Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	213	0.0/0.3	1	19

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	CONSTRUCTION DETAILS
4	CONSTRUCTION AREA SIGNS
5	SUMMARY OF QUANTITIES
6-11	ELECTRICAL PLANS
12-19	REVISED STANDARD PLANS

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

STATE OF CALIFORNIA

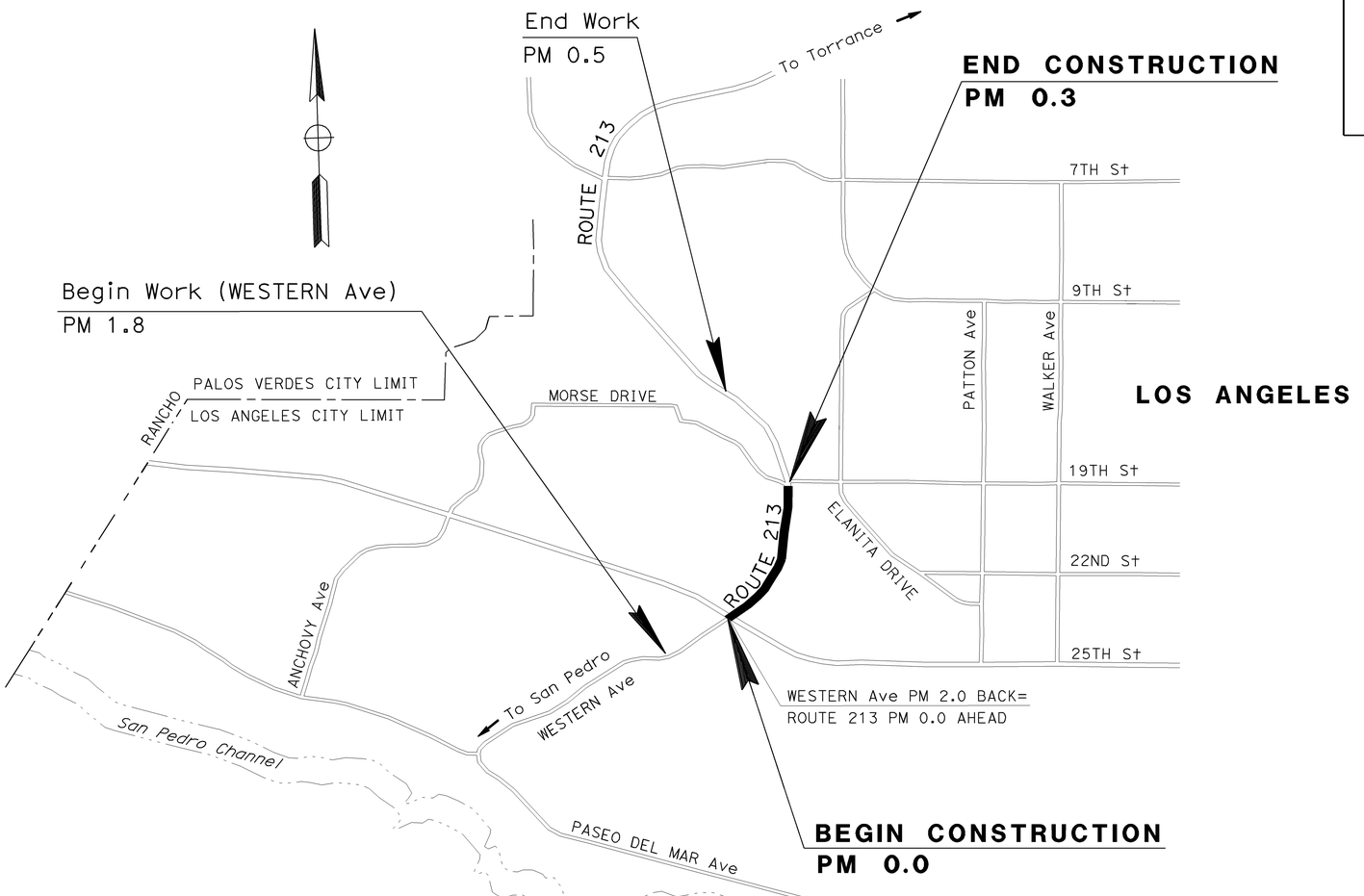
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN LOS ANGELES COUNTY IN LOS ANGELES FROM 25TH STREET TO 19TH STREET

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



NO SCALE

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

PROJECT MANAGER: HASSAN SAFARI

DESIGN ENGINEER: HECTOR OBESO

Hamidreza Saadatnejadi 12-28-09
PROJECT ENGINEER — DATE
REGISTERED CIVIL ENGINEER

HAMID SAADATNEJADI No. C50440 Exp. 6-30-11 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

January 11, 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.

LAST REVISION: DATE PLOTTED => 05-JAN-2010; TIME PLOTTED => 09:00; 01-11-10

CONTRACT No. 07-4S7004

BORDER LAST REVISED 8/1/2008 | CALTRANS WEB SITE IS: HTTP//WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => S122436; DGN FILE => 74S700ab001.dgn | CU 07602 | EA 4S7001

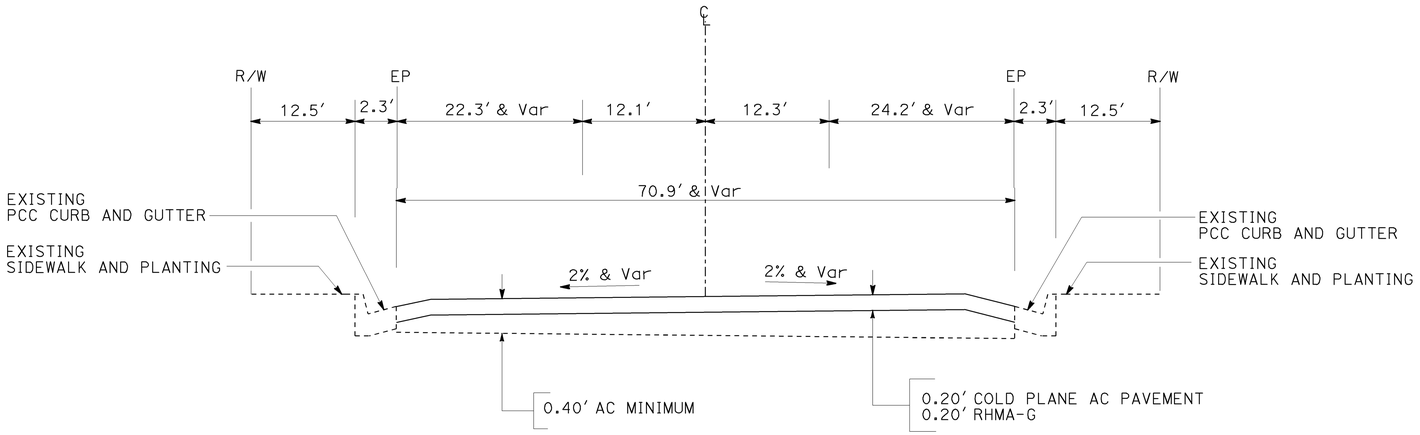
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	213	0.0/0.3	2	19

Hamidreza Saadatnejadi 12-28-09
REGISTERED CIVIL ENGINEER DATE

1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
HAMID SAADATNEJADI
No. C50440
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 PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
4. EXISTING DRAINAGE FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
5. OMIT RHMA-G ON PCC PAVEMENT AND PCC BUS PADS.
6. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

ABBREVIATION:

RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

19TH STREET TO 25TH STREET

TYPICAL CROSS SECTIONS

NO SCALE

X-1

HUGO DE GUZMAN | CALCULATED-DESIGNED BY
HAMID SAADATNEJADI | CHECKED BY
REVISED BY | DATE REVISED
FUNCTIONAL SUPERVISOR: HECTOR OBESO
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE ENGINEERING

LAST REVISION | DATE PLOTTED => 05-JAN-2010
01-11-10 | TIME PLOTTED => 09:01

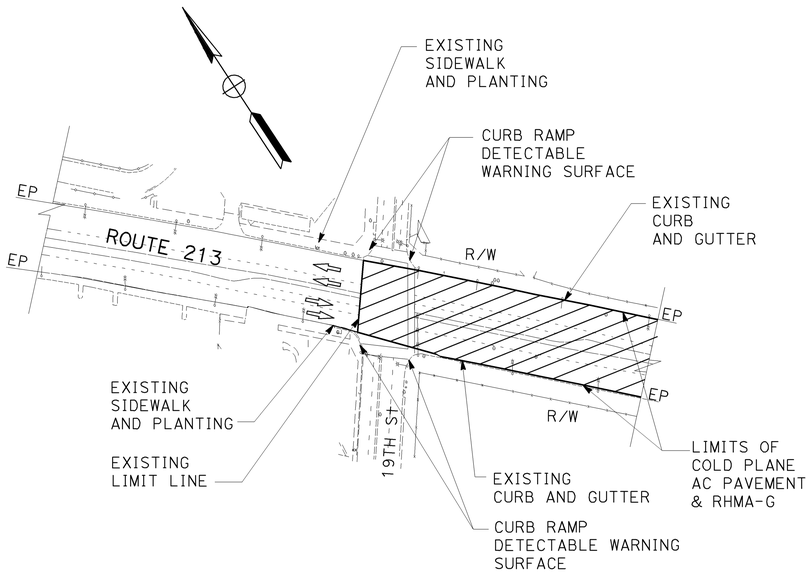
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	213	0.0/0.3	3	19

Hamidreza Saadatnejadi 12-28-09
REGISTERED CIVIL ENGINEER DATE

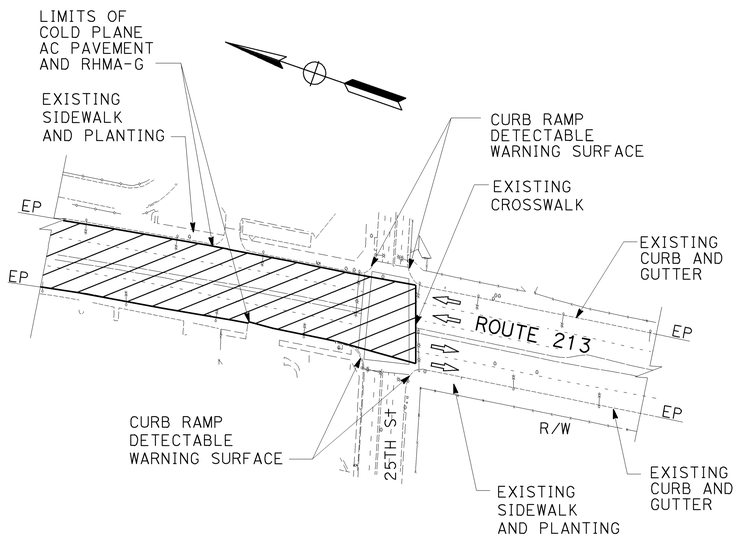
1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
HAMID SAADATNEJADI
No. C50440
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.



PAVING LIMIT AT 19TH STREET



PAVING LIMITAT 25TH STREET

NOTES:

1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
2. EXISTING DRAINAGE FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
3. OMIT RHMA-G ON PCC PAVEMENT AND PCC BUS PADS.
4. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

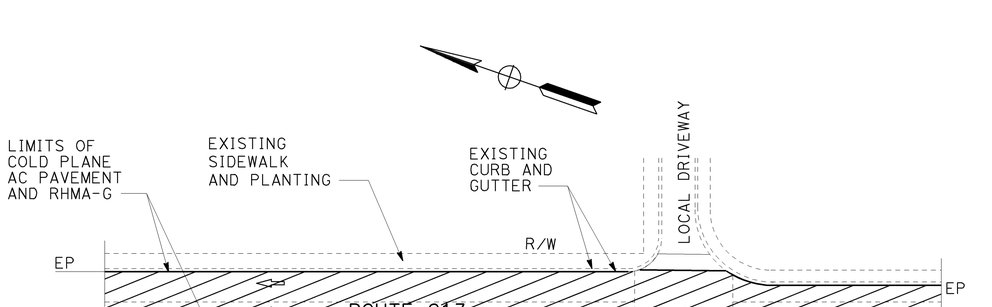
ABBREVIATION:

RHMA-G RUBBERIZED HOT MIX ASPHALT (GAP GRADED)

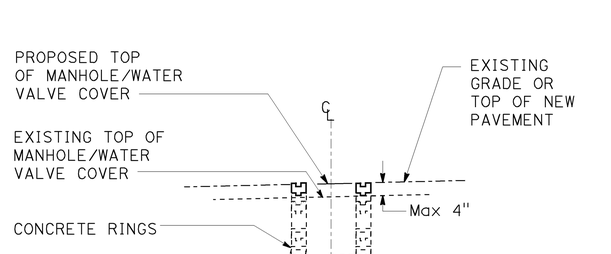
LEGEND:

0.20′ COLD PLANE AC PAVEMENT
0.20′ RHMA-G

⇨ DIRECTION OF TRAVEL



TYPICAL PAVING LIMITS



ADJUST WATER VALVE COVER TO GRADE/ ADJUST MANHOLE TO GRADE

CONSTRUCTION DETAILS

NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE ENGINEERING
FUNCTIONAL SUPERVISOR: HECTOR OBESO
CALCULATED-DESIGNED BY: HUGO DE GUZMAN
CHECKED BY: HAMID SAADATNEJADI
REVISED BY
DATE REVISED

LAST REVISION 01-11-10
DATE PLOTTED => 05-JAN-2010
TIME PLOTTED => 09:01

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => S122436
DGN FILE => 745700ga001.dgn
CU 07602
EA 4S7001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	213	0.0/0.3	4	19

Hamidreza Saadatnejadi 12-28-09
REGISTERED CIVIL ENGINEER DATE

1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
HAMID SAADATNEJADI
No. C50440
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

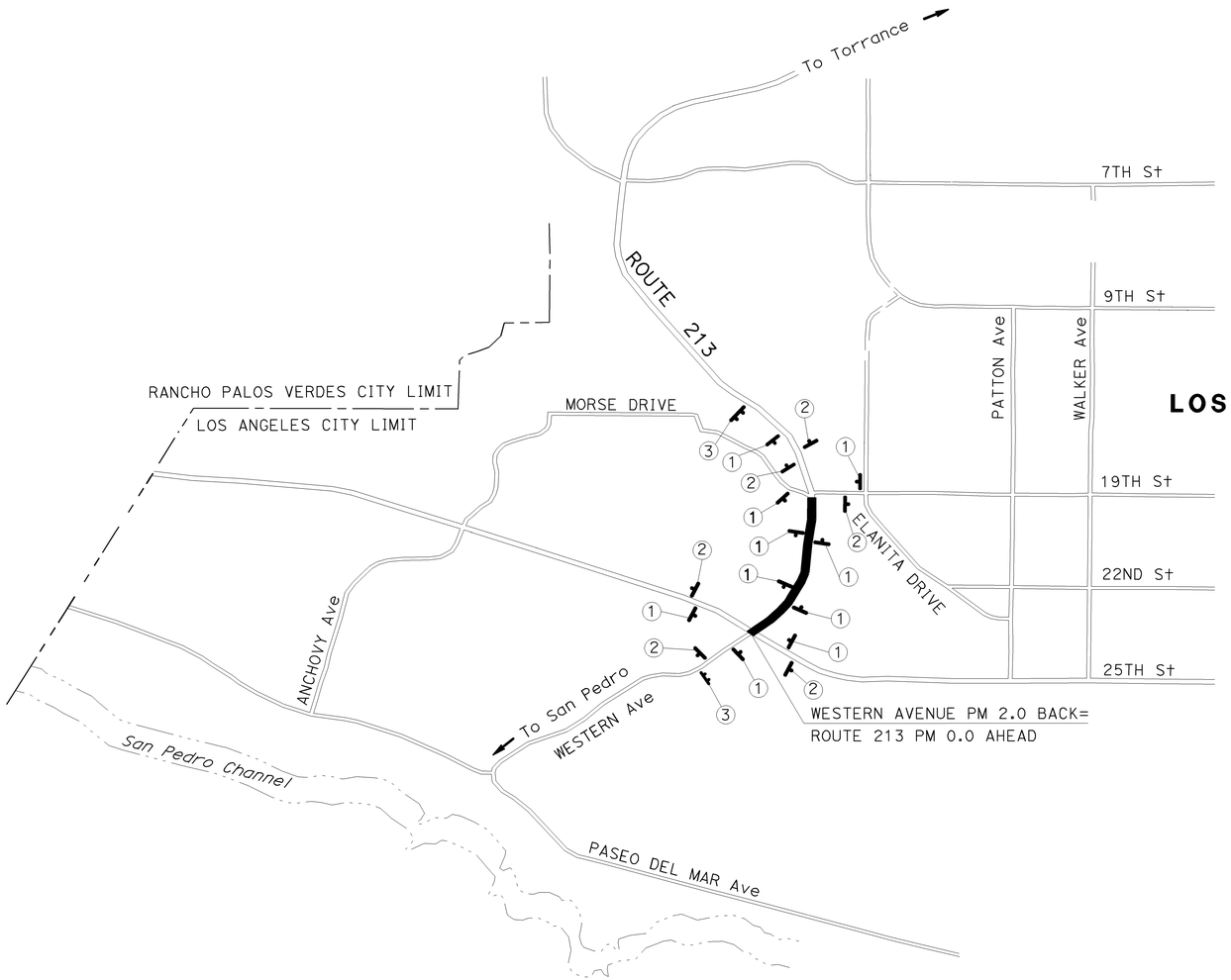
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.
2. "TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES" SIGNS SHALL BE PLACED APPROXIMATELY 500 FEET IN ADVANCE OF "ROAD WORK AHEAD" SIGNS OR AS DETERMINED BY THE ENGINEER.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN NUMBER	SIGN CODE	SIGN MESSAGE	PANEL SIZE	NUMBER OF POSTS AND SIZE	NUMBER OF SIGNS
(1)	W20-1	ROAD WORK AHEAD	36" x 36"	1-4" x 4"	10
(2)	G20-2	END ROAD WORK	36" x 18"	1-4" x 4"	6
(3)	C40 (CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	108" x 42"	2-6" x 6"	2
				TOTAL	18



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGN WORK ONLY.

CALCULATED-DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED
HUGO DE GUZMAN
HAMID SAADATNEJADI
FUNCTIONAL SUPERVISOR
HECTOR OBESO
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® MAINTENANCE ENGINEERING

LAST REVISION DATE PLOTTED => 05-JAN-2010
01-11-10 TIME PLOTTED => 09:02

BORDER LAST REVISED 4/11/2008
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
USERNAME => S122436
DGN FILE => 74S7001a001.dgn
CU 07602
EA 4S7001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	213	0.0/0.3	5	19

Hamidreza Saadatnejadi 12-28-09
REGISTERED CIVIL ENGINEER DATE

1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
HAMID SAADATNEJADI
No. C50440
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.

QUANTITIES

DIRECTION	DESCRIPTION	THERMOPLASTIC TRAFFIC STRIPE			PAVEMENT MARKER (RETROREFLECTIVE)			THERMOPLASTIC PAVEMENT MARKING				RUBBERIZED HOT MIX ASPHALT (GAP GRADED)	TACK COAT	ADJUST WATER VALVE COVER TO GRADE	ADJUST MANHOLE TO GRADE	CURB RAMP DETECTABLE WARNING SURFACE	COLD PLANE ASPHALT CONCRETE PAVEMENT
		WHITE	YELLOW														
		4" (DETAIL 9) (BROKEN 17-7)	4" (DETAIL 22)	4" (DETAIL 29)	TYPE G (DETAIL 9)	TYPE D (DETAIL 22)	TYPE D (DETAIL 29)	CROSSWALK & LIMIT LINES (1' SOLID WHITE)	TYPE VII ARROW	TYPE VI ARROW	TYPE IV ARROW						
		LF			EA			SQFT				TON		EA		SQFT	SQYD
NORTHBOUND	25TH STREET TO 19TH STREET	475	2285		54	288		480			75	1078	5	16	4	60	6,600
SOUTHBOUND	19TH STREET TO 25TH STREET	479		2395	56		300		27	42	15	1078	5	3	6	60	6,600
	TOTAL	954	4680		698			639				2156	10	19	10	120	13,200

SUMMARY OF QUANTITIES
NO SCALE

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: HECTOR OBESO

CALCULATED-DESIGNED BY: HUGO DE GUZMAN
CHECKED BY: HAMID SAADATNEJADI

REVISED BY | DATE REVISED

LAST REVISION 01-11-10 | DATE PLOTTED => 05-JAN-2010 | TIME PLOTTED => 09:03

BORDER LAST REVISED 4/11/2008

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => S122436
DGN FILE => 74S700pa001.dgn

CU 07602

EA 4S7001

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	213	0.0/0.3	6	19

12-28-09
REGISTERED ELECTRICAL ENGINEER DATE

1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CESAR HERNANDEZ
No. E15805
Exp. 12-31-10
ELECTRICAL
STATE OF CALIFORNIA

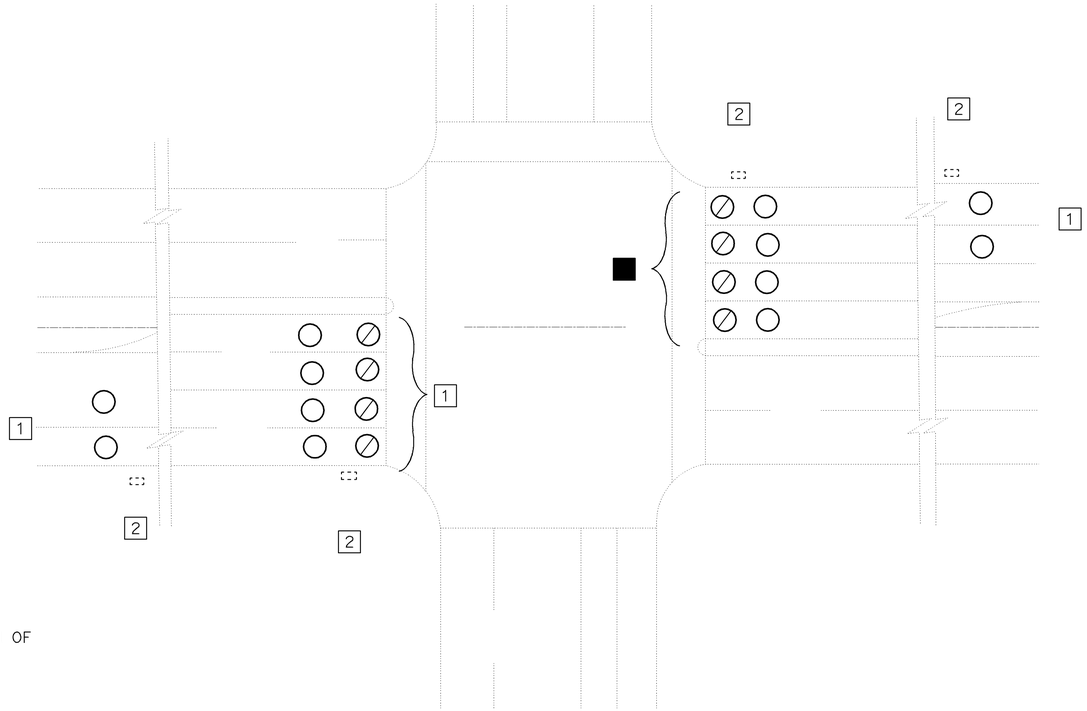
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

INDUCTIVE LOOP DETECTOR SCHEDULE

No.	CROSS STREETS	PM	SEE DETAIL "A" THIS SHEET FOR TYPICAL LOCATION OF INDUCTIVE LOOP DETECTOR																			No. OF STUB-OUT
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1	25TH STREET	0.0	Y	Y	Y	Y	X	X	X	X			Y	Y	Y	Y	X	X	X	X	X	X	3
2	19TH STREET/MORSE Dr	0.31									X	X				Y				X			2

X - INSTALL TYPE E INDUCTIVE LOOP DETECTOR. ABANDON EXISTING INDUCTIVE LOOP DETECTOR AT SAME LOCATION.

Y - INSTALL TYPE D (BICYCLE DETECTOR CASE II). ABANDON EXISTING INDUCTIVE LOOP DETECTOR AT SAME LOCATION.



DETAIL "A"

LEGEND: (THIS SHEET ONLY)

⊘ TYPE D (BICYCLE DETECTOR)

GENERAL NOTES: (THIS SHEET ONLY)

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, AND THE CITY INSPECTOR AT (213) 485-1071. PRIOR TO COMMENCEMENT OF WORK.
2. [SC] NEW LOOP WIRES TO EXISTING dlc. CONTRACTOR SHALL VERIFY AND IDENTIFY THE LOCATION OF EXISTING DETECTORS AND PULL BOXES PRIOR TO GRINDING OR EXCAVATION OF PAVEMENT.

PROJECT NOTES: (THIS SHEET ONLY)

■ INDUCTIVE LOOP TO BE INSTALLED PER CITY OF LOS ANGELES (LADOT) STD DWG Nos. S-70.0, S-70.1A AND S-70.1D (CASE II). SEE SHEETS E-2 THRU E-6.

■ INSTALL 2"C STUB-OUT FOR NEW LOOPS.

INDUCTIVE LOOP DETECTOR
(REPLACEMENT)

NO SCALE

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

E-1

REVISED BY | DATE REVISED
XOCHILT NARANJO | CESAR HERNANDEZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR: Y. ZABEZHINSKY
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® TRAFFIC DESIGN

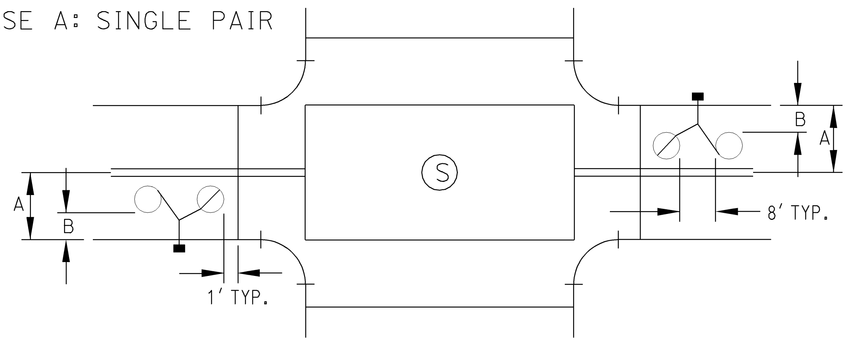
LAST REVISION | DATE PLOTTED => 05-JAN-2010
01-11-10 | TIME PLOTTED => 09:03

BORDER LAST REVISED 4/11/2008 | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | USERNAME => S122436 | DGN FILE => 74S700ua001.dgn | CU 07382 | EA 4S7001

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	XOCHILT NARANJO	REVISED BY			
Caltrans TRAFFIC DESIGN	Y. ZABEZHINSKY	CHECKED BY	CESAR HERNANDEZ	DATE REVISED			

BASED ON THE DISTANCE BETWEEN THE DOUBLE YELLOW CENTER LINE (DYCL) AND THE CURB FACE, 6′ DIAMETER CIRCULAR INDUCTIVE LOOP DETECTORS SHOULD BE INSTALLED AS SPECIFIED IN THE TABLES BELOW FOR SINGLE LANE APPROACHES.

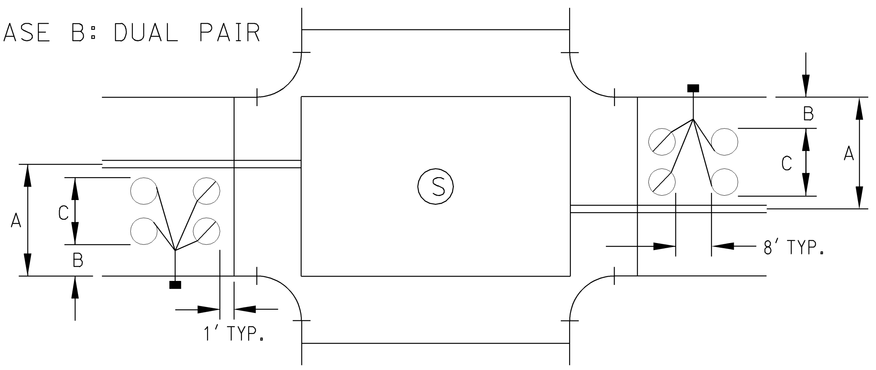
CASE A: SINGLE PAIR



Dist. Bet. DYCL and Curb Face (A)	No. of Pairs of Loops	Dist. Bet. Loop and Curb Face (B)
10′	1	3′
11′	1	3′
12′	1	3′
13′	1	4′
14′	1	5′

Dist. Bet. DYCL and Curb Face (A)	No. of Pairs of Loops	Dist. Bet. Loop and Curb Face (B)
15′	1	6′
16′	1	6′
17′	1	7′
18′	1	8′
19′	1	8′

CASE B: DUAL PAIR



Dist. Bet. DYCL and Curb Face (A)	No. of Pairs of Loops	Dist. Bet. Loop and Curb Face (B)	Dist. Bet. 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

SEE S-70.1A AND S-70.1D FOR INSTALLATION DETAILS

DWN	MT	2-25-09	Title: LIMIT LINE INDUCTIVE LOOP DETECTOR PLACEMENT (1/2)
CKD			
T. E.			
Sr. T. E.	JW	2-27-09	CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION
Pr. T. E.	SS	3-3-09	

Approved March 3, 2009

for Rita L. Robinson, General Manager

Drawing No. S-70.0

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

INDUCTIVE LOOP DETECTOR (CITY) (STANDARD DETAILS)

NO SCALE

E-2

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 ELECTRICAL ENGINEER — DATE 12-28-09

1-11-10 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — CESAR HERNANDEZ No. E015805 Exp. 12/31/10 ELECTRICAL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	7	19

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => S122436
DGN FILE => 74S700u0002.dgn

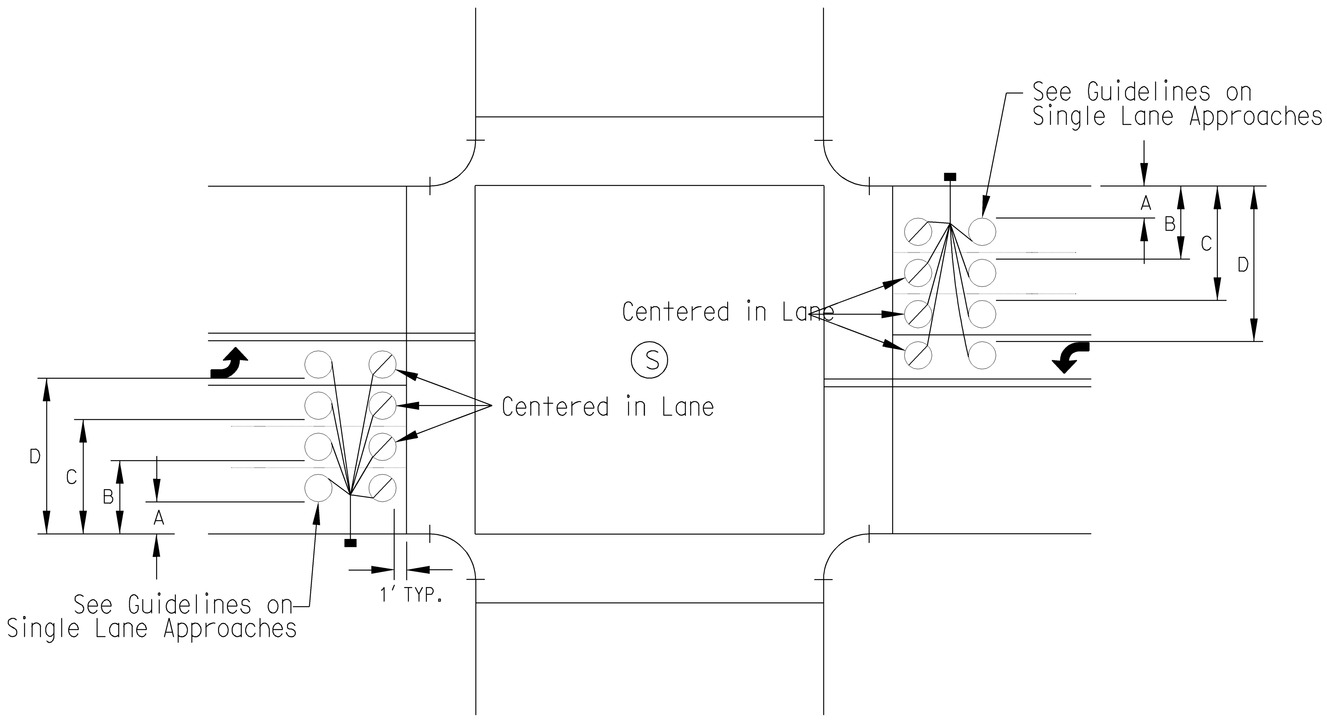
CU 07382

EA 4S7001

LAST REVISION 01-11-10

DATE PLOTTED => 05-JAN-2010
TIME PLOTTED => 09:04

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	XOCHILT NARANJO	REVISED BY			
Caltrans TRAFFIC DESIGN	Y. ZABEZHINSKY	CHECKED BY	CESAR HERNANDEZ	DATE REVISED			



Multi Lane Approaches

NOTES:

1. ALL LOOPS ARE 6' x 6' WITH 8' SEPARATION.
2. A,B,C,D ARE DIMENSIONS TO BE SHOWN ON PLANS
3. THE LOOP DETECTORS ADJACENT TO THE LIMIT LINE SHALL BE BICYCLE DETECTORS.
4. SEE STD. DWG. NO. S-70.1A AND S-70.1D FOR INSTALLATION DETAILS.

CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION	Title LIMIT LINE INDUCTIVE LOOP DETECTOR PLACEMENT (2/2)	Drawing No. S-70.0

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

INDUCTIVE LOOP DETECTOR (CITY) (STANDARD DETAILS)

NO SCALE

E-3

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 ELECTRICAL ENGINEER — DATE 12-28-09

1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA
CESAR HERNANDEZ
No. E15605
Exp. 12/31/10
ELECTRICAL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	8	19

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN INCHES

USERNAME => S122436
DGN FILE => 74S700u003.dgn

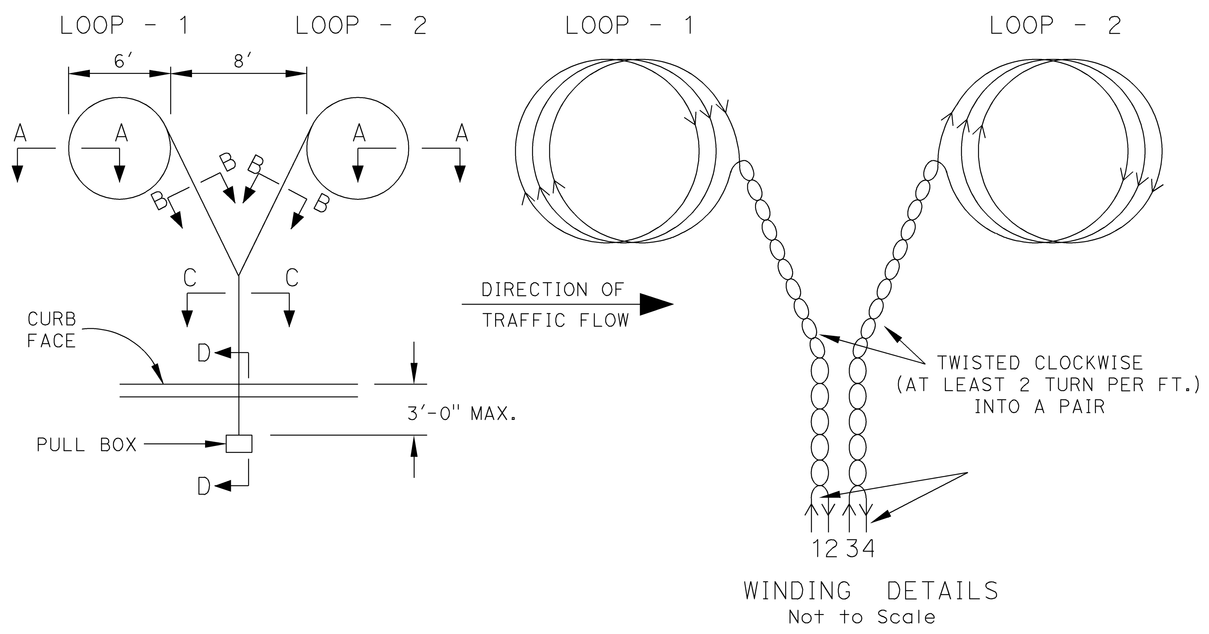
CU 07382

EA 4S7001

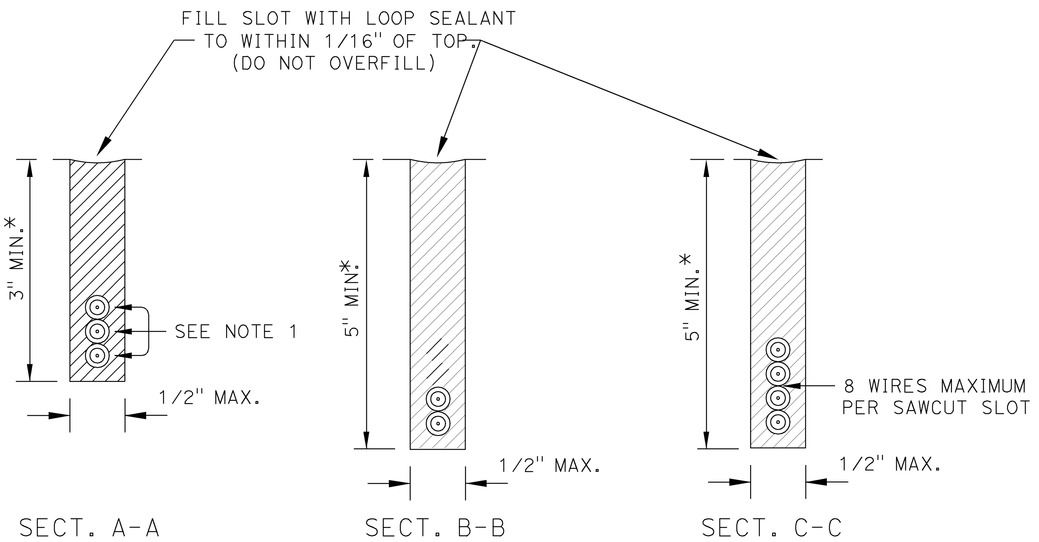
LAST REVISION 01-11-10

DATE PLOTTED => 05-JAN-2010
TIME PLOTTED => 09:04

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	XOCHILT NARANJO	REVISED BY			
Caltrans TRAFFIC DESIGN	Y. ZABEZHINSKY	CHECKED BY	CESAR HERNANDEZ	DATE REVISED			



WINDING DETAILS
Not to Scale



SECT. A-A SECT. B-B SECT. C-C

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

NOTES:

1. INSTALL 3 CLOCKWISE TURNS OF LOOP WIRE FOR EACH DETECTOR, UNLESS OTHERWISE SHOWN ON SIGNAL PLAN.
2. SEE LADOT MATERIAL SPECIFICATION NO. 92-081-05 OR LATEST REVISION.
3. ANY NON-ROUND SHAPED LOOPS MUST CONFORM TO ALL OTHER SPECIFICATIONS SHOWN ON THIS STANDARD DRAWING.

DWN	MT	6-30-08	Title
CKD	RAR	7-9-08	INDUCTIVE LOOP INSTALLATION (1/2)
T. E.	JV	7-9-08	
Sr. T. E.	JW	7-9-08	CITY OF LOS ANGELES
Pr. T. E.	SS	7-9-08	DEPARTMENT OF TRANSPORTATION

Approved July 9, 2008

for Rita L. Robinson, General Manager

Drawing No. S-70.1A

INDUCTIVE LOOP DETECTOR (CITY) (STANDARD DETAILS)

NO SCALE

E-4

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 ELECTRICAL ENGINEER 12-28-09 DATE

1-11-10 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA CESAR HERNANDEZ No. E15805 Exp. 12/31/10 ELECTRICAL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	9	19

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

USERNAME => S122436
DGN FILE => 74S700u004.dgn

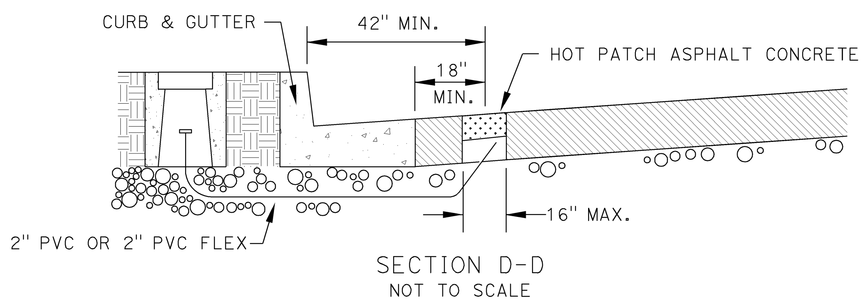
CU 07382

EA 4S7001

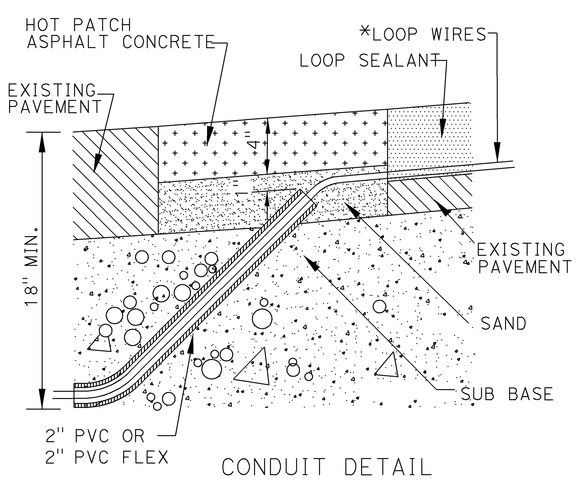
LAST REVISION 01-11-10

DATE PLOTTED => 05-JAN-2010
TIME PLOTTED => 09:05

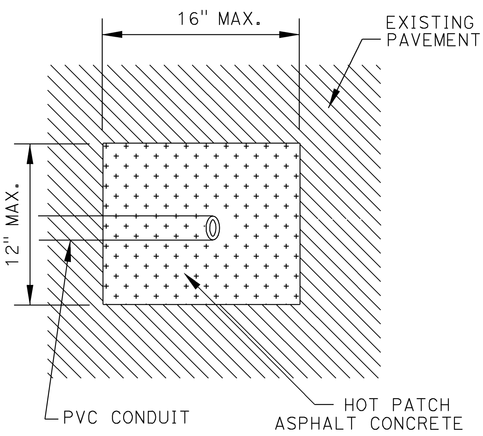
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	XOCHILT NARANJO	REVISED BY			
Caltrans TRAFFIC DESIGN	Y. ZABEZHINSKY	CHECKED BY	CESAR HERNANDEZ	DATE REVISED			



SECTION D-D
NOT TO SCALE



CONDUIT DETAIL
NOT TO SCALE



STUB-OUT DETAIL
(Top View)
NOT TO SCALE

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 (SC80) OR PVC FLEX (SC40) FROM THE PULLBOX PIT WITH A 45 DEGREE 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 CALTRANS APPROVED HOT-MELT RUBBERIZED ASPHALT SEALANT.

* NO MORE THAN 5 LOOPS OR 10 WIRES PER STUB-OUT.

CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION	Title INDUCTIVE LOOP INSTALLATION (2/2)	Drawing No. S-70.1A

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

INDUCTIVE LOOP DETECTOR (CITY) (STANDARD DETAILS)

NO SCALE

E-5

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.

12-28-09
REGISTERED ELECTRICAL ENGINEER — DATE

1-11-10
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
CESAR HERNANDEZ
No. E15605
Exp. 12/31/10
ELECTRICAL
STATE OF CALIFORNIA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	10	19

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN INCHES

USERNAME => S122436
DGN FILE => 74S700u0005.dgn

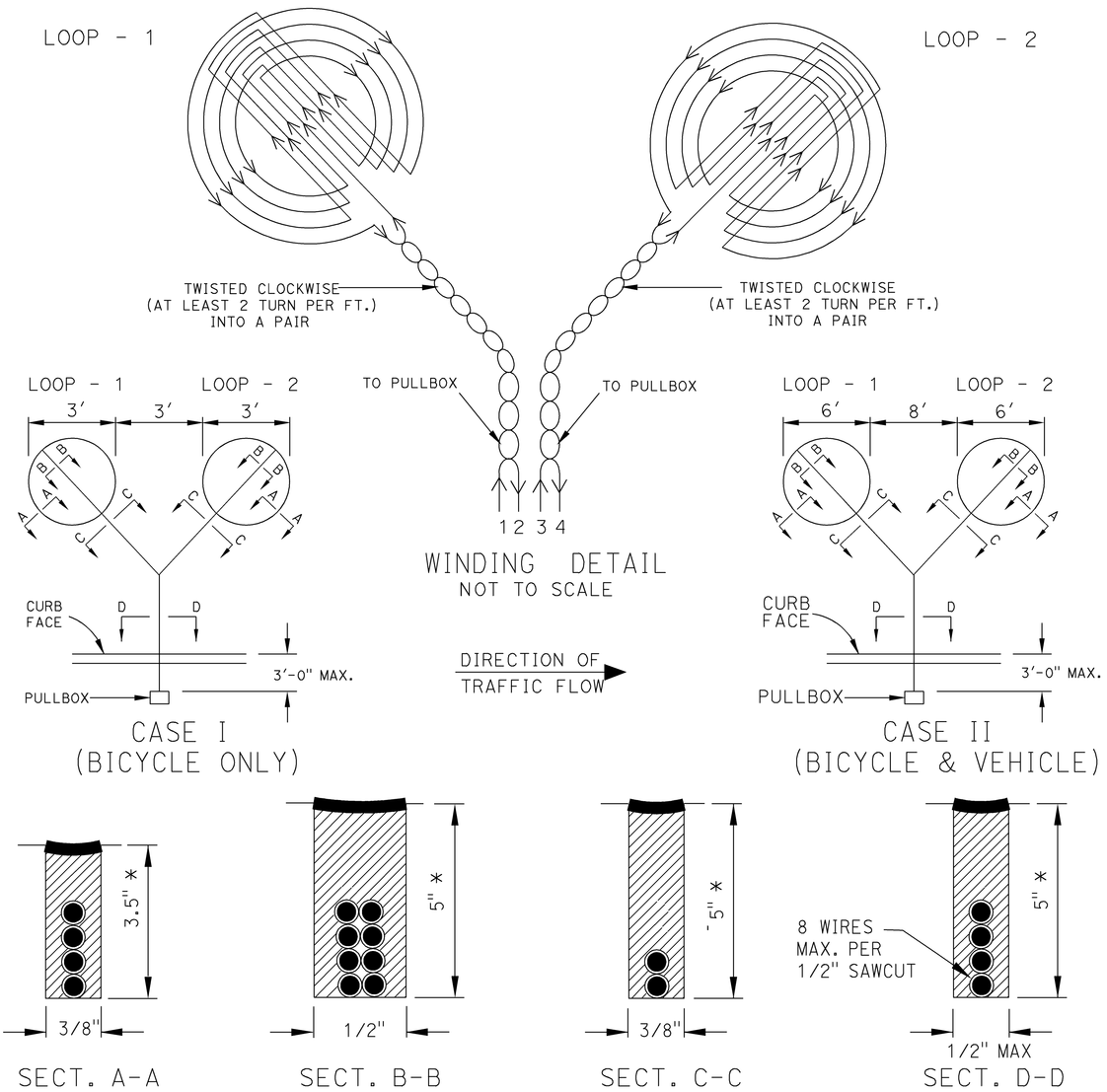
CU 07382

EA 4S7001

LAST REVISION 01-11-10

DATE PLOTTED => 05-JAN-2010
TIME PLOTTED => 09:05

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	XOCHILT NARANJO	REVISED BY			
Caltrans TRAFFIC DESIGN	Y. ZABEZHINSKY	CHECKED BY	CESAR HERNANDEZ	DATE REVISED			



NOTES:

1. INSTALL FOUR (4) COMPLETE ALTERNATING TURNS OF LOOP CONDUCTORS, UNLESS OTHERWISE SPECIFIED.
2. FOR STUB-OUT AND CONDUIT DETAILS REFER TO PAGE (2) OF S-70.1A
3. SEE LADOT MATERIAL SPECIFICATION NO. 92-081-05 OR LATEST REVISION.
4. USE CASE 1 LOOPS FOR BIKE LANE INSTALLATIONS. USE CASE II LOOPS WHEN VEHICULAR LOOPS ARE INTENDED TO DETECT BICYCLES.
5. AN OCTAGONAL SHAPED LOOP OR OTHER NON-ROUND SHAPED LOOP MAY BE USED INSTEAD OF THE ROUND-LOOP WITH PRIOR LADOT APPROVAL.
6. SAME WINDING PATTERN TO BE USED IN BOTH LOOPS WITH (1) PAIR FROM EACH LOOP LEADING TO THE PULLBOX.
7. LOOPS INSTALLED IN BIKE LANES WITH PARKING SHALL BE PLACED WITH THE NEAR EDGE OF THE LOOP (1)-FOOT TO THE RIGHT OF THE BIKE LANE DELINEATION LINE, UNLESS OTHERWISE NOTED BY LADOT.
8. LOOPS INSTALLED IN BIKE LANES ADJACENT TO THE ROADSIDE WITHOUT PARKING SHALL BE CENTERED IN THE BIKE LANE, OR BETWEEN THE GUTTER AND THE BIKE LANE DELINEATION LINE, UNLESS OTHERWISE NOTED BY LADOT.
9. ANY LADOT APPROVED NON-ROUND SHAPED LOOPS MUST CONFORM TO ALL OTHER SPECIFICATIONS SHOWN ON THIS STANDARD DRAWING.

DWN	MT	02-15-05	Title: BICYCLE DETECTOR 1/1
CKD			
T. E.			
Sr. T. E.			CITY OF LOS ANGELES
Pr. T. E.	TLJ	02-25-05	DEPARTMENT OF TRANSPORTATION

Approved March 3, 2005

for Wayne K. Tanda, General Manager

Drawing No. S-70.1D

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

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 ELECTRICAL ENGINEER — DATE 12-28-09

1-11-10 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — CESAR HERNANDEZ No. E015805 Exp. 12/31/10

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	11	19

INDUCTIVE LOOP DETECTOR (CITY) (STANDARD DETAILS)

NO SCALE

E-6

BORDER LAST REVISED 3/1/2007

RELATIVE BORDER SCALE IS IN INCHES

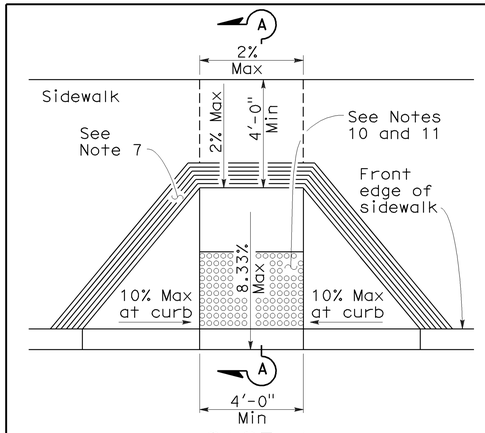
USERNAME => S122436
DGN FILE => 74S700u0006.dgn

CU 07382

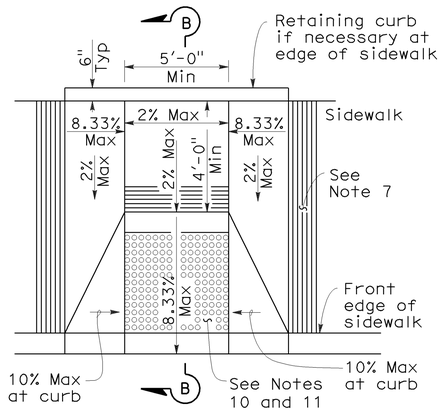
EA 4S7001

LAST REVISION 01-11-10

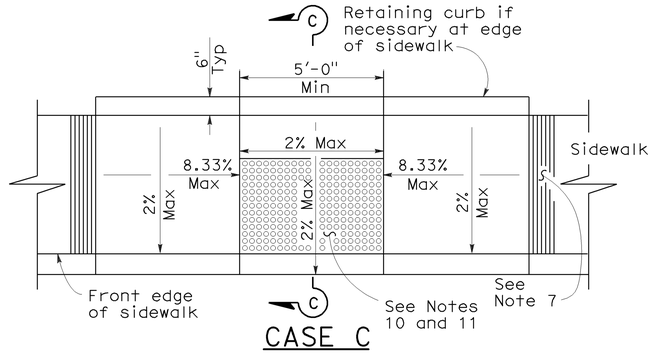
DATE PLOTTED => 05-JAN-2010
TIME PLOTTED => 09:06



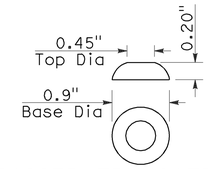
CASE A



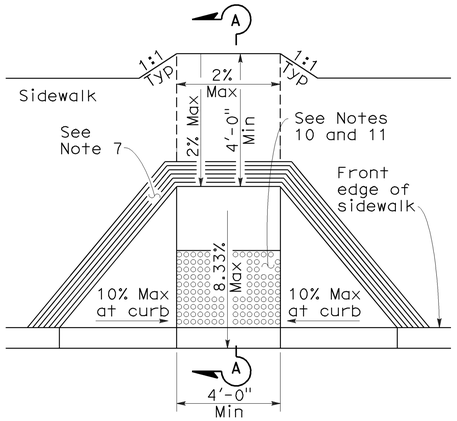
CASE B



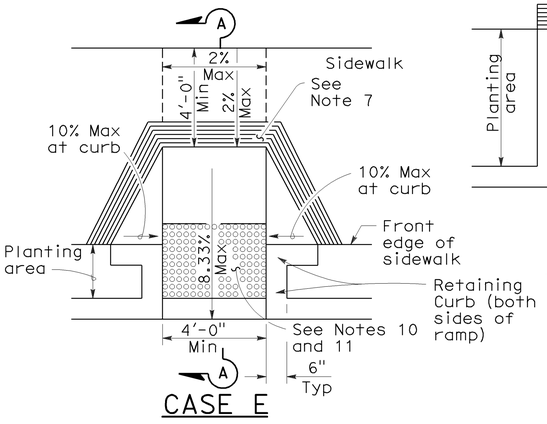
CASE C



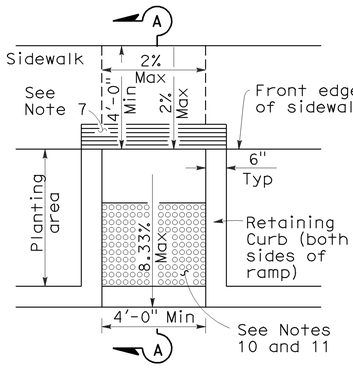
RAISED TRUNCATED DOME



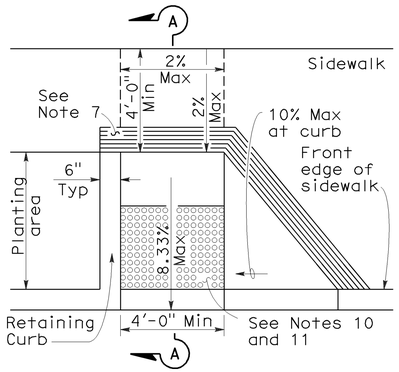
CASE D



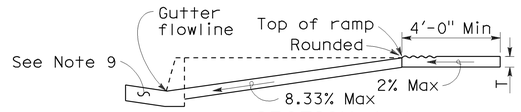
CASE E



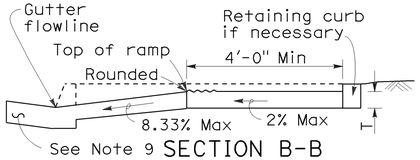
CASE F



CASE G
See Note 4

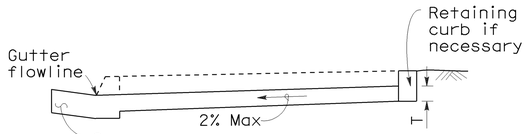


SECTION A-A

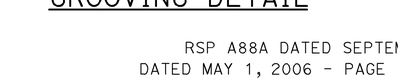


SECTION B-B

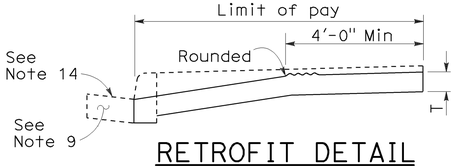
Depress entire sidewalk as required



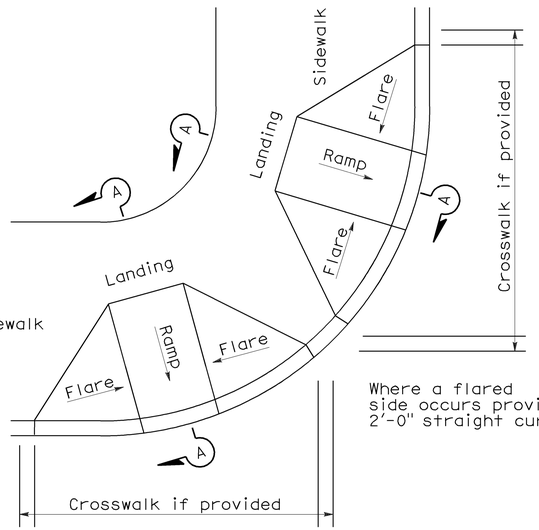
SECTION C-C



GROOVING DETAIL



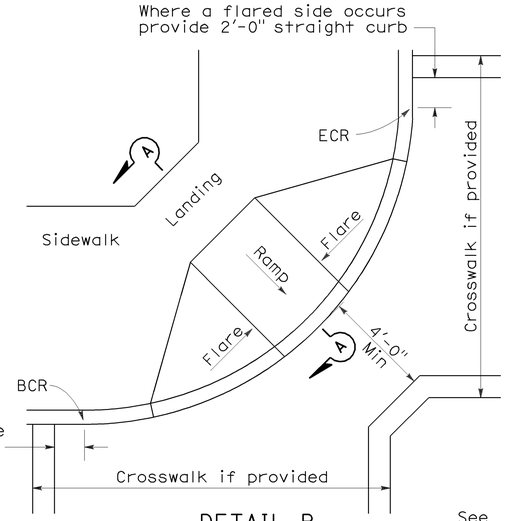
RETROFIT DETAIL
Existing curb and sidewalk



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

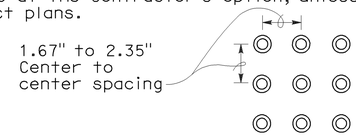
See Note 1



DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3



RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

See Note 10

NOTES:

1. 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.
2. 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.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. 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".
6. 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.
7. 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.
8. Transitions from ramps and landing to walks, gutters or streets shall be flush and free of abrupt changes.
9. 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.
10. 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.
11. The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
12. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
13. 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.
14. For retrofit conditions, removal and replacement of curb apron will be at the Contractor's option, unless otherwise shown on project plans.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	12	19

H. David Cordova
REGISTERED CIVIL ENGINEER

September 1, 2006
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Hector David Cordova
No. C41957
Exp. 3-31-08
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 1/11/10

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

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

8-3-06

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	13	19

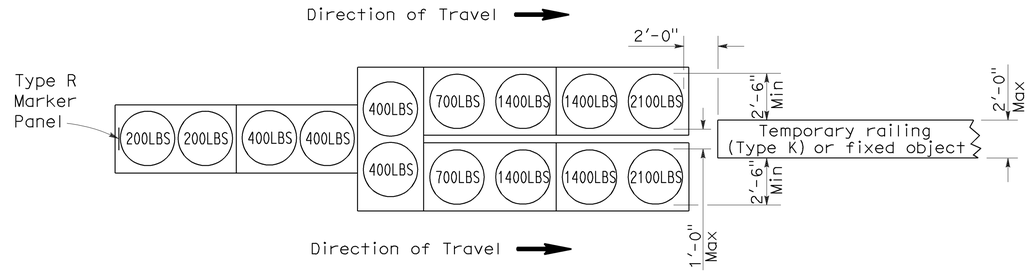
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

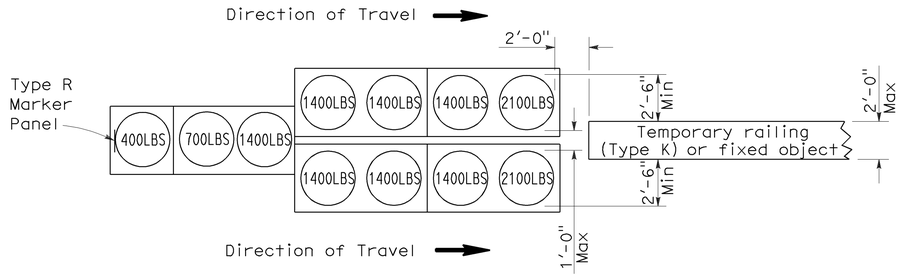
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1/11/10



ARRAY 'TU14'

Approach speed 45 mph or more

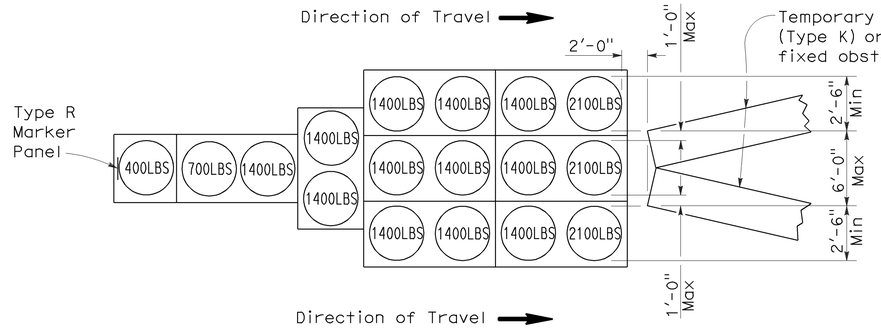


ARRAY 'TU11'

Approach speed less than 45 mph

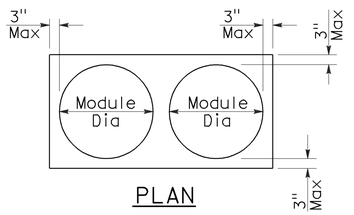
ARRAY 'TU21'

Approach speed 45 mph or more

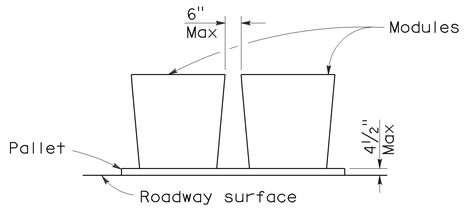


ARRAY 'TU17'

Approach speed less than 45 mph



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (UNIDIRECTIONAL)

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	14	19

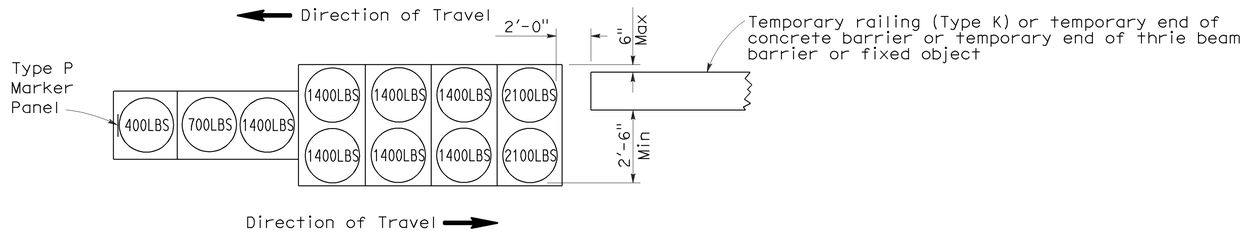
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

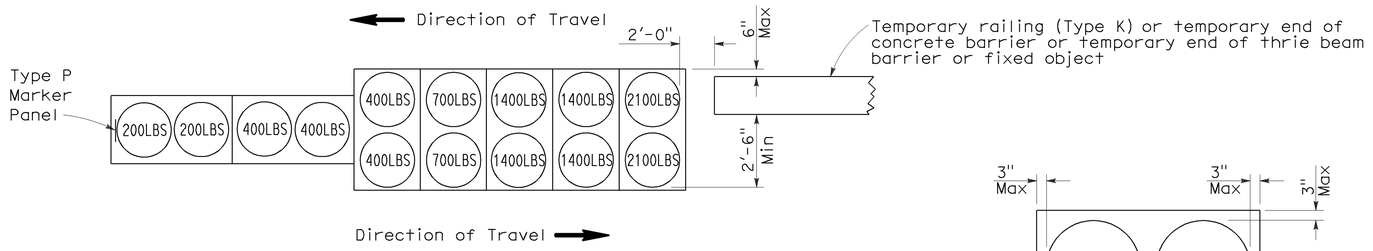
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1/11/10



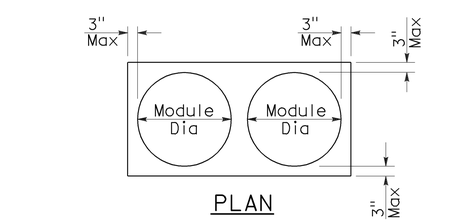
ARRAY 'TB11'

Approach speed less than 45 mph

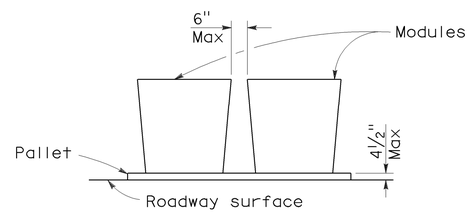


ARRAY 'TB14'

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

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	15	19

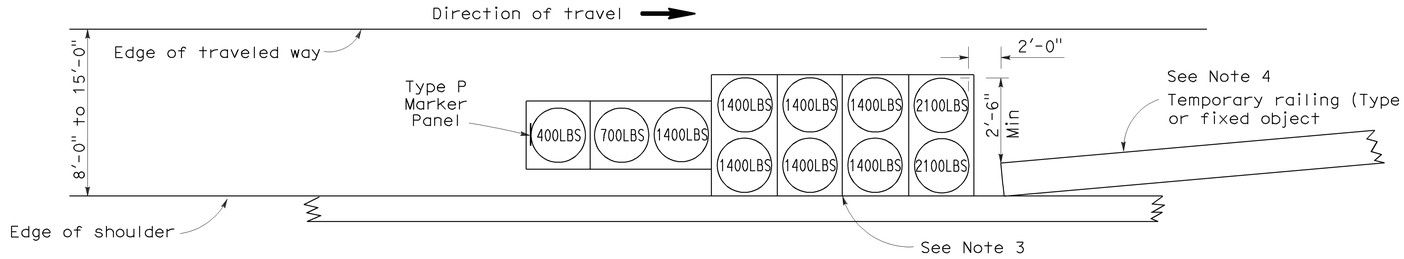
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

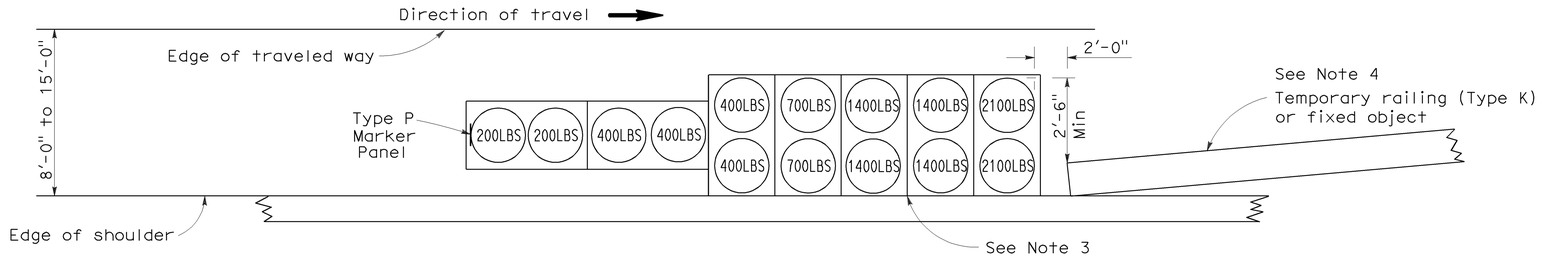
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1/11/10



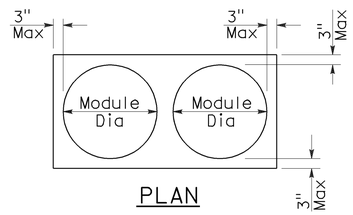
ARRAY 'TS11'

Approach speed less than 45 mph
See Note 9

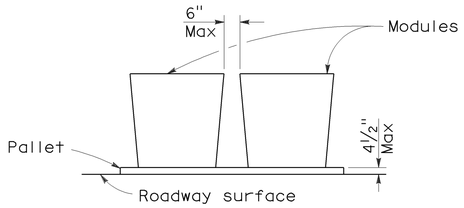


ARRAY 'TS14'

Approach speed 45 mph or more
See Note 9



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION, SAND FILLED (SHOULDER INSTALLATIONS)

NO SCALE

RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

5-15-08

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	16	19

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

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

October 5, 2007
PLANS APPROVAL DATE

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

To accompany plans dated 1/11/10

ELECTROLIERS

STANDARD TYPES
15, 15D
15 STRUCTURE
21, 21D STRUCTURE
30
31
32
35
36-20A

High mast light pole

Double Arm lighting standard

Existing electrolier

(F) Electrolier foundation (Future installation)

NOTES:

1. 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.
2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.
3. 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	
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,
MAS-4B	mas-4B	side attachment - 4 signal section
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces,
MAS-5B	mas-5B	side attachment - 5 signal section
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		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

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.

(M) 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

7-10-07

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 (RSP ES-9A C)
R	r	Conduit riser in/on structure or service pole

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

Type of installation

TYPE H SERVICE - 28'-10" ← Pole height above grade

ILLUMINATED OVERHEAD SIGN

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

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
PV	PV	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
R	Y	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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	17	19

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — 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 1/11/10

SIGNAL EQUIPMENT Cont

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

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. Signal heads shall be provided with backplates unless shown otherwise.
3. 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

7-10-07

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	18	19

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
No. E14512
Exp. 6-30-08
ELECTRICAL
REGISTERED PROFESSIONAL ENGINEER
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 1/11/10

EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION NUMBER:

Sign No. 12345 — Sign number - Place on post or structure

10 ISL SCI 1.0
- 1.0 — Transformer rating (kVA)
- SCI — Lighting control type
- ISL — Number and type of fixtures

Do NOT place on standard or structure

ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:

12345 - 15'-0"
- 15'-0" — Mast arm length, if shown. Do not place on standard or structure.
- 12345 — Equipment number - Place on standard or structure. Existing equipment numbers are shown in parenthesis

CONDUIT AND CONDUCTOR IDENTIFICATION:

1½"C, 2#10, 15#14, 2 DLC
- 2#10, 15#14, 2 DLC — Number and size of conductors and cables
- 1½"C — Size of conduit in inches

ø1, ø2, ø2P, etc. — Traffic phase identification for signal faces, detectors and phase diagrams

[1] [2] [3] — Project note numbers

(A) (B) (C) — Equipment description, installation or item numbers

△1 △2 △3 — Conduit run numbers

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):

19A - 3 - 100
- 100 — Wind velocity = 100 mph
- 3 — Case 3 arm loading
- 19A — Standard type
- Standard Plan sheet number
- Detail number or letter

MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
CMS	cms	Changeable message sign
		Closed circuit television camera
		Highway advisory radio pole and antenna
EMS	ems	Extinguishable message sign
M V	m v	Detection device M = Microwave sensor V = Video image sensor

WIRING DIAGRAM LEGEND

P	Pole
CB	Circuit breaker
A	Ampere
V	Volt
M	Metered
UM	Unmetered
NB	Neutral bus
GB	Ground bus
G	Equipment grounding conductor
N	Grounded conductor (Neutral)

- External conductor
- Conductor or bus
- Tie point
- Contactor coil
- Contactor, Contact NO
- Terminal blocks
- Contactor, Contact NC
- Enclosure bond
- Grounding electrode
- Circuit breaker
- Receptacle

PULL BOXES

PROPOSED — EXISTING

Pull box-No. 5 unless otherwise indicated or noted.

3 — 9A(21)

Pull box-Additional designations or descriptions

3 = No. 3½ pull box
5 = No. 5 pull box
6 = No. 6 pull box
7 = No. 7 (Ceiling pull box)
8 = No. 8 (Pendant soffit pull box)
9 = No. 9 pull box
9A = No. 9A pull box

(C) = Communications pull box
(E) = Pull box with extension
(S) = Sprinkler control pull box
(21) = Anchor bolts and conduit for future installation of Type 21 Standard
(T) = Traffic pull box

VEHICLE DETECTORS

5 J 9 U
- Vehicle detector designation
- U = Upper, L = Lower
- Slot number in input file
- Input file (I or J)
- Phase

PROPOSED — EXISTING

- Type A detector loop. Outline of sawcut shown.
- Type B detector loop. Outline of sawcut shown.
- Type C detector loop. Outline of sawcut shown.
- Type D detector loop. Outline of sawcut shown.
- Type E detector loop. Outline of sawcut shown.
- Type Q detector loop. Outline of sawcut shown.
- Magnetic detector
- Detector handhole (DH / dh)
- Microwave or video detection zone

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.

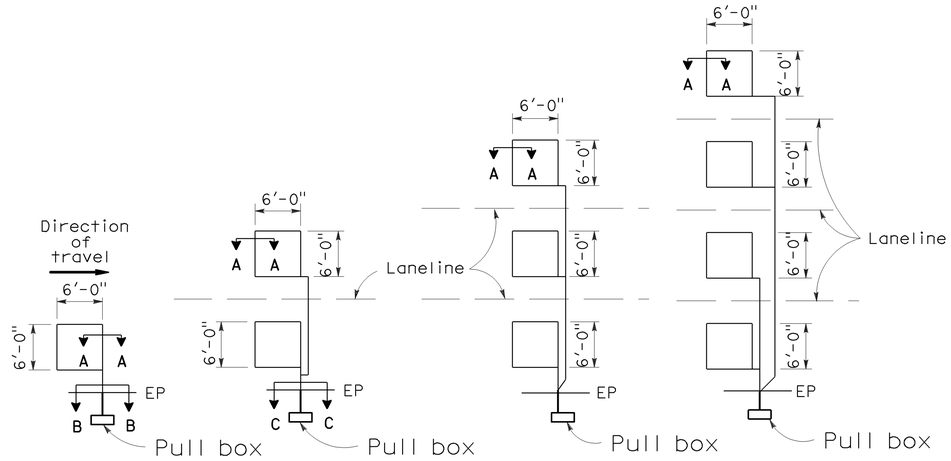
REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

7-10-07

LOOP INSTALLATION PROCEDURE

1. Loops shall be centered in lanes.
2. Saw slots in pavement for loop conductors as shown in details.
3. 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.
4. Bottom of saw slot shall be smooth with no sharp edges.
5. Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
6. Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
7. 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.
8. 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.
9. No more than 2 twisted pairs shall be installed in one sawed slot.
10. Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
11. 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.
12. Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
13. Fill slots as shown in details.
14. Splice loop conductors to lead-in-cable. Splices shall be soldered.
15. 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.
16. Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
17. Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
18. 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.

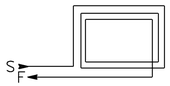


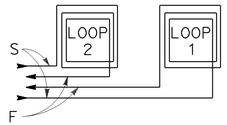
TYPE 1A INSTALLATION | TYPE 2A INSTALLATION | TYPE 3A INSTALLATION | TYPE 4A INSTALLATION

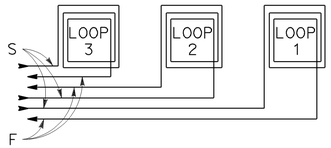
SAWCUT DETAILS

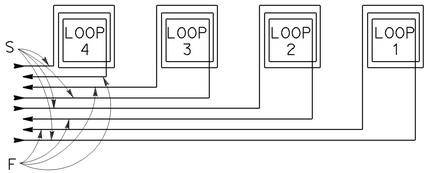
(Type A loop detector configurations illustrated)

1. 1A thru 4A = 1 Type A loop configuration in each lane.
2. 1B thru 4B = 1 Type B loop configuration in each lane.
3. 1C = 1 Type C loop configuration entering lanes as required.
4. 1D thru 4D = 1 Type D loop configuration in each lane.
5. 1E thru 4E = 1 Type E loop configuration in each lane.
6. 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)



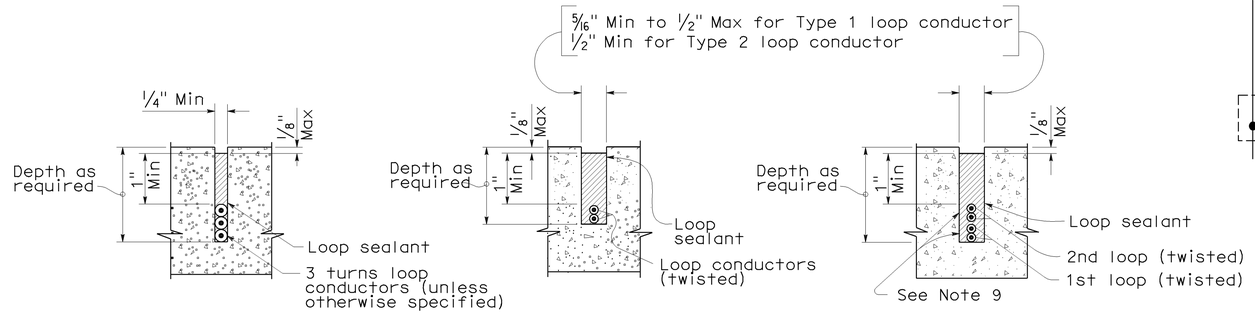






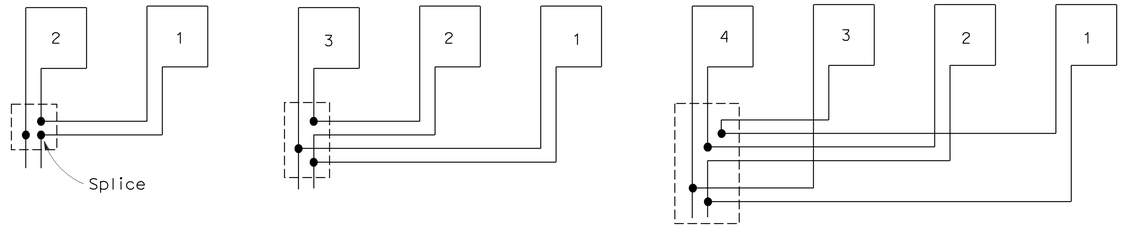
WINDING DETAILS

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)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	213	0.0/0.3	19	19

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — 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 1/11/10

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

2006 REVISED STANDARD PLAN RSP ES-5A

8-17-07