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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  
DEPARTMENT OF TRANSPORTATION

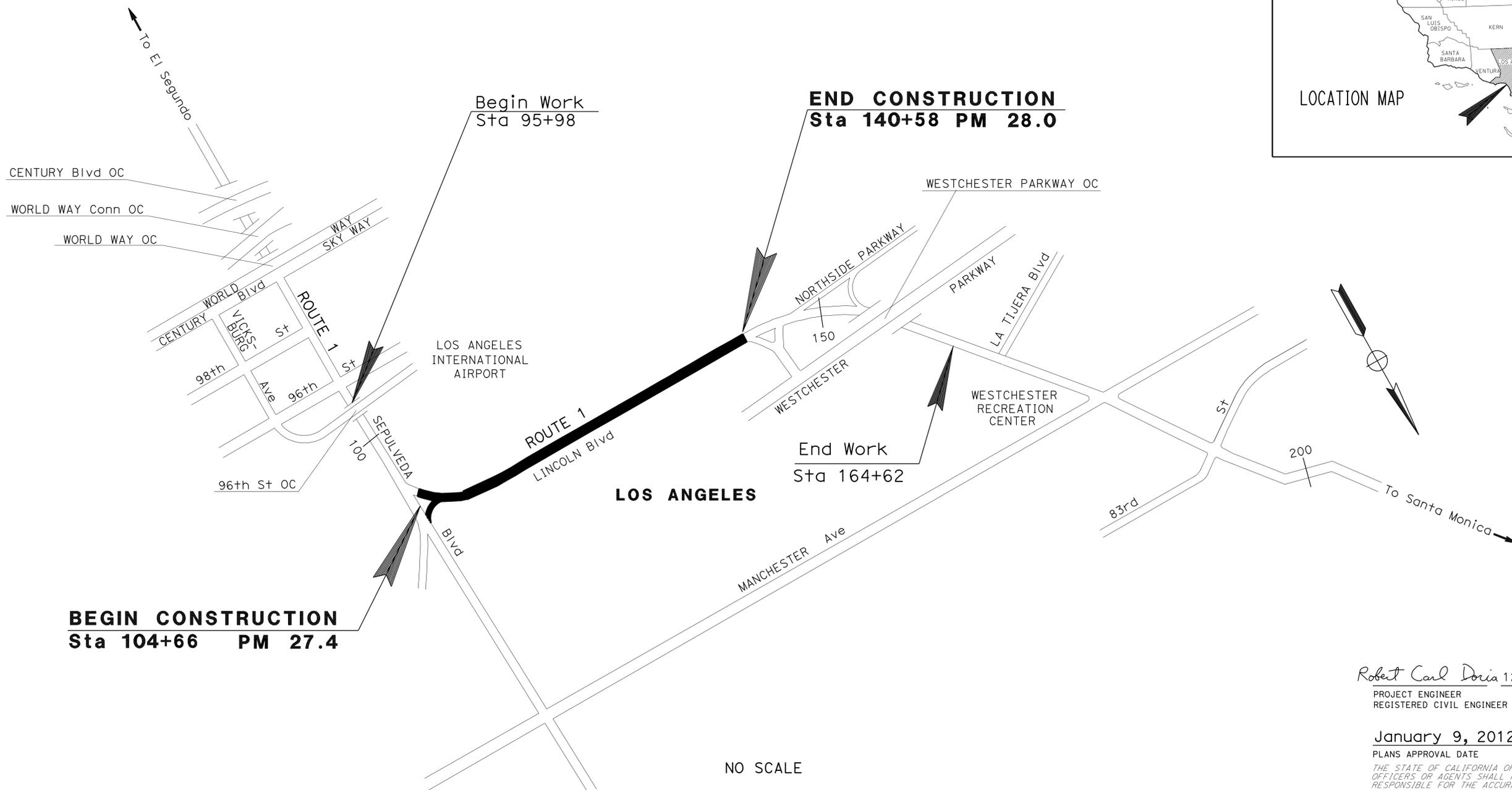
PROJECT PLANS FOR CONSTRUCTION ON  
STATE HIGHWAY  
IN LOS ANGELES COUNTY  
IN LOS ANGELES

FROM SEPULVEDA BOULEVARD TO  
0.3 MILE SOUTH OF WESTCHESTER PARKWAY OVERCROSSING

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	1	30

LOCATION MAP



NO SCALE

PROJECT MANAGER  
ERIC WANG

DESIGN ENGINEER  
HAMID SAADATNEJADI

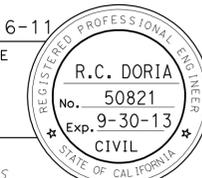
Robert Carl Doria 12-16-11

PROJECT ENGINEER DATE  
REGISTERED CIVIL ENGINEER

January 9, 2012

PLANS APPROVAL DATE

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



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

CONTRACT No.	07-4T4504
PROJECT ID	0700021045

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	2	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE

01-9-12  
PLANS APPROVAL DATE

R.C. DORIA  
No. 50821  
Exp. 9-30-13  
CIVIL

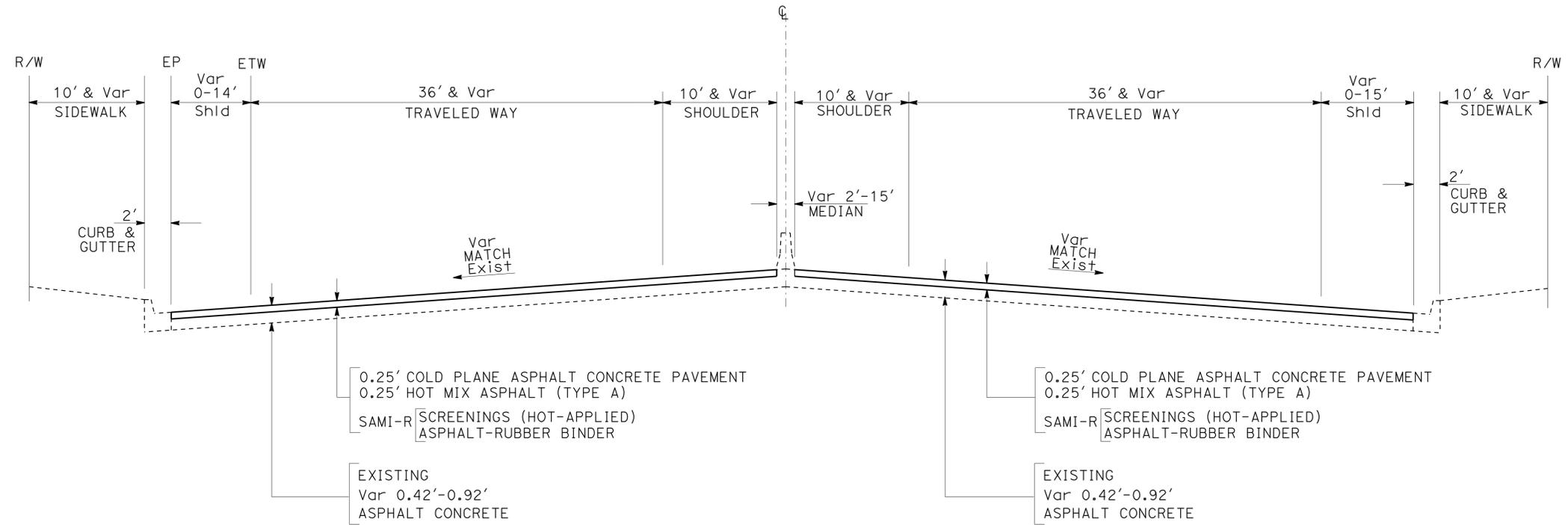
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THIS PLAN.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**ABBREVIATION:**

SAMI-R = STRESS ABSORBING MEMBRANE INTERLAYER - RUBBERIZED



**PM 27.4 / 28.0**

**TYPICAL CROSS SECTIONS**

NO SCALE

**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b> MAINTENANCE ENGINEERING	HAMID SAADATNEJADI	CHECKED BY	ROBERT CARL DORIA
			HAMID SAADATNEJADI
			DATE
			REVISOR
			DATE



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	3	30

Robert Carl Doria 12-16-11	
REGISTERED CIVIL ENGINEER	DATE
01-9-12	
PLANS APPROVAL DATE	

R.C. DORIA	
No. 50821	
Exp. 9-30-13	
CIVIL	

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**NOTE:**

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

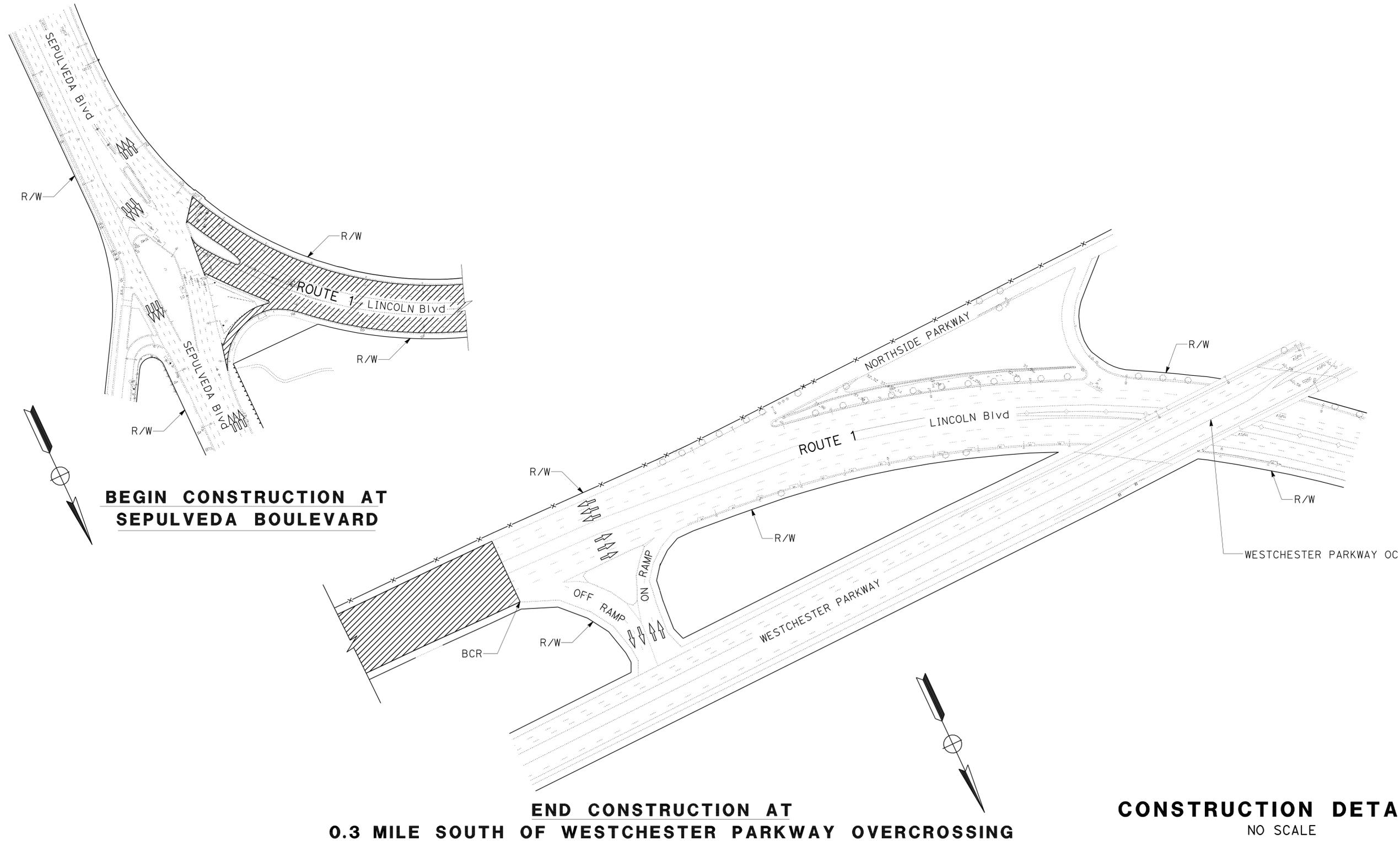
**LEGEND:**

-  0.25' COLD PLANE ASPHALT CONCRETE PAVEMENT
-  0.25' HOT MIX ASPHALT (TYPE A)
-  SAMI-R SCREENINGS (HOT-APPLIED) ASPHALT-RUBBER BINDER

 DIRECTION OF TRAFFIC

**ABBREVIATION:**

SAMI-R = RUBBERIZED STRESS ABSORBING MEMBRANE INTERLAYER



**CONSTRUCTION DETAILS**  
NO SCALE

**C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b> MAINTENANCE ENGINEERING	HAMID SAADATNEJADI	ROBERT CARL DORIA	ROBERT CARL DORIA
		CHECKED BY	DATE
		HAMID SAADATNEJADI	

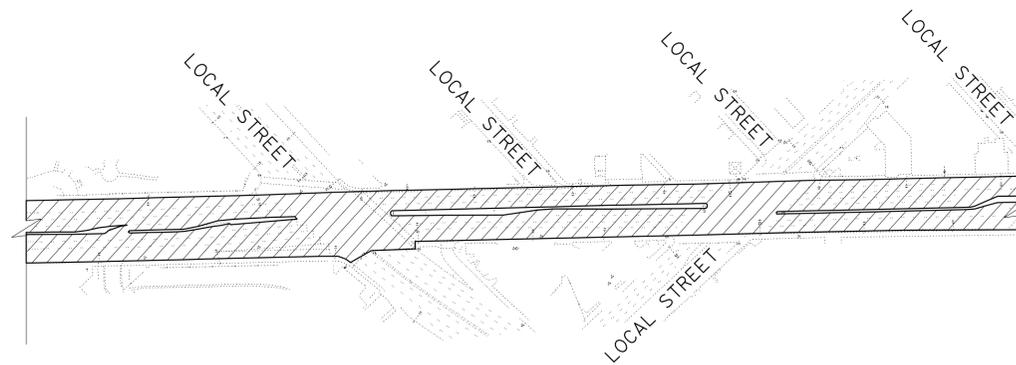
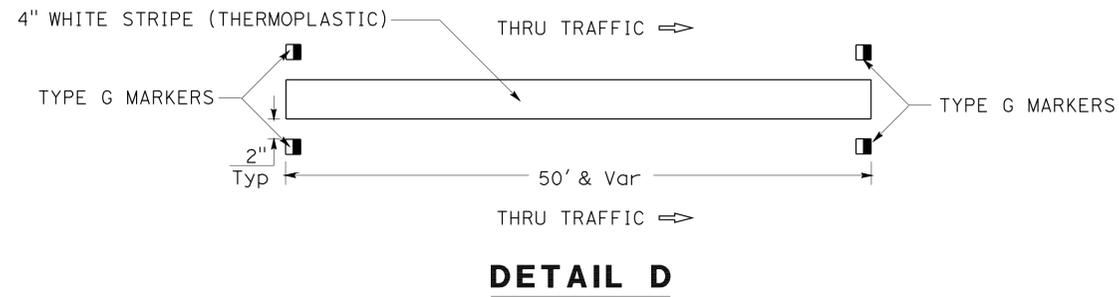
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	4	30

Robert Carl Doria 12-16-11		
REGISTERED CIVIL ENGINEER DATE		
01-9-12		
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>		

**NOTE:**

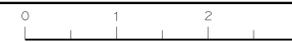
1. DETAIL D SHALL MATCH EXISTING LANELINE AT INTERSECTION APPROACHES.



**CONSTRUCTION DETAILS**  
NO SCALE

**C-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
<b>Caltrans</b> MAINTENANCE ENGINEERING	HAMID SAADATNEJADI	CHECKED BY	ROBERT CARL DORIA	
			HAMID SAADATNEJADI	



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	5	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE

01-9-12  
PLANS APPROVAL DATE

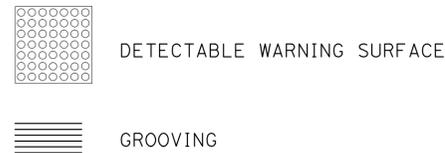
R.C. DORIA  
No. 50821  
Exp. 9-30-13  
CIVIL

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**NOTES:**

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE
2. THE CONTRACTOR MUST VERIFY UTILITIES AND CALTRANS FACILITIES BEFORE CONSTRUCTION
3. REFER TO E-1 - E-8 FOR ELECTRICAL WORK

**LEGEND:**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE ENGINEERING

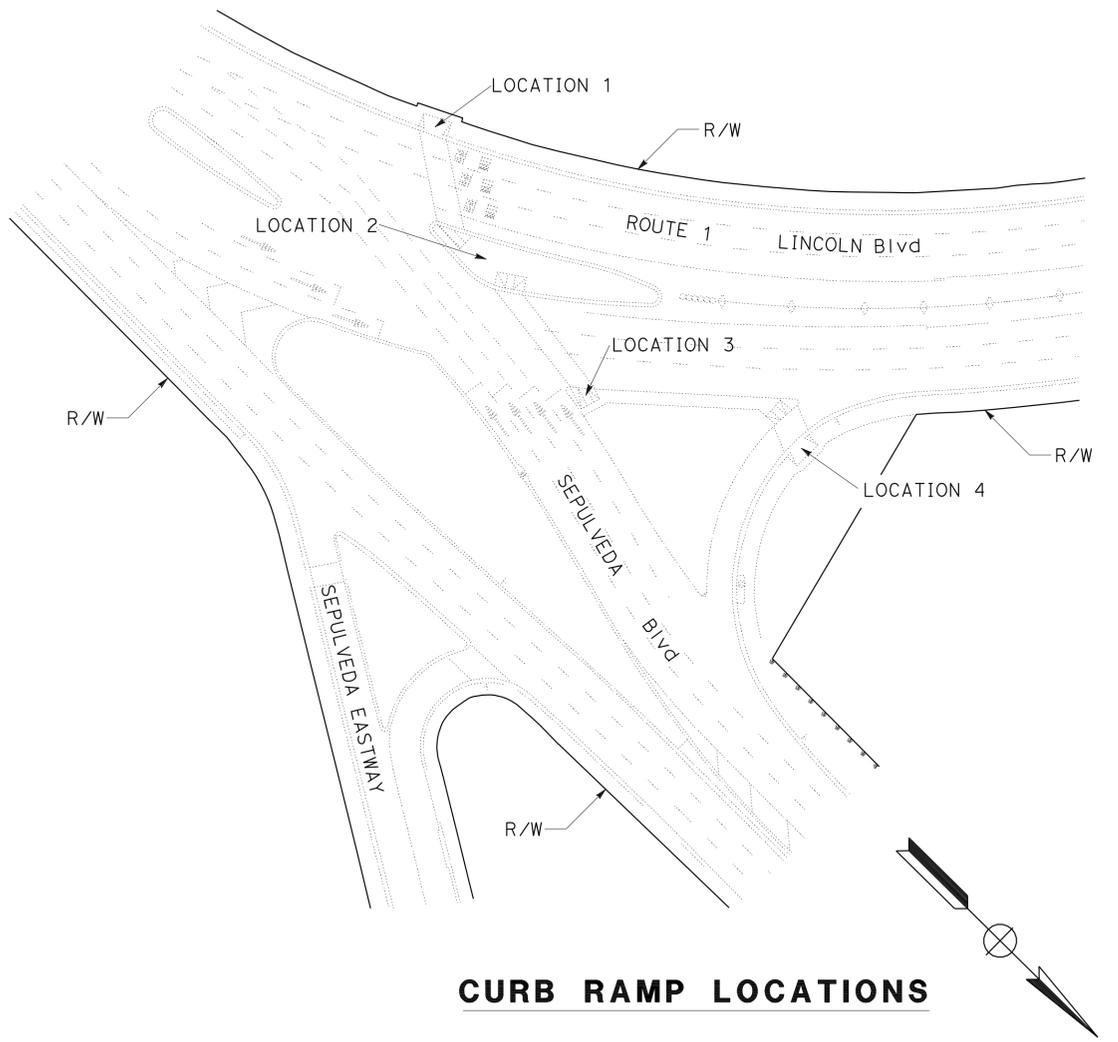
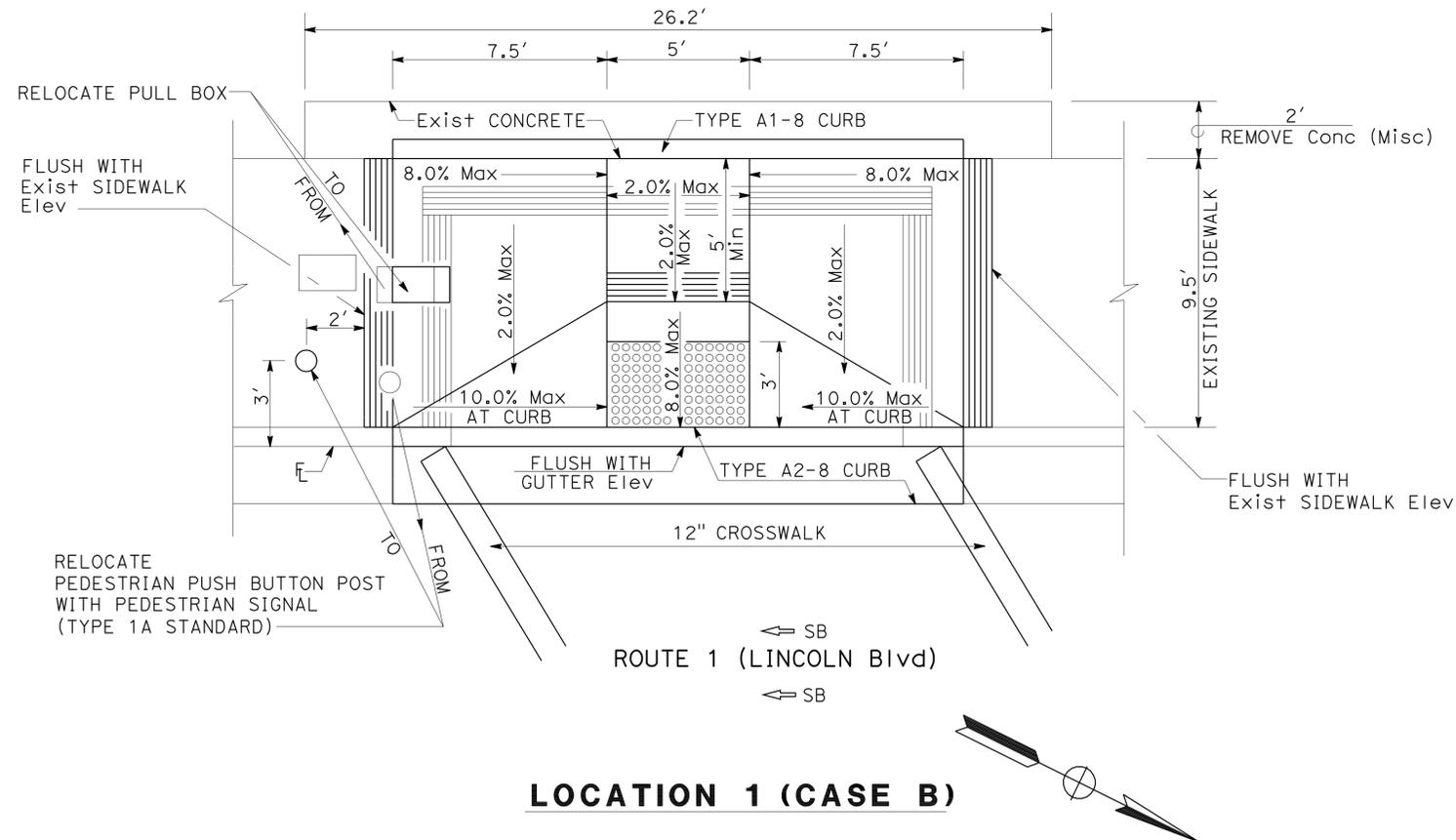
FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI

DESIGNED BY: ROBERT CARL DORIA

CHECKED BY: HAMID SAADATNEJADI

REVISIONS:

NO.	DATE	DESCRIPTION

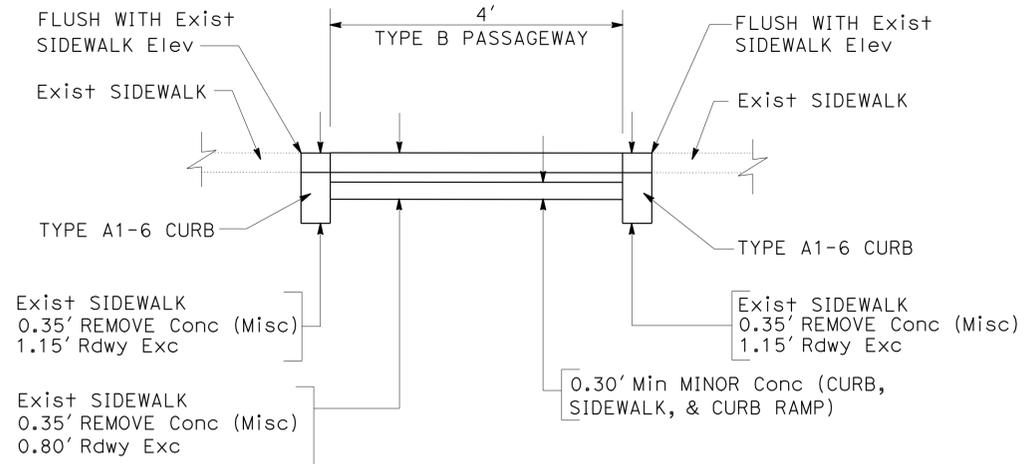


**CURB RAMP LOCATIONS**

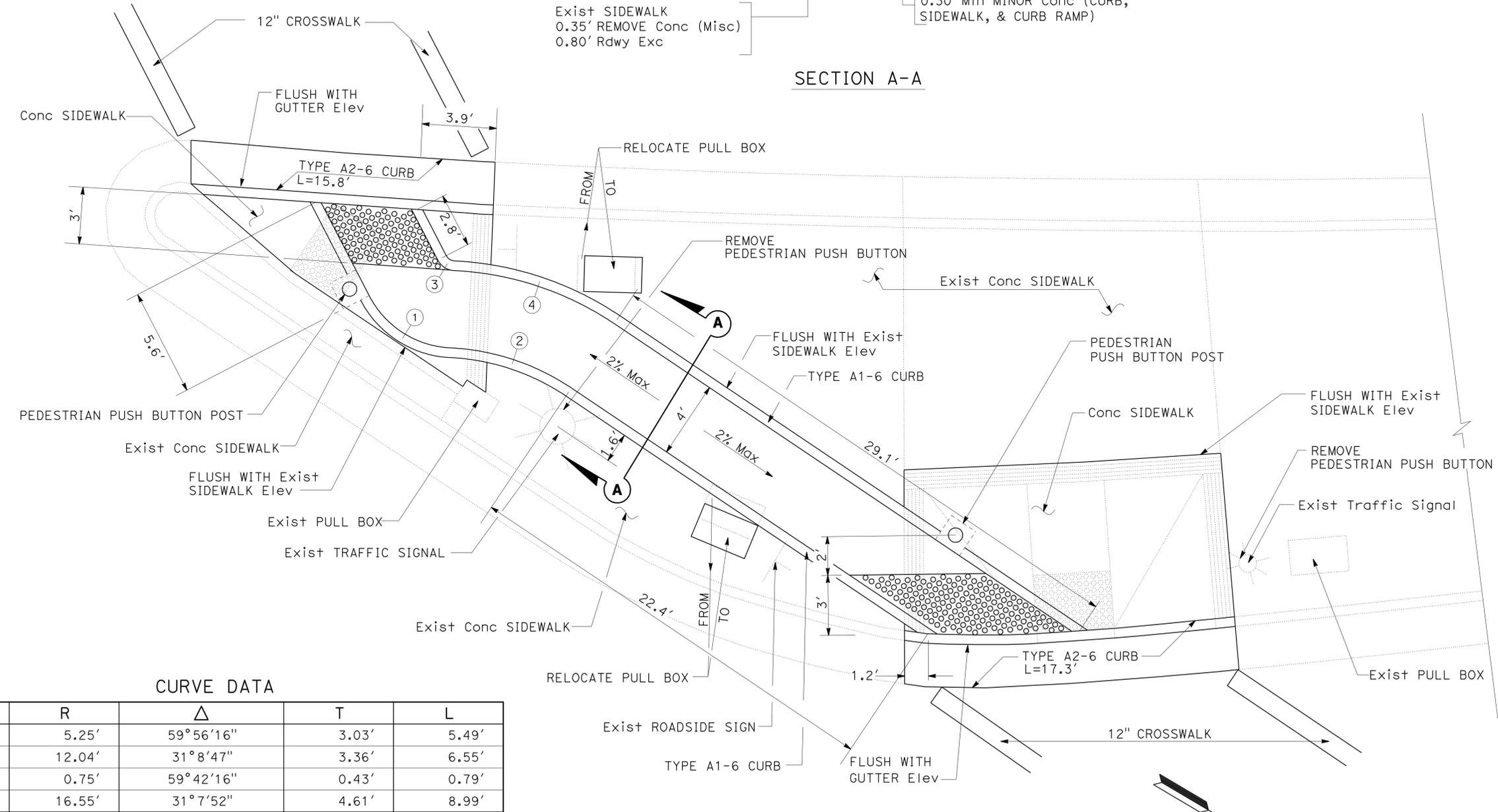
**CONSTRUCTION DETAILS**  
NO SCALE

**C-3**

NOTE:  
1. USE CLASS 2 AGGREGATE BASE FOR BACKFILL, WHERE NEEDED TO UNDERLAY CURB RAMP AND SIDEWALK.



SECTION A-A



CURVE DATA

No.	R	$\Delta$	T	L
①	5.25'	59° 56' 16"	3.03'	5.49'
②	12.04'	31° 8' 47"	3.36'	6.55'
③	0.75'	59° 42' 16"	0.43'	0.79'
④	16.55'	31° 7' 52"	4.61'	8.99'

LOCATION 2 (TYPE B PASSAGEWAY)

CONSTRUCTION DETAILS  
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
Caltrans MAINTENANCE ENGINEERING

REVISOR BY  
ROBERT CARL DORIA

DESIGNED BY  
HAMID SAADATNEJADI

CHECKED BY  
HAMID SAADATNEJADI

FUNCTIONAL SUPERVISOR  
HAMID SAADATNEJADI

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	7	30

Robert Carl Doria 12-16-11  
 REGISTERED CIVIL ENGINEER DATE

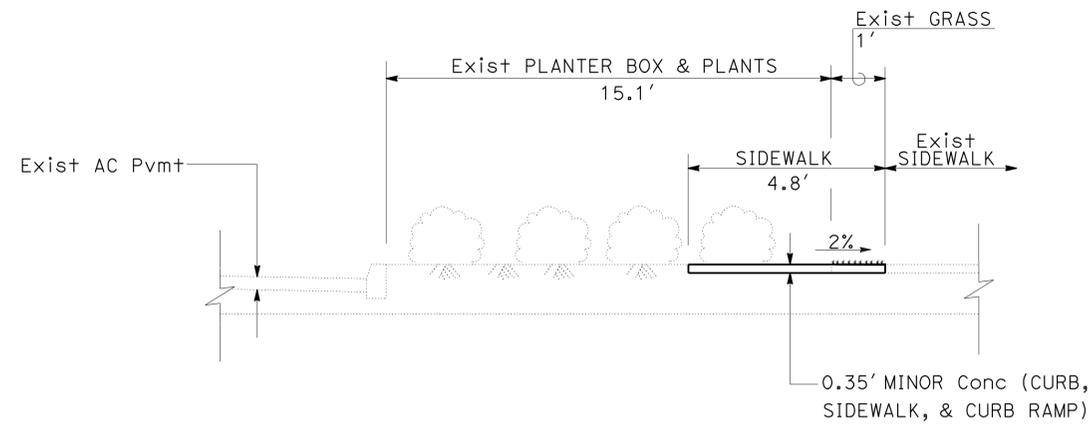
01-9-12  
 PLANS APPROVAL DATE

R.C. DORIA  
 No. 50821  
 Exp. 9-30-13  
 CIVIL

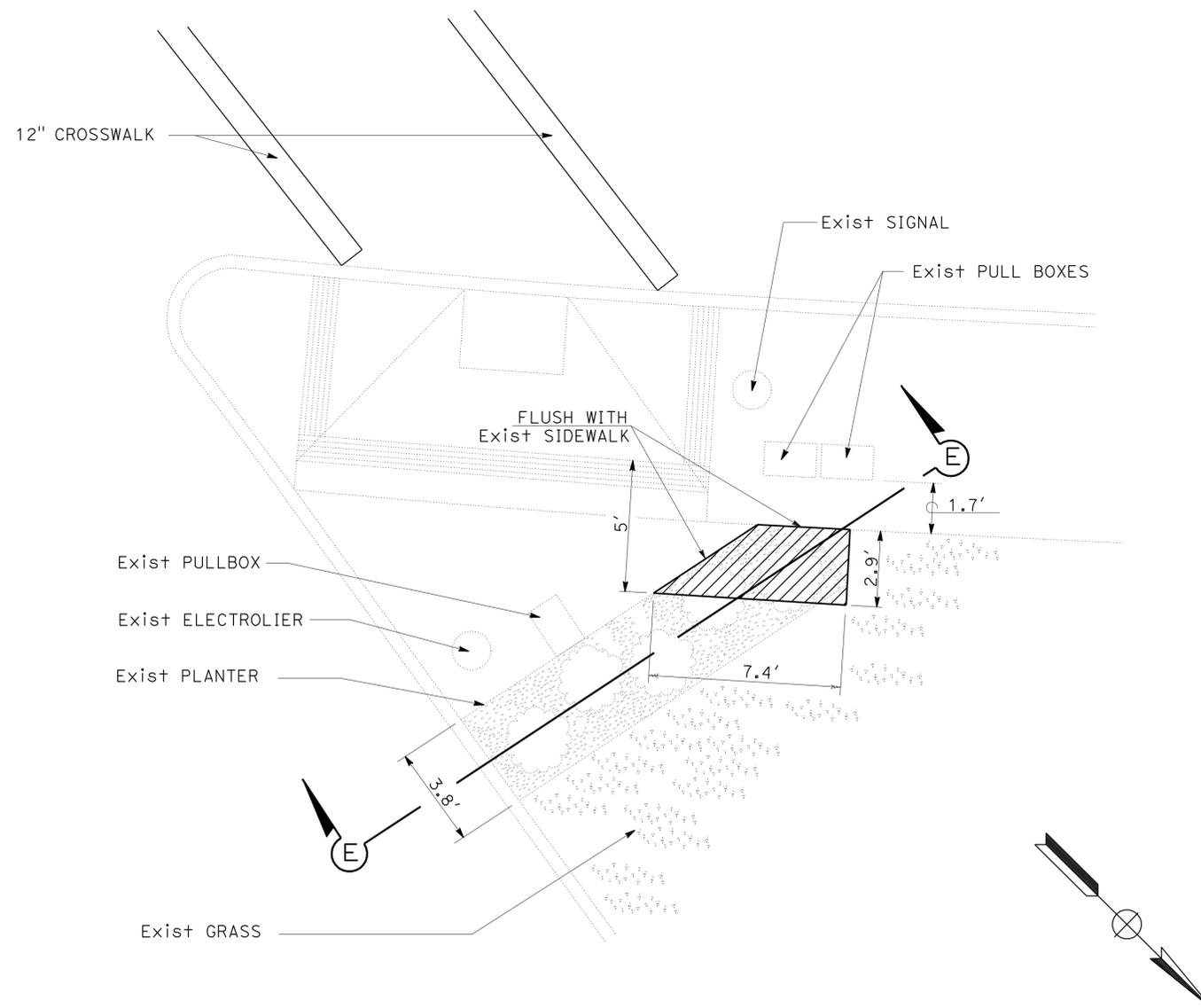
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**LEGEND:**

 LIMITS OF MINOR Conc (CURB, SIDEWALK, & CURB RAMP)



SECTION E-E

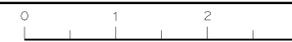


LOCATION 3 (MODIFY EXISTING CURB RAMP)

**CONSTRUCTION DETAILS**  
 NO SCALE

**C-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b> MAINTENANCE ENGINEERING	HAMID SAADATNEJADI	ROBERT CARL DORIA	ROBERT CARL DORIA
		CHECKED BY	DATE
		HAMID SAADATNEJADI	01-09-12



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	ROBERT CARL DORIA	REVISED BY	
<b>Caltrans</b> MAINTENANCE ENGINEERING	HAMID SAADATNEJADI	CHECKED BY	HAMID SAADATNEJADI	DATE REVISED	

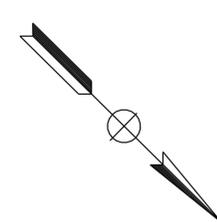
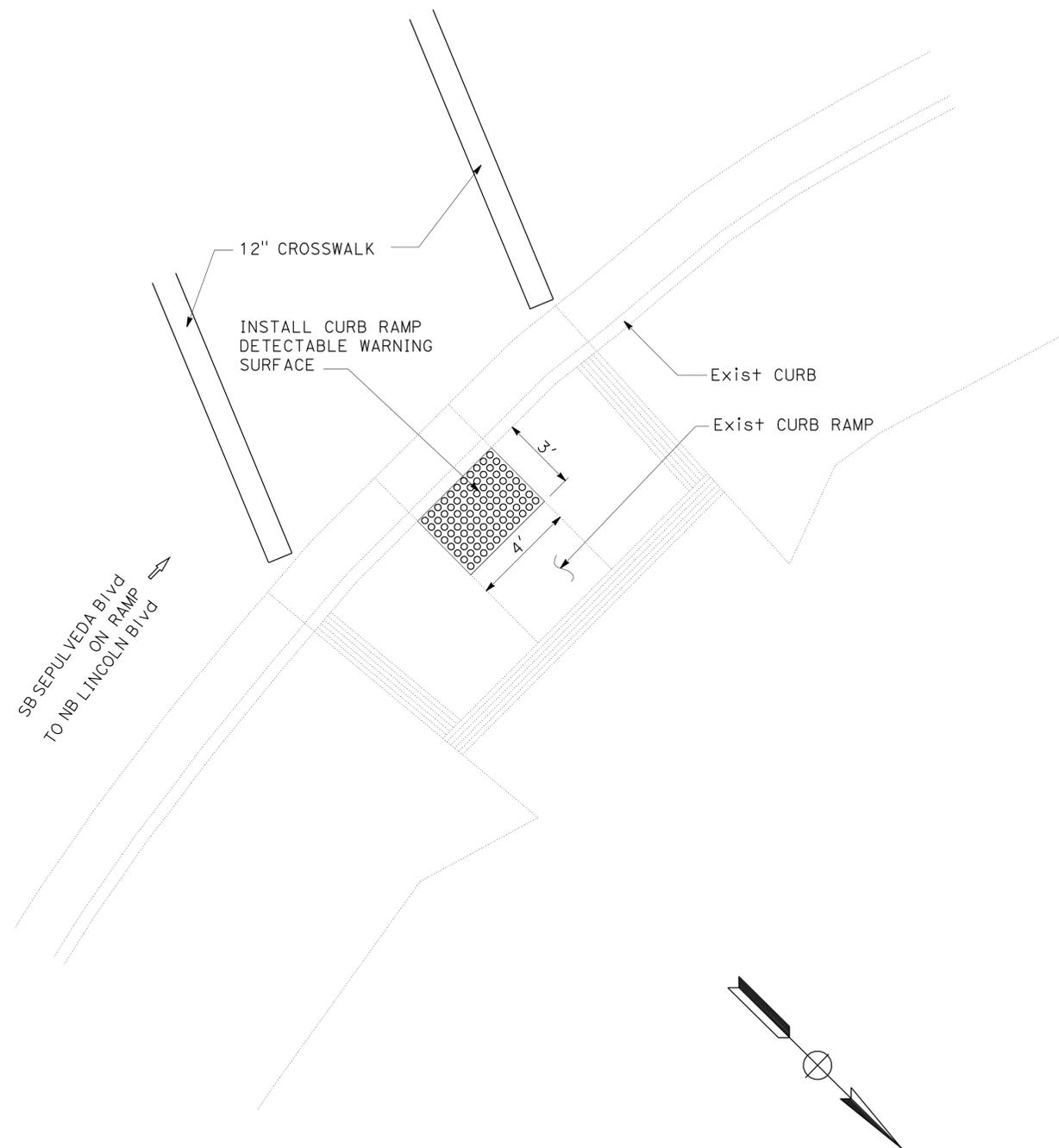
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	8	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE

01-9-12  
PLANS APPROVAL DATE

R.C. DORIA  
No. 50821  
Exp. 9-30-13  
CIVIL

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**LOCATION 4 (INSTALL DETECTABLE WARNING SURFACE)**

**CONSTRUCTION DETAILS**  
NO SCALE

**C-6**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	9	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE

01-9-12  
PLANS APPROVAL DATE

R.C. DORIA  
No. 50821  
Exp. 9-30-13  
CIVIL

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**NOTE:**

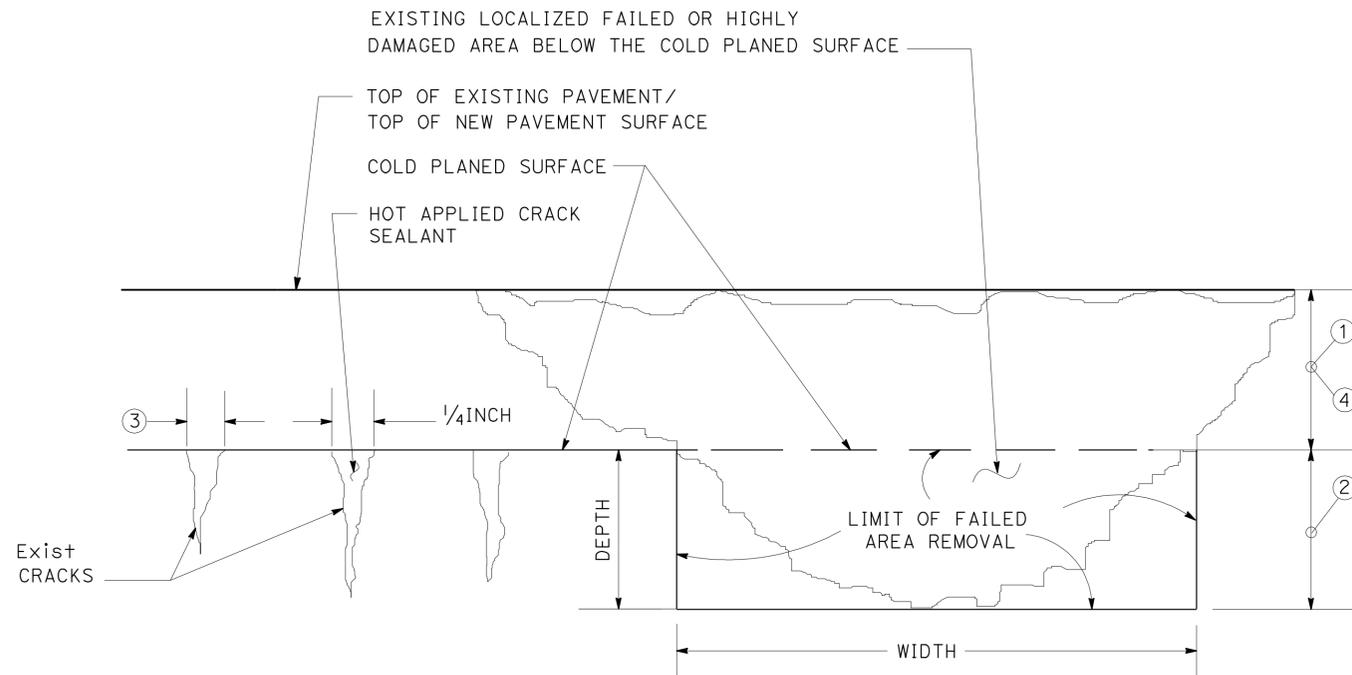
1. SEAL RANDOM CRACKS & REPAIR FAILED AREAS (ADDITIONAL COLD PLANE AC PAVEMENT) QUANTITIES ARE INCLUDED IN SHEET Q-1.

**ABBREVIATIONS:**

- HMA-A = HOT MIX ASPHALT (TYPE A)  
SAMI-R = RUBBERIZED STRESS ABSORBING MEMBRANE INTERLAYER

**ADDITIONAL COLD PLANE ASPHALT CONCRETE PAVEMENT**

DIRECTION	POST MILE	LOCATION	LENGTH	WIDTH	DEPTH
			FEET	FEET	INCH
NB	27.36	Beg Const			
NB	27.36	LANE No. 3	8	5	2
NB	27.36	LANE No. 2	6	5	2
NB	27.40	LANE Nos. 2, 3, & 4	3	36	2
NB	27.44	BETWEEN LANE Nos. 1 & 2	3	3	2
NB	27.44	BETWEEN LANE Nos. 1 & 2	7	3	2
NB	27.49	BETWEEN LANE Nos. 1 & 2	19	3	2
NB	27.52	LANE No. 1	32	5	2
NB	27.58	LANE No. 1	28	5	2
NB	27.70	BETWEEN LANE Nos. 1 & 2	15	5	2
NB	27.80	LANE No. 2	21	5	2
NB	27.86	BETWEEN LANE Nos. 1 & 2	27	5	2
NB	27.88	LANE No. 2	8	5	2
SB	27.55	BETWEEN LANE Nos. 2 & 3	4	3	2
SB	27.68	LANE No. 2	25	6	2
SB	27.89	LANE No. 2	11	3	2
SB	27.91	LANE No. 2	10	3	2
SB	27.96	LANE No. 1	10	3	2



- STEPS:**
- 1 COLD PLANE THE PLANNED THICKNESS OF EXISTING AC PAVEMENT.
  - 2 REMOVE LOCALIZED FAILED AREAS (SEE ADDITIONAL COLD PLANE AC PAVEMENT TABLE FOR LOCATIONS) AND REPLACE WITH HOT MIX ASPHALT (TYPE A).
  - 3 SEAL ALL CRACKS GREATER THAN 1/4" WITH HOT APPLIED CRACK SEALANT.
  - 4 REPLACE AC SURFACING WITH THE PLANNED THICKNESS OF HMA-A AND SAMI-R AFTER CRACK SEALANT HAS BEEN APPLIED FOR THE EXISTING CRACKS AND LOCALIZED FAILED AREAS HAVE BEEN REPAIRED.

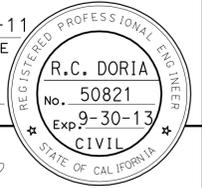
**SEAL RANDOM CRACKS AND REPAIR FAILED AREAS (ADDITIONAL COLD PLANE AC PAVEMENT)**

**CONSTRUCTION DETAILS**  
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE ENGINEERING  
 FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI  
 CALCULATED/DESIGNED BY: ROBERT CARL DORIA  
 CHECKED BY: HAMID SAADATNEJADI  
 REVISED BY: [ ] DATE REVISED: [ ]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	10	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE



01-9-12  
PLANS APPROVAL DATE

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**NOTES:**

- "TRAFFIC FINE DOUBLED IN CONSTRUCTION ZONES" SIGNS SHALL BE PLACED 500 FEET IN ADVANCE OF "ROAD WORK AHEAD" SIGNS OR AS DETERMINED BY THE ENGINEER.
- EXACT LOCATION AND POSITION OF SIGNS WILL BE DETERMINED BY THE ENGINEER.
- EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS					
SIGN NUMBER	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
(A)	W20-1	48" x 48"	ROAD WORK AHEAD	1 - 6" X 6"	5
(B)	G20-2	48" x 24"	END ROAD WORK	1 - 4" x 6"	2
(C)	C40 (CA)	72" x 36"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 4" x 6"	2



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE ENGINEERING  
FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI  
CALCULATED/DESIGNED BY: CHECKED BY:  
ROBERT CARL DORIA  
HAMID SAADATNEJADI  
REVISED BY: DATE REVISED:

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	11	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE

01-9-12  
PLANS APPROVAL DATE

R.C. DORIA  
No. 50821  
Exp. 9-30-13  
CIVIL

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**NOTES:**

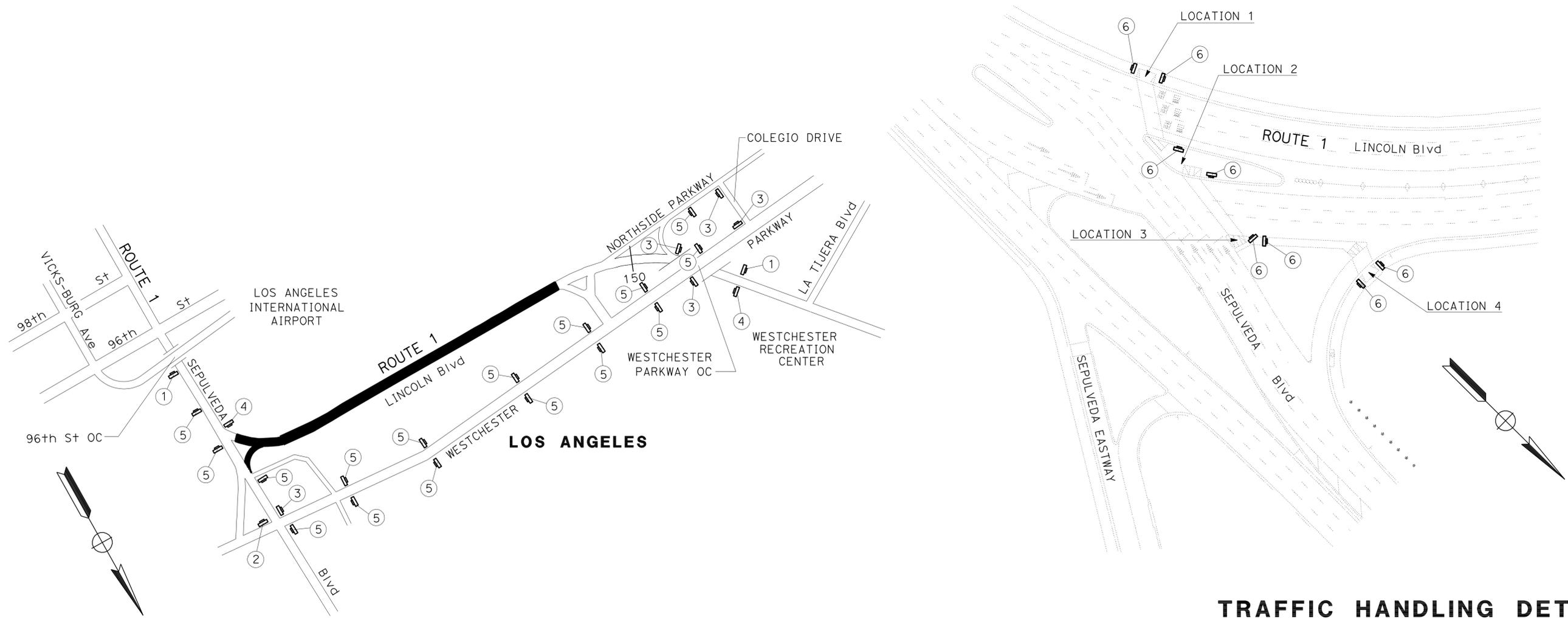
- SIGN LOCATIONS ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
- DURING CONSTRUCTION OF THE CURB RAMPS, SAFE PEDESTRIAN ACCESS THRU THE CONSTRUCTION AREA SHALL BE PROVIDED AT ALL TIMES.

**LEGEND:**

- TEMPORARY SIGN MOUNTED ON TYPE II BARRICADE.
- WORK AREA
- DIRECTION OF TRAVEL

TRAFFIC HANDLING QUANTITIES					
SIGN No.	SIGN CODE	PANEL SIZE (INCHES)	SIGN MESSAGE	NUMBER (N) OF SIGNS	NUMBER OF TYPE II BARRICADES
①	W20-2	36 x 36	DETOUR AHEAD	2	2
②	M4-10L	48 x 18	DETOUR (INSIDE ARROW)	1	1
③	M4-10R	48 x 18	DETOUR (INSIDE ARROW)	5	5
④	M4-8a	24 x 18	END DETOUR	2	2
⑤	SC3	36 x 12	DETOUR	16	16
⑥	R9-9	24 x 12	SIDEWALK CLOSED	8	8
<b>TOTALS</b>				34	34

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



**TRAFFIC HANDLING DETAILS**  
NO SCALE

**THD-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** MAINTENANCE ENGINEERING  
 FUNCTIONAL SUPERVISOR: HAMID SAADATNEJADI  
 CALCULATED/DESIGNED BY: CHECKED BY:  
 ROBERT CARL DORIA  
 HAMID SAADATNEJADI  
 REVISED BY: DATE REVISED:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	12	30

Robert Carl Doria 12-16-11  
REGISTERED CIVIL ENGINEER DATE

01-9-12  
PLANS APPROVAL DATE

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**ABBREVIATION:**

SAMI-R = RUBBERIZED STRESS ABSORBING MEMBRANE INTERLAYER

**ROADWAY QUANTITIES**

DIRECTION	POST MILE	LOCATION	CONSTRUCTION AREA (N)	COLD PLANE ASPHALT CONCRETE PAVEMENT	SAMI-R		HOT MIX ASPHALT (TYPE A)	TACK COAT	CRACK TREATMENT	REMOVE TRAFFIC STRIPE (N)		REMOVE PAVEMENT MARKING (N)	REMOVE PAVEMENT MARKER (N)
					ASPHALT-RUBBER BINDER	SCREENINGS (HOT-APPLIED)				LANE-MILE	REMOVE TRAFFIC STRIPE	REMOVE PAVEMENT MARKING	
											YELLOW		
			SQFT	SQYD	TON	TON	TON	TON	LANE-MILE	LF	LF	SQFT	EA
NB	27.4/28.0	SEPULVEDA Blvd TO WESTCHESTER PARKWAY OFF RAMP	178,337.8	19,815.3	49.5	336.8	3,467.2	6.6	1.8	3,567	3,708	323	261
SB	27.4/28.0	SEPULVEDA Blvd TO WESTCHESTER PARKWAY OFF RAMP	180,244.2	20,027.1	50.1	340.5	3,495.5	6.7	1.8	3,581	2,927	453	237
SUBTOTAL			358,582.0	39,842.4	99.6	677.3	6,947.5	13.3	3.6	7,148	6,635	776	498
TOTAL			358,582.0	39,842.4	99.6	677.3	6,962.7	13.3	3.6	13,783		776	498

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

**PAVEMENT DELINEATION QUANTITIES**

DIRECTION	POST MILE	LOCATION	THERMOPLASTIC TRAFFIC STRIPE					THERMOPLASTIC PAVEMENT MARKINGS			RETRO-REFLECTIVE PAVEMENT MARKERS	
			4"		4"		8"	ARROWS	WORDS	12" CROSSWALK	TYPE G	TYPE H
			Det 12	Det D	Det 25	Det 27B	Det 38					
			WHITE BROKEN (36-12)	WHITE	YELLOW	WHITE	WHITE	LF	LF	LF	SQFT	EA
NB	27.4/28.0	SEPULVEDA Blvd TO WESTCHESTER PARKWAY OFF RAMP	7,461	150	3,736	831	515	186	22	115	186	79
SB	27.4/28.0	SEPULVEDA Blvd TO WESTCHESTER PARKWAY OFF RAMP	7,345	150	3,581	940			369	84	162	75
SUBTOTAL			14,806	300	7,317	1,771	515	186	391	199	348	154
TOTAL			14,806		9,388		515		776		502	

**CURB RAMP QUANTITIES**

LOCATION NUMBER	MINOR CONCRETE (CURB, SIDEWALK AND CURB RAMP)	REMOVE CONCRETE (Misc)	ROADWAY EXCAVATION	CLASS 2 AGGREGATE BASE	CURB RAMP DETECTABLE WARNING SURFACE
	CY	CY	CY	CY	SQFT
1	4.2	4.1	5.3		
2	6.3	6.0	8.6	0.6	
3	0.2		0.2		
4					12
TOTAL	10.7	10.1	14.1	0.6	12

**SUMMARY OF QUANTITIES**

**Q-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	13	30

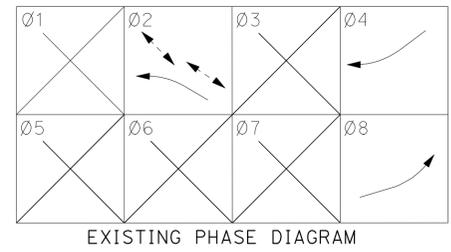
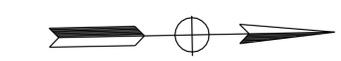
12-16-11  
 REGISTERED ELECTRICAL ENGINEER DATE  
 01-9-12  
 PLANS APPROVAL DATE

CESAR HERNANDEZ  
 No. E15805  
 Exp. 12/31/12  
 ELECTRICAL

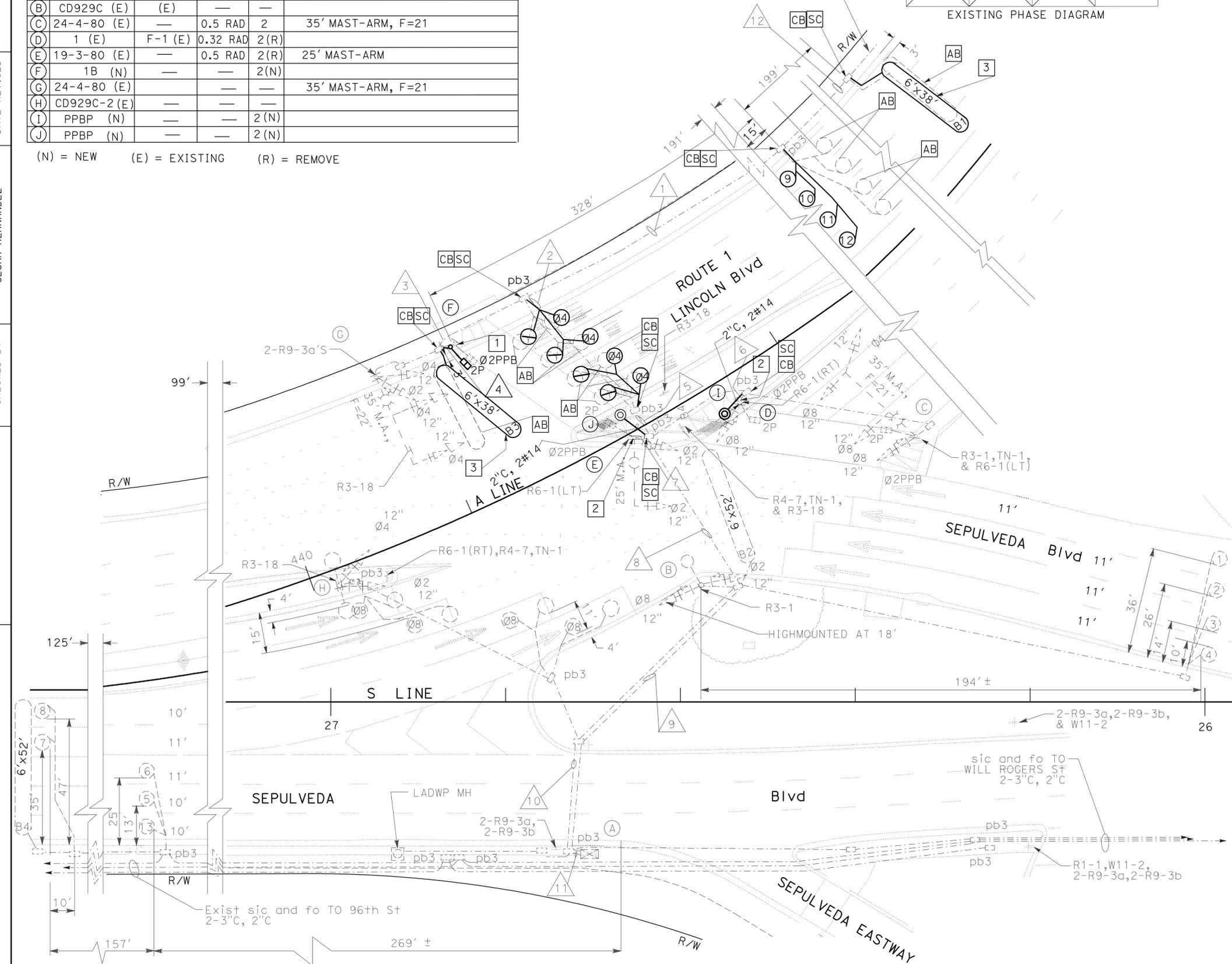
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

SIGNAL STANDARD SCHEDULE					
No.	POLE TYPE	FOUND. TYPE	PED. PUSH BUT'N TYPE	PHASE	REMARKS
(A)	332 CAB (E)	F-332 (E)	—	—	ATSAC 2070 CONTROLLER IN 332 CAB (E)
(B)	CD929C (E)	(E)	—	—	
(C)	24-4-80 (E)	—	0.5 RAD	2	35' MAST-ARM, F=21
(D)	1 (E)	F-1 (E)	0.32 RAD	2(R)	
(E)	19-3-80 (E)	—	0.5 RAD	2(R)	25' MAST-ARM
(F)	1B (N)	—	—	2(N)	
(G)	24-4-80 (E)	—	—	—	35' MAST-ARM, F=21
(H)	CD929C-2 (E)	—	—	—	
(I)	PPBP (N)	—	—	2(N)	
(J)	PPBP (N)	—	—	2(N)	

(N) = NEW (E) = EXISTING (R) = REMOVE



EXISTING 2" C, 2#6 SERVICE TO FLASHING BEACON



CONDUCTOR SCHEDULE		RUN											
SIZE No.	CABLE / WIRE	1	2	3	4	5	6	7	8	9	10	11	12
M	5 CONDUCTOR CABLE												
U	5 #14												
L	13 CONDUCTOR CABLE												
T	12 #14 & 1 #12 (COM)												
I	28 CONDUCTOR CABLE												
	27 #14 & 1 #10 (COM)												
6	SIGNAL SERVICE												
6	FLASHING BEACON SERVICE												
14	PED PUSH BUTTON												
18	d1c (2 PR)												
18	d1c (4 PR)												
12	BUS DLC (1PR)	(N)	(N)	(N)		(N)		(N)	(N)	(N)	(N)	(N)	(N)
18	DLC (4 PR)	(N)	(N)	(N)		(N)		(N)	(N)	(N)	(N)	(N)	(N)
18	DLC (2 PR)	(N)	(N)	(N)		(N)		(N)	(N)	(N)	(N)	(N)	(N)
18	d1c												
22	sic												
	CONDUIT	2" C (E)	3" C (E)	2" C (E)	2" C (N)	3" C (E)	2" C (E)	3" C (E)	2" C (E)				

(N)=NEW CONDUCTORS (R) = REMOVE (E) = EXISTING

**PROJECT NOTES (THIS SHEET):**

- FULLY-ACTUATED OPERATION (ATSAC 2070 CONTROLLER IN 332 CABINET) IS AS FOLLOWING:
  - Ø2-SEPULVEDA Blvd & PED CROSSING
  - Ø4-LINCOLN Blvd SB
  - Ø8-LINCOLN Blvd NB
- AIRPORT ATSAC SYSTEM DIRECT WIRE (CABLE) INTERCONNECT.
- INDUCTIVE LOOPS SHALL BE CENTERED IN LANES.
- SEE SHEETS E-3 TO E-8 FOR LOOP DETECTOR AND PULL BOX DETAILS.

**LEGEND (THIS SHEET):**

- CITY OF LOS ANGELES VEHICLE/ BICYCLE DETECTOR.

**NOTES (THIS SHEET):**

- FOUNDATION COMPLETE.
- PEDESTRIAN PUSH BUTTON.
- INSTALL TRANSIT PRIORITY LOOP, SEE SHEET E-2.

**MODIFY SIGNAL AND LIGHTING (CITY)**

SCALE: 1"=20'

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 FUNCTIONAL SUPERVISOR HASSAN MANNA  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 YAGHOUB SHADROOZ  
 CESAR HERNANDEZ  
 REVISOR BY  
 DATE REVISOR

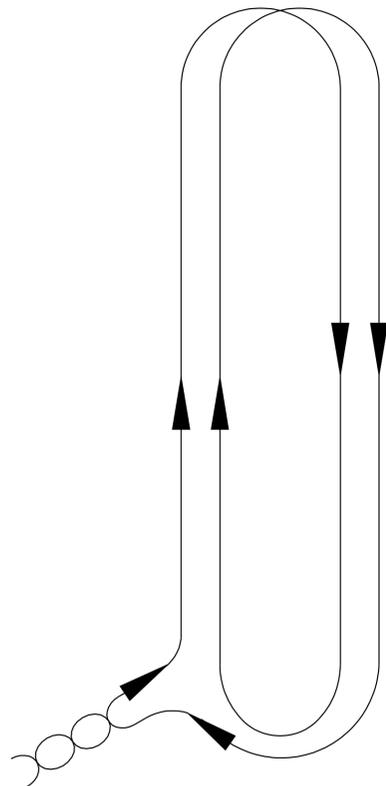
LAST REVISION DATE PLOTTED => 28-DEC-2011  
 01-09-12 TIME PLOTTED => 12:51

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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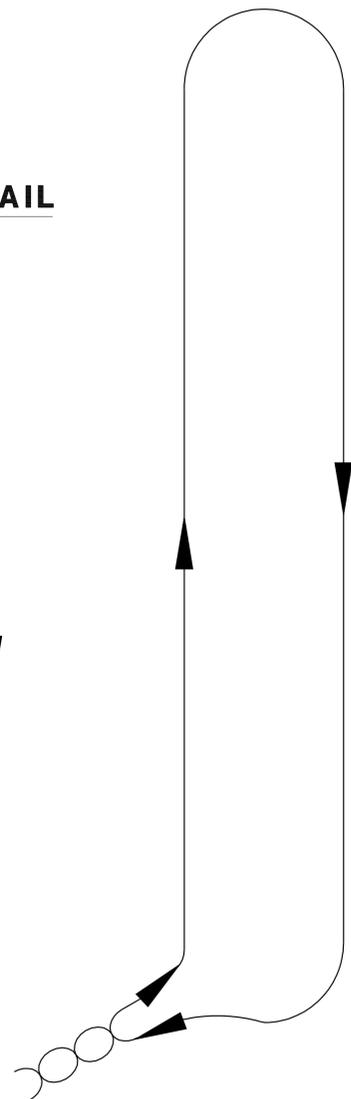
 12-16-11  
 REGISTERED ELEC. ENGINEER DATE  
**CESAR HERNANDEZ**  
 No. 15805  
 Exp. 12/31/12  
 ELECTRICAL  
 STATE OF CALIFORNIA  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LENGTH OF LOOP	NUMBER OF TURNS
< 40'	2
≥ 40'	1

**WINDING DETAIL**

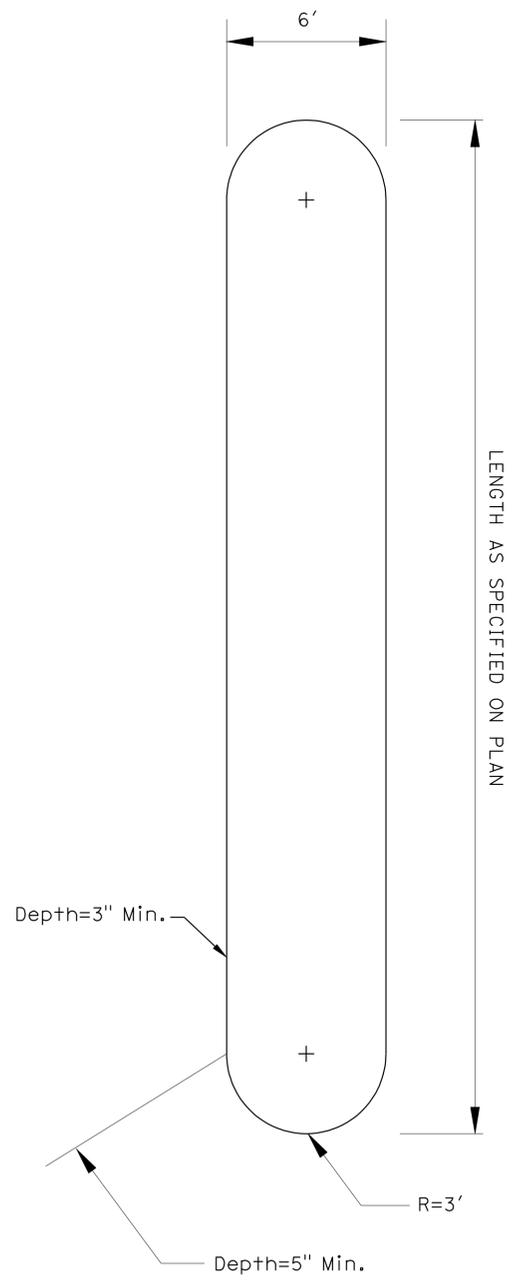


2 TURNS



1 TURN

**SAW SLOT DETAIL**



SYMBOL



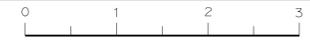
TRANSIT PRIORITY LOOP

**MODIFY SIGNAL AND LIGHTING**  
**(CITY)**  
**(ELECTRICAL DETAILS)**  
 NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** **TRAFFIC DESIGN**  
 FUNCTIONAL SUPERVISOR: HASSAN MANNA  
 CALCULATED/DESIGNED BY: Y. SHADROOZ  
 CHECKED BY: CESAR HERNANDEZ  
 REVISED BY: Y. SHADROOZ  
 DATE REVISED: CESAR HERNANDEZ

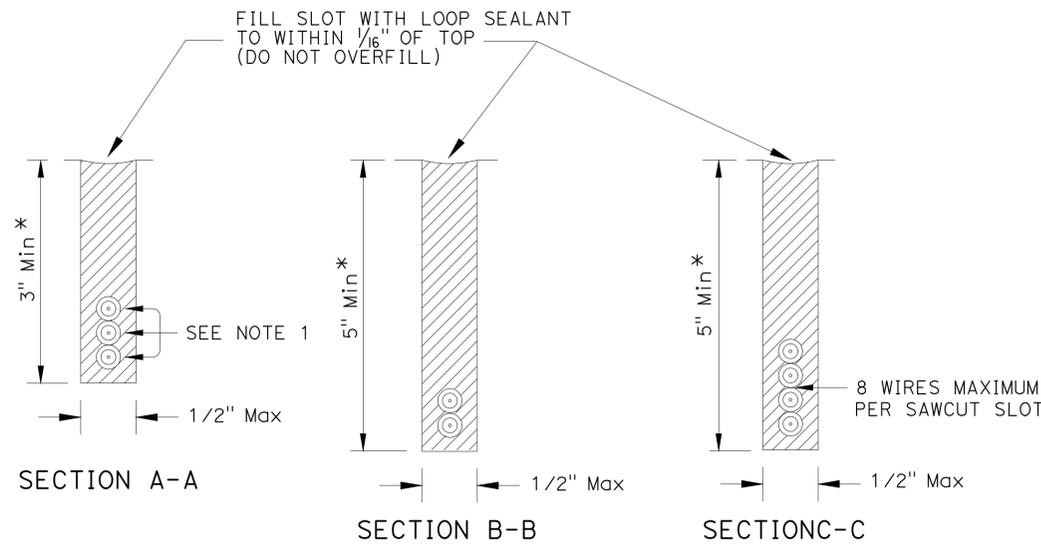


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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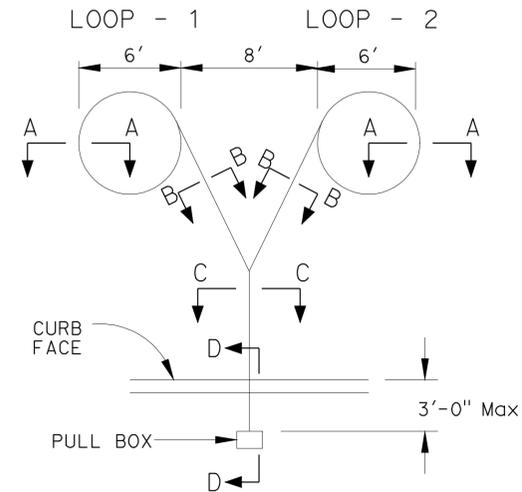
12-16-11  
 REGISTERED ELEC. ENGINEER DATE  
 01-9-12  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 CESAR HERNANDEZ  
 No. 15805  
 Exp. 12/31/12  
 ELECTRICAL  
 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.

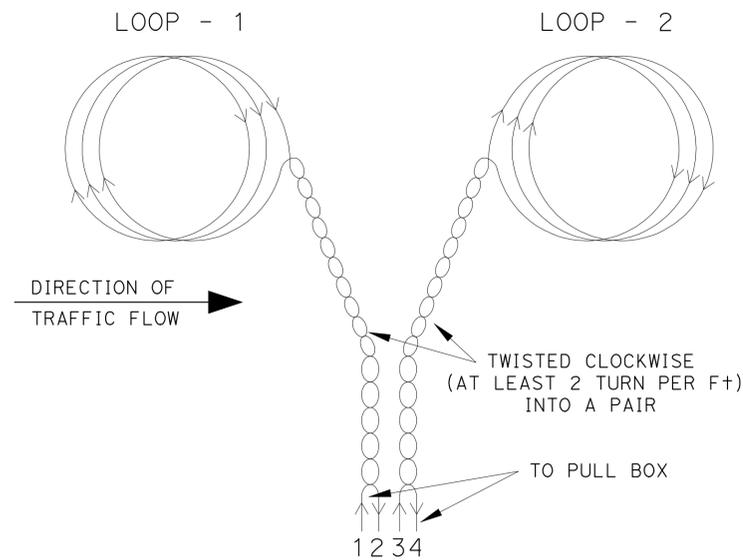


\* DEPTH OF SLOT NOT TO EXCEED DEPTH OF PAVEMENT, FOR PCC (CONCRETE) SURFACES, THE MINIMUM COVER ABOVE LOOP WIRE SHALL BE 2.5" MINIMUM.



NOTES:

- INSTALL 3 CLOCKWISE TURNS OF LOOP WIRE FOR EACH DETECTOR.
- ANY NON-ROUND SHAPED LOOPS MUST CONFORM TO ALL OTHER SPECIFICATIONS SHOWN ON THIS SHEET.



**WINDING DETAILS**  
NOT TO SCALE

**MODIFY SIGNAL AND LIGHTING  
(CITY)  
(ELECTRICAL DETAILS)  
NO SCALE**

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b> TRAFFIC DESIGN	HASSAN MANNA	CESAR HERNANDEZ	DATE
			REVISOR
			DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	16	30

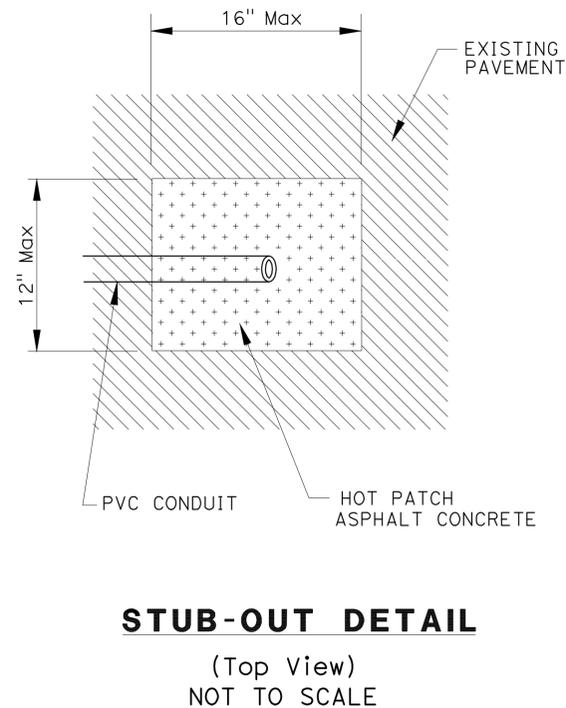
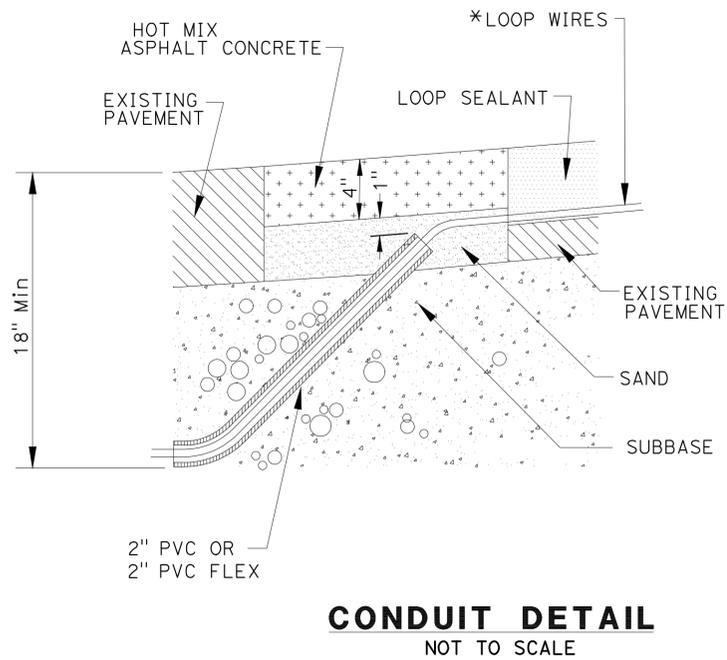
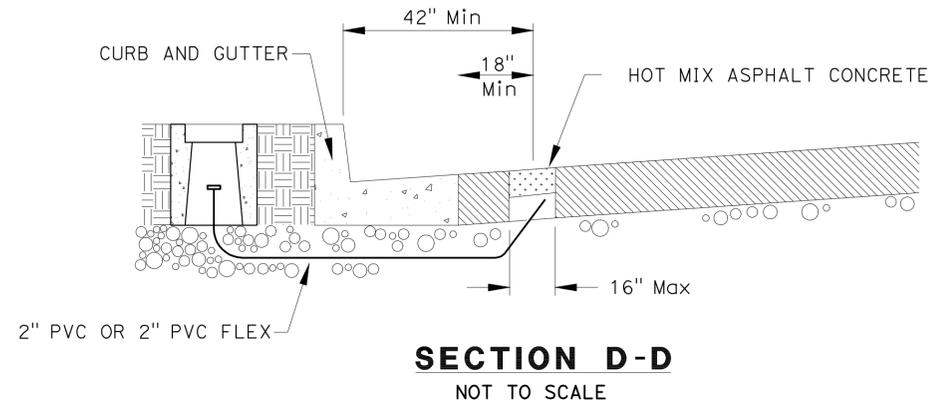
<i>Cesar Hernandez</i>	12-16-11
REGISTERED ELECTRICAL ENGINEER	DATE
01-9-12	
PLANS APPROVAL DATE	

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:**

Perform Loop Installation in the Following Order:

1. OPEN THE PAVEMENT AT LEAST 42" FROM CURB FACE AND AT LEAST 18" FROM EDGE OF GUTTER USING A STAR DRILL OR A JACK HAMMER (ASPHALT CONCRETE ONLY). OPEN NO MORE THAN A 12" X16" AREA. IN CASES WHERE THERE IS A CONCRETE BUS PAD ADJACENT TO THE GUTTER, INSTALL THE STUBOUT BEYOND THE EDGE OF THE BUS PAD.
  2. INSTALL 2" PVC (SCHEDULE 80) OR PVC FLEX (SCHEDULE 40) FROM THE PULL BOX PIT WITH A 45° ELBOW AT THE STUB-OUT AS SHOWN. DEPTH OF THE CONDUIT SHALL BE AT LEAST 18" BELOW THE STREET GRADE.
  3. PATCH STREET USING HOT PATCH ASPHALT CONCRETE AND SAND AS SHOWN.
  4. INSTALL DUCT SEAL WHERE WIRES ENTER 2" PVC OR 2" PVC FLEX.
  5. FILL SAWCUT SLOT WITH HOT-MELT RUBBERIZED ASPHALT SEALANT.
- \* NO MORE THAN 8 LOOPS OR 16 WIRES PER STUB-OUT.

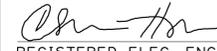


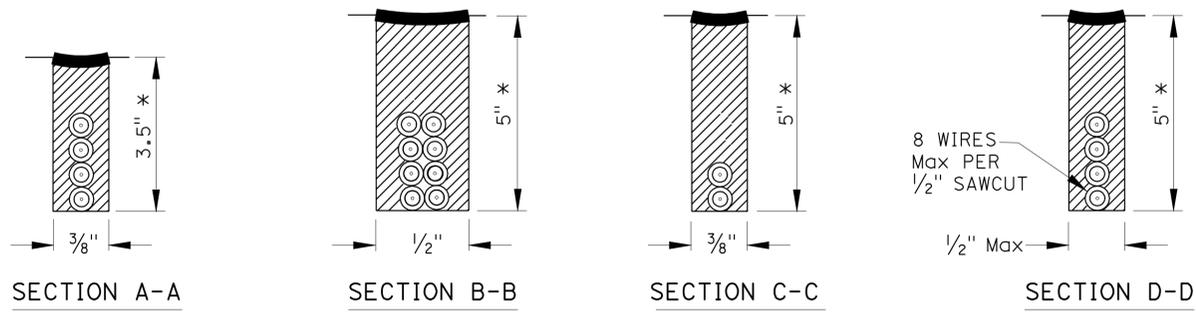
**MODIFY SIGNAL AND LIGHTING  
(CITY)  
(ELECTRICAL DETAILS)**

APPROVED FOR ELECTRICAL WORK ONLY

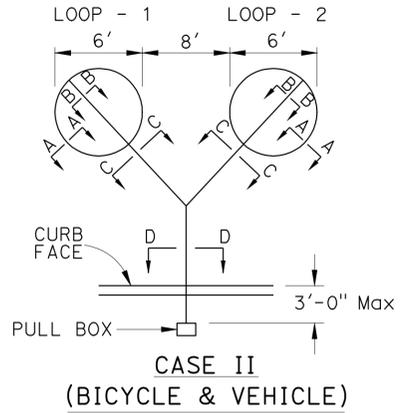
NO SCALE **E-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	YAGHOUB SHADROOZ	REVISOR	DATE
<b>Caltrans</b> TRAFFIC DESIGN	CESAR HERNANDEZ	DESIGNER	
FUNCTIONAL SUPERVISOR	HASSAN MANNA	CHECKED BY	
CALCULATED/DESIGNED BY			

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	17	30
 REGISTERED ELEC. ENGINEER			12-16-11 DATE		
01-9-12 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>					

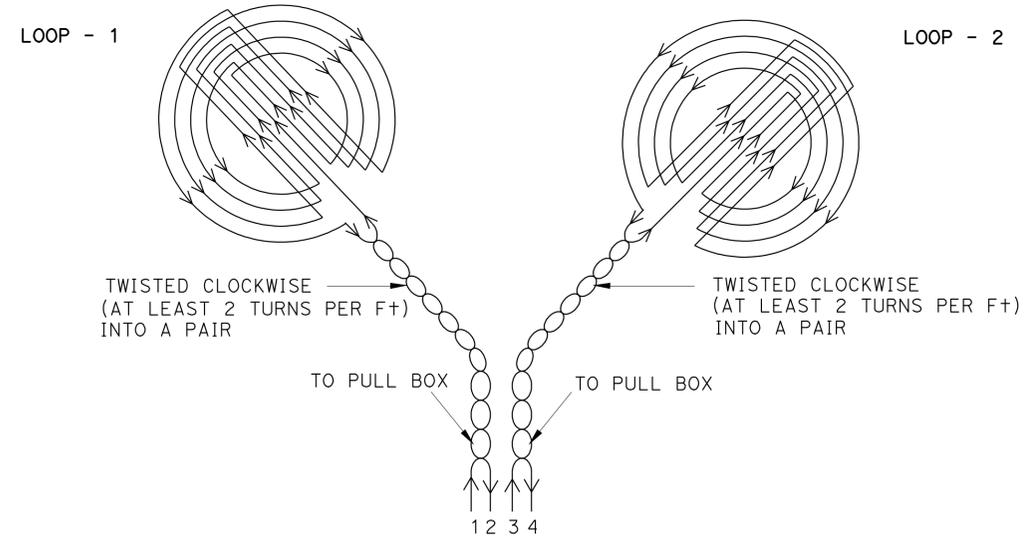


\* DEPTH OF SLOT NOT TO EXCEED DEPTH OF PAVEMENT



**NOTES:**

1. INSTALL FOUR (4) COMPLETE ALTERNATING TURNS OF LOOP CONDUCTORS, UNLESS OTHERWISE SPECIFIED.
2. FOR STUB-OUT AND CONDUIT DETAILS REFER TO SHEET E-4.
3. USE CASE II LOOPS WHEN VEHICULAR LOOPS ARE INTENDED TO DETECT BICYCLES.
4. AN OCTAGONAL SHAPED LOOP OR OTHER NON-ROUND SHAPED LOOP MAY BE USED.
5. SAME WINDING PATTERN SHALL BE USED IN BOTH LOOPS WITH (1) PAIR FROM EACH LOOP LEADING TO THE PULL BOX.



DIRECTION OF TRAFFIC FLOW →

**WINDING DETAIL**  
NOT TO SCALE

**MODIFY SIGNAL AND LIGHTING  
(CITY)  
(ELECTRICAL DETAILS)**  
NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

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

REVISOR BY  
DATE

Y. SHADROOZ  
CESAR HERNANDEZ

CALCULATED-DESIGNED BY  
CHECKED BY

FUNCTIONAL SUPERVISOR  
HASSAN MANNA

USERNAME => S122436  
DGN FILE => 0700021045ua005.dgn



UNIT 1879

PROJECT NUMBER & PHASE

07000210451

LAST REVISION DATE PLOTTED => 28-DEC-2011  
01-09-12 TIME PLOTTED => 12:54

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	18	30

 12-16-11  
 REGISTERED ELEC. ENGINEER DATE

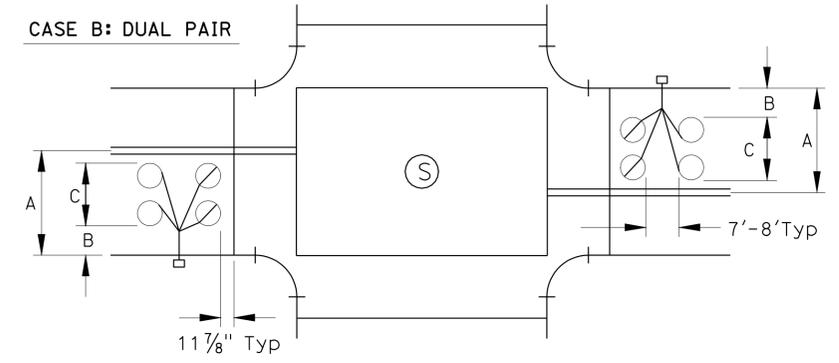
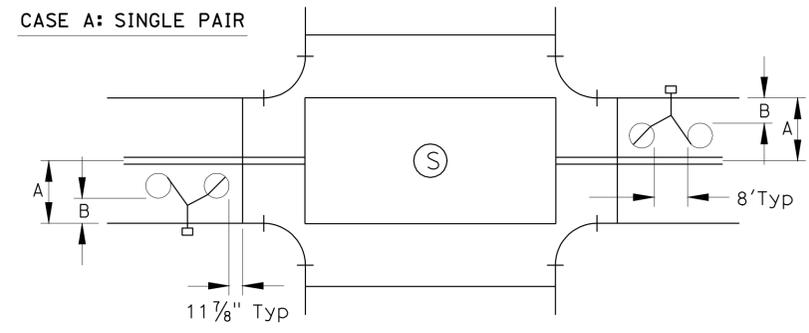
01-9-12  
 PLANS APPROVAL DATE

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



**NOTE:**  
 BASED ON THE DISTANCE BETWEEN THE DOUBLE YELLOW CENTER LINE (DYCL) AND THE CURB FACE, 6'-0" DIAMETER CIRCULAR INDUCTIVE LOOP DETECTORS SHALL BE INSTALLED AS SPECIFIED IN THE TABLES BELOW FOR SINGLE LANE APPROACHES.

**LEGEND:**  
 CITY OF LOS ANGELES BICYCLE DETECTOR



Distance Between DYCL and Curb Face (A)	No. of Pairs of Loops	Distance Between Loop and Curb Face (B)
9'-8"	1	3'
11'	1	3'
12'	1	3'
13'	1	4'
14'	1	5'

Distance Between DYCL and Curb Face (A)	No. of Pairs of Loops	Distance Between Loop and Curb Face (B)
15'	1	6'
16'	1	6'
17'	1	6'-8"
18'	1	7'-8"
19'	1	7'-8"

Distance Between DYCL and Curb Face (A)	No. of Pairs of Loops	Distance Between Loop and Curb Face (B)	Distance Between Loops (C)
20'	2	3'	15'
21'	2	3'	15'
22'	2	3'	16'
23'	2	3'	16'
24'	2	4'	16'
25'	2	5'	16'

**SINGLE LANE APPROACHES**

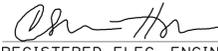
**MODIFY SIGNAL AND LIGHTING  
 (CITY)  
 (ELECTRICAL DETAILS)  
 NO SCALE**

APPROVED FOR ELECTRICAL WORK ONLY

**E-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
 FUNCTIONAL SUPERVISOR: HASSAN MANNA  
 CALCULATED/DESIGNED BY: Y. SHADROOZ  
 CHECKED BY: CESAR HERNANDEZ  
 REVISED BY: [ ] DATE: [ ]  
 REVISIONS: [ ]

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	19	30

  
 REGISTERED ELEC. ENGINEER    DATE \_\_\_\_\_  
 01-9-12  
 PLANS APPROVAL DATE



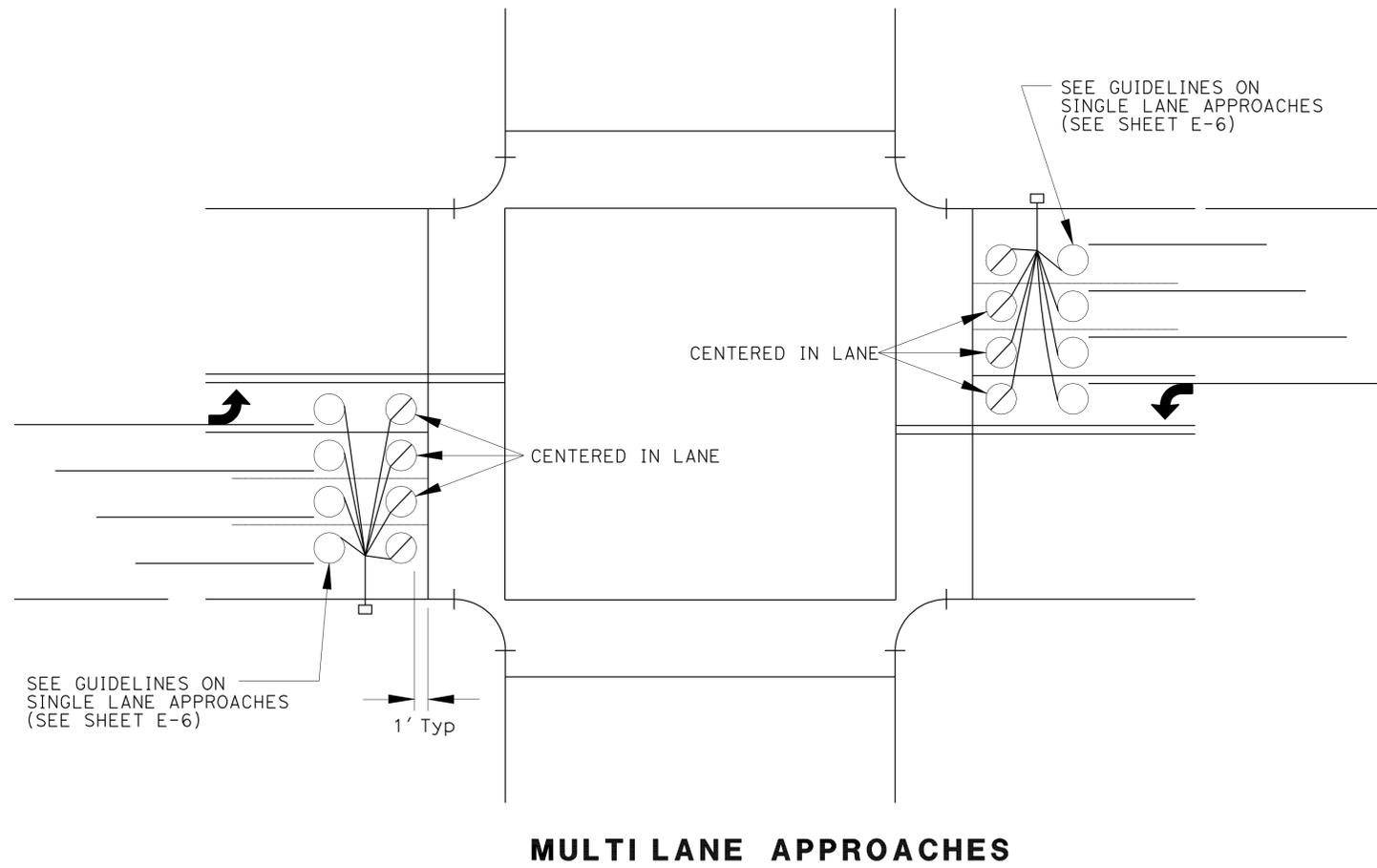
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

1. ALL LOOPS ARE 6' Dia WITH 7'-8" SEPARATION.
2. THE LOOP DETECTORS ADJACENT TO THE LIMIT LINE SHALL BE BICYCLE DETECTORS.

**LEGEND:**

-  CITY OF LOS ANGELES BICYCLE DETECTOR



**MODIFY SIGNAL AND LIGHTING  
 (CITY)  
 (ELECTRICAL DETAILS)**

NO SCALE

APPROVED FOR ELECTRICAL WORK ONLY

**E-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	Y. SHADROOZ	REVISOR	
<b>Caltrans</b> TRAFFIC DESIGN	HASSAN MANNA	CHECKED BY	CESAR HERNANDEZ	DATE	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	20	30

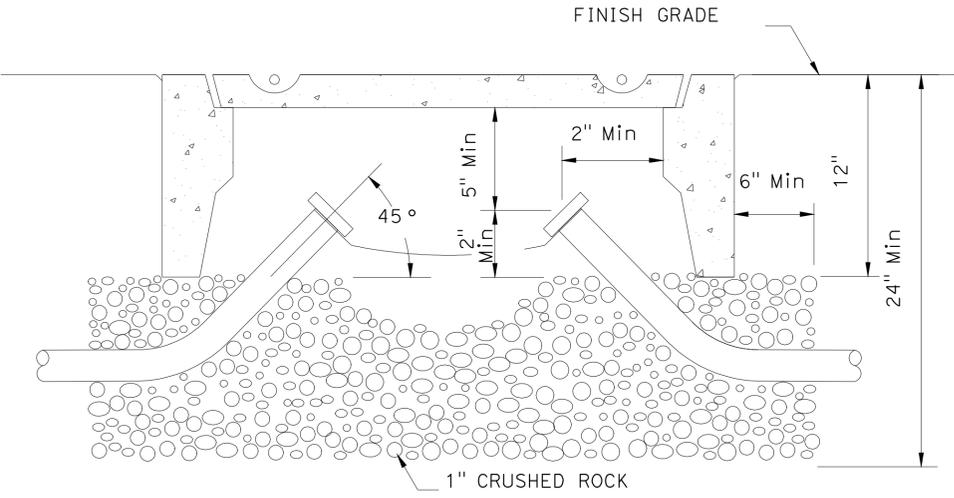
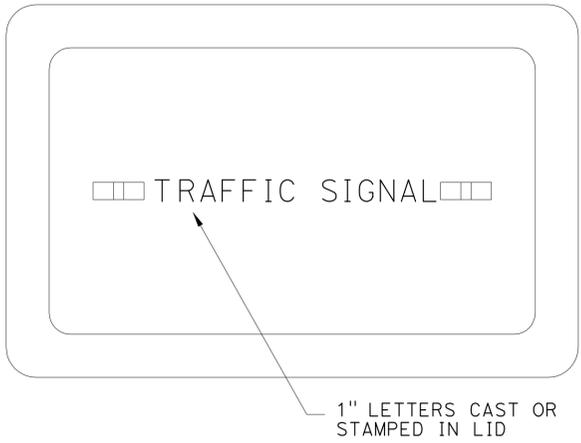
<i>Cesar Hernandez</i>	12-16-11
REGISTERED ELEC. ENGINEER	DATE
01-9-12	
PLANS APPROVAL DATE	

CESAR HERNANDEZ
No. 15805
Exp. 12/31/12
ELECTRICAL
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
<b>Caltrans</b> TRAFFIC DESIGN
FUNCTIONAL SUPERVISOR HASSAN MANNA
CALCULATED/DESIGNED BY CHECKED BY
Y. SHADROOZ CESAR HERNANDEZ
REVISED BY DATE
REVISED BY DATE



- NOTES:
1. OUTSIDE DIMENSION: TYPE PB2 - 15" X 25", TYPE PB3 - 22" X 34"
  2. GALVANIZED CONDUITS MUST BE BONDED WITH COPPER GROUND STRAP AROUND THE NECK OF EACH CONDUIT. PVC CONDUITS MUST HAVE THEIR GROUND WIRES SPLICED TOGETHER.

**MODIFY SIGNAL AND LIGHTING  
(CITY)  
(ELECTRICAL DETAILS)  
NO SCALE**

APPROVED FOR ELECTRICAL WORK ONLY

**E-8**

LAST REVISION    DATE PLOTTED => 28-DEC-2011  
01-09-12    TIME PLOTTED => 12:55

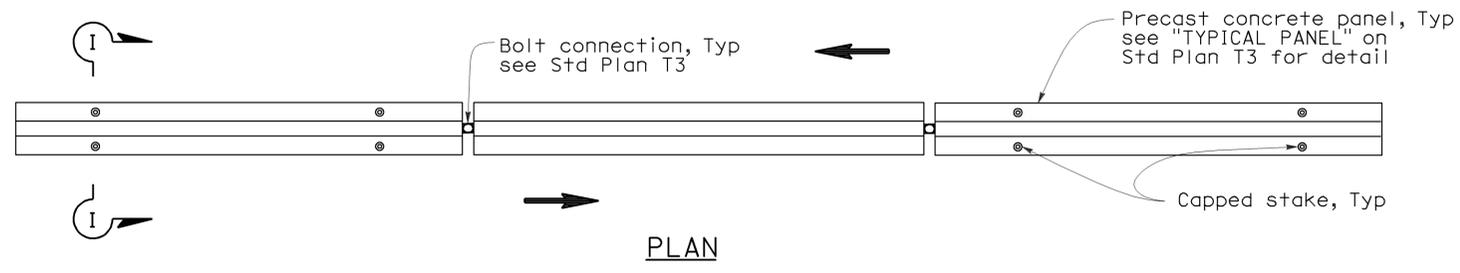
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	1	27.4/28.0	21	30

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

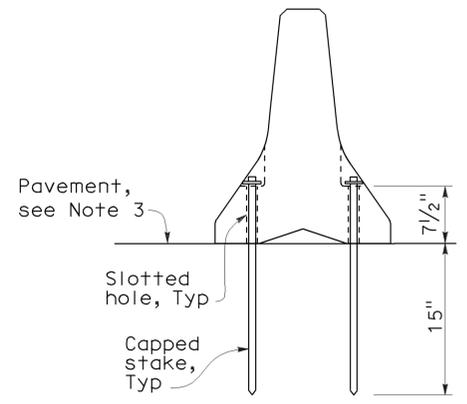
May 20, 2011  
PLANS APPROVAL DATE

*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 01-9-12



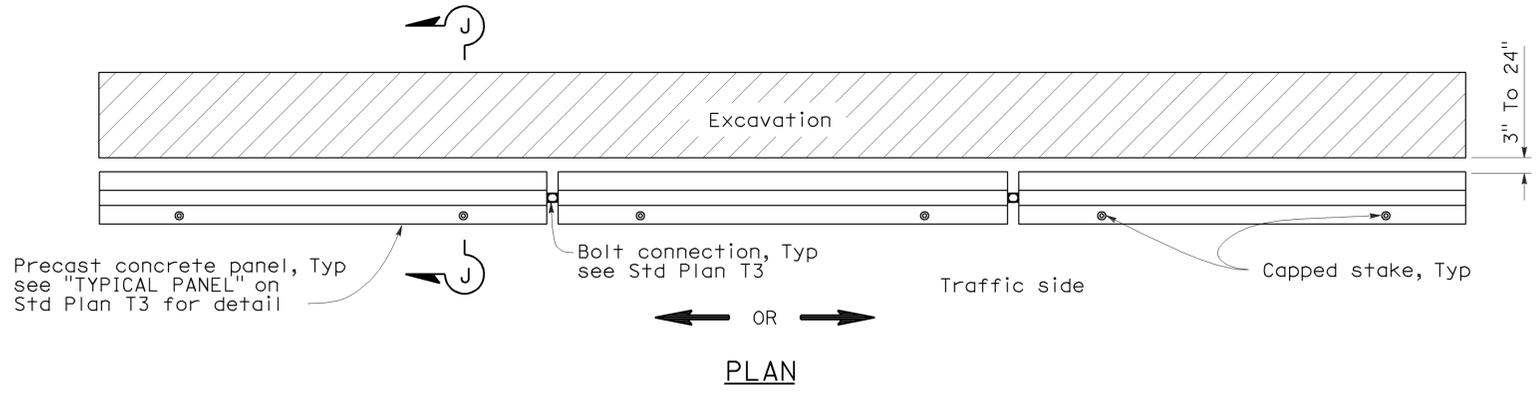
**RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC**  
See Note 1



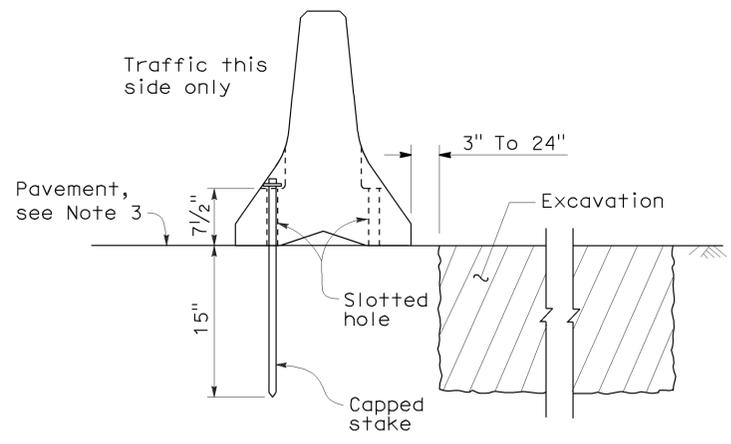
**SECTION I-I**

**NOTES:**

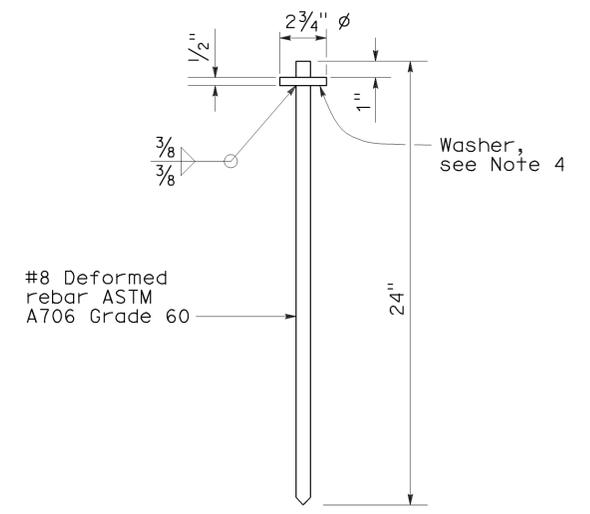
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by  $\Rightarrow$ .



**RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION**  
See Note 2



**SECTION J-J**



**CAPPED STAKE DETAIL**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY RAILING  
(TYPE K)**

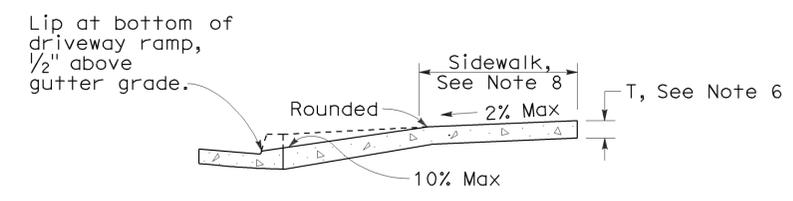
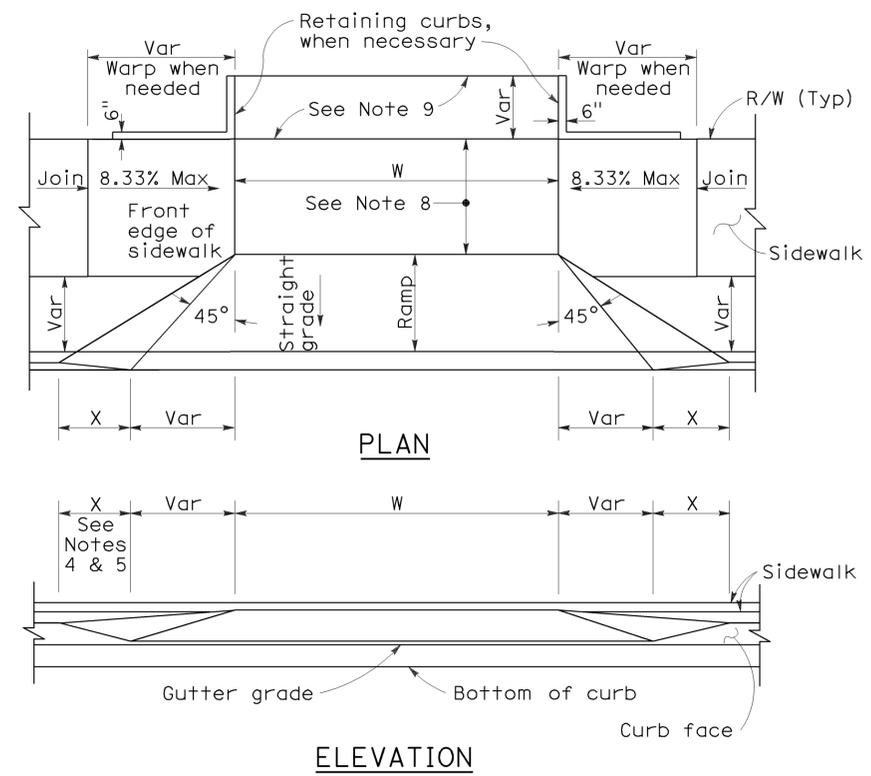
NO SCALE

NSP T3A DATED MAY 20, 2011 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

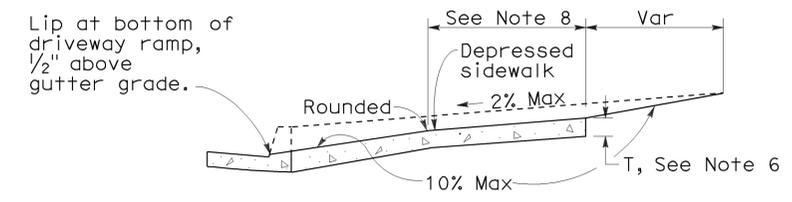
**2006 NEW STANDARD PLAN NSP T3A**



To accompany plans dated 01-9-12



**CASE A**  
Typical driveway, sidewalk not depressed



**CASE B**  
Driveway with depressed sidewalk

**SECTIONS**

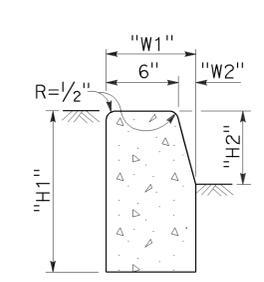
**CURB QUANTITIES**

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

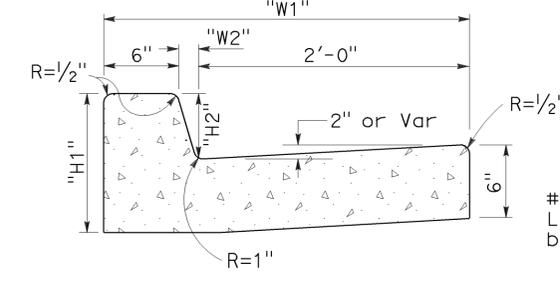
**TABLE A**

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"

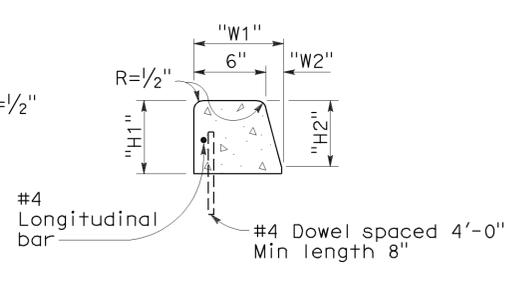
**DRIVEWAYS**



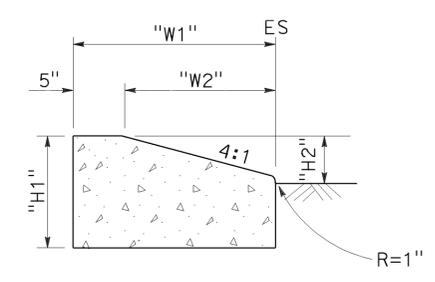
**TYPE A1 CURBS**  
See Table A



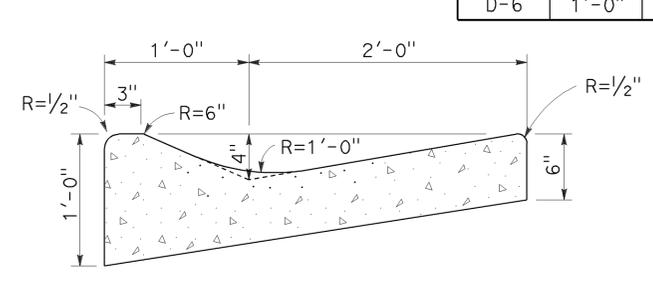
**TYPE A2 CURBS**  
See Table A



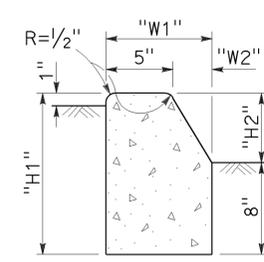
**TYPE A3 CURBS**  
Superimposed on existing pavement  
See Table A



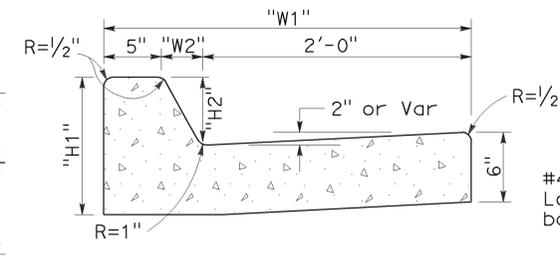
**TYPE D CURBS**  
See Table A



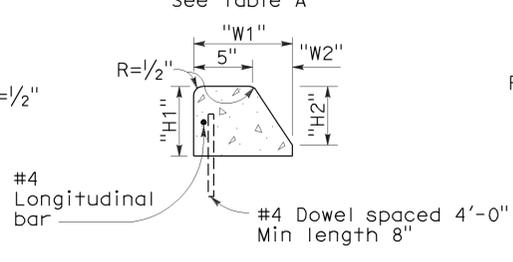
**TYPE E CURB**



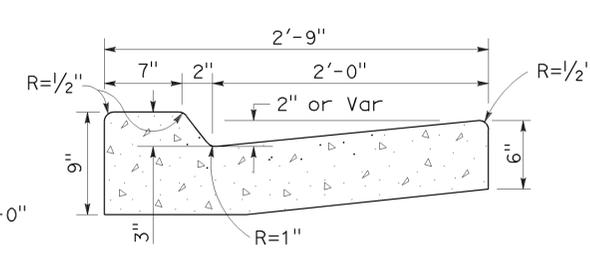
**TYPE B1 CURBS**  
See Table A



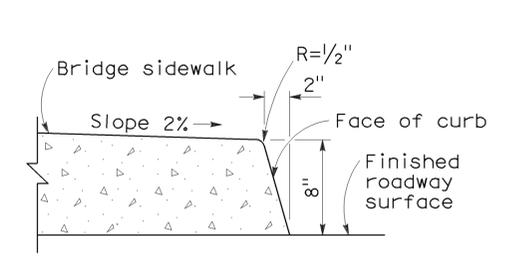
**TYPE B2 CURBS**  
See Table A



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



**TYPE B4 CURBS**



**TYPE H CURB**  
On Bridges

**CURBS**

**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.

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.

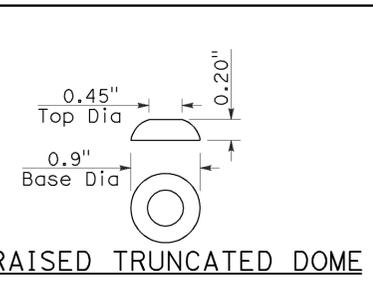
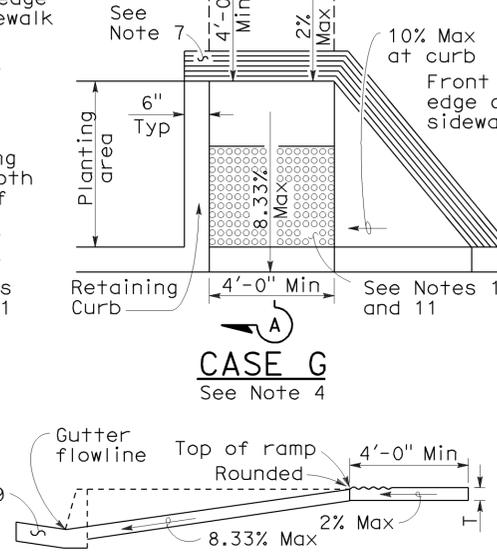
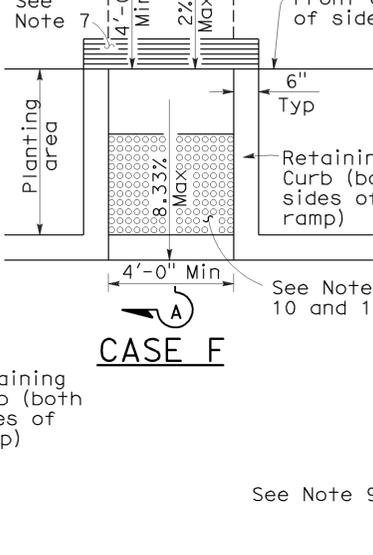
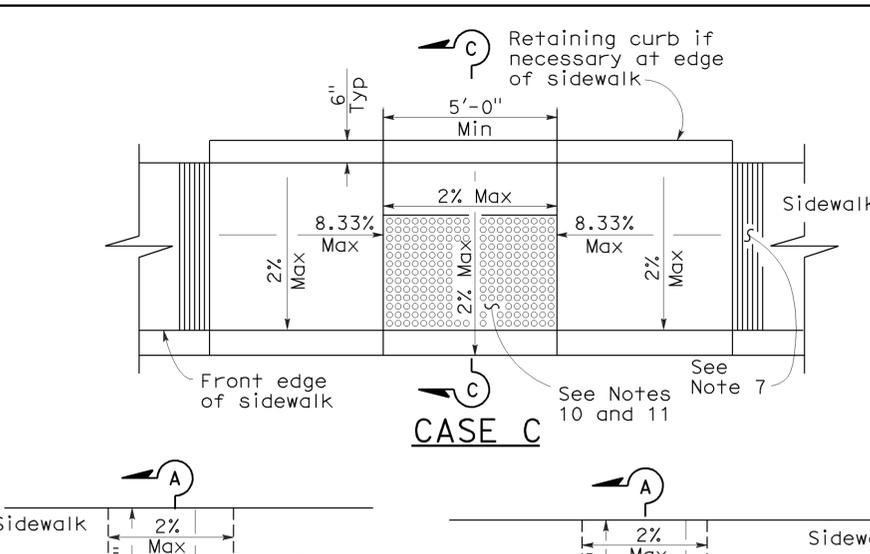
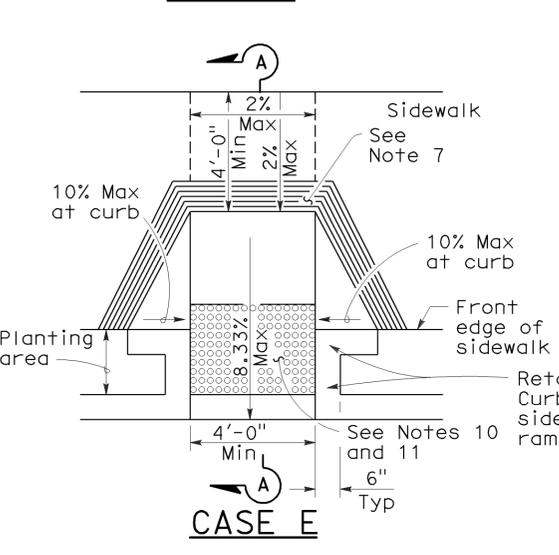
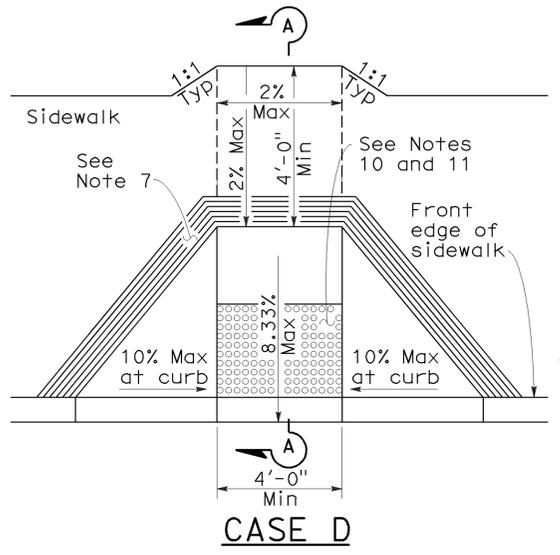
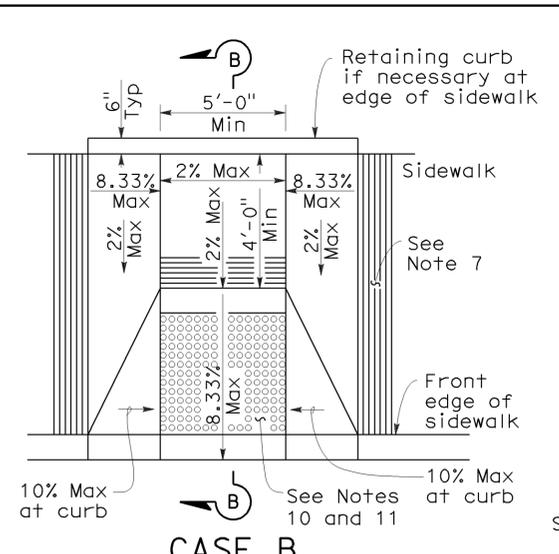
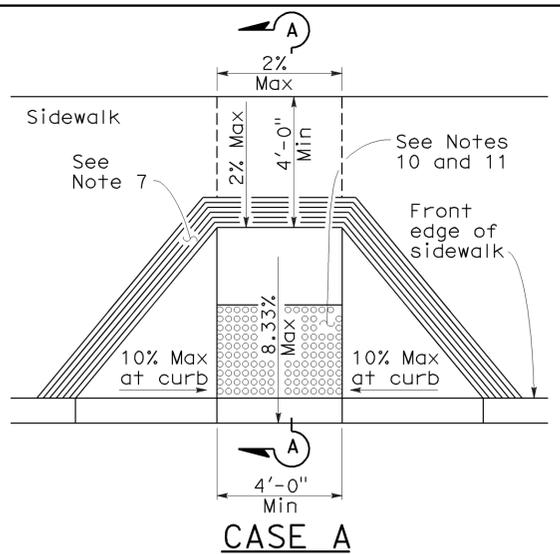
**REVISED STANDARD PLAN RSP A87A**

2006 REVISED STANDARD PLAN RSP A87A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	1	27.4/28.0	23	30

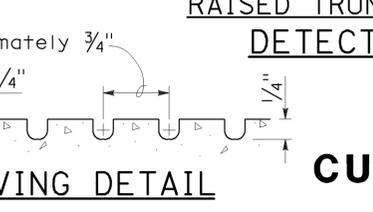
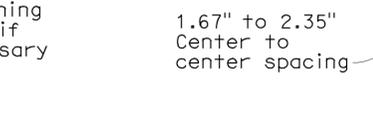
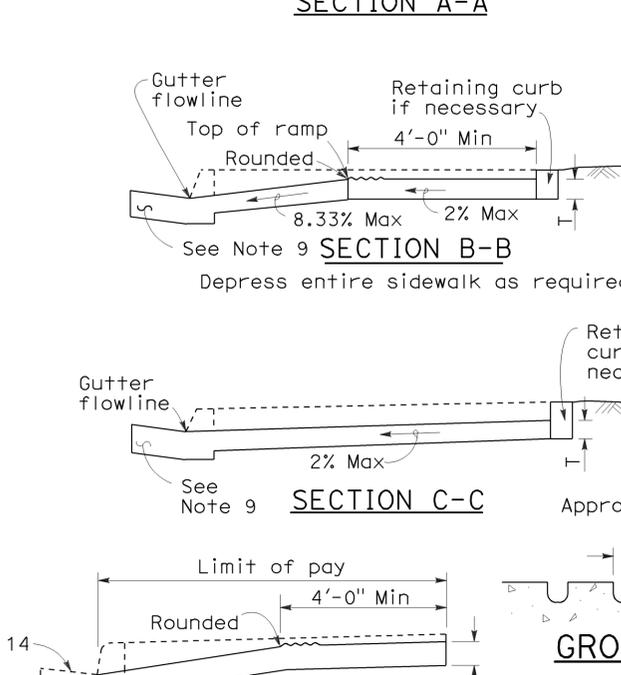
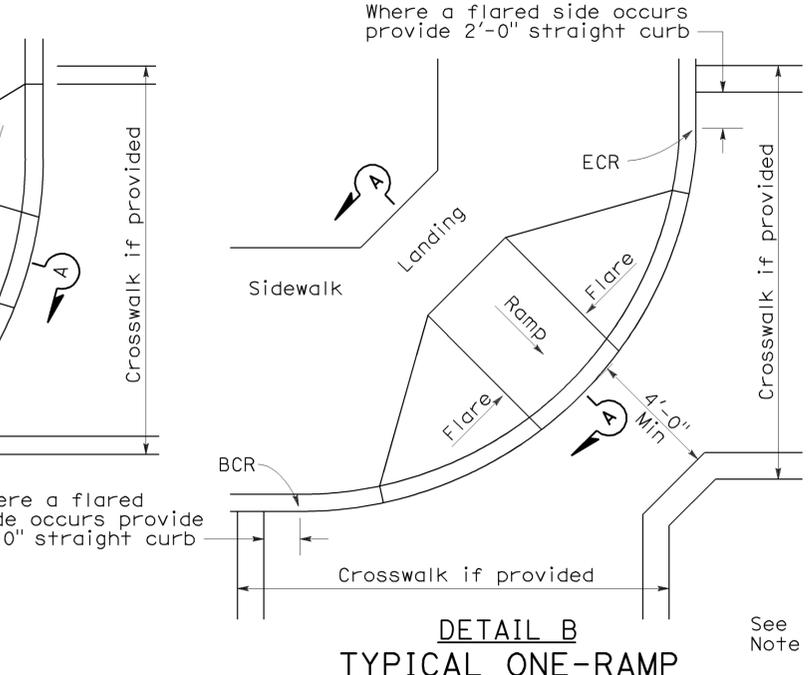
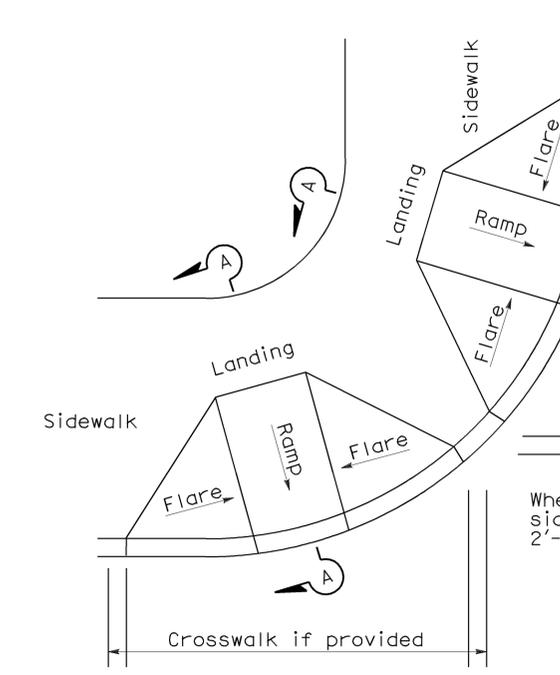
*H. David Cordova*  
 REGISTERED CIVIL ENGINEER  
 September 1, 2006  
 PLANS APPROVAL DATE  
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REGISTERED PROFESSIONAL ENGINEER  
 Hector David Cordova  
 No. C41957  
 Exp. 3-31-08  
 CIVIL  
 STATE OF CALIFORNIA



**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.



**RAISED TRUNCATED DOME PATTERN (IN-LINE)  
DETECTABLE WARNING SURFACE**

See Note 10  
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CURB RAMP DETAILS**  
NO SCALE

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

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

**RETIROFIT DETAIL**  
Existing curb and sidewalk

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

**REVISED STANDARD PLAN RSP A88A**

2006 REVISED STANDARD PLAN RSP A88A

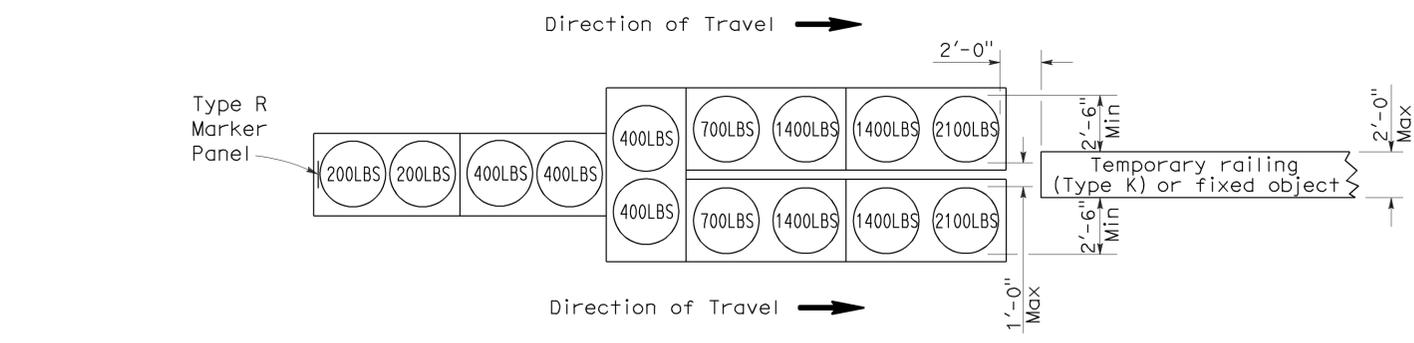
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	1	27.4/28.0	24	30

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

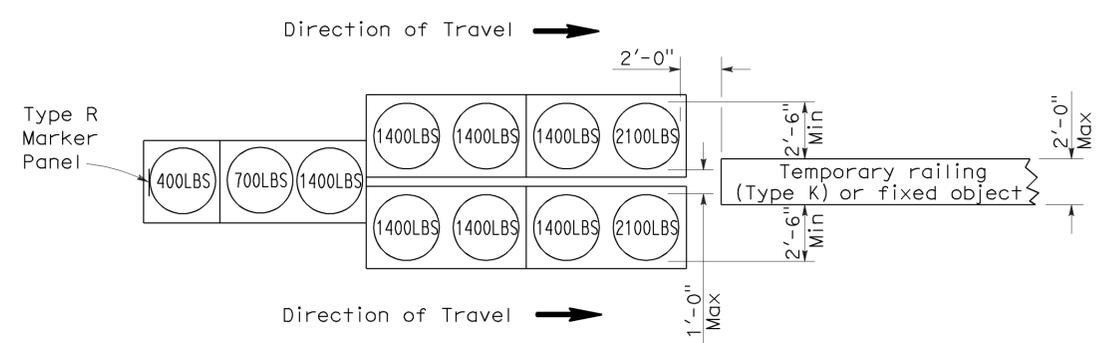
*The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*

To accompany plans dated 01-9-12



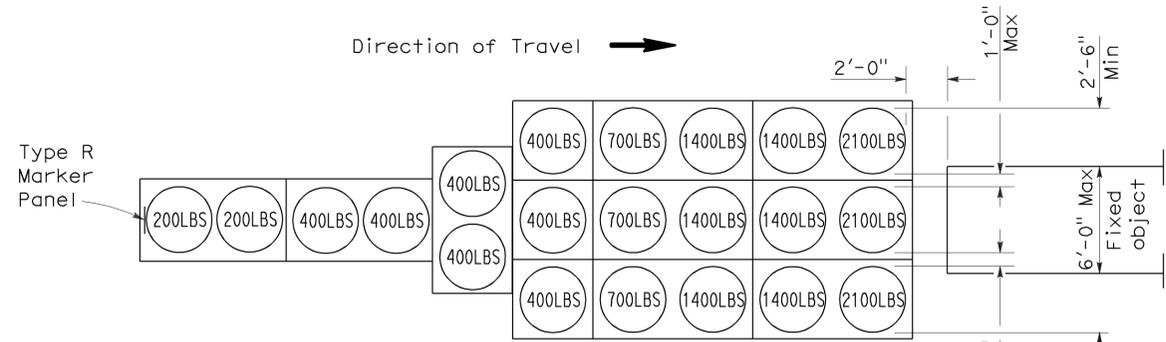
**ARRAY 'TU14'**

Approach speed 45 mph or more



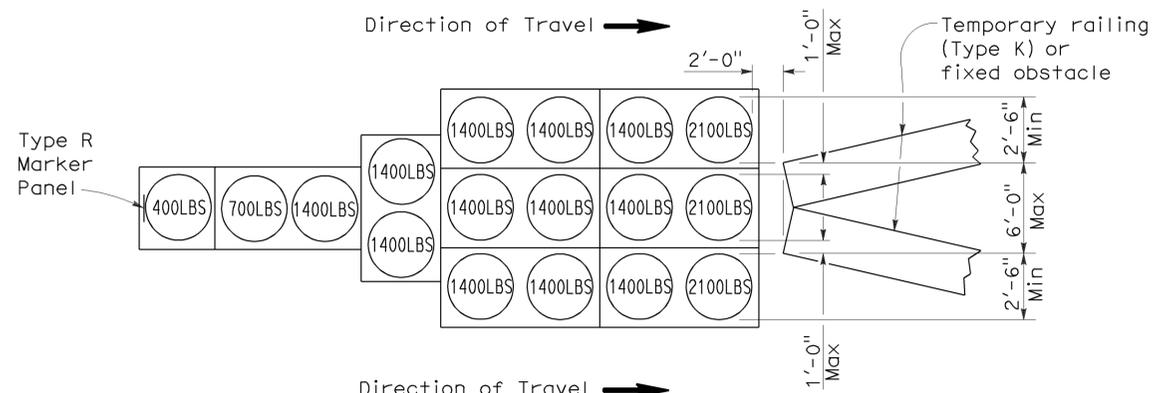
**ARRAY 'TU11'**

Approach speed less than 45 mph



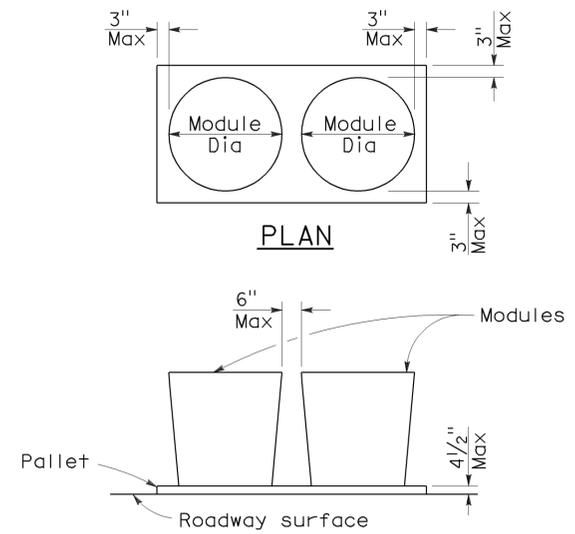
**ARRAY 'TU21'**

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

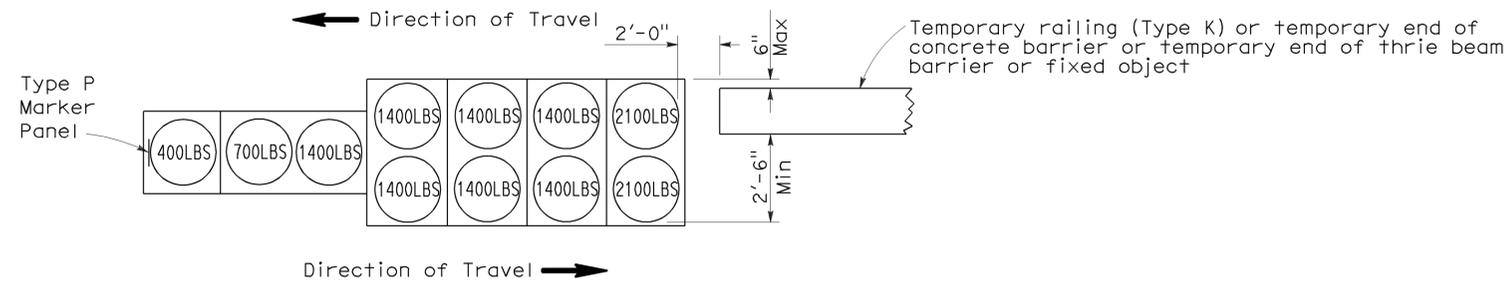
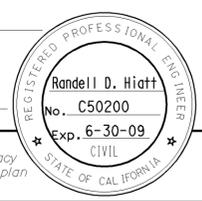
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	1	27.4/28.0	25	30

Randell D. Hiatt  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

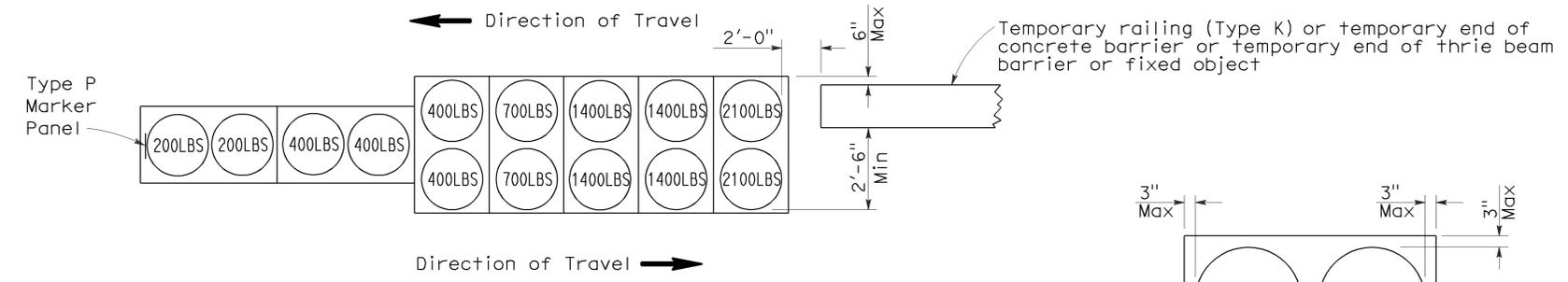
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To accompany plans dated 01-9-12



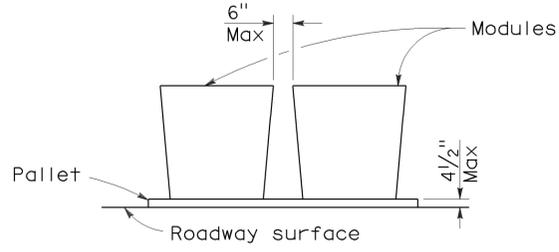
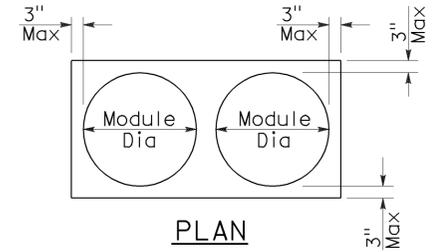
**ARRAY 'TB11'**

Approach speed less than 45 mph



**ARRAY 'TB14'**

Approach speed 45 mph or more



**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

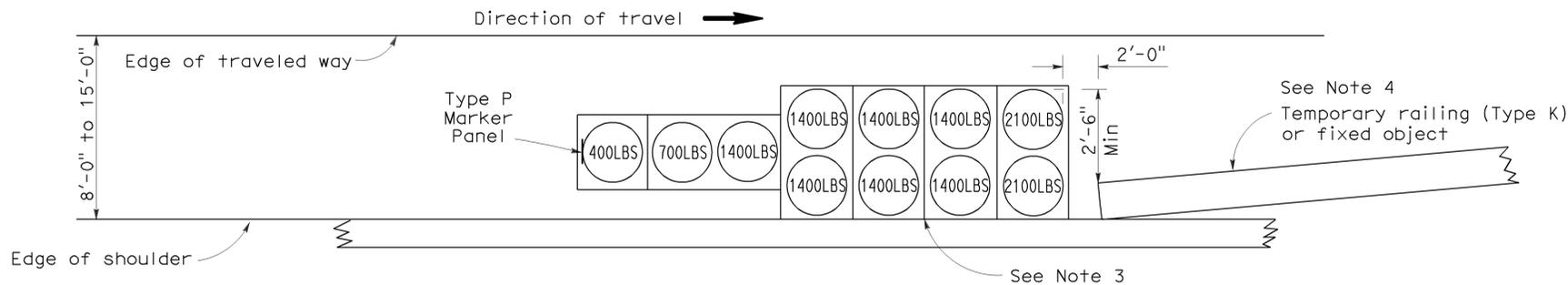
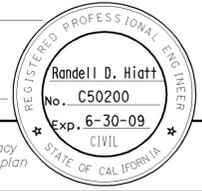
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	1	27.4/28.0	26	30

*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

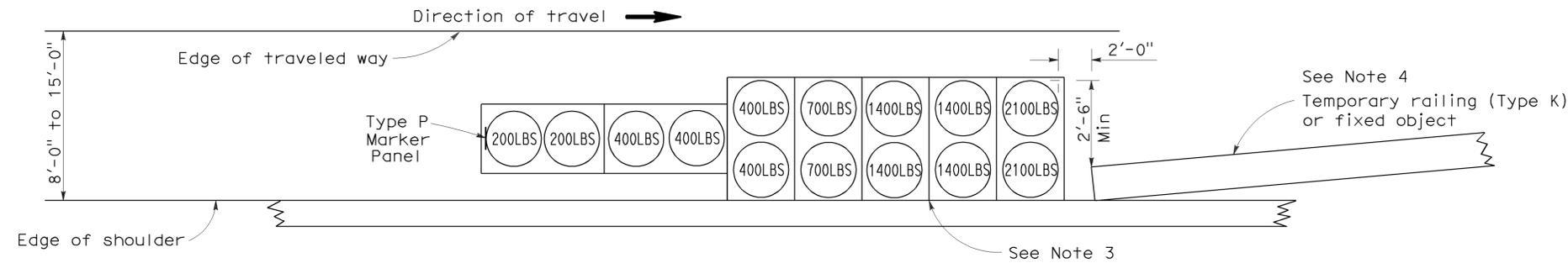
June 6, 2008  
PLANS APPROVAL DATE

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To accompany plans dated 01-9-12



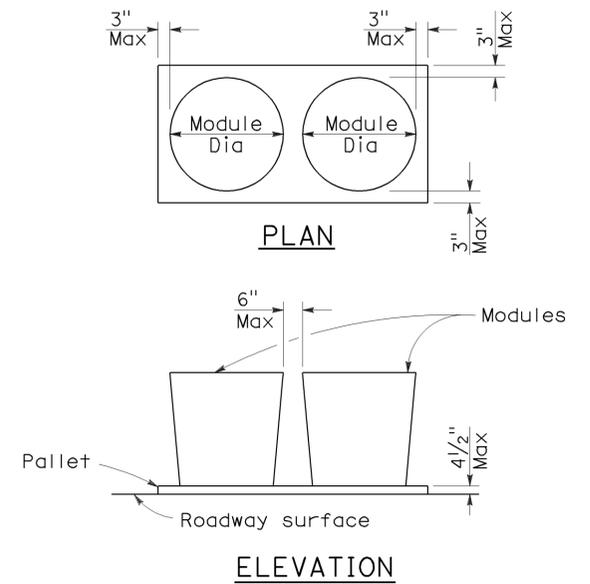
**ARRAY 'TS11'**  
Approach speed less than 45 mph  
See Note 9



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

**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.



**CRASH CUSHION PALLET DETAIL**  
See Note 11

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

# ELECTROLIERS

STANDARD TYPES	Symbol	Description
15, 15D		High mast light pole
15 STRUCTURE		Double Arm lighting standard
21, 21D STRUCTURE		Existing electrolier
30		Electrolier foundation (Future installation)
31		
32		
35		
36-20A		

**NOTES:**

- Luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31, 32, 35 and 36-20A Standards, unless otherwise specified. Luminaires shall be 200 W HPS when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
- Variations noted adjacent to symbol on project plans.

- Electrolier (see project notes or project plans)
- Luminaire on wood pole

## 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

PROPOSED	EXISTING	Description
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	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4C	mas-4C	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
N	N	Mercury vapor lighting fixture
NC	NC	Neutral (Grounded Conductor)
NO	NO	Normally closed
NB	NB	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL	rl	Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	1	27.4/28.0	27	30

*Jeffery G. McRae*  
REGISTERED ELECTRICAL ENGINEER

October 5, 2007  
PLANS APPROVAL DATE

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

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To accompany plans dated 01-9-12

## SOFFIT AND WALL MOUNTED LUMINAIRES

- Pendant, 70 W HPS unless otherwise specified.
- Flush, 70 W HPS unless otherwise specified.
- Wall surface, 70 W HPS unless otherwise specified.
- Existing soffit or wall luminaire to remain unmodified.
- Existing soffit or wall luminaire to be modified as specified.

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

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
07	LA	1	27.4/28.0	28	30

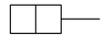
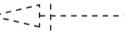
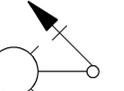
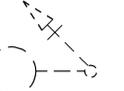
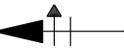
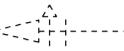
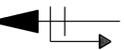
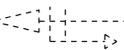
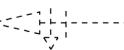
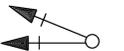
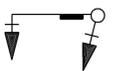
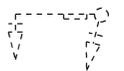
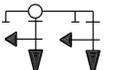
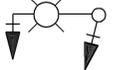
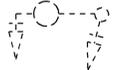
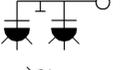
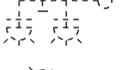
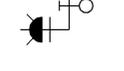
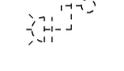
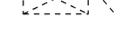
Jeffrey G. McRae  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
 Jeffrey G. McRae  
 No. E14512  
 Exp. 6-30-08  
 ELECTRICAL  
 STATE OF CALIFORNIA

*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.*

### 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 
		Conduit riser in/on structure or service pole

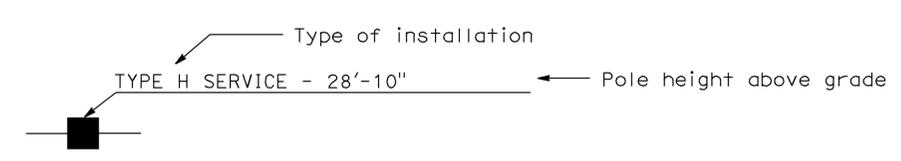
### SIGNAL EQUIPMENT

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

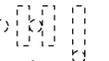
### SERVICE EQUIPMENT

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

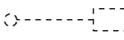
### POLE-MOUNTED SERVICE DESIGNATION



### 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

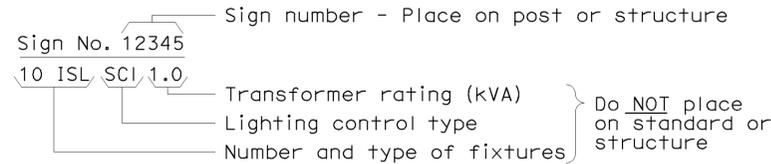
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B  
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

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

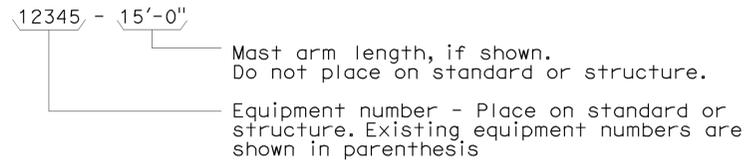
2006 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

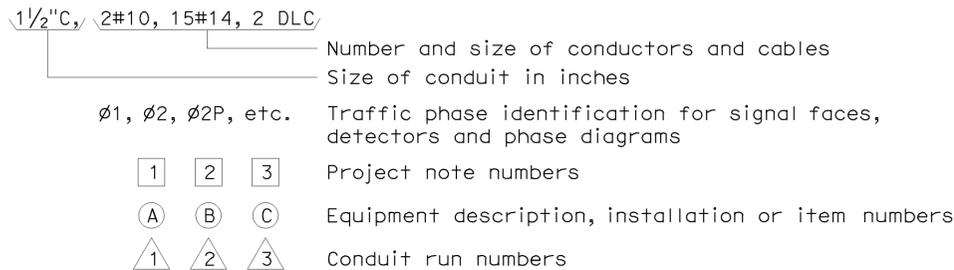
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



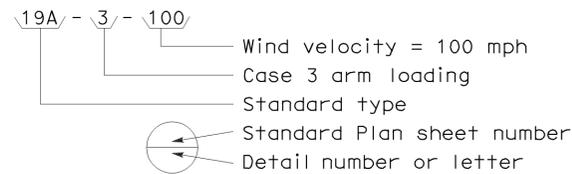
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



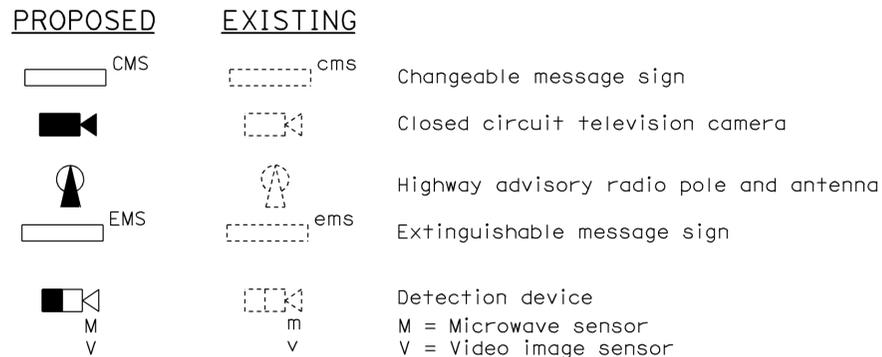
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



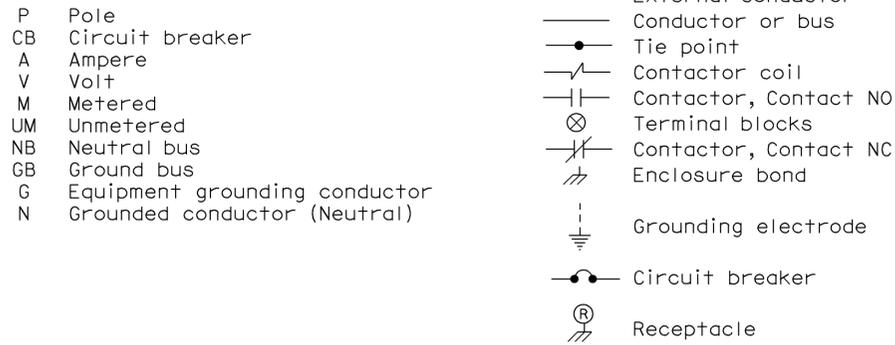
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



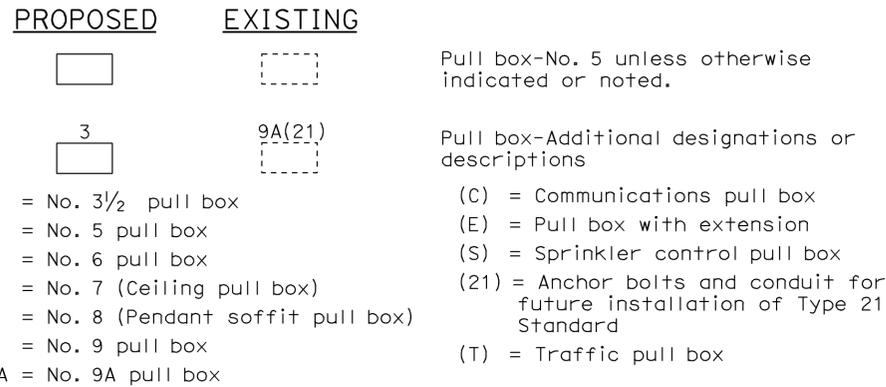
### MISCELLANEOUS EQUIPMENT



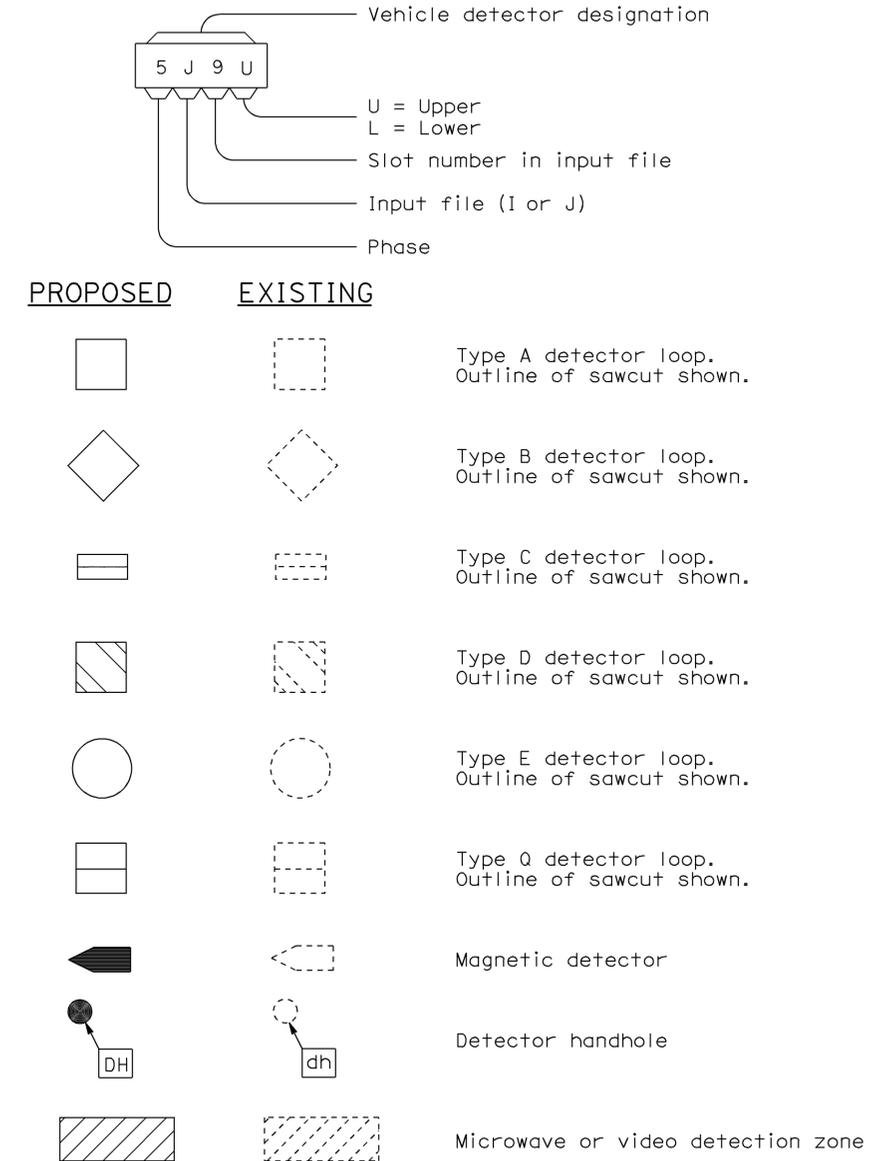
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

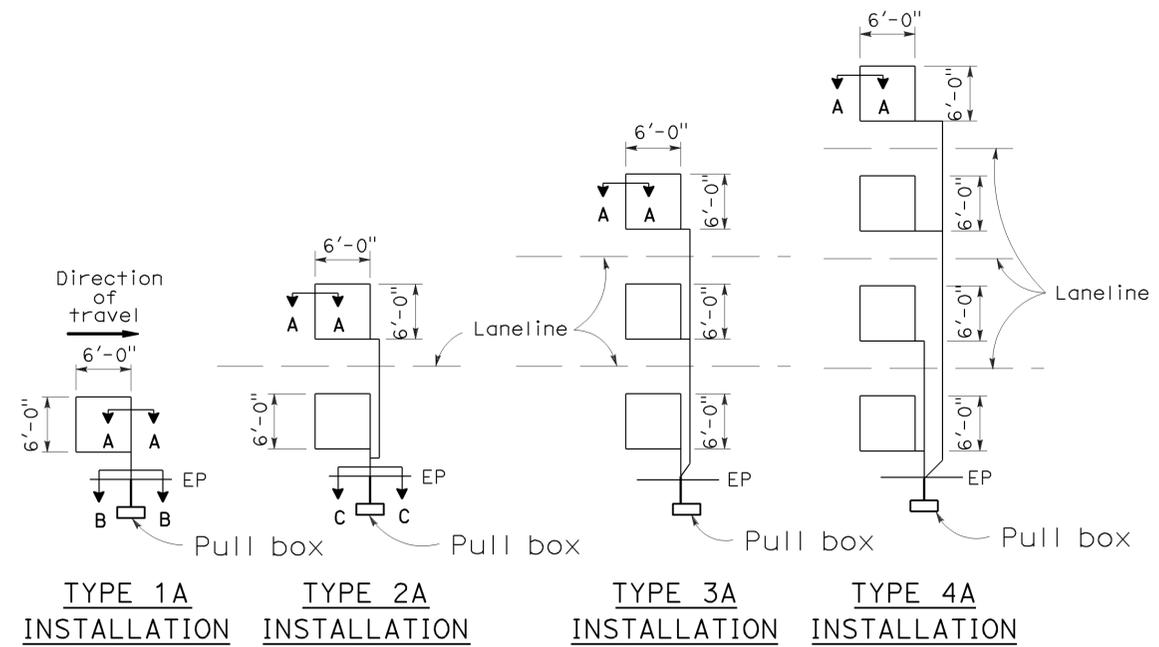
NO SCALE

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.

2006 REVISED STANDARD PLAN RSP ES-1C

# LOOP INSTALLATION PROCEDURE

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

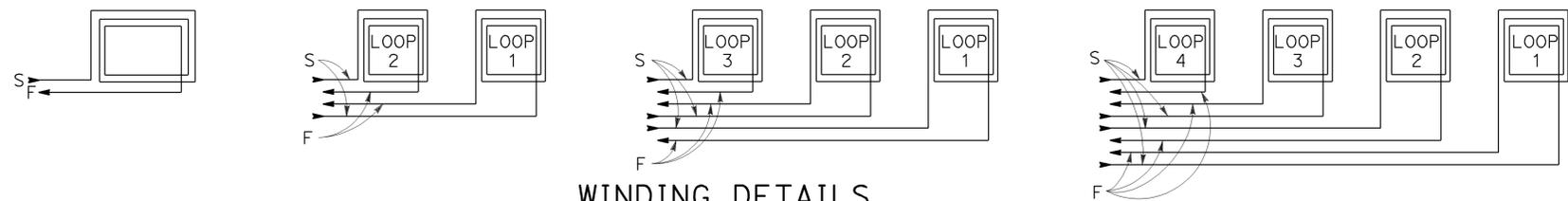


TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION

## SAWCUT DETAILS

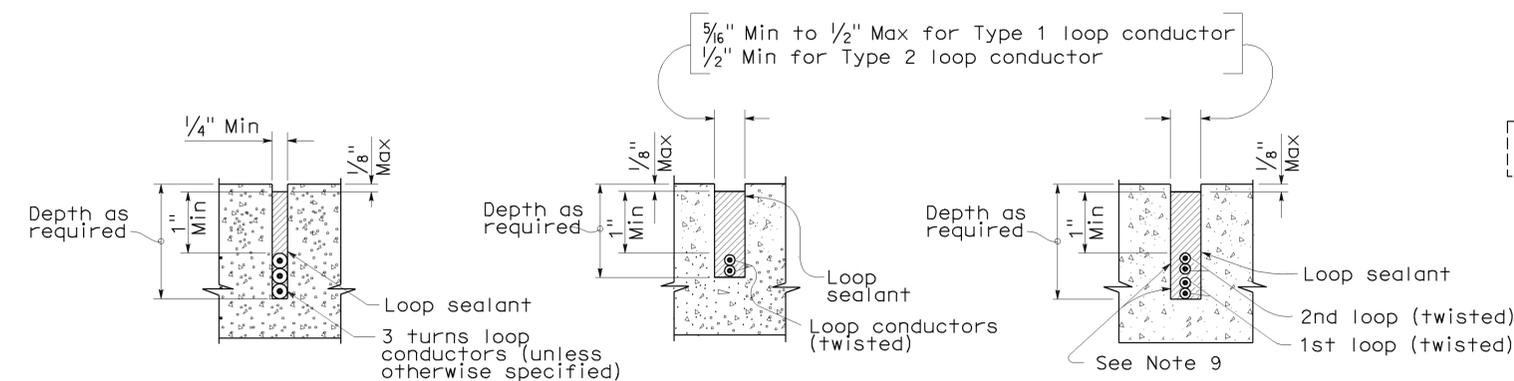
(Type A loop detector configurations illustrated)

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

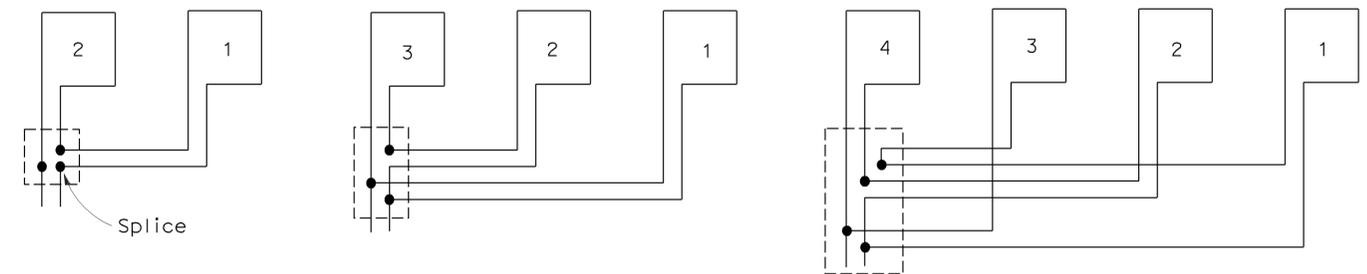


## WINDING DETAILS

See Notes 6 and 7



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



## TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (DETECTORS)

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	1	27.4/28.0	30	30

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 October 5, 2007  
 PLANS APPROVAL DATE  
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To accompany plans dated 01-9-12

2006 REVISED STANDARD PLAN RSP ES-5A