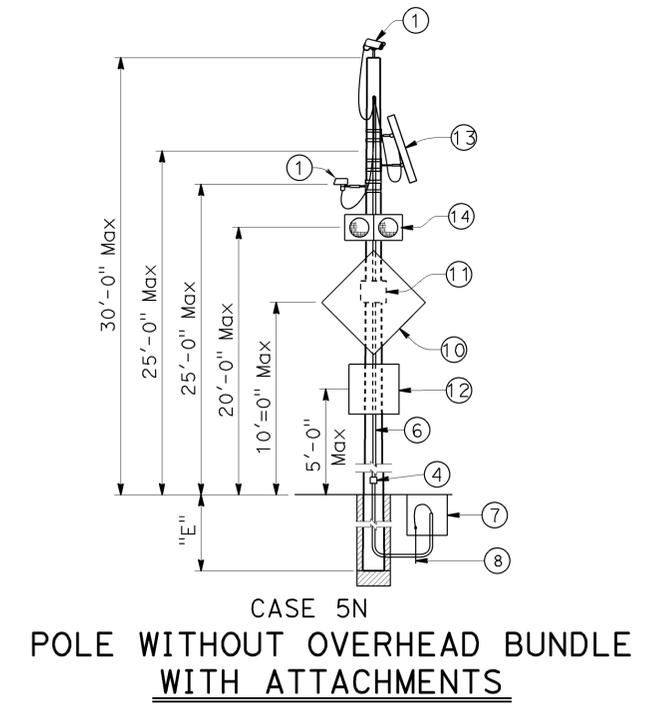
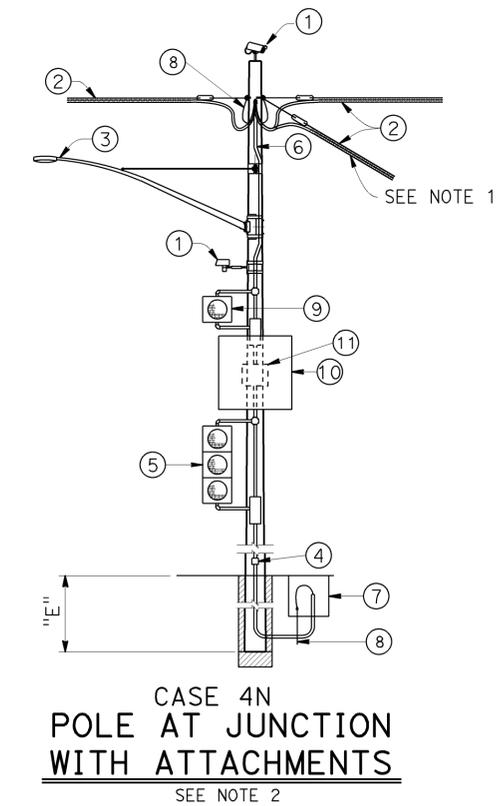
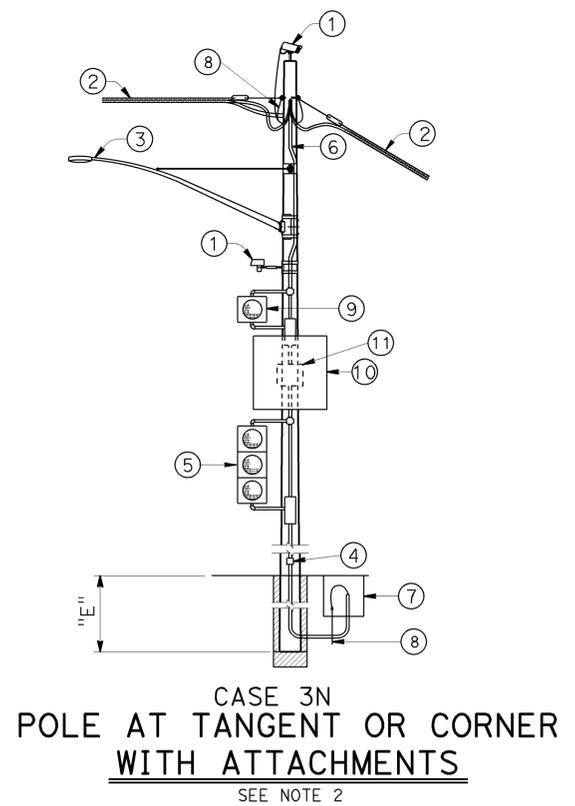
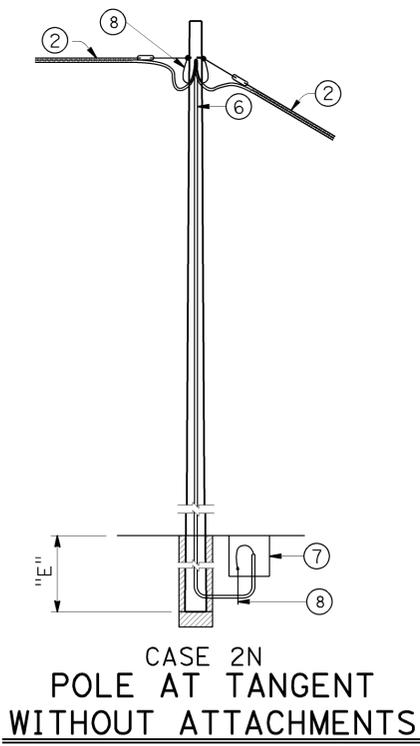
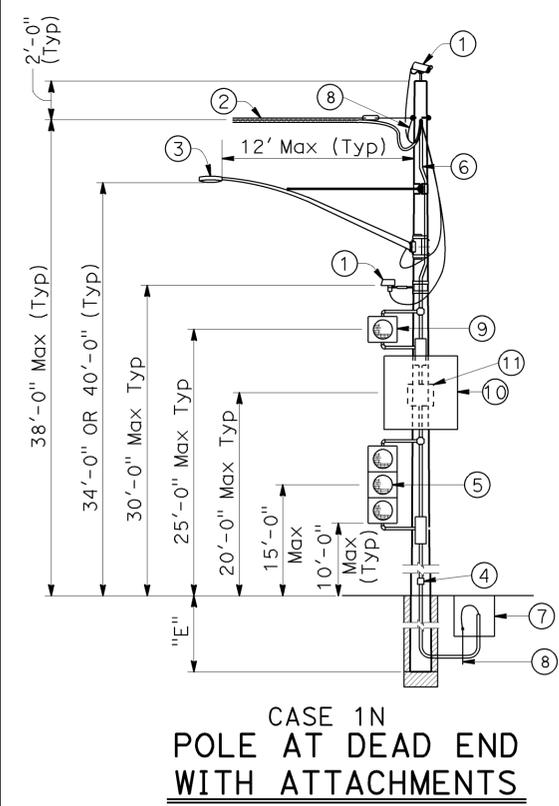
- Wood Pole No Attachments
- Wood Pole with Attachments
- Overhead Bundle

	CASE 1N				CASE 2N				CASE 3N				CASE 4N				CASE 5N
	1"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	1.0"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	N/A
MAXIMUM d <sub>p</sub>																	
MINIMUM POLE CLASS	H-1	H-2	H-2	H-2	4	3	2	1	H-2	H-2	H-3	H-3	H-4	H-4	H-4	H-5	CLASS 1 E = 10'
POLE EMBEDMENT (E)	11'				10'				11'				12'				
MINIMUM POLE CLASS	H-2	H-3	H-4	H-5	1	H-1	H-2	H-3	H-4	H-5	H-5	H-6	H-5	H-5	H-6		
POLE EMBEDMENT (E)	12'				11'				12'				12'				
MINIMUM POLE CLASS	H-4	H-5	H-6		H-1	H-2	H-3	H-5	H-6				H-6				
POLE EMBEDMENT (E)	12'				12'				12'				12'				
MINIMUM POLE CLASS	H-5	H-6			H-2	H-3	H-5										
POLE EMBEDMENT (E)	12'				12'												

- ① CCTV camera assembly or vehicle detection system
- ② Overhead bundle consisting of a 3/8" x messenger wire and overhead conductors and lashing wire.
- ③ Luminaire with mast arm
- ④ Pedestrian pushbutton
- ⑤ Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- ⑥ Riser with weather head as required
- ⑦ Pull box as required
- ⑧ Grounding as required
- ⑨ Single section flashing beacon or single sheet sign panel (4 SQFT Max)
- ⑩ Single sheet sign panel (4' x 4' Max) or signal face with 3 indications
- ⑪ Flashing beacon control assembly
- ⑫ NEMA 3R enclosure, 26"(W) x 56"(H) x 12"(D) Max dimensions. Max weight including batteries, 450 lbs
- ⑬ 25' SQFT Max total photovoltaic panels mounted as shown as required
- ⑭ 2-section 12" flashing beacon

#### NOTES:

1. In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
2. Cases, 1N, 3N and 4N may substitute the attachments shown in Case 5N if the photovoltaic panel is not included.



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

BRANCH CHIEF	DAVID NEUMANN
--------------	---------------

DESIGN	BY A MALAK	CHECKED YU SONG
DETAILS	BY H NGUYEN	CHECKED A MALAK
QUANTITIES	BY	CHECKED

**STATE OF CALIFORNIA**  
DEPARTMENT OF TRANSPORTATION

**DIVISION OF ENGINEERING SERVICES  
DESIGN AND TECHNICAL SERVICES**

**SPECIAL DESIGNS BRANCH**

BRIDGE NO.	N/A
POST MILE	26.3/26.8

**TEMPORARY WOOD POLES**

**NON-GUYED - NO SIGNALS ON SPANS**

<b>SES-2</b>	
--------------	--

### LEGEND

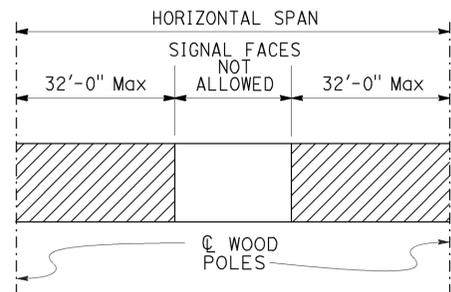
- A** Wood Pole with Attachments
- TS- Overhead Bundle with Signal Faces (See Note 2)
- OH- Overhead Bundle
- Guy Anchor

### POLE SELECTION TABLE

OVERHEAD BUNDLE HORIZONTAL SPAN Max	MAXIMUM d <sub>p</sub>	CASE 1GT			CASE 2GT			CASE 3GT		
		1"	1.5"	2.0"	1"	1.5"	2.0"	1"	1.5"	2.0"
50'	MINIMUM POLE CLASS	H-2	H-3	H-3	H-2	H-2	H-2	H-3	H-4	H-4
	POLE EMBEDMENT (E)	10'			10'			11'		
100'	MINIMUM POLE CLASS	H-3	H-3	H-4	H-2	H-3	H-3	H-4	H-4	H-5
	POLE EMBEDMENT (E)	11'			10'			11'		
150'	MINIMUM POLE CLASS	H-3	H-4	H-4	H-2	H-3	H-4	H-4	H-5	H-5
	POLE EMBEDMENT (E)	11'			10'			11'		

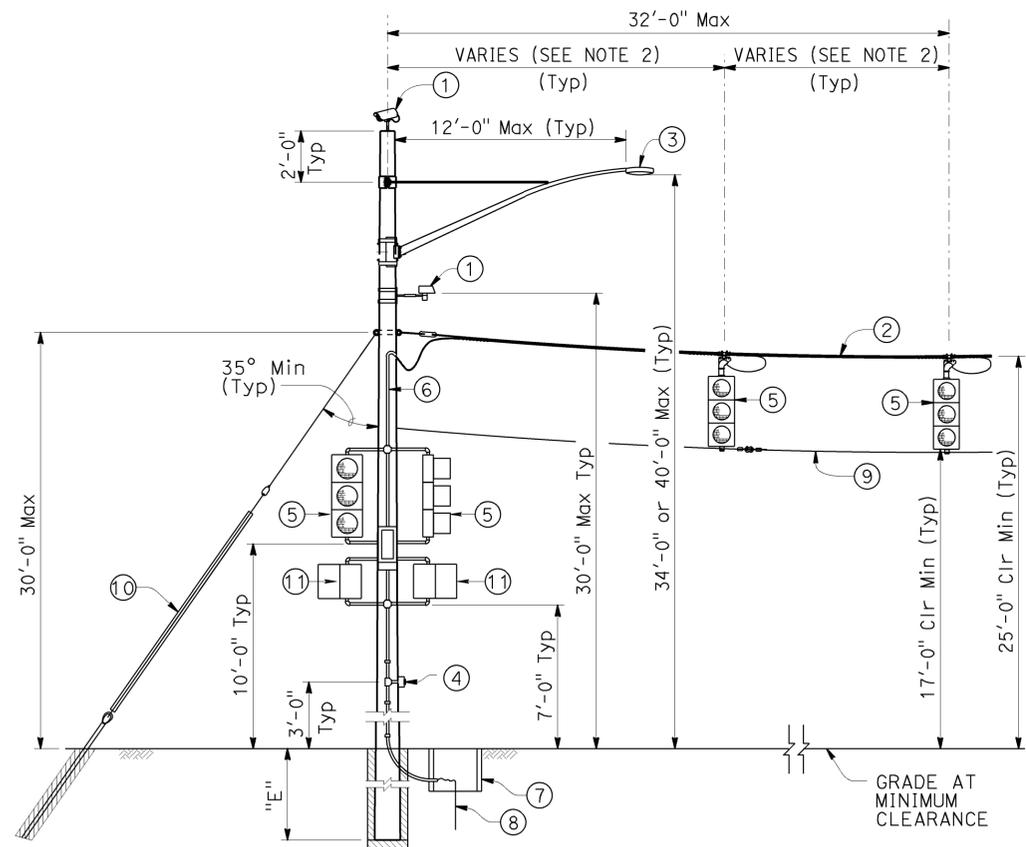
### NOTES:

- In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
- Maximum of 2 SIGNAL FACES per span within the hatched regions indicated by "LOCATION OF SIGNAL FACES".
- Guy wire in line with opposing span ± 5°.

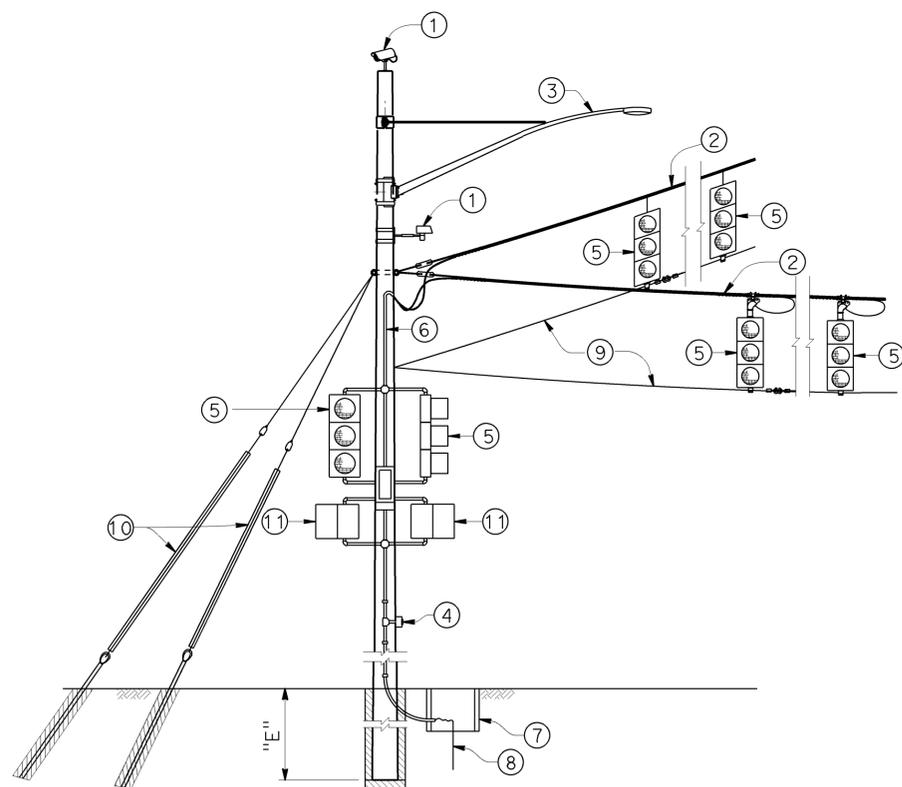


### LOCATION OF SIGNAL FACES

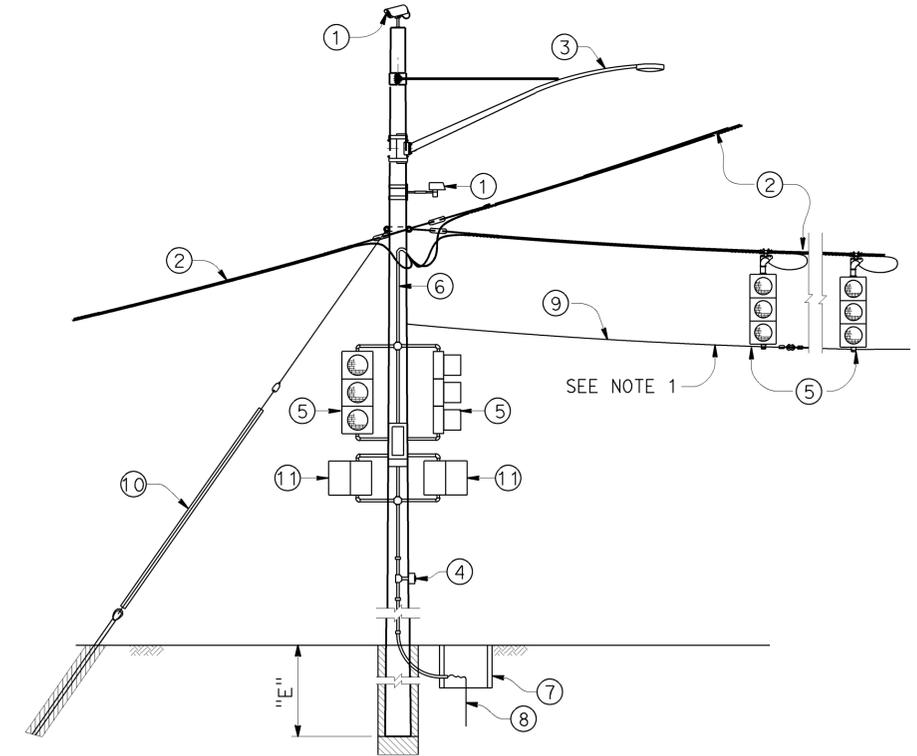
- CCTV camera assembly or vehicle detection system
- Overhead bundle consisting of 3/8" ø messenger wire and overhead conductors and lashing wire
- Luminaire with mast arm
- Pedestrian pushbutton
- Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- Riser with weather head as required
- Pull box as required
- Grounding as required
- 3/8" ø tether wire
- 1/2" ø guy wire with white guy marker and strain insulator. For anchorage see "TEMPORARY WOOD POLES-DETAILS No. 2" sheet
- Pedestrian signal head



**CASE 1GT  
POLE AT DEAD END  
WITH ATTACHMENTS**



**CASE 2GT  
POLE AT CORNER  
WITH ATTACHMENTS**



**CASE 3GT  
POLE AT JUNCTION  
WITH ATTACHMENTS**

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

BRANCH CHIEF DAVID NEUMANN

DESIGN	BY A MALAK	CHECKED YU SONG
DETAILS	BY H NGUYEN	CHECKED A MALAK
QUANTITIES	BY	CHECKED

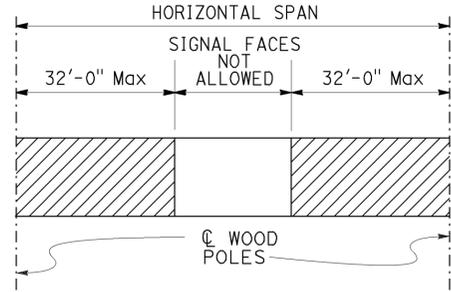
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
DESIGN AND TECHNICAL SERVICES  
SPECIAL DESIGNS BRANCH

BRIDGE NO.	N/A
POST MILE	26.3/26.8

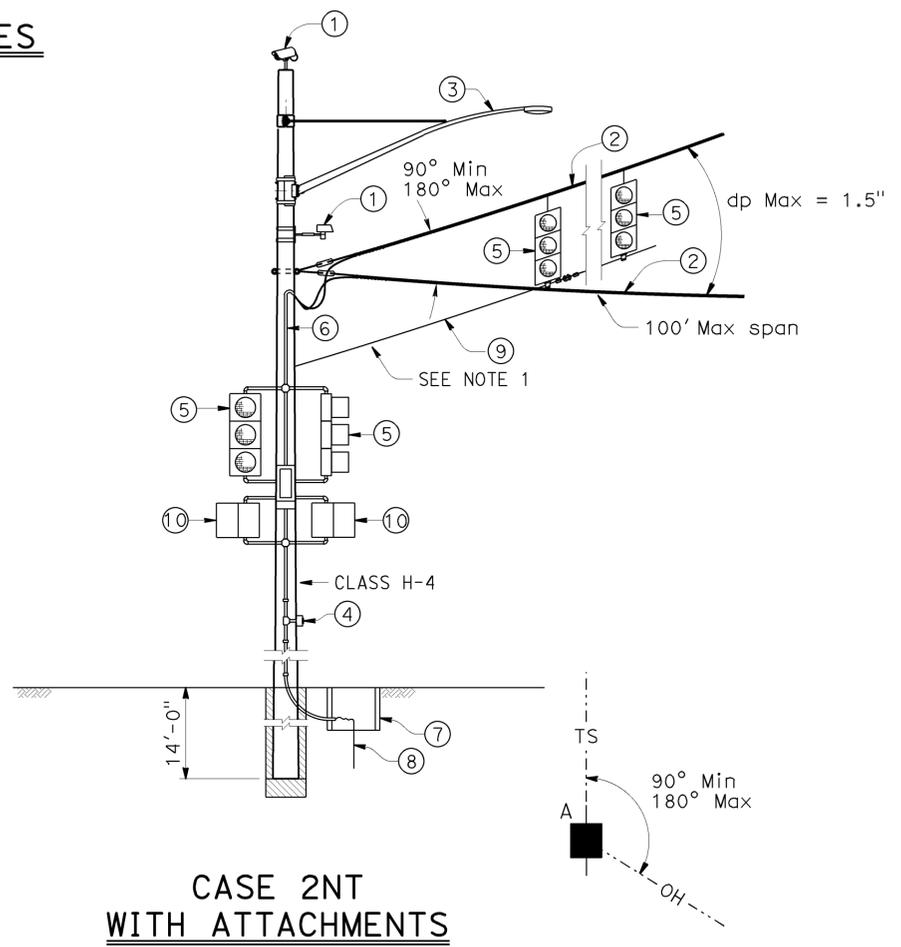
**TEMPORARY WOOD POLES  
GUYED-WITH SIGNAL FACES ON SPANS**

**SES-3**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	39	44
<i>Ayman malak</i> REGISTERED CIVIL ENGINEER			1-13-14	DATE	
4-01-14 PLANS APPROVAL DATE					
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**LOCATION OF SIGNAL FACES**



- ① CCTV camera assembly or vehicle detection system
- ② Overhead bundle consisting of 3/8"  $\phi$  messenger wire and overhead conductors and lashing wire
- ③ Luminaire with mast arm
- ④ Pedestrian pushbutton
- ⑤ Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- ⑥ Riser with weather head as required
- ⑦ Pull box as required
- ⑧ Grounding as required
- ⑨ 3/8"  $\phi$  tether wire
- ⑩ Pedestrian signal head

**LEGEND**

- A** Wood Pole with Attachments
- TS- Overhead Bundle with Signal Faces (See Note 2)
- OH- Overhead Bundle

**NOTES:**

1. In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 70' unless otherwise indicated on the plans.
2. Maximum of 2 SIGNAL FACES per span within the hatched regions indicated by "LOCATION OF SIGNAL FACES".

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

NO SCALE

BRANCH CHIEF DAVID NEUMANN

DESIGN	BY A MALAK	CHECKED YU SONG
DETAILS	BY H NGUYEN	CHECKED A MALAK
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
DESIGN AND TECHNICAL SERVICES  
SPECIAL DESIGNS BRANCH **B**

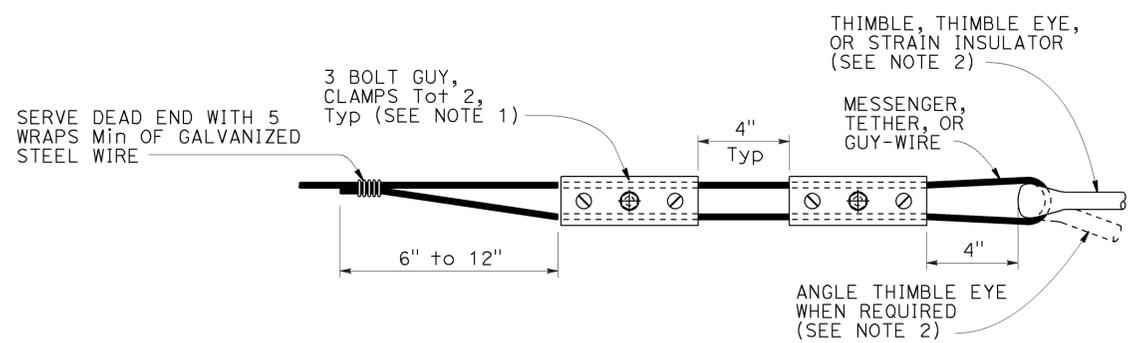
BRIDGE NO.	N/A
POST MILE	26.3/26.8

**TEMPORARY WOOD POLES**  
**NON-GUYED - WITH SIGNAL FACES ON SPANS**

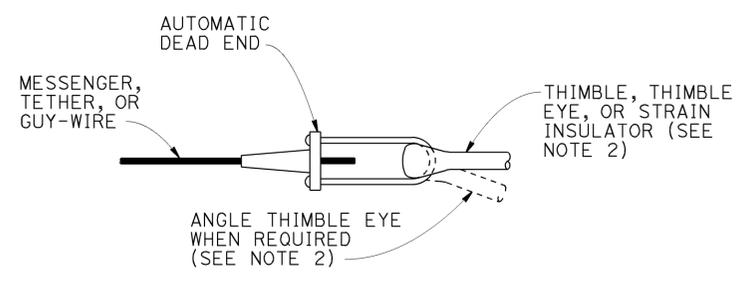
**SES-4**

USERNAME => s128478 DATE PLOTTED => 27-JAN-2014 TIME PLOTTED => 08:21

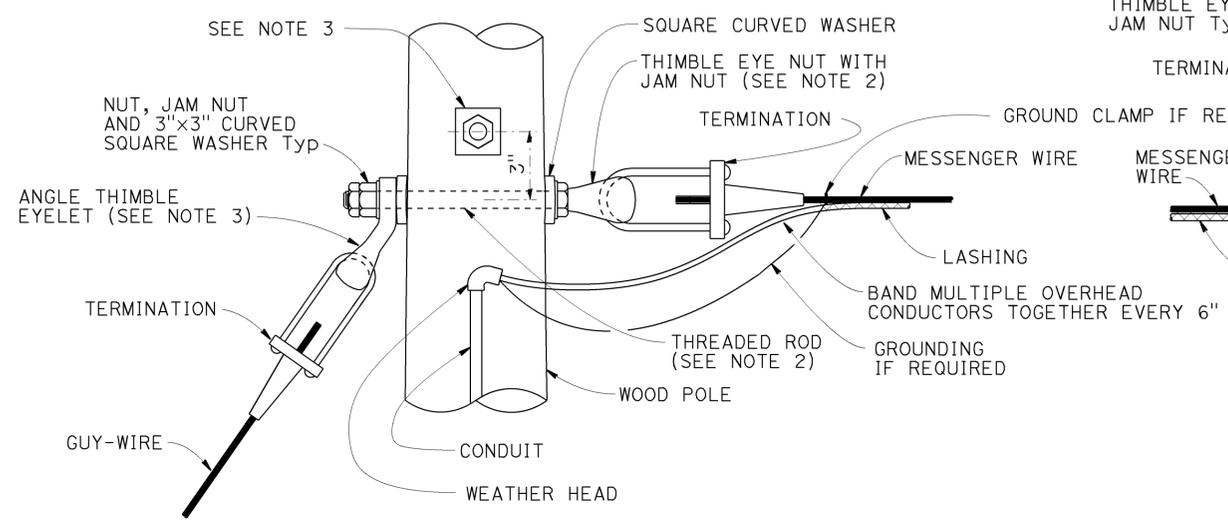
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	40	44
4-01-14 REGISTERED CIVIL ENGINEER DATE			1-13-14 DATE		
4-01-14 PLANS APPROVAL DATE			No. C73369 Exp. 12-31-2014 CIVIL STATE OF CALIFORNIA		
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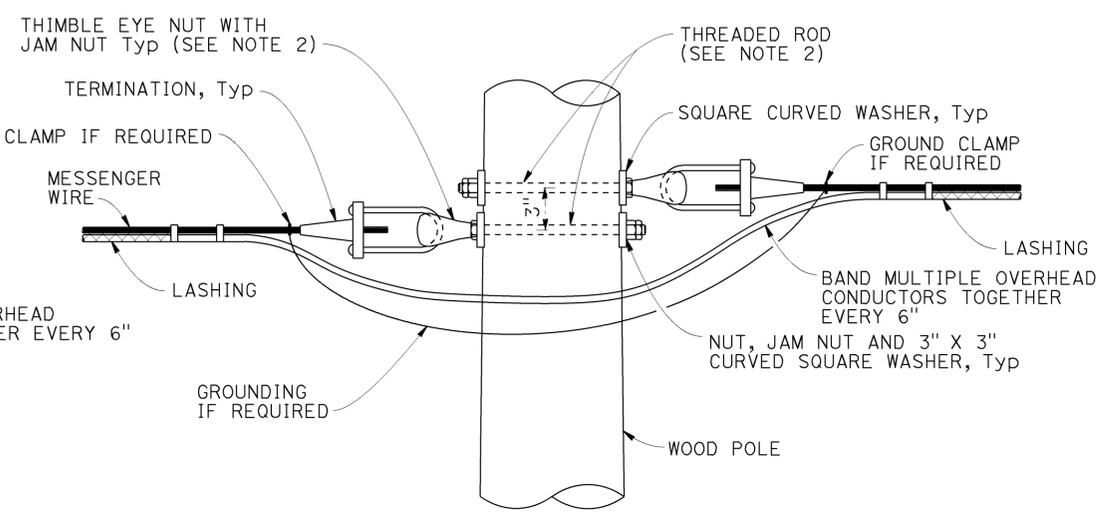
**ALTERNATIVE TERMINATION OF MESSENGER WIRES USING GUY CLAMPS**



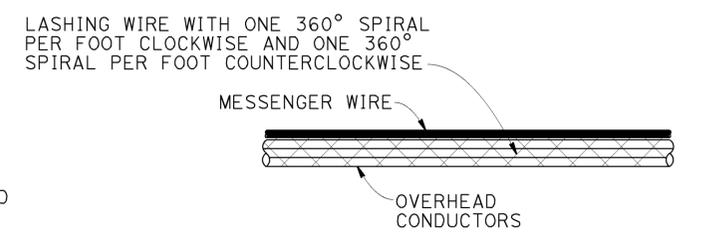
**TERMINATION OF WIRES USING AUTOMATIC DEAD END**



**POLE AT DEAD END WITH GUY-WIRE CONNECTION**

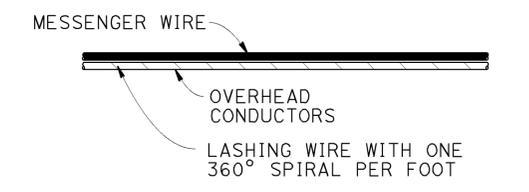


**POLE AT TANGENT OR CORNER CONNECTION**



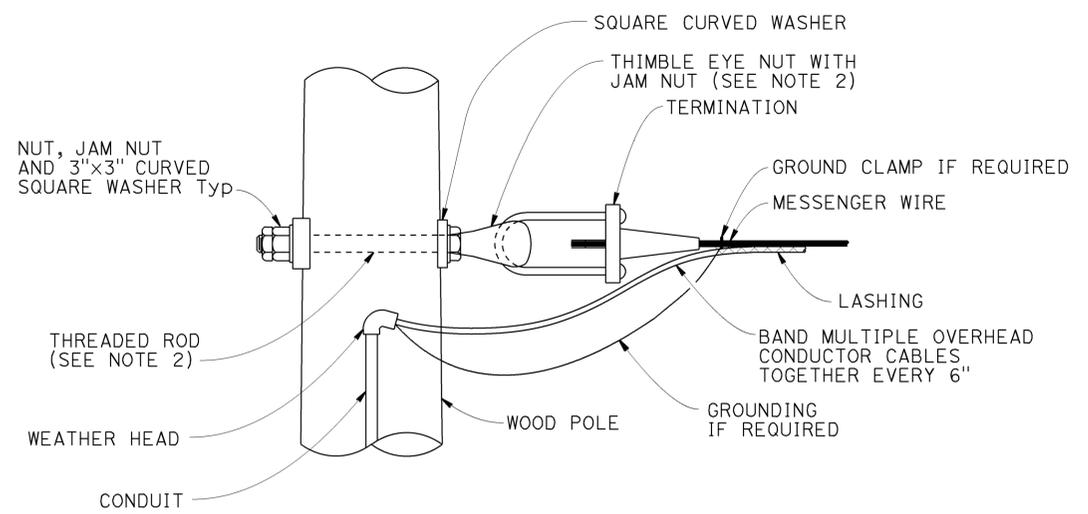
**DOUBLE LASHING DETAIL**

USE IF  $d_p$  IS GREATER THAN 1/2"

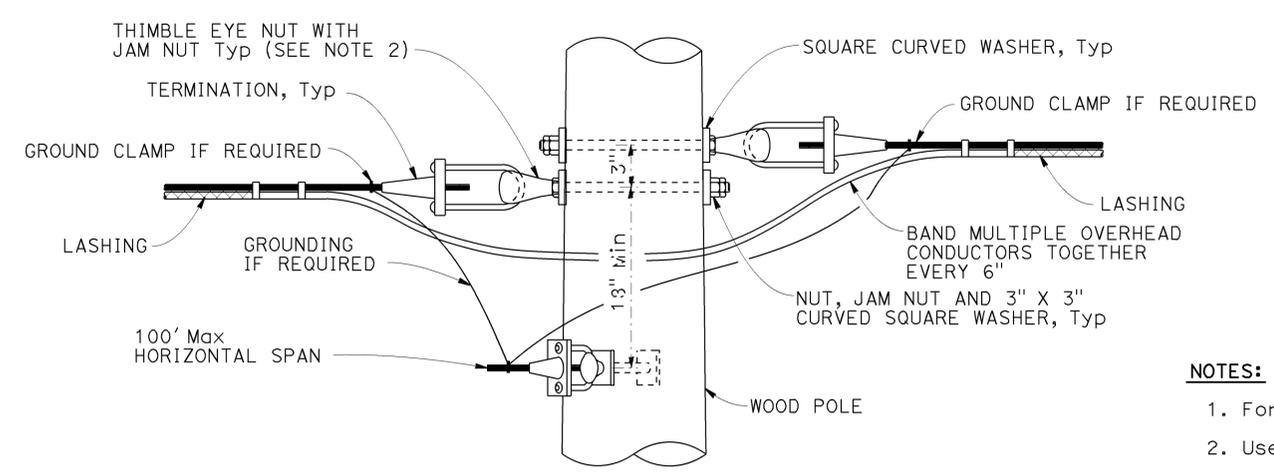


**TYPICAL LASHING DETAIL**

USE IF  $d_p$  IS 1/2" OR LESS



**POLE AT DEAD END CONNECTION**



**POLE AT JUNCTION CONNECTION**

**NOTES:**

1. For guy wires use 3 clamps.
2. Use 5/8" dia except 3/4" dia at guyed wires.
3. Install additional angle thimble eyelet at poles with two guy wires.

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

BRANCH CHIEF	DAVID NEUMANN
DESIGN	BY A MALAK
DETAILS	BY H NGUYEN
QUANTITIES	BY

CHECKED	YU SONG
CHECKED	A MALAK
CHECKED	

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
DESIGN AND TECHNICAL SERVICES  
SPECIAL DESIGNS BRANCH

BRIDGE NO.	N/A
POST MILE	26.3/26.8

TEMPORARY WOOD POLES  
DETAILS No. 1

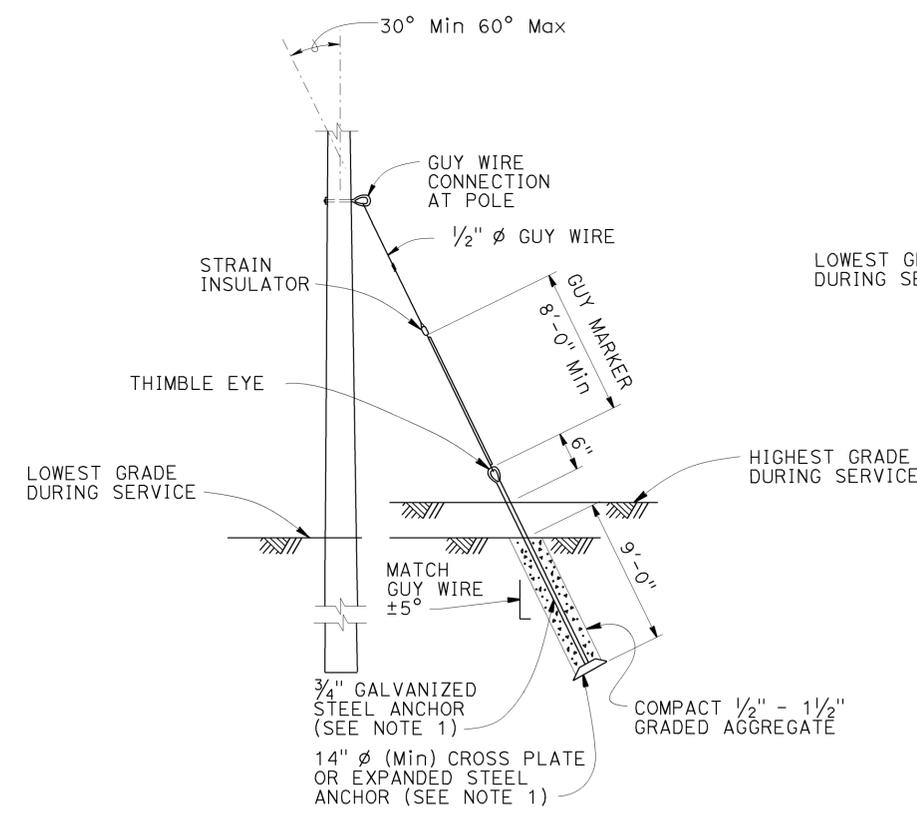
SES-5  
SHEET 5 OF 9

DATE PLOTTED => 08/21  
DATE PLOTTED => 27-JAN-2014  
USER NAME => s128478

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	41	44
<i>Amman malak</i> REGISTERED CIVIL ENGINEER			1-13-14 DATE		
4-01-14 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>					

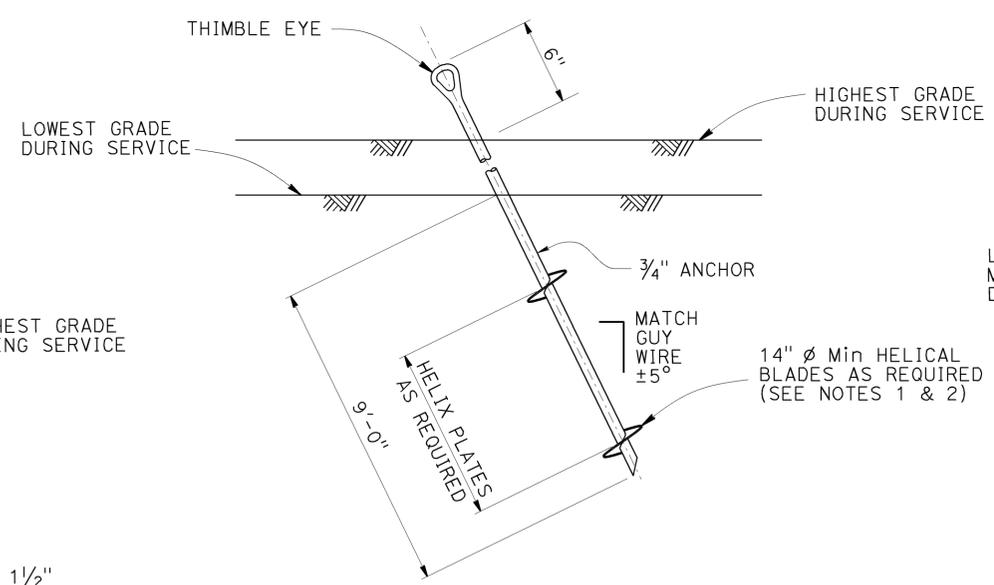
**NOTES:**

1. Minimum allowable tension capacity "Qa" = 8,900 lbs.
2. Minimum installation torque "T" = 1780 lbs-ft.
3. Helical anchor detail may be used in place of expanded steel anchors.

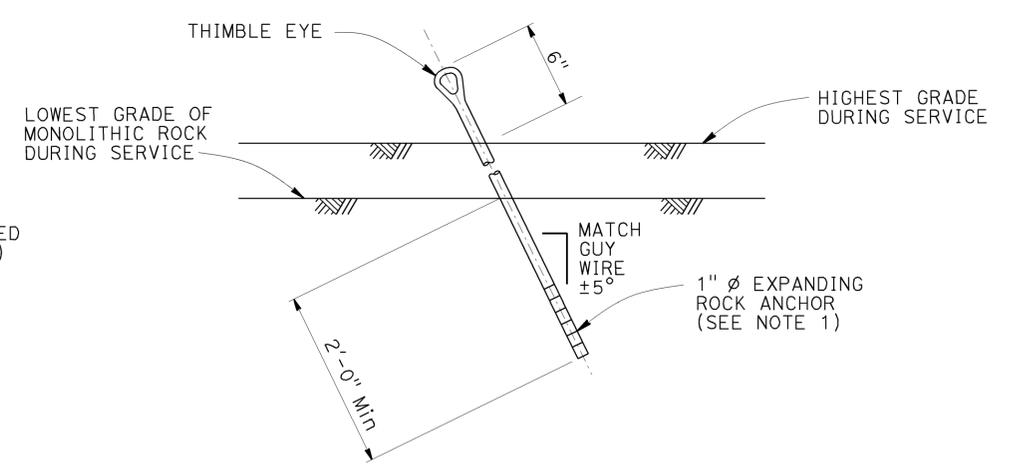


**EXPANDED STEEL ANCHOR DETAIL**

SEE NOTE 3



**HELICAL ANCHOR DETAIL**

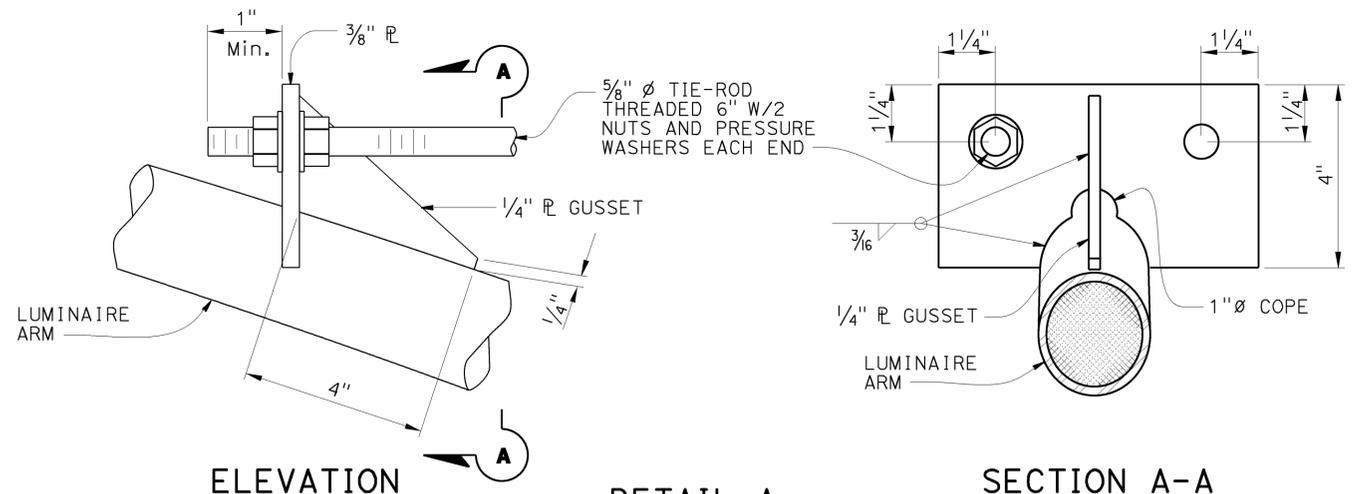


**EXPANDING ROCK ANCHOR DETAIL**

NOTE:  
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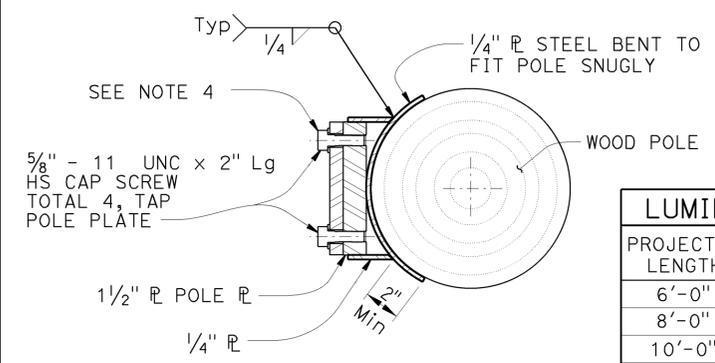
NO SCALE

BRANCH CHIEF <u>DAVID NEUMANN</u>	DESIGN BY <u>A MALAK</u>	CHECKED <u>YU SONG</u>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH <b>B</b>	BRIDGE NO. <u>N/A</u>	<b>TEMPORARY WOOD POLES</b> <b>DETAILS No. 2</b>	<b>SES-6</b>
	DETAILS BY <u>H NGUYEN</u>	CHECKED <u>A MALAK</u>			POST MILE <u>26.3/26.8</u>		
	QUANTITIES BY	CHECKED					



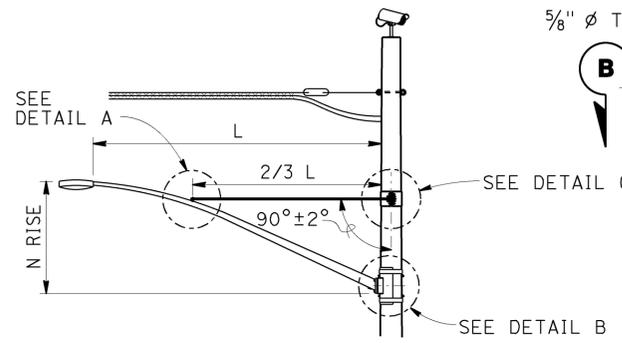
**ELEVATION**  
**DETAIL A**  
**TIE-ROD AT LUMINAIRE ARM**  
 NO SCALE

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

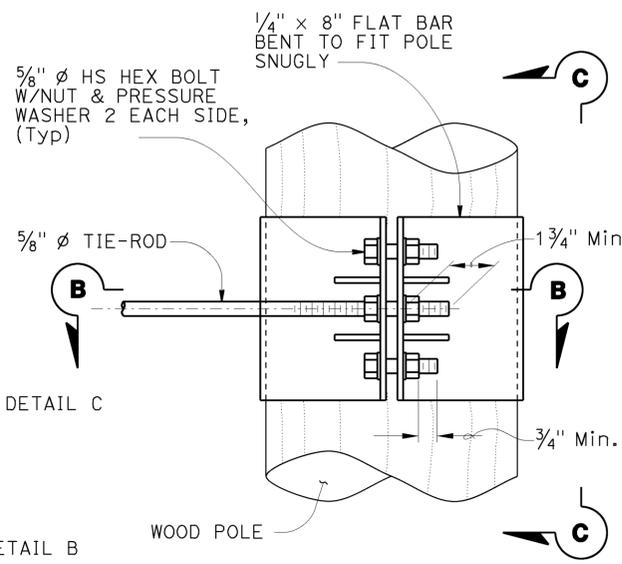


**SECTION E-E**

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

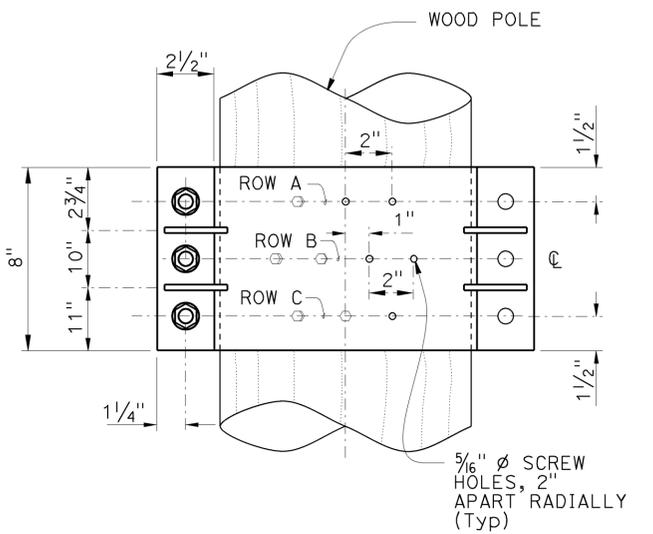


**LUMINAIRE MAST ARM**

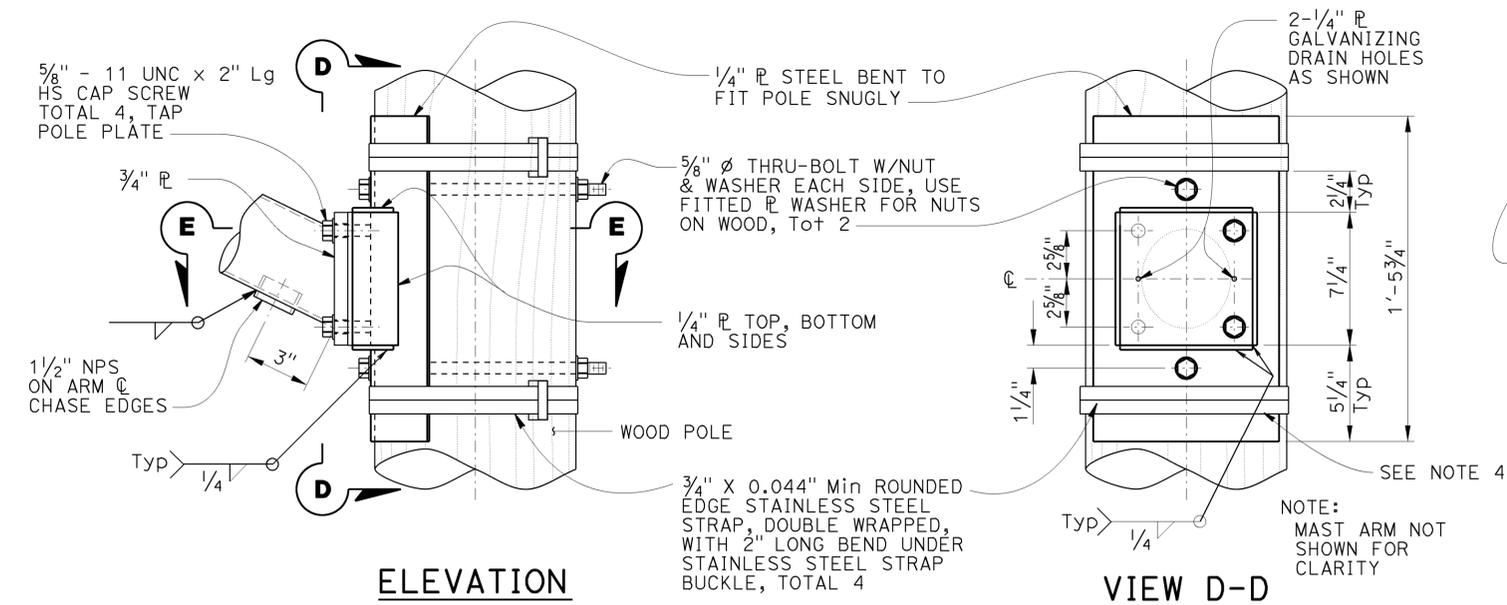


**ELEVATION**

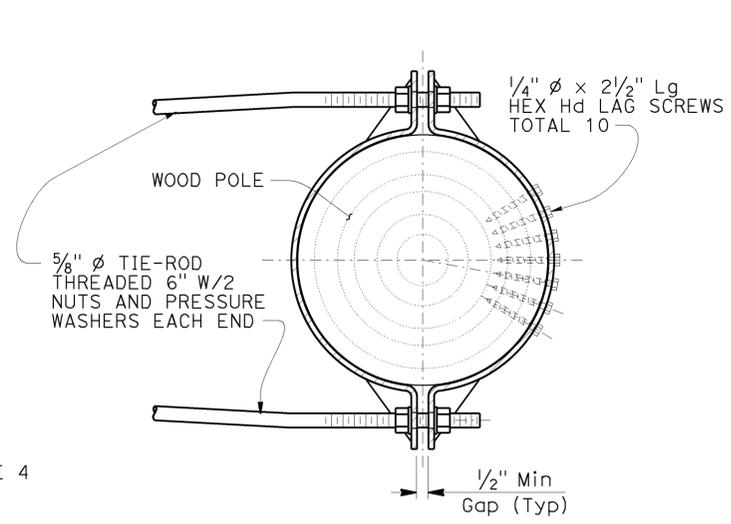
NOTE: Not all screw and bolt heads shown for clarity.



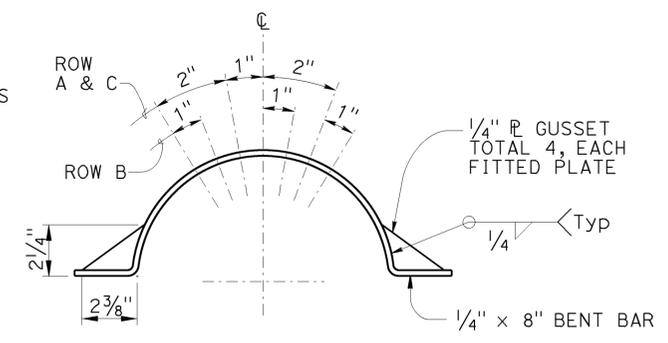
**VIEW C-C**



**ELEVATION**  
**VIEW D-D**  
**DETAIL B**  
**ARM CONNECTION DETAILS**  
 NO SCALE



**SECTION B-B**



**DETAIL C**  
**TIE-ROD AT POLE**  
 NO SCALE

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

BRANCH CHIEF DAVID NEUMANN	DESIGN BY A MALAK	CHECKED YU SONG	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO. N/A	TEMPORARY WOOD POLES DETAILS No. 3	SES-7
	DETAILS BY H NGUYEN	CHECKED A MALAK			POST MILE 26.3/26.8		
	QUANTITIES BY	CHECKED					

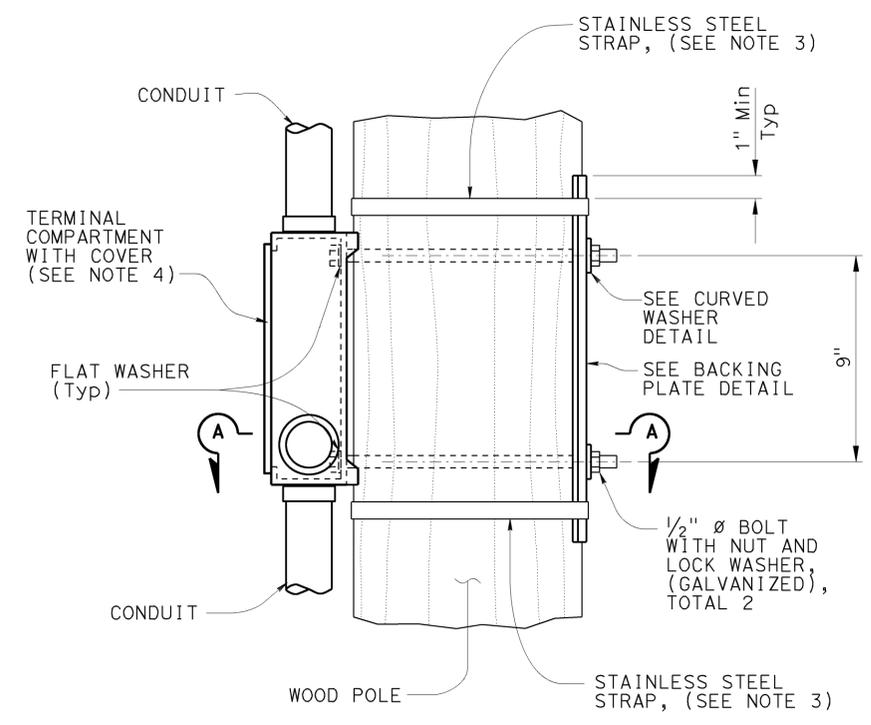
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	43	44

*Aiman malak* 1-13-14  
REGISTERED CIVIL ENGINEER DATE

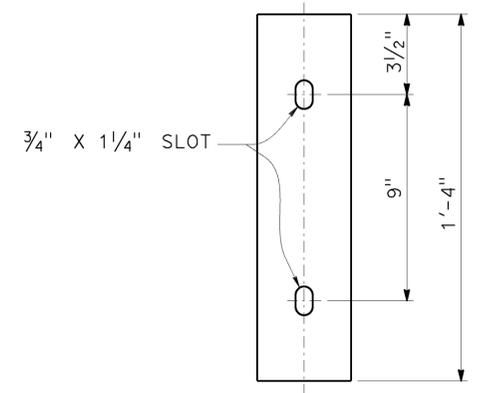
4-01-14  
PLANS APPROVAL DATE

No. C73369  
Exp. 12-31-2014  
CIVIL  
STATE OF CALIFORNIA

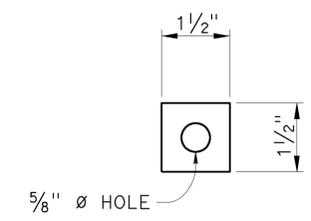
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



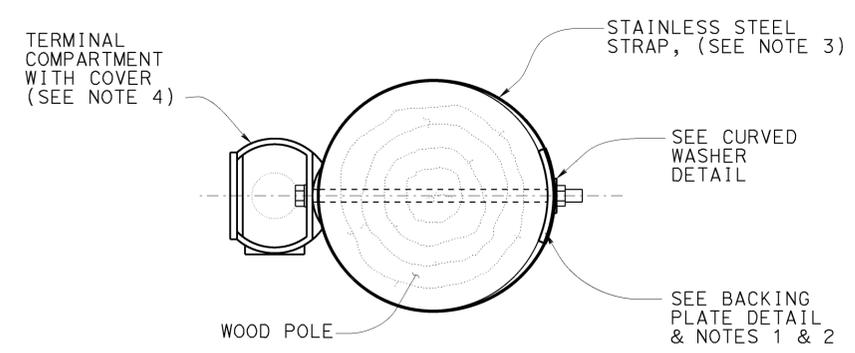
**ELEVATION**



**ELEVATION**



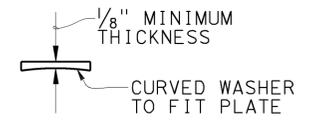
**ELEVATION**



**SECTION A-A**



**PLAN**  
**BACKING PLATE**  
**DETAIL**



**PLAN**  
**CURVED WASHER**  
**DETAIL**

**SIDE MOUNTING**  
**TERMINAL COMPARTMENT**

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

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

NO SCALE

BRANCH CHIEF DAVID NEUMANN

DESIGN	BY A MALAK	CHECKED YU SONG
DETAILS	BY H NGUYEN	CHECKED A MALAK
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
DESIGN AND TECHNICAL SERVICES  
SPECIAL DESIGNS BRANCH **B**

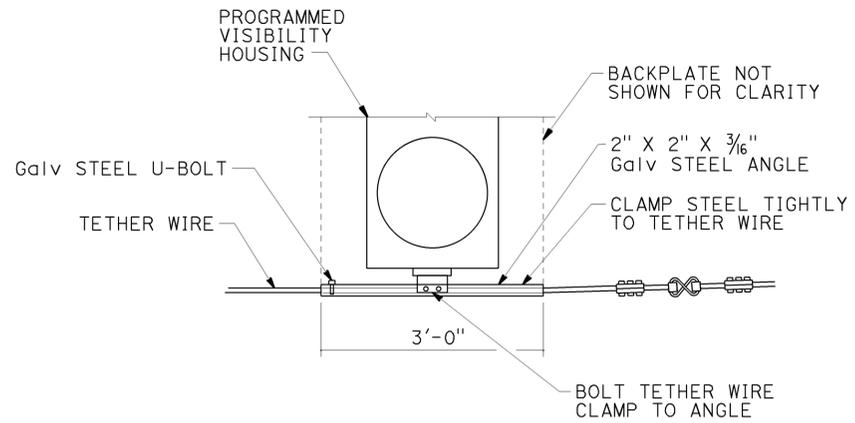
BRIDGE NO.	N/A
POST MILE	26.3/26.8

**TEMPORARY WOOD POLES**  
**DETAILS No. 4**

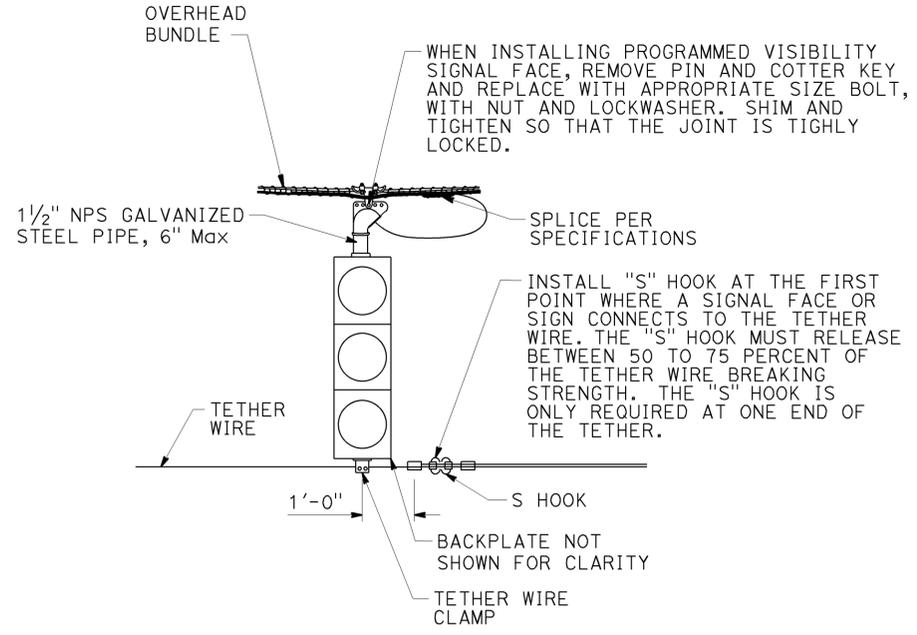
**SES-8**

USERNAME => s128478 DATE PLOTTED => 27-JAN-2014 TIME PLOTTED => 08:22

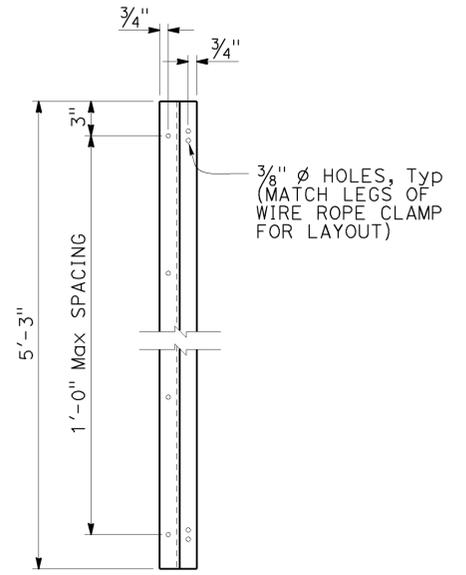
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	38	26.3/26.8	44	44
<i>Aiman malak</i> REGISTERED CIVIL ENGINEER			1-13-14 DATE		
4-01-14 PLANS APPROVAL DATE			The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.		



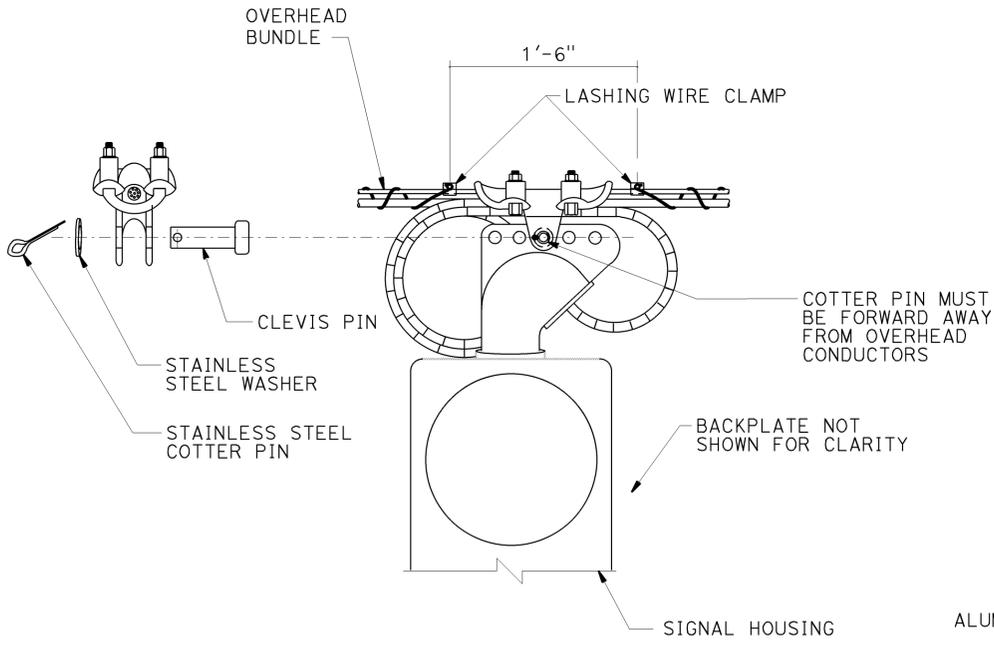
**TETHER WIRE ATTACHMENT FOR PROGRAMMED VISIBILITY SIGNAL FACE**



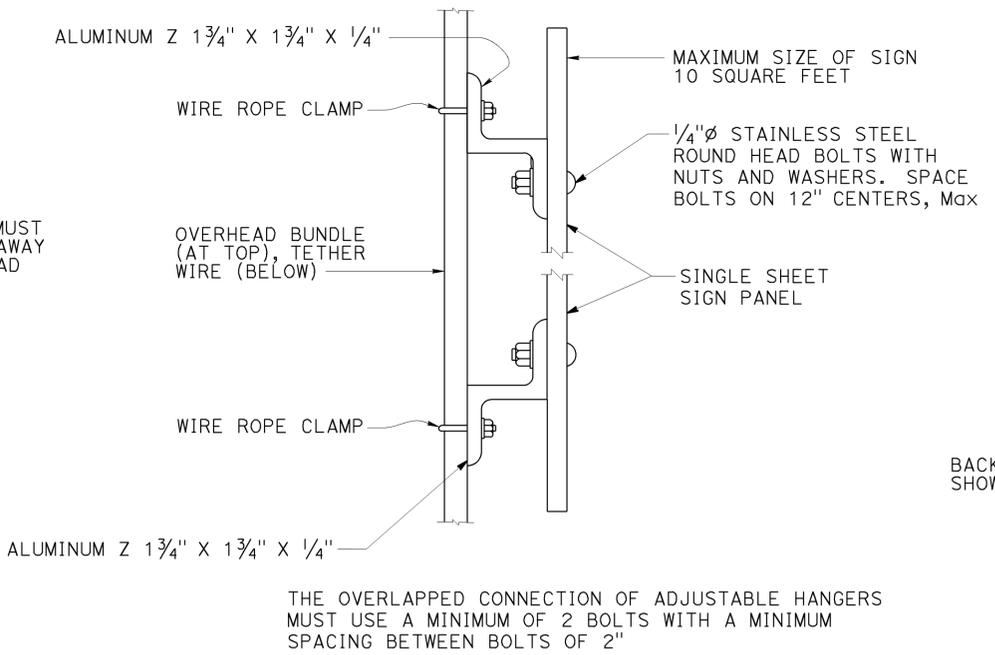
**SIGNAL FACE SUPPORT**



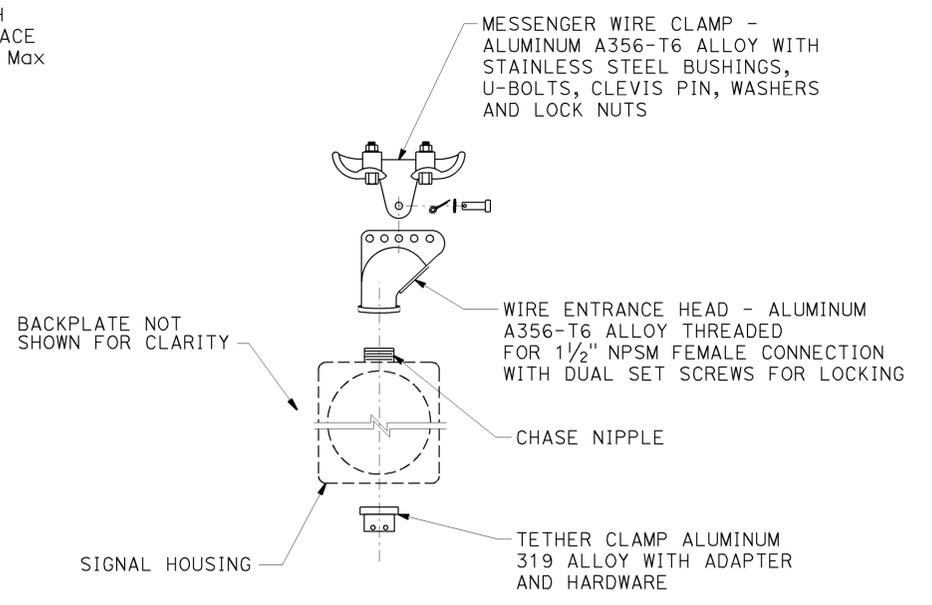
**Z-BAR ELEVATION**



**MESSENGER WIRE CLAMP COTTER PIN DETAIL**



**SIGN MOUNTING DETAIL**



**SIGNAL FACE SUPPORT EXPLODED VIEW**

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

BRANCH CHIEF	DESIGN	BY A MALAK	CHECKED YU SONG
	DETAILS	BY H NGUYEN	CHECKED A MALAK
	QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA	
DEPARTMENT OF TRANSPORTATION	

DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES	<b>B</b>
SPECIAL DESIGNS BRANCH	
BRIDGE NO. N/A	
POST MILE 26.3/26.8	

TEMPORARY WOOD POLES	
DETAILS No. 5	
SES-9	