

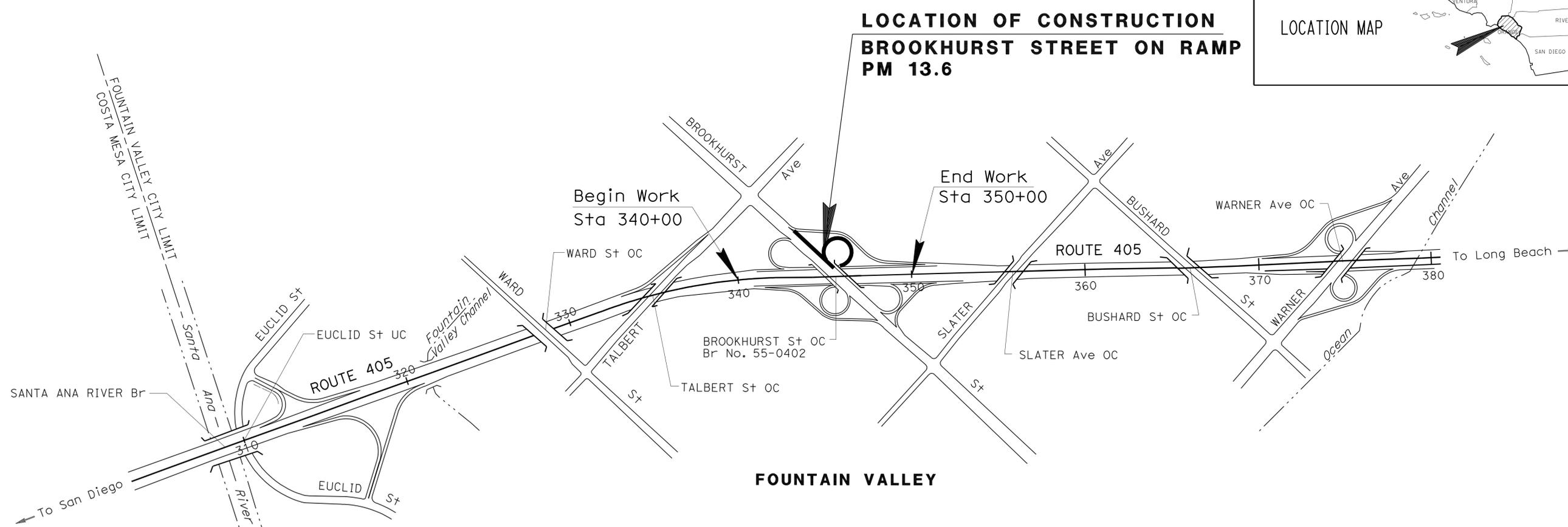
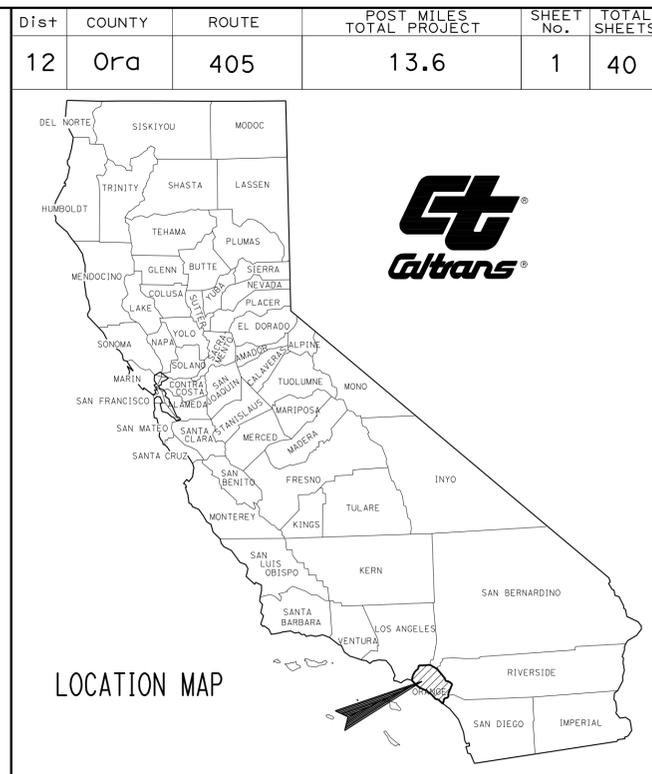
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2-3	TYPICAL CROSS SECTIONS
4	LAYOUTS
5	PROFILES
6-8	CONSTRUCTION DETAILS
9	UTILITY PLANS
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13-15	PAVEMENT DELINEATION AND PLANS AND QUANTITIES
16	SUMMARY OF QUANTITIES
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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA **ACIM-405-2(947)106E**  
 DEPARTMENT OF TRANSPORTATION  
**PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY  
 IN ORANGE COUNTY  
 IN FOUNTAIN VALLEY AT BROOKHURST STREET**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



**FOUNTAIN VALLEY**

NO SCALE

PROJECT MANAGER  
**VINH PHAM**  
 DESIGN ENGINEER  
**KIMBERLY NGUYEN**

*Kimberly Nguyen* 01/14/10  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**February 22, 2010**  
 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.



THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	405	13.6	2	40

<i>Kimberly Nguyen</i>	01-14-10
REGISTERED CIVIL ENGINEER	DATE
2-22-10	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER

**KIMBERLY NGUYEN**

No. C 64577

Exp. 6/30/11

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:**

1. DIMENSIONS OF THE STRUCTURAL SECTIONS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.

**ABBREVIATION:**

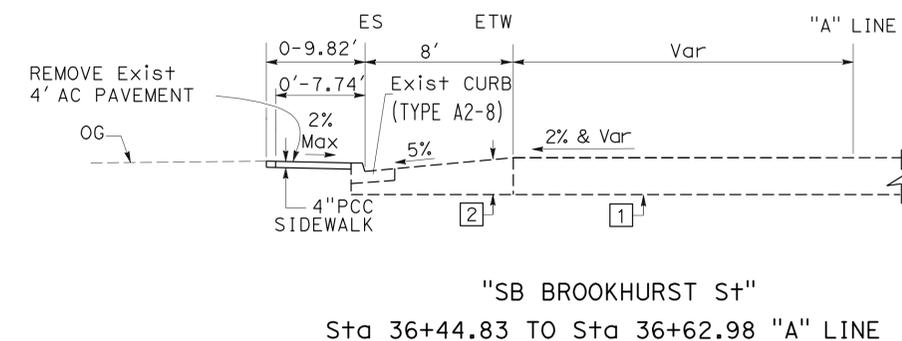
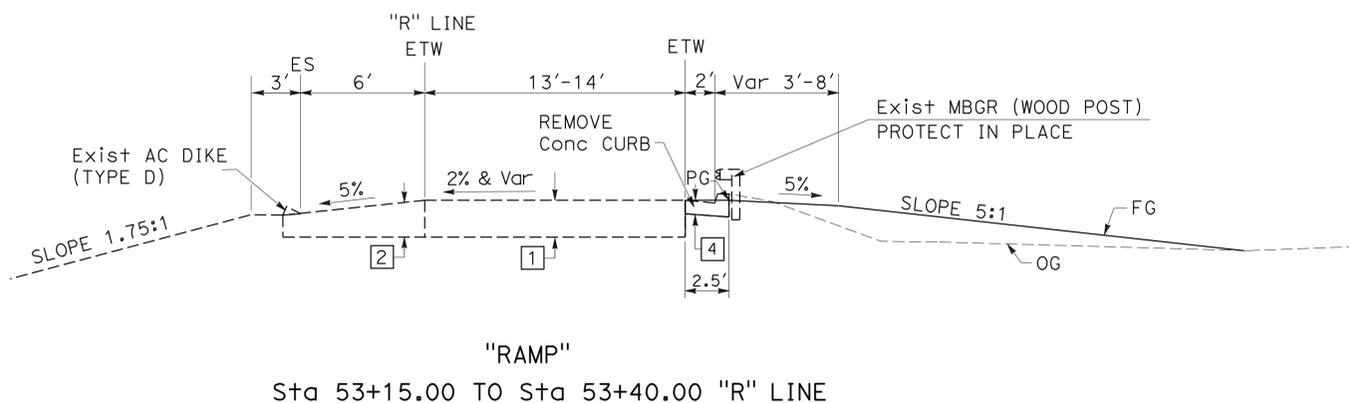
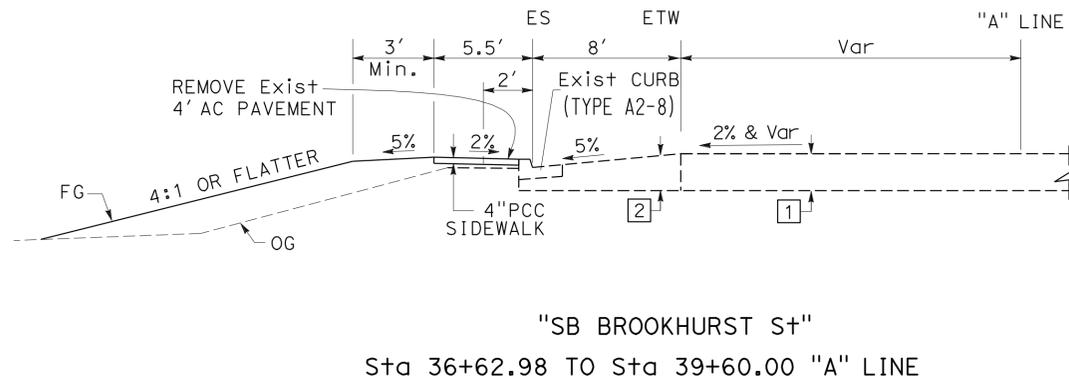
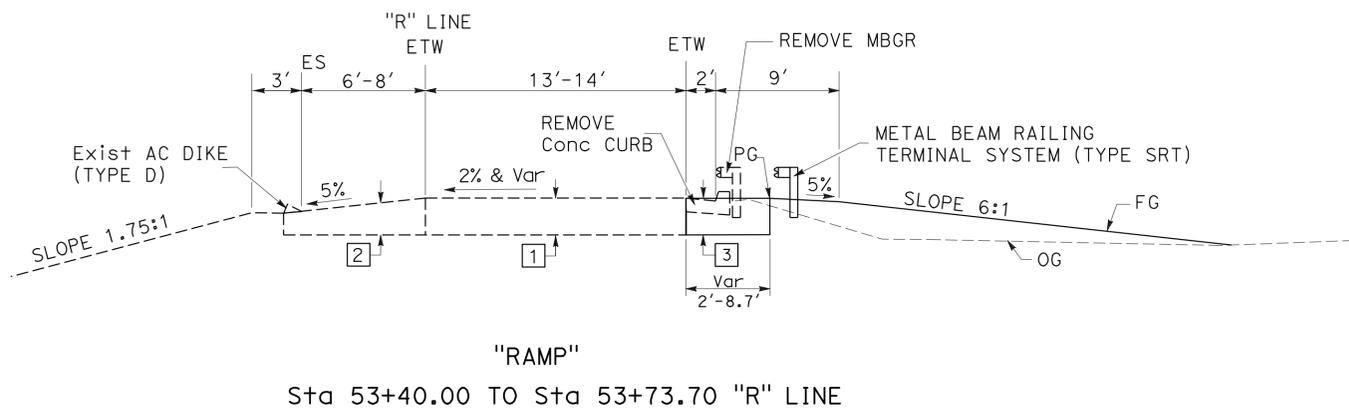
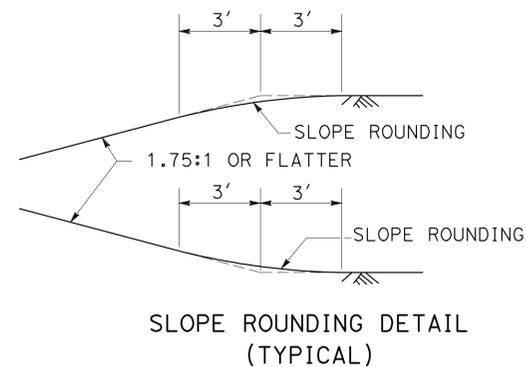
RHMA-G = RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

**EXISTING STRUCTURAL SECTIONS:**

- 1 Exist  
0.33' AC  
0.67' ROAD MIXED CEMENT TREATED BASE  
0.33' AGGREGATE READY MIXED CEMENTED TREAT BASE  
0.67' AS
- 2 Exist  
0.33' AC  
0.50' AGGREGATE READY MIXED CEMENT TREATED BASE  
1.00' AS

**TYPICAL STRUCTURAL SECTIONS:**

- 3 0.20' RHMA-G  
1.35' HMA (TYPE A)  
0.50' AS (Class 2)
- 4 0.20' RHMA-G  
1.35' HMA (TYPE A)

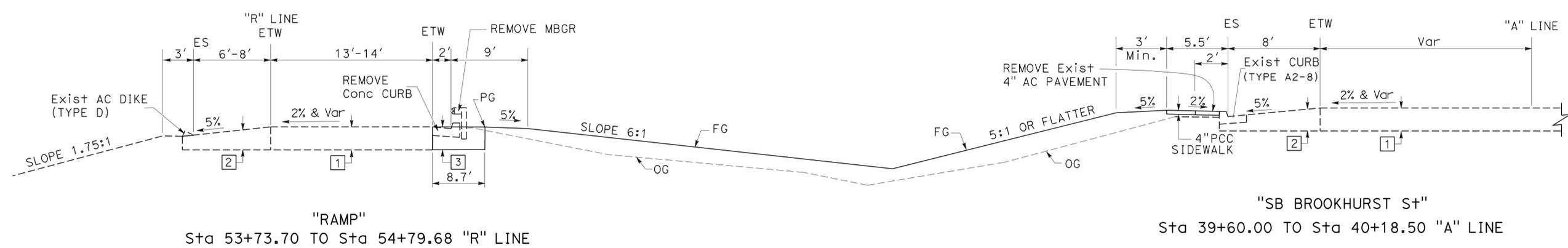
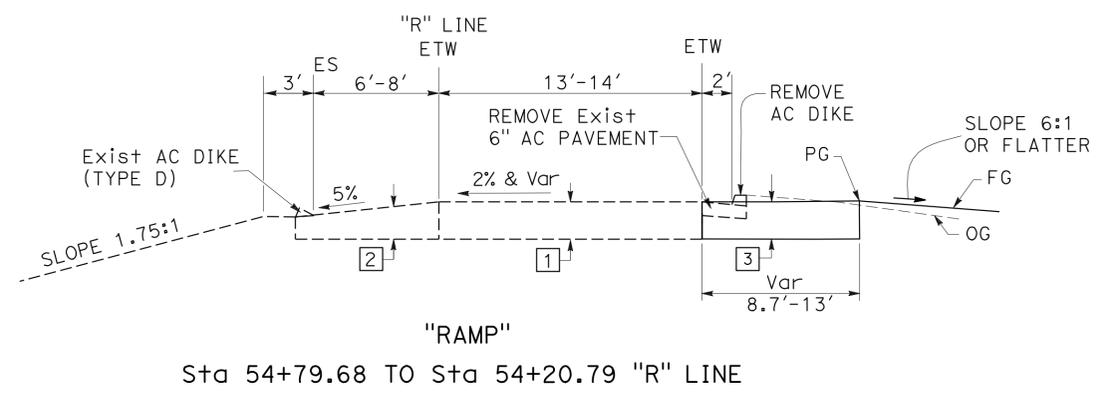
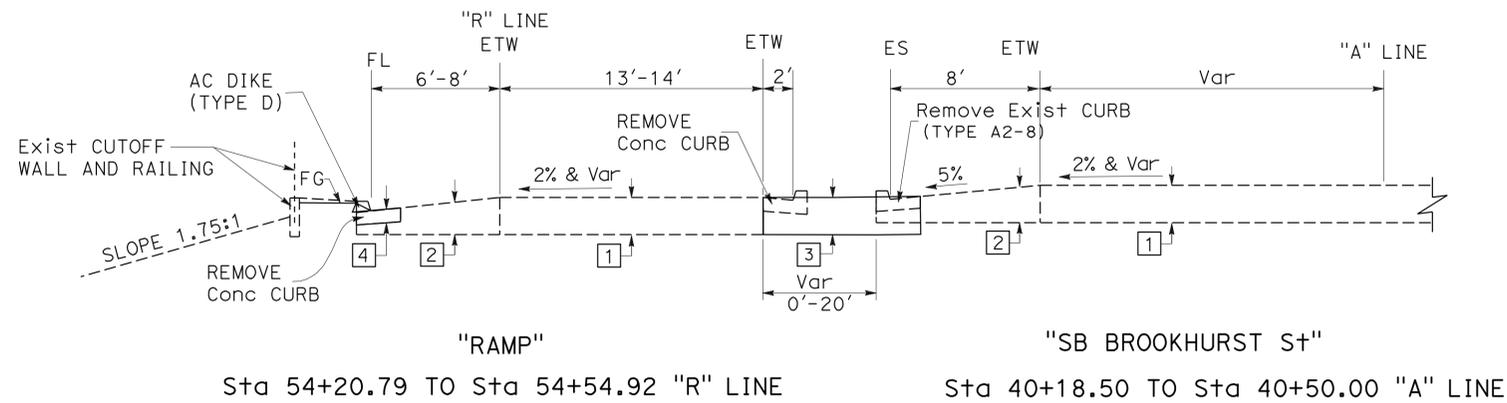


**TYPICAL CROSS SECTIONS**  
NO SCALE

**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR: SUSAN YEE  
 CALCULATED/DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]  
 REVISIONS: [Blank]  
 REVISOR: [Blank]  
 DATE: [Blank]  
 REVISOR: [Blank]  
 DATE: [Blank]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	3	40
			01-14-10		
REGISTERED CIVIL ENGINEER			DATE		
2-22-10			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>					



**TYPICAL CROSS SECTIONS**  
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR: SUSAN YEE  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 KIMBERLY NGUYEN SUSAN YEE  
 REVISED BY: DATE REVISED:

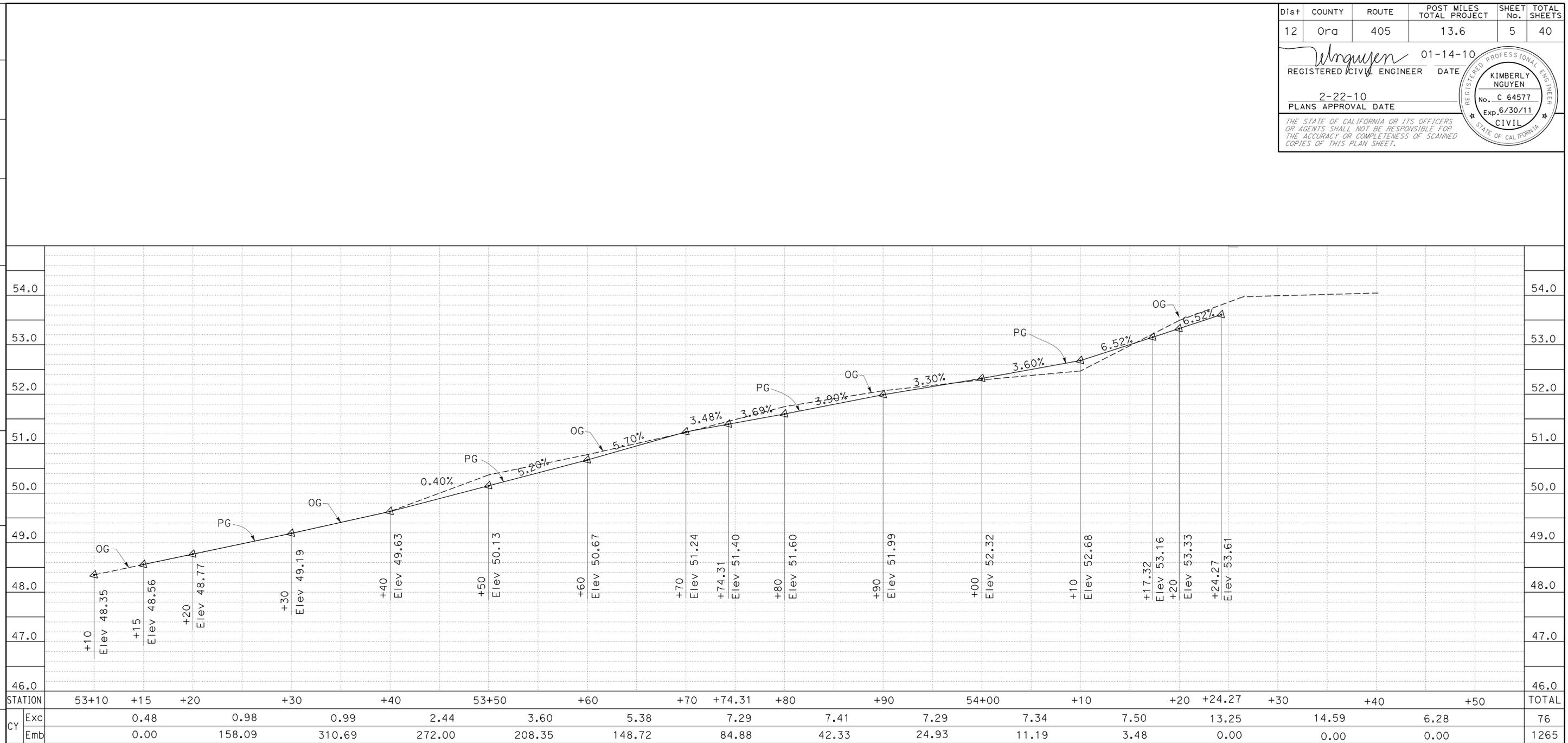


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	5	40

REGISTERED CIVIL ENGINEER *Kimberly Nguyen* DATE 01-14-10  
 PLANS APPROVAL DATE 2-22-10  
 No. C 64577  
 Exp. 6/30/11  
 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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Ed Gibbons** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR  
 SUSAN YEE  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 KIMBERLY NGUYEN  
 SUSAN YEE  
 REVISED BY  
 DATE REVISED



PROFILE GRADE AT ES ESTABLISHED  
 FROM "R" LINE Sta 53+15 To Sta 54+24.27  
 SB ROUTE 405 ON-RAMP FROM SB BROOKHURST STREET

Exc	0.48	0.98	0.99	2.44	3.60	5.38	7.29	7.41	7.29	7.34	7.50	13.25	14.59	6.28	76
Emb	0.00	158.09	310.69	272.00	208.35	148.72	84.88	42.33	24.93	11.19	3.48	0.00	0.00	0.00	1265

**PROFILE**

SCALE: Horiz 1" = 5'  
 Vert 1" = 1'

**P-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	6	40

<i>Kimberly Nguyen</i>	01-14-10
REGISTERED CIVIL ENGINEER	DATE
2-22-10	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER  
 KIMBERLY NGUYEN  
 No. C 64577  
 Exp. 6/30/11  
 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:**

1. SEE STANDARD PLAN A88A FOR CURB RAMP DETAILS AND REVISED STANDARD PLAN A87A FOR CURB DETAILS.

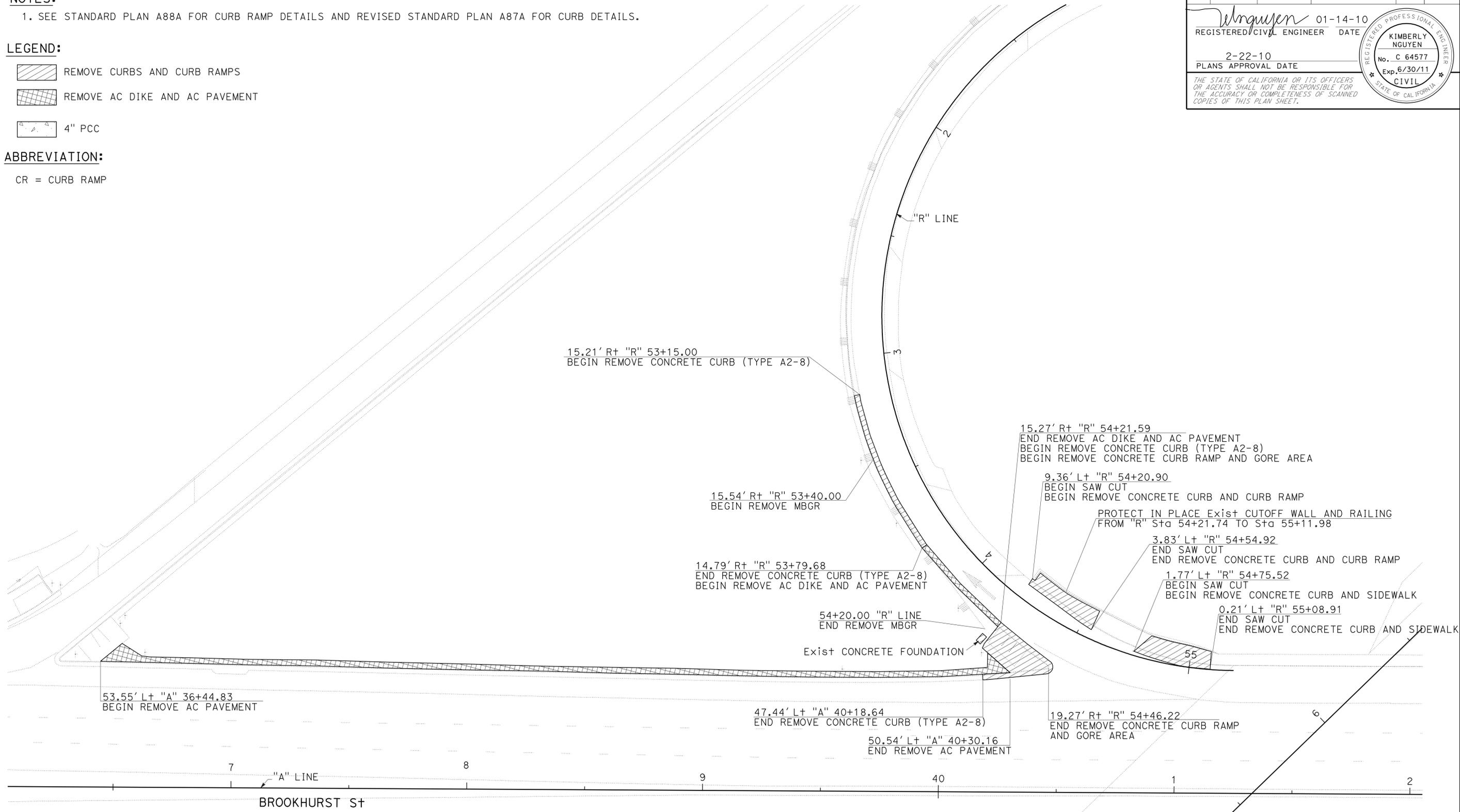
**LEGEND:**

- REMOVE CURBS AND CURB RAMPS
- REMOVE AC DIKE AND AC PAVEMENT
- 4" PCC

**ABBREVIATION:**

CR = CURB RAMP

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
<b>Caltrans</b> DESIGN BRANCH G
FUNCTIONAL SUPERVISOR
DESIGNED BY
CHECKED BY
REVISOR
DATE



**CONSTRUCTION DETAILS  
(REMOVAL PLAN)**  
SCALE: 1" = 20'

**C-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	7	40

01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 PLANS APPROVAL DATE

KIMBERLY NGUYEN  
 No. C 64577  
 Exp. 6/30/11  
 CIVIL  
 STATE OF CALIFORNIA

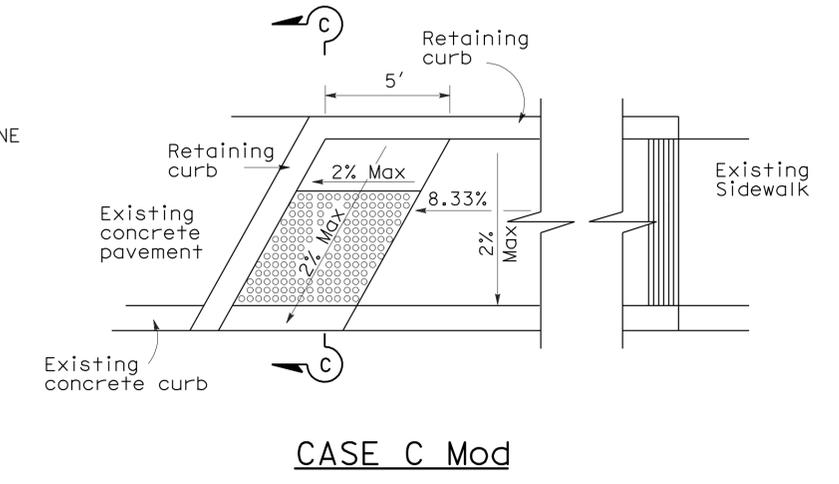
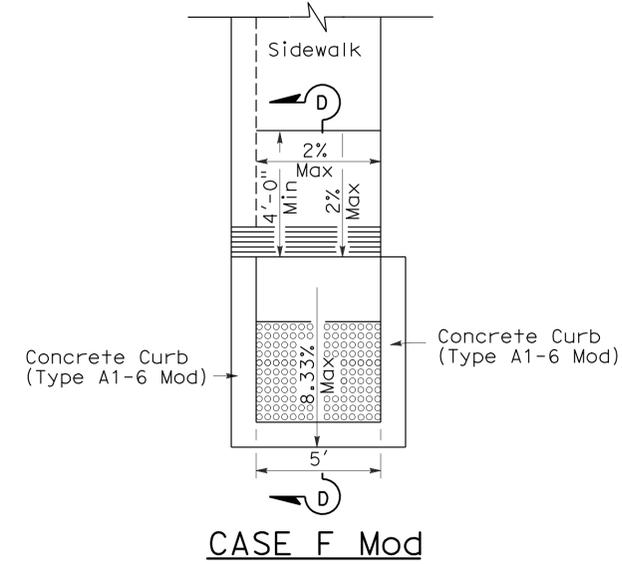
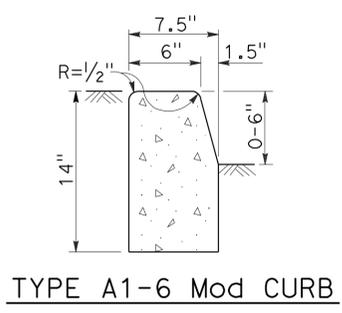
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTE:**

1. SEE STANDARD PLAN A88A FOR CURB RAMP DETAILS AND REVISED STANDARD PLAN A87A FOR CURB DETAILS.

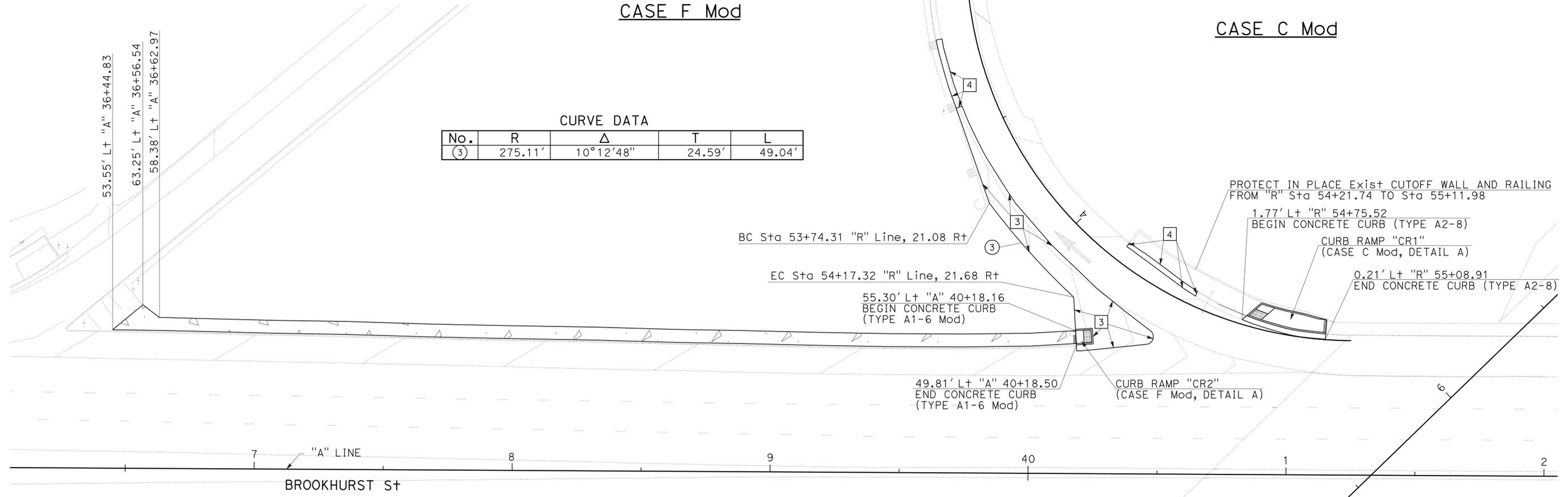
**LEGEND:**

-  TYPICAL STRUCTURAL SECTION
-  PCC SIDEWALK



**CURVE DATA**

No.	R	Δ	T	L
(3)	275.11'	10°12'48"	24.59'	49.04'



**CONSTRUCTION DETAILS**  
SCALE: 1" = 20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR SUSAN YEE  
 CALCULATED-DESIGNED BY CHECKED BY  
 KIMBERLY NGUYEN SUSAN YEE  
 REVISED BY DATE REVISED  
 BORDER LAST REVISED 4/11/2008

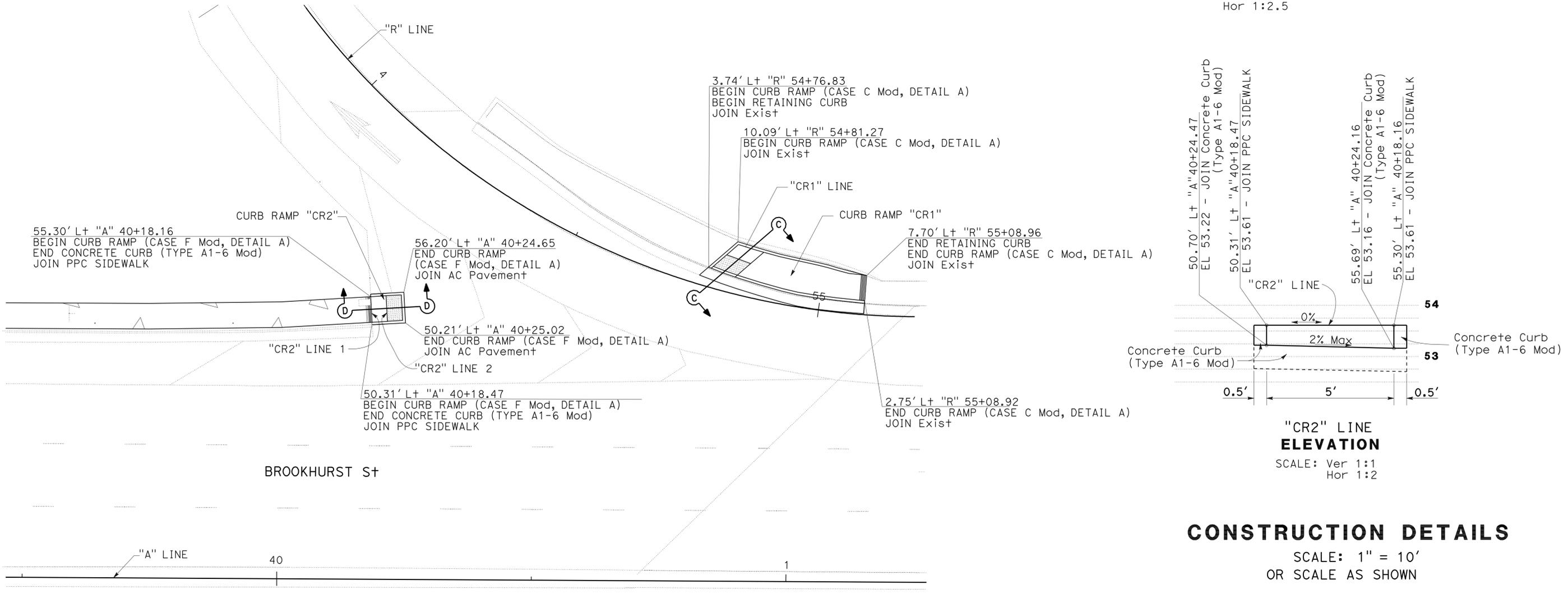
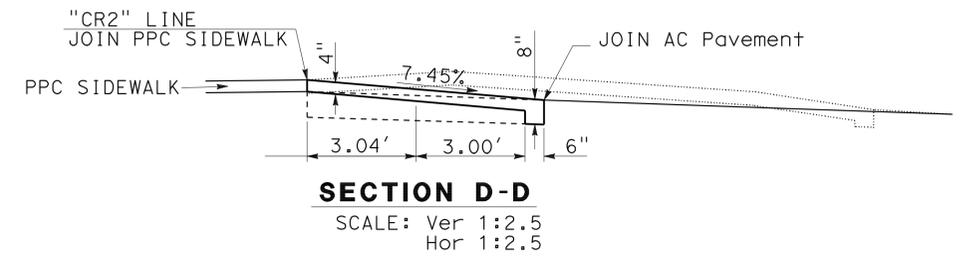
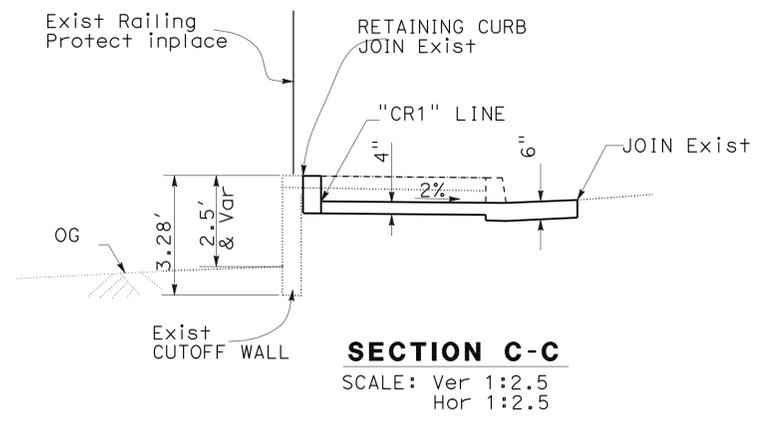
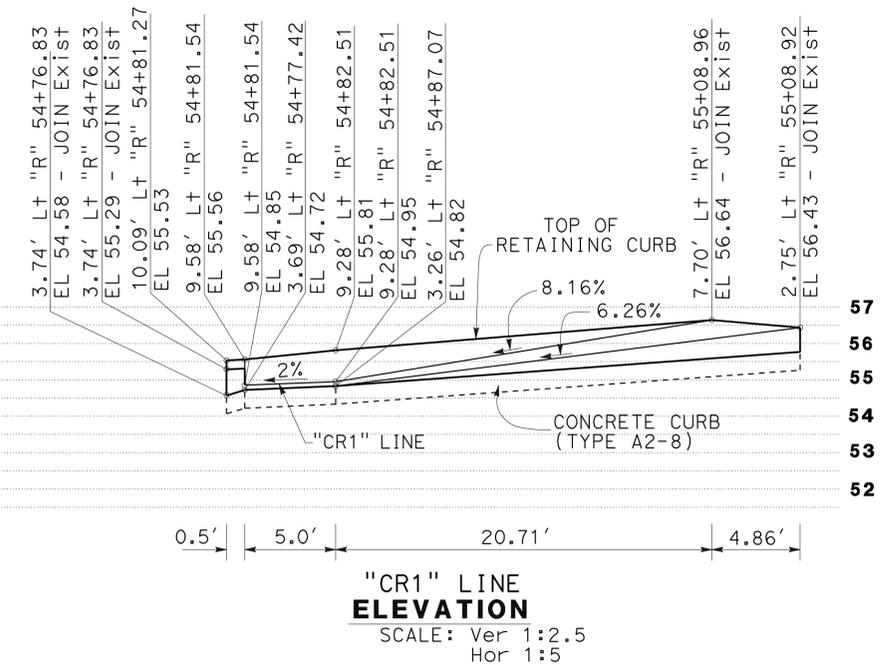
DESIGNED BY KIMBERLY NGUYEN	REVISIONS
CHECKED BY SUSAN YEE	DATE
FUNCTIONAL SUPERVISOR SUSAN YEE	REVISIONS
CALCULATED/DESIGNED BY	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	8	40

01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 PLANS APPROVAL DATE

**KIMBERLY NGUYEN**  
 No. C 64577  
 Exp. 6/30/11  
 CIVIL  
 STATE OF CALIFORNIA

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**CONSTRUCTION DETAILS**  
 SCALE: 1" = 10'  
 OR SCALE AS SHOWN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	9	40

Brandon Tran 01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 BRANDON TRAN  
 No. C 58283  
 Exp. 6/30/10  
 CIVIL  
 STATE OF CALIFORNIA

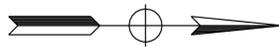
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

1. LOCATIONS OF UTILITY FACILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
2. ALL ELEVATIONS SHOWN REFER TO THE TOP OF PIPE ELEVATION UNLESS OTHERWISE INDICATED.
3. FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

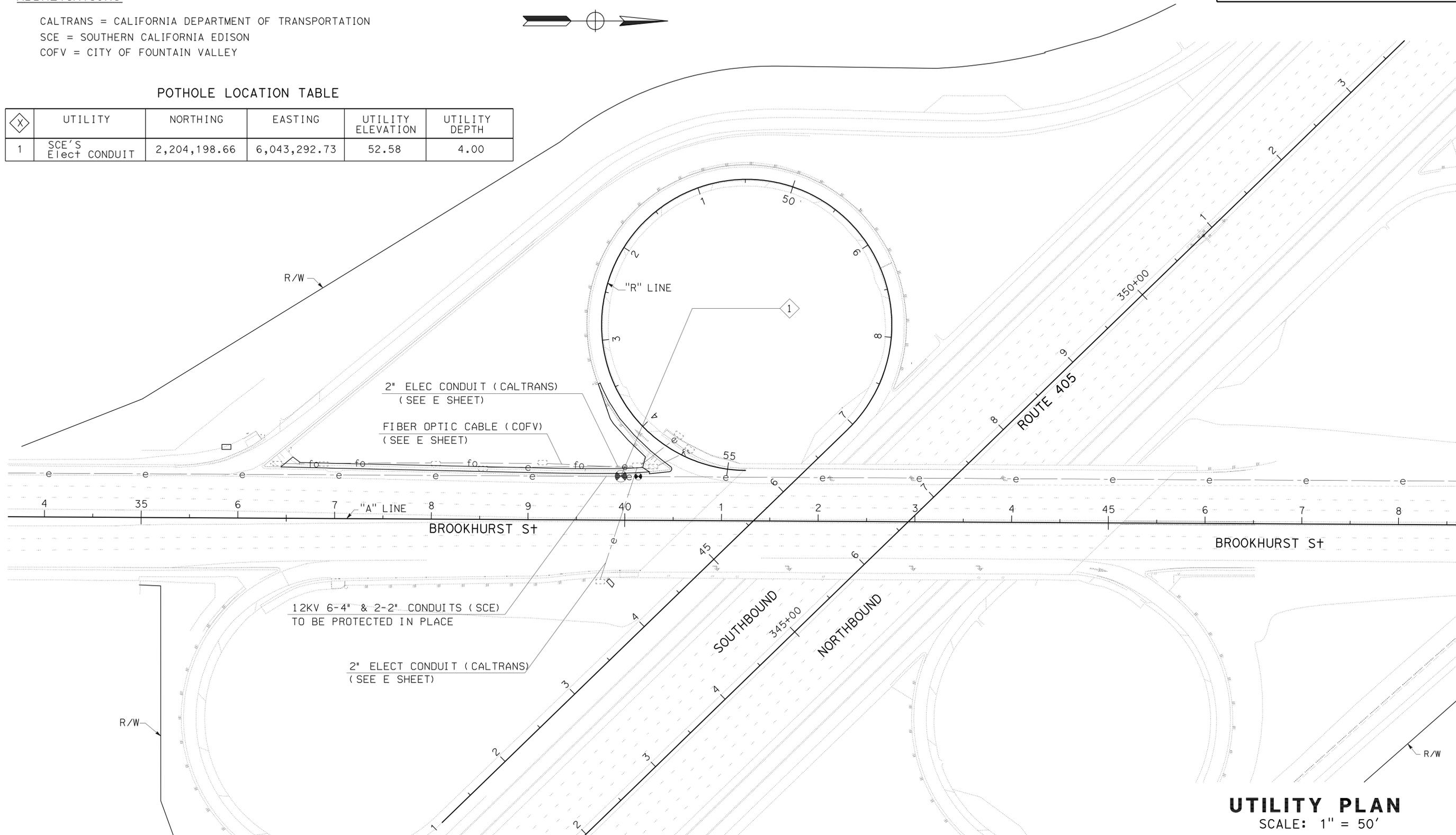
**ABBREVIATIONS:**

CALTRANS = CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SCE = SOUTHERN CALIFORNIA EDISON  
 COFV = CITY OF FOUNTAIN VALLEY



**POT HOLE LOCATION TABLE**

◇	UTILITY	NORTHING	EASTING	UTILITY ELEVATION	UTILITY DEPTH
1	SCE'S Elect CONDUIT	2,204,198.66	6,043,292.73	52.58	4.00



**UTILITY PLAN**  
SCALE: 1" = 50'

THIS PLAN ACCURATE FOR UTILITY WORK ONLY.

**U-1**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR CHRISTOPHER LE  
 CALCULATED-DESIGNED BY CHECKED BY  
 LAP NGUYEN SUSAN YEE  
 REVISED BY DATE REVISED

**CONSTRUCTION AREA SIGNS**

Loc	TYPE	PANEL SIZE (inches)	SIGN MESSAGE	No. OF POST AND SIZE (inches)	No. OF SIGNS	REMARKS
(A)	W20-1	48 x 48	ROAD WORK AHEAD	2 - 4 x 6	1	(S)
(B)	G20-2	48 x 24	END ROAD WORK	2 - 4 x 4	2	(S)
(C)	W20-1	36 x 36	ROAD WORK AHEAD	1 - 4 x 6	1	(S)

**LEGEND:**

(S) = DENOTES STATIONARY MOUNTED SIGN.

**NOTE:**

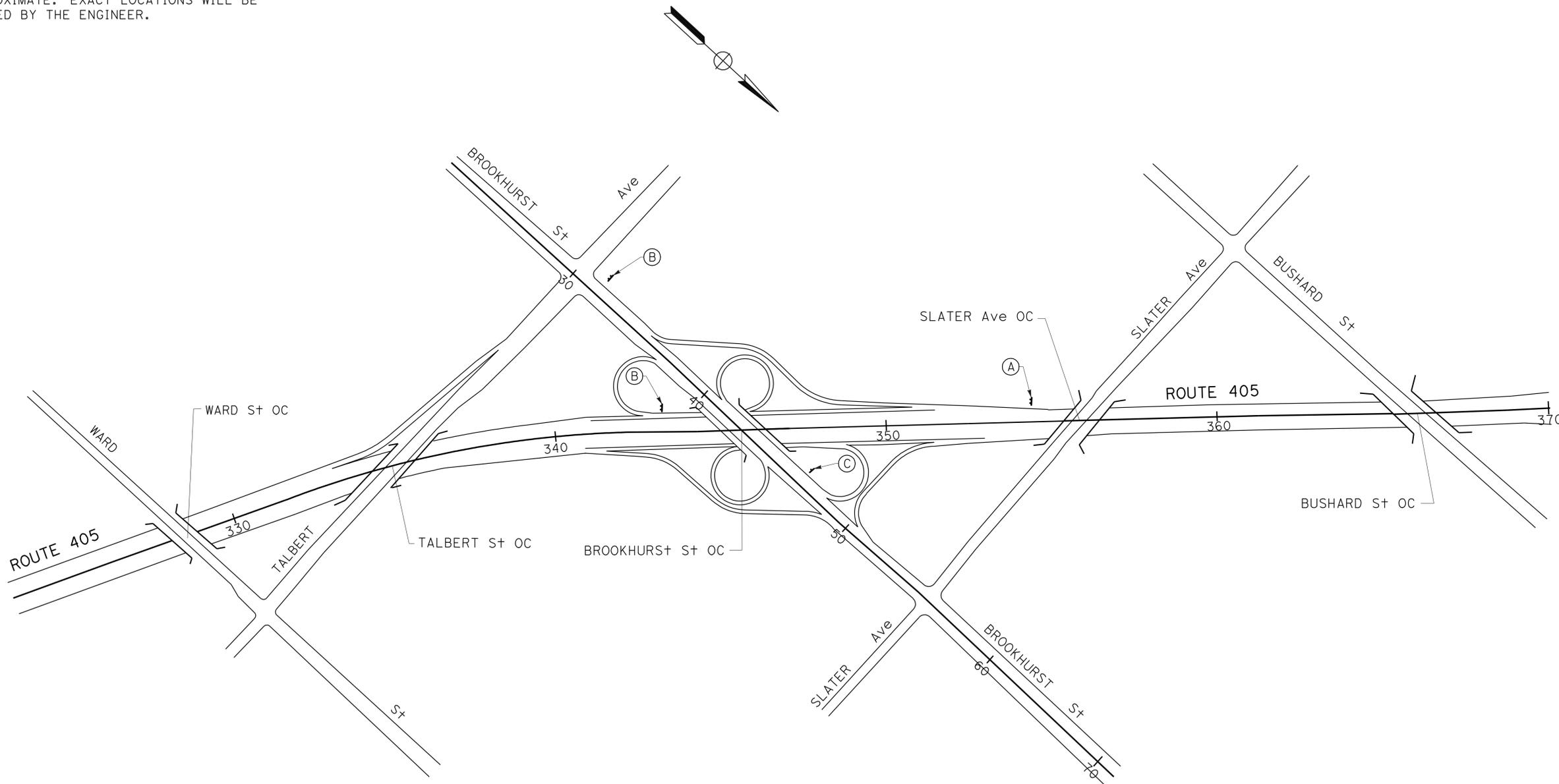
LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	10	40

*Kim Nguyen* 01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 KIMBERLY NGUYEN  
 No. C 64577  
 Exp. 6/30/11  
 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.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G

FUNCTIONAL SUPERVISOR: SUSAN YEE  
 CALCULATED/DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]  
 REVISOR: KIMBERLY NGUYEN  
 DATE: [Blank]  
 REVISOR: SUSAN YEE  
 DATE: [Blank]

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	11	40

01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 KIMBERLY NGUYEN  
 No. C 64577  
 Exp. 6/30/11  
 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:**

- ← DIRECTION OF TRAFFIC
- ▨ PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
- SIGN NUMBER
- ▨ BARRICADE (TYPE III)
- ▨ CLOSURE AREA

**ABBREVIATION:**

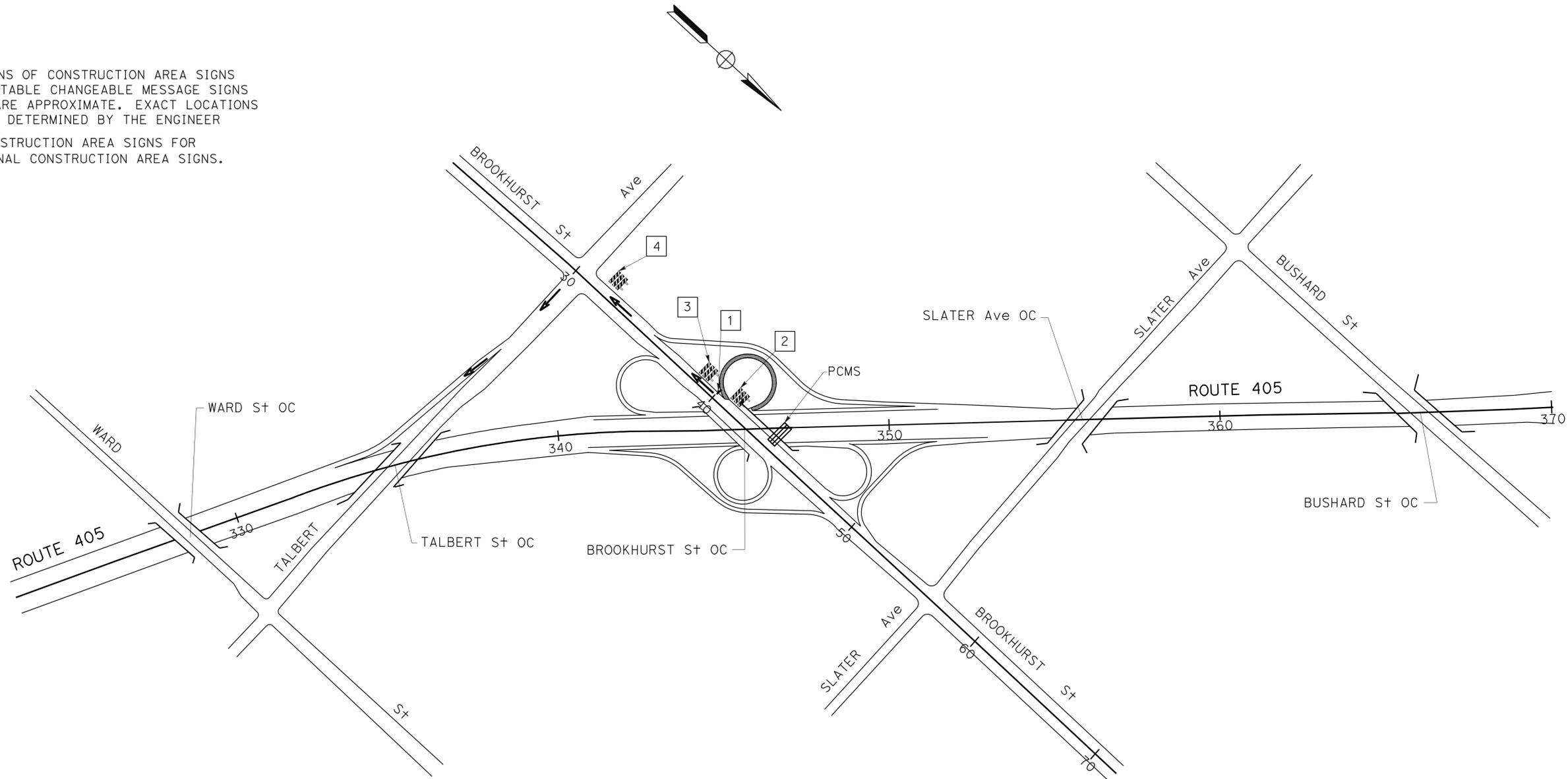
PCMS = PORTABLE CHANGEABLE MESSAGE SIGN

**PORTABLE CHANGEABLE MESSAGE SIGN**

SHEET No.	SIGN CODE	SIGN MESSAGE	No. OF SIGNS
TH-1	PCMS	TO BE DETERMINED BY ENGINEER	1

**NOTES:**

- LOCATIONS OF CONSTRUCTION AREA SIGNS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER
- SEE CONSTRUCTION AREA SIGNS FOR ADDITIONAL CONSTRUCTION AREA SIGNS.



**TRAFFIC DETOUR PLAN:**

SB ROUTE 405 LOOP ON RAMP FROM SB BROOKHURST STREET CLOSED  
 SB ON BROOKHURST STREET.  
 TURN LEFT ON TALBERT AVENUE

**TRAFFIC HANDLING PLAN  
 DETOUR  
 (SOUTHBOUND ON-RAMP FROM BROOKHURST STREET)**

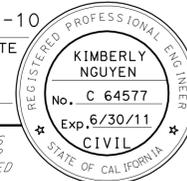
NO SCALE

**TH-1**

THIS PLAN ACCURATE FOR TRAFFIC HANDLING WORK ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR SUSAN YEE  
 CALCULATED/DESIGNED BY CHECKED BY  
 KIMBERLY NGUYEN SUSAN YEE  
 REVISED BY DATE REVISED  
 KIMBERLY NGUYEN SUSAN YEE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	12	40
			01-14-10		
REGISTERED CIVIL ENGINEER			DATE		
2-22-10			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>					

**CONSTRUCTION AREA SIGN (DETOUR)**

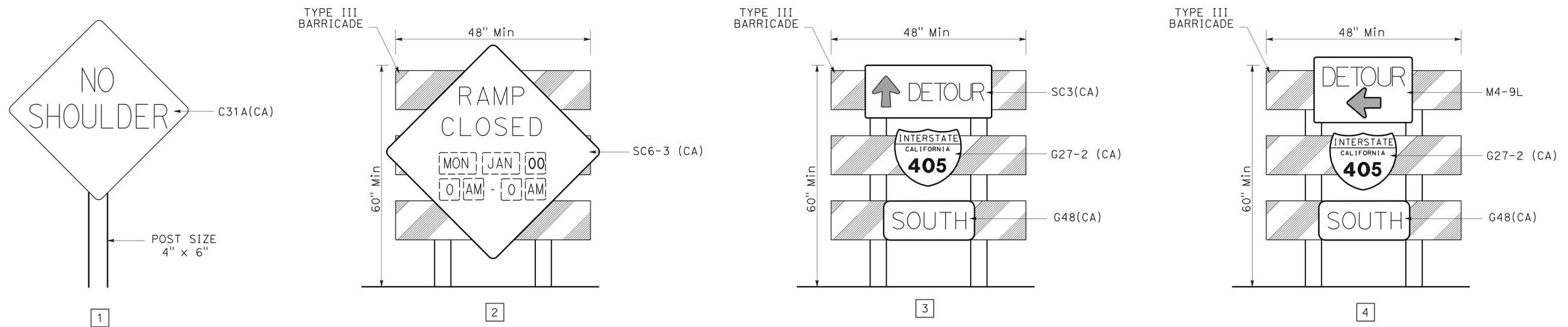
SHEET No.	SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE	No. OF POST and SIGN (inches)	No. OF SIGNS	REMARKS
TH-1	1	C31A(CA)	NO SHOULDER	36" X 36"	1 - 4 x 6	1	(S)
TH-1	2	SC6-3(CA)	RAMP CLOSED	48" X 48"		1	TO BE ATTACHED TO TYPE III BARRICADE
TH-1	3	SC3(CA)	DETOUR (with Arrow)	48" X 18"		1	TO BE ATTACHED TO TYPE III BARRICADE
		G27-2(CA)	Interstate Route Marker	21" X 18"		1	
		G48(CA)	SOUTH	26" X 12"		1	
TH-1	4	M4-9L	DETOUR (with Lt Arrow)	30" X 24"		1	TO BE ATTACHED TO TYPE III BARRICADE
		G27-2(CA)	Interstate Route Marker	21" X 18"		1	
		G48(CA)	SOUTH	26" X 12"		1	

**LEGEND:**

(S) = DENOTES STATIONARY MOUNTED SIGN

**TYPE III BARRICADE**

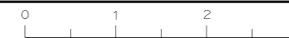
SHEET No.	TYPE III BARRICADE (EA)
TH-1	3
TOTAL	3



**TRAFFIC HANDLING DETAILS AND TRAFFIC HANDLING QUANTITIES (DETOUR SIGNS)**

NO SCALE

**TH-2**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR: SUSAN YEE  
 SUPERVISOR: SUSAN YEE  
 CALCULATED-DRAWN BY: SUSAN YEE  
 CHECKED BY: SUSAN YEE  
 DESIGNED BY: SUSAN YEE  
 REVISIONS: (None listed)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	13	40

01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 MOSTAFA ALIAKBARZADEH  
 No. C 53003  
 Exp. 03-31-11  
 CIVIL  
 STATE OF CALIFORNIA

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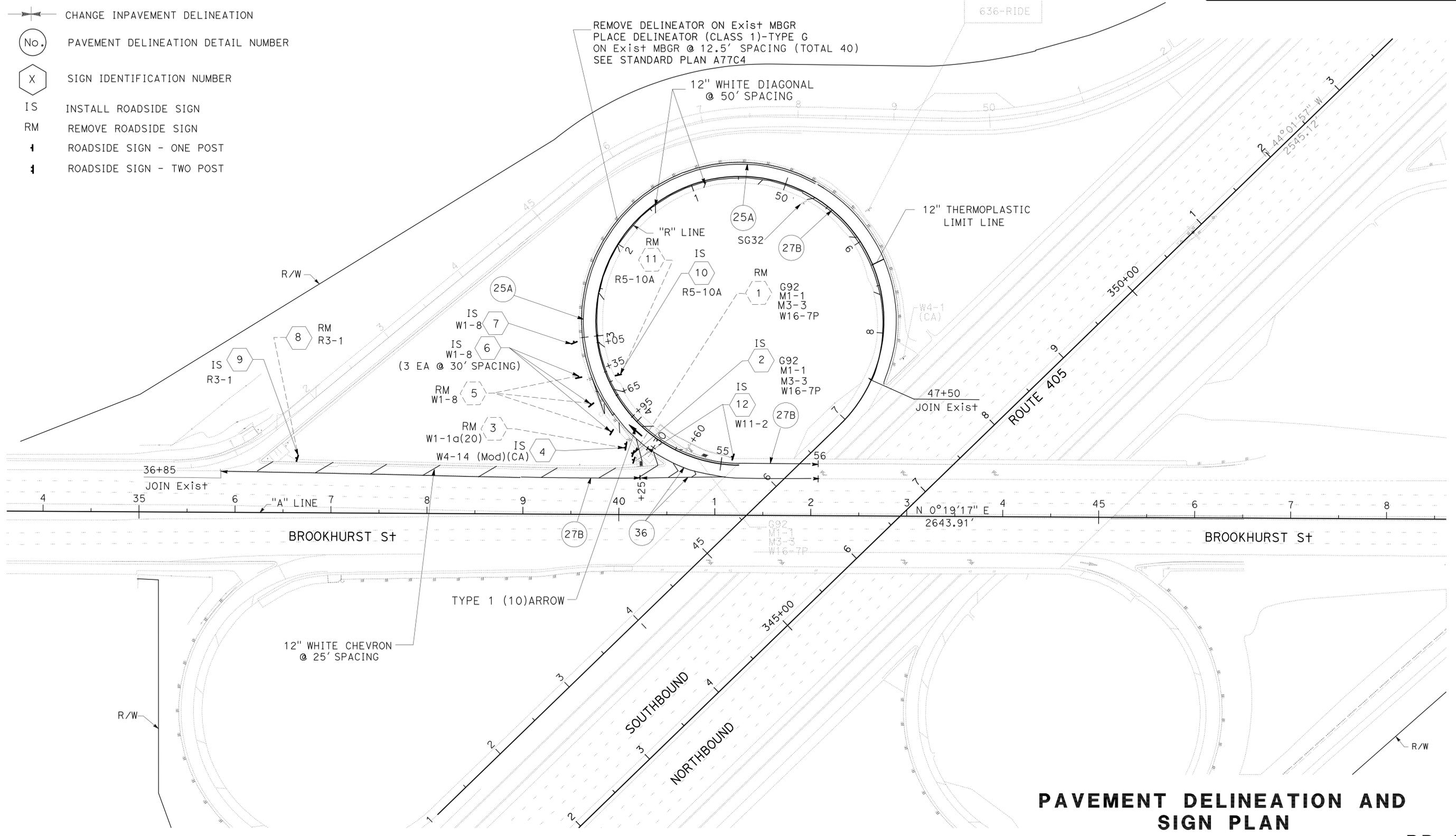
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY AND ACCESS DATA,  
 CONTACT RIGHT OF WAY ENGINEER AT THE DISTRICT OFFICE.



- LEGEND:**
- +— CHANGE INPAVEMENT DELINEATION
  - (No.) PAVEMENT DELINEATION DETAIL NUMBER
  - (X) SIGN IDENTIFICATION NUMBER
  - IS INSTALL ROADSIDE SIGN
  - RM REMOVE ROADSIDE SIGN
  - ↑ ROADSIDE SIGN - ONE POST
  - ↑↑ ROADSIDE SIGN - TWO POST

CARPOOL  
 VANPOOL  
 INFO.  
 CALL (714)  
 636-RIDE

REMOVE DELINEATOR ON Exist MBGR  
 PLACE DELINEATOR (CLASS 1)-TYPE G  
 ON Exist MBGR @ 12.5' SPACING (TOTAL 40)  
 SEE STANDARD PLAN A77C4



REVISOR: M. ALIAKBARZADEH  
 DATE: M. A.  
 CALCULATED/DESIGNED BY: M. A.  
 CHECKED BY: ADEL MALEK  
 FUNCTIONAL SUPERVISOR: ADEL MALEK  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 TRAFFIC DESIGN

**PAVEMENT DELINEATION AND SIGN PLAN**  
 SCALE: 1" = 50'  
**PD-1**

THIS PLAN ACCURATE FOR PAVEMENT DELENEATION AND SIGNING ONLY.

**ABBREVIATIONS:**  
 LP LEFT POST  
 RP RIGHT POST

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	405	13.6	14	40

01-14-10  
 Mostafa Aliakbarzadeh  
 REGISTERED CIVIL ENGINEER DATE

2-22-10  
 PLANS APPROVAL DATE

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

**PAVEMENT DELINEATION QUANTITIES**

SHEET No.	STATION	THERMOPLASTIC TRAFFIC STRIPE			THERMOPLASTIC PAVEMENT MARKING			PAVEMENT MARKER		DELINEATOR (CLASS 1)	REMOVE				
		DET 25A 4" SOLID YELLOW	DET 27B 4" SOLID WHITE	DET 36 8" SOLID WHITE	CHEVRON/ DIAGONAL	ARROW	LIMIT LINE	RETRO-REFLECTIVE			THERMOPLASTIC PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE (WHITE)	YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	PAVEMENT MARKER	DELINEATOR
								TYPE G	TYPE H						
PD-1	47+50 TO 56+00	700	1215	500	245	14	15	22	31	40	259	2215	700	53	40
TOTAL		1915		500	259			53		40	259	2215	700	53	40

**ROADSIDE SIGN QUANTITIES**

SIGN No.	SIGN CODE	PANEL SIZE	POST SIZE	POST LENGTH		ROADSIDE SIGN		REMOVE ROADSIDE SIGN (WOOD POST)
				LP	RP	ONE POST	TWO POST	
1	G92,M1-1 M3-3,M16-7P	EXIST						1
2	G92	48" X 30"	6" X 6"	15'	1			
	M1-1	45" X 36"						
	M3-3	24" X 12"						
	W16-7P	21" X 15"						
3	W1-1a(20)(CA)	EXIST						1
4	W4-14(Mod)(CA)	96" X 96"	6" X 8"	21'	21'		1	
5	W1-8	EXIST						3
6	W1-8	24" X 30"	4" X 4"		13'	3		
7	W1-8	24" X 30"	4" X 4"		17'	1		
8	R16B	EXIST						1
9	R3-1	24" X 24"	4" X 4"		15'	1		
10	R5-10A	28" X 35"	4" X 4"		17'	1		
11	R5-10A	EXIST						1
12	W11-2	24" X 24"	4" X 4"		15'	2		
TOTAL						9	1	7

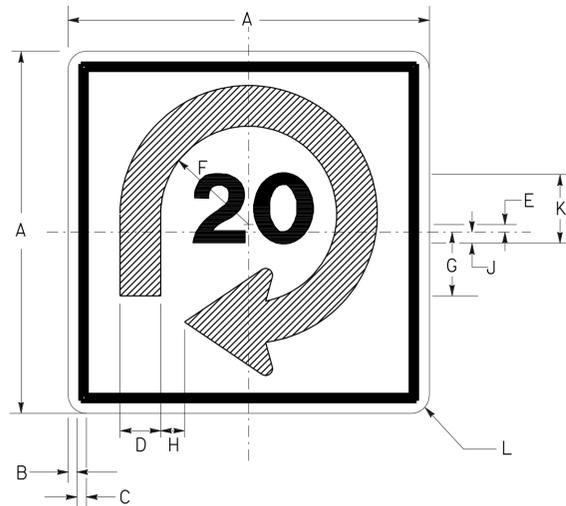
**PAVEMENT DELINEATION AND SIGN QUANTITIES PDQ-1**

## MATERIAL SUMMARY-CONTRACTOR FURNISHED SIGNS

SHEET No.	SIGN No. 	SIGN CODE	PANEL SIZE	SINGLE FACED	BACKGROUND		LEGEND		PROTECTIVE FILM	ROADSIDE SIGN	
					SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE		FURNISH SINGLE SHEET UNFRAMED ALUMINUM	FURNISH SINGLE SHEET FRAMED ALUMINUM
										0.063 INCH	0.080 INCH
									SQFT	SQFT	
PD-1	2	G92	48" X 30"	x	GREEN	III	WHITE	non	X	10	
		M1-1	45" X 36"	x	GREEN	III	WHITE	non	X	11.25	
		M3-3	24" X 12"	x	GREEN	III	WHITE	non	X	2	
		W16-7P	21" X 15"	x	GREEN	III	WHITE	non	X	2.19	
	4	W4-14(Mod)(CA)	96" X 96"	x	YELLOW	III	BLACK	non	X		64
	6	W1-8	24" X 30"	x	YELLOW	III	BLACK	non	X	15	
	7	W1-8	24" X 30"	x	YELLOW	III	BLACK	non	X	5	
	9	R3-1	24" X 24"	x	WHITE	III	BLACK/RED	non	X	4	
	10	R5-10A	28" X 35"	x	WHITE	III	BLACK	non	X	6.80	
	12	W11-2	24" X 24"	x	YELLOW	III	BLACK	non	X	8	
TOTAL										64.24	64

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	15	40
				01-14-10	
<i>Mostafa Aliakbarzadeh</i>				REGISTERED CIVIL ENGINEER DATE	
				2-22-10	
				PLANS APPROVAL DATE	

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



W4-14(Mod)(CA)

SIGN SIZE (INCHES)	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	I	J	K
96 x 96	96	1-1/4	2-1/4	12	3	26	21	7	4	20E	6

## MATERIAL SUMMARY CONTRACTOR FURNISHED SIGNS

**PDQ-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
  
 FUNCTIONAL SUPERVISOR  
 ADEL MALEK  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 M. ALIAKBARZADEH  
 M. A.  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Orca	405	13.6	16	40

*Kimberly Nguyen* 01-14-10  
 REGISTERED CIVIL ENGINEER DATE  
 2-22-10  
 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 QUANTITIES

SHEET No.	STATION LIMITS	STATION LINE	LOCATION	TEMPORARY FIBER ROLL	TEMPORARY CONSTRUCTION ENTRANCE	TEMPORARY COVER	TEMPORARY DRAINAGE INLET PROTECTION
				LF	EA	SQYD	EA
L-1	36+50 TO 40+00	A	L+	400		1500	1
	48+00 TO 54+00	R	L+	200	1	500	2
TOTAL				600	1	2000	3

### METAL BEAM GUARD RAILING

SHEET No.	STATION LIMITS	STATION LINE	LOCATION	REMOVE METAL BEAM GUARD RAILING	ALTERNATIVE FLARED TERMINAL SYSTEM
				LF	EA
C-1	53+40 TO 54+20.00	R	R+	80.0	
L-1	53+40.00 TO 53+73.70	R	R+		1
TOTAL				80.0	1

### EARTHWORK QUANTITIES

SHEET No.	STATION LIMITS	STATION LINE	LOCATION	ROADWAY EXCAVATION	ROADWAY EXCAVATION (TYPE Y-1) (AERIALY DEPOSITED LEAD)	IMPORTED BORROW
				CY	CY	CY
L-1	36+60 TO 40+20	A	L+		17.22	2927.39
	53+15 TO 54+55	R	R+	69.82	19.36	1454.37
TOTAL				69.82	36.58	4382.76

### CONCRETE

SHEET No.	STATION LIMITS	STATION LINE	LOCATION	REMOVE CONCRETE		MINOR CONCRETE (CURB, SIDEWALK & CURB RAMP)		
				CURB	RAMP & GORE	CURB	SIDEWALK	CURB RAMP
				CY		CY		
C-1	53+15.00 TO 55+08.91	R	L+, R+	12.15	12.32			
C-2	40+18.16 TO 41+20.00	A	L+			2.64		2.76
L-1	36+44.83 TO 40+18.50	A	L+				23.26	
TOTAL				24.47		28.66		

### ROADWAY QUANTITIES

SHEET No.	STATION LIMITS	STATION LINE	LOCATION	REMOVE AC DIKE	REMOVE AC	PLACE HMA DIKE (TYPE F)	PLACE HMA DIKE (TYPE D)	RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	HOT MIX ASPHALT (TYPE A)	CLASS 2 AGGREGATE SUBBASE
				LF	SQFT	LF	LF	TON	TON	CY
C-1	53+15.00 TO 54+21.59	R	R+	42.0	103.6					
	36+44.83 TO 40+30.16	A	L+		993.5					
C-2	53+15.00 TO 54+50.00	R	R+							
L-1	53+15.00 TO 54+54.92	R	R+, L+			25.0	32.5	17.2	116.1	18.9
TOTAL				42.0	1097.1	25.0	32.5	17.2	116.1	18.9

## SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN BRANCH G  
 FUNCTIONAL SUPERVISOR SUSAN YEE  
 CALCULATED-DESIGNED BY CHECKED BY  
 KIMBERLY NGUYEN SUSAN YEE  
 REVISED BY DATE REVISED



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	17	40

01-14-10  
 LICENSED LANDSCAPE ARCHITECT  
 2-22-10  
 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.

**APPLICABLE WHEN CIRCLED:**

- ① - Quantities shown are "per plant" unless shown as SQFT or SQYD application rates.
- 2 - Sufficient to receive root ball.
- 3 - Does not apply to mulch areas.
- 4 - As shown on plans.
- 5 - Unless otherwise shown on plans.
- 6 - See detail.
- 7 - See Special Provisions.
- ⑧ - See Standard Specifications

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	STAKING	PLANTING LIMITS							REMARKS
							Diag	DEPTH				PLANTING	PLT ESTB			MINIMUM DISTANCE (F+) FROM					ON CENTER (F+)		
																TRVD WAY	PVMT	FENCE	WALL	PAVED DITCH		EARTH DITCH	
H	1		CARPOBROTUS EDULIS	HOTTENTOT FIG	CUTTING	9667	⑧	⑧	-	-	-	8.0 lb/100 SQYD	8.0 lb/100 SQYD	-	-	-	6	6	6	6	8	1.5	GROUND COVER

**SPRINKLER SCHEDULE**

SYMBOL	TYPE	DESCRIPTION	SPRAY PATTERN	OPERATING PRESSURE (PSI)	PRESSURE COMPENSATING	PLUS/MINUS 5% ②			MATERIAL	INLET CONNECTION (NPT INCH)	POSITIVE-LOCKING ADJ ARC STOP	BACKSPASH PREVENTER	DIFFUSER PIN	DISTANCE CONTROL FLAP	ADJ DISCHARGE	RISER				SWING JOINT (TYPE)	RISER SUPPORT	SPRINKLER PROTECTOR (TYPE)	REMARKS		
						GALLONS PER MINUTE (GPM)	GALLONS PER HOUR (GPH)	RADIUS (F+)								WIDTH x LENGTH (F+)	MATERIAL		SIZE (IPS INCH)					HEIGHT (INCH)	FLOW SHUTOFF DEVICE
																	DISCHARGE	PLASTIC							
⑤	A-5	GEAR DRIVEN	P	25	X	2.75	—	35	—	PL	3/4	—	—	—	—	IV	X	—	3/4	18	X	I	—	—	
⑤	A-5	GEAR DRIVEN	F	30	X	5.36	—	35	—	PL	3/4	—	—	—	—	IV	X	—	3/4	18	X	I	—	—	
⑥	A-6	GEAR DRIVEN	P	30	X	2.75	—	35	—	PL	3/4	—	—	—	—	—	X	—	3/4	—	—	I	—	I	12" POP-UP

X IN BOX DENOTES REQUIREMENT

**APPLICABLE WHEN CIRCLED BELOW:**

- 1 - See Special Provisions.
- ② - If a pressure compensating device is specified, the discharge and radii shown reflect its use.
- 3 - Arc Stop shall be fitted with a nut and bolt.
- 4 - Vinyl-coated cast iron housing.
- 5 - Swing Joints required adjacent to shoulders, curbs, sidewalks, and dikes.
- 6 - Unless otherwise shown on plans.

**ABBREVIATIONS:**

- |                           |                               |
|---------------------------|-------------------------------|
| F — full circle           | Ft — feet/foot                |
| P — part circle           | GPM — gallons per minute      |
| F/P — full/part circle    | GPH — gallons per hour        |
| Q — quarter circle        | Adj — adjustable              |
| T — third circle          | PL — plastic                  |
| H — half circle           | B/B — brass/bronze            |
| TT — two third circle     | B/PL — brass/plastic          |
| TQ — three quarter circle | B/B/PL — brass/bronze/plastic |
| CST — center strip        | NPT — national pipe thread    |
| SST — side strip          | IPS — iron pipe size          |
| EST — end strip           | PSI — pounds per square inch  |

**PLANT LIST AND SPRINKLER SCHEDULE**

NO SCALE

**PL-1**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Ora	405	13.6	18	40

<i>de Noel</i>	01-14-10
LICENSED LANDSCAPE ARCHITECT	
2-22-10	
PLANS APPROVAL DATE	

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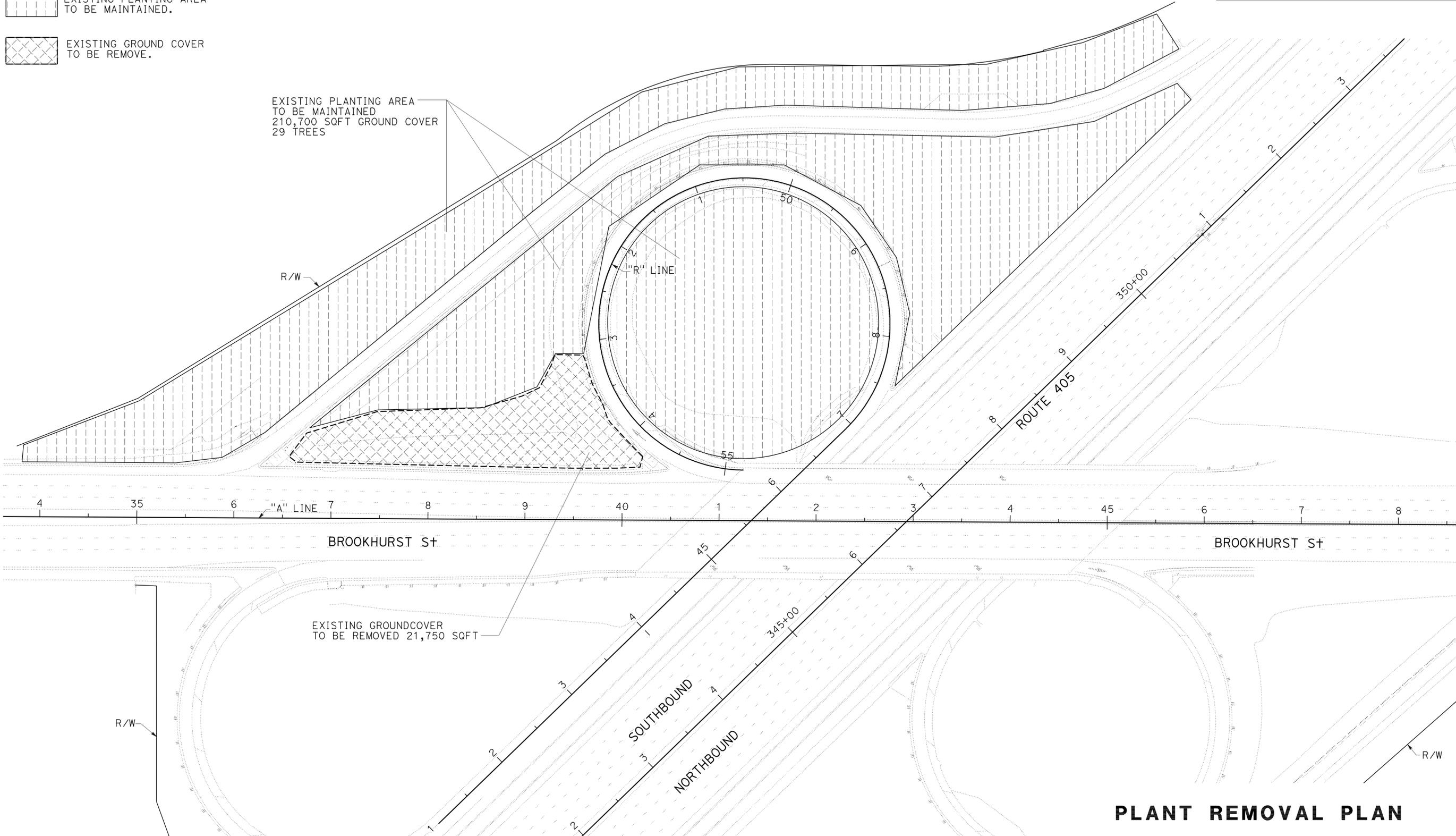
**NOTE:**  
FOR ACURATE RIGHT OF WAY AND ACCESS DATA,  
CONTACT RIGHT OF WAY ENGINEER AT THE DISTRICT OFFICE.

- LEGEND:**
- EXISTING PLANTING AREA TO BE MAINTAINED.
  - EXISTING GROUND COVER TO BE REMOVE.



EXISTING PLANTING AREA TO BE MAINTAINED  
210,700 SQFT GROUND COVER  
29 TREES

EXISTING GROUNDCOVER TO BE REMOVED 21,750 SQFT



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	LANDSCAPE ARCHITECTURE	ERIC DICKSON	SENIOR LANDSCAPE ARCHITECT	CALCULATED-DESIGNED BY	CHECKED BY	JARED GODETT	JOHN NOWAK	REVISED BY	DATE REVISED
<b>Caltrans</b>									

**PLANT REMOVAL PLAN**  
SCALE: 1" = 50'  
**PR-1**

THIS PLAN ACCURATE FOR PLANT REMOVAL WORK ONLY.

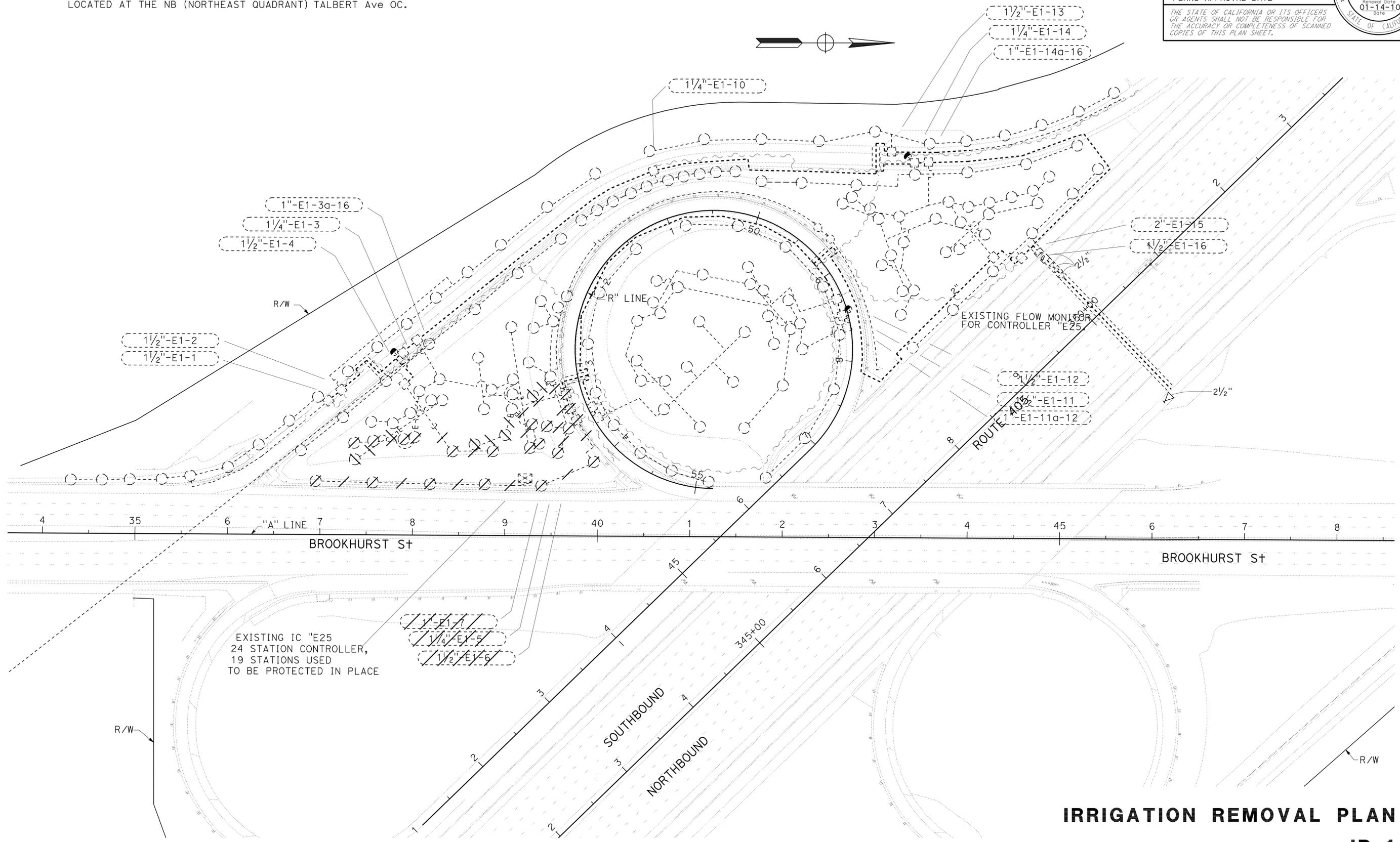
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	13.6	19	40

01-14-10  
 LICENSED LANDSCAPE ARCHITECT  
 2-22-10  
 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:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING 4" WATER METER AND BACKFLOW PREVENTER LOCATED AT THE NB (NORTHEAST QUADRANT) TALBERT Ave OC.

REVISED BY	DATE REVISED
JARED GODETT	JOHN NOWAK
CALCULATED-DESIGNED BY	CHECKED BY
ERIC DICKSON	
SENIOR LANDSCAPE ARCHITECT	LANDSCAPE ARCHITECTURE
DEPARTMENT OF TRANSPORTATION	
STATE OF CALIFORNIA	



**IRRIGATION REMOVAL PLAN**  
**IR-1**

THIS PLAN ACCURATE FOR IRRIGATION REMOVAL WORK ONLY.

SCALE 1" = 50'

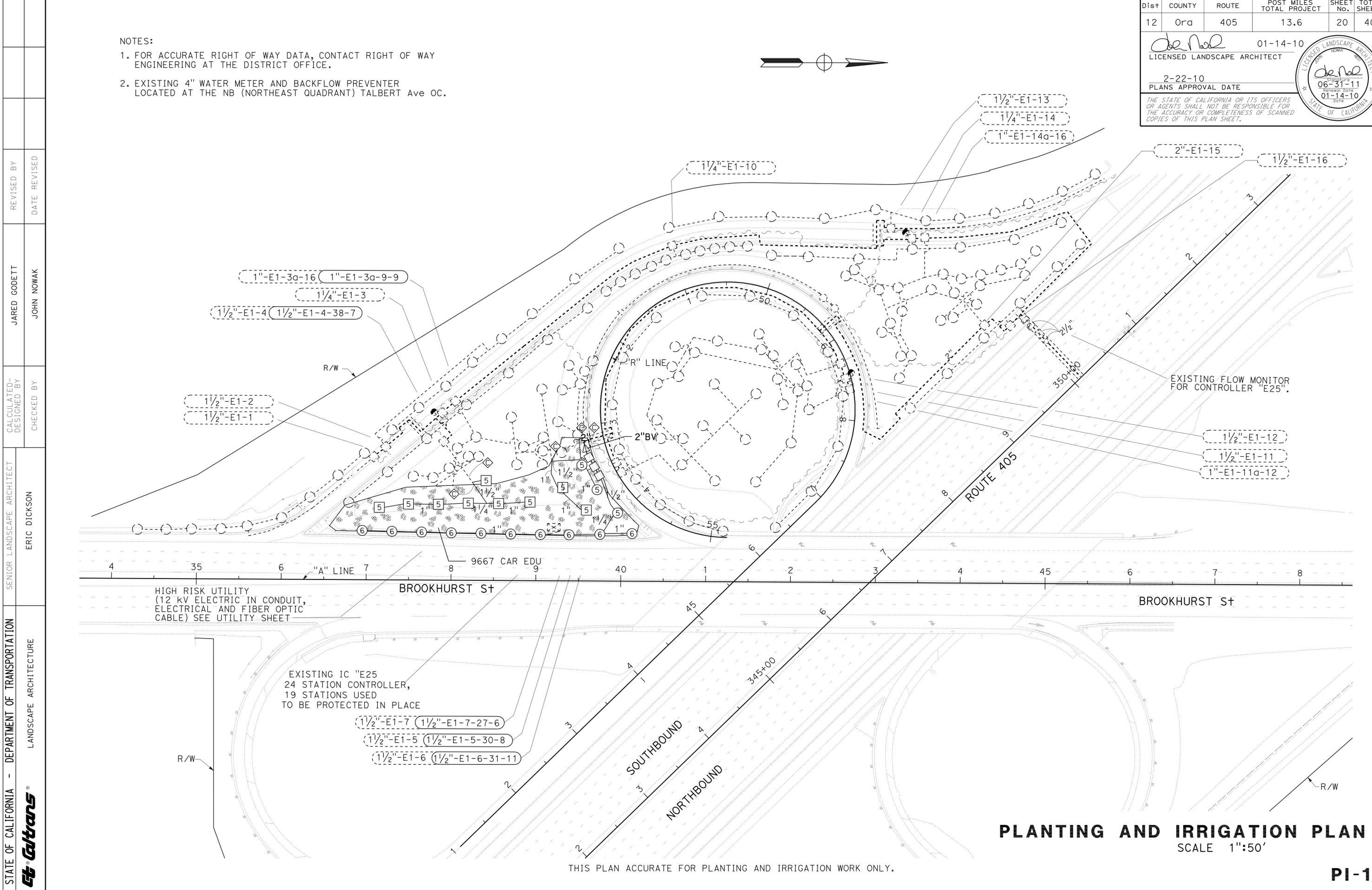
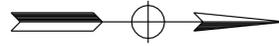
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Oran	405	13.6	20	40

01-14-10  
 LICENSED LANDSCAPE ARCHITECT  
 2-22-10  
 PLANS APPROVAL DATE

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NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXISTING 4" WATER METER AND BACKFLOW PREVENTER LOCATED AT THE NB (NORTHEAST QUADRANT) TALBERT Ave OC.



**PLANTING AND IRRIGATION PLAN**  
 SCALE 1"=50'

THIS PLAN ACCURATE FOR PLANTING AND IRRIGATION WORK ONLY.

PI-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
12	Org	405	13.6	21	40

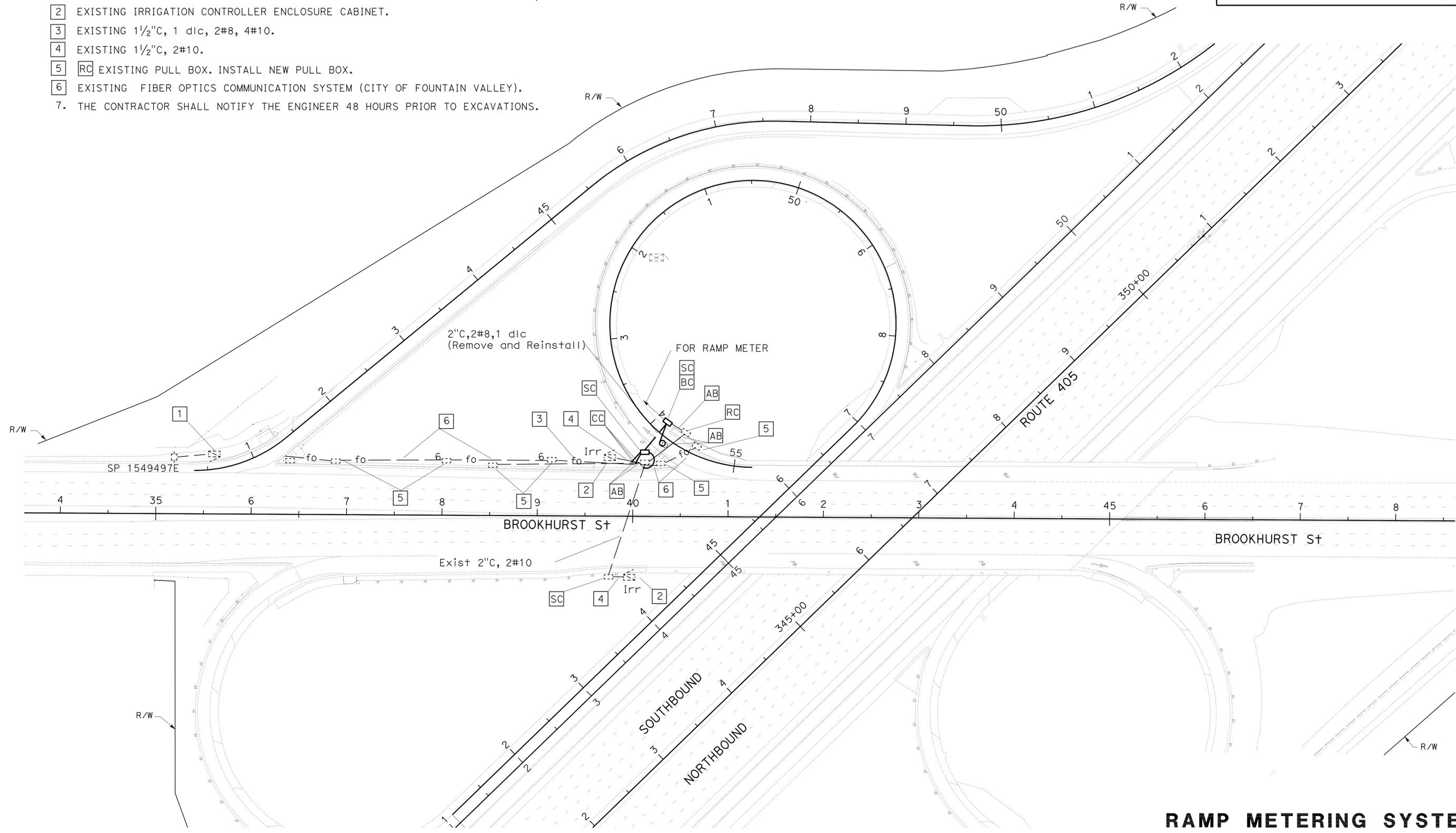
01-14-10  
REGISTERED ELECTRICAL ENGINEER  
S. SHAHRIARI  
No. E 13485  
Exp. 9/30/10  
ELECTRICAL  
STATE OF CALIFORNIA

2-22-10  
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: ( THIS SHEET ONLY )

- 1 EXISTING 120/240 V, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE.  
1-2P-240 V, 100 A MAIN CB  
1-2P-240 V, 30 A CB FOR HIGHWAY LIGHTING  
1-1P-120 V, 30 A CB FOR RAMP METERING  
2-1P-120 V, 20 A CB FOR IRRIGATION CONTROLLER.
- 2 EXISTING IRRIGATION CONTROLLER ENCLOSURE CABINET.
- 3 EXISTING 1 1/2" C, 1 dlc, 2#8, 4#10.
- 4 EXISTING 1 1/2" C, 2#10.
- 5 RC EXISTING PULL BOX. INSTALL NEW PULL BOX.
- 6 EXISTING FIBER OPTICS COMMUNICATION SYSTEM (CITY OF FOUNTAIN VALLEY).
7. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO EXCAVATIONS.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: S. SHAHRIARI  
 CALCULATED-DESIGNED BY: BARJESH K. SHARMA  
 CHECKED BY: VANESSA TRUONG  
 REVISED BY: 07/09  
 DATE REVISED: 07/09

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

**RAMP METERING SYSTEM**  
SCALE: 1" = 50'  
**E-1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	22	40

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

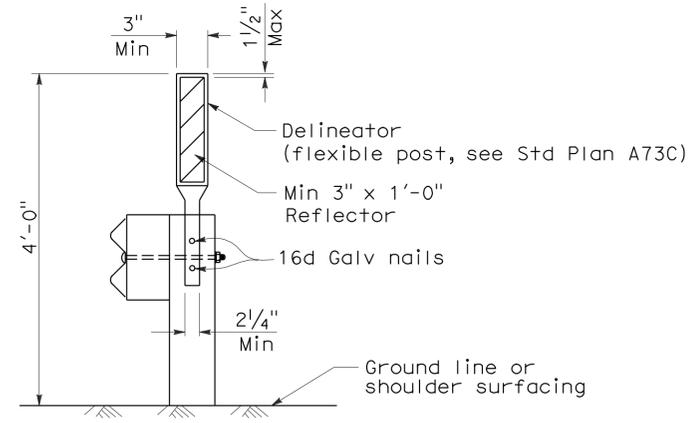
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REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

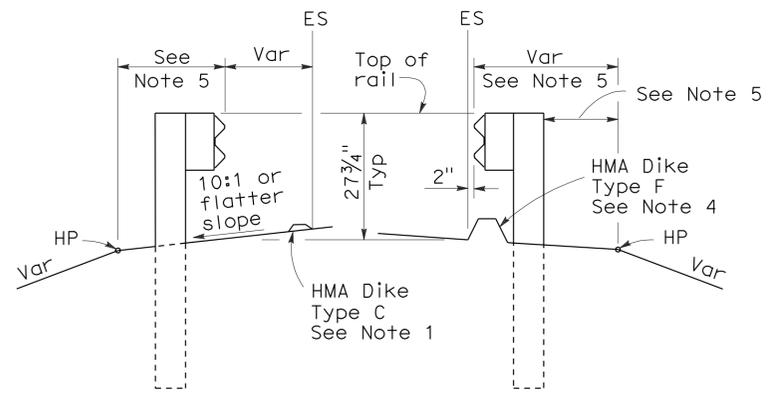
To accompany plans dated 2-22-10

**NOTES:**

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and Standard Plan A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.



**GUARD RAILING DELINEATION**  
See Note 3



**DIKE POSITIONING**  
See Note 1

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING  
TYPICAL RAILING DELINEATION  
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77C4  
DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77C4**

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	23	40

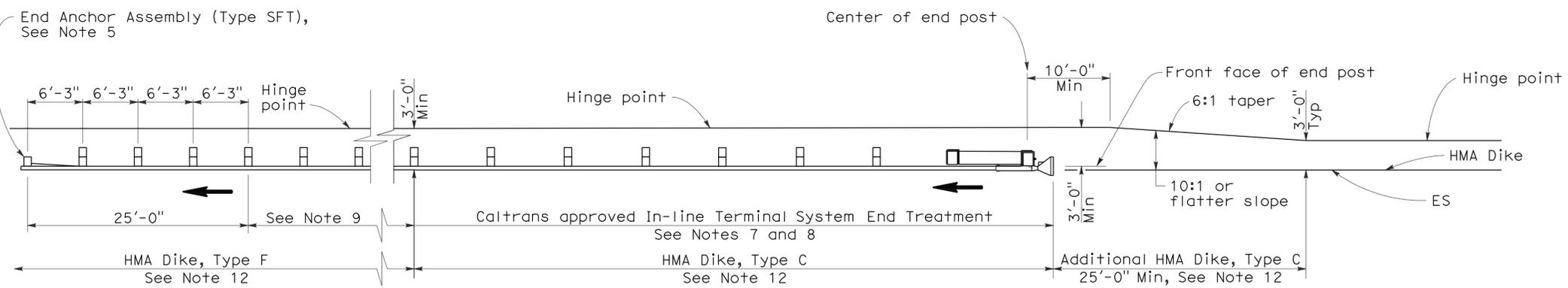
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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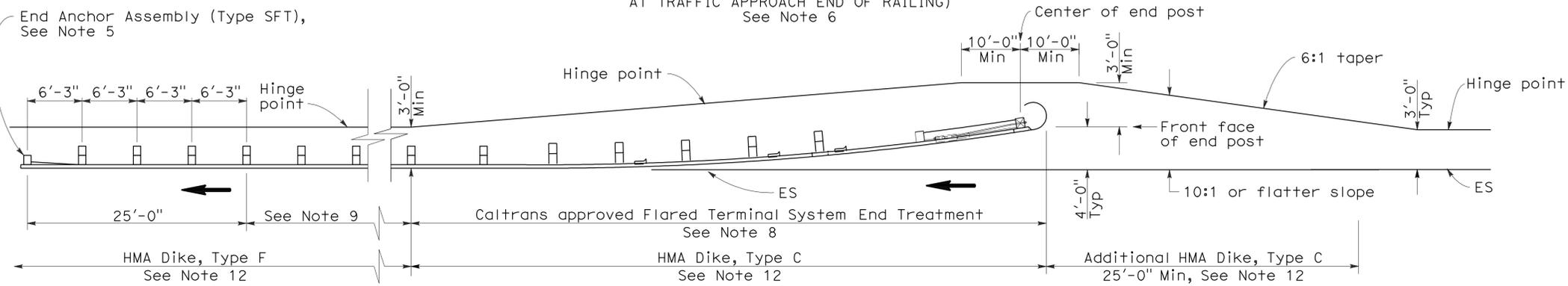
To accompany plans dated 2-22-10

2006 REVISED STANDARD PLAN RSP A77E1



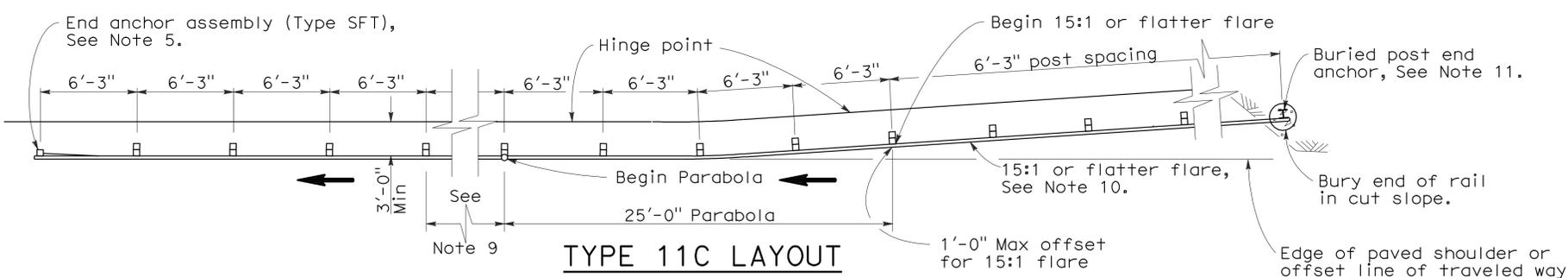
**TYPE 11A LAYOUT**

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Note 6



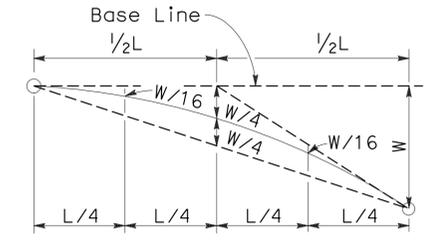
**TYPE 11B LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Note 6

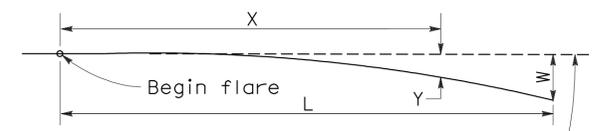


**TYPE 11C LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING)  
See Notes 6 and 12



**TYPICAL PARABOLIC LAYOUT**

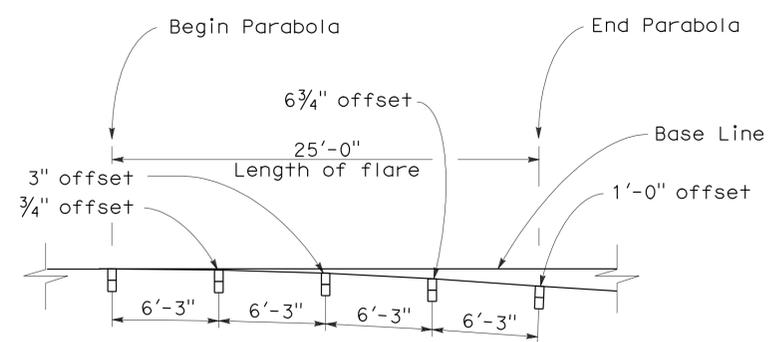


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$$Y = \frac{WX^2}{L^2}$$

Y = Offset from base line  
W = Maximum offset  
X = Distance along base line  
L = Length of flare

**PARABOLIC FLARE OFFSETS**



**TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET**

**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by  $\rightarrow$ .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**METAL BEAM GUARD RAILING**  
**TYPICAL LAYOUTS FOR EMBANKMENTS**  
NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1  
DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A77E1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	24	40

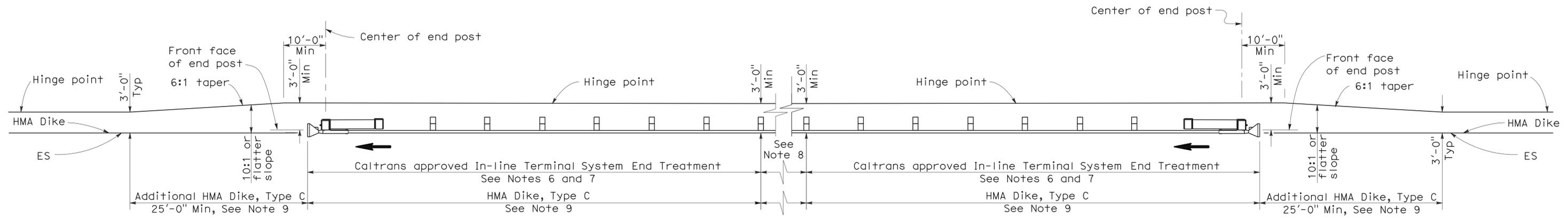
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

*Randell D. Hiatt*  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

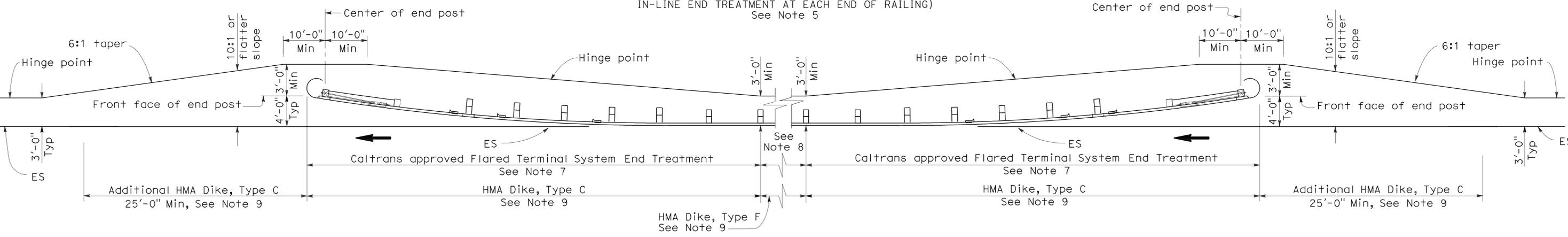
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To accompany plans dated 2-22-10



**TYPE 11D LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)  
See Note 5



**TYPE 11E LAYOUT**

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)  
See Note 5

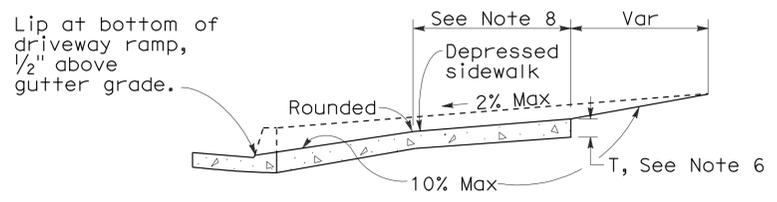
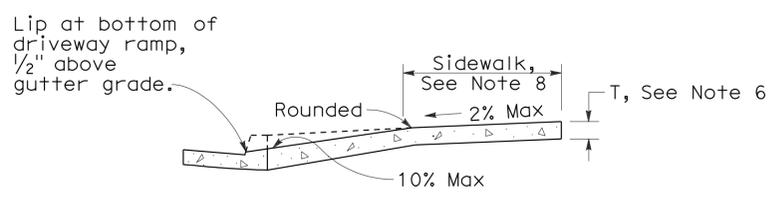
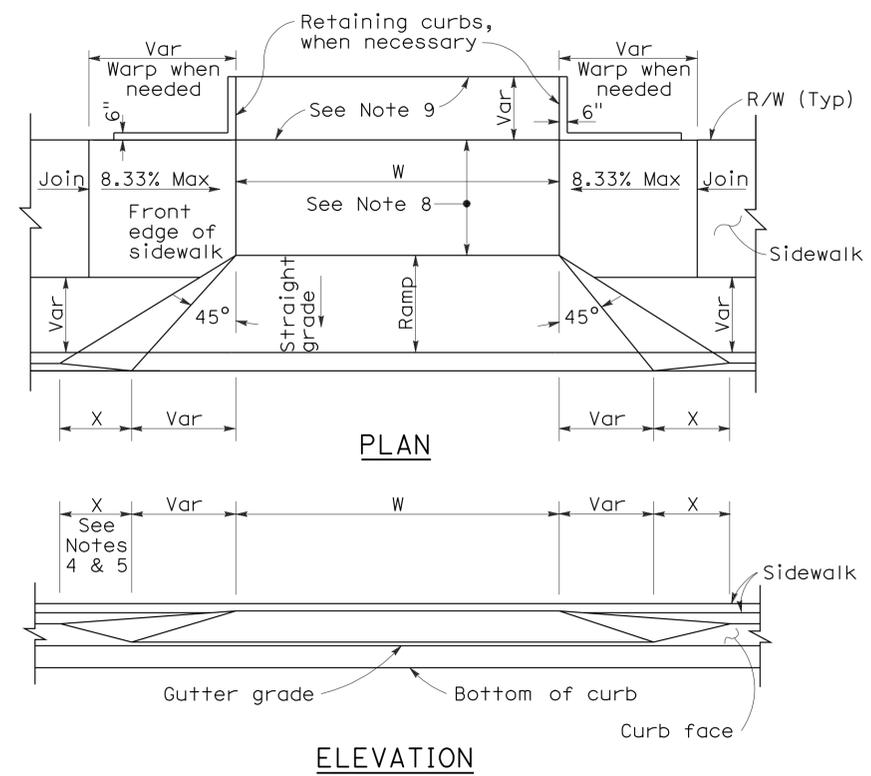
**NOTES:**

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by ➡.
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**METAL BEAM GUARD RAILING  
TYPICAL LAYOUTS FOR  
EMBANKMENTS**

NO SCALE  
RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2  
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E2



**CASE A**

Typical driveway, sidewalk not depressed

**CASE B**

Driveway with depressed sidewalk

**SECTIONS**

**CURB QUANTITIES**

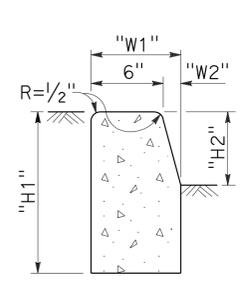
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

**TABLE A**

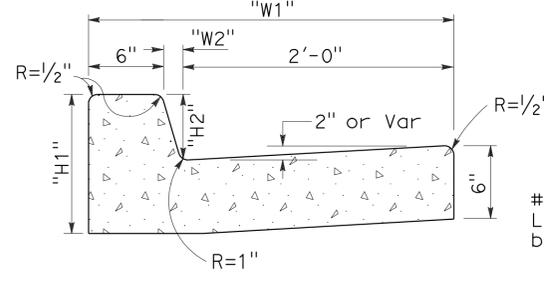
CURB TYPE	DIMENSIONS			
	"H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7 1/2"	1 1/2"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7 1/2"	1 1/2"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7 1/4"	1 1/4"
A3-8	8"	7"	7 3/4"	1 3/4"
B1-4	1'-0"	4"	7 1/2"	2 1/2"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7 1/2"	2 1/2"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8 1/2"	3 1/2"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-8"

To accompany plans dated 2-22-10

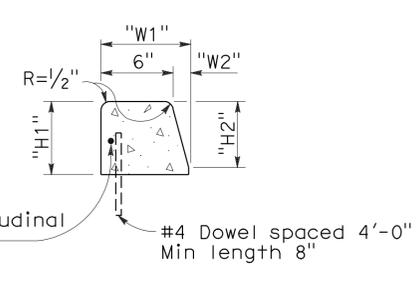
**DRIVEWAYS**



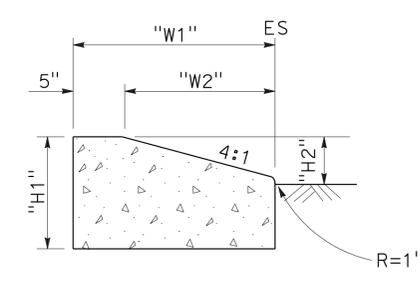
**TYPE A1 CURBS**  
See Table A



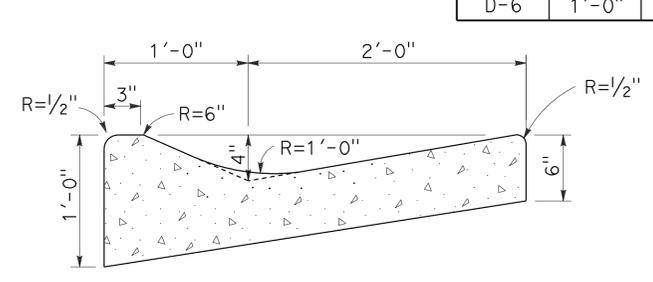
**TYPE A2 CURBS**  
See Table A



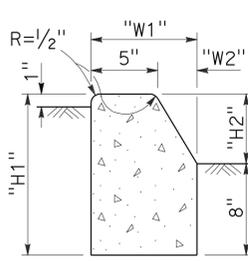
**TYPE A3 CURBS**  
Superimposed on existing pavement  
See Table A



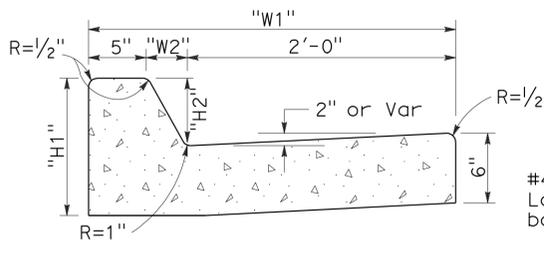
**TYPE D CURBS**  
See Table A



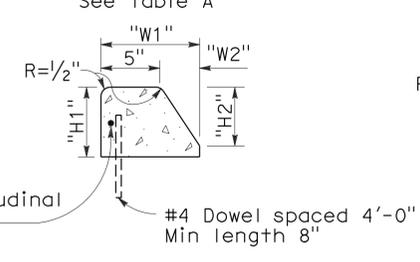
**TYPE E CURB**



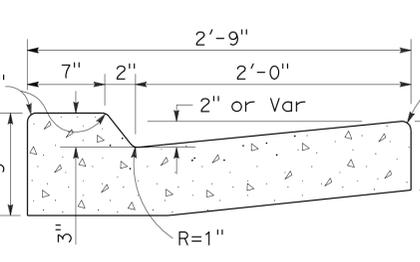
**TYPE B1 CURBS**  
See Table A



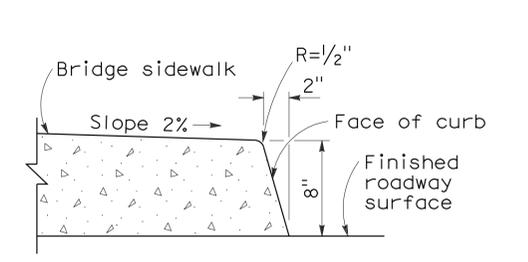
**TYPE B2 CURBS**  
See Table A



**TYPE B3 CURBS**  
Superimposed on existing pavement  
See Table A



**TYPE B4 CURBS**



**TYPE H CURB**  
On Bridges

**NOTES:**

- Case A driveway section typically applies.
- Use Case B driveway section when ramp slopes would exceed 10% in Case A.
- Use Case B driveway section when sidewalk cross slope would exceed 2% in Case A.
- X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
- X is a variable when sidewalk is located where wheelchairs may traverse the surface. Slopes shall not exceed 8.33%.
- Sidewalk and ramp thickness "T" at driveway shall be 4" for residential and 6" for commercial.
- Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
- Minimum width of clear passageway for sidewalk shall be 4'-0".
- Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
- Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

**CURBS**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CURBS AND DRIVEWAYS**

NO SCALE

RSP A87A DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A87A  
DATED MAY 1, 2006 - PAGE 113 OF THE STANDARD PLANS BOOK DATED MAY 2006.

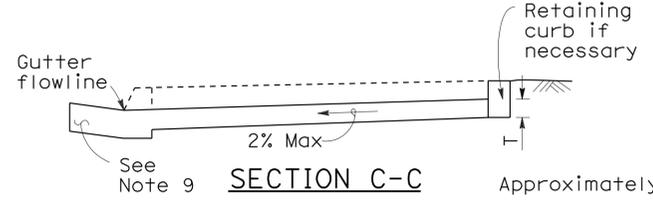
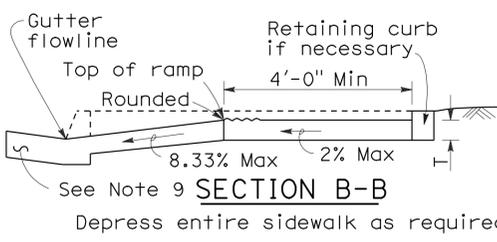
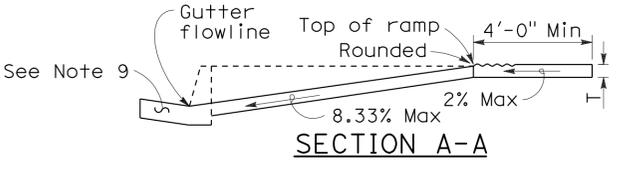
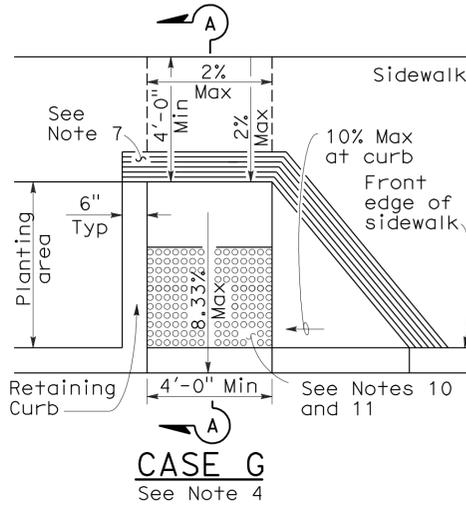
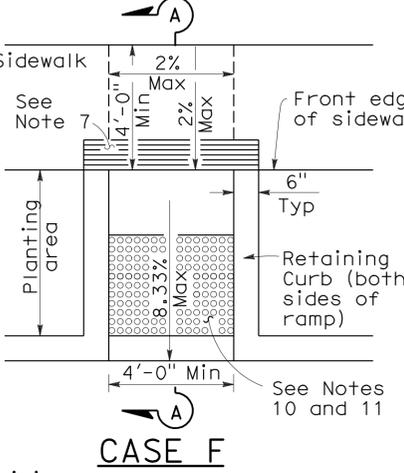
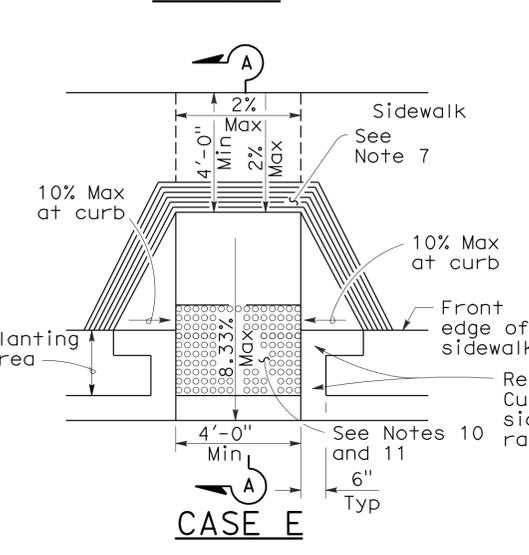
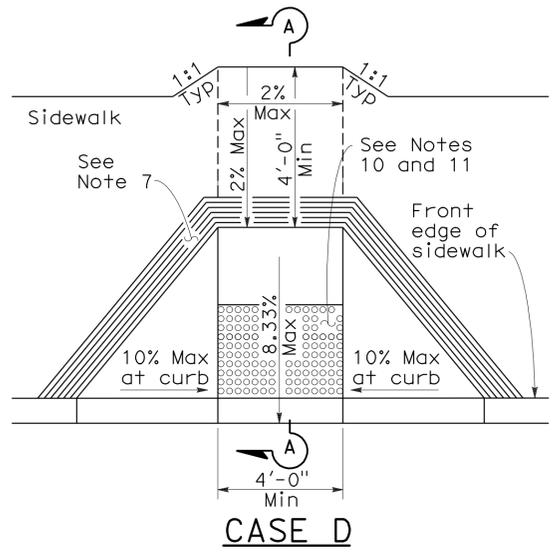
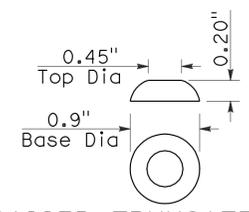
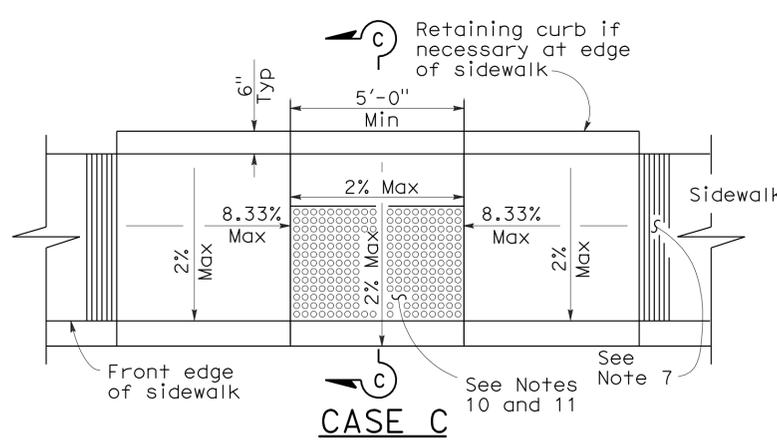
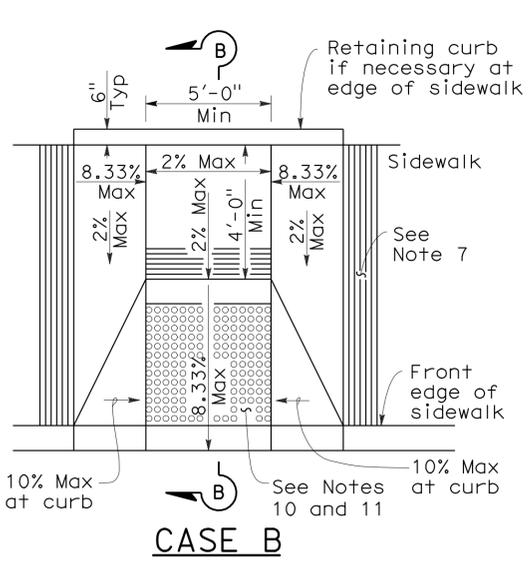
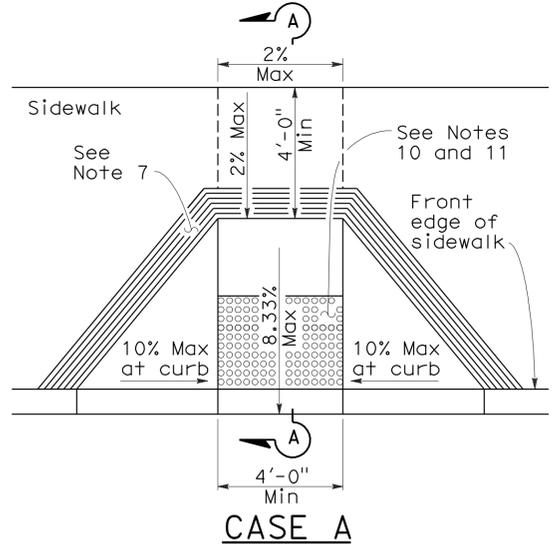
**REVISED STANDARD PLAN RSP A87A**

2006 REVISED STANDARD PLAN RSP A87A

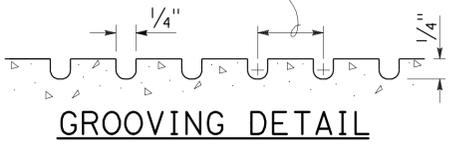
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	26	40

H. David Cordova  
 REGISTERED CIVIL ENGINEER  
 September 1, 2006  
 PLANS APPROVAL DATE  
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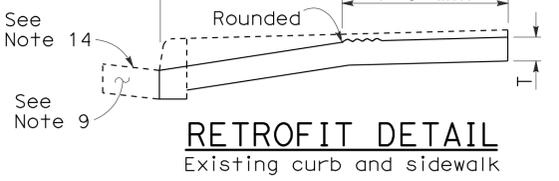
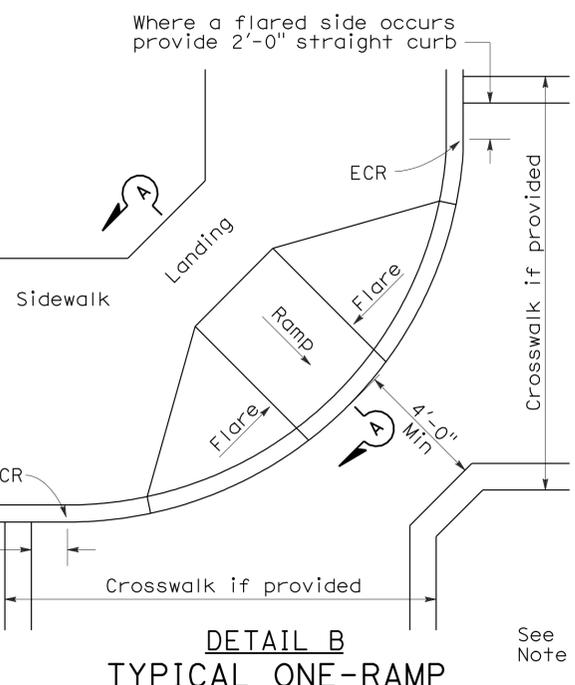
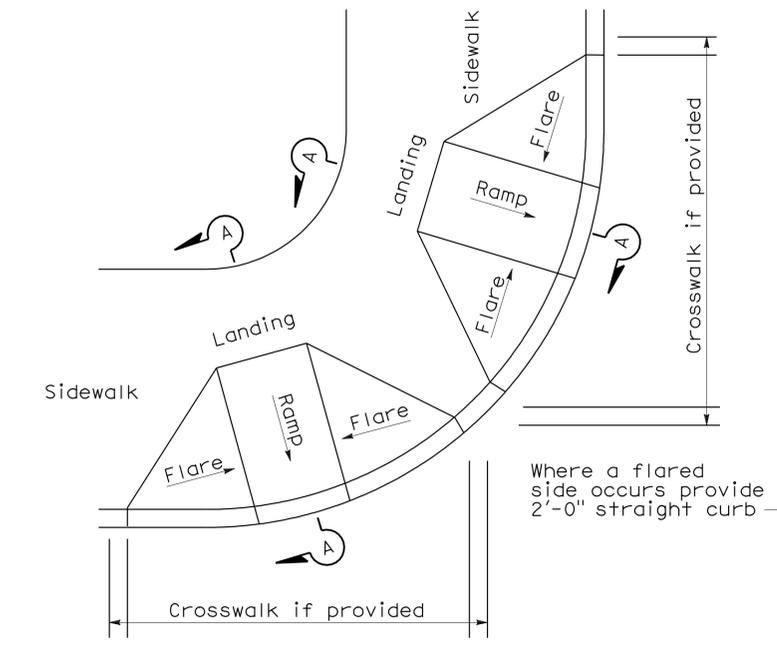
REGISTERED PROFESSIONAL ENGINEER  
 Hector David Cordova  
 No. C41957  
 Exp. 3-31-08  
 CIVIL  
 STATE OF CALIFORNIA



**DETECTABLE WARNING SURFACE**



**CURB RAMP DETAILS**  
NO SCALE



**TYPICAL TWO-RAMP CORNER INSTALLATION**  
See Note 1

**TYPICAL ONE-RAMP CORNER INSTALLATION**  
See Notes 1 and 3

**RETROFIT DETAIL**  
Existing curb and sidewalk

**REVISED STANDARD PLAN RSP A88A**

RSP A88A DATED SEPTEMBER 1, 2006 SUPERSEDES STANDARD PLAN A88A DATED MAY 1, 2006 - PAGE 115 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A88A

**NOTES:**

- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-0" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-0".
- Side slope of ramp flares vary uniformly from a maximum of 10% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
- Maximum slopes of adjoining gutters, the road surface immediately adjacent to the curb ramp or accessible route shall not exceed 5 percent within 4'-0" of the top and bottom of the curb ramp.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Special Provisions.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.

To accompany plans dated 2-22-10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	27	40

*Gregory A. Balzer*  
 LICENSED LANDSCAPE ARCHITECT  
 June 5, 2009  
 PLANS APPROVAL DATE  
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To accompany plans dated 2-22-10

2006 REVISED STANDARD PLAN RSP H1

**A**

AB aggregate base  
 ABS acrylonitrile-butadiene-styrene  
 AC asphalt concrete  
 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  
 BPAE backflow preventer assembly in enclosure  
 BPE backflow preventer enclosure  
 BV ball valve

**C**

CAP corrugated aluminum pipe  
 CARV combination air release valve  
 CCA cam coupler assembly  
 CEC controller enclosure cabinet  
 CHDPE corrugated high density polyethylene  
 CL chain link  
 CNC control and neutral conductors  
 Conc concrete  
 Cond conduit  
 CSP corrugated steel pipe  
 CST center strip  
 CV check valve

**D**

Dia diameter  
 DIP ductile iron pipe  
 DN diameter nominal

**E**

EA each  
 Elect electric/electrical  
 Elev elevation  
 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  
 FAU filter assembly unit  
 FCV flow control valve  
 FERT fertilizer  
 FG finished grade  
 FIPT female iron pipe thread  
 FIS fertilizer injector system  
 FL flow line  
 FM flow monitor  
 FS flow sensor  
 Ft foot/feet  
 FV flush valve

**G**

GAL Gallon(s)  
 Galv galvanized  
 GARV garden valve  
 GPH gallons per hour  
 GPM gallons per minute  
 GSP galvanized steel pipe  
 GV gate valve

**H**

H half circle  
 HB hose bib  
 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  
 In inches  
 IFS irrigation filtration system  
 IPS iron pipe size  
 IPT iron pipe thread  
 Irr irrigation

**L**

L length  
 LF linear foot

**M**

Max maximum  
 MBGR metal beam guard railing  
 MCV manual control valve  
 MIC master irrigation controller  
 Min minimum  
 MIPT male iron pipe thread  
 Misc miscellaneous  
 Mtl material  
 MVP maintenance vehicle pullout

**N**

NCN no common name  
 NL nozzle line  
 No. number  
 NPT national pipe thread

**O**

O/C on center  
 OD outside diameter  
 Oz ounce

**P**

P part circle  
 PB pull box  
 PCC portland cement concrete  
 PE polyethylene  
 PKt packet  
 PL plastic  
 PLT plant/planting  
 PLT ESTB plant establishment  
 PM post mile  
 PR pressure rated  
 PRLV pressure relief valve  
 PSFM polymer stabilized fiber matrix  
 PSI pounds per square inch  
 PRV pressure reducing valve  
 PVC polyvinyl chloride  
 Pvmt pavement

**Q**

Q quarter circle  
 QCV quick coupling valve

**NOTE:**  
 FOR ADDITIONAL ABBREVIATIONS,  
 SEE STANDARD PLANS A10A AND A10B.

**R**

R radius  
 RCP reinforced concrete pipe  
 RCV remote control valve  
 RCVM remote control valve (master)  
 RCVMF remote control valve (master) w/ flow meter  
 RCW recycled/reclaimed water  
 RECP rolled erosion control product  
 REQ required  
 R/W right of way

**S**

S slip  
 SCC sprinkler control conduit  
 SCH schedule  
 SF state-furnished  
 Shld shoulder  
 SQFT square foot/feet  
 SQYD square yard(s)  
 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  
 TRVD traveled  
 TT two third circle  
 Typ typical

**U**

UG underground

**V**

VAU valve assembly unit

**W**

W width  
 W/ with  
 WM water meter  
 WS wye strainer  
 WSP welded steel pipe  
 WWM welded wire mesh

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PLANTING AND IRRIGATION  
 ABBREVIATIONS**

NO SCALE

RSP H1 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H1  
 DATED MAY 1, 2006 - PAGE 201 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP H1**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	28	40

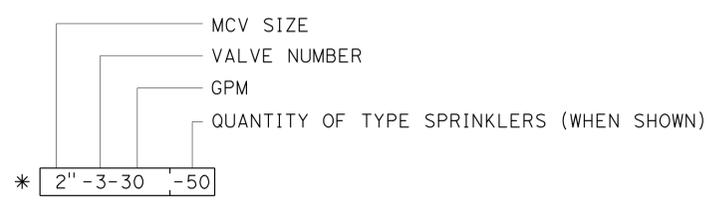
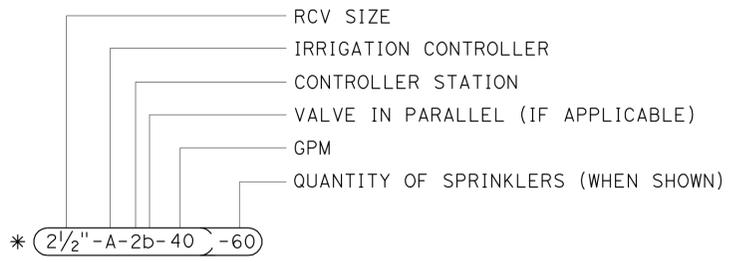
*Gregory A. Balzer*  
 LICENSED LANDSCAPE ARCHITECT  
 June 5, 2009  
 PLANS APPROVAL DATE  
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To accompany plans dated 2-22-10

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

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

**VALVE CODE**



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

**PLANTING AND IRRIGATION SYMBOLS**

NO SCALE

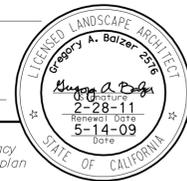
RSP H2 DATED JUNE 5, 2009 SUPERSEDES RSP H2 DATED MARCH 7, 2008 AND STANDARD PLAN H2 DATED MAY 1, 2006 - PAGE 202 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP H2**

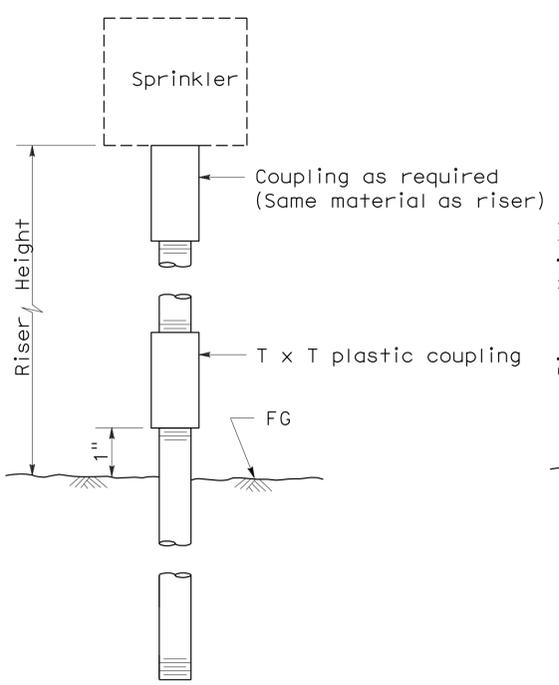
2006 REVISED STANDARD PLAN RSP H2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	29	40

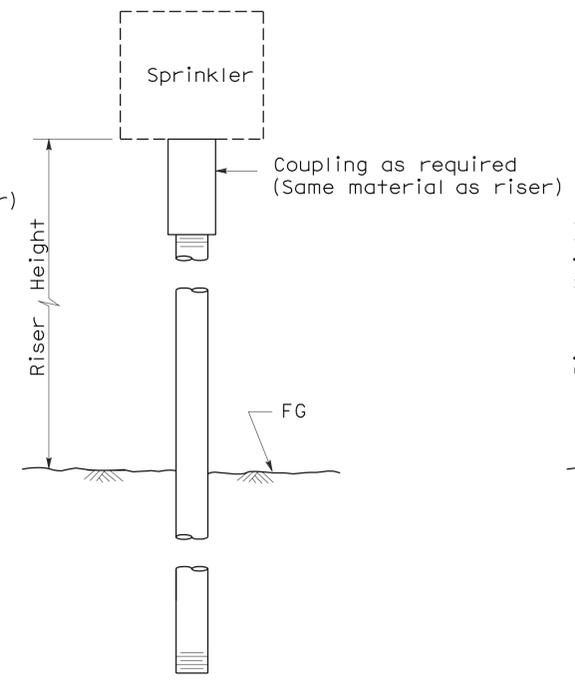
*Gregory A. Balzer*  
 LICENSED LANDSCAPE ARCHITECT  
 June 5, 2009  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



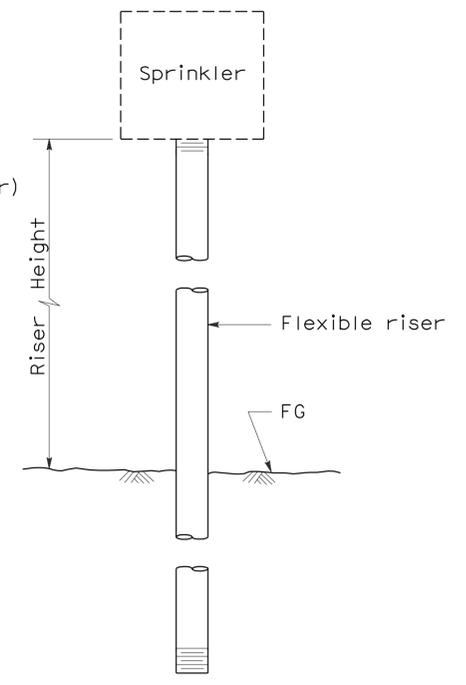
To accompany plans dated 2-22-10



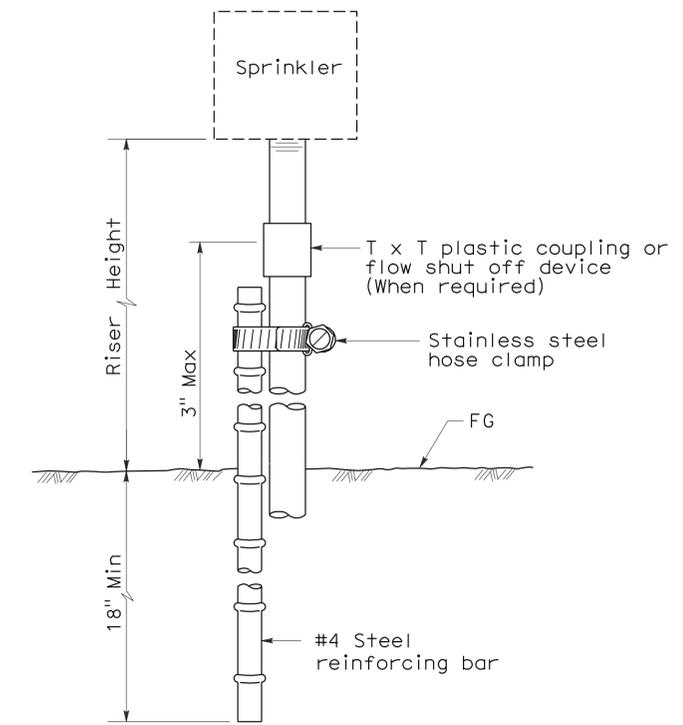
ELEVATION  
RISER TYPE I



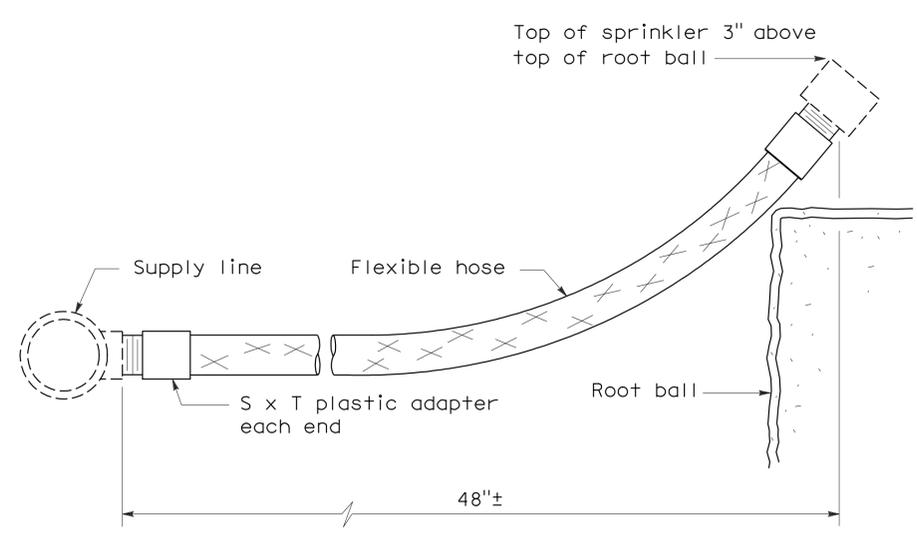
ELEVATION  
RISER TYPE II



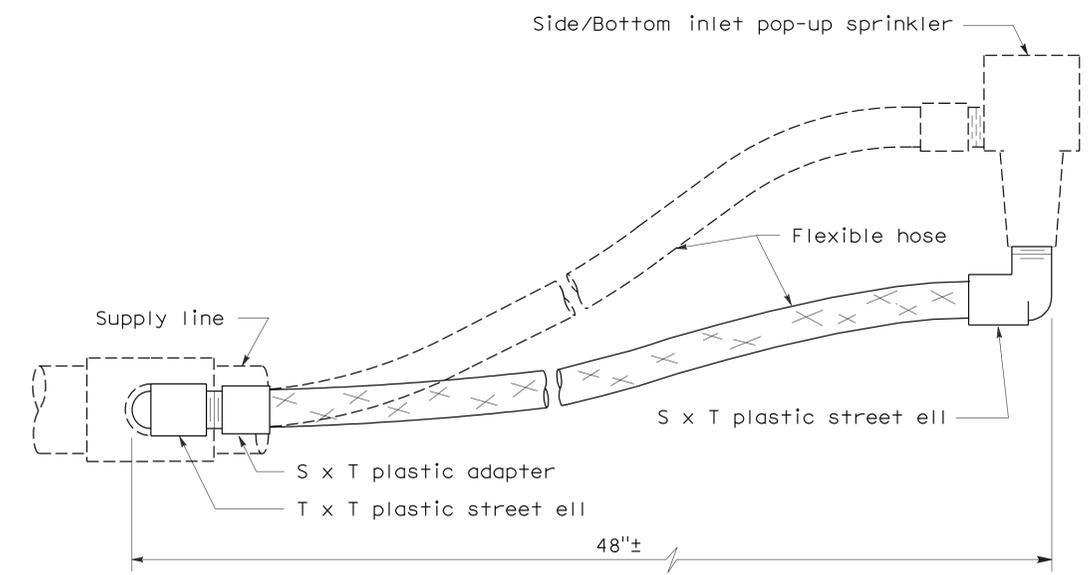
ELEVATION  
RISER TYPE III



ELEVATION  
RISER TYPE IV



ELEVATION  
RISER TYPE V



ELEVATION  
RISER TYPE VI

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

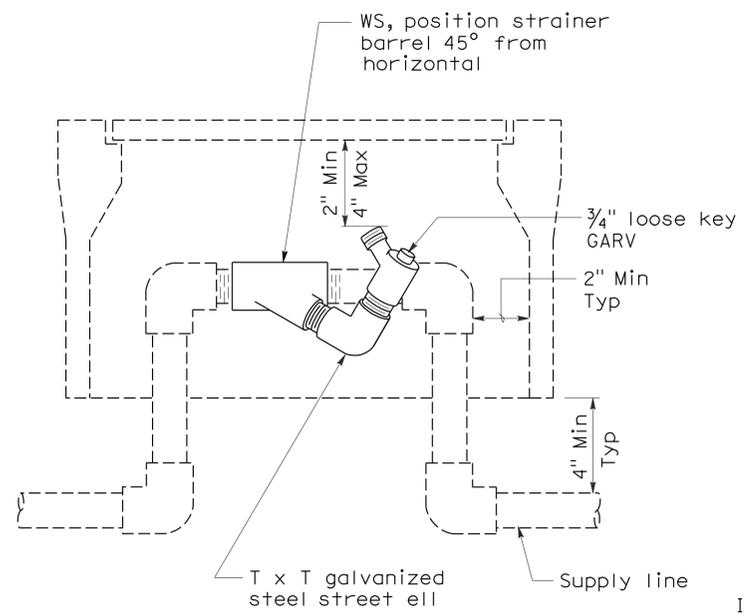
RSP H5 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN H5  
DATED MAY 1, 2006 - PAGE 205 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP H5**

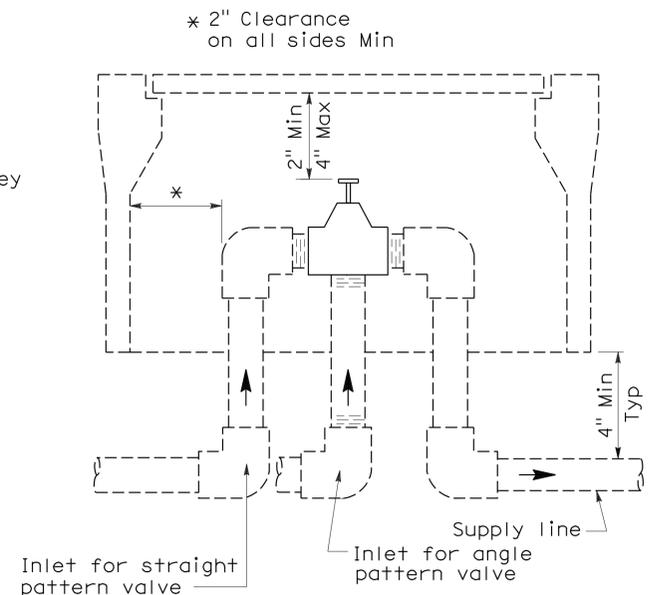
2006 REVISED STANDARD PLAN RSP H5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	30	40

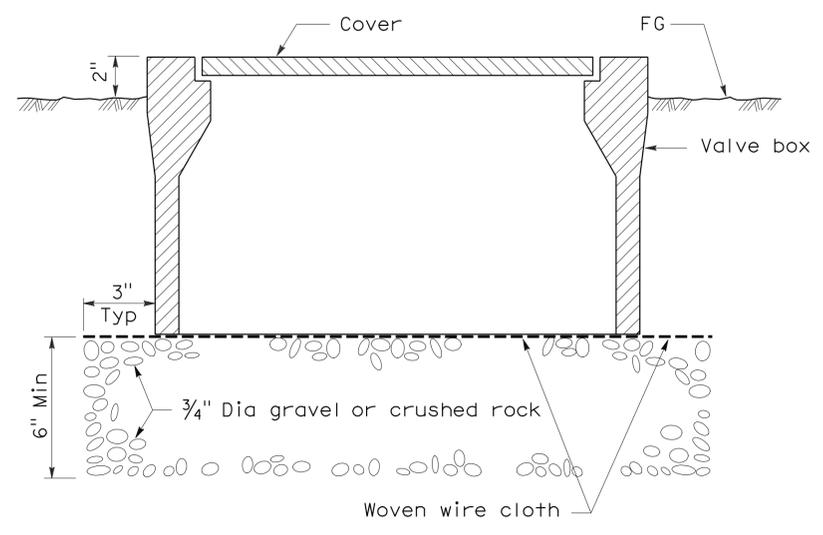
*Gregory A. Balzer*  
 LICENSED LANDSCAPE ARCHITECT  
 June 5, 2009  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



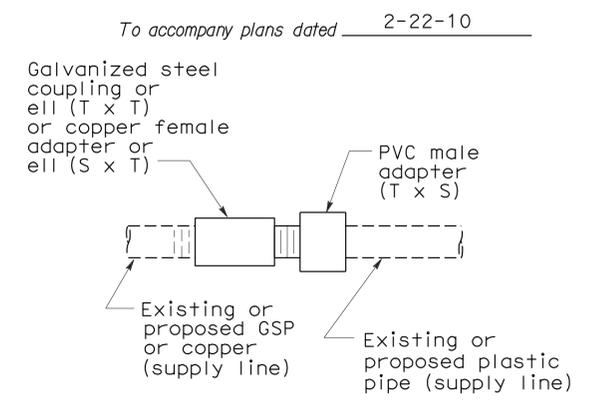
**ELEVATION**  
**WYE STRAINER**



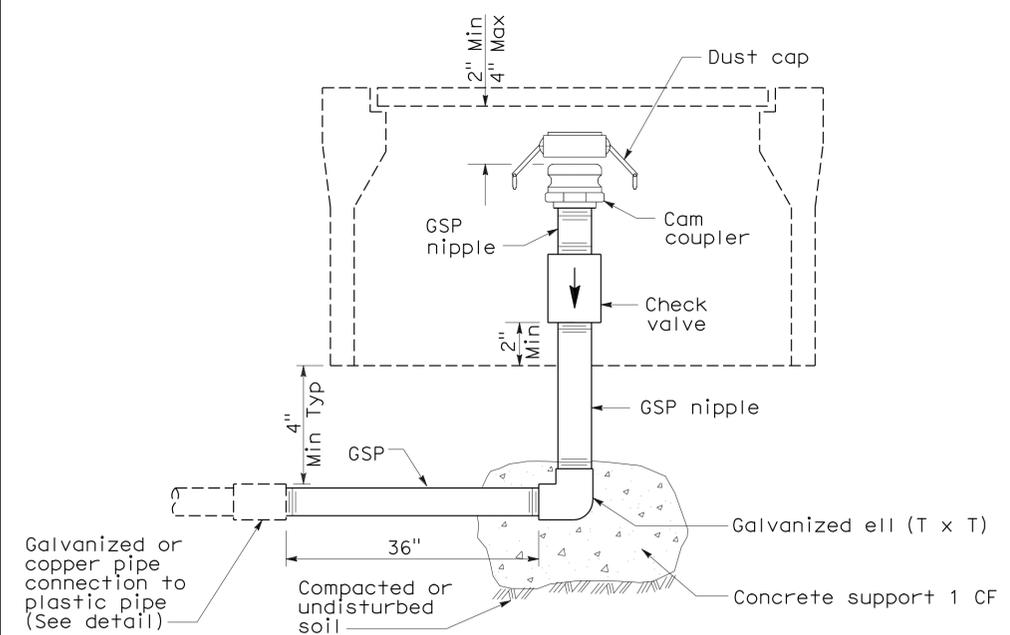
**ELEVATION**  
**VALVE**



**SECTION**  
**VALVE BOX**

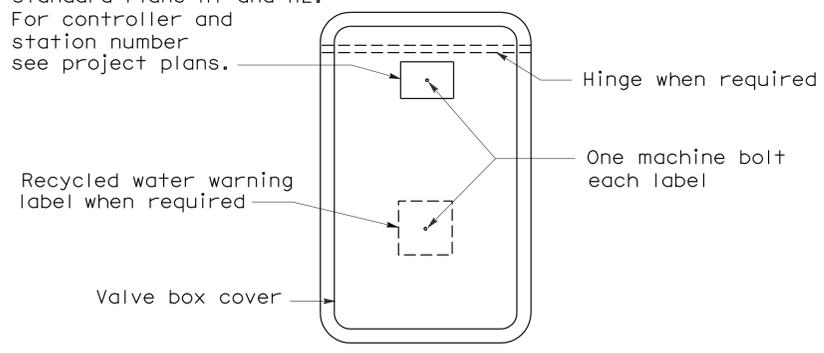


**PLAN**  
**GALVANIZED OR COPPER PIPE CONNECTION TO PLASTIC PIPE**

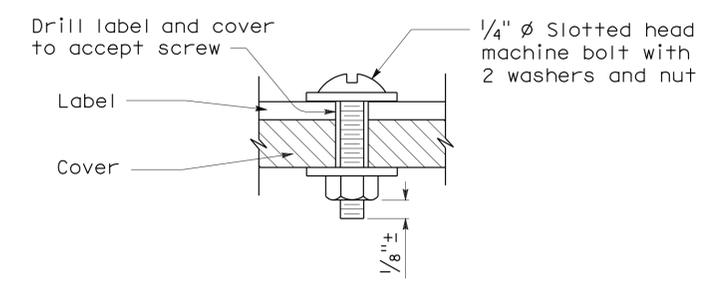


**ELEVATION**  
**CAM COUPLER ASSEMBLY**

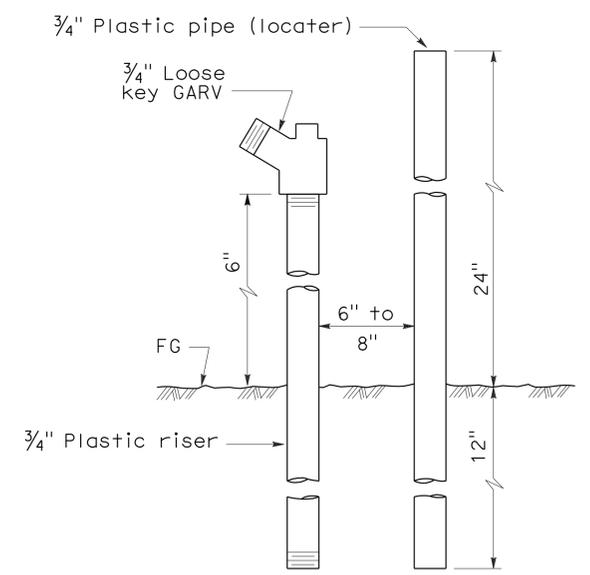
Identification label:  
 For abbreviations see Revised Standard Plans H1 and H2.  
 For controller and station number see project plans.



**PLAN**



**SECTION**  
**VALVE BOX IDENTIFICATION**



**ELEVATION**  
**FLUSH VALVE**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**PLANTING AND IRRIGATION DETAILS**

NO SCALE

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

**REVISED STANDARD PLAN RSP H7**

2006 REVISED STANDARD PLAN RSP H7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	31	40

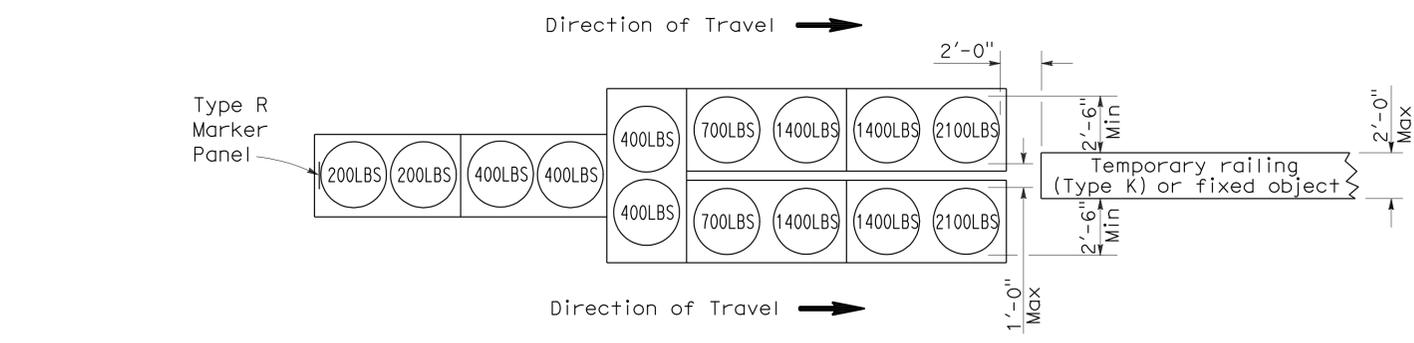
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

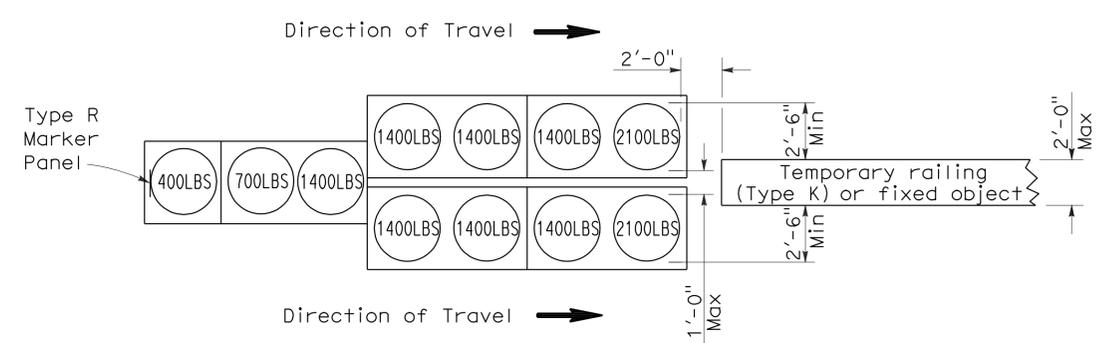
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 2-22-10



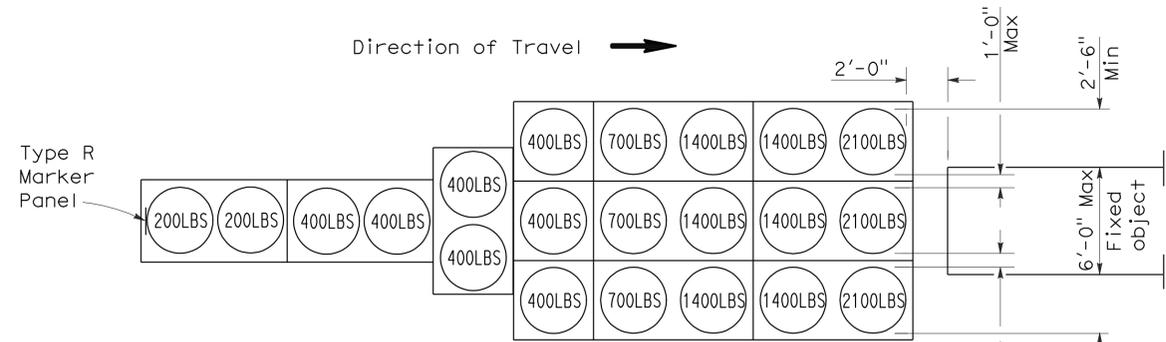
**ARRAY 'TU14'**

Approach speed 45 mph or more



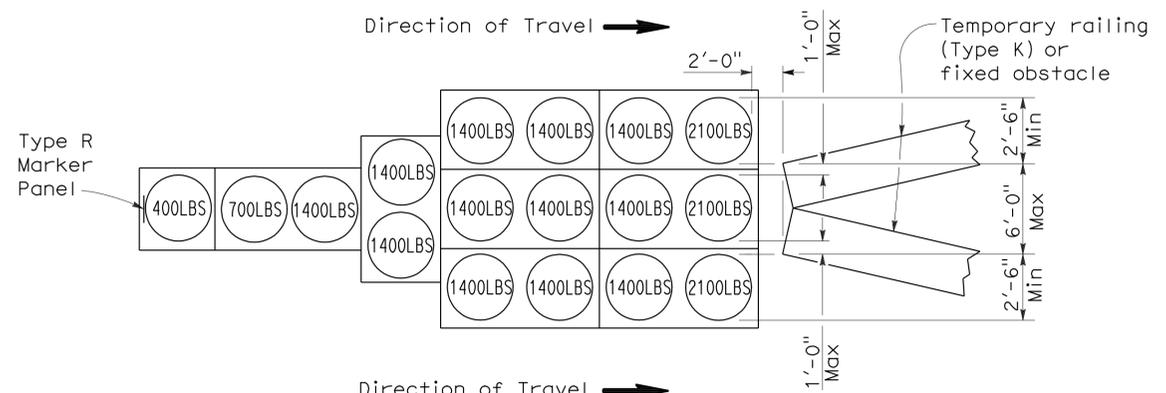
**ARRAY 'TU11'**

Approach speed less than 45 mph



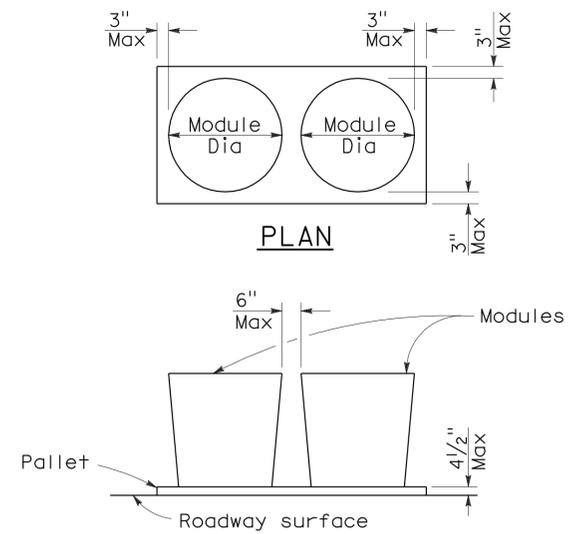
**ARRAY 'TU21'**

Approach speed 45 mph or more



**ARRAY 'TU17'**

Approach speed less than 45 mph



**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1A**

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	32	40

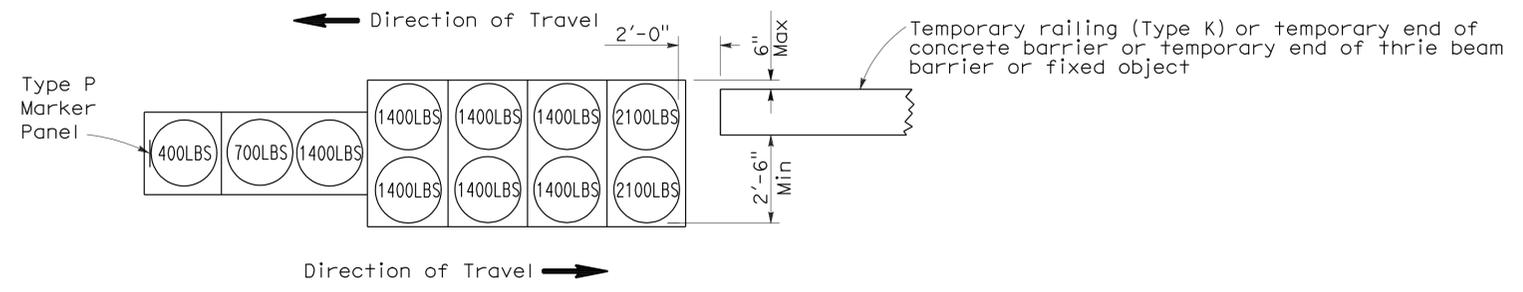
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

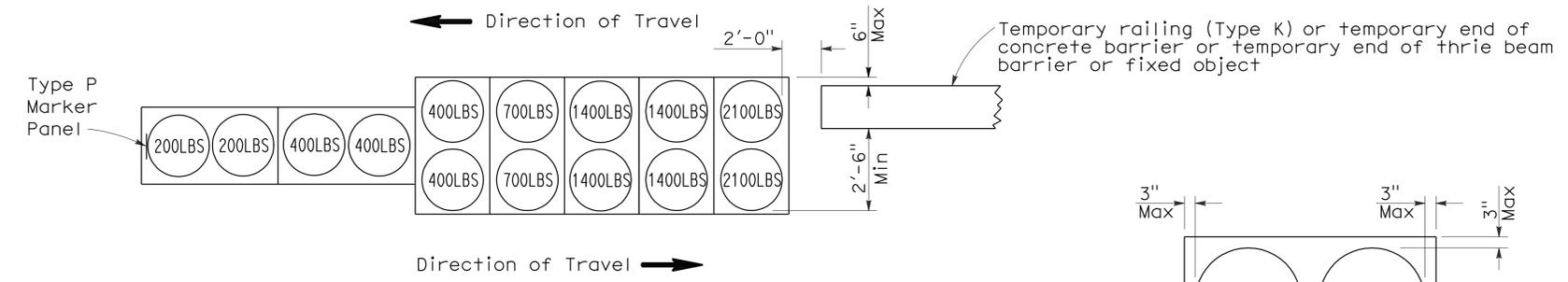
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 2-22-10



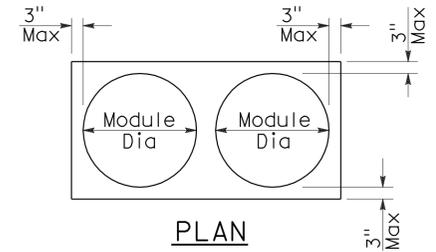
**ARRAY 'TB11'**

Approach speed less than 45 mph

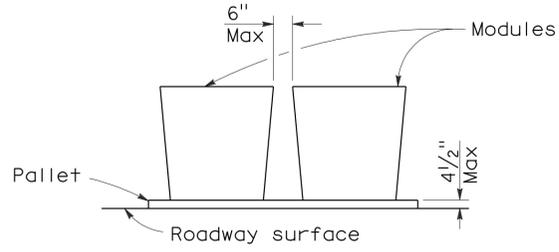


**ARRAY 'TB14'**

Approach speed 45 mph or more



PLAN



ELEVATION

**CRASH CUSHION PALLET DETAIL**

See Note 7

**NOTES:**

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T1B**

2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	33	40

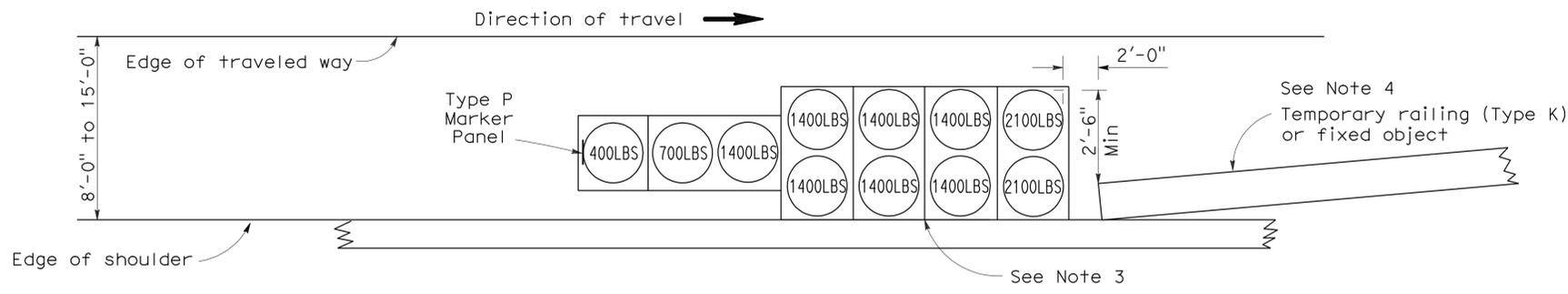
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

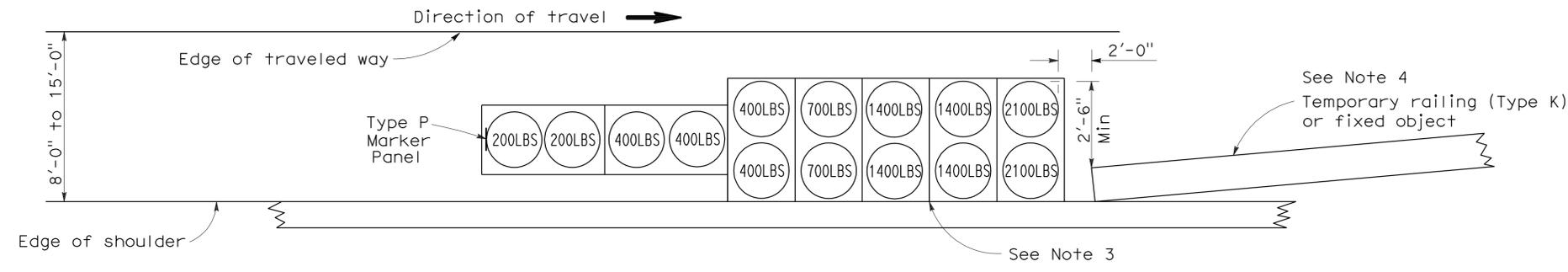
*Randell D. Hiatt*  
REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

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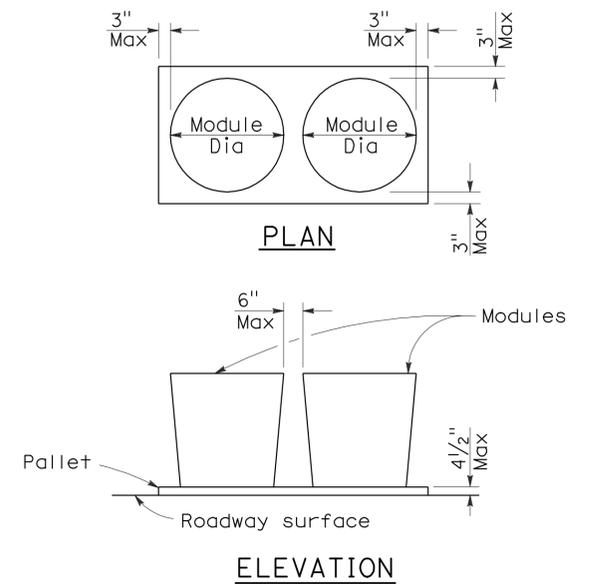
To accompany plans dated 2-22-10



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



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



**CRASH CUSHION PALLET DETAIL**  
See Note 11

**NOTES:**

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

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

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

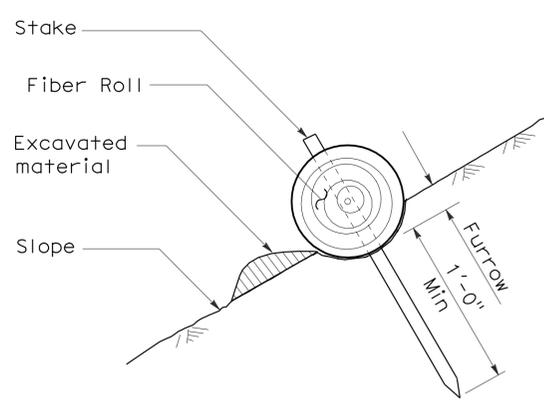
**REVISED STANDARD PLAN RSP T2**

2006 REVISED STANDARD PLAN RSP T2

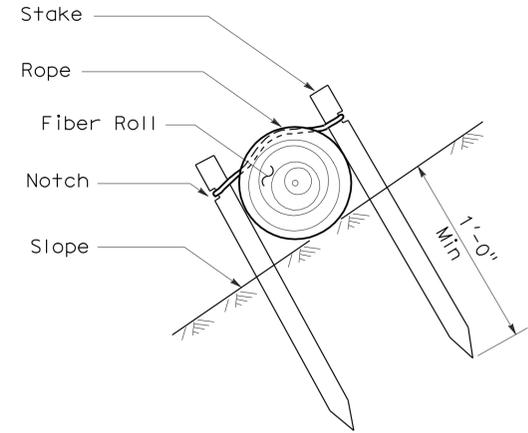
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	34	40

*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 April 3, 2009  
 PLANS APPROVAL DATE  
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

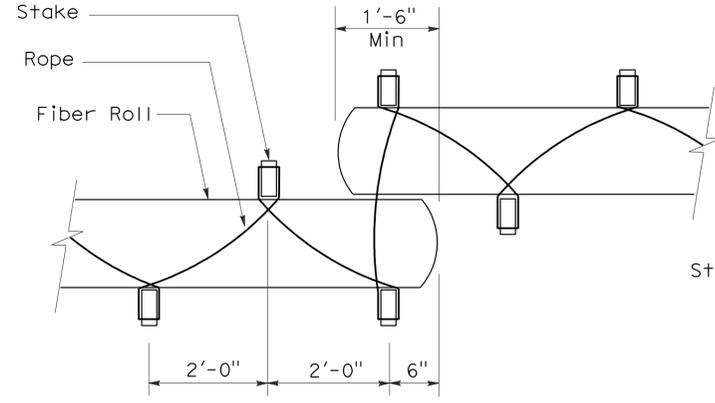
To accompany plans dated 2-22-10



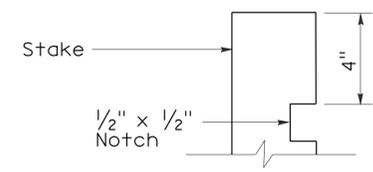
**SECTION**  
**TEMPORARY FIBER ROLL (TYPE 1)**



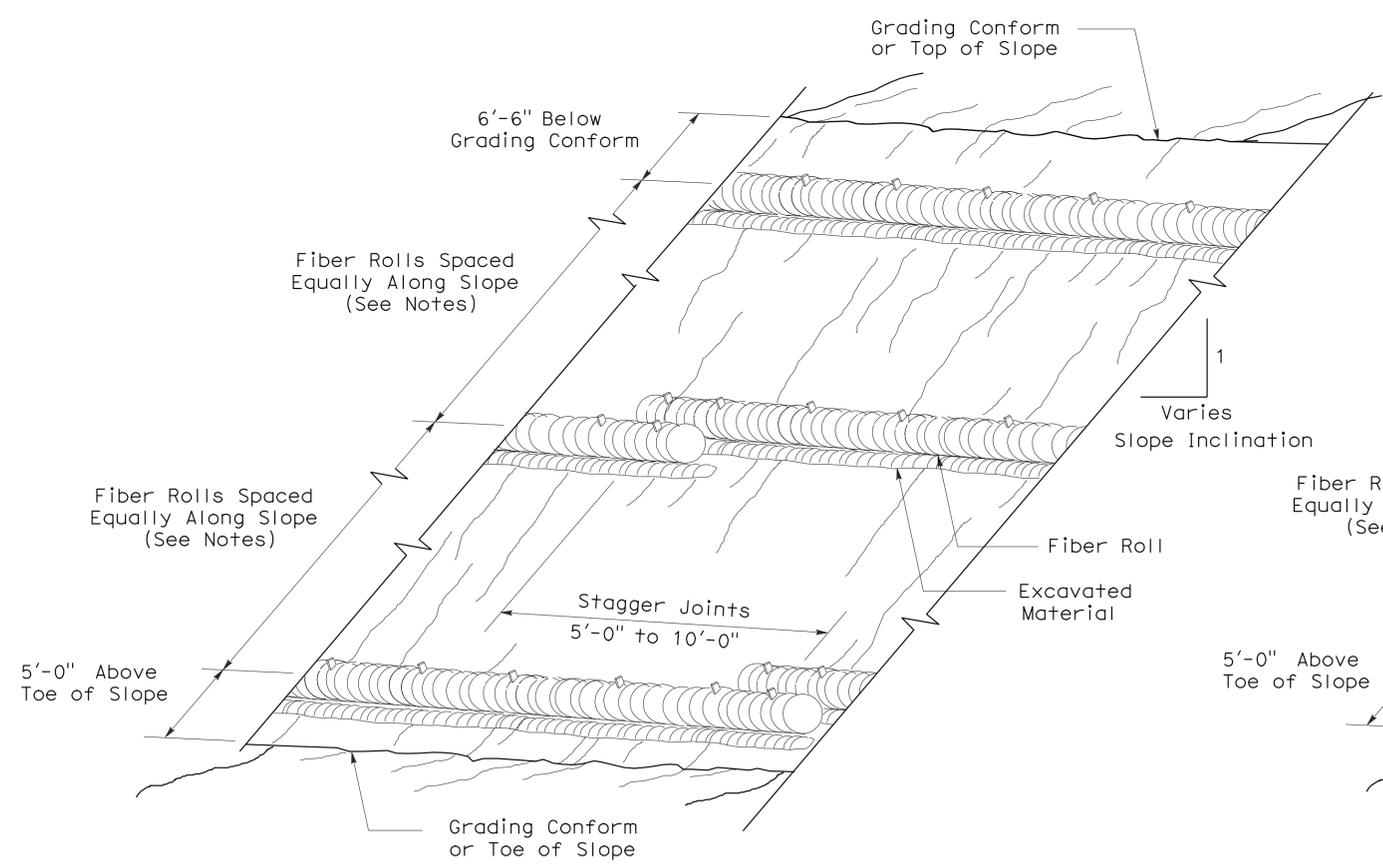
**SECTION**  
**TEMPORARY FIBER ROLL (TYPE 2)**



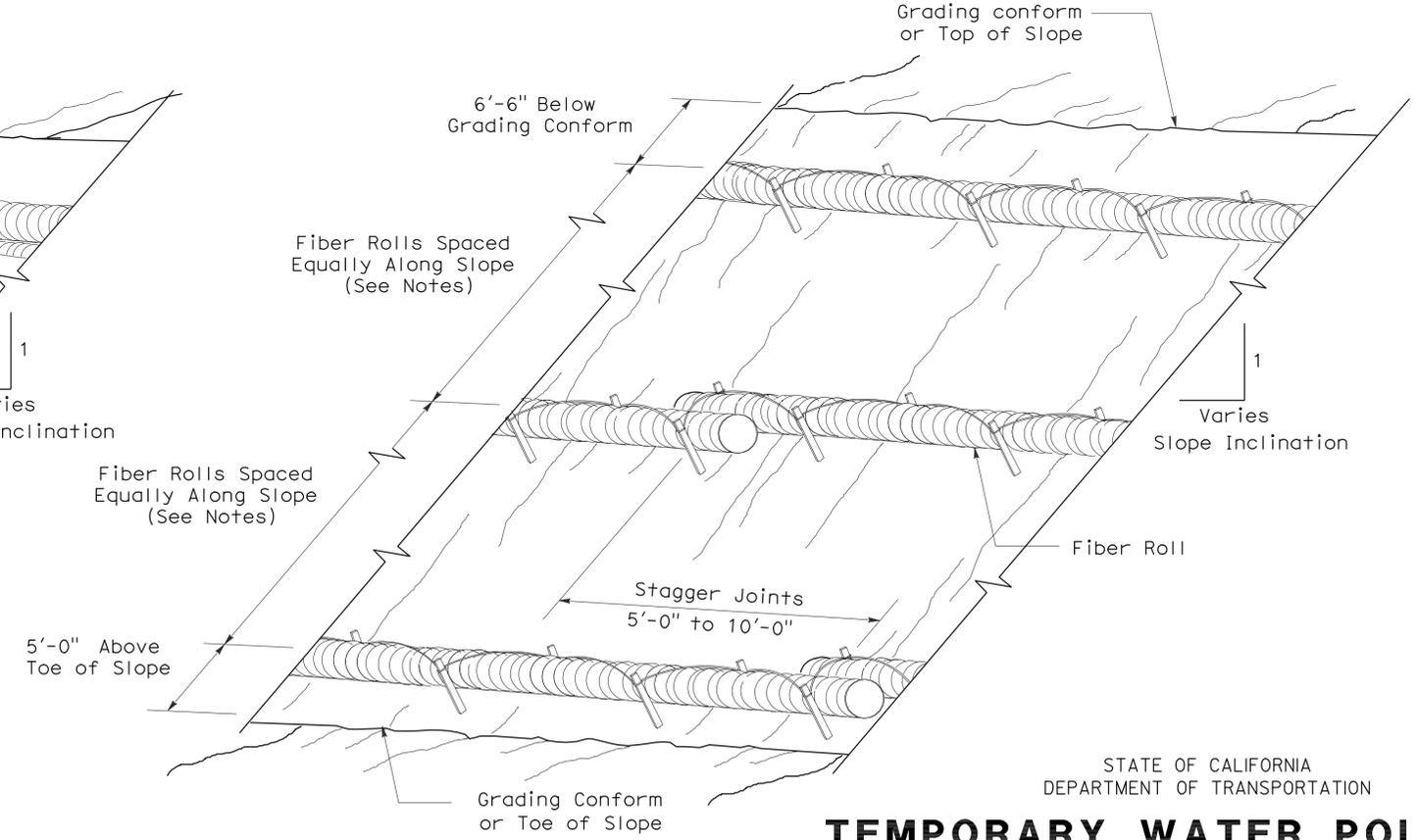
**PLAN**  
**ELEVATION**  
**STAKE NOTCH DETAIL**



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



**PERSPECTIVE**  
**TEMPORARY FIBER ROLL (TYPE 1)**



**PERSPECTIVE**  
**TEMPORARY FIBER ROLL (TYPE 2)**

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)**

NO SCALE

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

**REVISED STANDARD PLAN RSP T56**

2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	35	40

Robert B. Schott  
LICENSED LANDSCAPE ARCHITECT

August 15, 2008  
PLANS APPROVAL DATE

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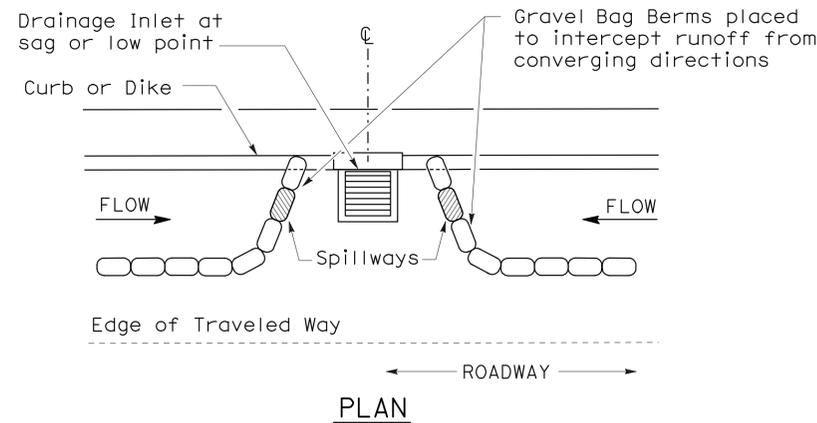
To accompany plans dated 2-22-10



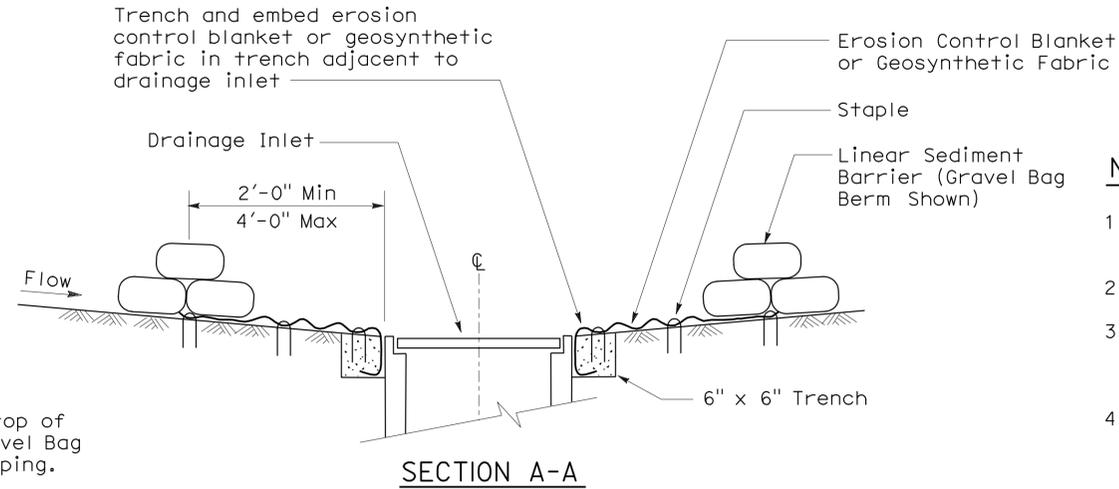
### GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

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

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



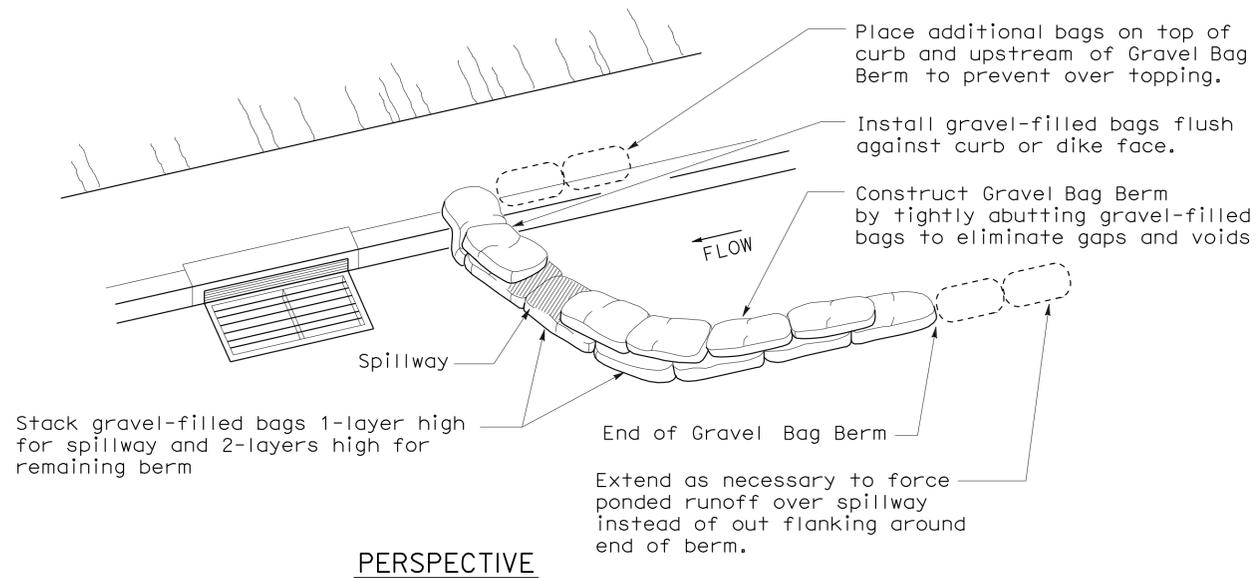
**PLAN**  
**CONFIGURATION FOR SAG POINT INLET**  
**(GRAVEL BAG BERM)**



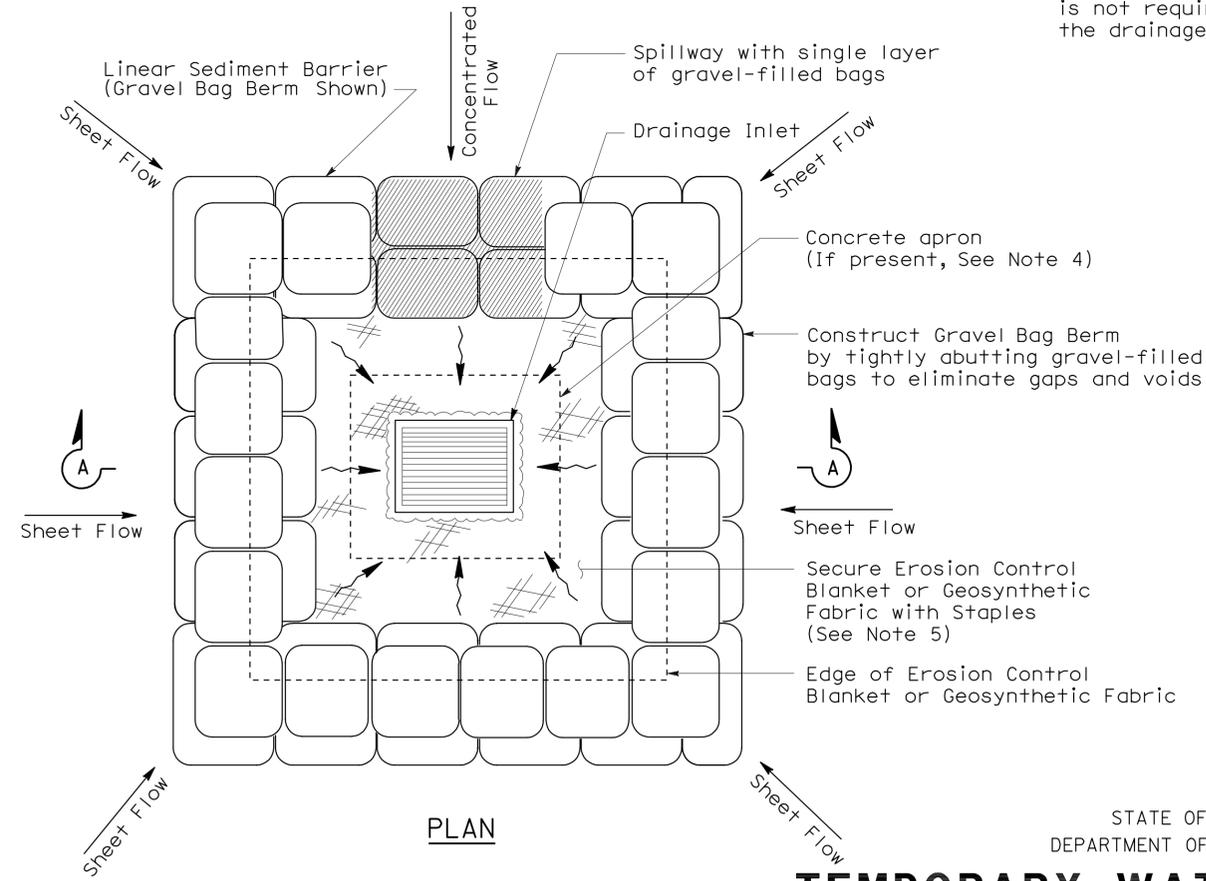
**SECTION A-A**

**NOTES:**

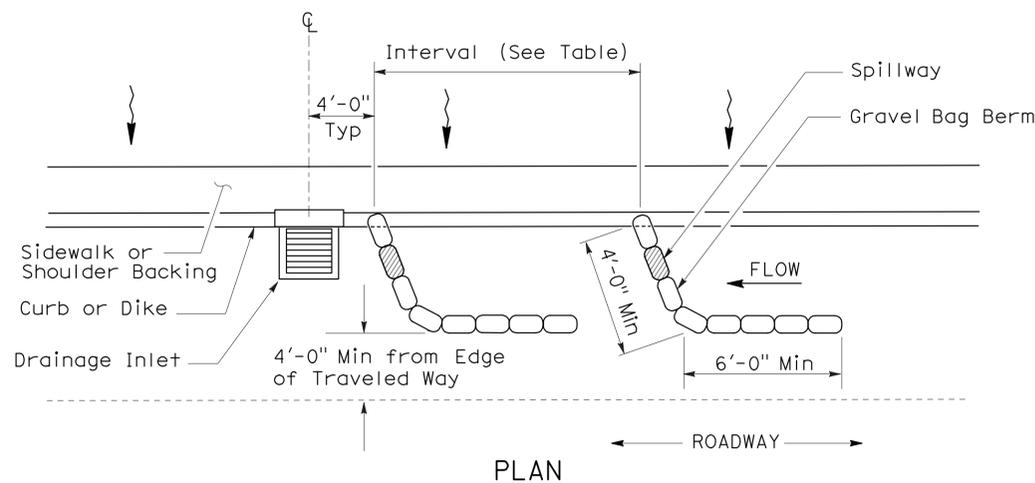
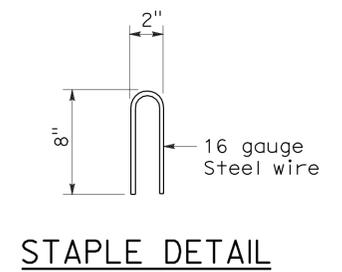
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.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



**PERSPECTIVE**



**PLAN**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 3B)**



**PLAN**  
**TEMPORARY DRAINAGE**  
**INLET PROTECTION (TYPE 3A)**  
**(GRAVEL BAG BERM)**

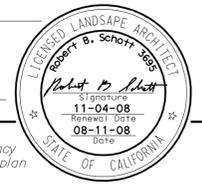
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS**  
**(TEMPORARY DRAINAGE INLET PROTECTION)**

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

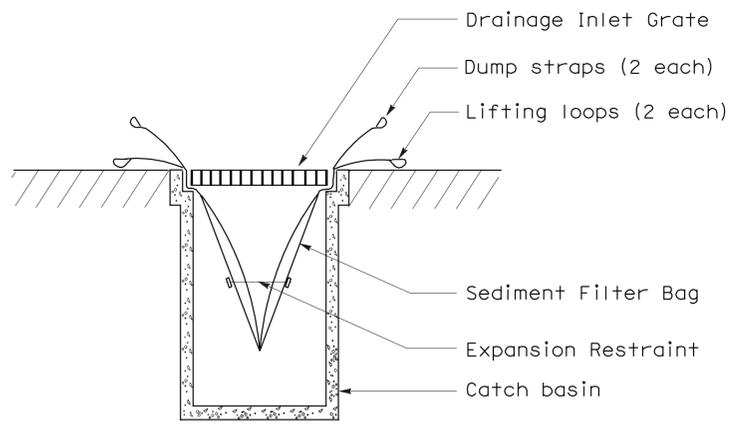
2006 NEW STANDARD PLAN NSP T62

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	36	40

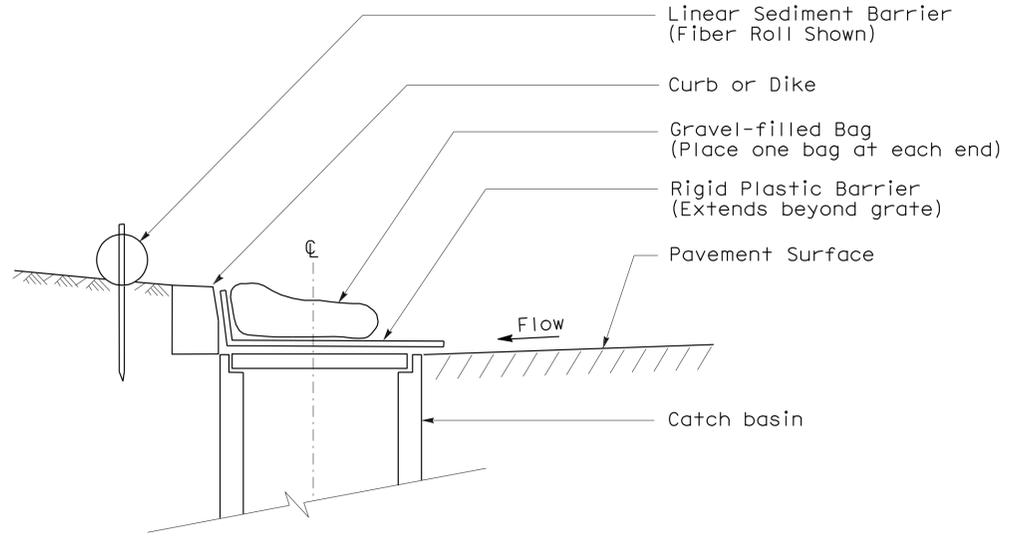
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS APPROVAL DATE  
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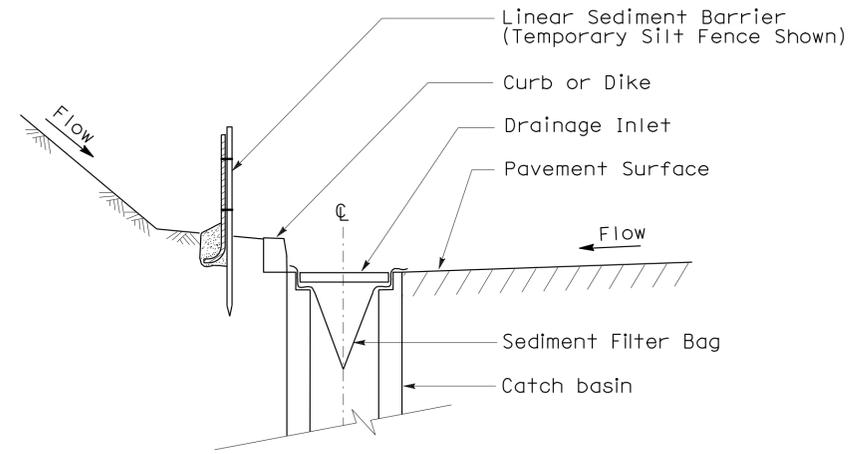
To accompany plans dated 2-22-10



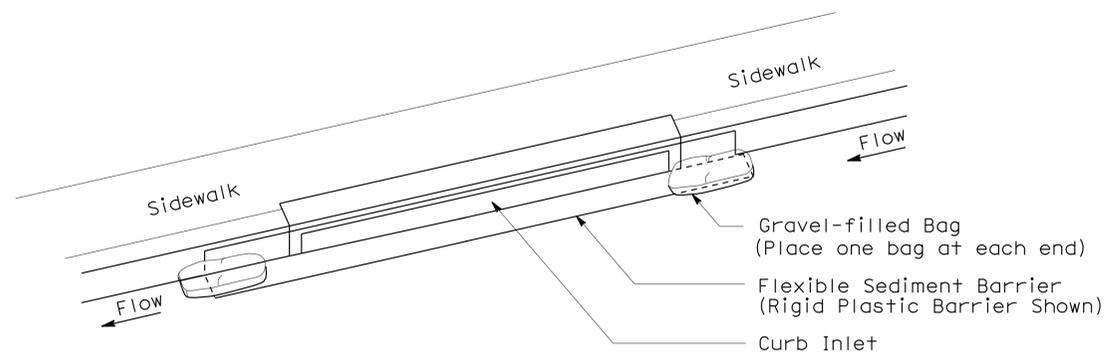
**SECTION B-B**  
**SEDIMENT FILTER BAG DETAIL**



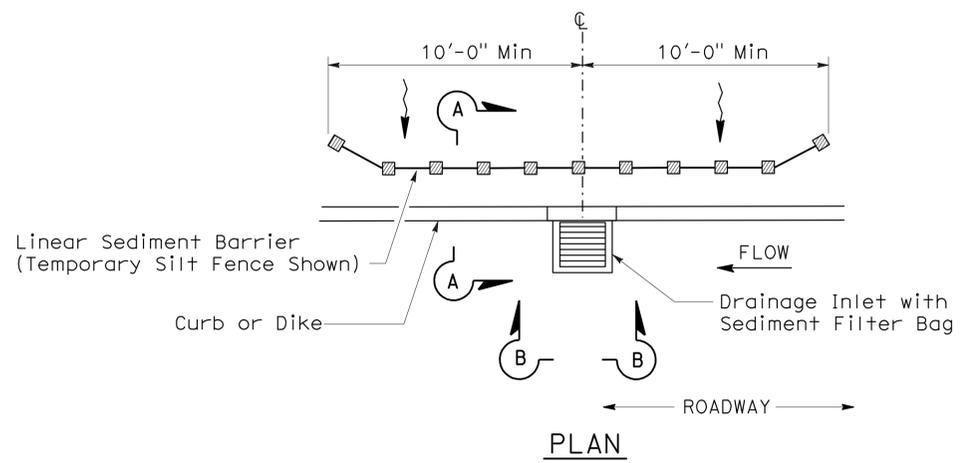
**SECTION**  
**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6A)**  
**(CATCH BASIN WITH GRATE)**



**SECTION A-A**



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



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

**NOTES:**

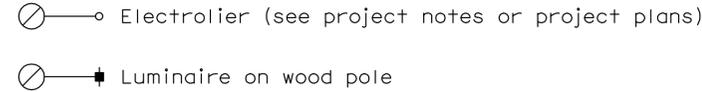
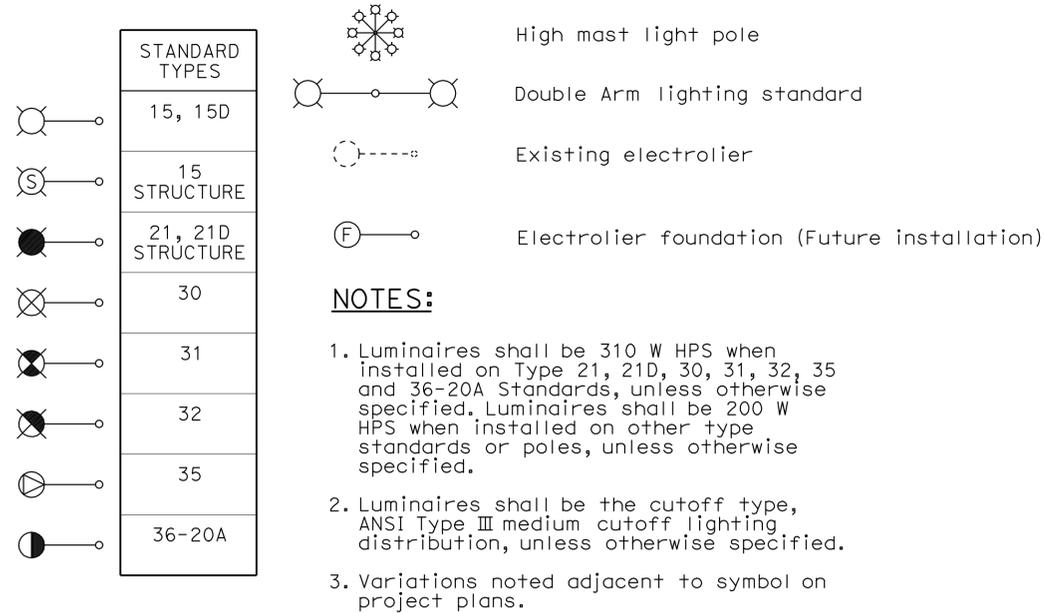
1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

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

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

2006 NEW STANDARD PLAN NSP T64

# ELECTROLIERS



## STANDARD NOTES:

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

# ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

## PROPOSED EXISTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	37	40

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

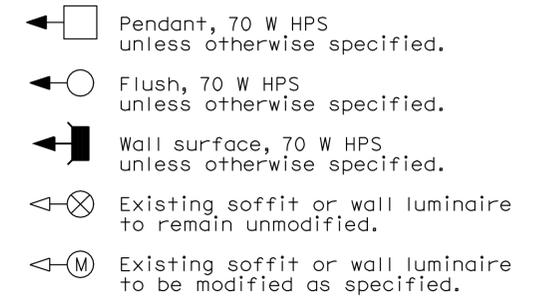
October 5, 2007  
PLANS APPROVAL DATE

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

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

To accompany plans dated 2-22-10

## SOFFIT AND WALL MOUNTED LUMINAIRES



### NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

# ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

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

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	38	40

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

### CONDUIT

PROPOSED	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 <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">RSP ES-9A C</span>
		Conduit riser in/on structure or service pole

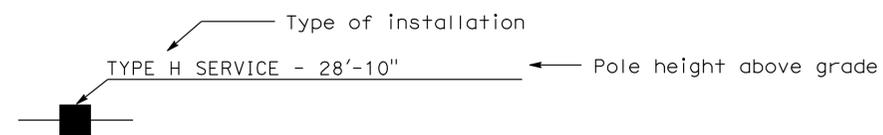
### SIGNAL EQUIPMENT

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

### SERVICE EQUIPMENT

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

### POLE-MOUNTED SERVICE DESIGNATION



### ILLUMINATED OVERHEAD SIGN

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

### SIGNAL EQUIPMENT Cont

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

### NOTES:

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

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

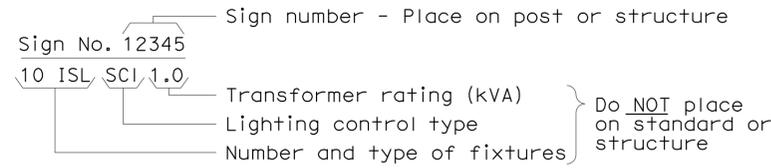
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

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

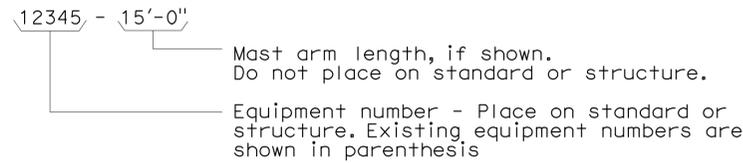
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

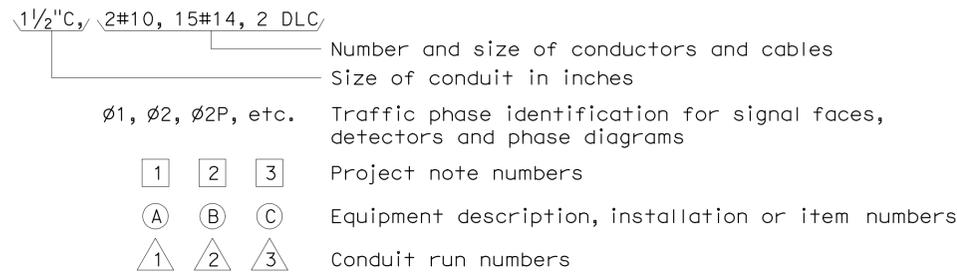
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



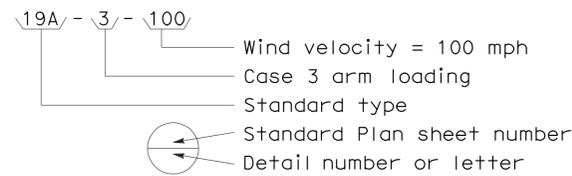
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



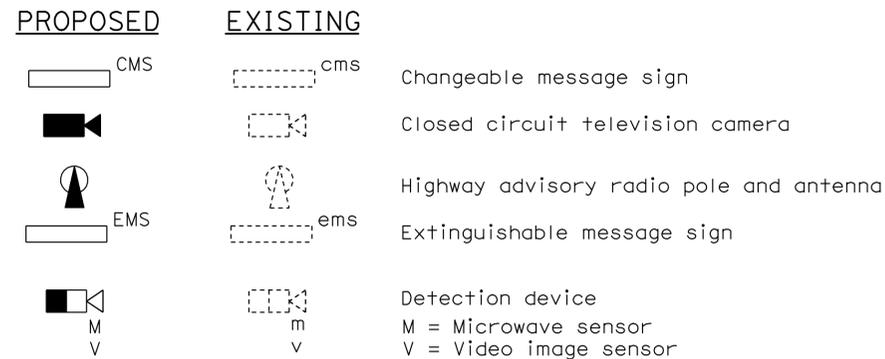
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



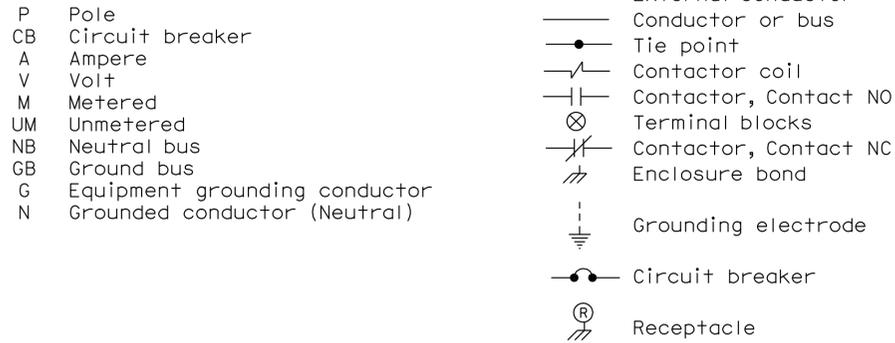
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



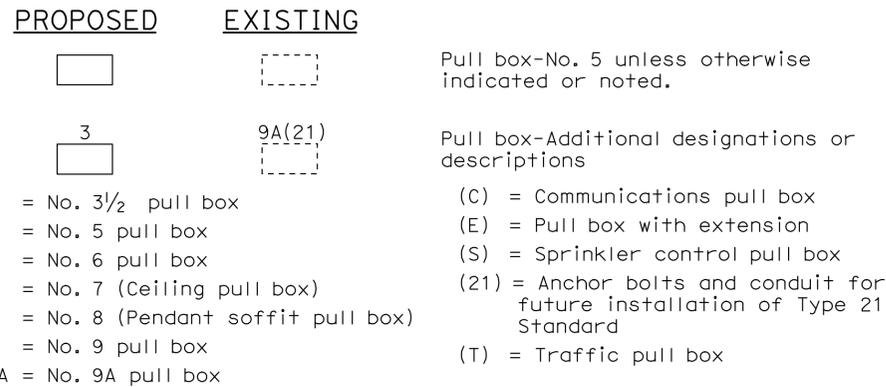
### MISCELLANEOUS EQUIPMENT



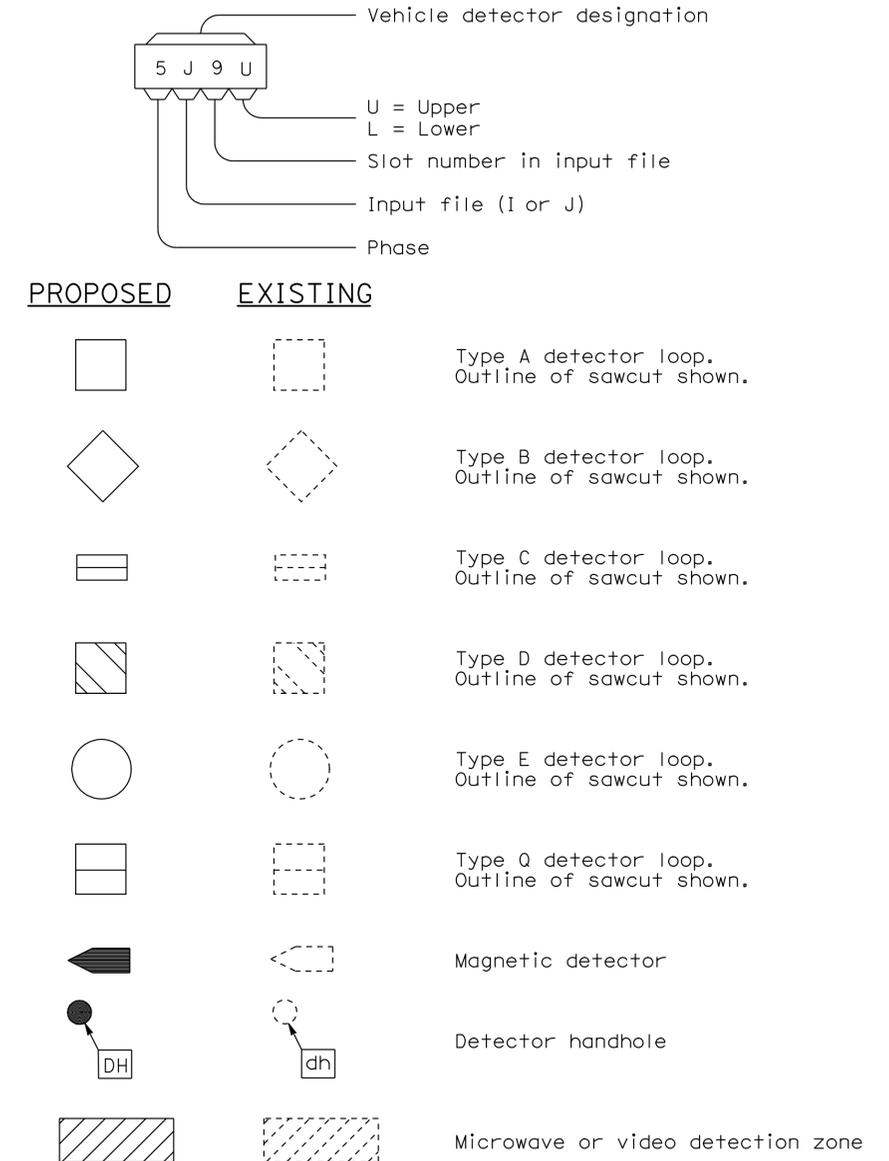
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



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

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

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

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	13.6	40	40

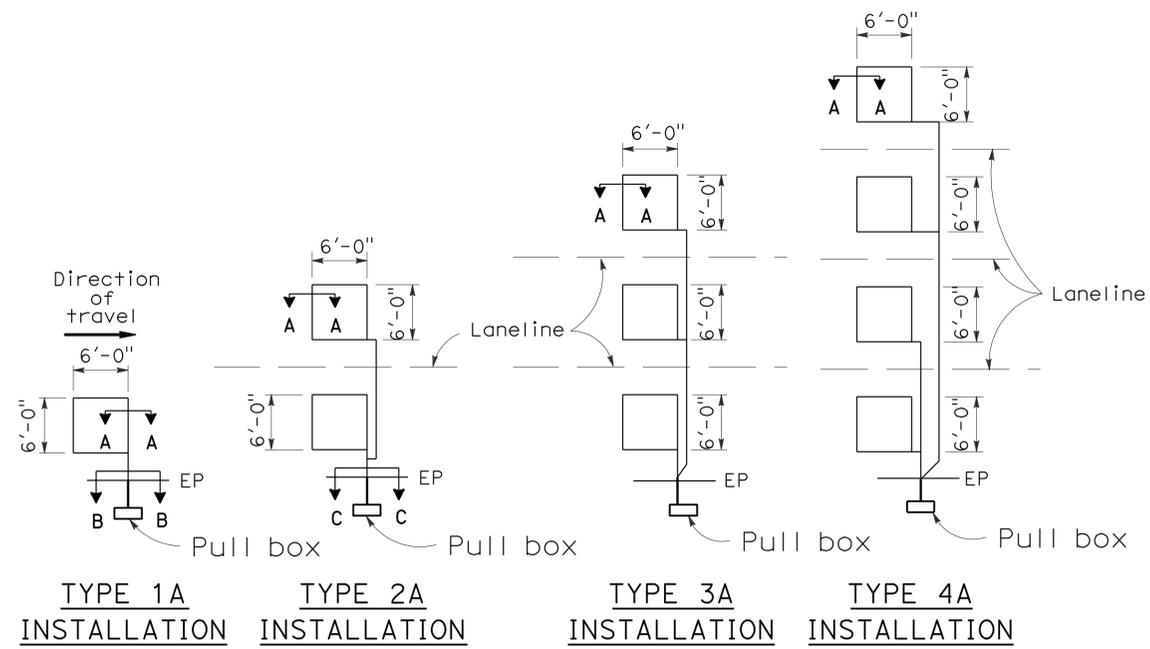
REGISTERED ELECTRICAL ENGINEER  
 Jeffery G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

October 5, 2007  
 PLANS APPROVAL DATE

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## LOOP INSTALLATION PROCEDURE

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



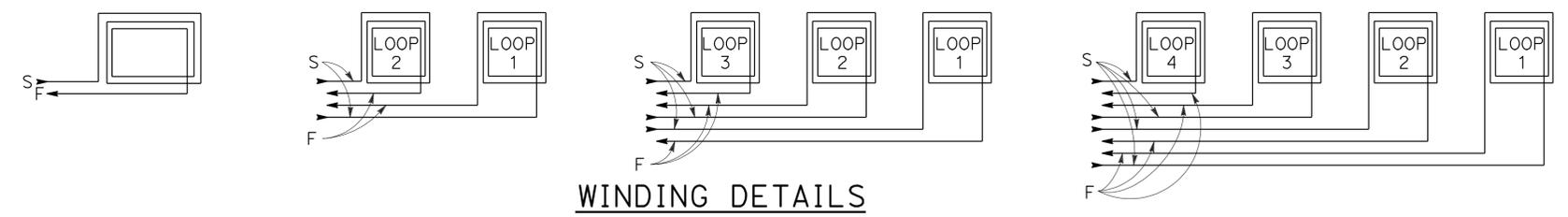
### SAWCUT DETAILS

(Type A loop detector configurations illustrated)

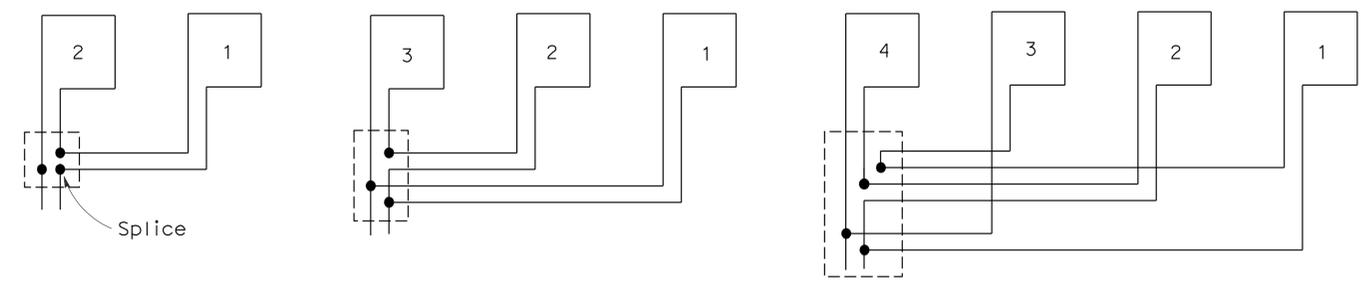
- 1A thru 4A = 1 Type A loop configuration in each lane.
  - 1B thru 4B = 1 Type B loop configuration in each lane.
  - 1C = 1 Type C loop configuration entering lanes as required.
  - 1D thru 4D = 1 Type D loop configuration in each lane.
  - 1E thru 4E = 1 Type E loop configuration in each lane.
 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

To accompany plans dated 2-22-10

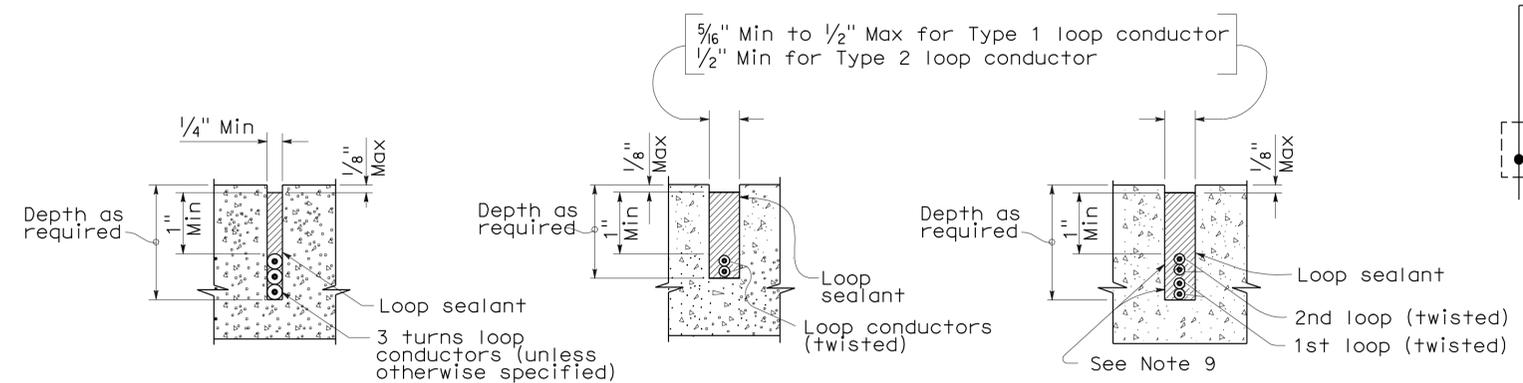
2006 REVISED STANDARD PLAN RSP ES-5A



See Notes 6 and 7



(Dashed lines represent the pull box)



## ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-5A**