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8-16	REVISED AND NEW STANDARD PLANS

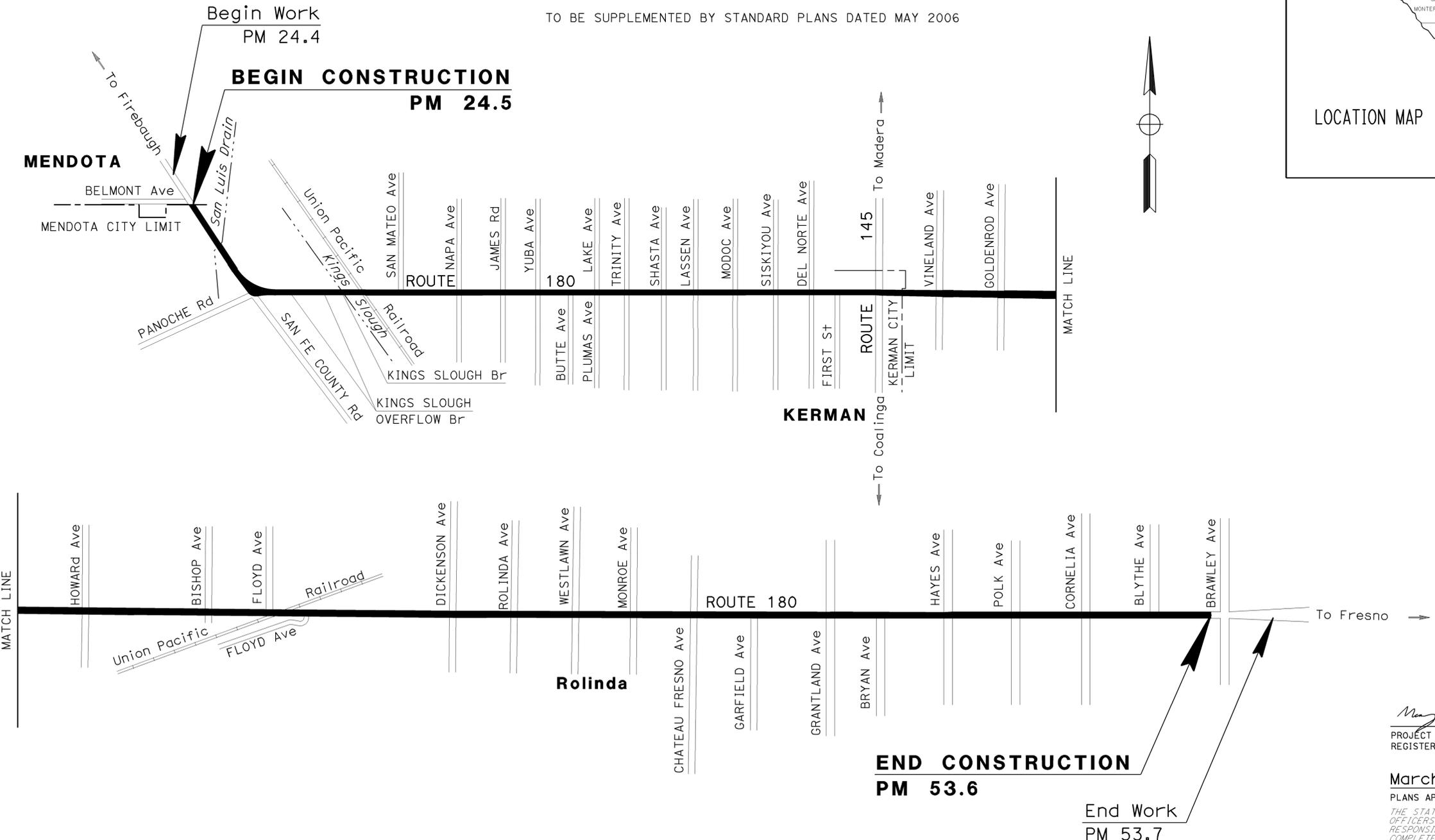
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN FRESNO COUNTY IN AND NEAR KERMAN
FROM BELMONT AVENUE TO BRAWLEY AVENUE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

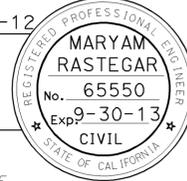
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	1	16

LOCATION MAP



PROJECT MANAGER VICTOR SHAW	DESIGN ENGINEER RENE SANCHEZ
---------------------------------------	--

PROJECT ENGINEER REGISTERED CIVIL ENGINEER
 DATE 03-21-12
 MARCH 26, 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."

DATE PLOTTED => 26-MAR-2012 TIME PLOTTED => 11:01

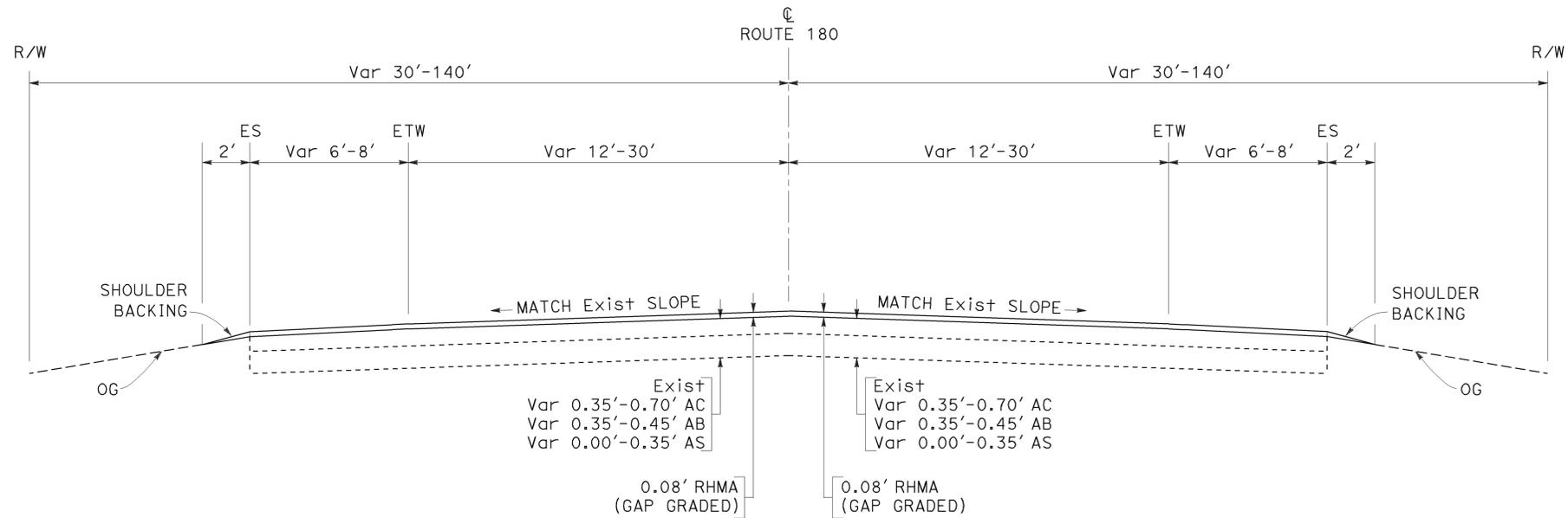
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	2	16
			03-21-12	DATE	
			3-26-12	PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

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 UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.
5. NO OVERLAY BETWEEN PM 42.4 TO PM 43.6 AND FROM PM 47.6 TO PM 47.7.

ABBREVIATION:

RHMA RUBBERIZED HOT MIX ASPHALT



ROUTE 180

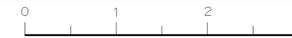
PM 24.5 TO PM 42.4
 PM 43.6 TO PM 47.6
 PM 47.7 TO PM 53.6

TYPICAL CROSS SECTIONS

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	RENE SANCHEZ	CHECKED BY	MARYAM RASTEGAR
			RENE SANCHEZ
			DATE
			REVISOR
			DATE



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	3	16

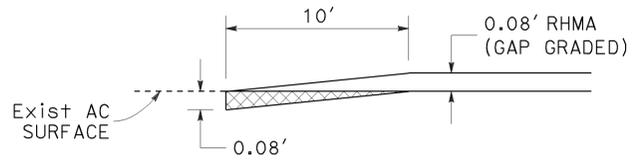
REGISTERED CIVIL ENGINEER	DATE
MARYAM RASTEGAR	03-21-12
PLANS APPROVAL DATE	
	3-26-12

REGISTERED PROFESSIONAL ENGINEER	No.	Exp.
MARYAM RASTEGAR	65550	9-30-13
CIVIL		

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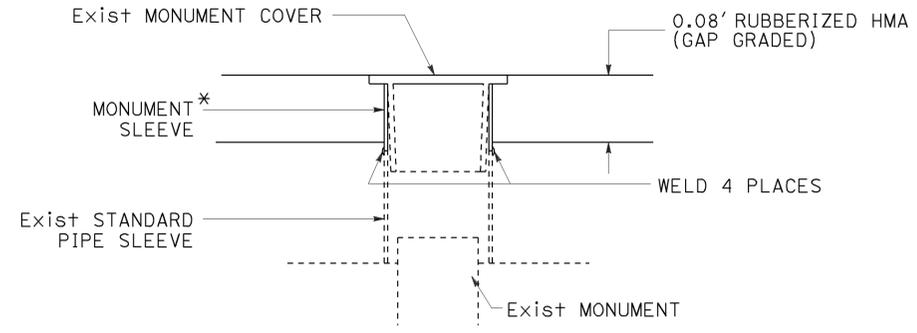
LEGEND:
 COLD PLANE AC PAVEMENT
 RHMA (GAP GRADED)
 DIRECTION OF TRAFFIC

ABBREVIATION:
 RHMA RUBBERIZED HOT MIX ASPHALT



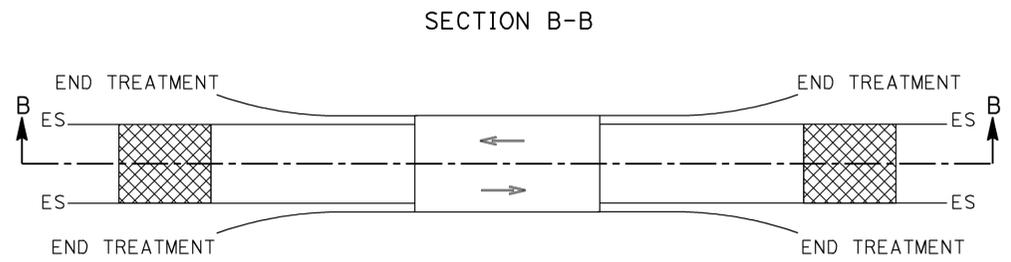
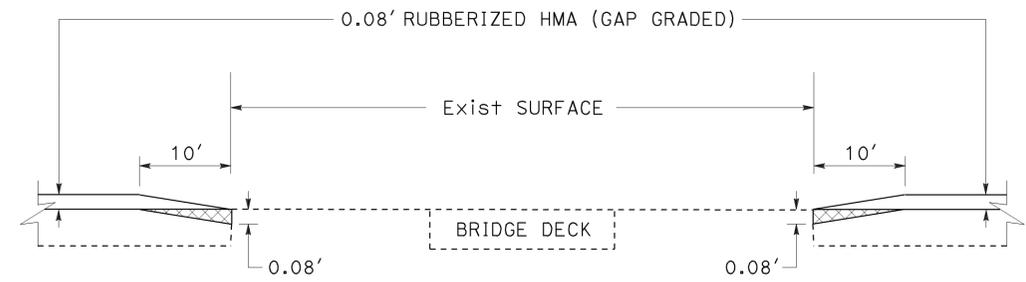
TYPICAL LONGITUDINAL PAVEMENT TAPER

- PM 24.5
- PM 42.4
- PM 43.6
- PM 47.6
- PM 47.7
- PM 53.6



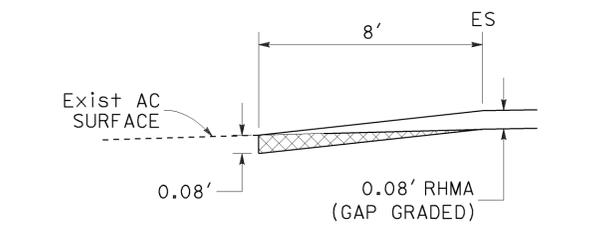
ADJUST MONUMENT COVER

* HEIGHT OF MONUMENT SLEEVE TO BE DETERMINED AFTER PLACING RHMA

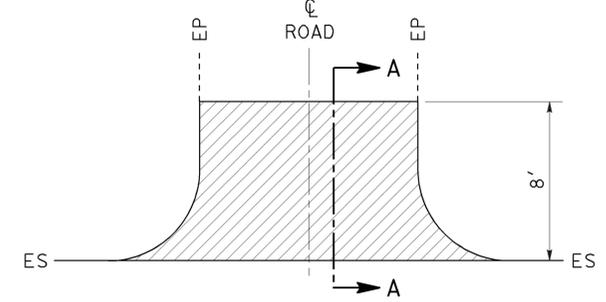


TYPICAL TAPER AT BRIDGE

- PM 26.4
- PM 26.9
- PM 31.3

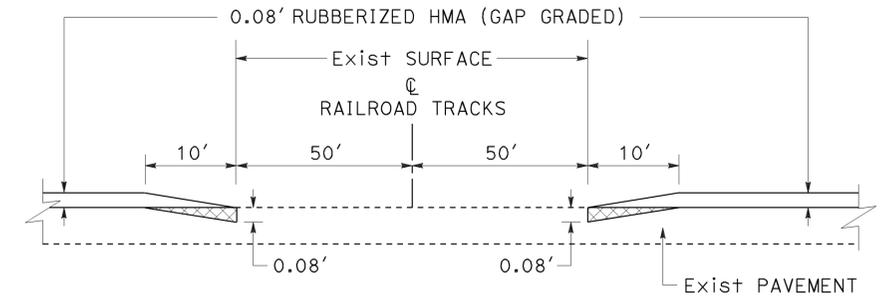


SECTION A-A



TYPICAL TAPER AT ROAD APPROACH

- | | | | | |
|---------|---------|---------|---------|---------|
| PM 26.0 | PM 37.1 | PM 42.1 | PM 48.2 | PM 51.1 |
| PM 26.1 | PM 37.6 | PM 43.6 | PM 48.6 | PM 51.6 |
| PM 28.5 | PM 39.6 | PM 44.6 | PM 49.1 | PM 52.1 |
| PM 33.6 | PM 40.1 | PM 45.6 | PM 49.6 | PM 52.6 |
| PM 34.6 | PM 40.6 | PM 46.1 | PM 50.1 | PM 53.1 |
| PM 36.6 | PM 41.6 | PM 46.4 | PM 50.6 | |



TYPICAL TAPER AT RAILROAD

- PM 27.3
- PM 46.3

CONSTRUCTION DETAILS

C-1

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MARYAM RASTEGAR
 RENE SANCHEZ
 RENE SANCHEZ
 PAVEMENT PRESERVATION
 Caltrans

LAST REVISION | DATE PLOTTED => 26-MAR-2012
 03-21-12 TIME PLOTTED => 17:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	4	16

03-21-12
 REGISTERED CIVIL ENGINEER DATE
 3-26-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MARYAM RASTEGAR
 No. 65550
 Exp. 9-30-13
 CIVIL
 STATE OF CALIFORNIA

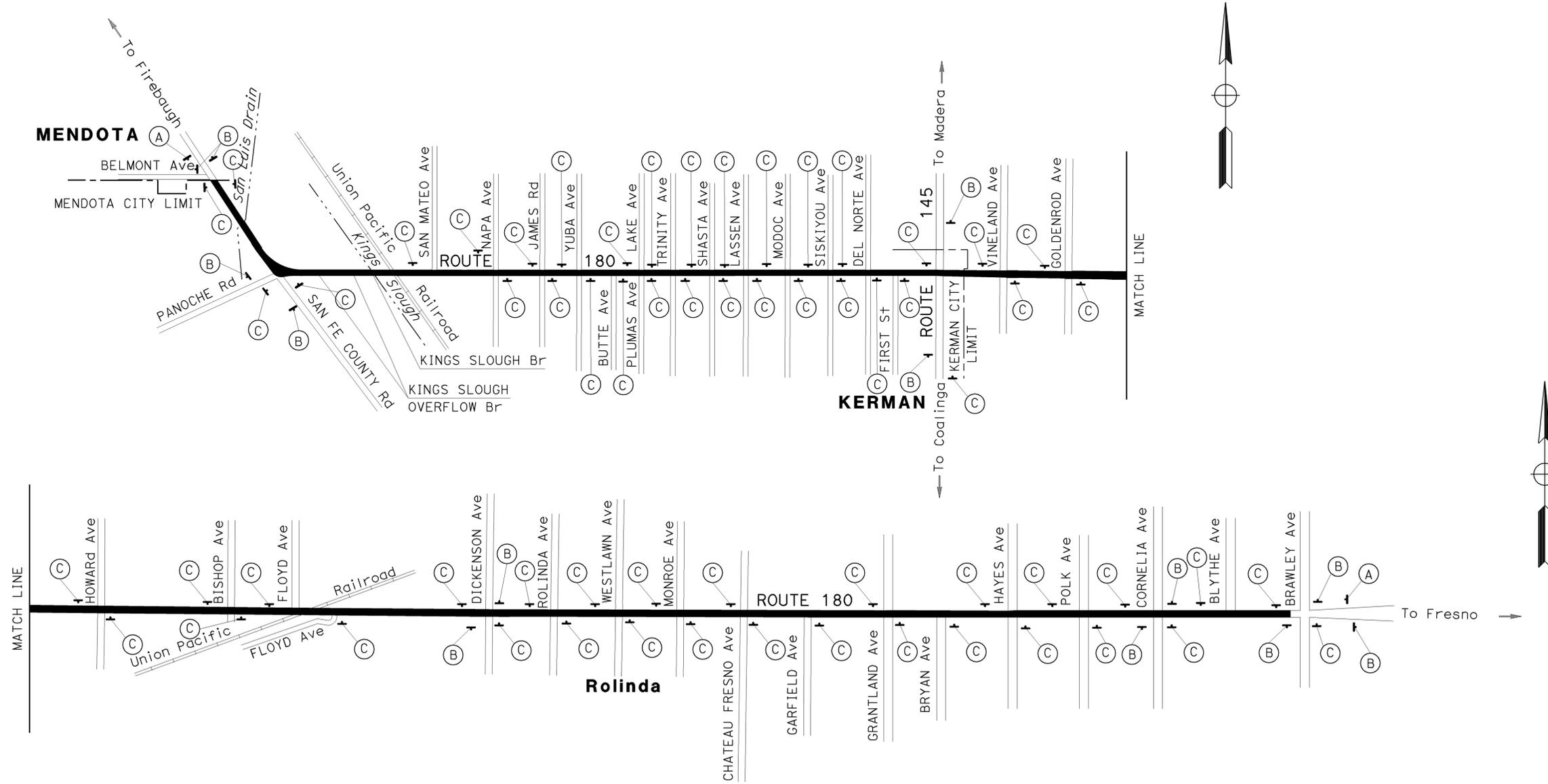
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NOTE:
EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POST	POST SIZE	No. OF SIGNS
(A)	W20-1	48" x 48"	ROAD WORK AHEAD	1	4" x 6"	2
(B)	G20-2	48" x 24"	END ROAD WORK	1	4" x 6"	13
(C)	W20-1	36" x 36"	ROAD WORK AHEAD	1	4" x 6"	62

NOTE: EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
PAVEMENT PRESERVATION
 Caltrans®

FUNCTIONAL SUPERVISOR
 RENE SANCHEZ

CALCULATED/DESIGNED BY
 CHECKED BY

MARYAM RASTEGAR
 RENE SANCHEZ

REVISED BY
 DATE REVISED

x
 x
 x
 x
 x

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	5	16

REGISTERED CIVIL ENGINEER DATE 03-21-12
 MARYAM RASTEGAR
 No. 65550
 Exp. 9-30-13
 CIVIL
 PLANS APPROVAL DATE 3-26-12

THE STATE OF CALIFORNIA OR ITS OFFICERS
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ROADWAY QUANTITIES

LOCATION	COLD PLANE ASPHALT CONCRETE PAVEMENT	RUBBERIZED HMA (GAP GRADED)	TACK COAT	SHOULDER BACKING	ADJUST MONUMENT COVER
	SQYD	TON	TON	TON	EA
PM 24.5 TO PM 42.4		22,229	53	1096	36
PM 43.6 TO PM 47.6		4,967	12	245	8
PM 47.7 TO PM 53.6		7,824	19	386	12
TAPER AT RAILROAD, BRIDGE, ROAD APPROCH, AND LONGITUDINAL PAVEMENT TAPER	2071	97	1		
TOTAL	2071	35,117	85	1727	56

PAVEMENT DELINEATION QUANTITIES

LOCATION	DETAIL No.	PAVEMENT MARKER (RETROREFLECTIVE)			THERMOPLASTIC TRAFFIC STRIPE				THERMOPLASTIC PAVEMENT MARKING	REMOVE THERMOPLASTIC PAVEMENT MARKING	REMOVE THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAVEMENT MARKER (N)	
		TYPE D TWO-WAY YELLOW	TYPE G ONE-WAY CLEAR	TYPE H ONE-WAY YELLOW	4" (BROKEN 12-3)	4" (BROKEN 36-12)	4"	8"					
		EA	EA	EA	LF	LF	LF	LF					
PM 24.5 TO PM 53.6	6	1889				90,132			64-TYPE III (L) ARROW	2688	2688	1889	
	12		240						10-TYPE III (R) ARROW	420	420	240	
	19	383		766		11,247			14-TYPE VI ARROW	588	588	1149	
	22	1889				18,376	18,376		60-STOP	1320	1320	1889	
	27B						45,351		5-AHEAD	155	155		
	27C							291,437	LIMIT LINE	2346	2346		
	29	960			12,970				4-RR CROSSING SYMBOL	472	472	960	
	32	65					23,019					65	
	34	150		75		1132	1,132					225	
38			377			3590	9036				18,072	377	
SUB TOTAL		5336	617	841	12,970	124,477	382,905	9036		7989	7989	18,072	
TOTAL			6794		12,970	124,477	382,905	9036		7989	7989	18,072	

(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
06	Fre	180	24.5/53.6	6	16

<i>David C. Arias</i> 03-21-12	
REGISTERED ELECTRICAL ENGINEER	DATE
3-26-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER David C. Arias No. 15559 Exp. 12/31/13 ELECTRICAL STATE OF CALIFORNIA

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NOTE:

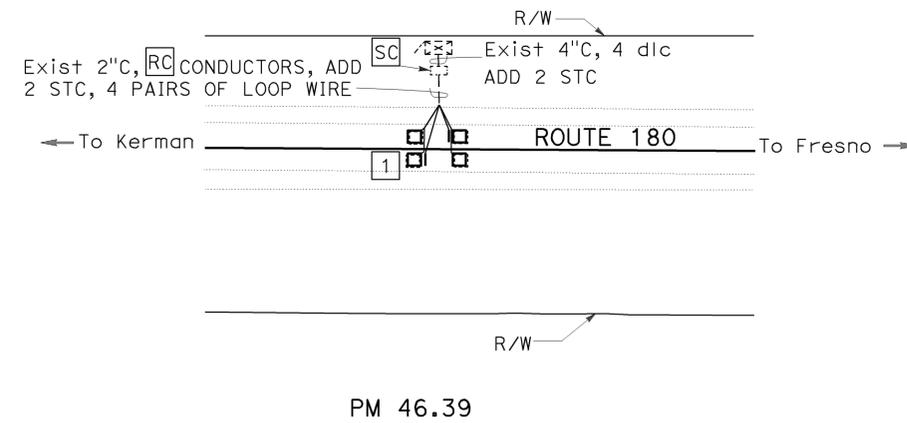
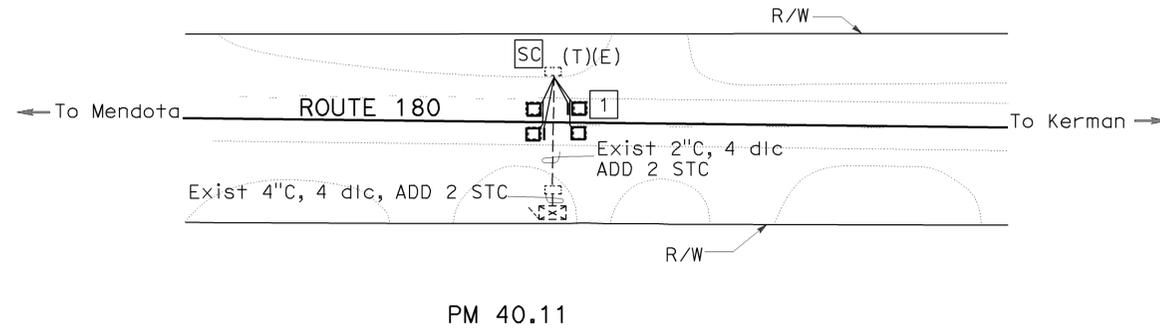
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

ABBREVIATION:

STC SCREENED TRANSMISSION CABLE

LEGEND:

- 1 [AB] Exist LOOP DETECTORS. INSTALL AND IDENTIFY LOOP DETECTORS AND PIEZO AXLE SENSORS AS SHOWN IN DETAILS A AND B ON SHEET E-2.



MODIFY VEHICLE CLASSIFICATION STATION

E-1

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE DESIGN
 CONSULTANT - FUNCTIONAL SUPERVISOR
 FRANK GONZALEZ
 CALCULATED-DESIGNED BY
 CHECKED BY
 DAVID ARIAS
 ARTURO ARIAS
 REVISIONS
 DATE
 REVISIONS
 DATE
 REVISIONS
 DATE

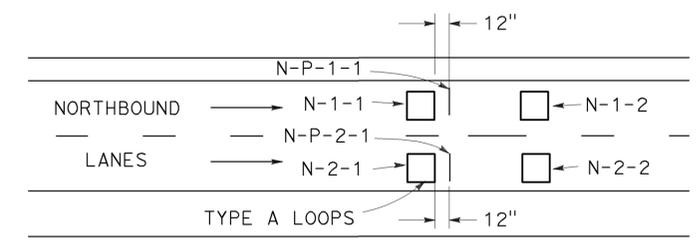
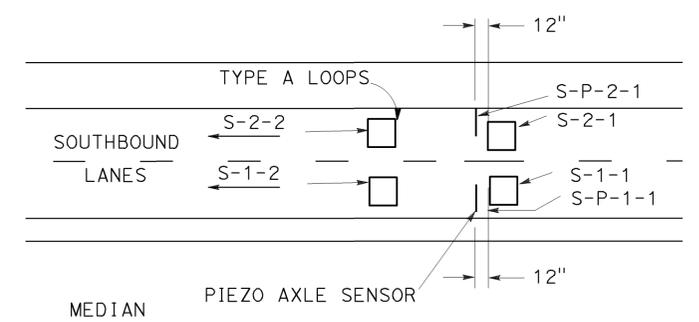
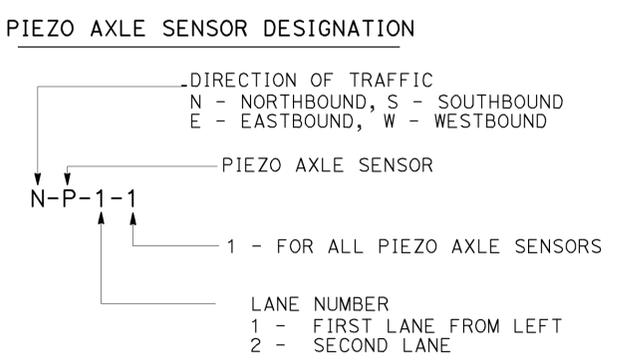
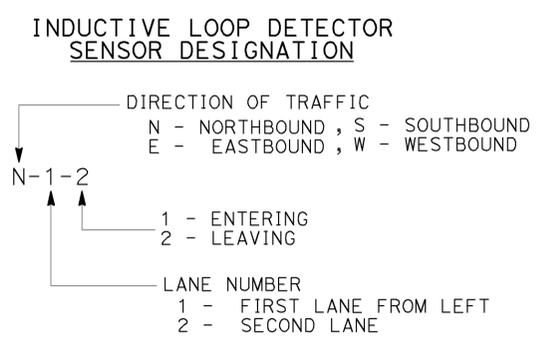
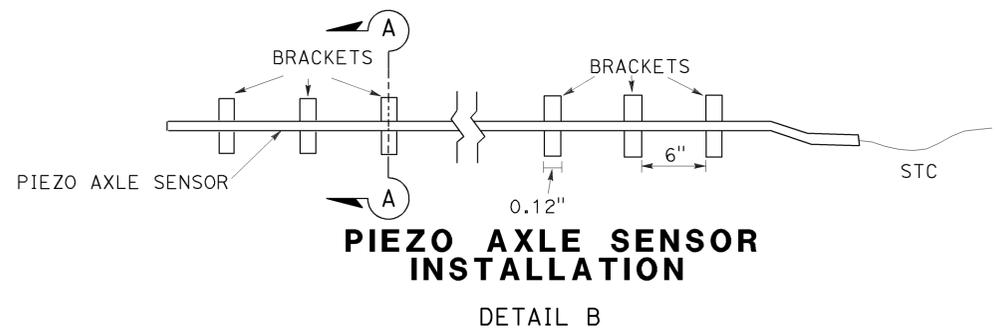
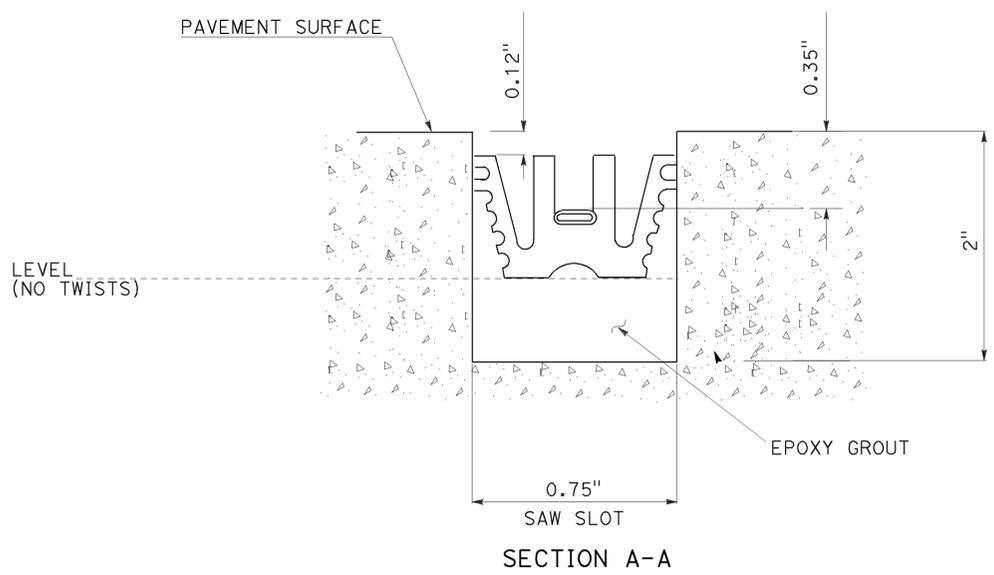
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	7	16

David C. Arias 03-21-12
 REGISTERED ELECTRICAL ENGINEER DATE
 3-26-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 David C. Arias
 No. 15559
 Exp. 12/31/13
 ELECTRICAL
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	ARTURO ARIAS	REVISOR	DATE
Caltrans MAINTENANCE DESIGN	DAVID ARIAS	REVISOR	DATE
CONSULTANT - FUNCTIONAL SUPERVISOR	FRANK GONZALEZ	CALCULATED - DESIGNED BY	CHECKED BY



LOOP DETECTOR AND PIEZO AXLE SENSOR PLACEMENT AND DESIGNATION
 DETAIL A

MODIFY VEHICLE CLASSIFICATION STATION

APPROVED FOR ELECTRICAL WORK ONLY

E-2

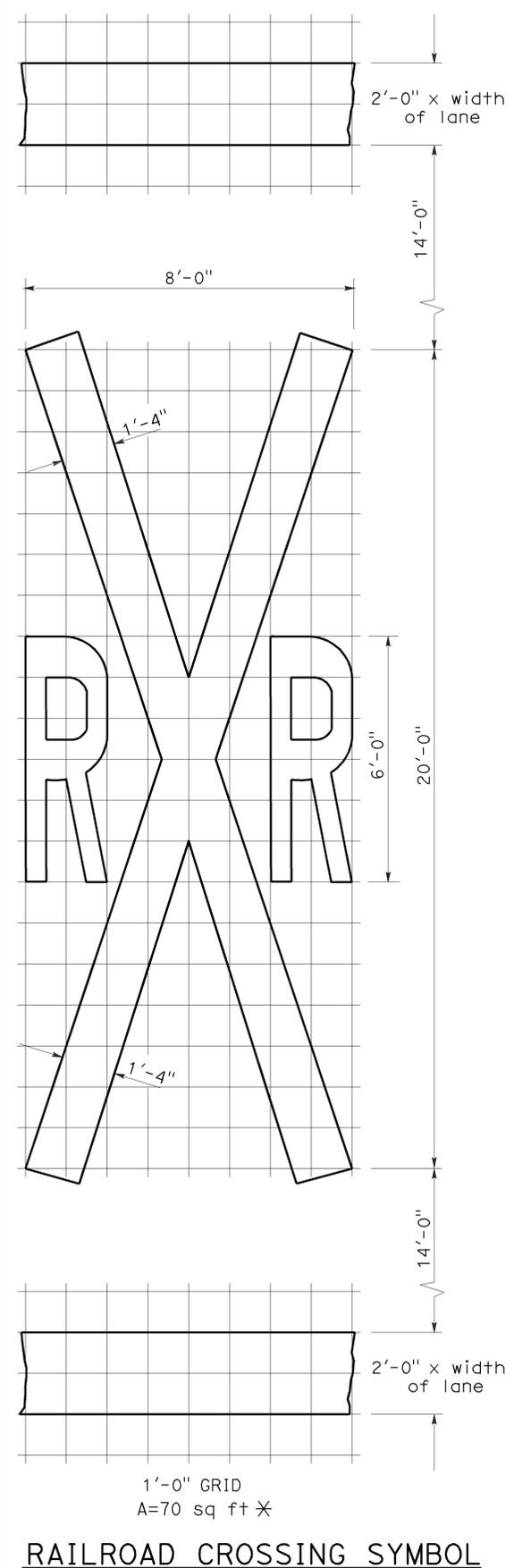
NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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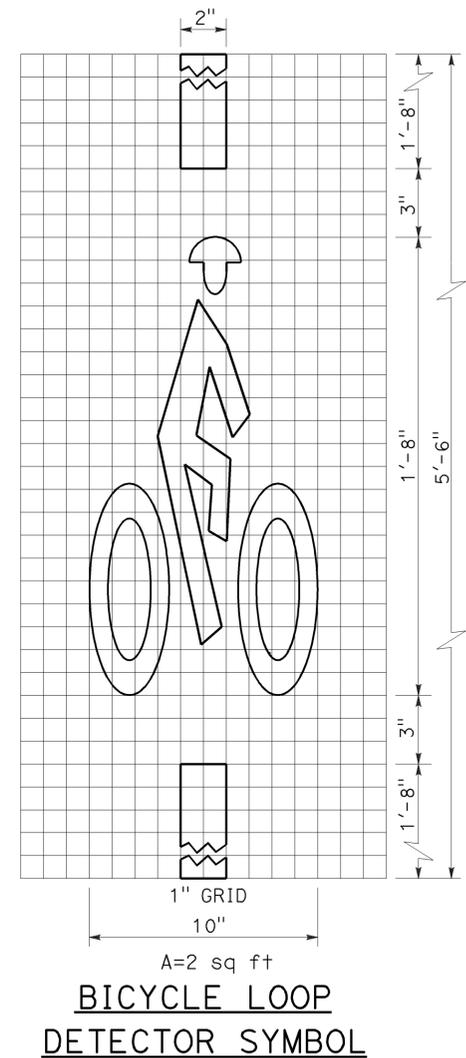
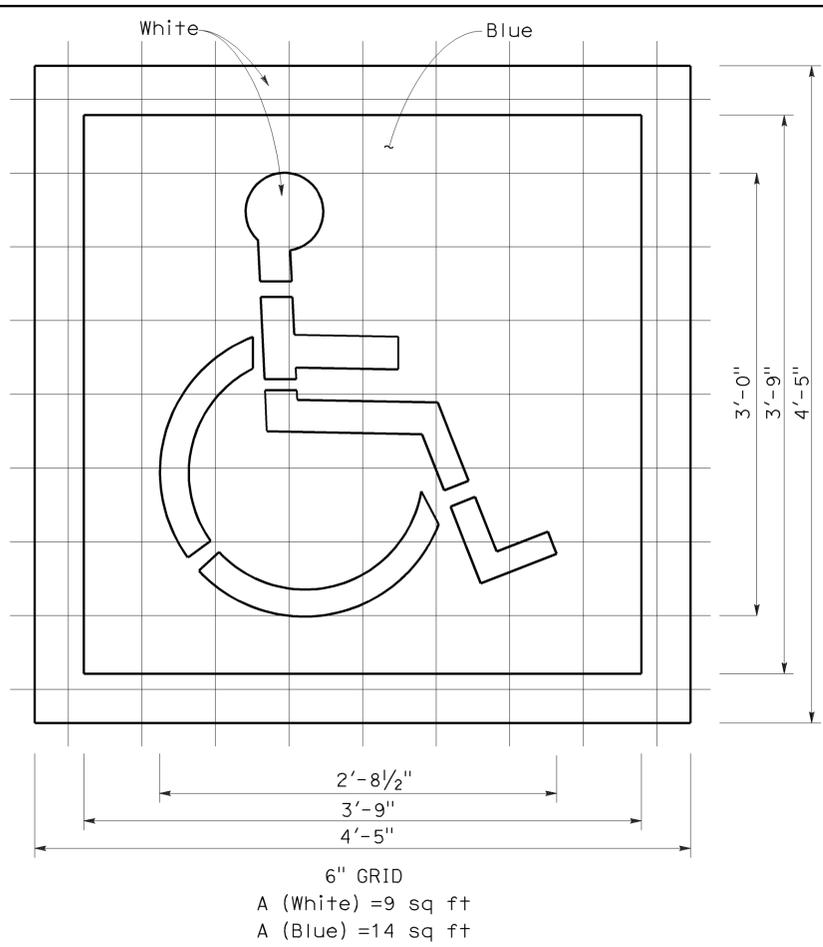
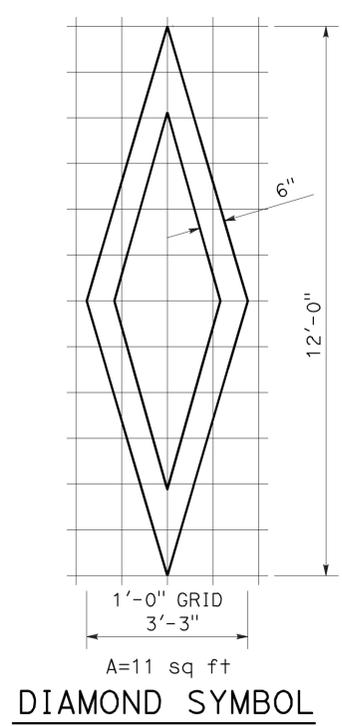
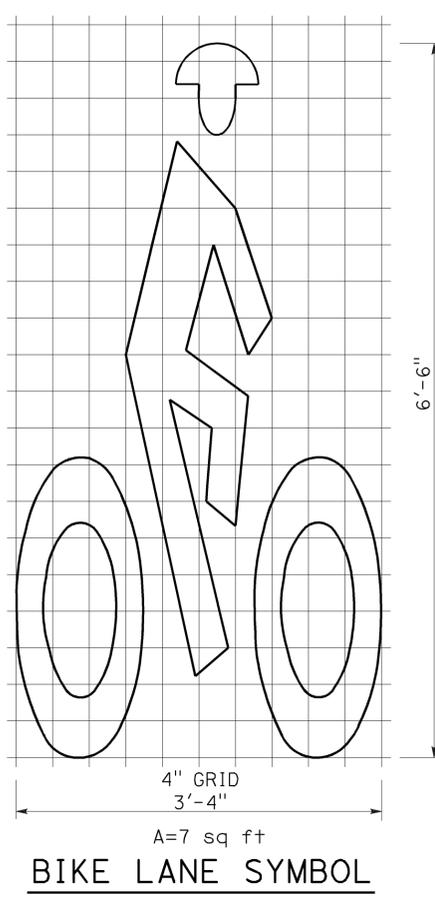
Donald E. Howe
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Donald E. Howe
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

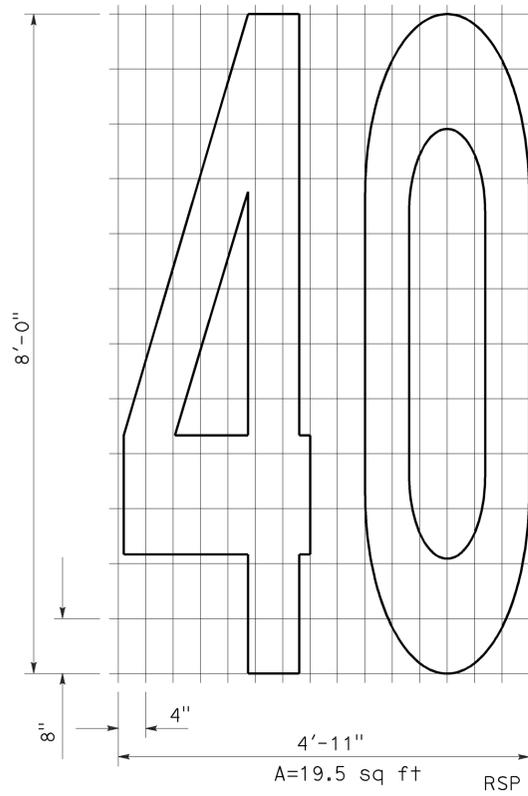
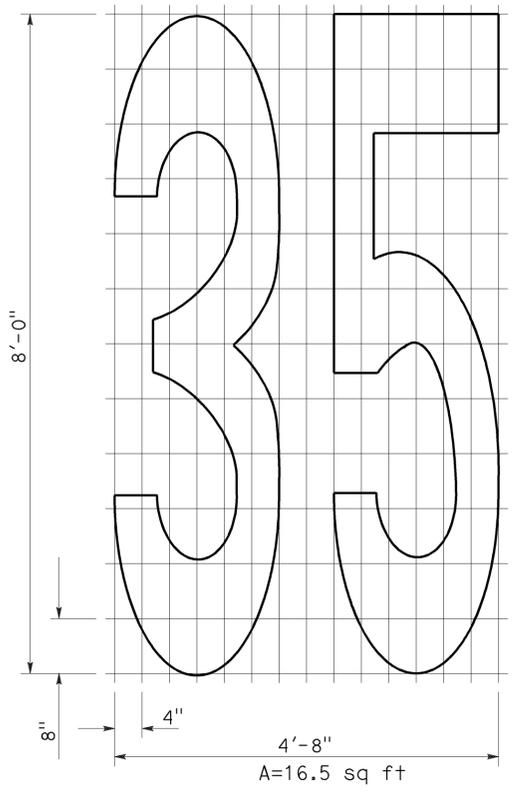
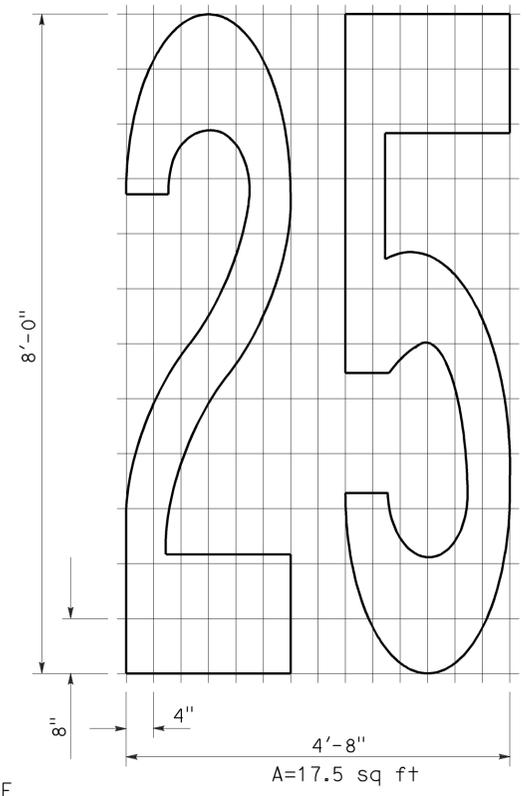
To accompany plans dated 3-26-12



*70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



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



NUMERALS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
SYMBOLS AND NUMERALS**

NO SCALE

RSP A24C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A24C DATED MAY 1, 2006 - PAGE 11 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A24C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	180	24.5/53.6	9	16

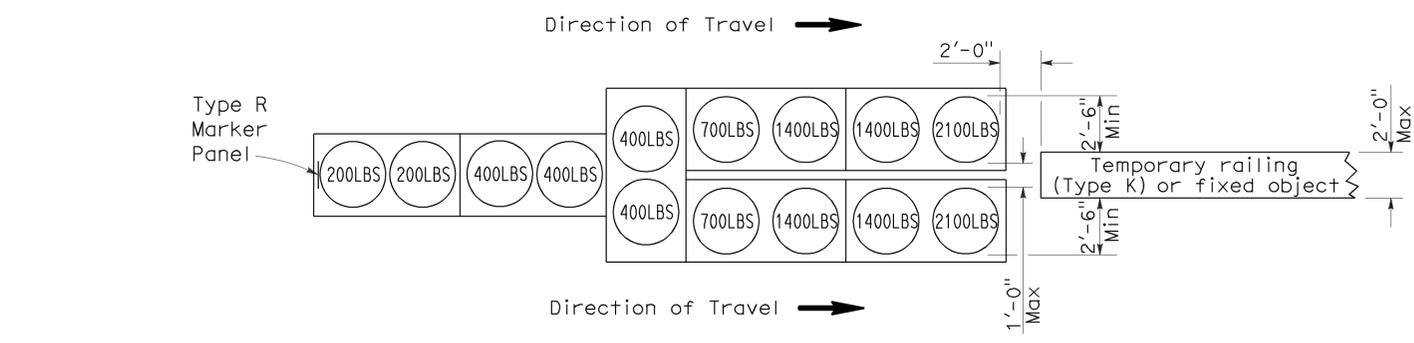
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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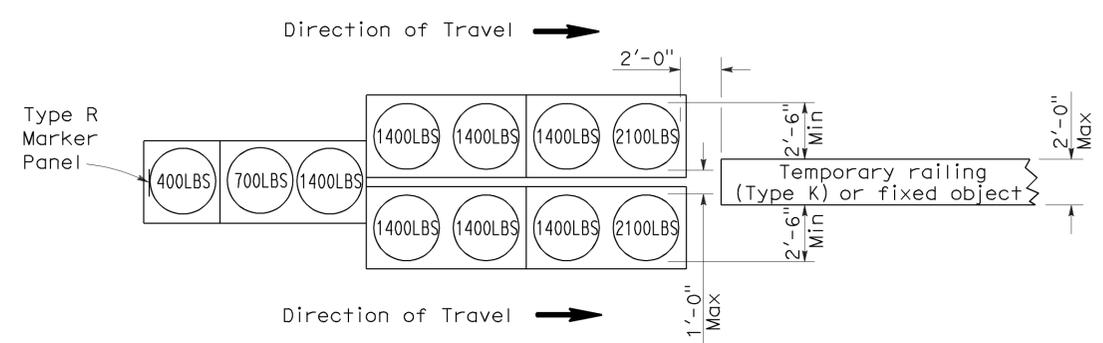
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 3-26-12



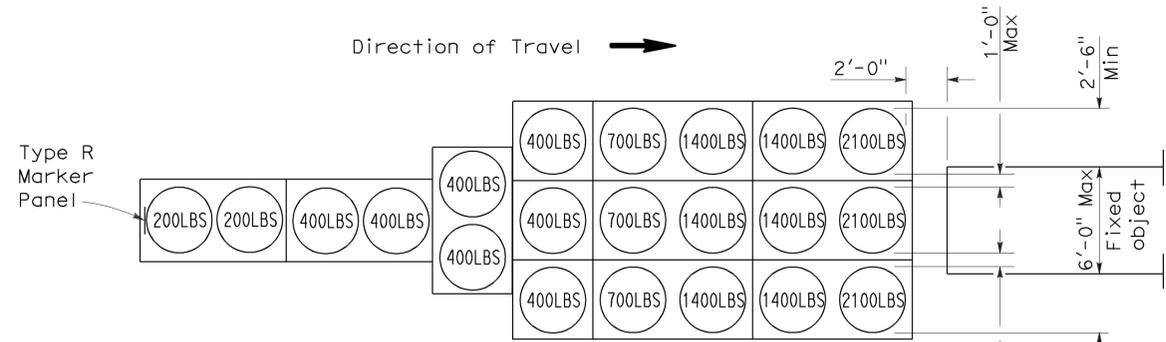
ARRAY 'TU14'

Approach speed 45 mph or more



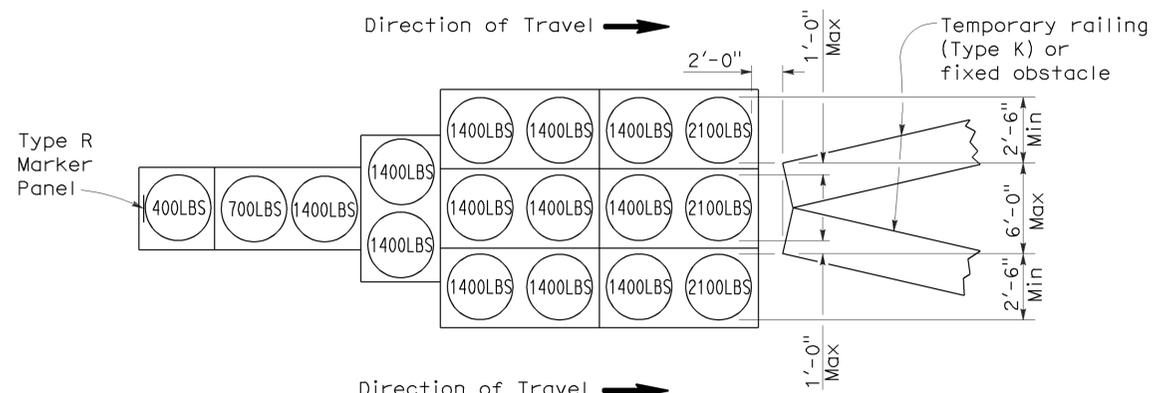
ARRAY 'TU11'

Approach speed less than 45 mph



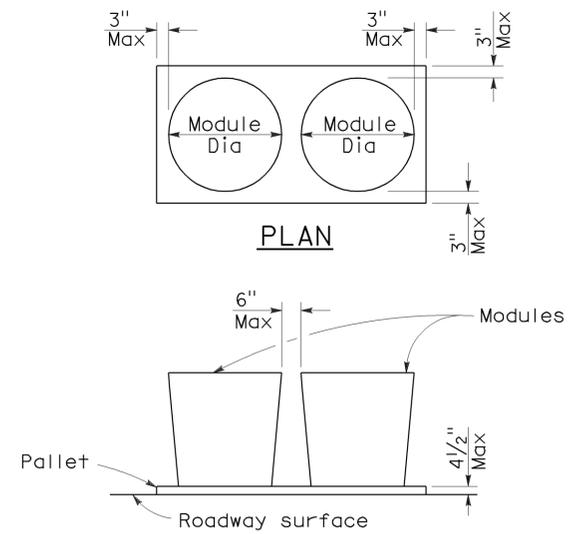
ARRAY 'TU21'

Approach speed 45 mph or more



ARRAY 'TU17'

Approach speed less than 45 mph



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

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

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

2006 REVISED STANDARD PLAN RSP T1A

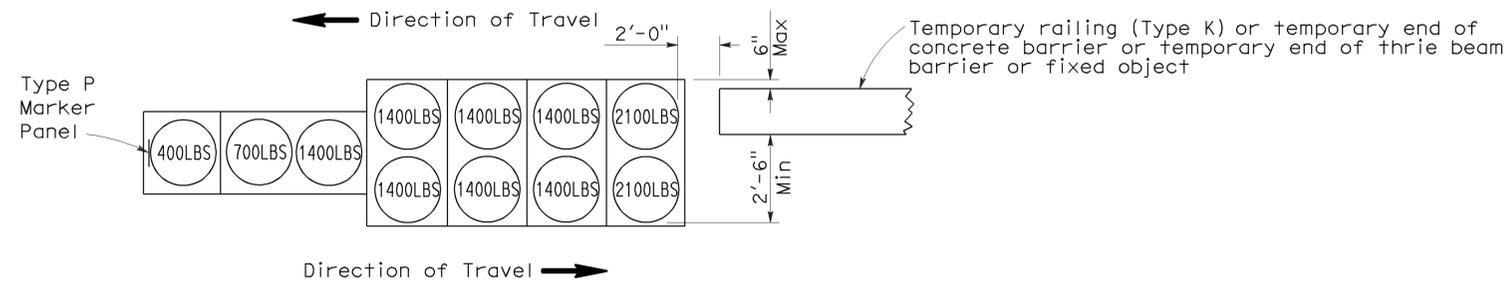
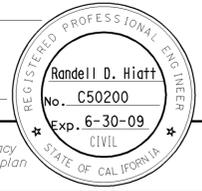
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	180	24.5/53.6	10	16

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

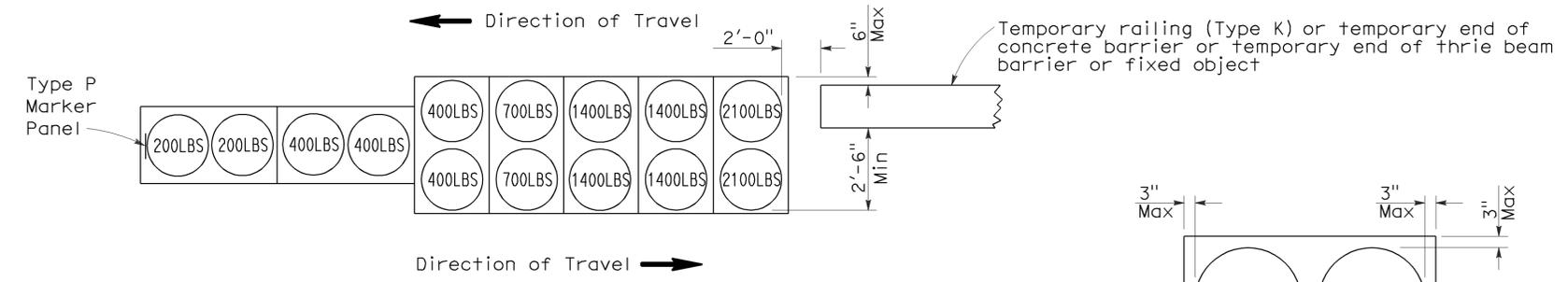
June 6, 2008
PLANS APPROVAL DATE

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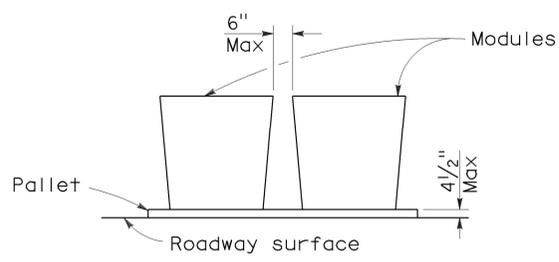
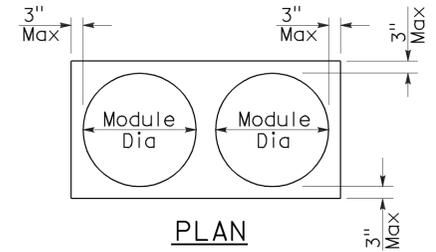
To accompany plans dated 3-26-12



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

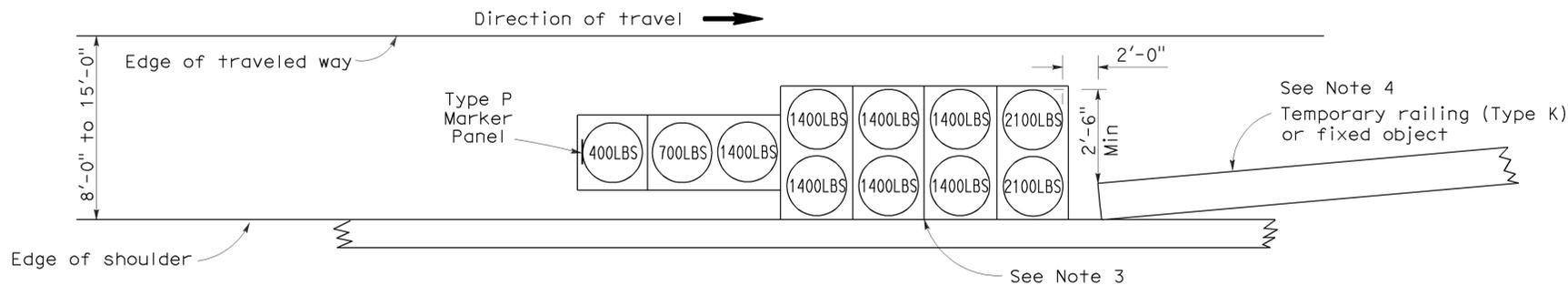
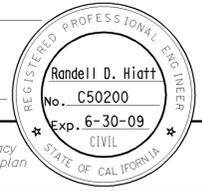
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	180	24.5/53.6	11	16

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

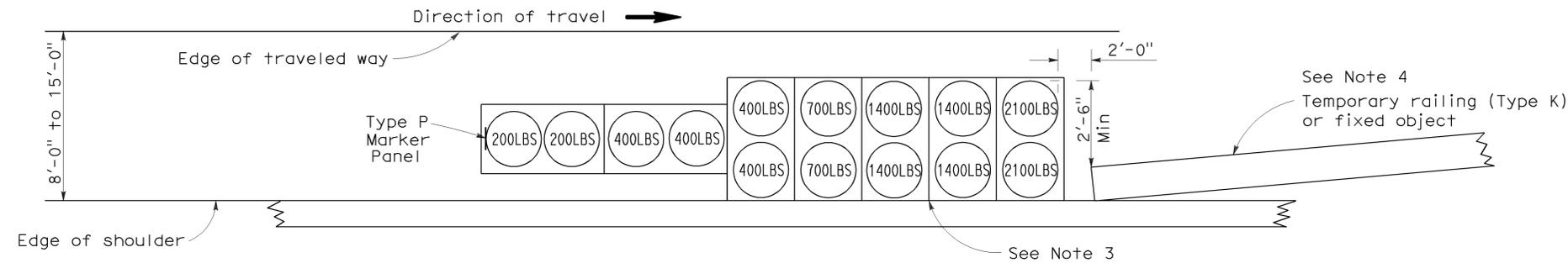
June 6, 2008
PLANS APPROVAL DATE

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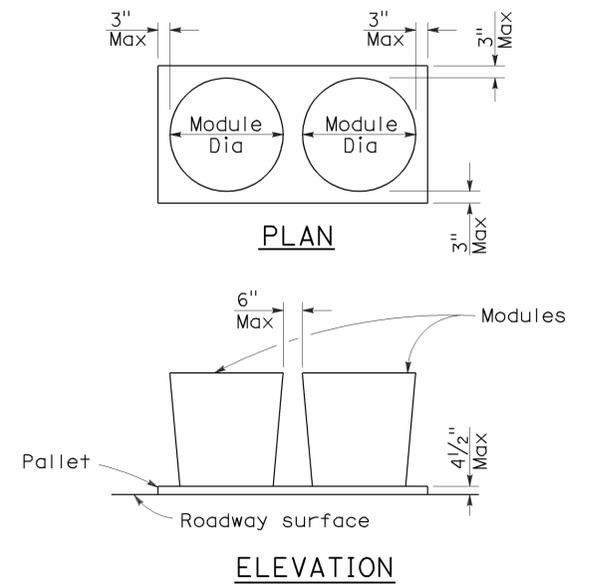
To accompany plans dated 3-26-12



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

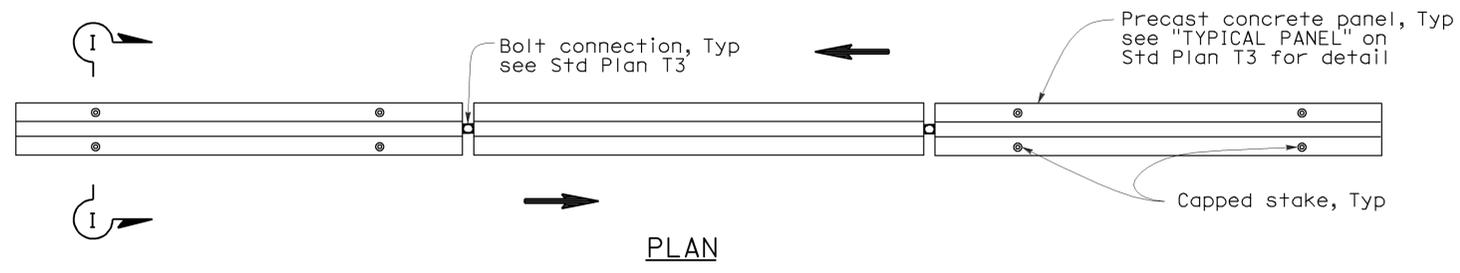
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180	24.5/53.6	12	16

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

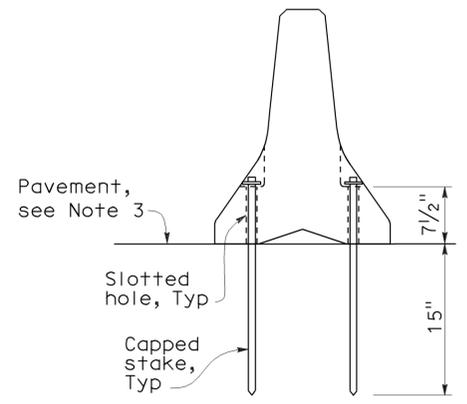
May 20, 2011
PLANS APPROVAL DATE

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To accompany plans dated 3-26-12



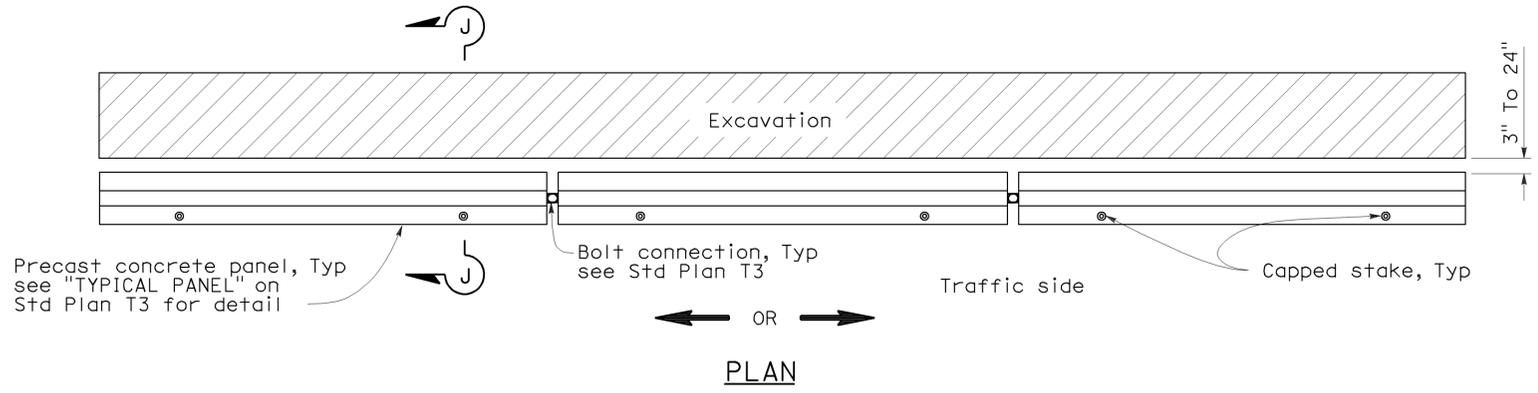
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



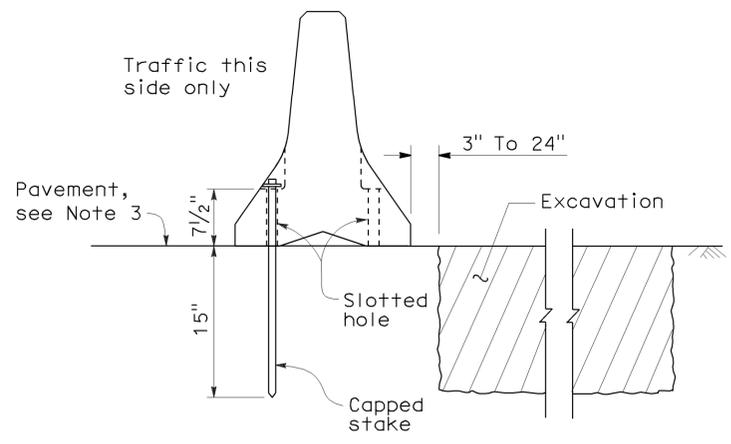
SECTION I-I

NOTES:

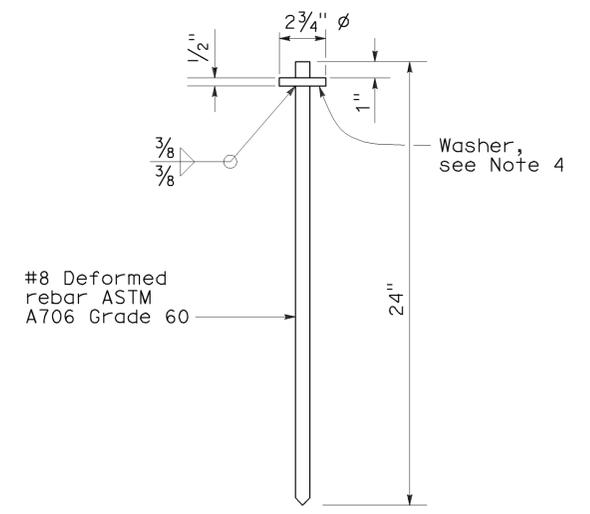
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of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

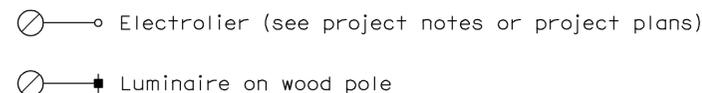
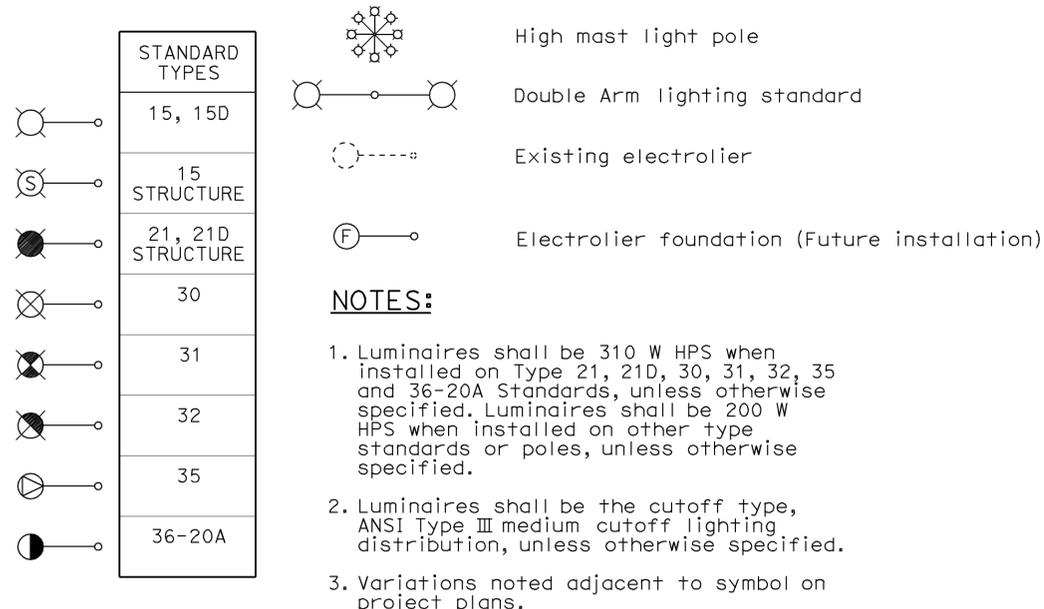
**TEMPORARY RAILING
(TYPE K)**

NO SCALE

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

2006 NEW STANDARD PLAN NSP T3A

ELECTROLIERS



STANDARD NOTES:

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	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
06	Fre	180	24.5/53.6	13	16

Jeffrey G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 3-26-12

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
06	Fre	180	24.5/53.6	14	16

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

To accompany plans dated 3-26-12

CONDUIT

PROPOSED	EXISTING	
---	---	Lighting Conduit, unless otherwise indicated or noted
---	---	Traffic signal conduit
-C-	-c-	Communication conduit
-T-	-t-	Telephone conduit
-F-	-f-	Fire alarm conduit
-FO-	-fo-	Fiber optic conduit
---	---	Conduit termination
		Conduit riser in/on structure or service pole

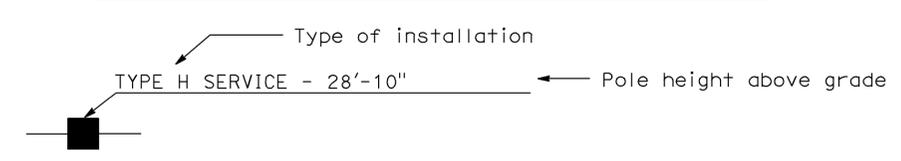
SIGNAL EQUIPMENT

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

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

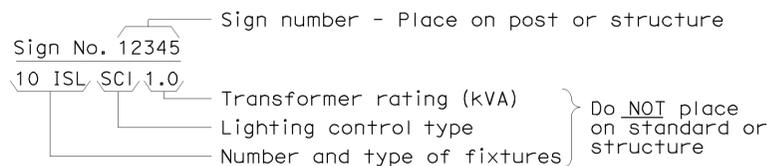
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

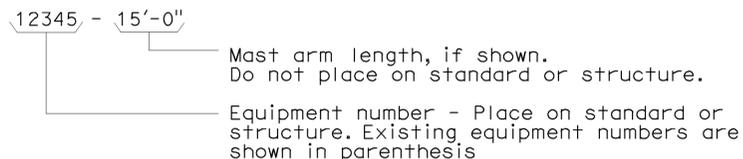
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

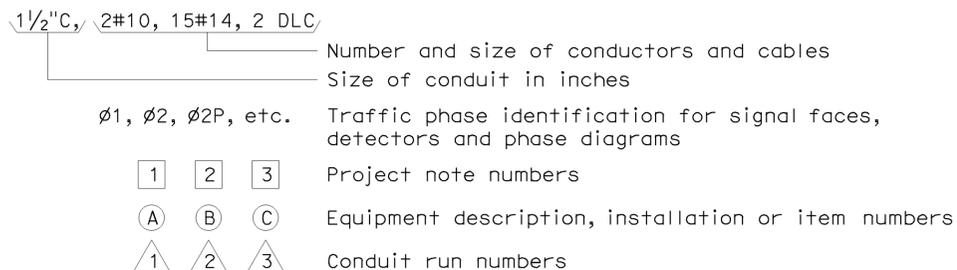
ILLUMINATED SIGN IDENTIFICATION NUMBER:



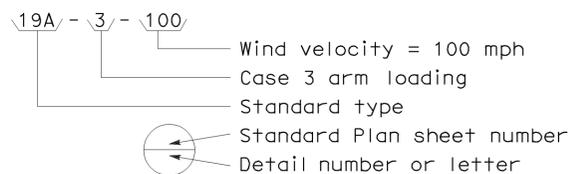
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



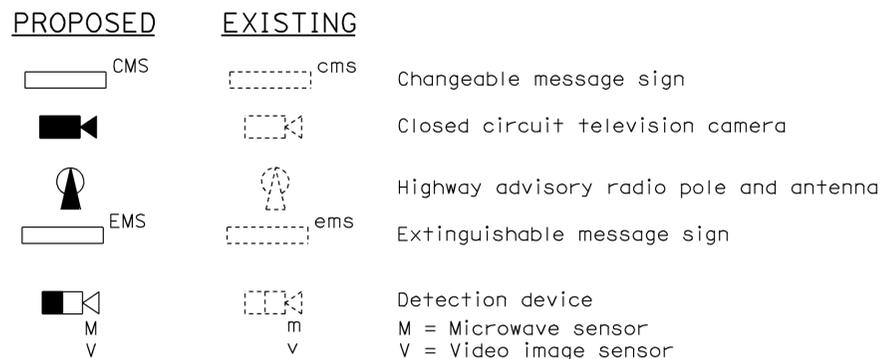
CONDUIT AND CONDUCTOR IDENTIFICATION:



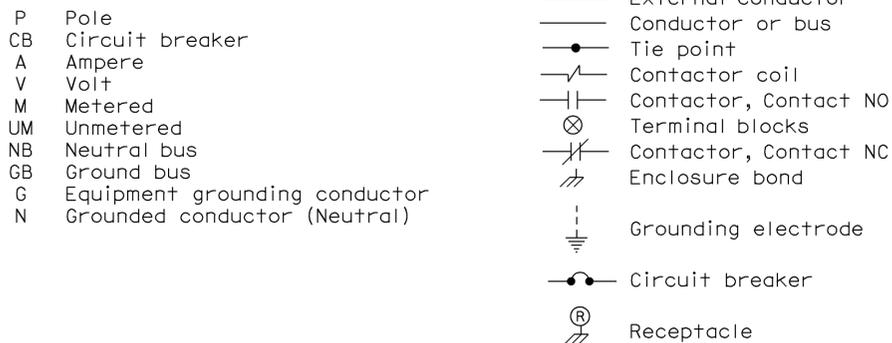
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



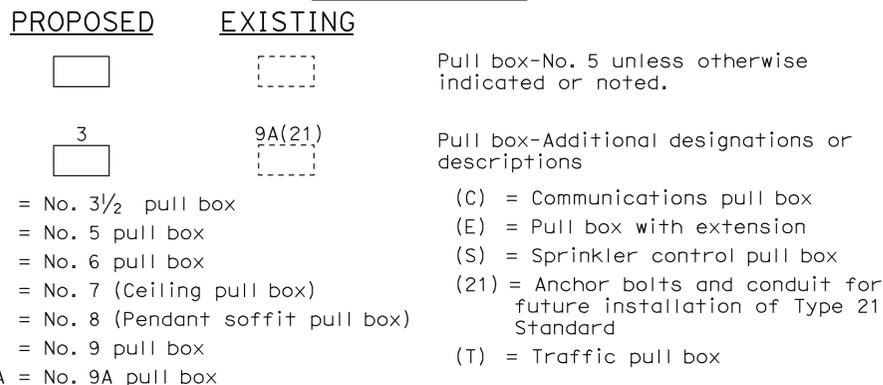
MISCELLANEOUS EQUIPMENT



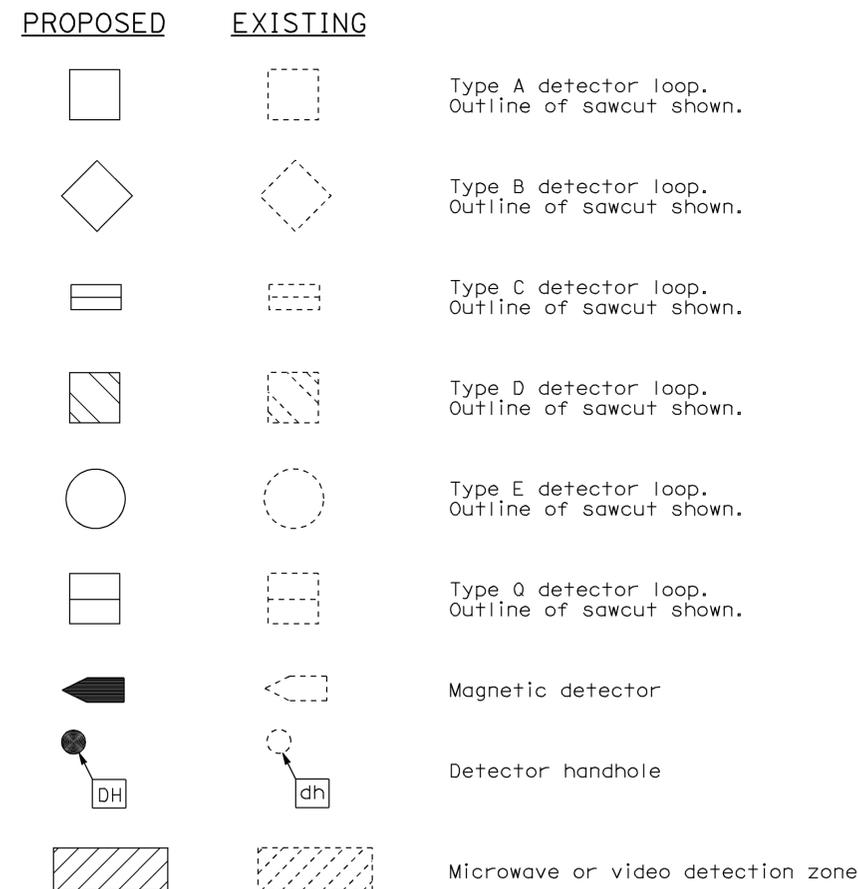
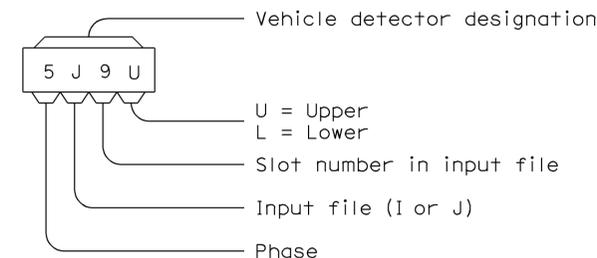
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1C

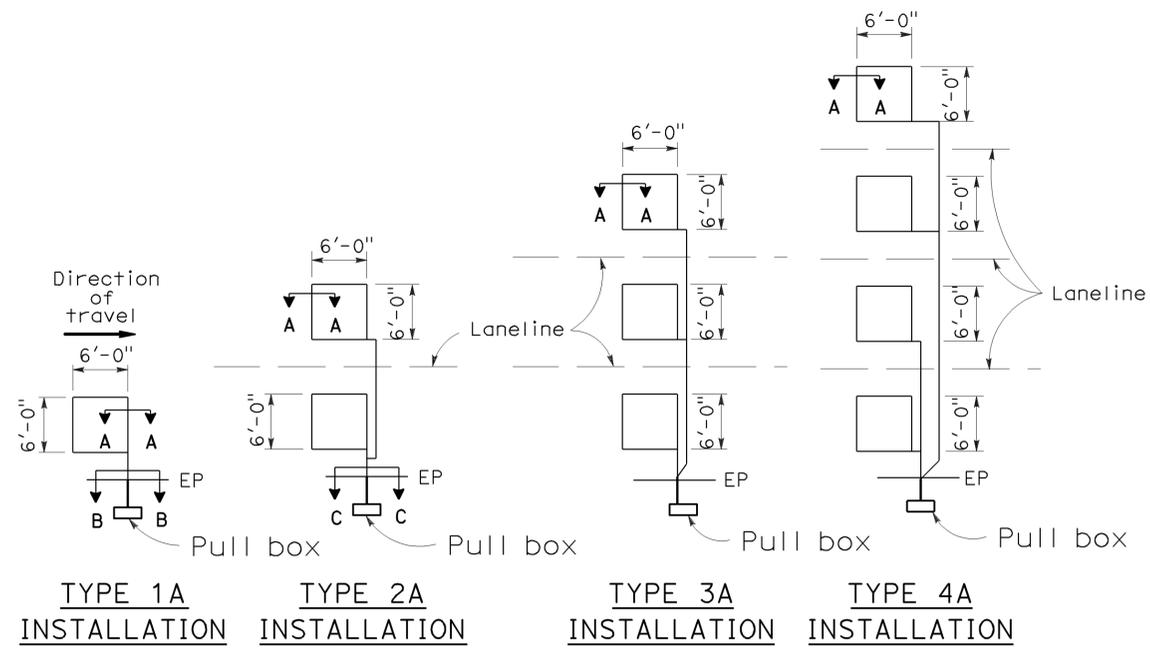
2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	180	24.5/53.6	16	16

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

LOOP INSTALLATION PROCEDURE

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



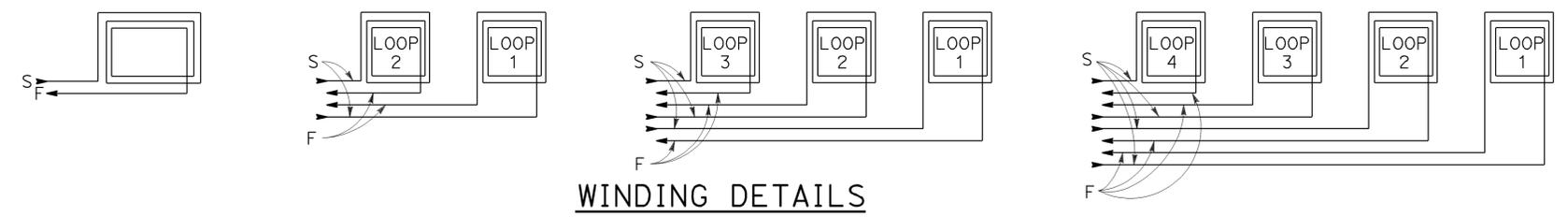
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION

SAWCUT DETAILS

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

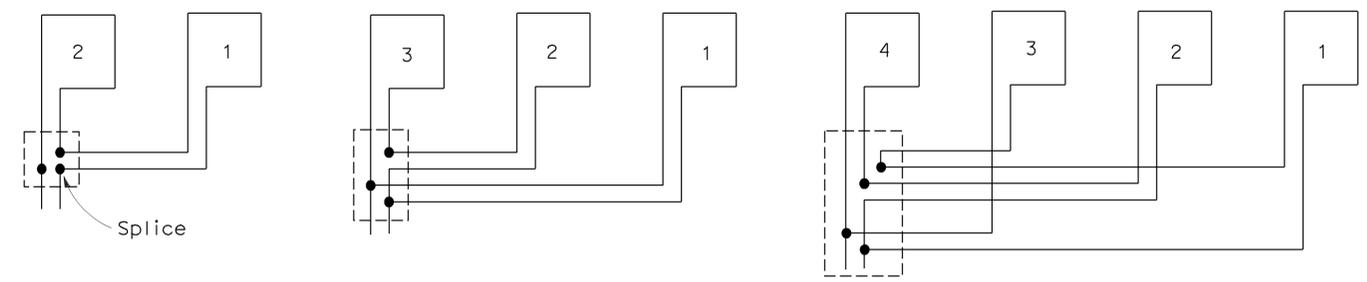
To accompany plans dated 3-26-12

2006 REVISED STANDARD PLAN RSP ES-5A



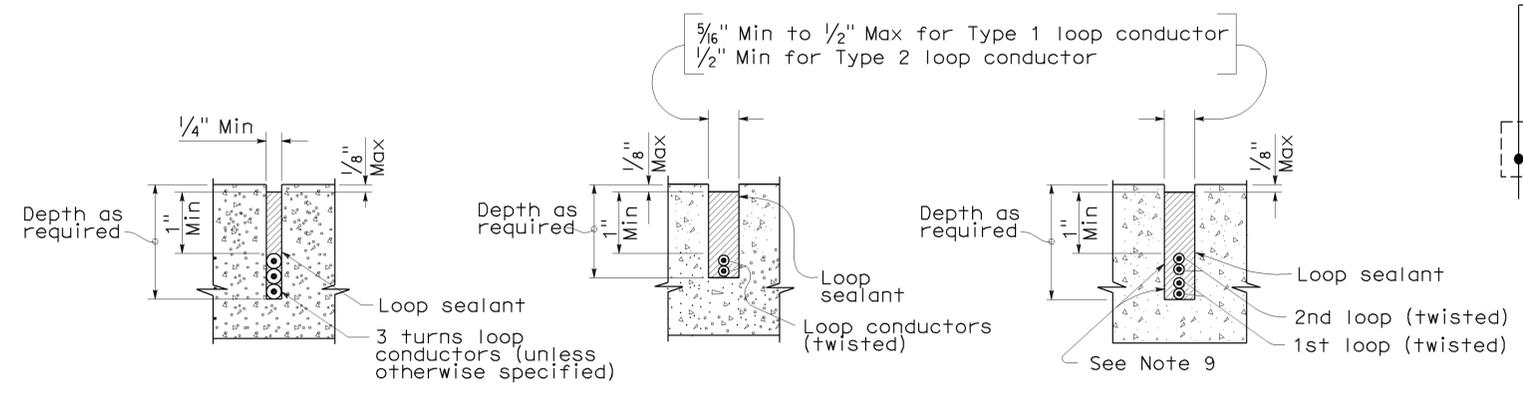
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



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

ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

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

REVISED STANDARD PLAN RSP ES-5A