

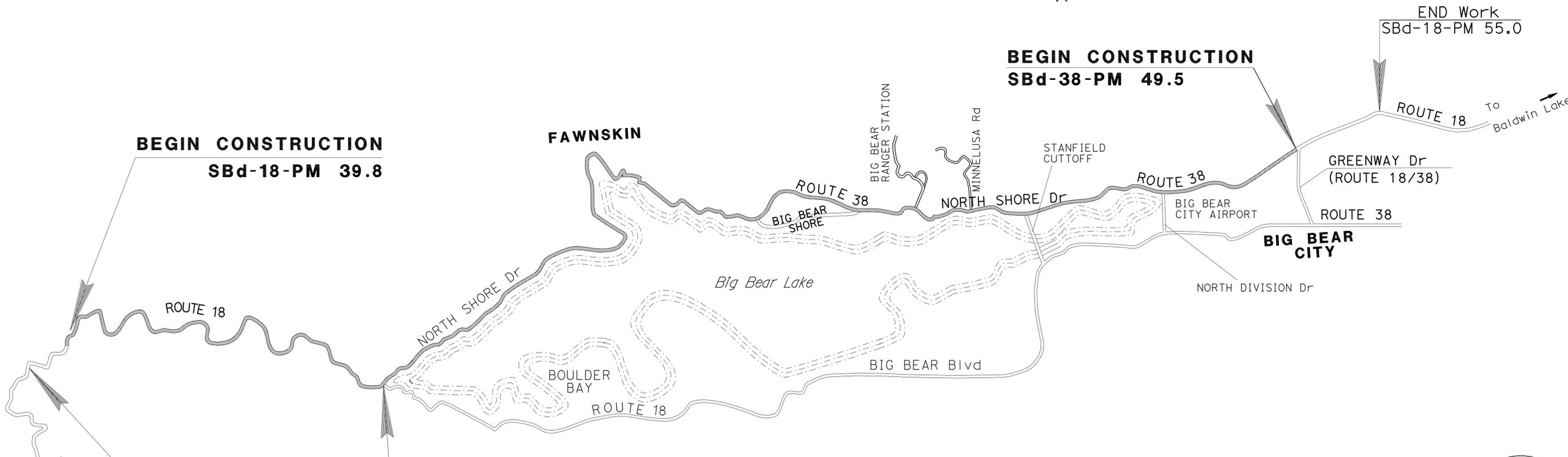
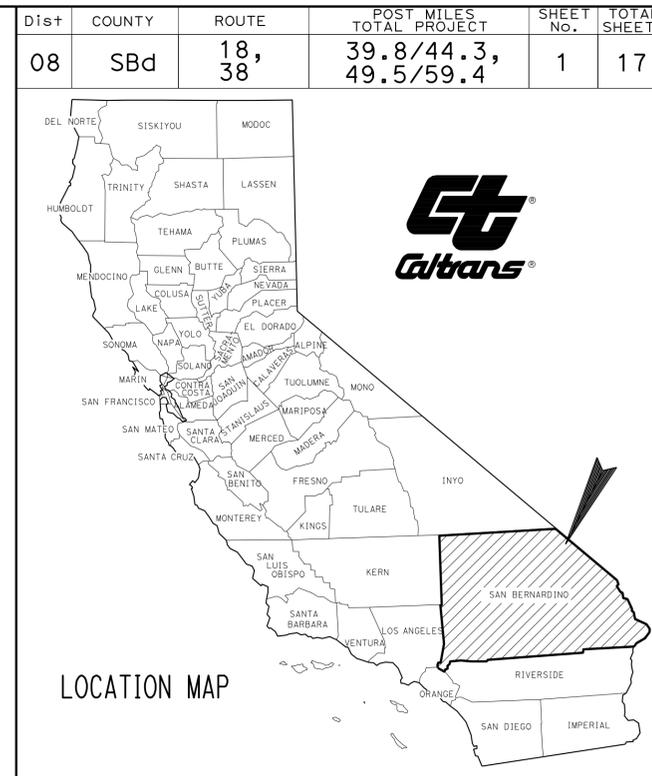
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3-5	CONSTRUCTION DETAILS
6	CONSTRUCTION AREA SIGNS
7	PAVEMENT DELINEATION QUANTITIES
8	SUMMARY OF QUANTITIES
9	ELECTRICAL PLANS
10-17	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 SAN BERNARDINO COUNTY
ON ROUTE 18
FROM 0.8 MILE EAST OF LAKEVIEW POINT MAINTENANCE STATION
TO ROUTE 18/38 SEPARATION AND
ON ROUTE 38
FROM GREENWAY DRIVE
TO ROUTE 18/38 SEPARATION
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER
CATALINO PINING

DESIGN ENGINEER
MINLUNG HO

3-19-12
PROJECT ENGINEER
REGISTERED CIVIL ENGINEER
DATE

March 19, 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.	08-0Q4804
PROJECT ID	0800020409

DATE PLOTTED => 27-MAR-2012
TIME PLOTTED => 09:26
03-19-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18 38	39.8/44.3, 49.5/59.4	3	17

REGISTERED CIVIL ENGINEER	DATE	3-19-12
PLANS APPROVAL DATE		
3-19-12		

REGISTERED PROFESSIONAL ENGINEER	MINLUNG HO
No. C. 68641	
Exp. 9/30/13	
CIVIL	

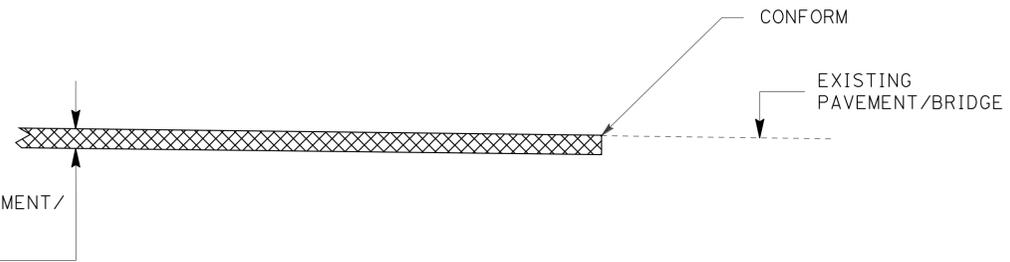
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. ALL WORK WITHIN STATE RIGHT OF WAY.
2. ALL MILLING SHOULD BE PERFORMED BEFORE APPLYING RHMA OVERLAY.
3. PAVING CONFORM WILL BE AT THE BEGINING, END OF PROJECT LIMITS, THE TRANSVERSE INTERSECTIONS OR EXISTING CURB AND GUTTER.

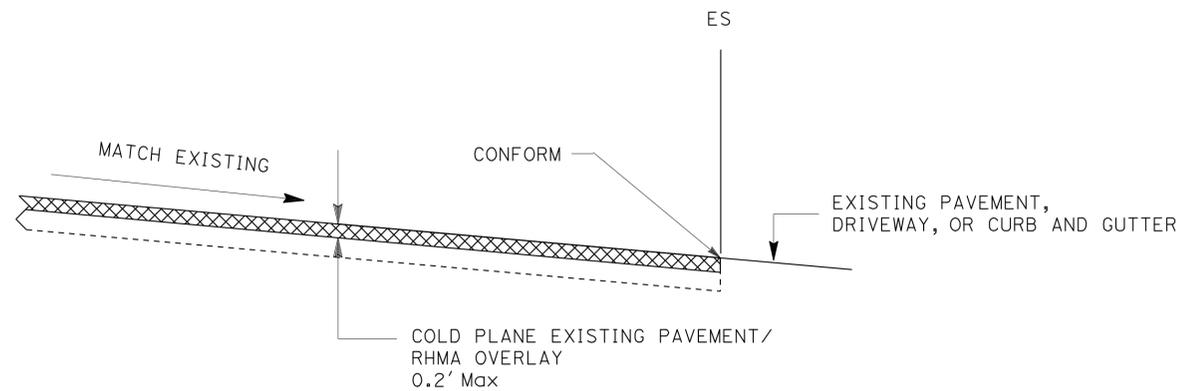
LEGEND:

-  LIMITS OF WORK
-  COLD PLANE AND PLACE RHMA (TYPE G)

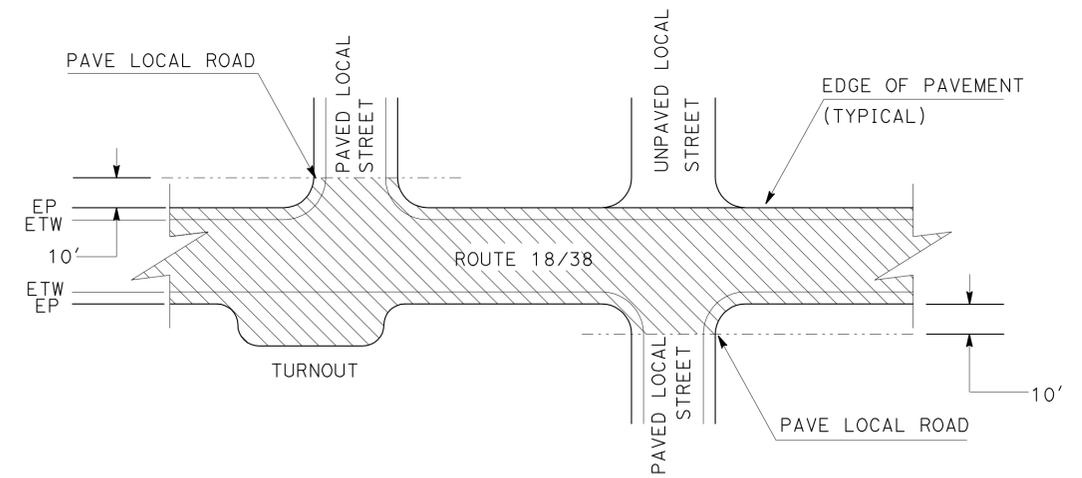


COLD PLANE CONFORM DETAIL (LONGITUDINAL)

AT BEGIN AND END OF MILL/OVERLAY



COLD PLANE/PAVING CONFORM DETAIL (TRANSVERSE)



PAVING LIMITS OF WORK

LOCAL STREETS

CONSTRUCTION DETAILS

NO SCALE

C-1

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING

FUNCTIONAL SUPERVISOR: MICHAEL RISTIC

CALCULATED/DESIGNED BY: MICHAEL RISTIC

CHECKED BY: MICHAEL RISTIC

REVISOR: MINLUNG HO

DATE: 3-19-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18, 38	39.8/44.3, 49.5/59.4	4	17

3-19-12
REGISTERED CIVIL ENGINEER DATE

3-19-12
PLANS APPROVAL DATE

MINLUNG HO
No. C 68641
Exp 9/30/13
CIVIL
STATE OF CALIFORNIA

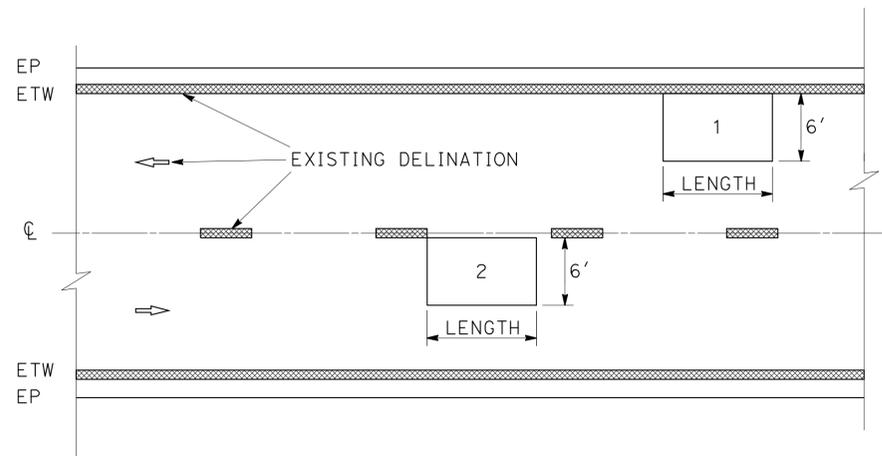
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. LENGTH OF COLDPLANE 0.2' ASPHALT CONCRETE AND OVERLAY 0.2' RHMA-G WILL BE DETERMINED BY THE ENGINEER (MINIMUM 150')
2. EXACT LOCATIONS OF COLDPLANE 0.2' ASPHALT CONCRETE AND OVERLAY 0.2' RHMA-G SHALL BE DETERMINED BY THE ENGINEER.

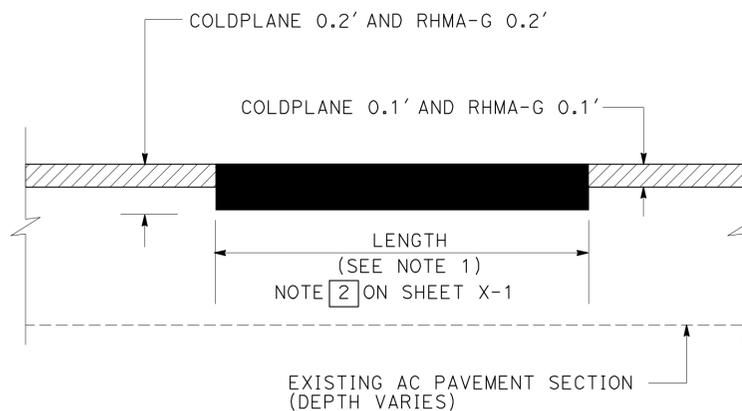
LEGEND:

-  COLDPLANE 0.2' AC PAVEMENT
0.2' RHMA-G OVERLAY
-  COLDPLANE 0.1' AC PAVEMENT
0.1' RHMA-G OVERLAY



LAYOUT VIEW

CASE 1: RIGHT WHEEL TRACK (R)
CASE 2: LEFT WHEEL TRACK (L)



SECTION VIEW

FOR QUANTITIES SEE SHEET Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR	DATE
Caltrans MAINTENANCE ENGINEERING	MICHAEL RISTIC	CHECKED BY	MICHAEL RISTIC	

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS

CONSTRUCTION DETAILS

NO SCALE

C-2



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18, 38'	39.8/44.3, 49.5/59.4	5	17

REGISTERED CIVIL ENGINEER	DATE
<i>[Signature]</i>	3-19-12
PLANS APPROVAL DATE	
3-19-12	

REGISTERED PROFESSIONAL ENGINEER
MINLUNG HO
No. C. 68641
Exp. 9/30/13
CIVIL

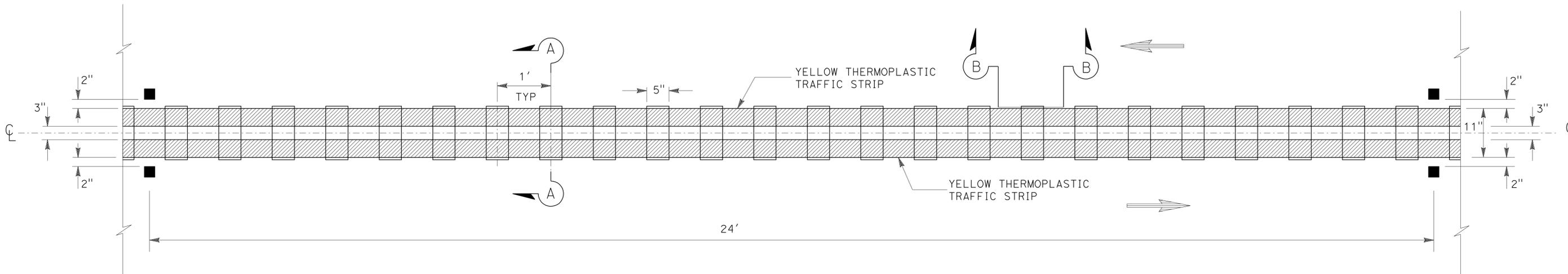
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

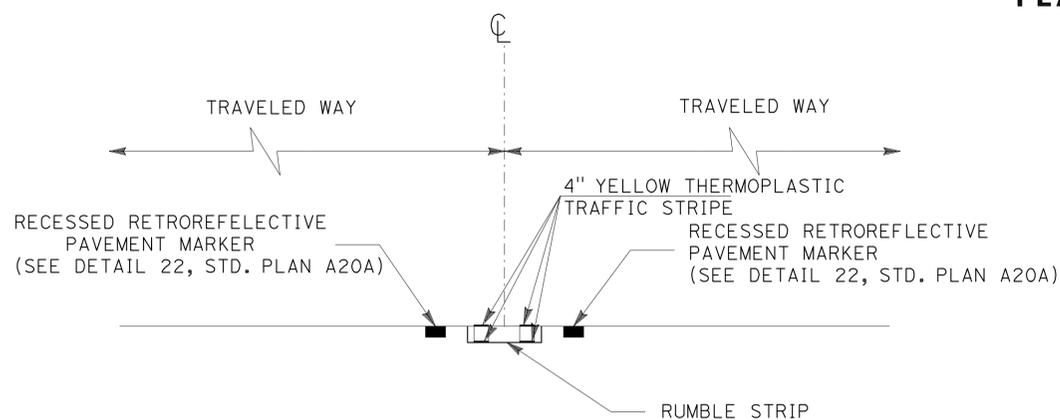
1. ALL WORK WITHIN STATE RIGHT OF WAY.
2. EXACT LIMITS SHALL BE DETERMINED BY THE ENGINEER.

LEGEND:

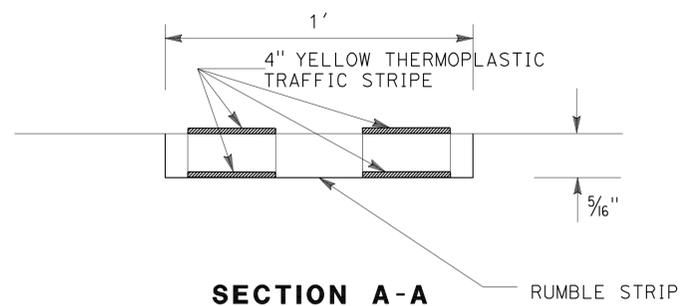
- Type D, TWO-WAY YELLOW RECESSED RETROREFLECTIVE
- ▨ 4" YELLOW THERMOPLASTIC TRAFFIC STRIPE
- TO BE STRIPED AFTER RUMBLE STRIP IS CONSTRUCTED.
- ▭ CENTERLINE RUMBLE STRIP(AC, GROUND-IN)
- ➔ DIRECTION OF TRAVEL



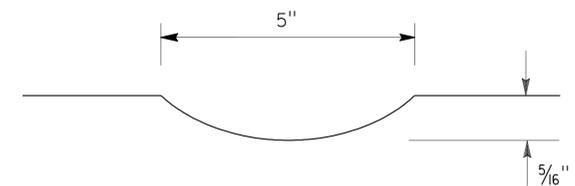
**ASPHALT CONCRETE SURFACING
GROUND-IN INDENTATIONS
(ROUTE 18, PM 39.8/44.3)
PLAN VIEW**



**TYPICAL CENTERLINE RUMBLE STRIP(GROUND-IN)
CROSS SECTION**



SECTION A-A



SECTION B-B

CONSTRUCTION DETAILS

NO SCALE

C-3

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS

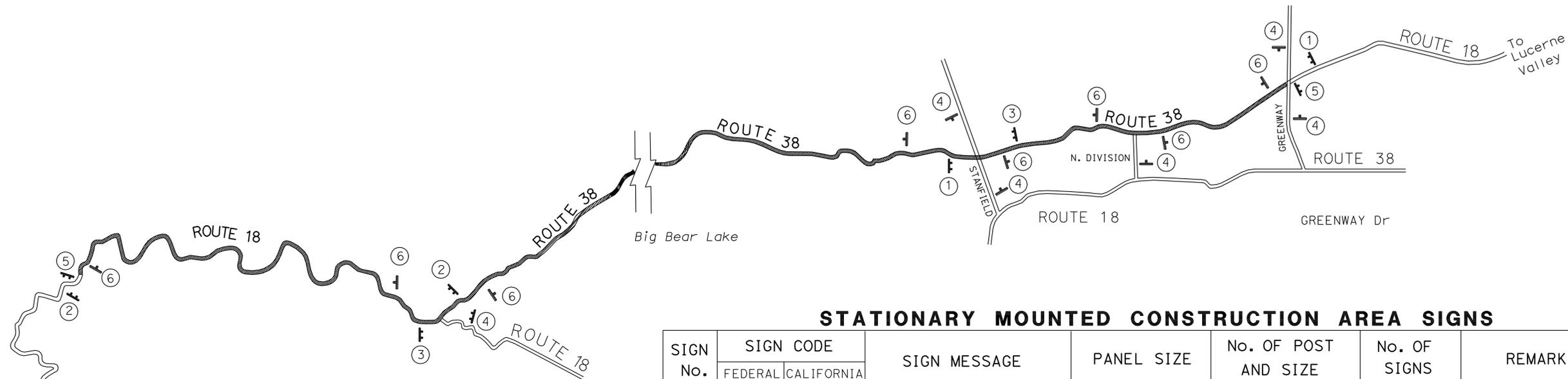
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
MAINTENANCE ENGINEERING
FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
CALCULATED/DESIGNED BY: MICHAEL RISTIC
CHECKED BY: MICHAEL RISTIC
REVISOR: MINLUNG HO
DATE: 3-19-12
REVISION: 1

NOTES:

- 1 - THE LOCATION OF CONSTRUCTION AREA SIGNS ON THE PLAN IS APPROXIMATE, THE EXACT LOCATION SHALL BE DETERMINED BY THE ENGINEER.
- 2 - ALL CONSTRUCTION AREA SIGNS MUST BE ACCORDING TO CALIFORNIA MUTCD.
- 3 - SIGNS MUST BE COVERED IF NOT IN USE.

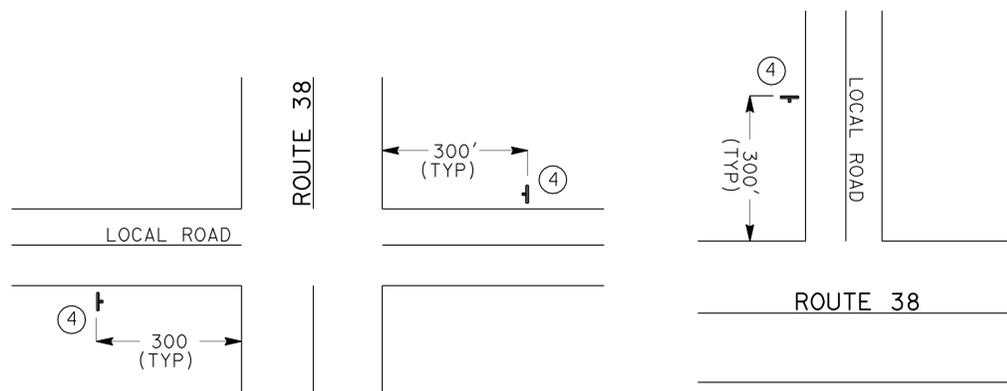
LEGEND:

 WORK AREA



STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		SIGN MESSAGE	PANEL SIZE	No. OF POST AND SIZE	No. OF SIGNS	REMARKS
	FEDERAL	CALIFORNIA					
①	W20-1		ROAD WORK AHEAD	48" X 48"	2 - 4" X 4"	2	
②	G20-1		ROAD WORK NEXT 5 MILES	90" X 48"	2 - 6" X 6"	2	
③	G20-1		ROAD WORK NEXT 7 MILES	90" X 48"	2 - 6" X 6"	2	
④	W20-1		ROAD WORK AHEAD	36" X 36"	1 - 4" X 4" OR PORTABLE	24	SIDERoads PM 49.5/59.4
⑤	G20-2		END ROAD WORK	42" X 18"	1 - 4" X 4"	2	
⑥		C40A(CA)	TRAFFIC FINES DOUBLED IN WORK ZONE	36" X 36"	1 - 4" X 4"	8	



**TYPICAL ADVANCE SIGNS ON INTERSECTIONS
(WOOD POST OR PORTABLE)**

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)



LOCATION TO BE DETERMINED BY ENGINEER

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS

APPROVED FOR CONSTRUCTION AREA SIGNS ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18, 38	39.8/44.3, 49.5/59.4	7	17

W.E. Wasser 3-19-12
 REGISTERED CIVIL ENGINEER DATE
 3-19-12
 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

DETAIL No.	THERMOPLASTIC PAVEMENT MARKING		THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)		RECESSED PAVEMENT MARKERS RETRO-REFLECTIVE		
	WHITE	YELLOW	WHITE	YELLOW	TYPE D	TYPE G	TYPE H
	SQFT		LF		EA	EA	EA
27B			152100				
22				161000	13500		
38			3000			150	
12			11000			250	
19				600			30
TYPE I ARROW-10'	14						
TYPE IV(L) ARROW	150						
TYPE III(R) ARROW	42						
TYPE V ARROW	33						
TYPE IV(R) ARROW	30						
STOP	66						
AHEAD	31						
ONLY	44						
YIELD	24						
SCHOOL		70					
XING	21						
PED	18						
LIMIT LINE	220						
8" HATCH LINE	160						
SUB TOTAL	853	70	166100	161600	13500	400	30
TOTAL	923		327700		13930		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR
 W.E. WASSER
 CALCULATED/DESIGNED BY
 CHECKED BY
 MOKHTARI
 WASSER
 0911
 0911
 REVISED BY
 DATE REVISED

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS

PAVEMENT DELINEATION QUANTITIES

PDQ-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18 38	39.8/44.3, 49.5/59.4	8	17

 3-19-12
 REGISTERED CIVIL ENGINEER DATE

3-19-12
 PLANS APPROVAL DATE

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



RUBBERIZED HOT MIX ASPHALT (TYPE G)

ROUTE	PM	DIRECTION	(N) LENGTH (FT)	(N) WIDTH (FT)	RUBBERIZED HOT MIX ASPHALT (TYPE G) (TONS)		TACK COAT (TONS)
					0.1'	0.2'	
18	39.8/44.3	NB/SB	23760	24-42	6760	1660	25.5
	TURNOUT	.....	7234	12-24	782	.....	2.5
38	49.5/59.4	EB/WB	52166	24-40	11844	3368	47.0
	TURNOUT	.....	9821	6-24	686	.....	2.0
SUBTOTAL					20072	5028	77.0
TOTAL					25100		77.0

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

COLD PLANE AND RUMBLE STRIP QUANTITIES

ROUTE	PM	DIRECTION	COLD PLANE ASPHALT CONCRETE PAVEMENT (SQYD)	CENTERLINE RUMBLE STRIP (AC, GROUND-IN) (STA)
18	39.8/44.3	NB/SB	91458	238
	TURNOUT	.....	11583	.....
38	49.5/59.4	EB/WB	167861	.....
	TURNOUT	.....	10158	.....
TOTAL			281060	238

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

SUMMARY OF QUANTITIES

Q-1

EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLAN SHEETS

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE ENGINEERING
 FUNCTIONAL SUPERVISOR: MICHAEL RISTIC
 CALCULATED/DESIGNED BY: CHECKED BY:
 MINLUNG HO: MICHAEL RISTIC
 REVISED BY: DATE REVISED:



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	18, 38	39.8.8/44.3, 49.5/59.4	10	17

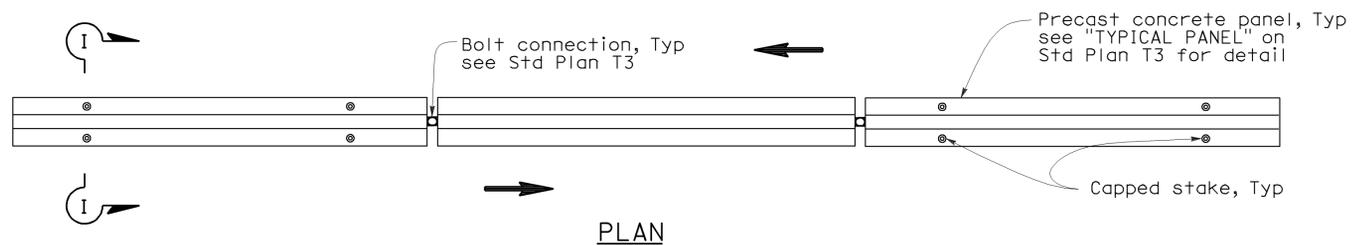
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

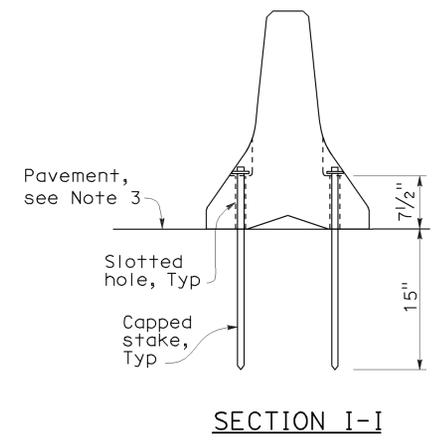
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

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

To accompany plans dated 03-19-12



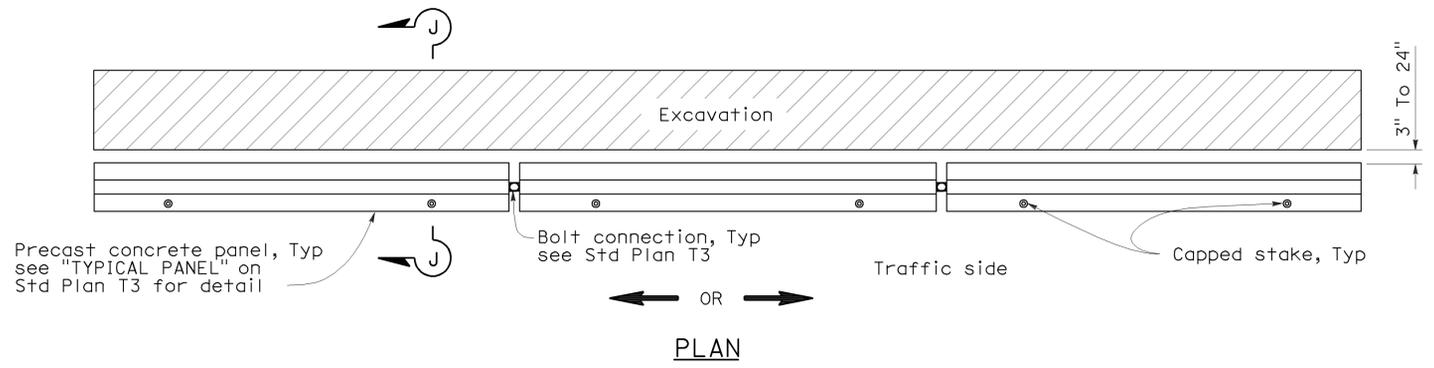
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



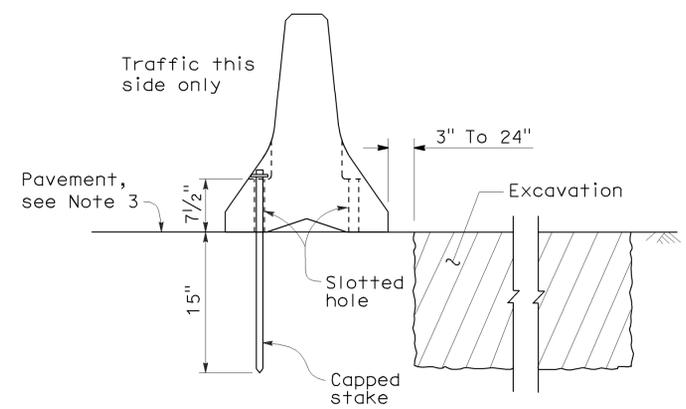
NOTES:

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 pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by →.

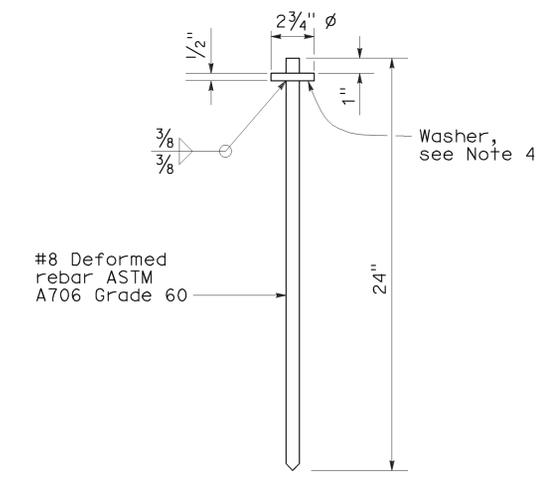
SECTION I-I



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.

NEW STANDARD PLAN NSP T3A

2006 NEW STANDARD PLAN NSP T3A

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	18, 38	39.8.8/44.3, 49.5/59.4	11	17

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

Jeffery G. McRae
No. E14512
Exp. 6-30-08
REGISTERED PROFESSIONAL ENGINEER
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 03-19-12

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
08	SBd	18, 38	39.8.8/44.3, 49.5/59.4	12	17

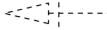
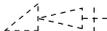
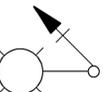
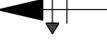
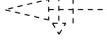
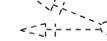
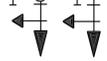
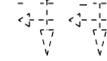
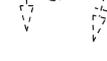
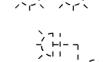
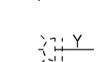
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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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

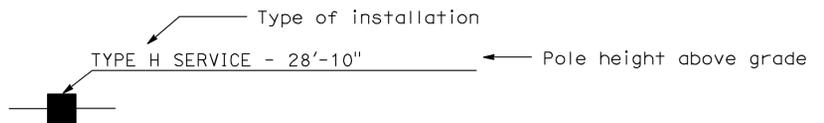
SIGNAL EQUIPMENT

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
		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

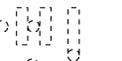
SERVICE EQUIPMENT

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:

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

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

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

REVISED STANDARD PLAN RSP ES-1B

2006 REVISED STANDARD PLAN RSP ES-1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	18, 38	39.8/44.3, 49.5/59.4	13	17

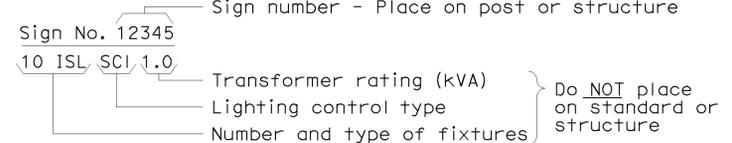
Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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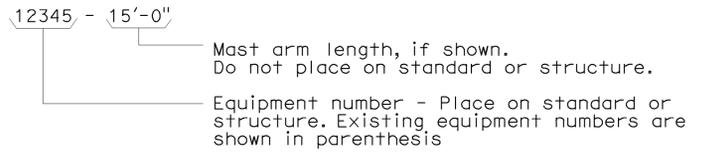
To accompany plans dated 03-19-12

EQUIPMENT IDENTIFICATION

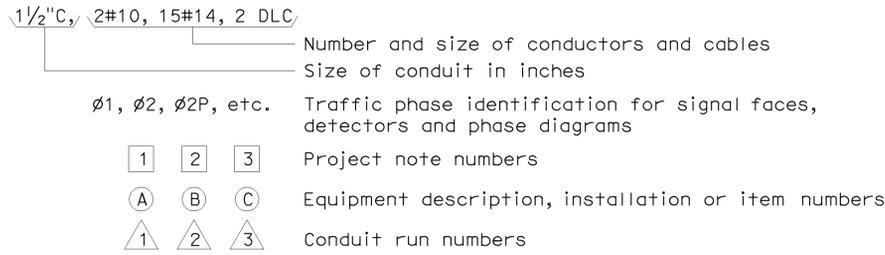
ILLUMINATED SIGN IDENTIFICATION NUMBER:



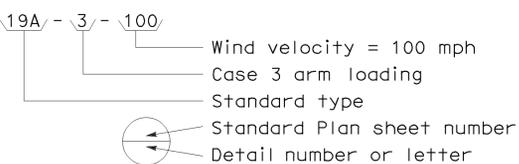
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

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

WIRING DIAGRAM LEGEND

P	Pole	----	External conductor
CB	Circuit breaker	—	Conductor or bus
A	Ampere	•	Tie point
V	Volt	—/—	Contactor coil
M	Metered	—|—	Contactor, Contact NO
UM	Unmetered	—|—|	Terminal blocks
NB	Neutral bus	—|—|	Contactor, Contact NC
GB	Ground bus	—|—|	Enclosure bond
G	Equipment grounding conductor	—|—|	Grounding electrode
N	Grounded conductor (Neutral)	—|—|	Circuit breaker
		Ⓜ	Receptacle

PULL BOXES

PROPOSED	EXISTING	
		Pull box-No. 5 unless otherwise indicated or noted.
		Pull box-Additional designations or descriptions
3	9A(21)	(C) = Communications pull box
5		(E) = Pull box with extension
6		(S) = Sprinkler control pull box
7		(21) = Anchor bolts and conduit for future installation of Type 21 Standard
8		(T) = Traffic pull box
9		
9A		

VEHICLE DETECTORS

PROPOSED	EXISTING	
		Vehicle detector designation
U	L	U = Upper L = Lower
5		Slot number in input file
J		Input file (I or J)
9		Phase
		Type A detector loop. Outline of sawcut shown.
		Type B detector loop. Outline of sawcut shown.
		Type C detector loop. Outline of sawcut shown.
		Type D detector loop. Outline of sawcut shown.
		Type E detector loop. Outline of sawcut shown.
		Type Q detector loop. Outline of sawcut shown.
		Magnetic detector
		Detector handhole
		Microwave or video detection zone

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

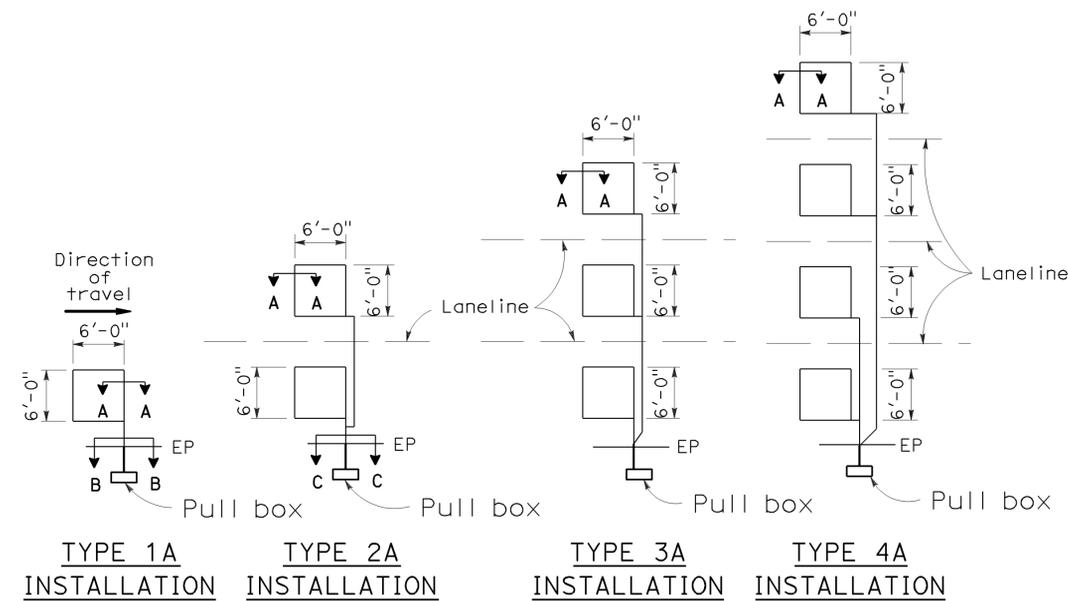
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	18, 38	39.8/44.3, 49.5/59.4	14	17

October 5, 2007
 PLANS APPROVAL DATE
 To accompany plans dated 03-19-12

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

LOOP INSTALLATION PROCEDURE

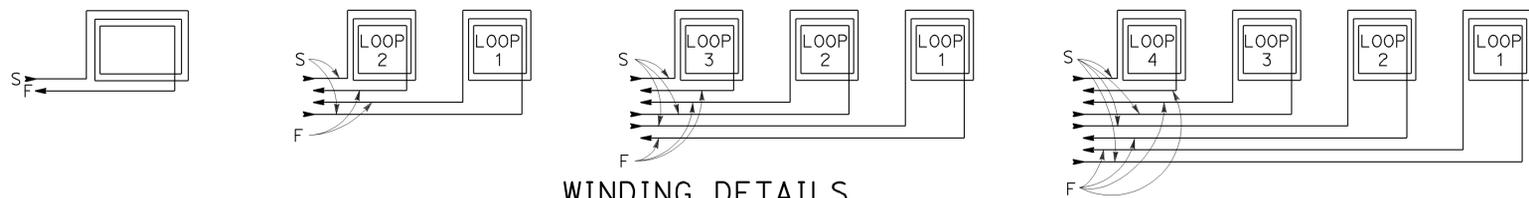
- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no 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.



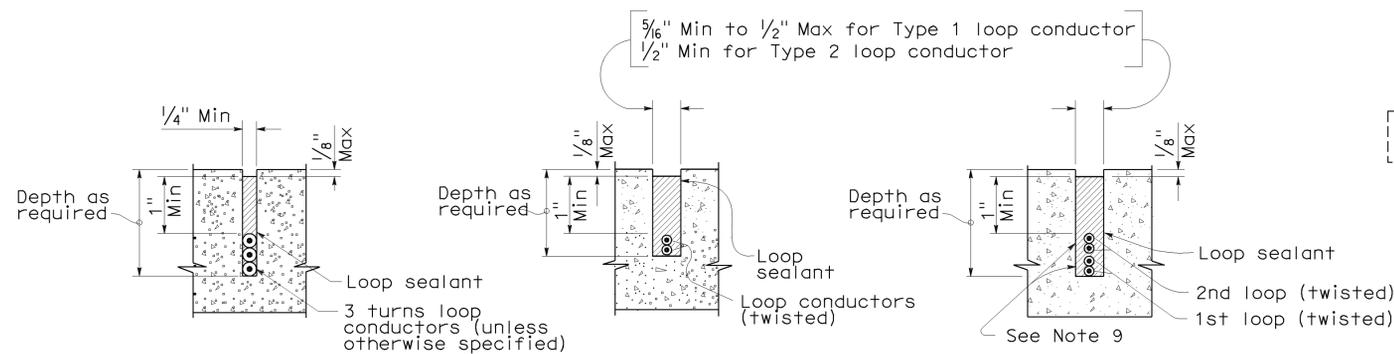
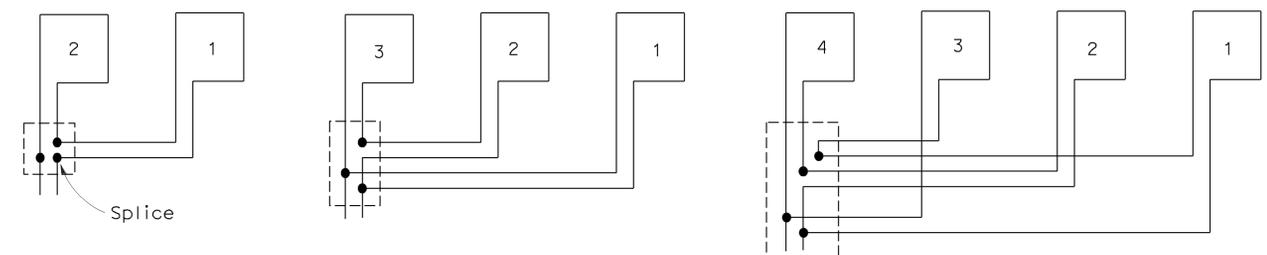
SAWCUT DETAILS

(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



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (DETECTORS)**

NO SCALE

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

REVISED STANDARD PLAN RSP ES-5A

2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Sbd	18, 38	39.8.8/44.3, 49.5/59.4	15	17

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

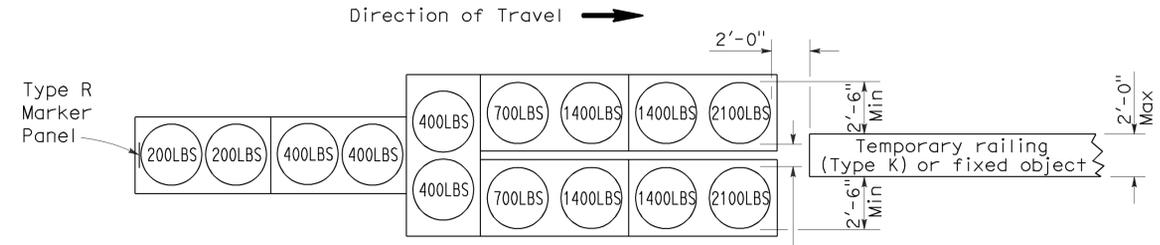
June 6, 2008
PLANS APPROVAL DATE

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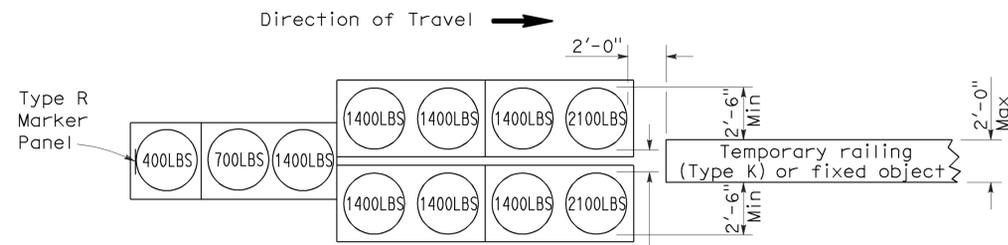
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 03-19-12

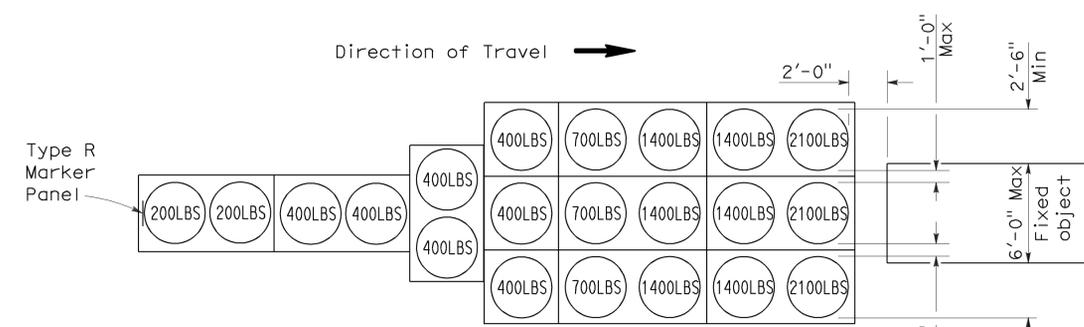
2006 REVISED STANDARD PLAN RSP T1A



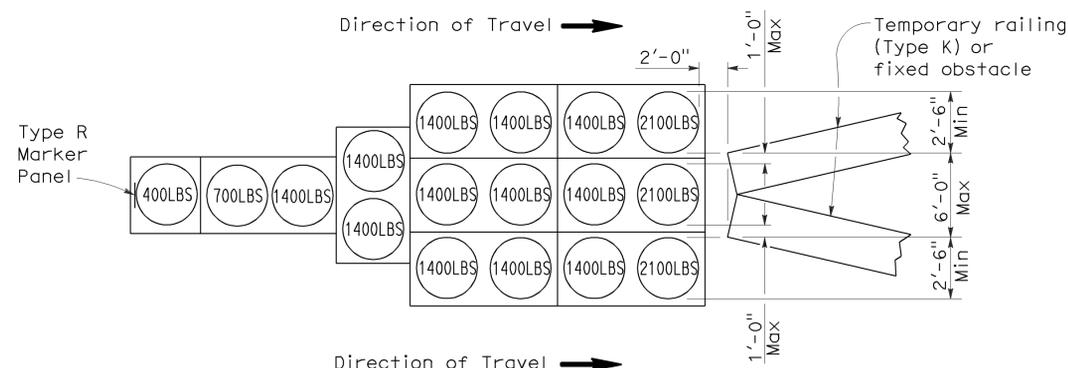
Direction of Travel →
ARRAY 'TU14'
Approach speed 45 mph or more



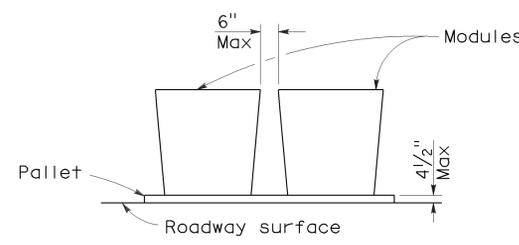
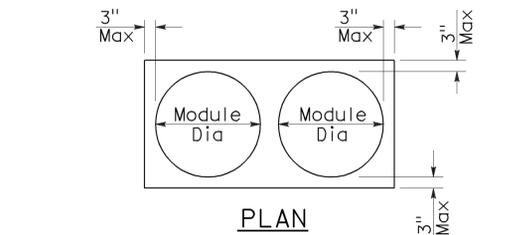
Direction of Travel →
ARRAY 'TU11'
Approach speed less than 45 mph



Direction of Travel →
ARRAY 'TU21'
Approach speed 45 mph or more



Direction of Travel →
ARRAY 'TU17'
Approach speed less than 45 mph



PLAN
ELEVATION
CRASH CUSHION PALLET DETAIL
See Note 7

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.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Place the top of Type R marker panel 1" below the module lid.
- Refer to Standard Plan A73B for marker details.
- 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
(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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	18, 38	39.8/44.3, 49.5/59.4	16	17

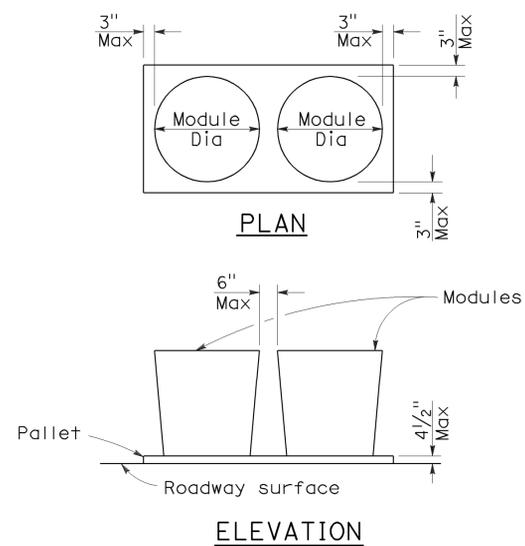
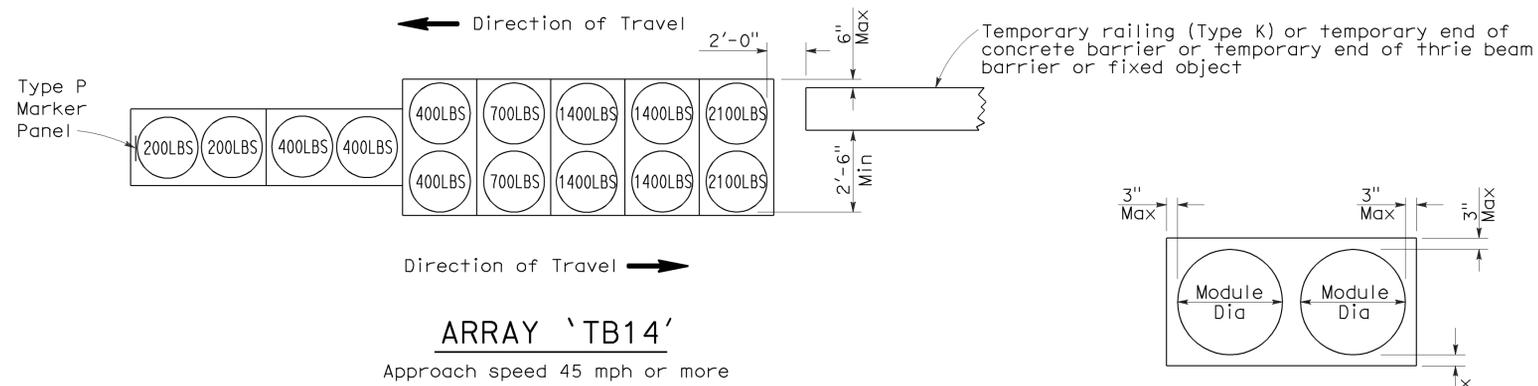
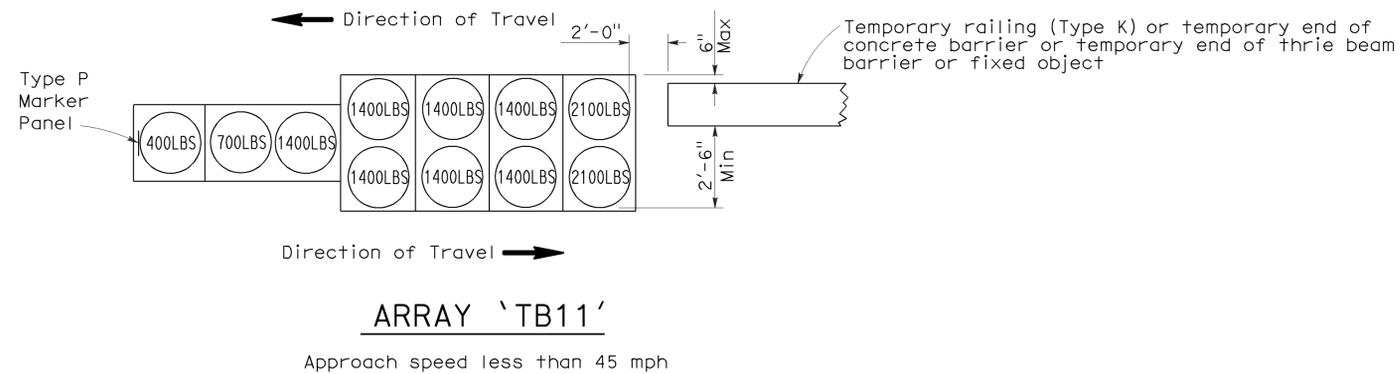
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

To accompany plans dated 03-19-12



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
08		18, 38	39.8/44.3, 49.5/59.4	17	17

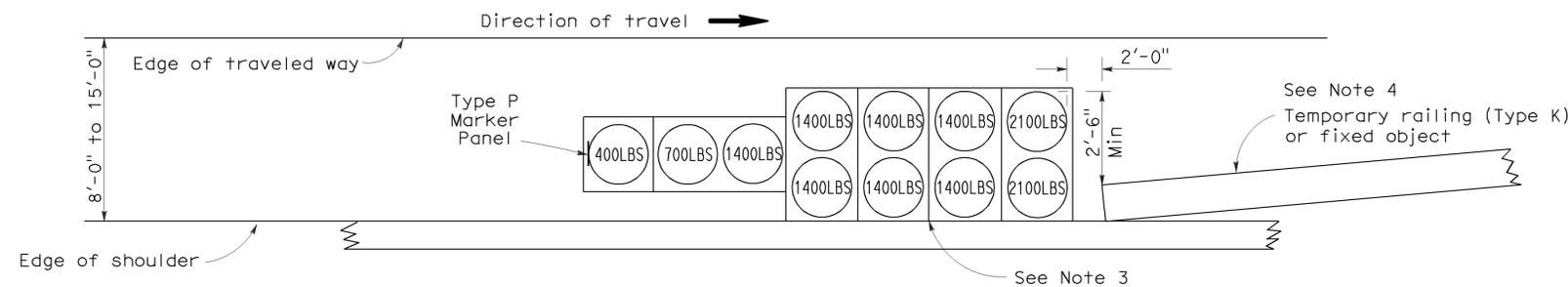
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

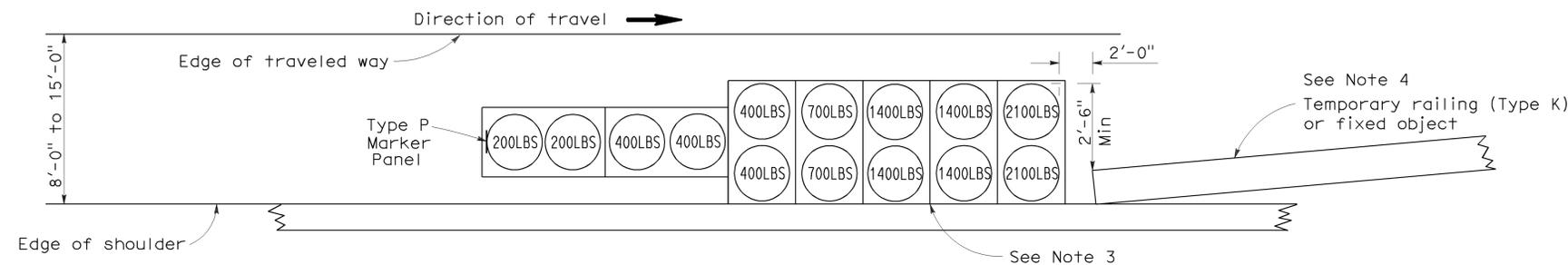
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Randell D. Hiatt
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Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

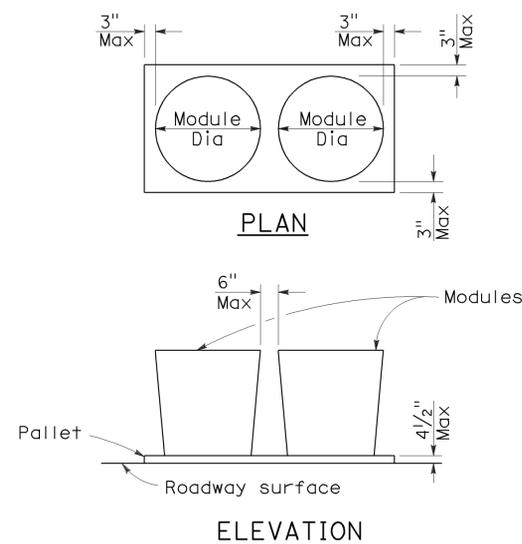
To accompany plans dated 03-19-12



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