

INDEX OF PLANS

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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

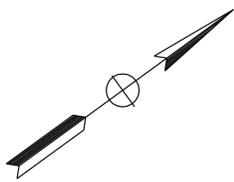
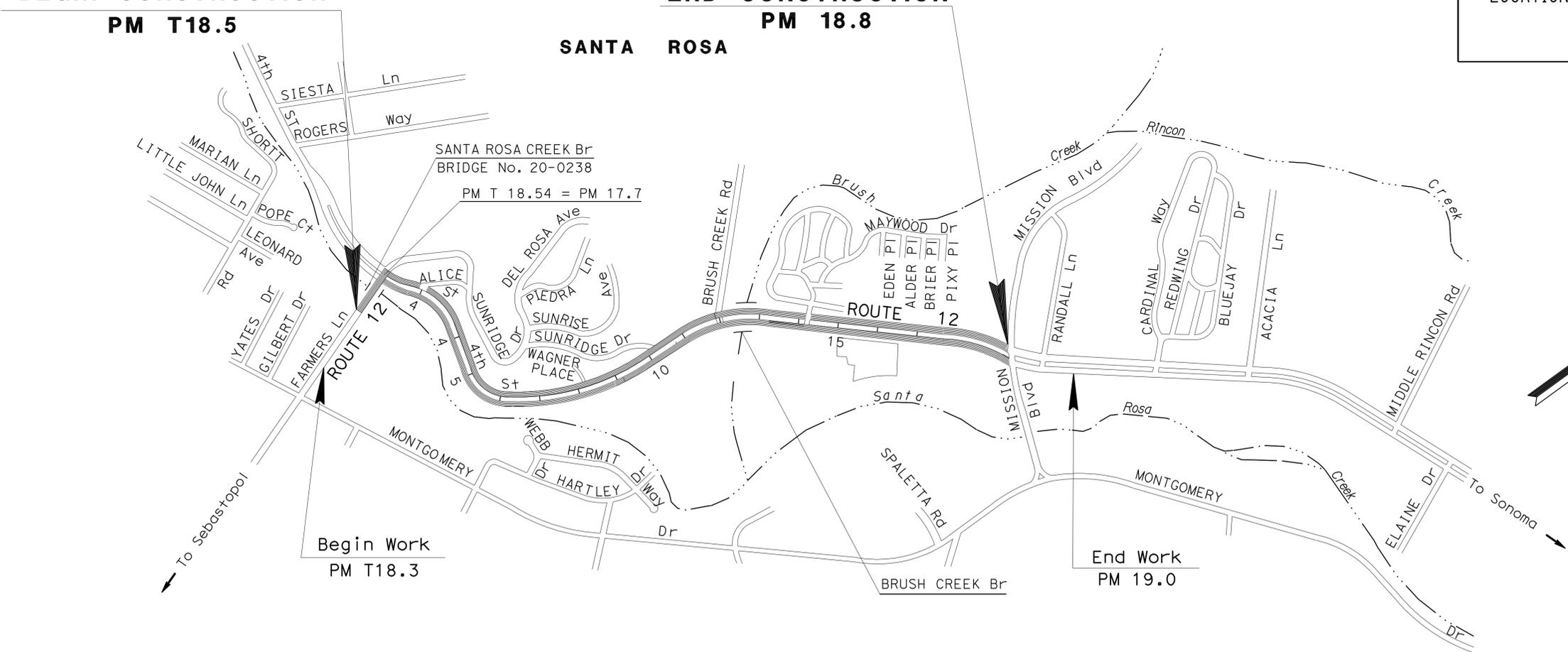
IN SONOMA COUNTY
IN SANTA ROSA
FROM SANTA ROSA CREEK BRIDGE
TO MISSION BOULEVARD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	1	24

BEGIN CONSTRUCTION
PM T18.5

END CONSTRUCTION
PM 18.8



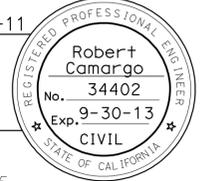
PROJECT MANAGER
ROBERT CAMARGO

DESIGN ENGINEER
STEVEN S. LEE

Robert Camargo 7-25-11
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

JANUARY 30, 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 LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

CONTRACT No. **04-2E2704**
PROJECT ID **0400020176**

DATE PLOTTED => 03-FEB-2012
TIME PLOTTED => 01:29
LAST REVISION 01-25-12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: RAMSES SARGISS
 CALCULATED/DESIGNED BY: STEVEN S. LEE
 CHECKED BY: ROBERT CAMARGO
 REVISED BY: STEVEN S. LEE
 DATE REVISED: ROBERT CAMARGO

ABBREVIATION:

HMA (TYPE A)-HOT MIX ASPHALT (TYPE A)
 HMA (BWC-G)-HOT MIX ASPHALT (BONDED WEARING COURSE -GAP GRADED)

LEGEND:

0.08' COLD PLANE AC PAVEMENT
 0.08' HMA (BWC-G)
 0.25' COLD PLANE AC PAVEMENT
 0.25' HMA (TYPE A)
 0.08' REMOVE AC SURFACING
 0.08' HMA (BWC-G)

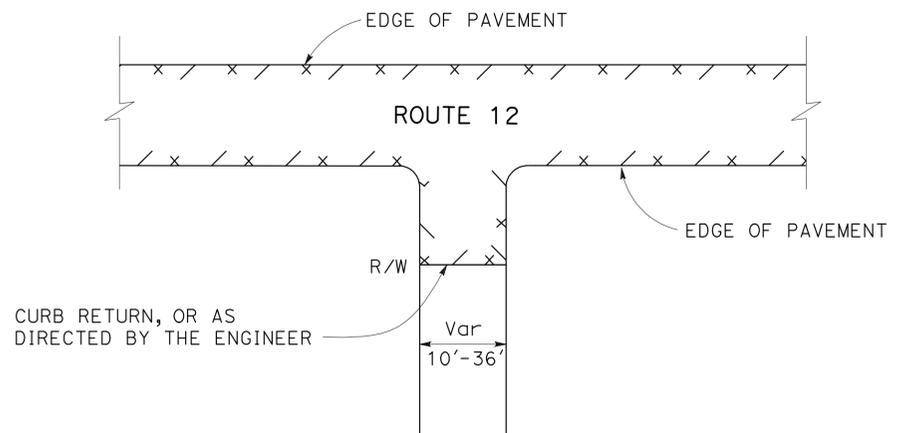
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	3	24

REGISTERED CIVIL ENGINEER
 Robert Camargo
 No. 34402
 Exp. 9-30-13
 CIVIL
 STATE OF CALIFORNIA

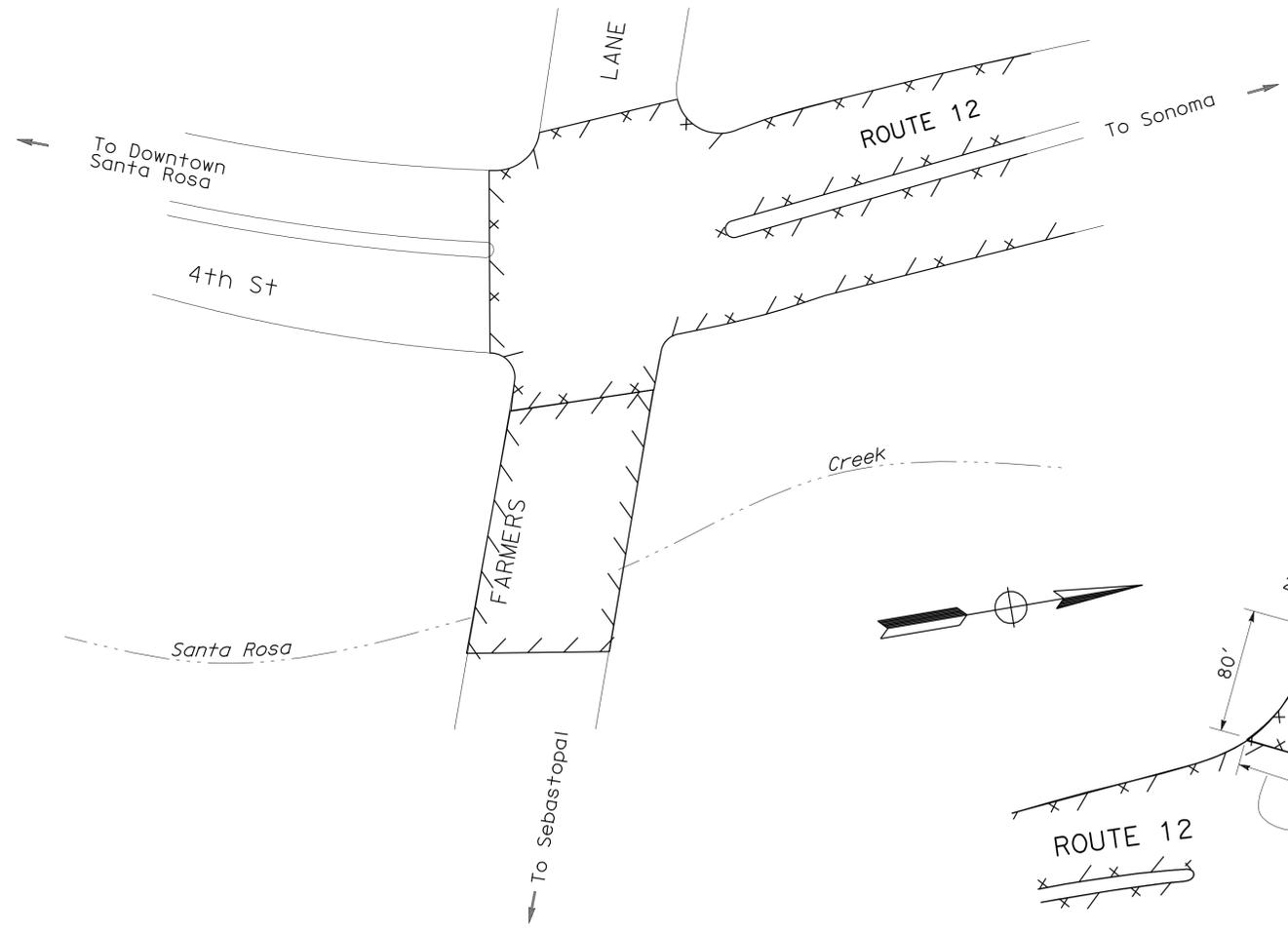
1-30-12
 PLANS APPROVAL DATE

7-25-11
 DATE

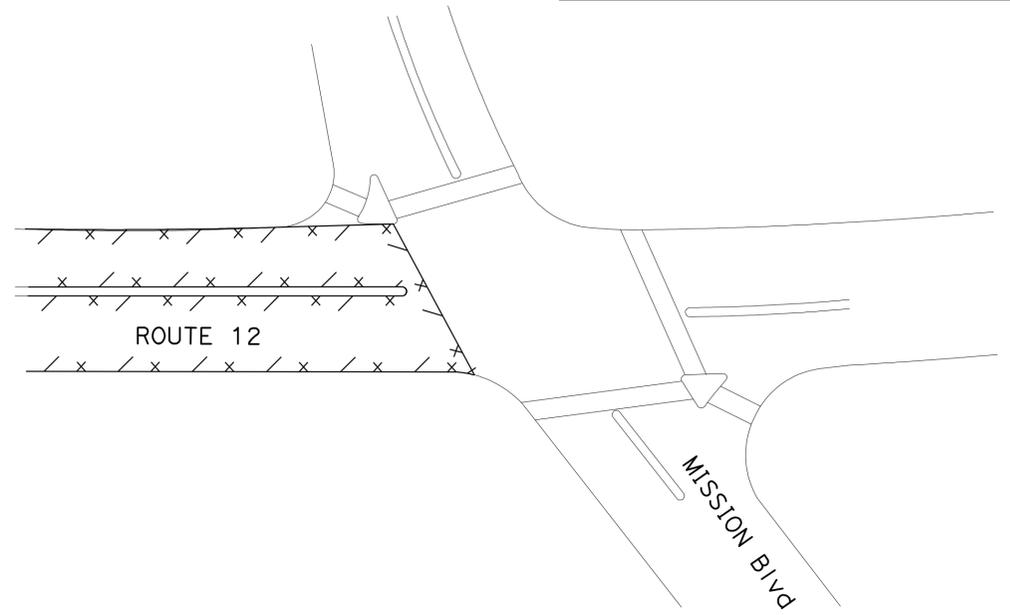
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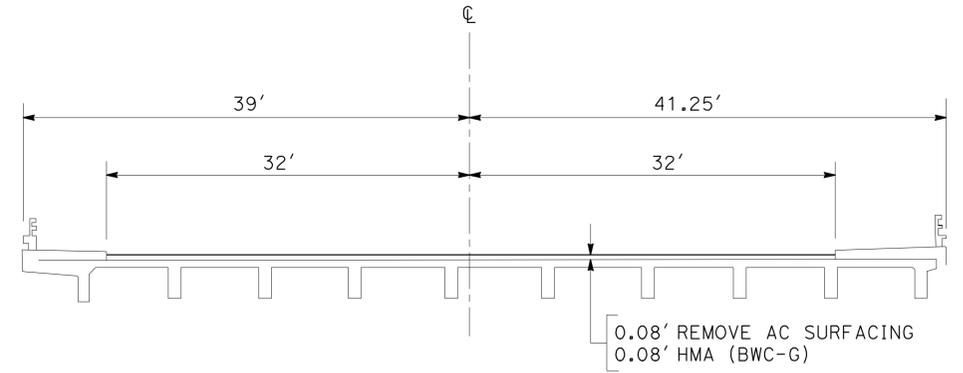
COLD PLANE AC PAVEMENT AT INTERSECTIONS AND DRIVEWAYS



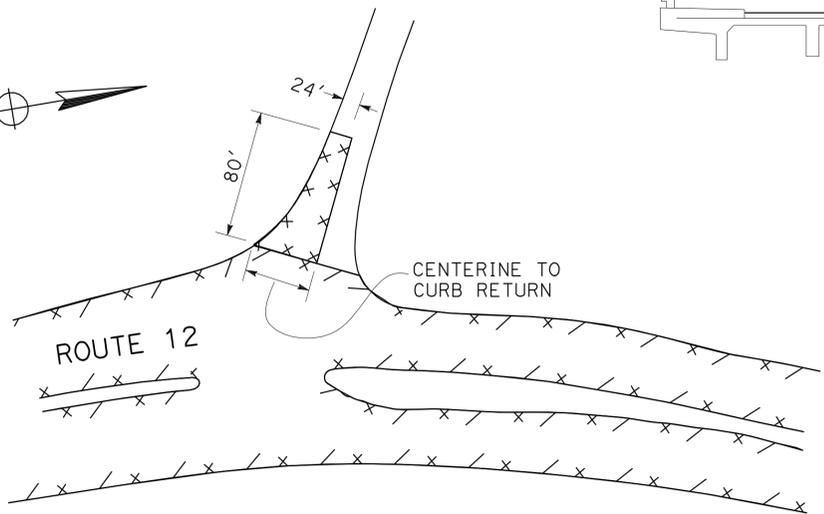
COLO PLANE AC PAVEMENT AT BEGINNING OF PROJECT



COLD PLANE AC PAVEMENT AT END OF PROJECT



SANTA ROSA CREEK BRIDGE
 PM T18.51 BRIDGE No. 20-0238



COLD PLANE AC PAVEMENT AT BRUSH CREEK ROAD

CONSTRUCTION DETAILS
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 RAMSES SARGISS

CALCULATED/DESIGNED BY
 CHECKED BY

STEVEN S. LEE
 ROBERT CAMARGO

REVISED BY
 DATE

REVISED BY
 DATE

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	MUTCD CODE	MESSAGE	PANEL SIZE	NUMBER OF POST AND SIZE	No. OF SIGNS
1	W20-1	ROAD WORK AHEAD	48'' x 48''	(ONE) 4'' x 6''	7
2	G20-2	END ROAD WORK	48'' x 24''	(ONE) 4'' x 4''	7

LEGEND:

- No. CONSTRUCTION AREA SIGN NUMBER
- (S) DENOTES STATIONARY MOUNTED SIGN
- DIRECTION OF TRAFFIC

NOTES:

1. EXACT LOCATION AND POSITION OF CONSTRUCTION AREA SIGNS TO BE DETERMINED BY THE ENGINEER.
2. DIMENSIONS FOR SIGN PANEL AND POST ARE IN INCHES.
3. LETTERING SIZES FOR SIGN PANEL ARE IN INCHES.

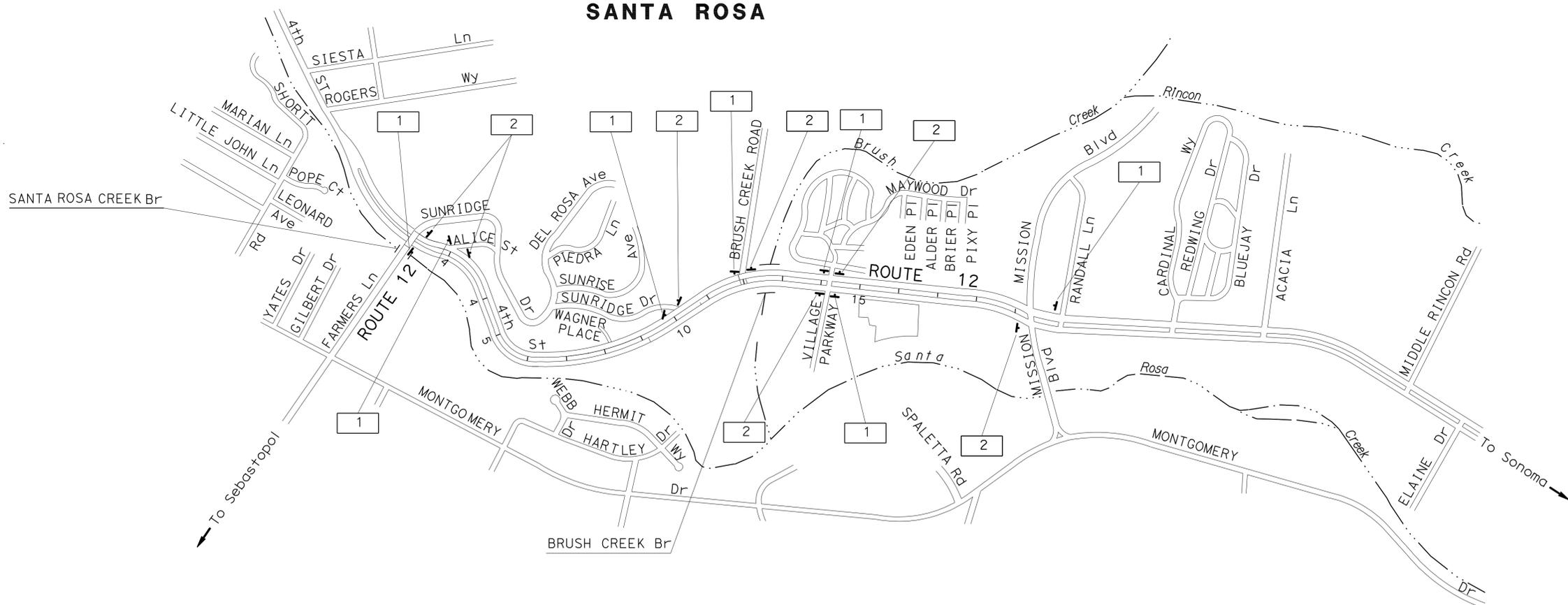
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEET
04	Son	12	T18.5/18.8	4	24

Robert Camargo 7-25-11
 REGISTERED CIVIL ENGINEER DATE
 1-30-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Robert Camargo
 No. 34402
 Exp. 9-30-13
 CIVIL
 STATE OF CALIFORNIA

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SANTA ROSA



CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	5	24

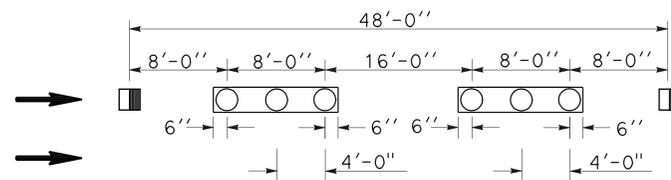
REGISTERED CIVIL ENGINEER DATE 7-25-11
 Robert Camargo
 No. 34402
 Exp. 9-30-13
 CIVIL
 STATE OF CALIFORNIA

1-30-12
 PLANS APPROVAL DATE

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LEGEND:

- TYPE A WHITE NON-REFLECTIVE MARKER
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE MARKER
- ▭ 4" WHITE
- ➔ DIRECTION OF TRAVEL



DETAIL 10M

NOTE:

INSTALL 4" WHITE AFTER INSTALLING PAVEMENT MARKERS

PAVEMENT DELINEATION QUANTITIES

LOCATION		"DETAIL NO. OR PAVEMENT MARKING"	PAVEMENT MARKER				THERMOPLASTIC TRAFFIC STRIPE				THERMOPLASTIC MARKING			REMOVE PAVEMENT MARKER	
LIMIT	DIRECTION		RETRO-REFLECTIVE		NON-REFLECTIVE		4"		8"		12" WHITE	ARROW	WORD/SYMBOL		
			G	D	H	A	4 IN	SOLID	BROKEN(15-9)	SOLID					
			EA				LF								SQFT
FARMERS LANE / ROUTE 12 INTERSECTION	NB	22		14				50						14	
		38B	24							300				24	
		TYPE III (L) ARROW										42			
		TYPE II ARROW										33			
		TYPE III (R) ARROW										42			
	SB	CROSSWALK				18				150				146	22
		CROSSWALK	4											188	
	EB	CROSSWALK												216	
		WB	STOP BAR											72	
	FROM FARMERS LANE TO BRUSH CREEK ROAD	EB	25A			139			3290						
27B								3290							
10M			79			455			3650						534
38			21							465			126		21
SIGNAL AHEAD(2 EA)															
DIAGONAL LINE												90			
TYPE III (L) ARROWS(3 EA)													126		
WB		TYPE VI ARROWS(3 EA)											126		
		STOP BAR										36			
		25A			139			3290							139
		27B						3290							
		10M	75			440			3520						515
		38	29							615					29
BRUSHCREEK ROAD / RTE 12 INTERSECTION	EB	38B	12										110	12	
		TYPE III (R) ARROWS(3 EA)											126		
		TYPE III (L) ARROWS(8 EA)											336		
	SIGNAL AHEAD(2 EA)												126		
	STOP BAR										66				
	10	3			12									15	
	SB	27B						100							
22				10			192							10	
38B		10											96	10	
CROSSWALK													116		
TYPE IV (L)ARROWS(2 EA)												30			
TYPE IV (R)ARROWS(2 EA)											30				
SHEET TOTAL			257	24	278	925	7072	6680	7320	1586	930	1032	252	1484	

PAVEMENT DELINEATION QUANTITIES

PDQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	6	24

Robert Camargo 7-25-11
 REGISTERED CIVIL ENGINEER DATE
 1-30-12
 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.

PAVEMENT DELINEATION QUANTITIES

LIMIT	DIRECTION	LOCATION	DETAIL NO. OR PAVEMENT MARKING	PAVEMENT MARKER			THERMOPLASTIC TRAFFIC STRIPE			THERMOPLASTIC MARKING				REMOVE PAVEMENT MARKER		
				RETRO-REFLECTIVE		NON-REFLECTIVE	YELLOW SOLID	4" WHITE		8" WHITE SOLID	12" YELLOW	12" WHITE	ARROW		WORD/SYMBOL	
				G	D	H		A	SOLID	BROKEN(15-9)						
				EA			LF			SQFT					EA	
FROM BRUSHCREEK ROAD TO STREAMSIDE DRIVE	EB		25A			19			420						19	
			27			5			380						5	
			27B								610					
			10M	14				76				610				90
			38	22									452			22
			DIAGONAL STRIPE										222			
			STOP BAR											48		
			TYPE III (L) ARROWS(3 EA)											126		
			TYPE III (R) ARROW											42		
				WB		25A			27			620				
27B										620						
10M	14							77				610			91	
STOP BAR													48			
STREAMSIDE DRIVE / RTE 12 INTERSECTION	WB		CROSSWALK									170				
	NB		CROSSWALK									96				
	SB		CROSSWALK									96				
FROM STREAMSIDE DRIVE TO MISSION BLVD	EB		25A			68			1600						68	
			27B							1600						
			10M	40				233				1860			273	
			38	21								460			21	
			TYPE III (L) ARROWS(4 EA)											168		
			TYPE III (R) ARROWS(2 EA)											84		
	WB		25A			68			1600						68	
			27B							1600						
			10M	35				200				1600			235	
			38	6								120			6	
			TYPE III (L) ARROWS(2 EA)											84		
SHEET TOTAL				152		187	586	4620	4430	4680	1032	222	1374	336	925	
SHEET TOTAL FROM PDQ - 1				257	24	270	907	7072	6680	7170	1586	222	930	1032	252	1484
SUB TOTAL				409	24	465	1493	11692	11110	11850	2618	222	2304	1368	252	2409
TOTAL					898		1493		22802		11850		4116		2409	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 RAMSES SARGISS
 CALCULATED/DESIGNED BY
 CHECKED BY
 STEVEN S. LEE
 ROBERT CAMARGO
 REVISED BY
 DATE REVISED

PAVEMENT DELINEATION QUANTITIES
PDQ-2

LAST REVISION | DATE PLOTTED => 03-FEB-2012
 01-26-12 TIME PLOTTED => 07:29

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8 7	7	24

Robert Camargo 1-30-12
 REGISTERED CIVIL ENGINEER DATE
 1-30-12
 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.

COLD PLANE AC PAVEMENT AND HMA (TYPE A)

DIRECTION	LOCATION	PM	LANE 1	LANE 2	LANE 3	OUTSIDE SHOULDER	LEFT TURN POCKET	RIGHT TURN POCKET	LENGTH (N)	WIDTH (N)	COLD PLANE AC PAVEMENT		HMA (TYPE A)	TACK COAT	
											0.4'	0.25'			
											LF	LF			SQYD
EB	1	T18.5					X	X	55	35	214		62.1	0.18	
	2	17.8			X				100	13	144		41.9	0.12	
	3	17.9		X					80	15	133		38.7	0.11	
	4	17.9	X						75	12	100		29.0	0.08	
	5	18.0					X			200	10	222		64.5	0.19
	6	18.0	X							100	12	133		38.7	0.11
	7	18.2	X							30	12	40		11.6	0.03
	8	18.2						X		20	12	27		7.7	0.02
	9	18.2						X		25	12	33		9.7	0.03
	10	18.3	X	X						75	12	100		29.0	0.08
	11	18.3					X			20	10	22		6.5	0.02
	12	18.4	X	X						50	12	67		19.4	0.06
	13	18.4	X							50	12	67		19.4	0.06
	14	18.5		X						75	12	100		29.0	0.08
	15	18.5	X							25	12	33		9.7	0.03
	16	18.8	X	X						100	12	133		38.7	0.11
SUBTOTAL EB											1569		455.5	1.31	
DIRECTION	LOCATION	PM	LANE 1	LANE 2	LANE 3	OUTSIDE SHOULDER	LEFT TURN POCKET	RIGHT TURN POCKET	LENGTH (N)	WIDTH (N)	COLD PLANE AC PAVEMENT		HMA (TYPE A)	TACK COAT	
											0.4'	0.25'			
											LF	LF			SQYD
WB	17	18.8	X						100	12	133		38.7	0.11	
	18	18.8		X					100	22	244		71.0	0.20	
	19	18.7			X				100	12	133		38.7	0.11	
	20	18.7		X					125	12	167		48.4	0.14	
	21	18.6	X						80	12	107		31.0	0.09	
	22	18.5		X					90	12	120		34.8	0.10	
	23	18.4	X	X			X		25	36	100		29.0	0.08	
	24	18.4	X						50	12	67		19.4	0.06	
	25	18.3	X	X					50	24	133		38.7	0.11	
	26	18.3	X	X					75	25	208		60.5	0.17	
	27	18.0	X						100	12	133		38.7	0.11	
	28	17.9		X					105	12	140		40.6	0.12	
	29	17.8						X	25	12	33		9.7	0.03	
30	17.8							20	12	27		7.7	0.02		
SUBTOTAL WB											1746		506.8	1.46	
BRUSH CREEK ROAD (80' X 24' X 0.25')												2000	37.5	0.03	
TOTAL											5316 *		999.8 *	2.76 *	

* QUANTITY INCLUDED IN SUMMARY OF ROADWAY QUANTITIES.
 (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

SUMMARY OF QUANTITIES

Q-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	8	24

Robert Camargo 7-25-11
 REGISTERED CIVIL ENGINEER DATE
 1-30-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Robert Camargo
 No. 34402
 Exp. 9-30-13
 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.

REMOVE AC DIKE AND PLACE HMA DIKE

DIRECTION	PM	REMOVE AC DIKES	PLACE HMA DIKE		HOT MIX ASPHALT (TYPE A) TON
			TYPE F	TYPE E	
			LF		
EB	17.79 - 17.82	160	160		1.1
	17.85 - 17.97	635	635		4.2
	17.97 - 18.32	1850		1850	25.0
	TOTAL	2645	795	1850	30.3 *

PORTABLE CHANGEABLE MESSAGE SIGN

LOCATION PM	NUMBER OF SIGNS (N)
T18.5/18.8	3

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

NOTE: EXACT LOCATION OF PLACE HMA DIKE SHALL BE DETERMINED BY THE ENGINEER.

* QUANTITY INCLUDED IN THE SUMMARY OF ROADWAY QUANTITIES

ROADWAY QUANTITIES (MAINLINE)

LOCATION		COLD PLANE AC PAVEMENT (0.08) SQYD	ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE) TON	HOT MIX ASPHALT BONDED WEARING COURSE GAP GRADED TON	REMOVE AC SURFACING SQFT	SHOULDER BACKING TON
LIMIT	PM					
SANTA ROSA CREEK BRIDGE (BRIDGE No. 20-238)	T18.51		1.0	43	8100	
FROM SANTA ROSA CREEK BRIDGE TO FARMER Ln	T185.5-17.70	250	0.2	12		
FARMER Ln Rte/12 INTERSECTION	17.7	1690	1.2	80		
FROM FARMER LN TO BRUSH CREEK Rd	17.70-18.35	19760	13.5	900		48
BRUSH CREEK Rd/Rte 12 INTERSECTION	18.35	920	0.7	50		2.5
FROM BRUSH CREED Rd TO STREAMSIDE DRIVE	18.35-18.49	4000	2.8	190		4.5
STREAMSIDE DRIVE/Rte 12 INTERSECTION	18.49	1060	0.8	50		
STREAMSIDE DRIVE TO MISSION BOULEVARD	18.49-18.82	9510	6.5	435		15
TOTAL		37190 *	26.7 *	1760 *	8100	70 *

* QUANTITY INCLUDED IN THE SUMMARY OF ROADWAY QUANTITIES

SUMMARY OF ROADWAY QUANTITIES

DESCRIPTION	COLD PLANE AC PAVEMENT	HOT MIX ASPHALT (TYPE A)	TACK COAT	ASPHALTIC EMULSION MEMBRANE (BONDED WEARING COURSE)	HOT MIX ASPHALT (BONDED WEARING COURSE-GAP GRADED)	SHOULDER BACKING
	SQYD	TON	TON	TON	TON	
FROM COLD PLANE AC PAVEMENT AND HMA (TYPE A) TABLE	5316	999.8	2.76			
FROM REMOVE AC DIKE AND PLACE HMA DIKE TABLE		30.3				
FROM ROADWAY QUANTITIES TABLE	37190			26.7	1760	70
SUB-TOTAL	42506	1030.1	2.76	26.7	1760	70
TOTAL	42506	1030.1	2.76	26.7	1760	70

SUMMARY OF QUANTITIES

Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 RAMSES SARGISS
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 ROBERT CAMARGO
 STEVEN S. LEE
 REVISOR BY
 DATE REVISOR



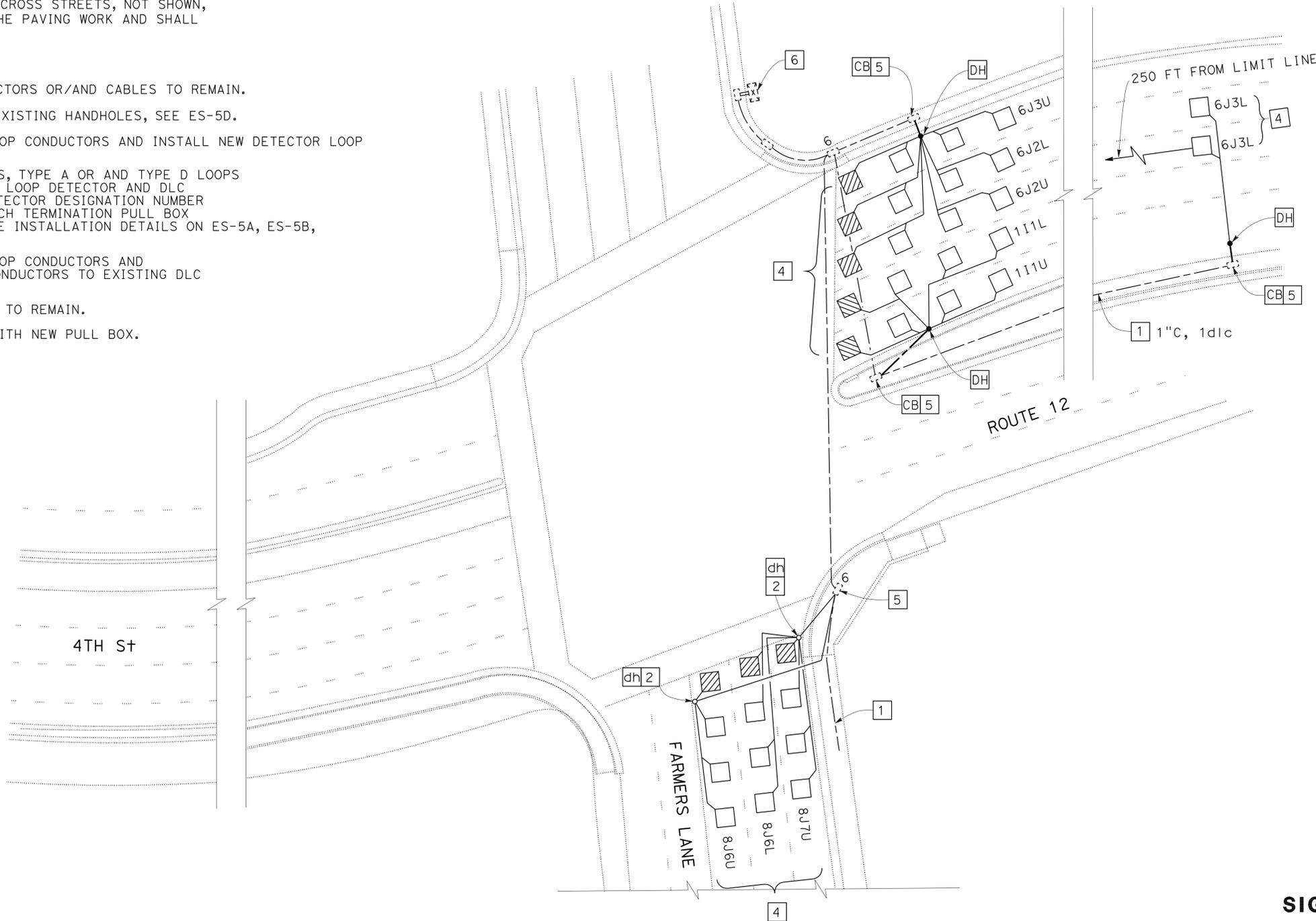
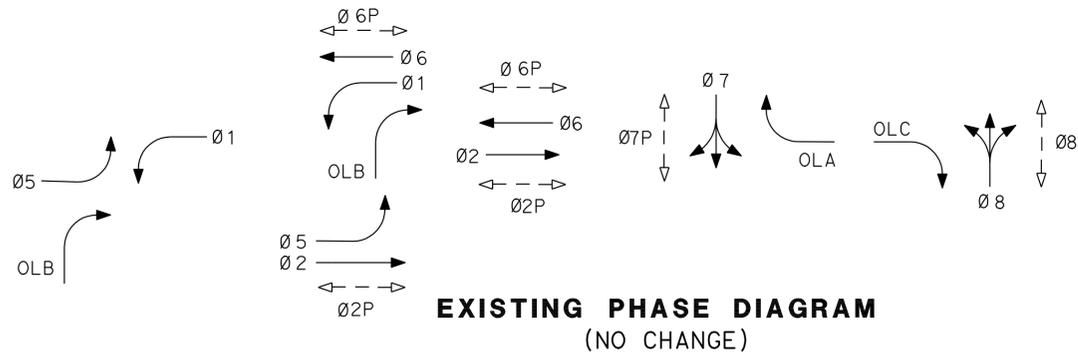
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	9	24
		<i>Elaine Wong</i> 7-25-11 REGISTERED ELECTRICAL ENGINEER DATE			
		1-30-12 PLANS APPROVAL DATE			
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE LOOP DETECTORS TO BE REPLACED PRIOR TO PAVING.
2. ALL LOOP DETECTORS AT EACH LOCATION SHALL BE REPLACED AND TESTED WITHIN THE TIME ALLOTTED FOR TRAFFIC SIGNAL SYSTEM SHUTDOWN AT THAT LOCATION.
3. THE CONTRACTOR SHALL PROVIDE TWO REPORTS PER LOCATION ON THE STATUS OF EACH DETECTOR LOOP REPLACEMENT SHOWING CONTINUITY AND INSULATION RESISTANCE READING. THE REPORTS SHALL BE SUBMITTED TO THE ENGINEER, ONE BEFORE STARTING WORK AND THE OTHER AFTER WORK HAS BEEN COMPLETED AT EACH LOCATION.
4. EXISTING LOOP DETECTORS ON CROSS STREETS, NOT SHOWN, SHALL NOT BE AFFECTED BY THE PAVING WORK AND SHALL REMAIN IN OPERATION.

PROJECT NOTES:

- 1 EXISTING CONDUIT WITH CONDUCTORS OR/AND CABLES TO REMAIN.
- 2 ADJUST AND RAISE AFFECTED EXISTING HANDHOLES, SEE ES-5D.
- 3 REMOVE EXISTING DETECTOR LOOP CONDUCTORS AND INSTALL NEW DETECTOR LOOP CONDUCTORS.
- 4 INSTALL 6 FT X 6 FT, 3 TURNS, TYPE A OR AND TYPE D LOOPS CENTERED IN EACH LANE. EACH LOOP DETECTOR AND DLC SHALL BE IDENTIFIED WITH DETECTOR DESIGNATION NUMBER INDICATED ON THE PLAN IN EACH TERMINATION PULL BOX AND CONTROLLER CABINET. SEE INSTALLATION DETAILS ON ES-5A, ES-5B, ES-5D.
- 5 REMOVE EXISTING DETECTOR LOOP CONDUCTORS AND SPLICE NEW DETECTOR LOOP CONDUCTORS TO EXISTING DLC CABLES RESPECTIVELY.
- 6 EXISTING CONTROLLER CABINET TO REMAIN.
- 7 REPLACE EXISTING PULL BOX WITH NEW PULL BOX.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL
 FUNCTIONAL SUPERVISOR: ELAINE T. WONG
 CALCULATED/DESIGNED BY: ALEX KHOO
 CHECKED BY: ELAINE T. WONG
 REVISED BY: ALEX KHOO
 DATE REVISED: ELAINE T. WONG

APPROVED FOR ELECTRICAL WORK ONLY



SIGNAL AND LIGHTING (MODIFY)

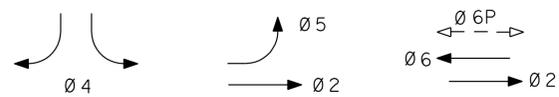
SCALE: 1" = 20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	10	24

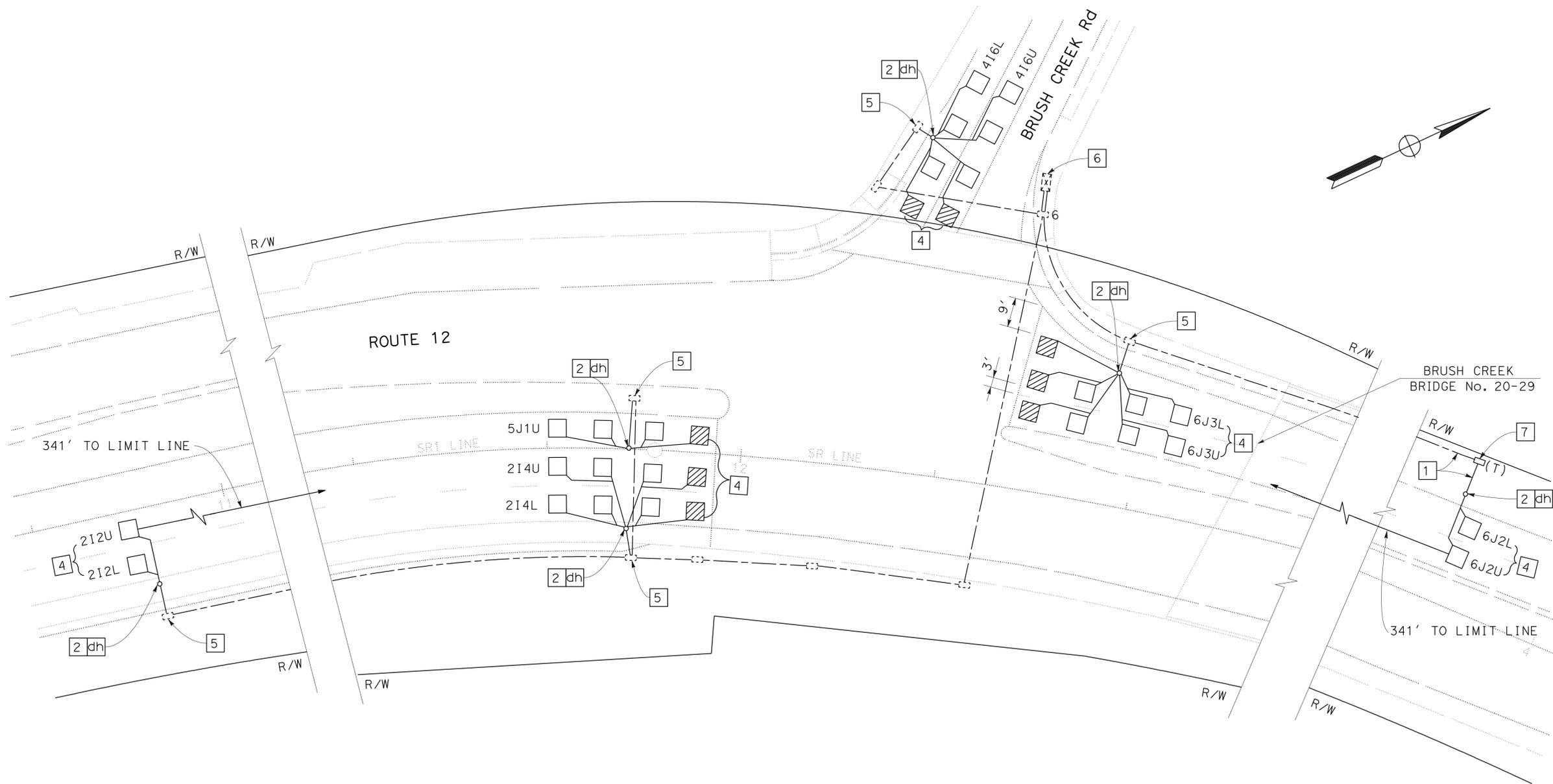
Elaine Wong 7-25-11
 REGISTERED ELECTRICAL ENGINEER DATE
 1-30-12
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Elaine T. Wong
 No. 13753
 Exp. 6-30-13
 ELECT
STATE OF CALIFORNIA

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



**EXISTING PHASE DIAGRAM
 (NO CHANGE)**



**SIGNAL AND LIGHTING
 (MODIFY)**
 SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

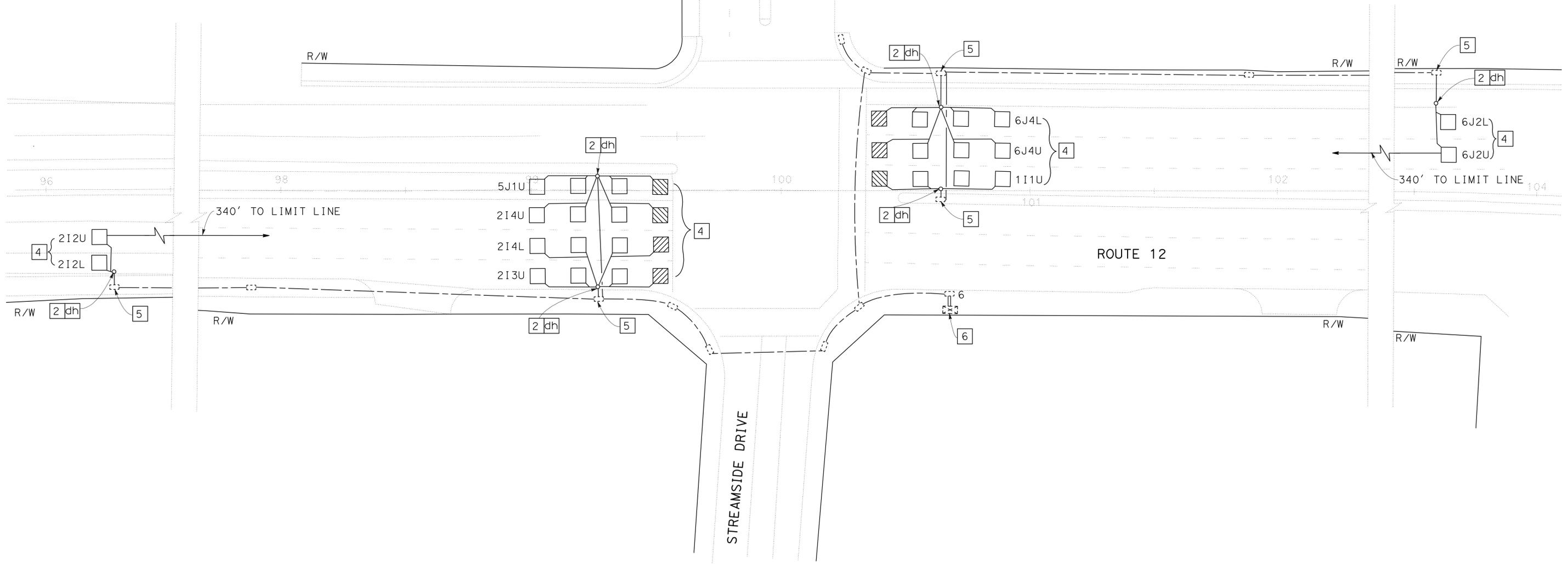
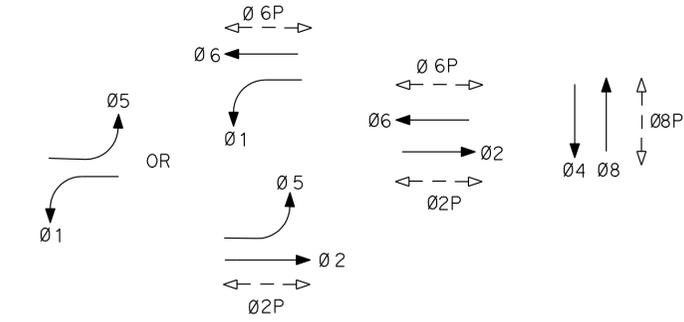
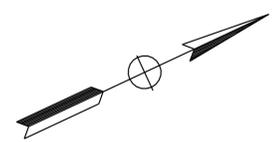
FOR NOTES, ABBREVIATIONS
 AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
Caltrans	ELAINE T. WONG	ALEX KHOO	
ELECTRICAL	ELAINE T. WONG	ELAINE T. WONG	
	CHECKED BY	REVISOR	DATE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR: ELAINE T. WONG
 CALCULATED/DESIGNED BY: ELAINE T. WONG
 CHECKED BY: ALEX KHOO
 REVISED BY: ELAINE T. WONG
 DATE REVISED: []

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



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	11	24

REGISTERED ELECTRICAL ENGINEER DATE: 7-25-11
 ELAINE T. WONG
 No. 13753
 Exp. 6-30-13
 ELECT

PLANS APPROVAL DATE: 1-30-12

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 AND LIGHTING (MODIFY)

SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 ELAINE T. WONG

CALCULATED/DESIGNED BY
 CHECKED BY

ALEX KHOO
 ELAINE T. WONG

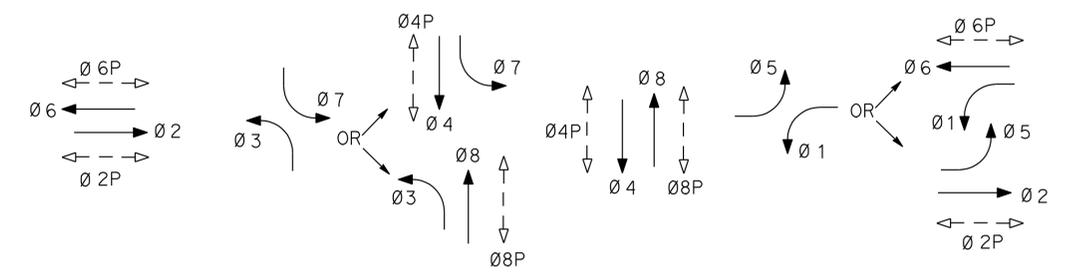
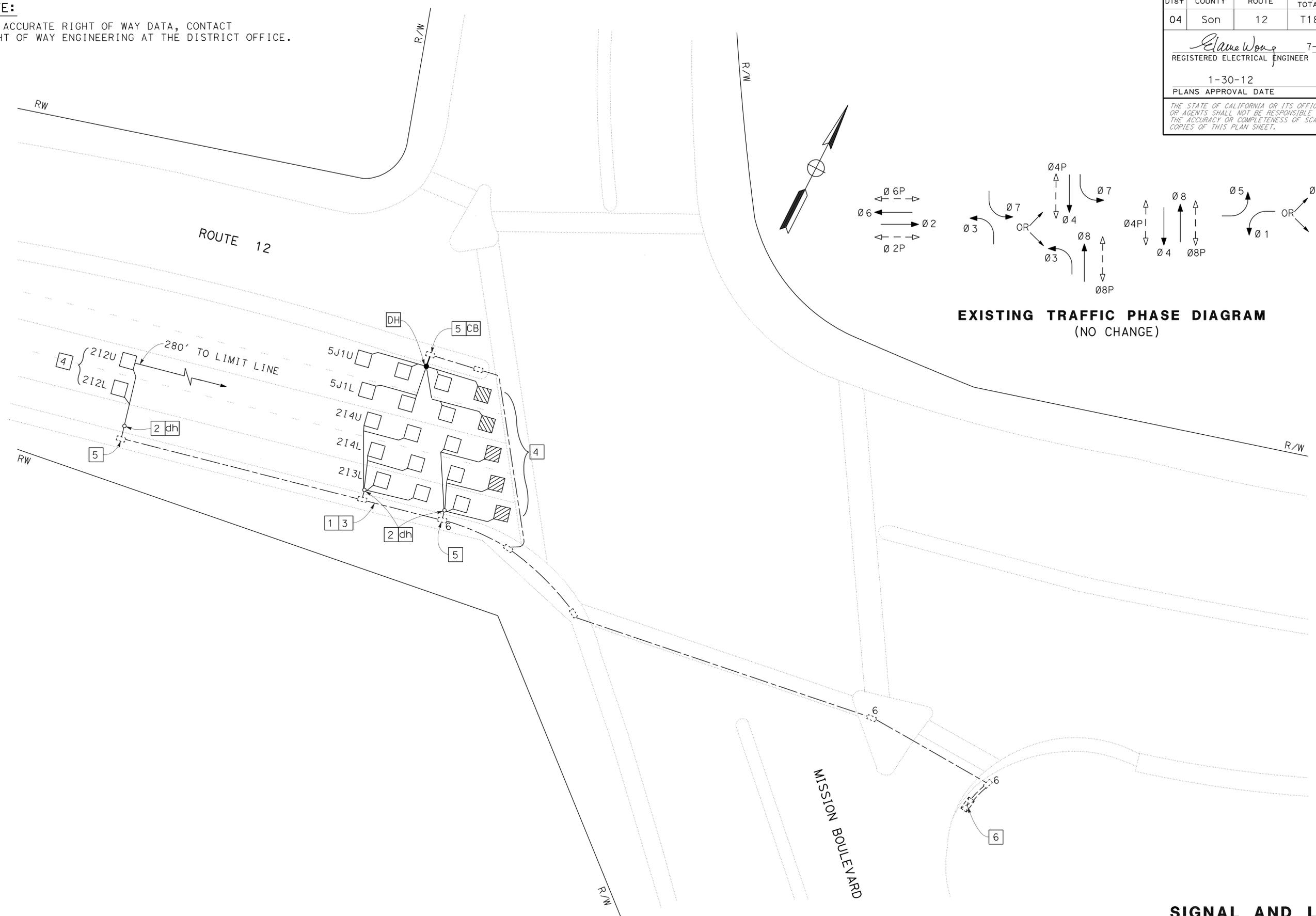
REVISED BY
 DATE REVISED

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	12	24

Elaine Wong 7-25-11
 REGISTERED ELECTRICAL ENGINEER DATE
 1-30-12
 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.

REGISTERED PROFESSIONAL ENGINEER
 Elaine T. Wong
 No. 13753
 Exp. 6-30-13
 ELECT
 STATE OF CALIFORNIA



EXISTING TRAFFIC PHASE DIAGRAM
 (NO CHANGE)

SIGNAL AND LIGHTING
(MODIFY)
 SCALE: 1" = 20'

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS
 AND LEGEND, SEE SHEET E-1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	13	24

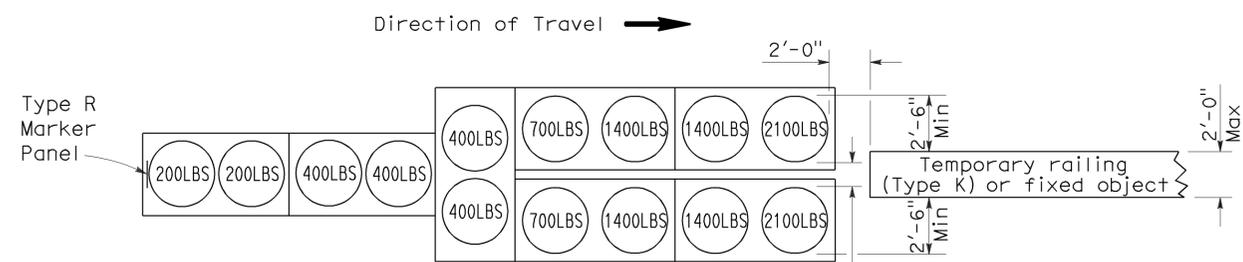
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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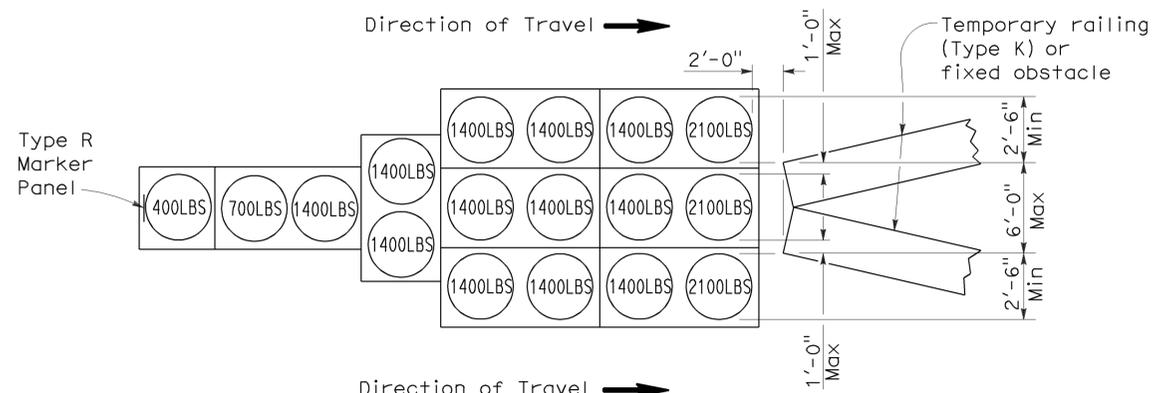
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 1-30-12



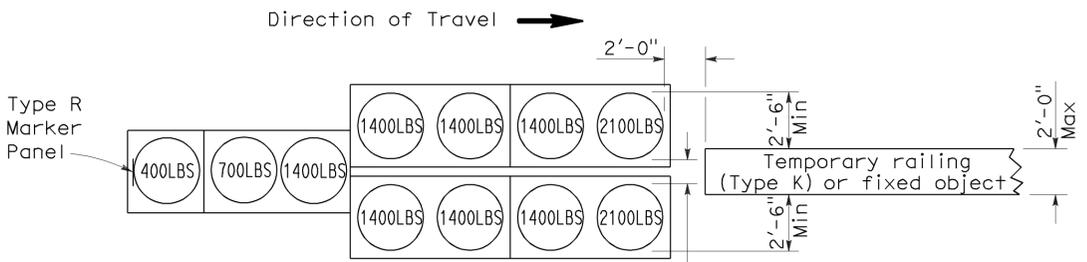
ARRAY 'TU14'

Approach speed 45 mph or more



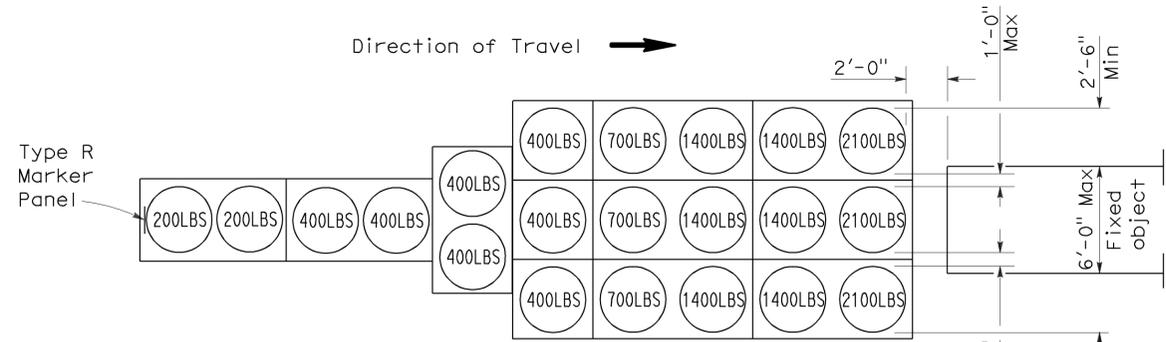
ARRAY 'TU17'

Approach speed less than 45 mph



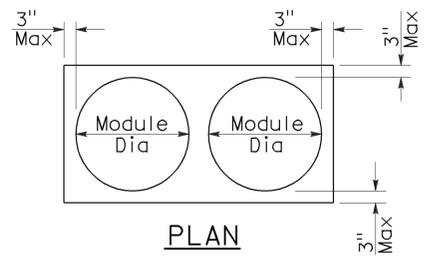
ARRAY 'TU11'

Approach speed less than 45 mph

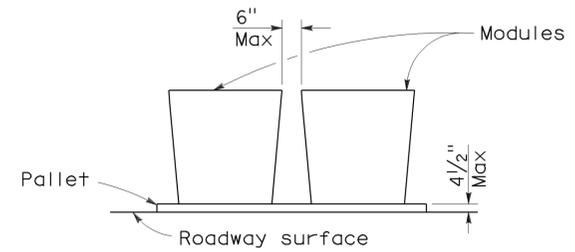


ARRAY 'TU21'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	14	24

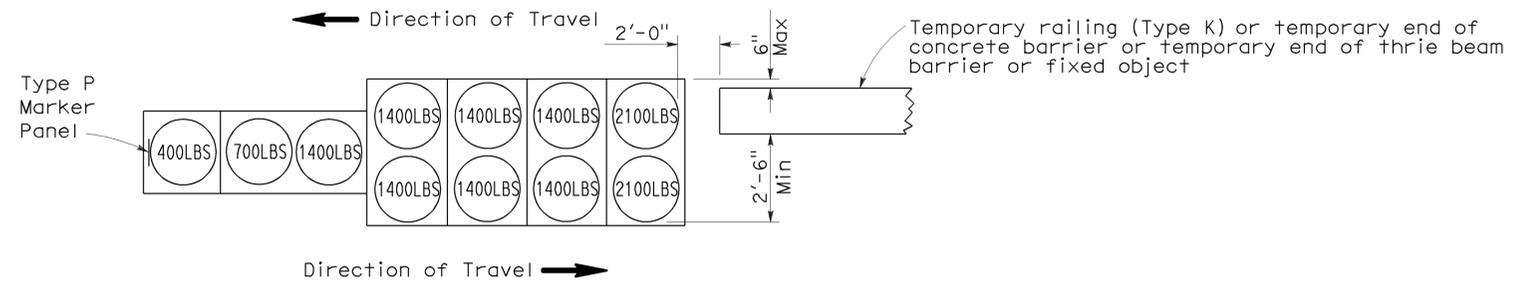
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

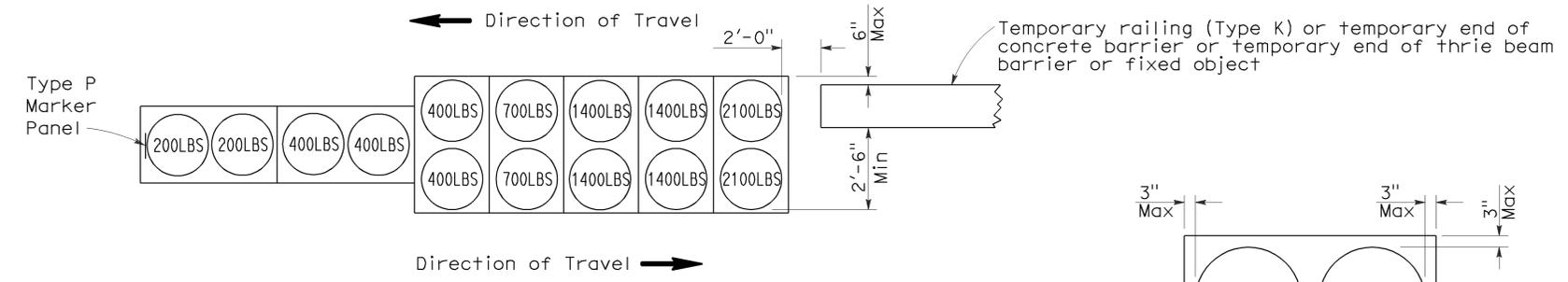
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1-30-12



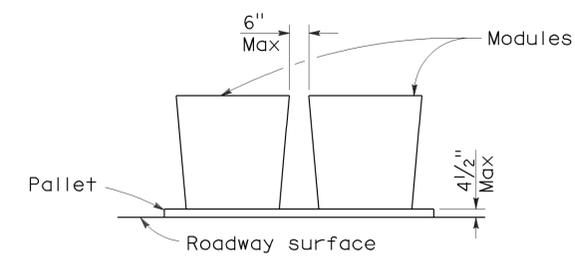
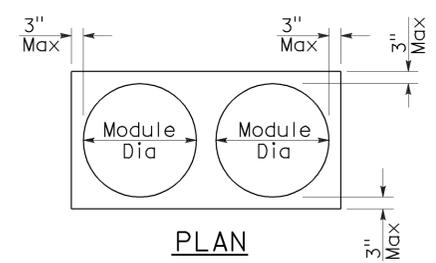
ARRAY 'TB11'

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

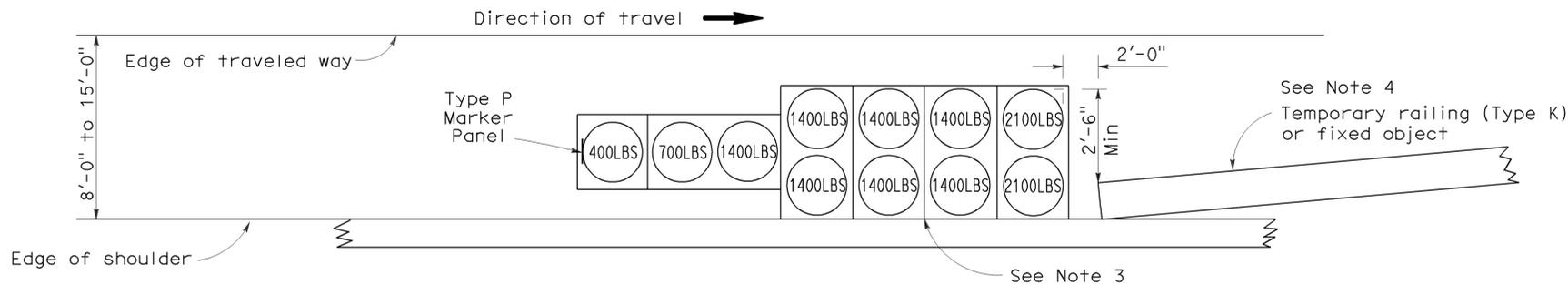
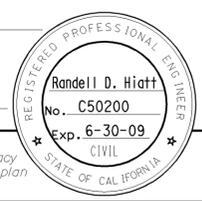
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	15	24

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

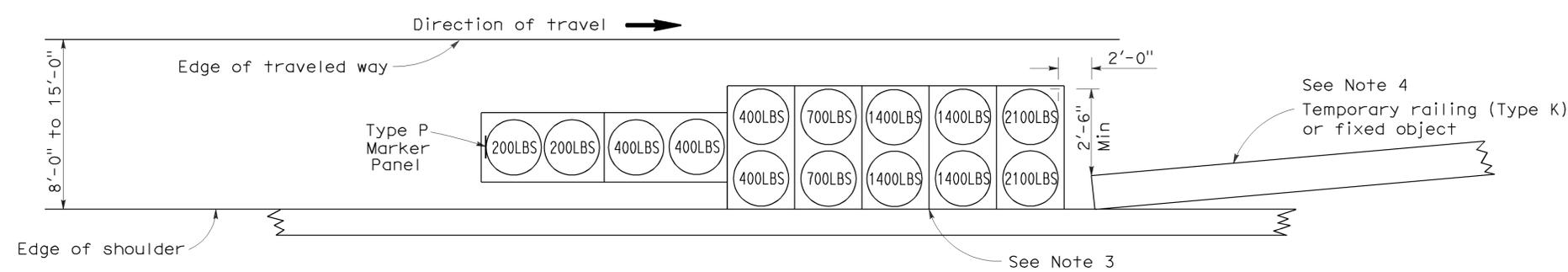
June 6, 2008
PLANS APPROVAL DATE

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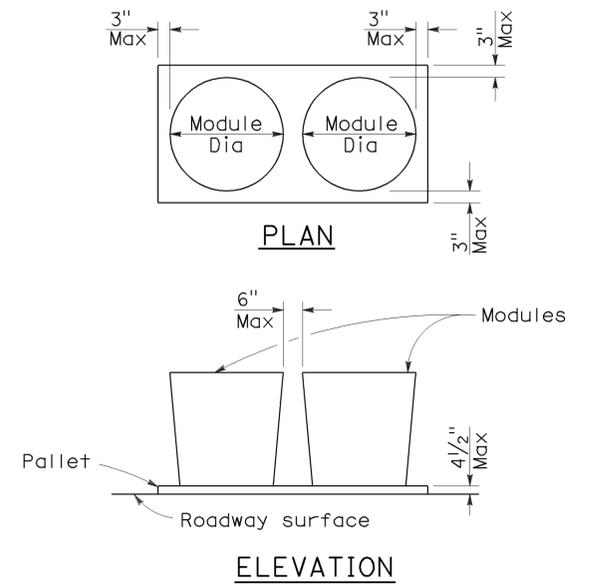
To accompany plans dated 1-30-12



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



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



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**
NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	12	T18.5/18.8	16	24

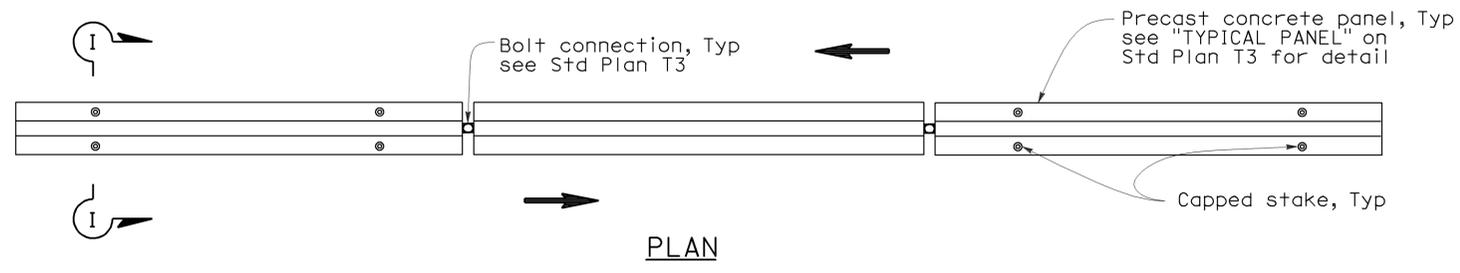
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

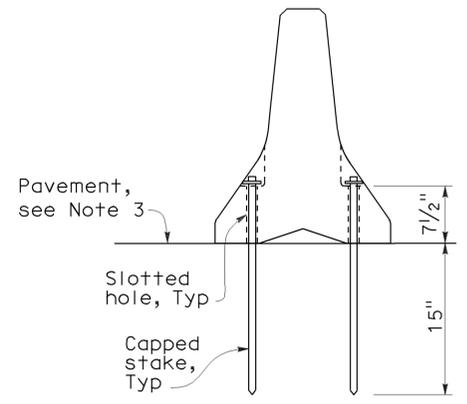
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 1-30-12



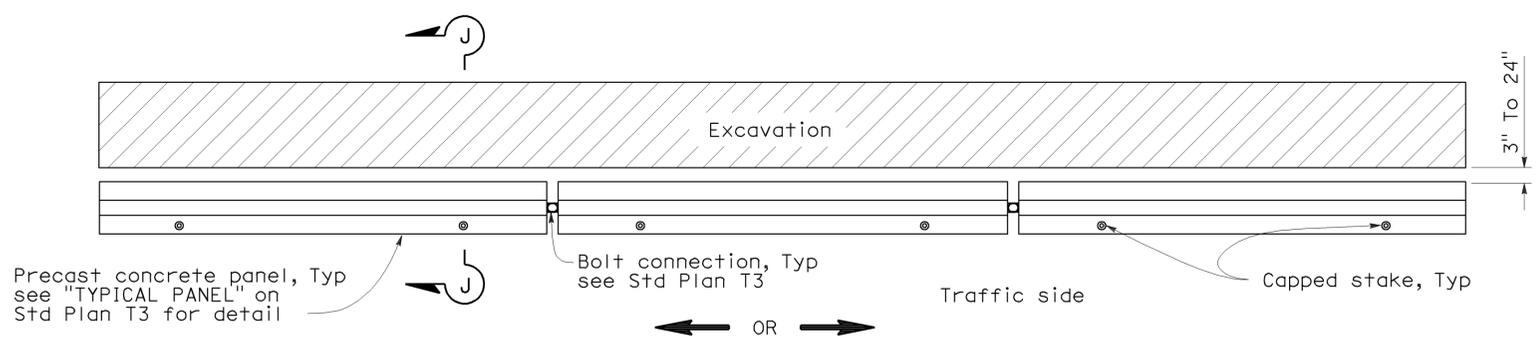
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



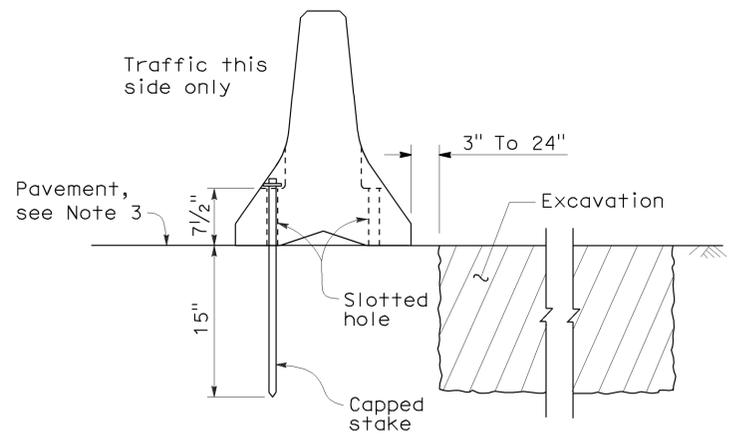
SECTION I-I

NOTES:

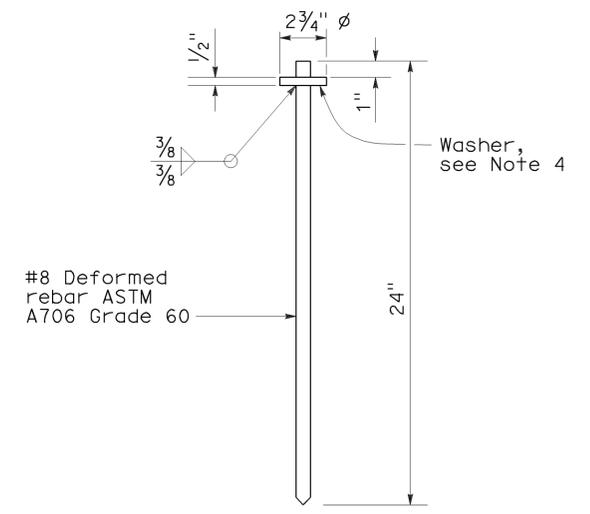
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of 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)**

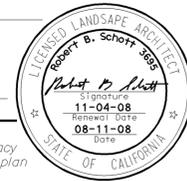
NO SCALE

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

2006 NEW STANDARD PLAN NSP T3A

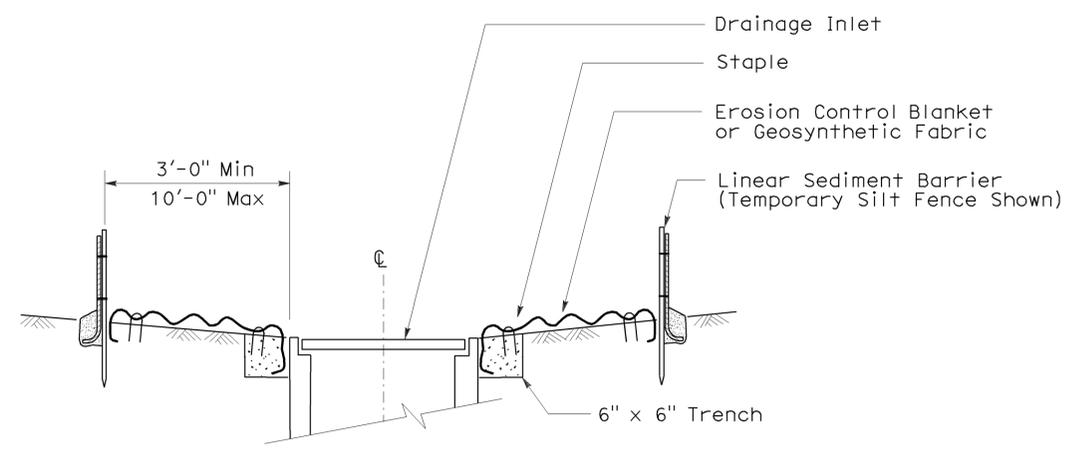
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	17	24

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS Approval DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

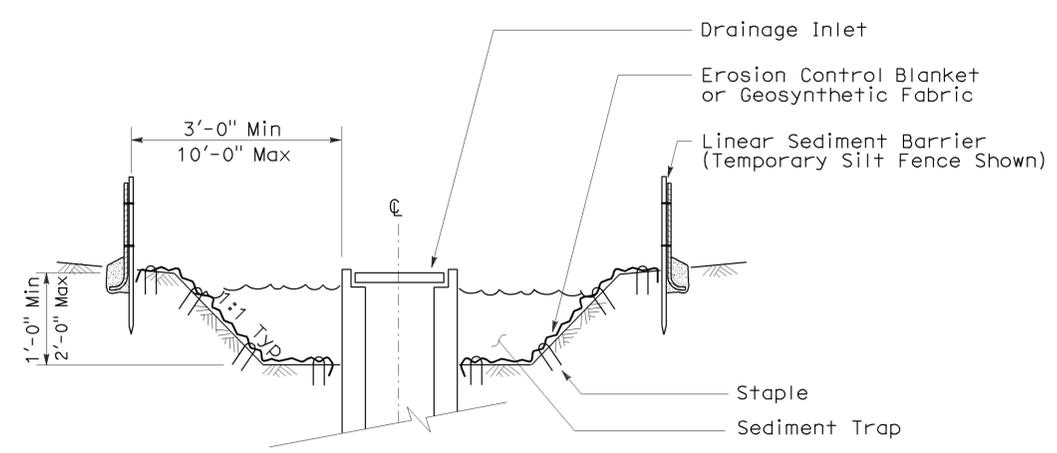


To accompany plans dated 1-30-12

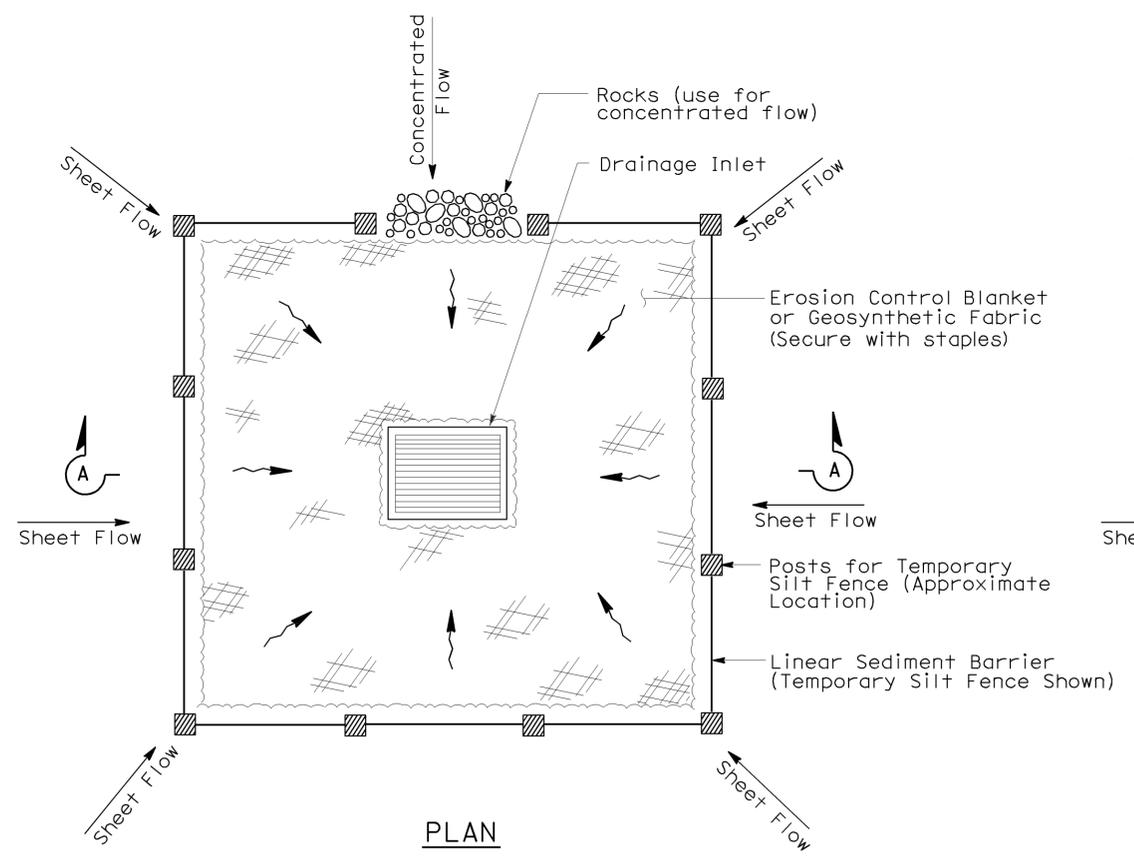
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
 - Dimensions may vary to fit field conditions.



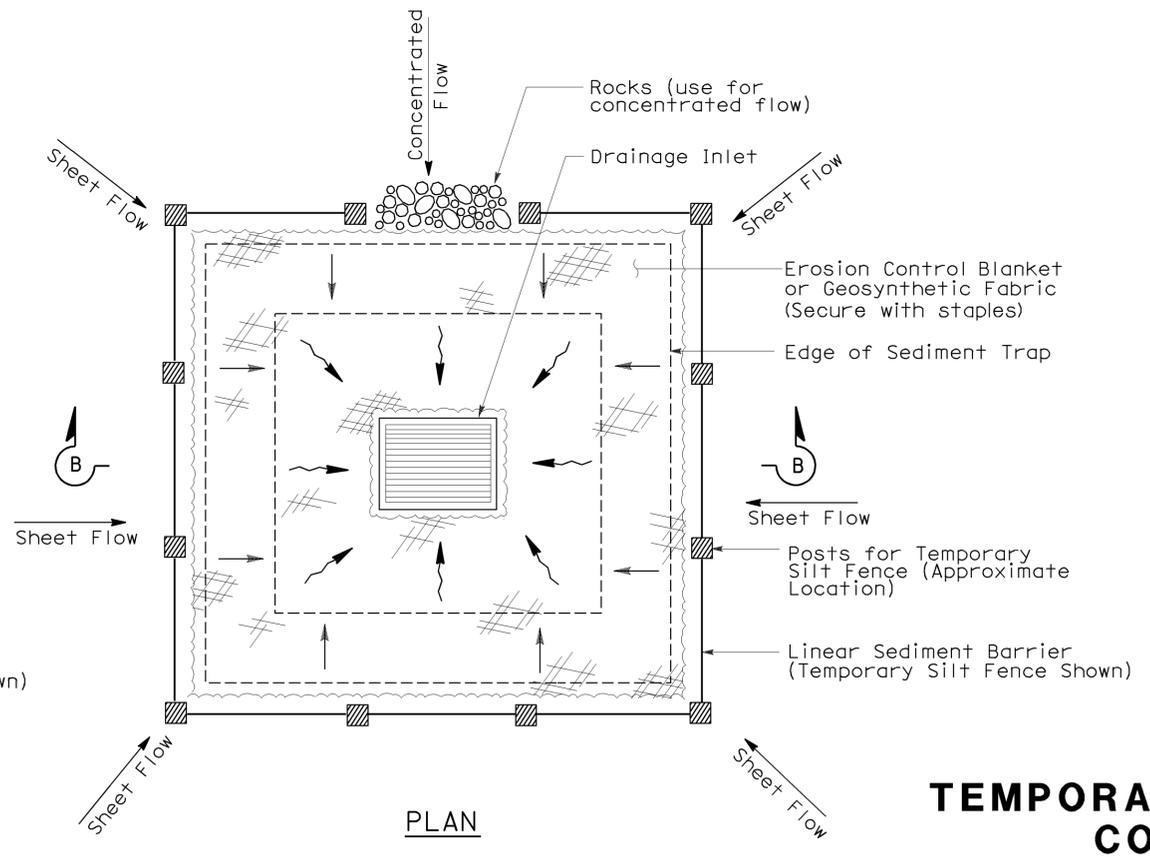
SECTION A-A



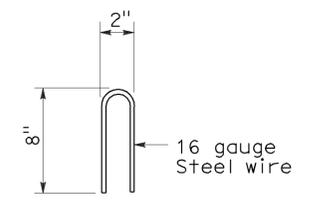
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



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



STAPLE DETAIL

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

Nsp t61 dated august 15, 2008 supplements the standard plans book dated may 2006.

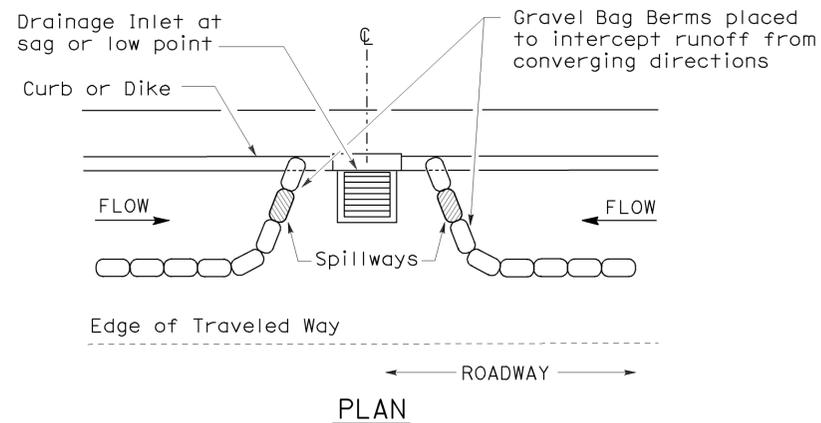
2006 NEW STANDARD PLAN NSP T61



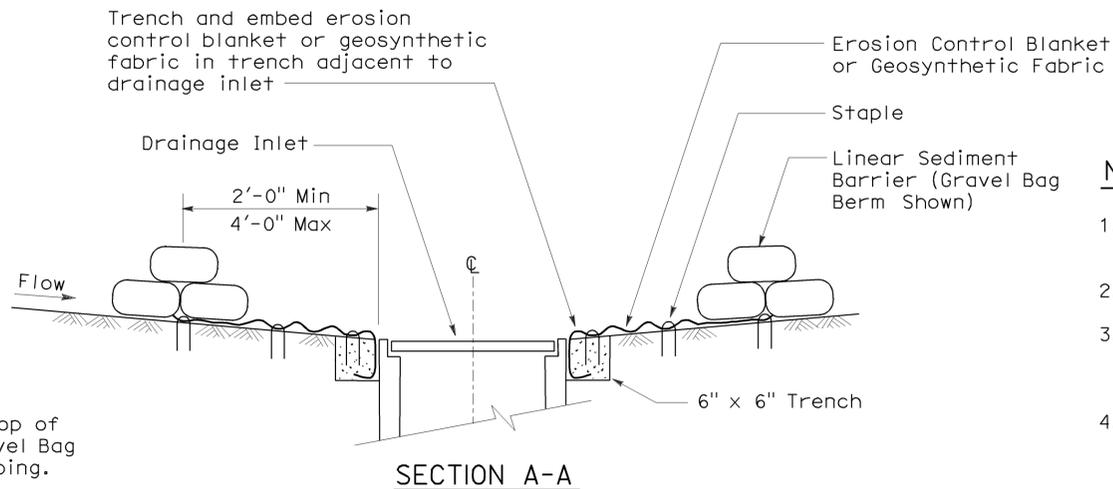
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

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

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



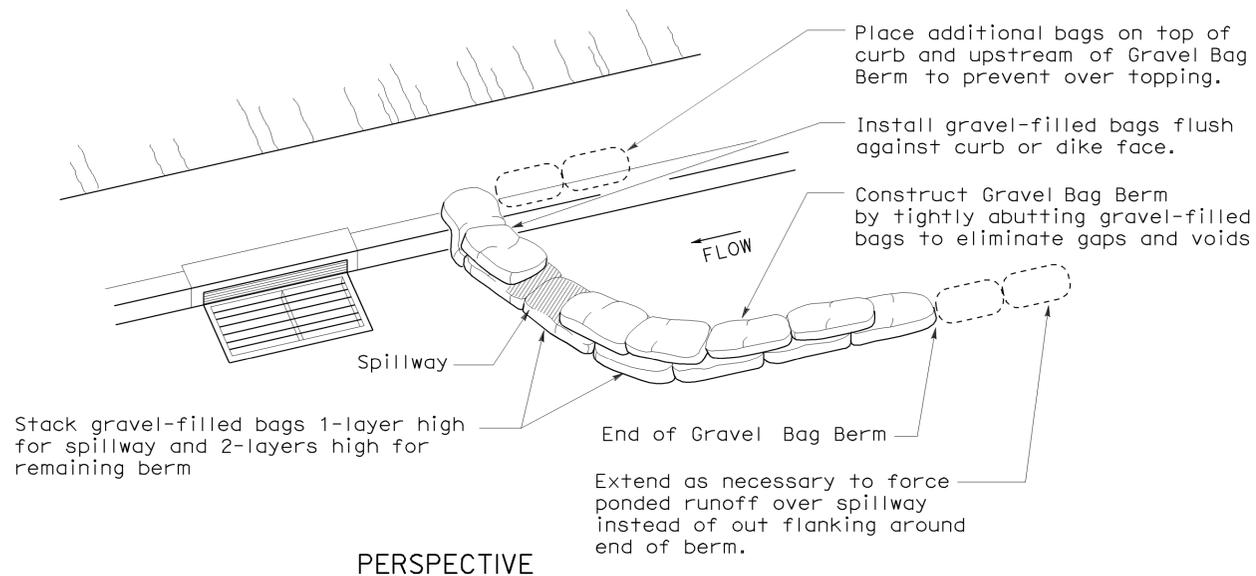
CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)



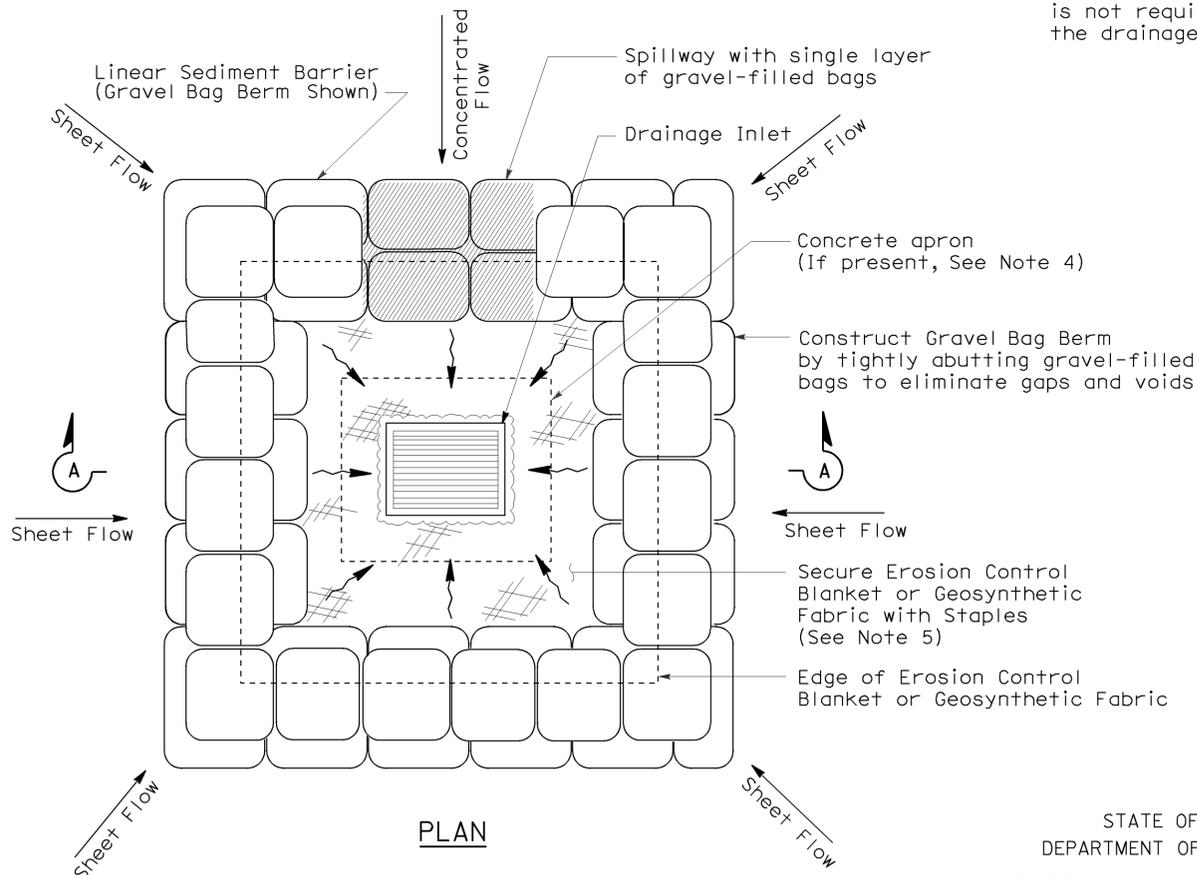
SECTION A-A

NOTES:

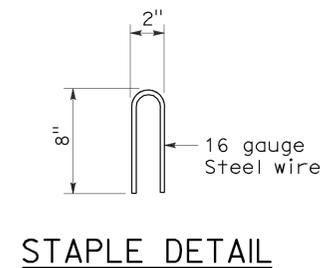
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.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



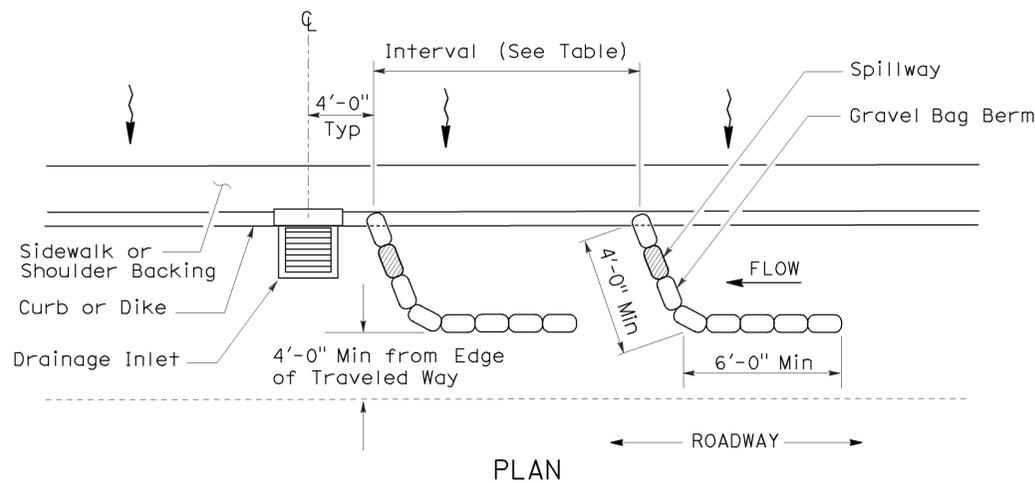
PERSPECTIVE



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)



STAPLE DETAIL



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

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

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

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

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

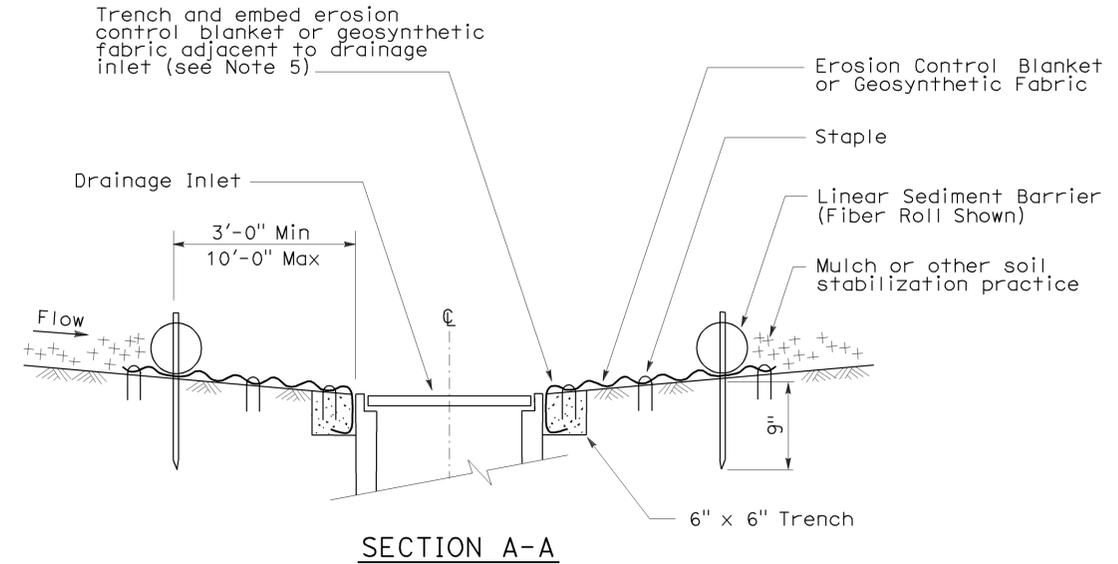
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	19	24

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT

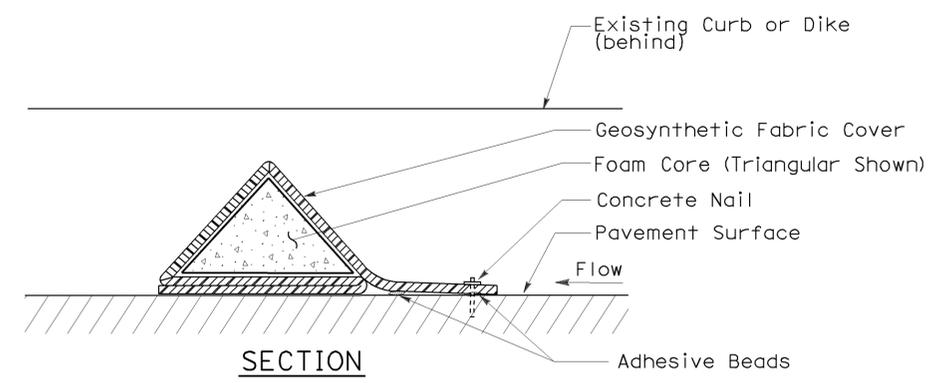
August 15, 2008
 PLANS APPROVAL DATE

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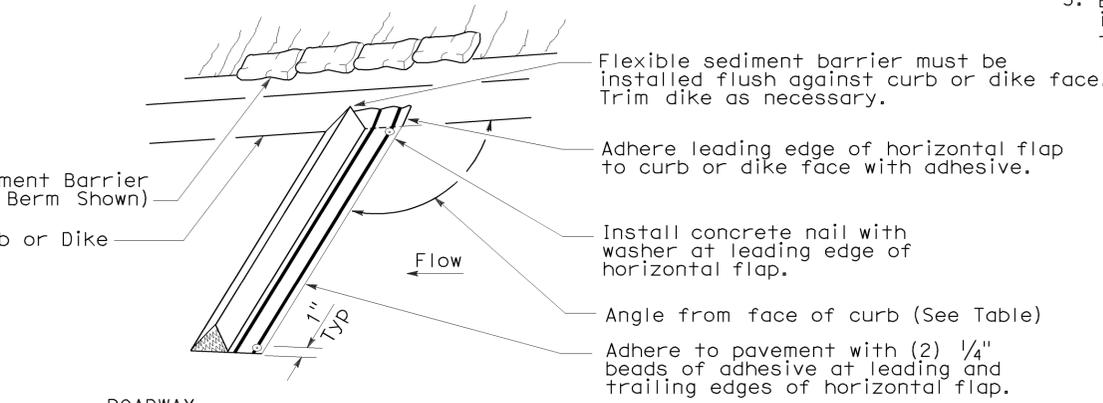
To accompany plans dated 1-30-12



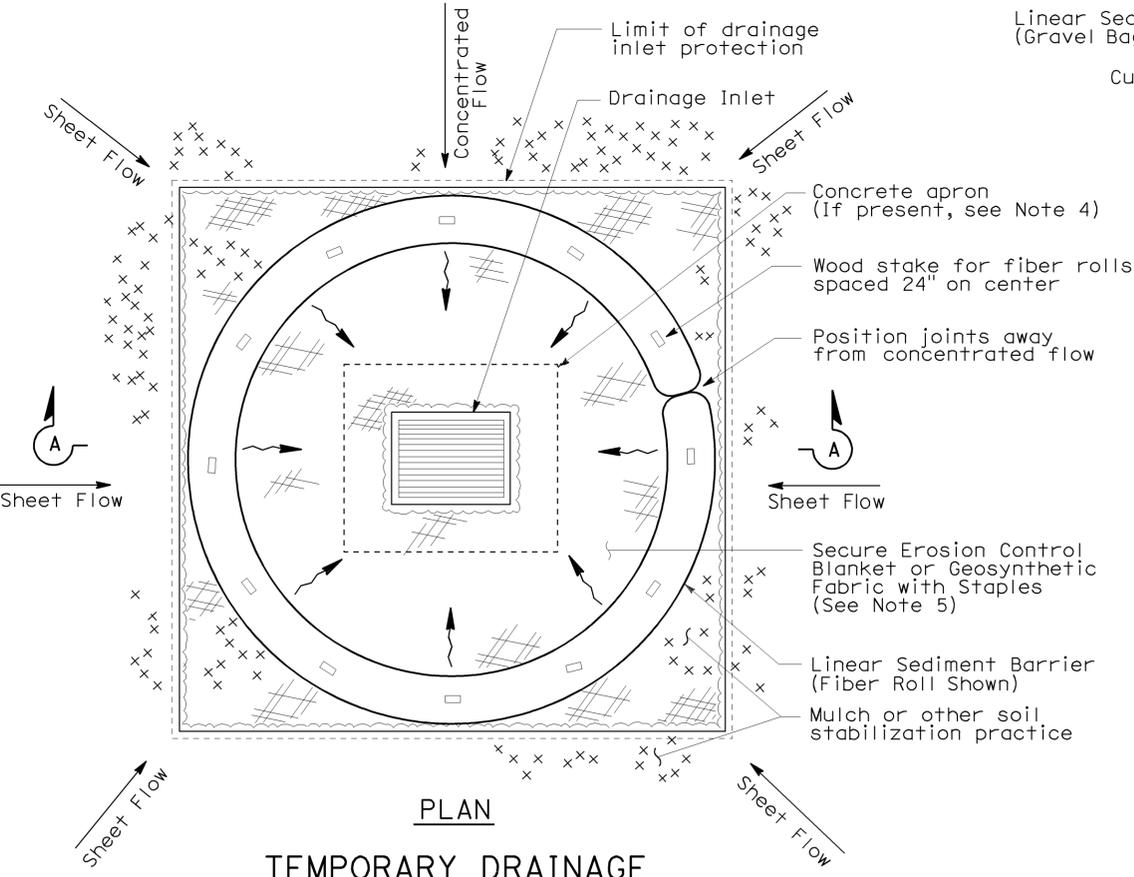
SECTION A-A



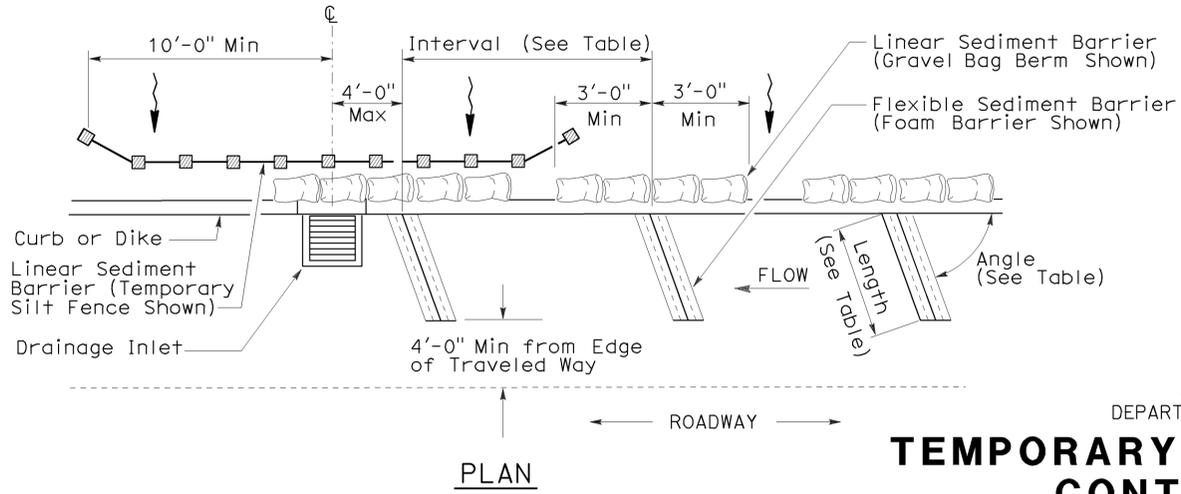
SECTION
 FLEXIBLE SEDIMENT BARRIER DETAIL
 (FOAM BARRIER SHOWN)



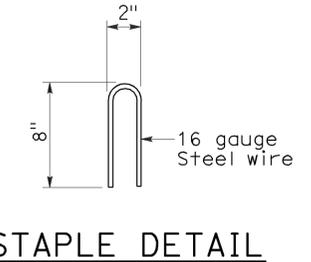
PERSPECTIVE



PLAN
 TEMPORARY DRAINAGE
 INLET PROTECTION (TYPE 4A)



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



STAPLE DETAIL

NOTES:

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION
 CONTROL DETAILS
 (TEMPORARY DRAINAGE
 INLET PROTECTION)**

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

2006 NEW STANDARD PLAN NSP T63

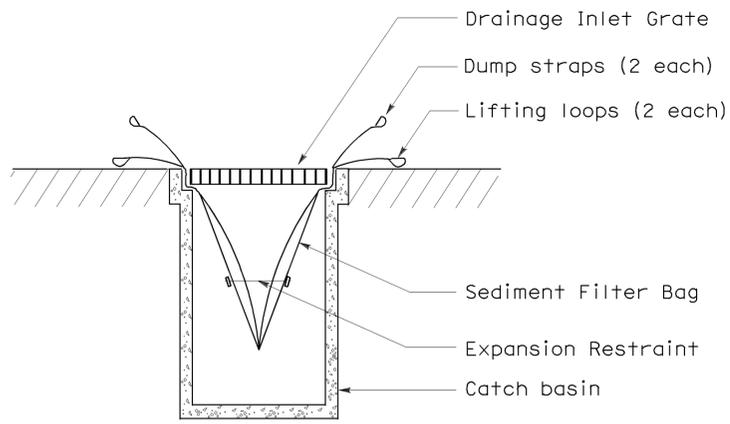
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	20	24

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT

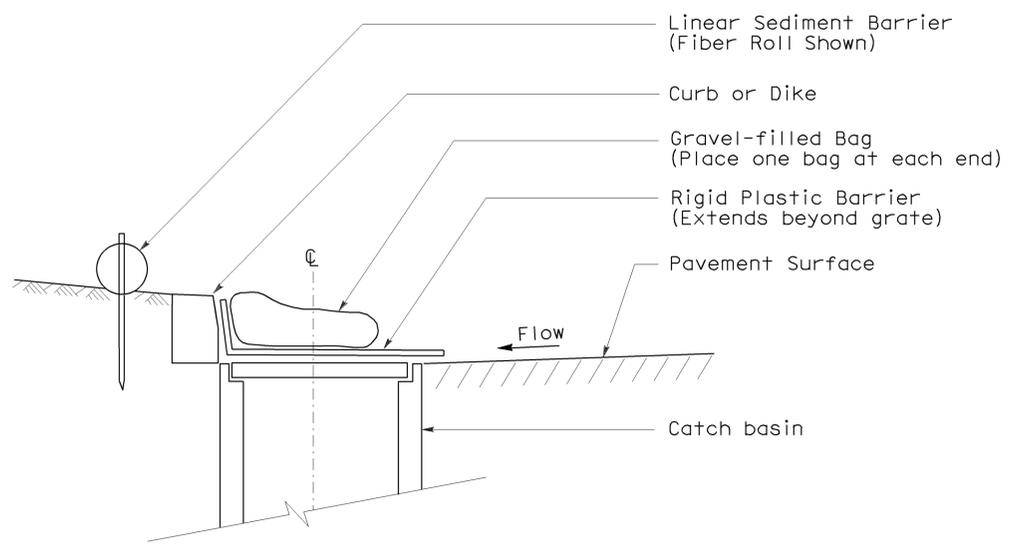
August 15, 2008
 PLANS APPROVAL DATE

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 Signature: 11-04-08
 Renewal Date: 08-11-08
 Date

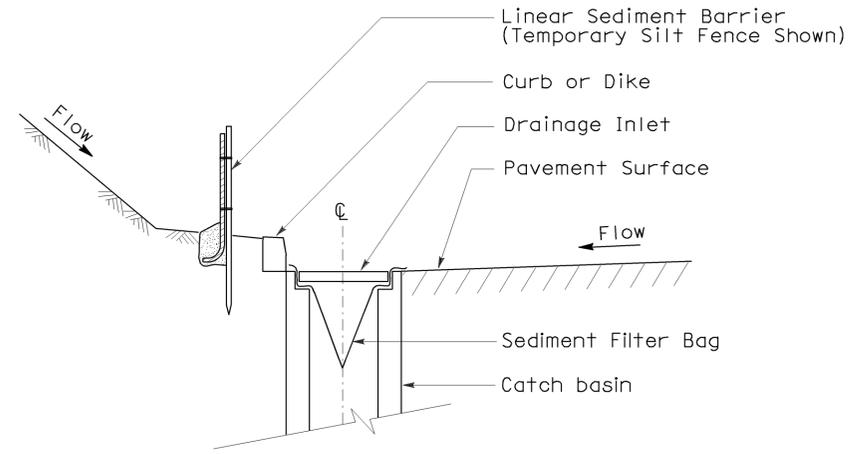
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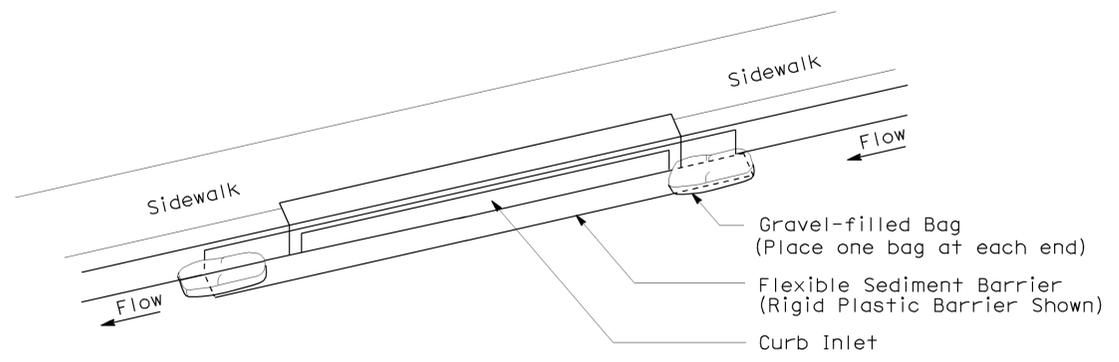
SECTION B-B
SEDIMENT FILTER BAG DETAIL



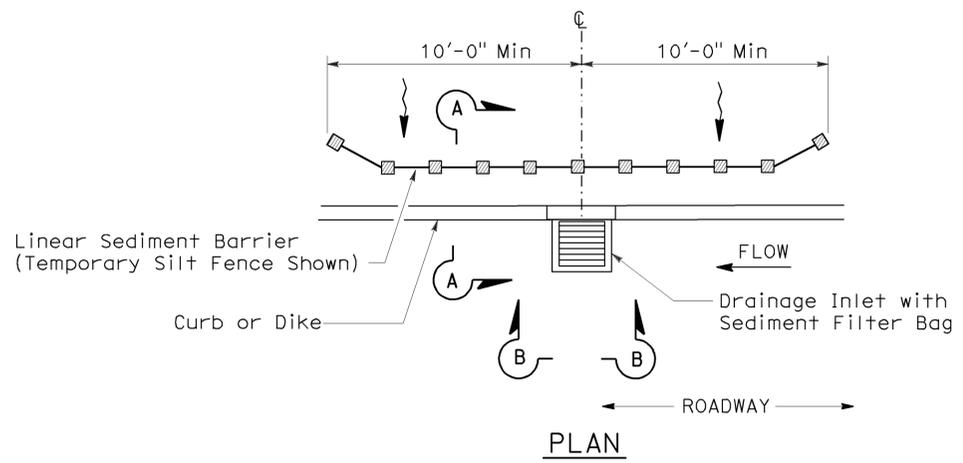
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



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



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

NOTES:

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

To accompany plans dated 1-30-12

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

NO SCALE
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T64

ELECTROLIERS

STANDARD TYPES		
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

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
PB	pb	Normally open
PEC	pec	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
04	Son	12	T18.5/18.8	21	24

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

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 1-30-12

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)

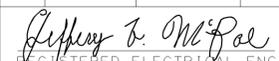
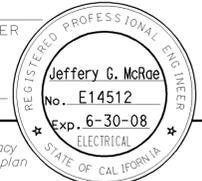
NO SCALE

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

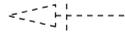
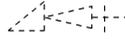
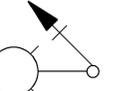
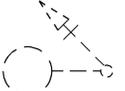
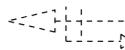
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	22	24


 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE

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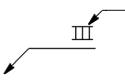
CONDUIT

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

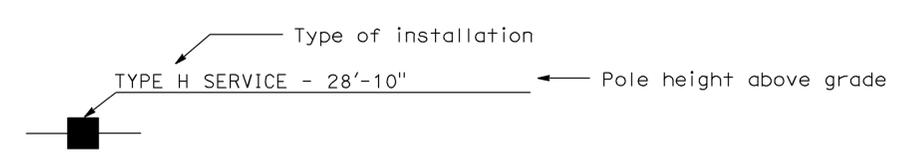
SIGNAL EQUIPMENT

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

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

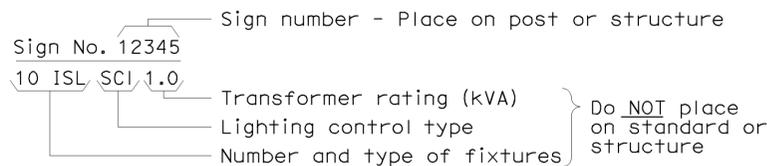
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

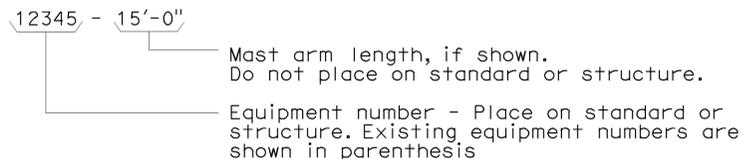
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

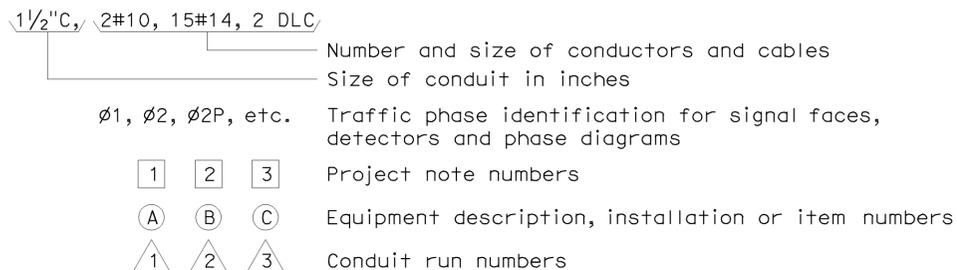
ILLUMINATED SIGN IDENTIFICATION NUMBER:



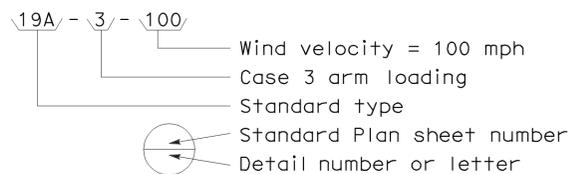
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



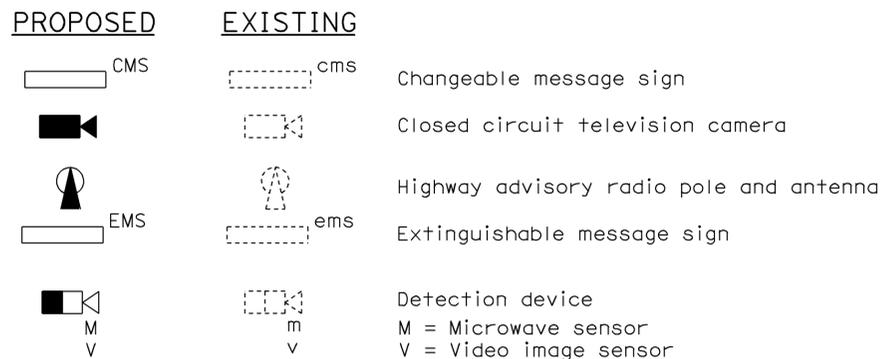
CONDUIT AND CONDUCTOR IDENTIFICATION:



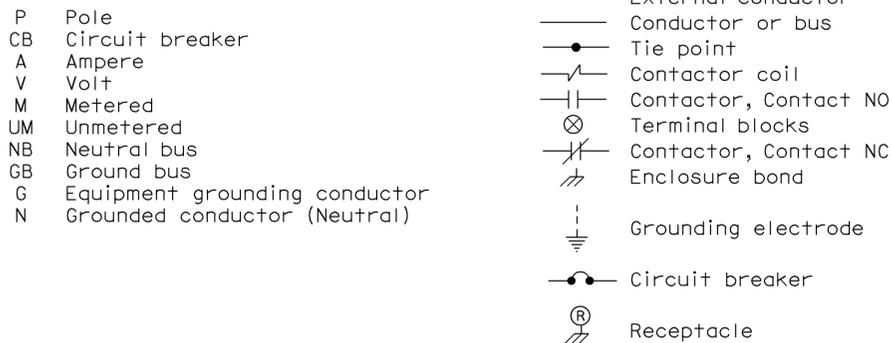
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



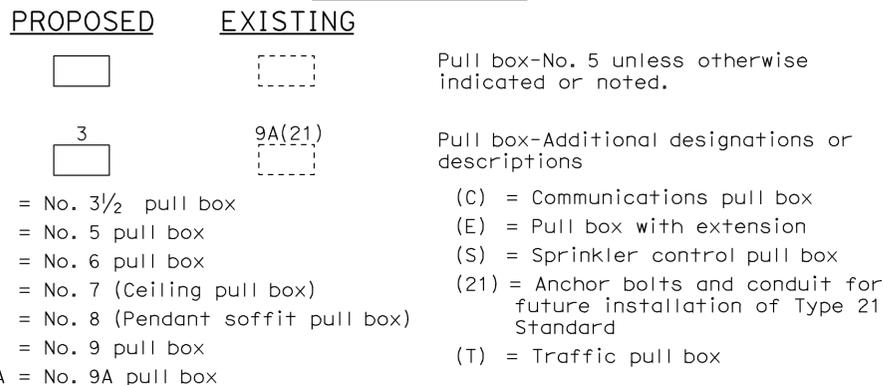
MISCELLANEOUS EQUIPMENT



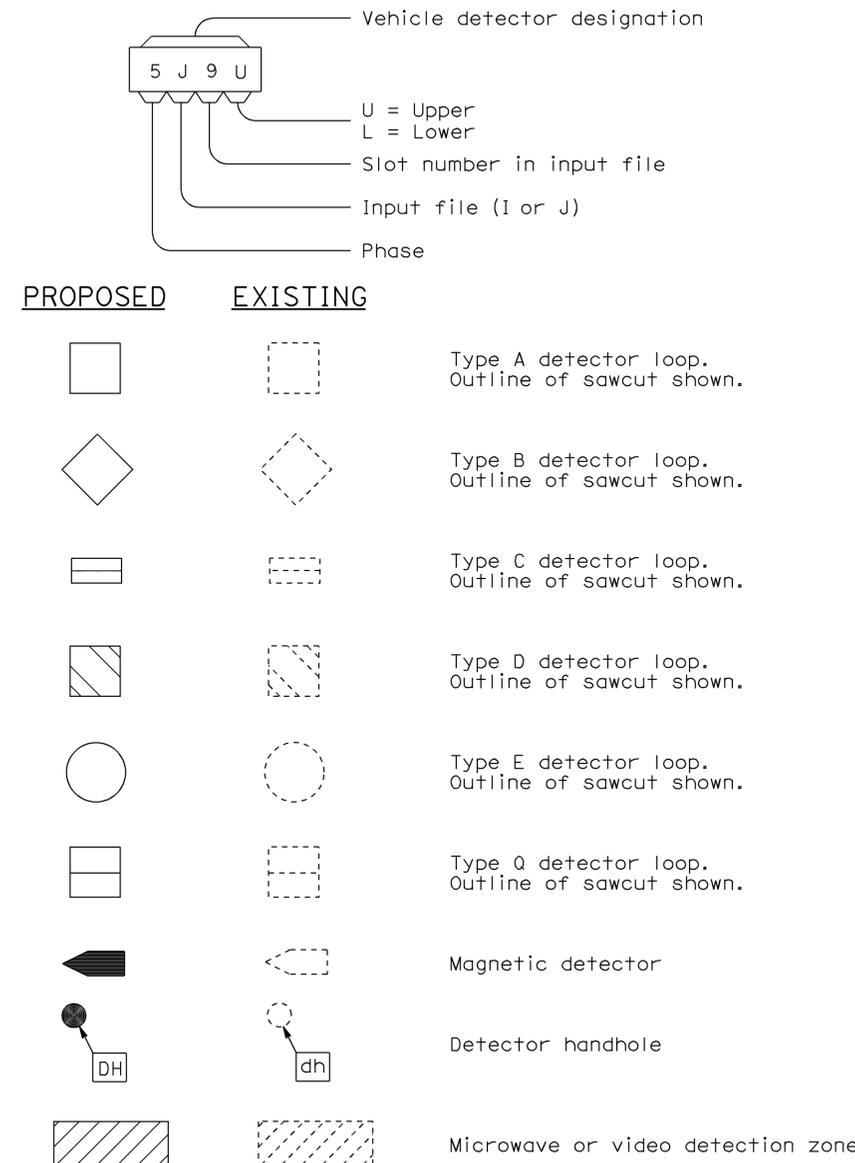
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



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

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

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

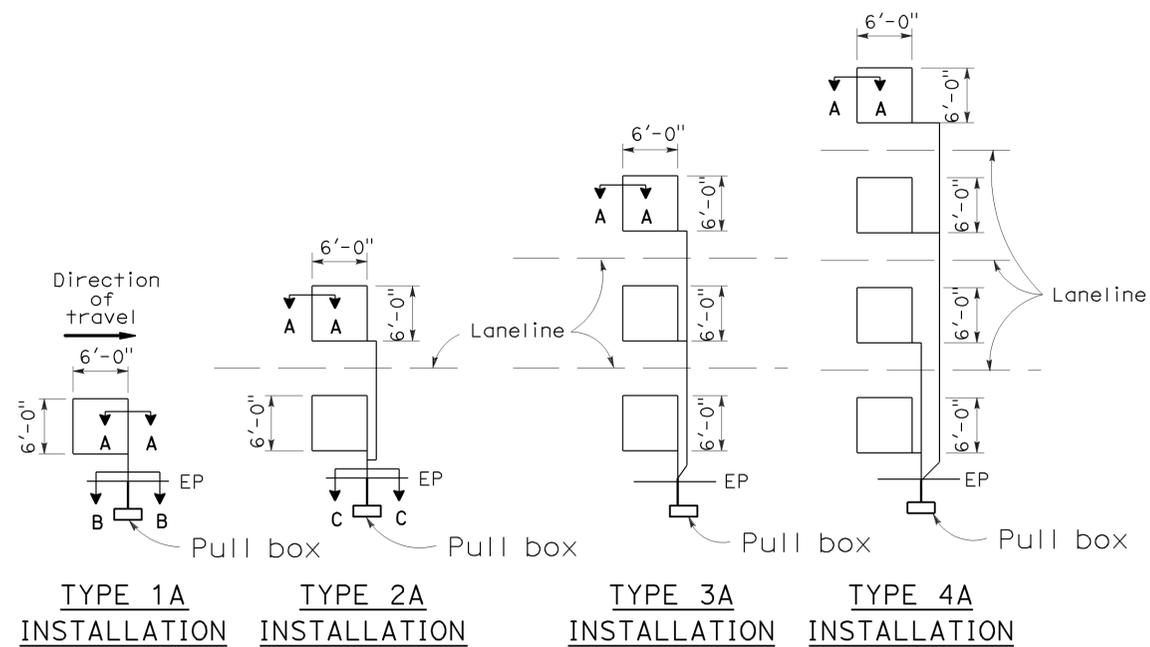
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	Son	12	T18.5/18.8	24	24

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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To accompany plans dated 1-30-12

LOOP INSTALLATION PROCEDURE

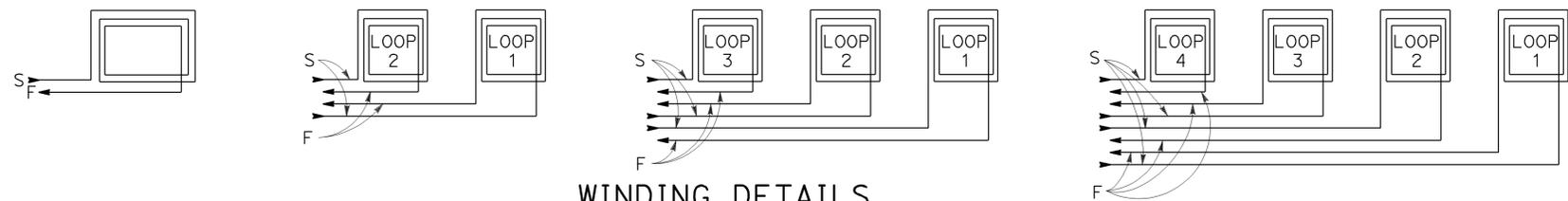
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no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



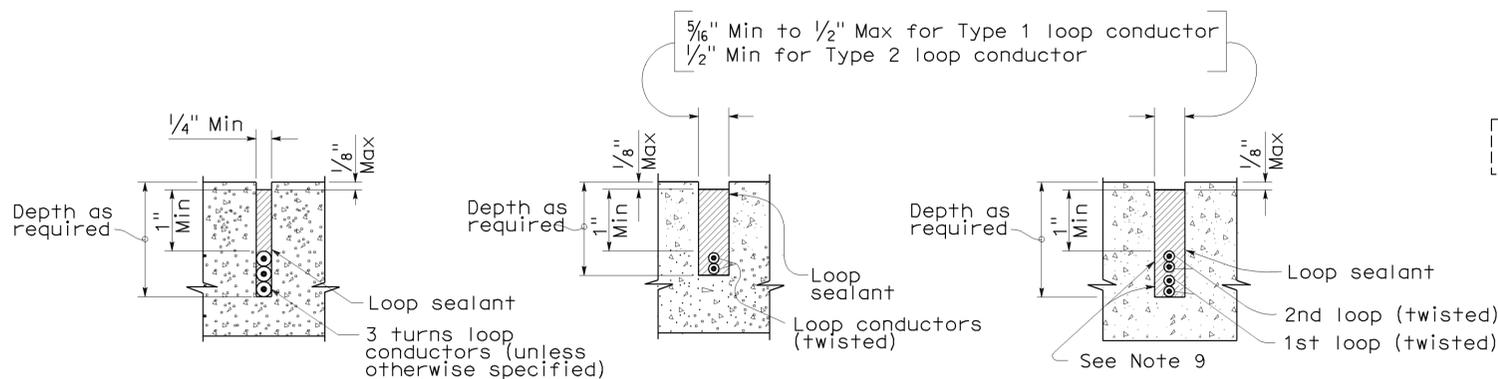
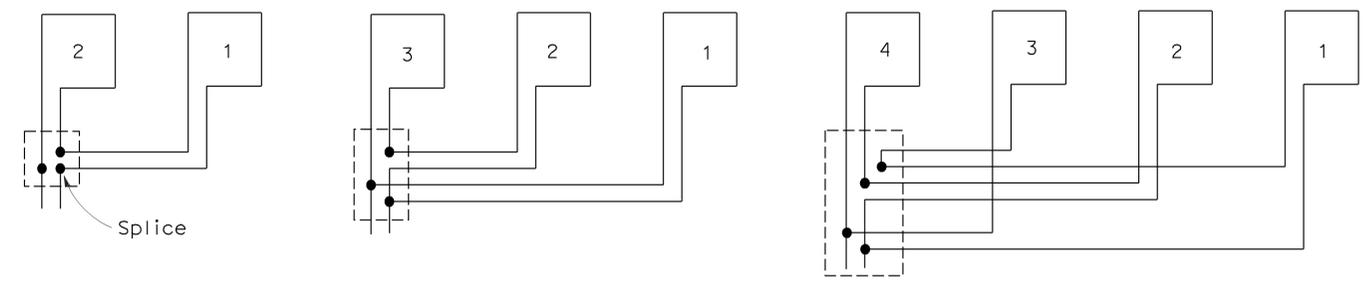
SAWCUT DETAILS

(Type A loop detector configurations illustrated)

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



See Notes 6 and 7



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