

INDEX OF PLANS

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11-19	REVISED AND NEW STANDARD PLANS

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

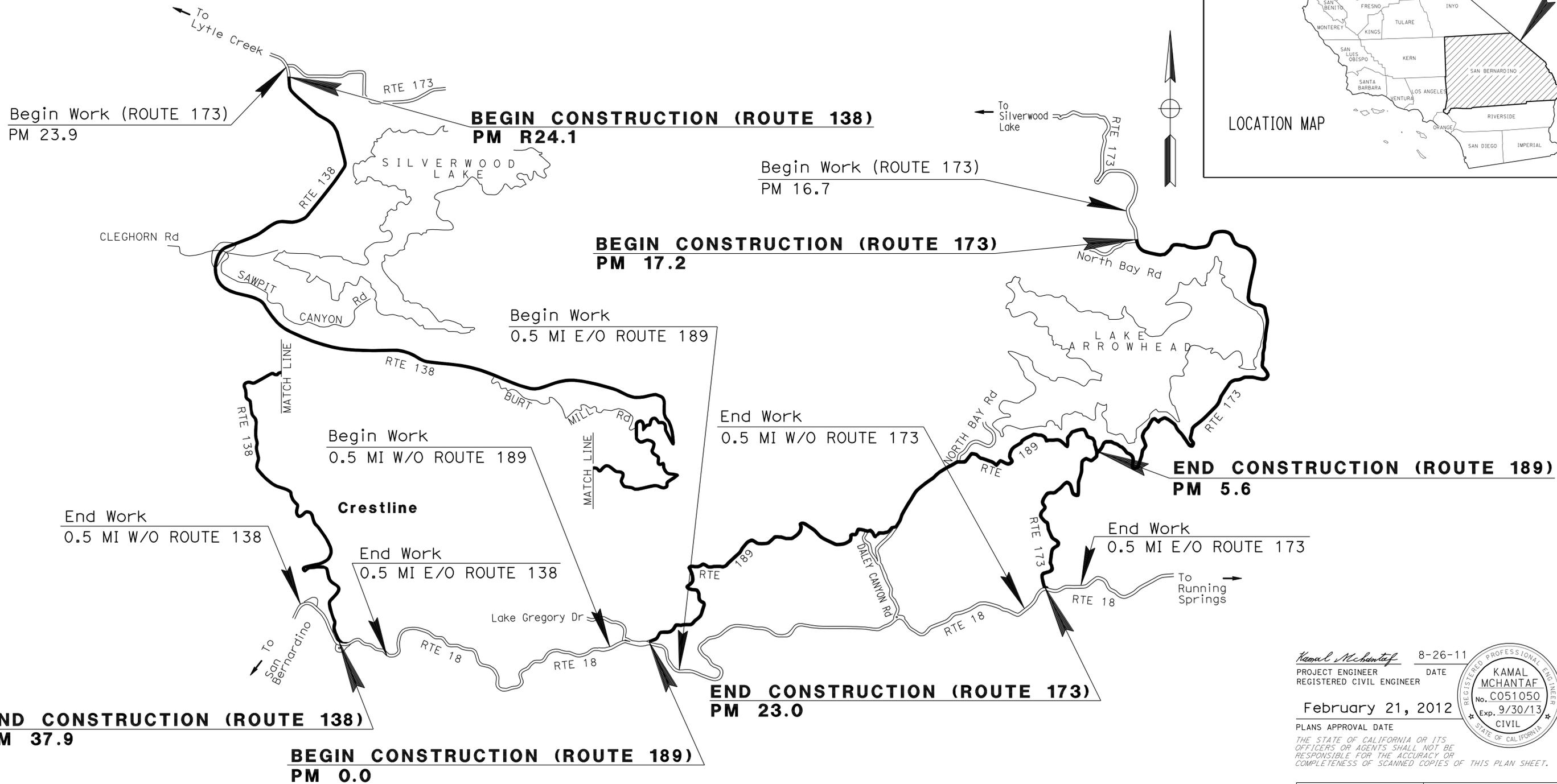
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN BERNARDINO COUNTY
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	1	19

Caltrans



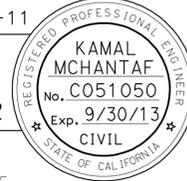
PROJECT MANAGER
CATALINO PINING

DESIGN ENGINEER
KAMAL MCHANTAF

Kamal Mchantaf 8-26-11
PROJECT ENGINEER DATE
REGISTERED CIVIL ENGINEER

February 21, 2012
PLANS APPROVAL DATE

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

NO SCALE

CONTRACT No. **08-0P9204**
PROJECT ID **0800020095**

DATE PLOTTED => 23-FEB-2012 TIME PLOTTED => 10:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	4	19

W E Wasser 2-16-12
 REGISTERED CIVIL ENGINEER DATE
 2-21-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 WILLIAM E. WASSER
 No. C37378
 Exp. 6/30/12
 CIVIL
 STATE OF CALIFORNIA

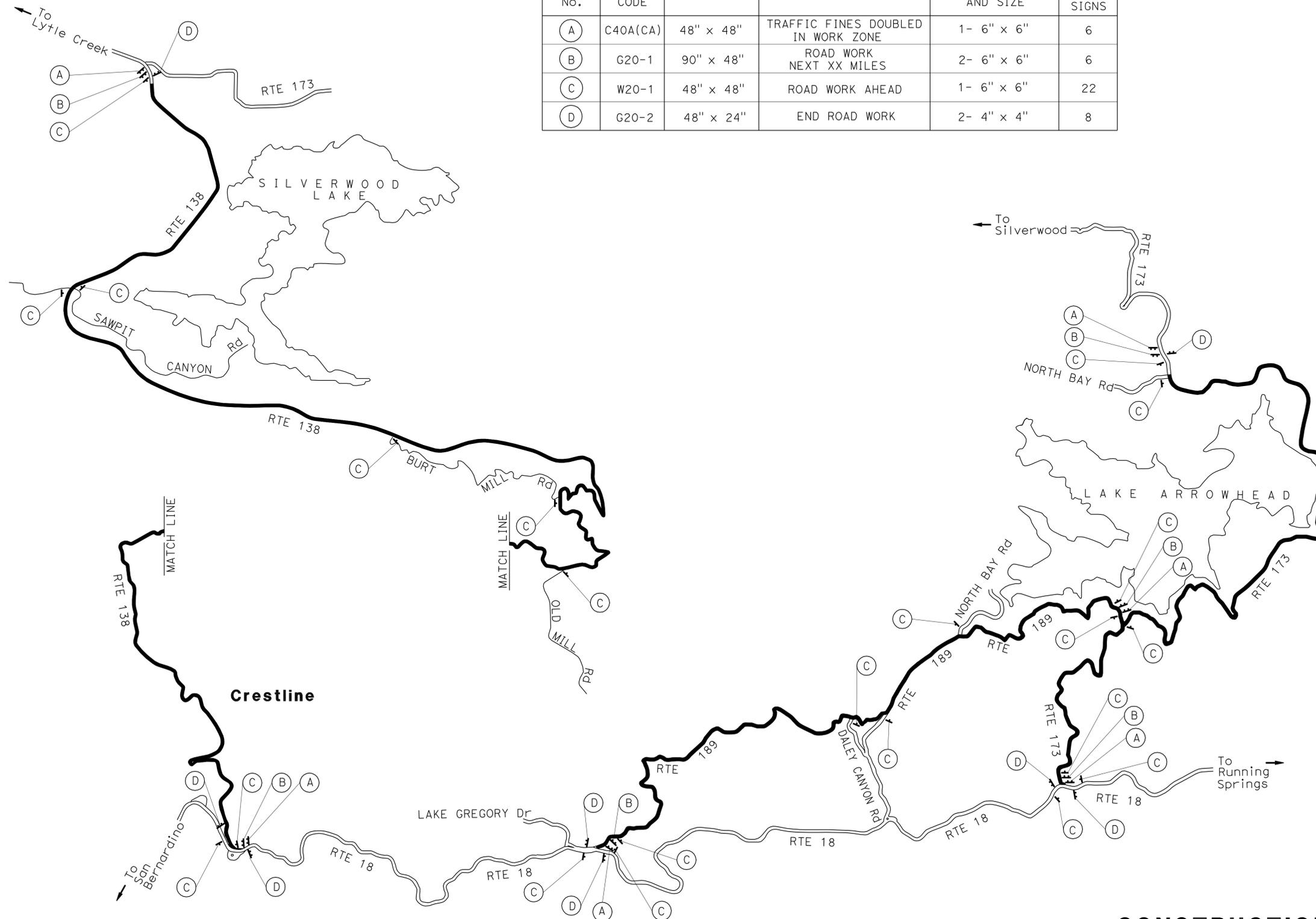
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ON THE PLAN ARE APPROXIMATE. EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER.
2. FOR SIGN B:
 XX = 14 ON RTE. 138
 XX = 6 ON RTE. 173
 XX = 6 ON RTE. 189

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
(A)	C40A(CA)	48" x 48"	TRAFFIC FINES DOUBLED IN WORK ZONE	1- 6" x 6"	6
(B)	G20-1	90" x 48"	ROAD WORK NEXT XX MILES	2- 6" x 6"	6
(C)	W20-1	48" x 48"	ROAD WORK AHEAD	1- 6" x 6"	22
(D)	G20-2	48" x 24"	END ROAD WORK	2- 4" x 4"	8



CONSTRUCTION AREA SIGNS
 NO SCALE
CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

DEPARTMENT OF TRANSPORTATION
 TRAFFIC DESIGN
 STATE OF CALIFORNIA
 Caltrans

DEAN TO
 WILLIAM E WASSER
 REVISOR BY
 DATE REVISOR

FUNCTIONAL SUPERVISOR
 WILLIAM E WASSER
 CALCULATED/DESIGNED BY
 CHECKED BY

USERNAME => s102458
 DGN FILE => 80p9201a001.dgn
 BORDER LAST REVISED 7/2/2010



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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	5	19

W E Wasser 2-16-12
 REGISTERED CIVIL ENGINEER DATE

2-21-12
 PLANS APPROVAL DATE

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PAVEMENT DELINEATION QUANTITIES

ROUTE	POST MILE LIMIT	DETAIL No. OR PAVEMENT MARKING	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)			PAVEMENT MARKER RETROREFLECTIVE RECESSED		THERMOPLASTIC PAVEMENT MARKING		REMARK
			4" YELLOW	4" WHITE	8" WHITE	TYPE D	TYPE G	WHITE	YELLOW	
			LF	LF	LF	EA	EA	SQFT	SQFT	
138	24.1/37.85	6	2550			50				
		8		200						
		22	70470			5874				
		27B		145200						
		29	4260			180				
		38			450		20			
		" STOP " MARKING						88		
		TYPE III ARROW (RT)						84		
		TYPE III ARROW (LT)						252		
		12" WHITE DIAGONAL						200		
12" YELLOW DIAGONAL							196			
173	17.2/23.04	22		30835		2571				
		27B		61670						
		38			150		8			
		TYPE III ARROW (LT)						84		
		" STOP " MARKING						132		
		12" WHITE LINE						24		
		12" WHITE DIAGONAL						80		
		" SLOW " MARKING							46	
		" SCHOOL " MARKING							70	
		" XING " MARKING							42	
12" YELLOW LINE							70			
12" YELLOW DIAGONAL							60			
189	0.0/5.56	22		27160		2265				
		27B		58720						
		29	1200			51				
		32	1000			43				
		" STOP " MARKING						110		
		" AHEAD " MARKING						62		
		" PED " MARKING						36		
		" XING " MARKING						42		
		TYPE VI ARROW						84		
		TYPE III ARROW (LT)						168		
TYPE IV ARROW						60				
12" WHITE LINE						120				
		SUB TOTAL	79480	323785	600	11034	28	1626	484	
		TOTAL	403865			11062		2110		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR
 WILLIAM E WASSER

CALCULATED/DESIGNED BY
 CHECKED BY

DEAN TO
 WILLIAM E WASSER

REVISED BY
 DATE REVISED

PAVEMENT DELINEATION QUANTITIES PDQ-1

LAST REVISION | DATE PLOTTED => 23-FEB-2012
 02-16-12 | TIME PLOTTED => 10:49

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	6	19

Kamal Mchantaf 2-16-12
 REGISTERED CIVIL ENGINEER DATE

2-21-12
 PLANS APPROVAL DATE

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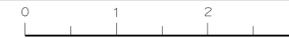
NOTE:

1. EXACT LOCATIONS AND DIMENSIONS AS DIRECTED BY THE ENGINEER.

ROUTE	POST MILE LIMITS	SEGMENT LENGTH	AVERAGE WIDTH	COLD PLANE	HMA (TYPE A)		TACK COAT
					0.1' THICK AREA	ADDITIONAL 0.1' THICK AREA FOR DIG-OUTS	
					MI	FT	
138	R24.1 TO 30.8	6.7	40	157,227	10,967	3,300	46
138	30.9 TO 37.9	7.0	26	106,773	7,447	2,200	32
173	17.2 TO 23.0	5.8	26	88,469	6,171	1,900	26
189	0.0 TO 5.6	5.6	26	85,419	5,958	1,800	26
CLEGHORN ROAD RAMPS				1,185	83	50	1
ROUTE 18/138 CONNECTORS				1,422	99	50	1
TURNOUTS				1,667	116	50	1
SUBTOTAL					30,841	9350	
TOTAL				442,162	40,191		133

SUMMARY OF QUANTITIES
Q-1

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

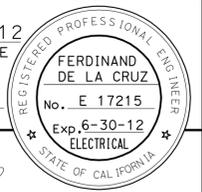


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	7	19

<i>Ferdinand De La Cruz</i>	2-16-12
REGISTERED ELECTRICAL ENGINEER	DATE

2-21-12
PLANS APPROVAL DATE

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NOTES:

1. THE CONTRACTOR SHALL CONTACT THE ENGINEER THREE WORKING DAYS PRIOR TO INSTALLING DETECTOR LOOPS.
2. EXISTING INDUCTIVE LOOP DETECTORS SHOWN TO BE REPLACED SHALL BE **AB**.
3. LABEL CONDUCTOR ENDS AS PER STANDARD PLAN ES-13B.
4. ALL DISTANCES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED.

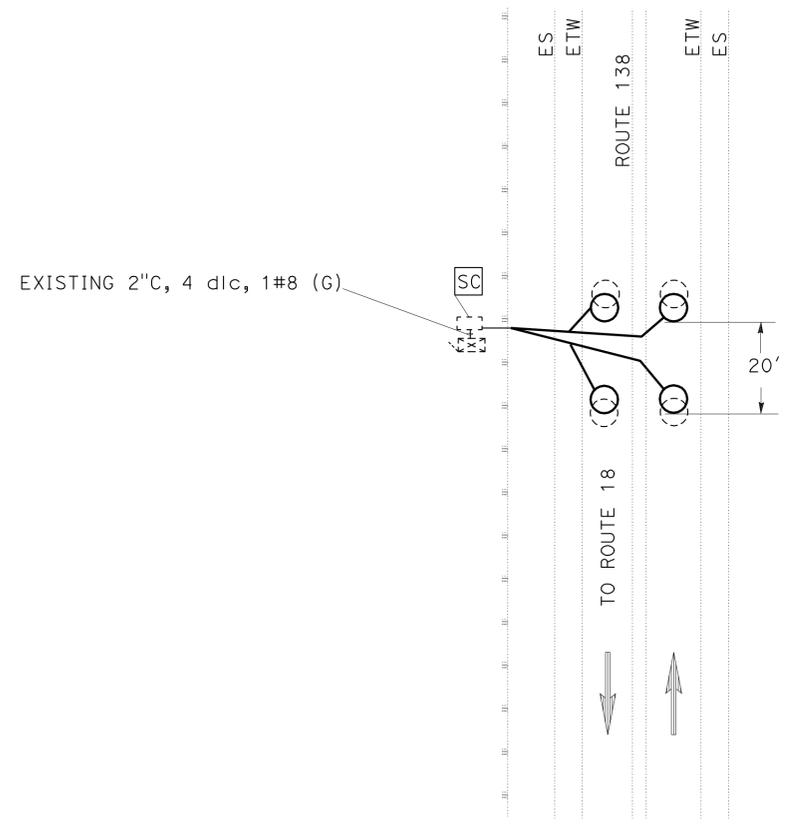
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR
 FERDINAND DE LA CRUZ

CALCULATED/DESIGNED BY
 CHECKED BY

LUIS PEMALOZA JR
 FERDINAND DE LA CRUZ

REVISED BY
 DATE REVISED



CENSUS STATION 853
 ROUTE 18 AT PM R37.9 (Approx)

INDUCTIVE LOOP DETECTOR
 NO SCALE
E-1

APPROVED FOR ELECTRICAL WORK ONLY

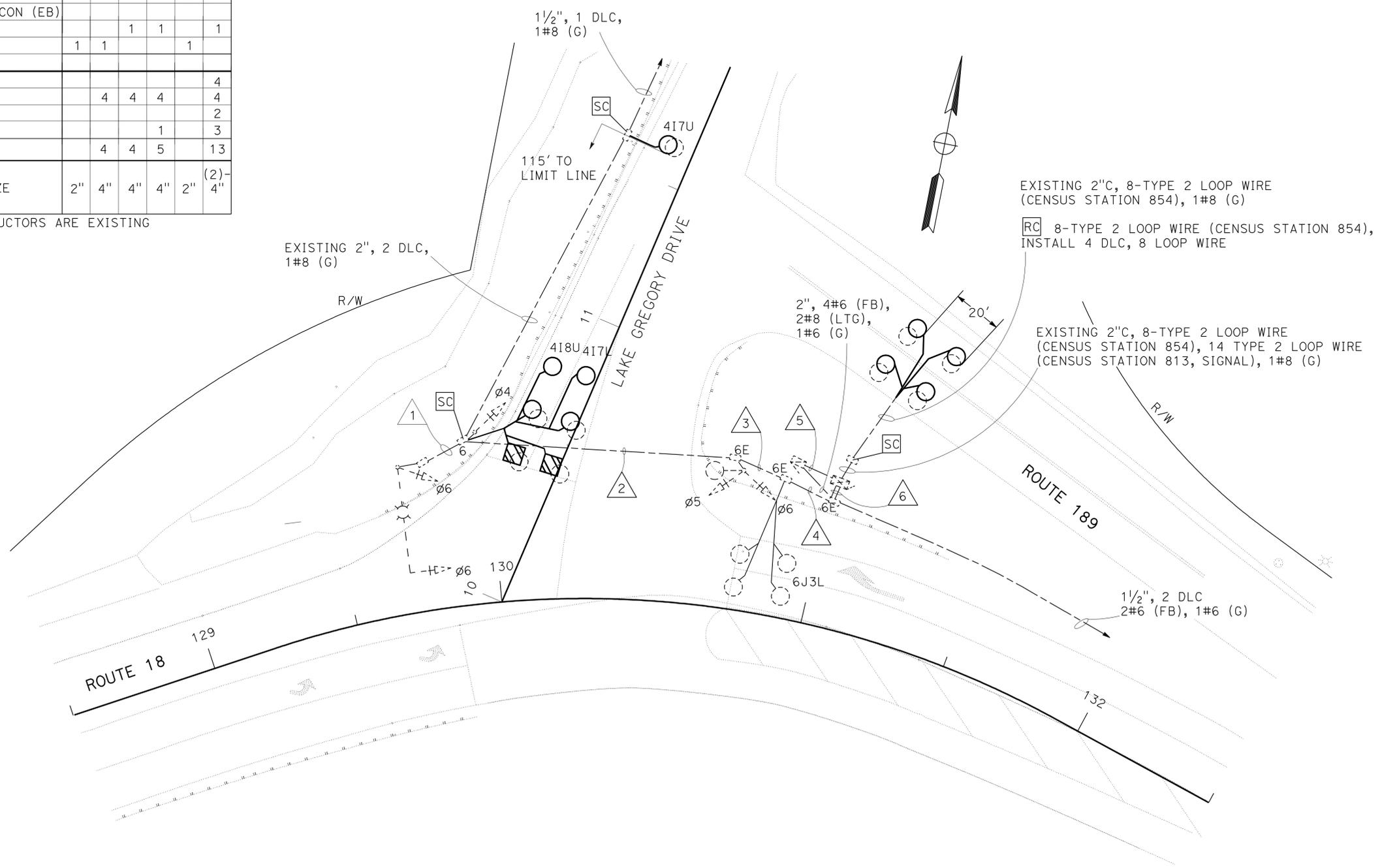
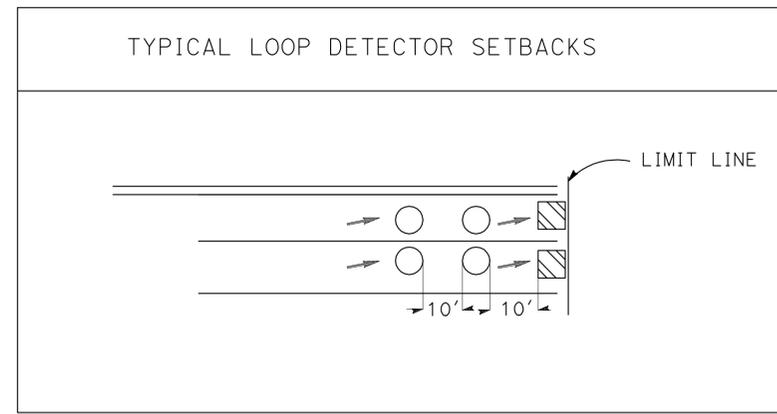


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B
 FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
 REVISIONS: x x x x x

FDC: 07-01-11
 REVISED BY: DATE REVISED:
 LUIS PEMALOZA JR. FERDINAND DE LA CRUZ
 CALCULATED/DESIGNED BY: CHECKED BY:

CABLE SCHEDULE			CONDUIT RUN AND SIZE					
CABLE TYPE	S + d	PHASE	1	2	3	4	5	6
VEH-PED 12CSC	(A)	Ø6	1	1	1	1	1	1
PPB 3CSC	(B)	Ø4		1	1	1	1	1
	(C)	Ø5, Ø6			1	1	1	1
TOTAL			1	2	3	3	6	5
AWG	CIRCUIT							
#8	LIGHTING		2	2	2	2		
#6	SIGNAL SERVICE						2	
#6	FLASHING BEACON (EB)							
#6	GROUND				1	1		1
#8	GROUND		1	1			1	
DLC	Ø2							4
	Ø4			4	4	4		4
	Ø5					1		2
	Ø6							3
TOTAL DLC				4	4	5		13
CONDUIT SIZE			2"	4"	4"	4"	2"	(2)-4"

ALL CONDUITS AND CONDUCTORS ARE EXISTING



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	8	19

2-16-12
 REGISTERED ELECTRICAL ENGINEER DATE

2-21-12
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
 FERDINAND DE LA CRUZ
 No. E 17215
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

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

APPROVED FOR ELECTRICAL WORK ONLY

INDUCTIVE LOOP DETECTORS
 SCALE 1"=20'
E-2

LAST REVISION DATE PLOTTED => 23-FEB-2012 10:49
 TIME PLOTTED => 10:49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR
 FERDINAND DE LA CRUZ

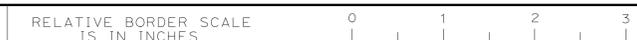
CALCULATED/DESIGNED BY
 CHECKED BY

LUIS PENALOZA JR
 FERDINAND DE LA CRUZ

BORDER LAST REVISED 7/2/2010

USERNAME => s102458
 DGN FILE => 80p920ud003.dgn

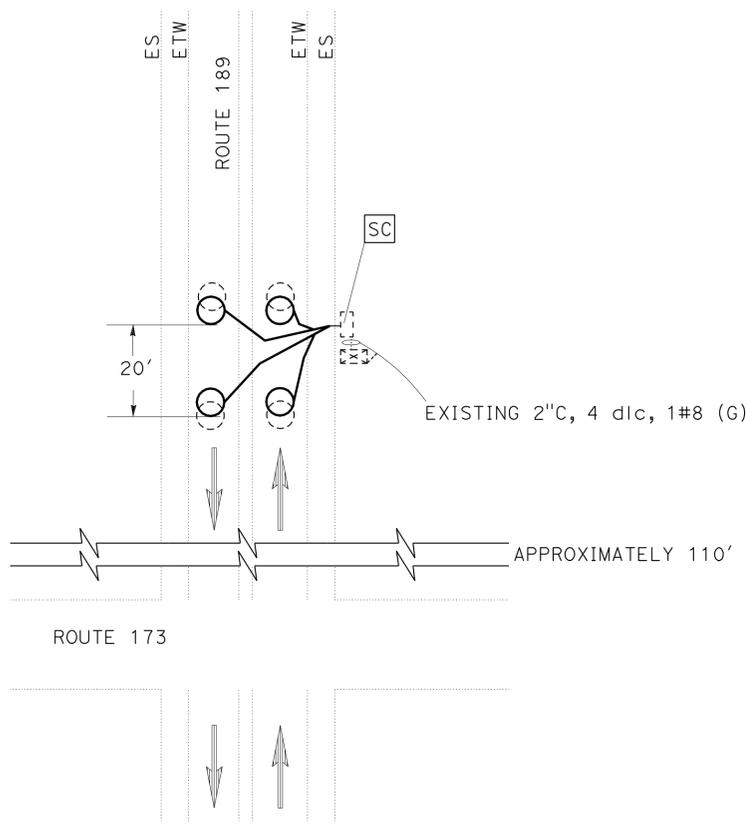
APPROVED FOR ELECTRICAL WORK ONLY



UNIT 2291

INDUCTIVE LOOP DETECTOR
 NO SCALE
E-3

PROJECT NUMBER & PHASE 08000200951



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	9	19

REGISTERED ELECTRICAL ENGINEER DATE 2-16-12
 PLANS APPROVAL DATE 2-21-12

REGISTERED PROFESSIONAL ENGINEER
 FERDINAND DE LA CRUZ
 No. E 17215
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

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LAST REVISION | DATE PLOTTED => 23-FEB-2012
 02-16-12 | TIME PLOTTED => 10:49

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR
 FERDINAND DE LA CRUZ

CALCULATED/DESIGNED BY
 CHECKED BY

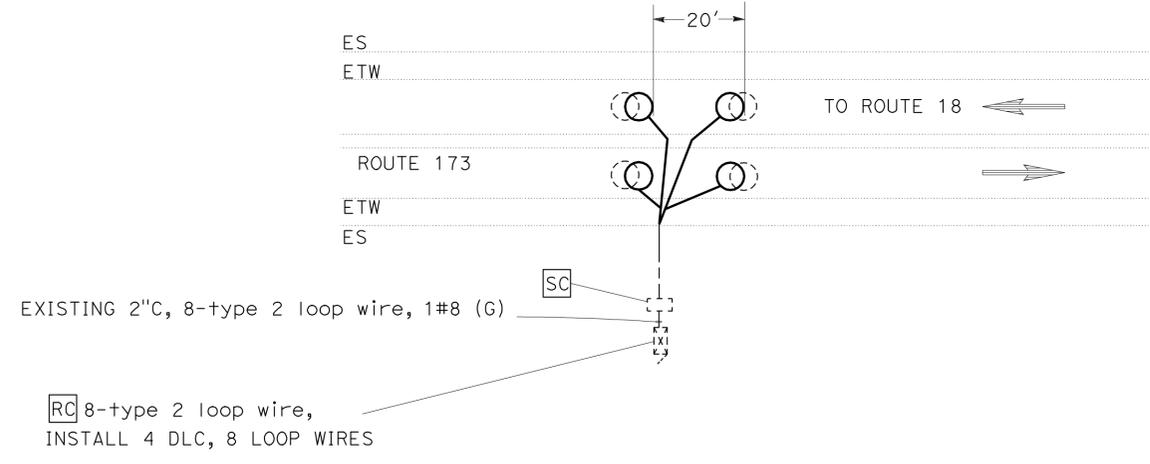
LUIS PENALOZA JR
 FERDINAND DE LA CRUZ

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	10	19

Ferdinand De La Cruz 2-16-12
 REGISTERED ELECTRICAL ENGINEER DATE
 2-21-12
 PLANS APPROVAL DATE

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CENSUS STATION 866
 ROUTE 173 AT PM 21.7 (Approx)

APPROVED FOR ELECTRICAL WORK ONLY



INDUCTIVE LOOP DETECTOR
 NO SCALE
E-4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd	138, 173 189	Var	11	19

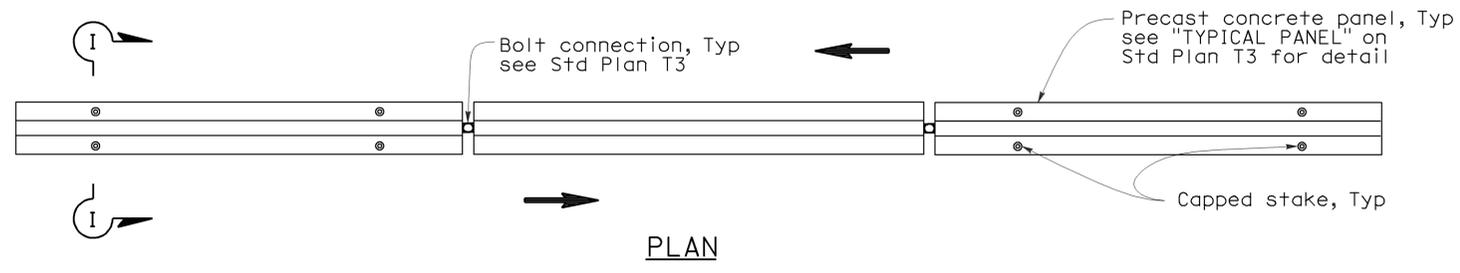
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

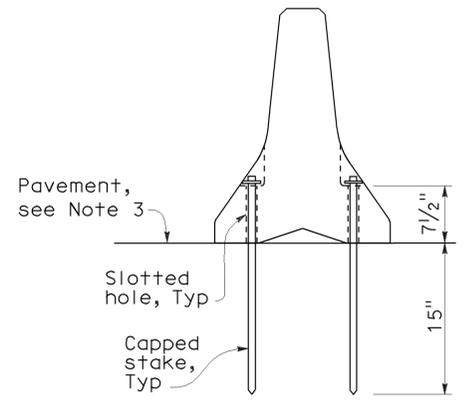
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 2-21-12

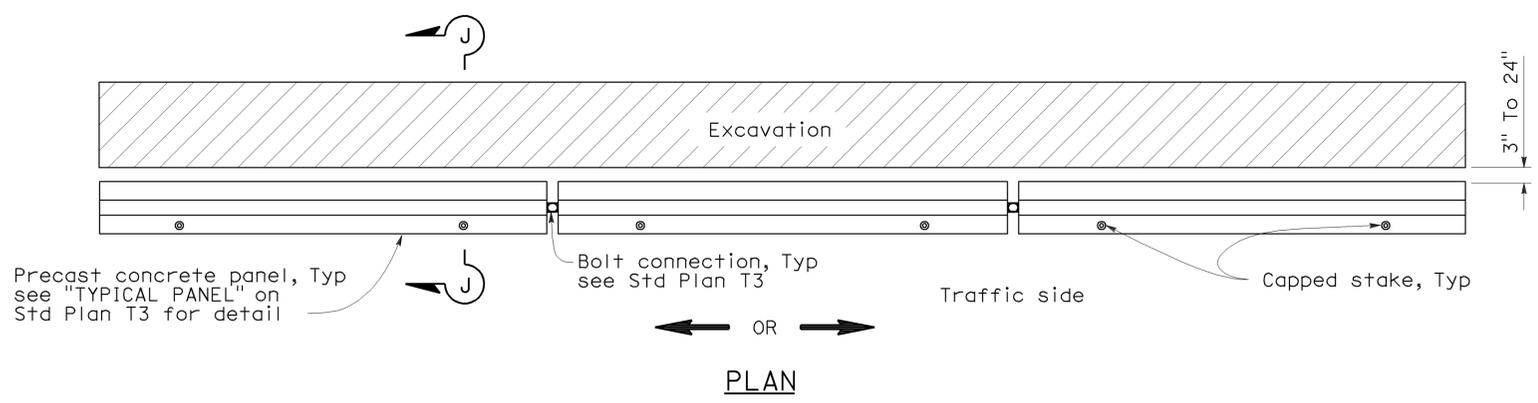


RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1

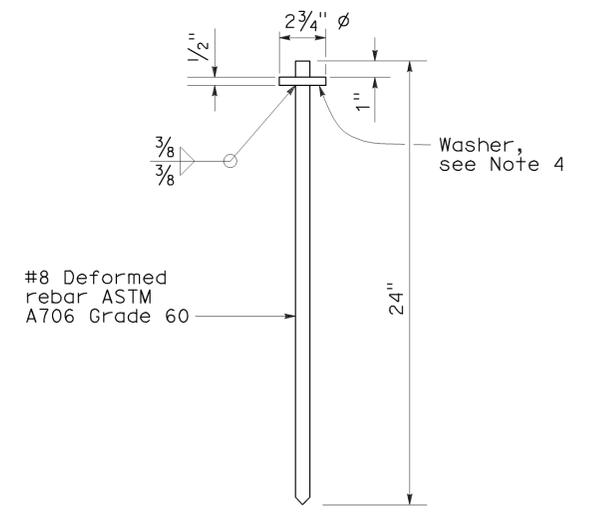
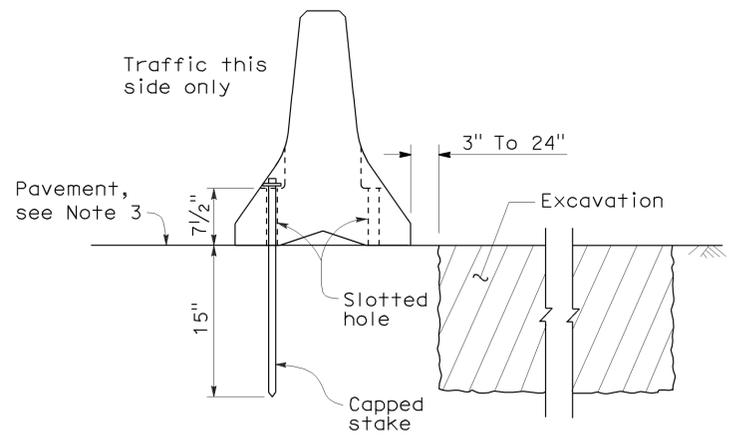


NOTES:

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 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



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

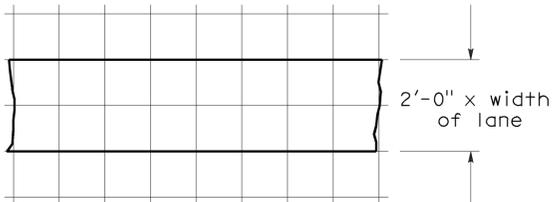
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	138, 173 189	Var	12	19

Donald E. Howe
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE

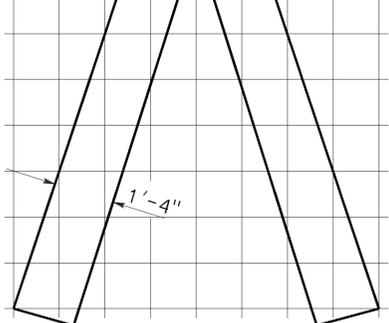
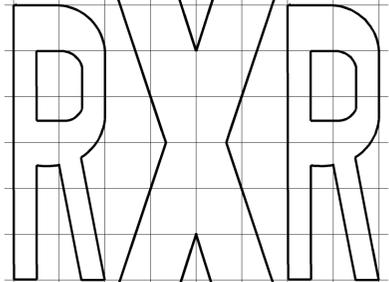
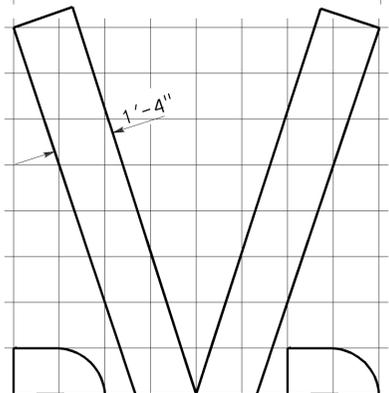
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REGISTERED PROFESSIONAL ENGINEER
 Donald E. Howe
 No. C46402
 Exp. 3-31-09
 CIVIL
 STATE OF CALIFORNIA

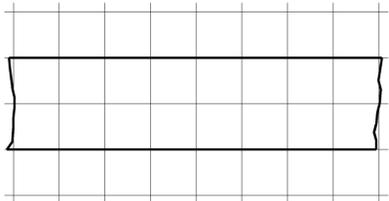
To accompany plans dated 2-21-12



8'-0"



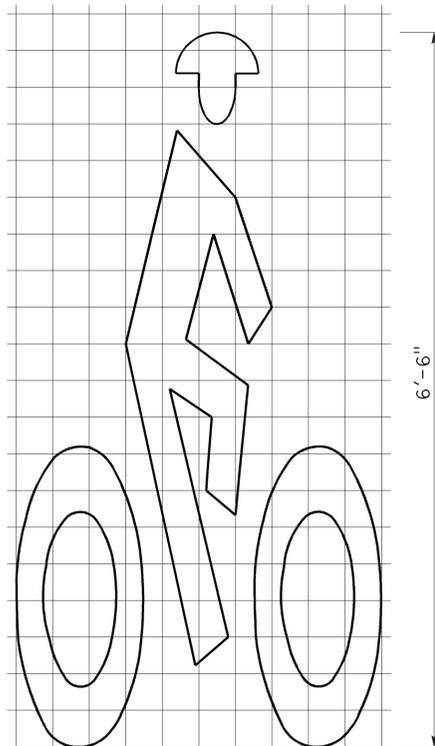
14'-0"



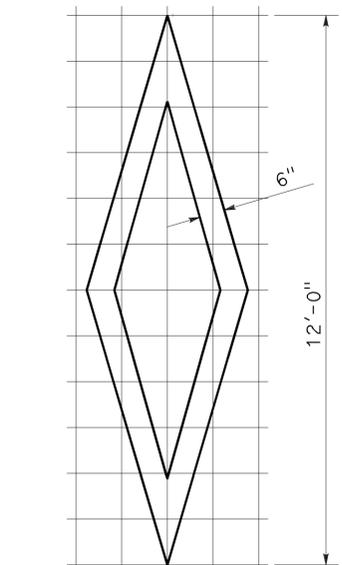
1'-0" GRID
A=70 sq ft *

RAILROAD CROSSING SYMBOL

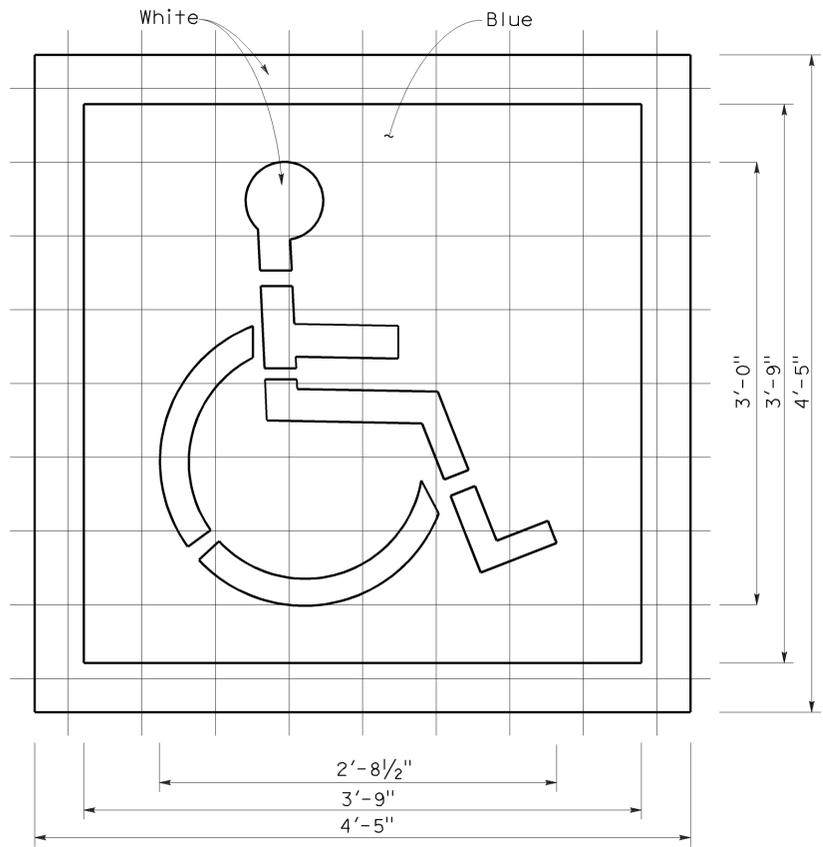
*70 sq ft DOES NOT INCLUDE THE 2'-0" x VARIABLE WIDTH TRANSVERSE LINES.



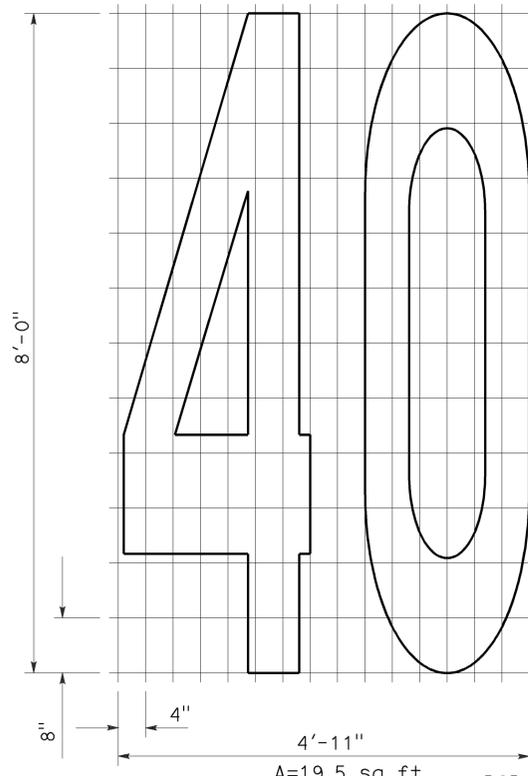
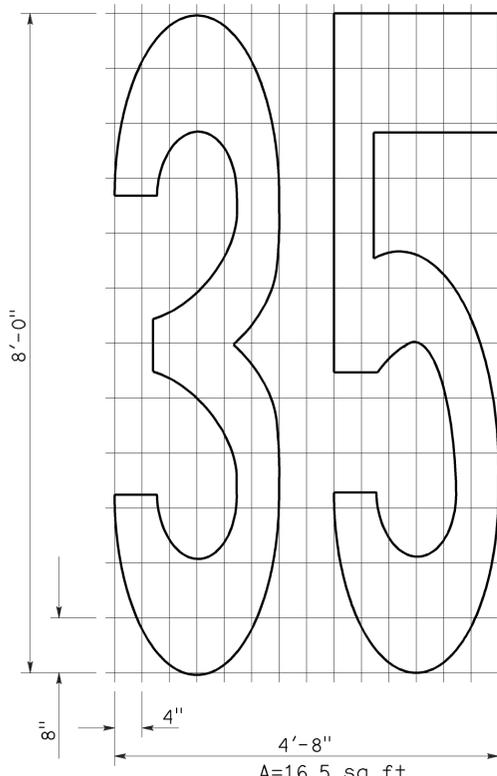
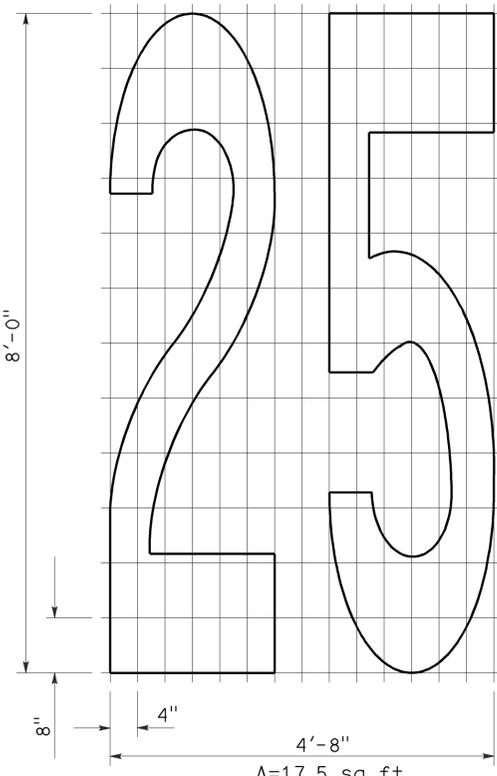
A=7 sq ft
BIKE LANE SYMBOL



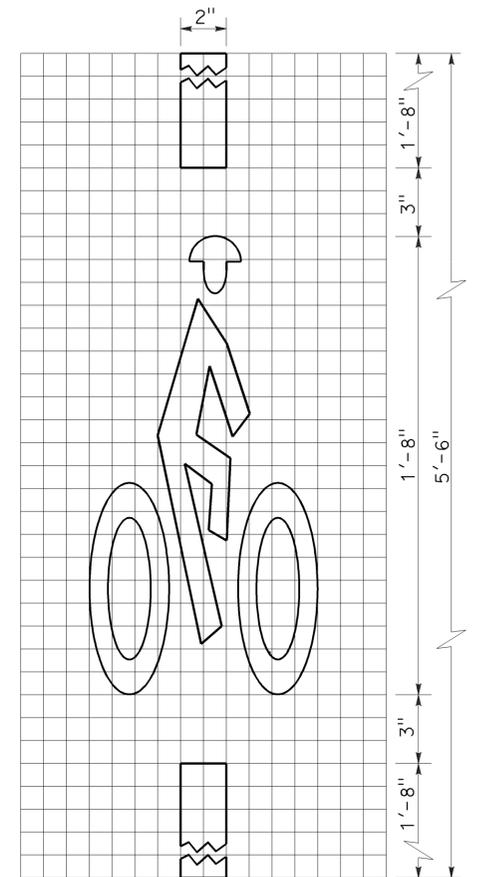
1'-0" GRID
3'-3"
A=11 sq ft
DIAMOND SYMBOL



6" GRID
A (White) =9 sq ft
A (Blue) =14 sq ft
INTERNATIONAL SYMBOL OF ACCESSIBILITY MARKING



NUMERALS



A=2 sq ft
BICYCLE LOOP DETECTOR SYMBOL

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

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.

REVISED STANDARD PLAN RSP A24C

2006 REVISED STANDARD PLAN RSP A24C

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	138, 173 189	Var	13	19

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 2-21-12

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	138, 173 189	Var	14	19

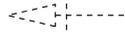
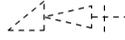
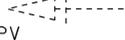
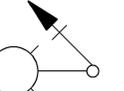
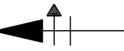
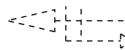
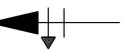
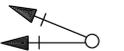
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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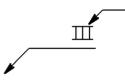
CONDUIT

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

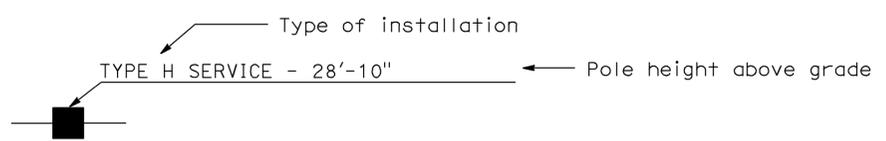
SIGNAL EQUIPMENT

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 lowered "LG" Indicates lowered 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

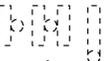
SERVICE EQUIPMENT

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

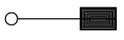
POLE-MOUNTED SERVICE DESIGNATION



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:

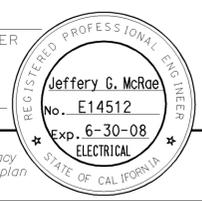
- All signal sections shall be 12" unless shown otherwise.
- Signal heads shall be provided with backplates unless shown otherwise.
- Signal indication shall be LED.

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

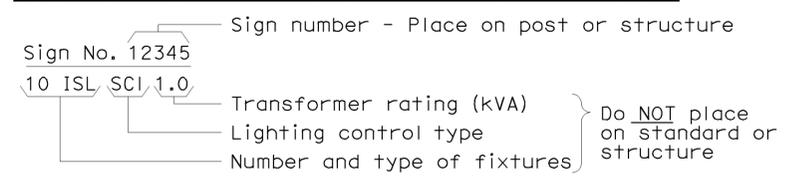
2006 REVISED STANDARD PLAN RSP ES-1B



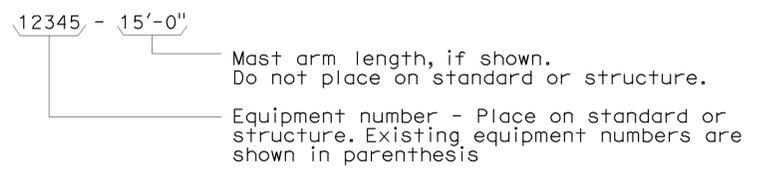
To accompany plans dated 2-21-12

EQUIPMENT IDENTIFICATION

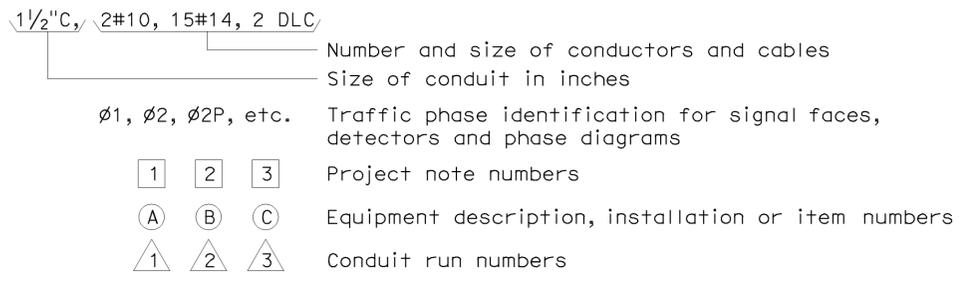
ILLUMINATED SIGN IDENTIFICATION NUMBER:



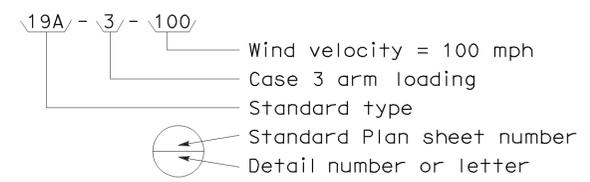
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



CONDUIT AND CONDUCTOR IDENTIFICATION:



SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



MISCELLANEOUS EQUIPMENT

PROPOSED	EXISTING	
CMS	cms	Changeable message sign
		Closed circuit television camera
EMS	ems	Highway advisory radio pole and antenna
		Extinguishable message sign
M V	m v	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	—/—	
N	Grounded conductor (Neutral)	—/—	
		⏏	Grounding electrode
		— —	Circuit breaker
		Ⓜ	Receptacle

PULL BOXES

PROPOSED	EXISTING	
		Pull box-No. 5 unless otherwise indicated or noted.
		Pull box-Additional designations or descriptions
3		(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	
		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.

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	138, 173 189	Var	16	19

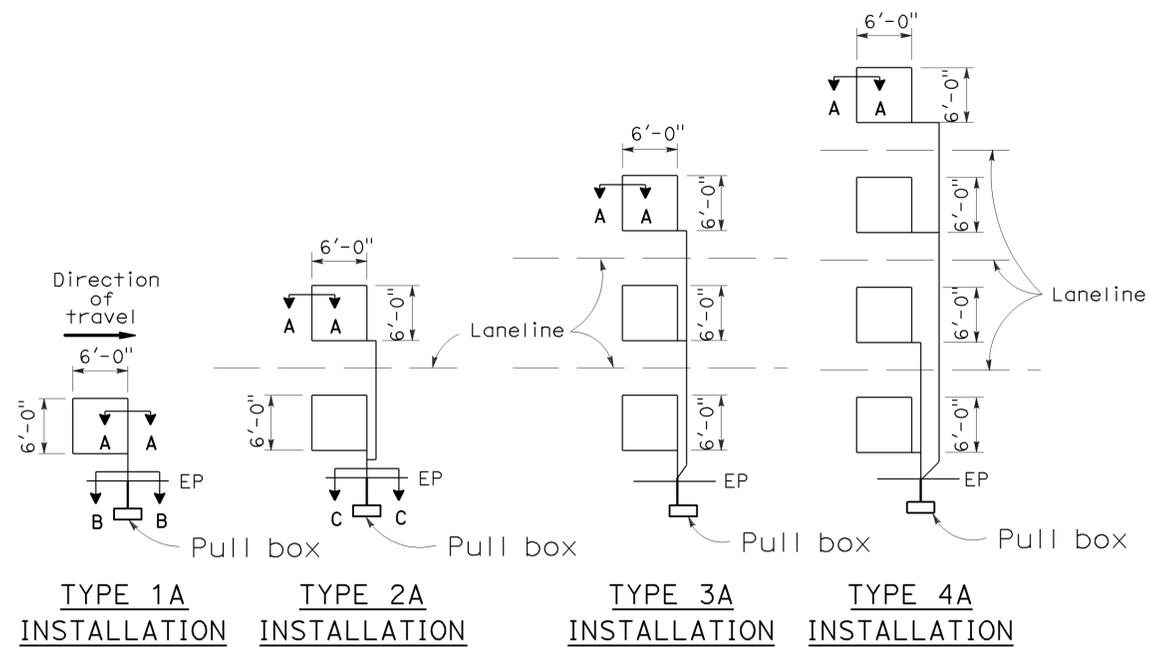
REGISTERED ELECTRICAL ENGINEER
 REGISTERED PROFESSIONAL ENGINEER
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

October 5, 2007
 PLANS APPROVAL DATE

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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.



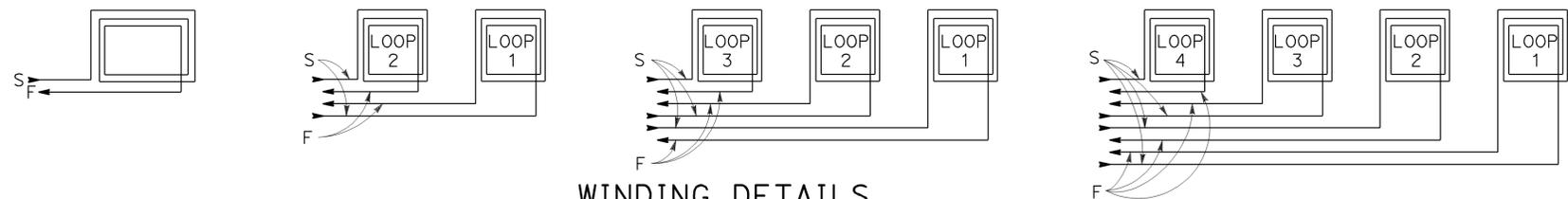
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION

SAWCUT DETAILS

(Type A loop detector configurations illustrated)

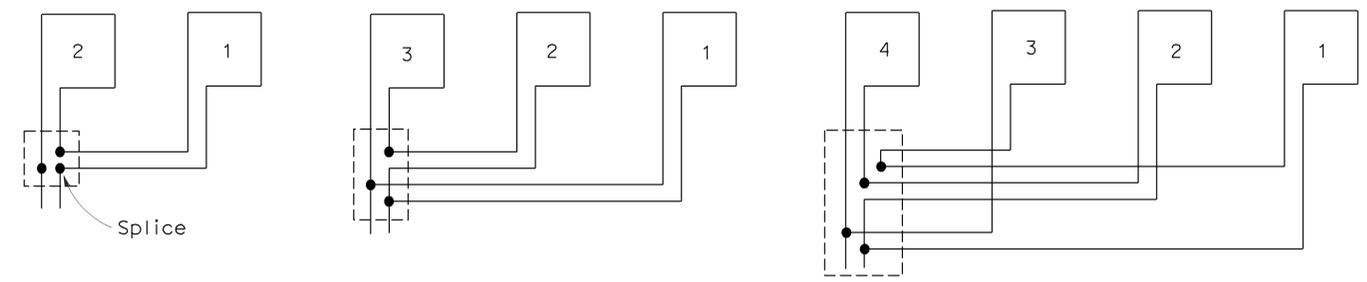
- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q 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 2-21-12



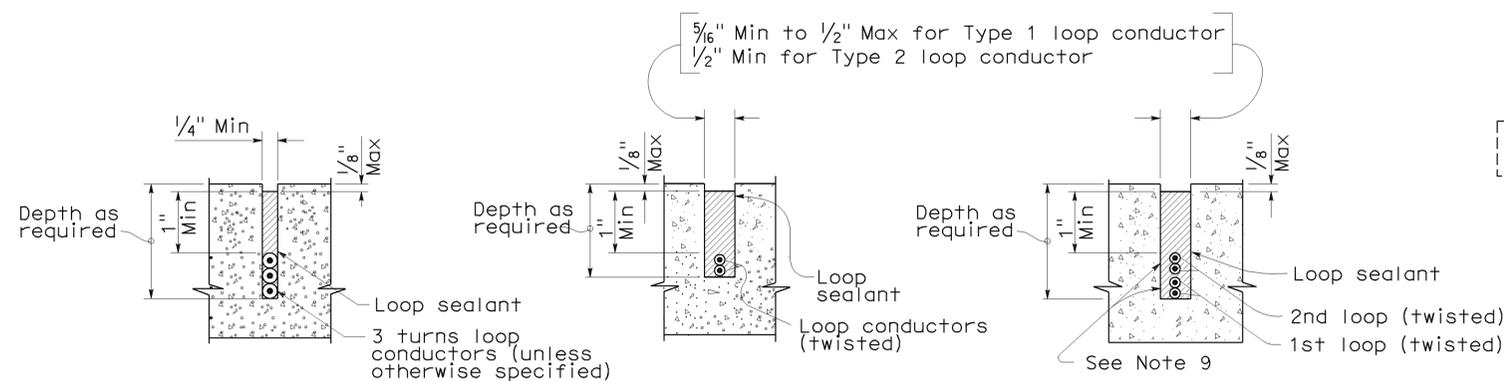
WINDING DETAILS

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

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	138, 173 189	Var	17	19

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

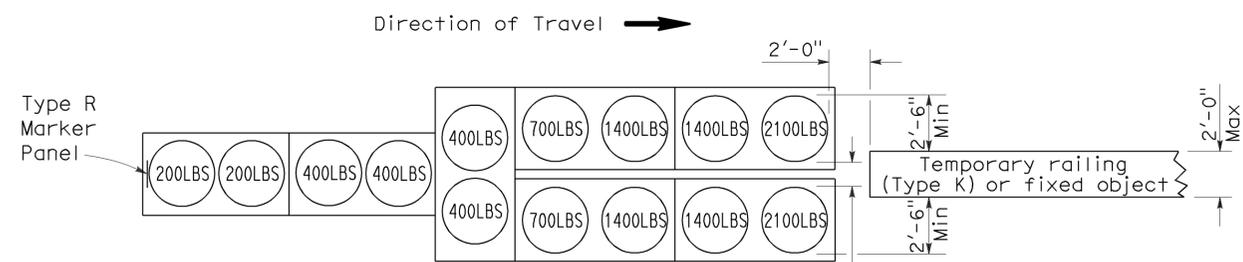
June 6, 2008
PLANS APPROVAL DATE

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

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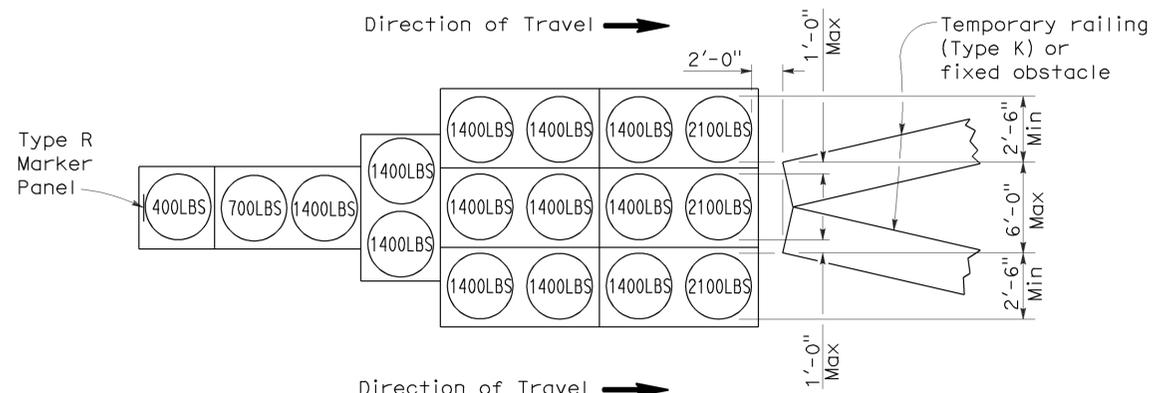
To accompany plans dated 2-21-12

2006 REVISED STANDARD PLAN RSP T1A



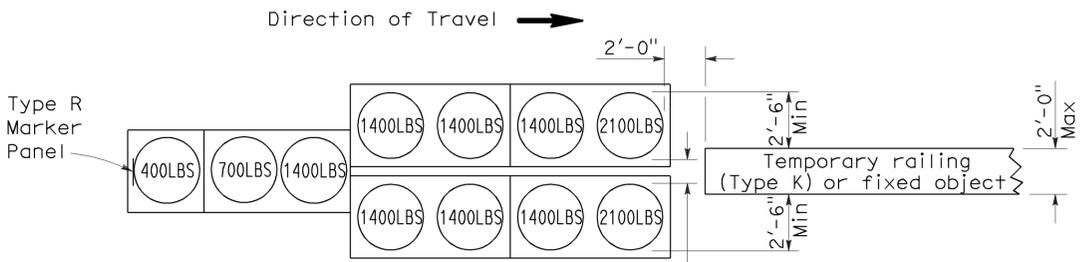
ARRAY 'TU14'

Approach speed 45 mph or more



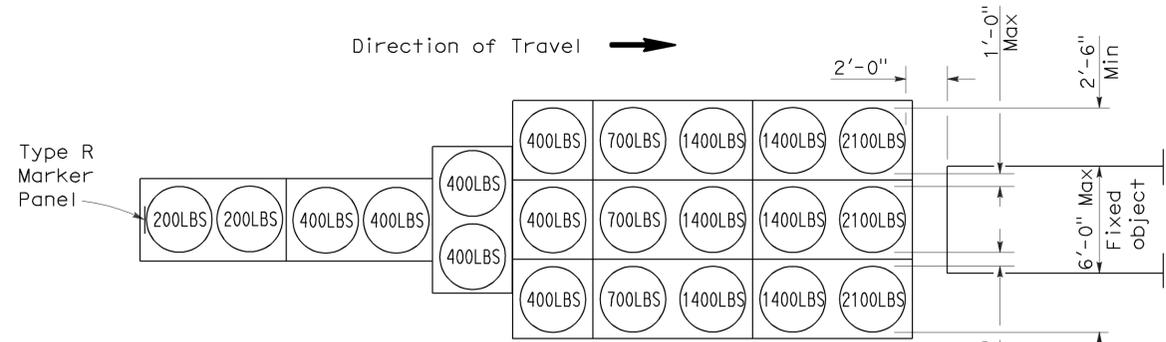
ARRAY 'TU17'

Approach speed less than 45 mph



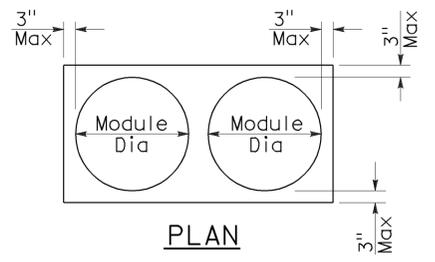
ARRAY 'TU11'

Approach speed less than 45 mph

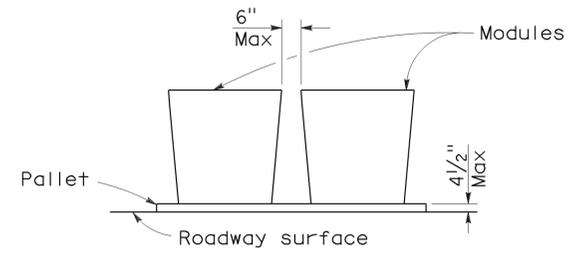


ARRAY 'TU21'

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

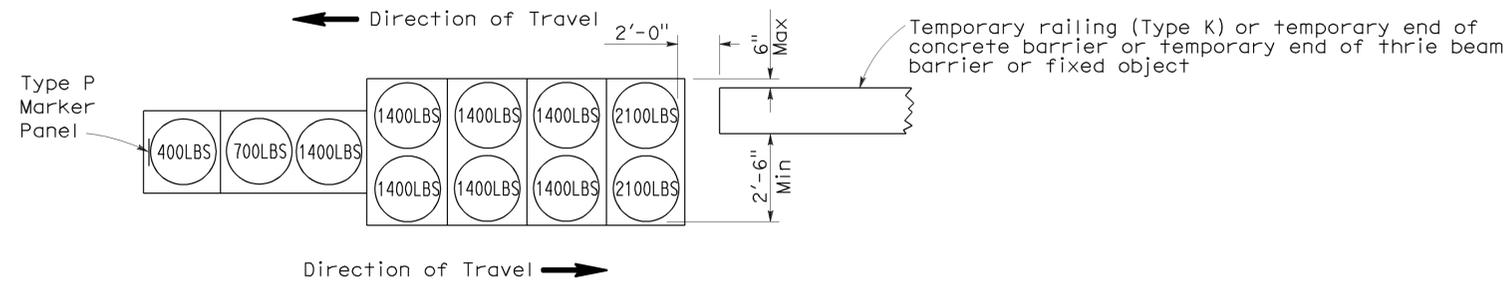
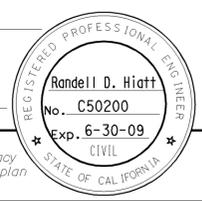
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	138, 173 189	Var	18	19

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

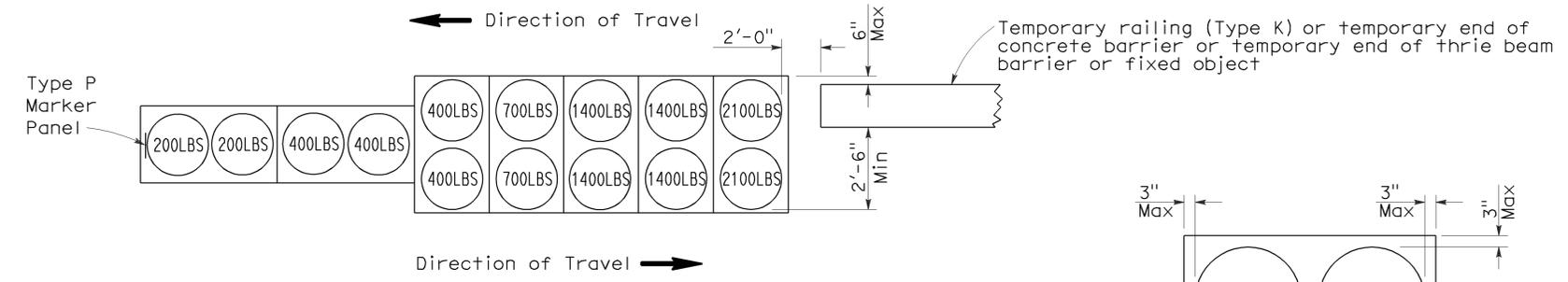
June 6, 2008
PLANS APPROVAL DATE

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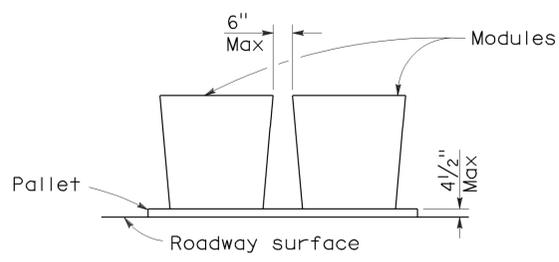
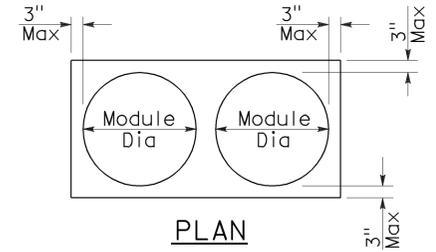
To accompany plans dated 2-21-12



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

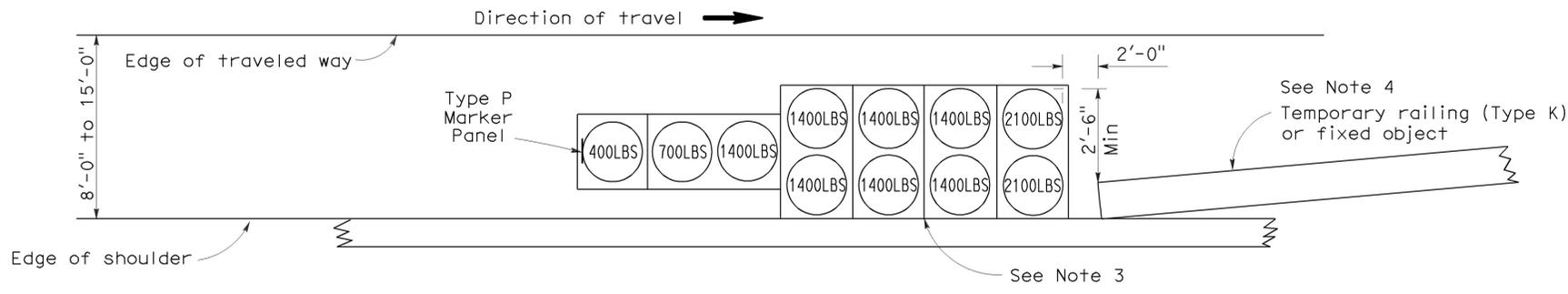
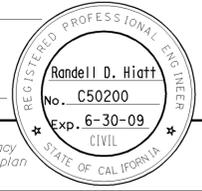
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd	138, 173 189	Var	19	19

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

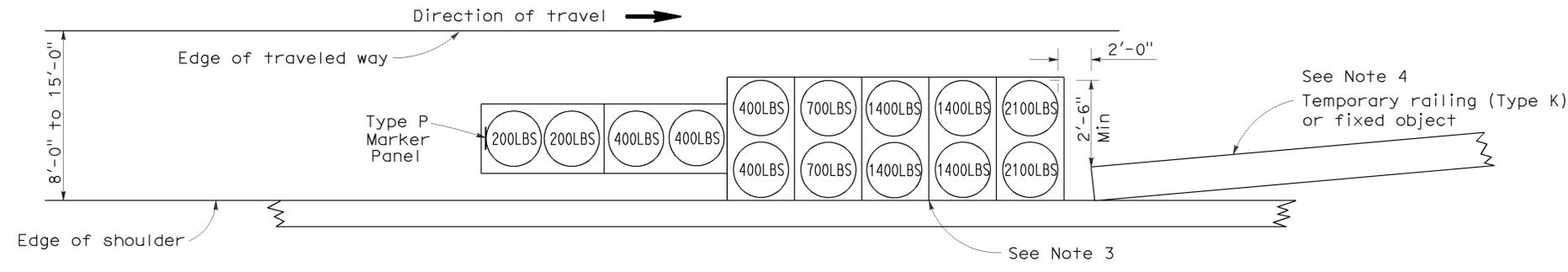
June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 2-21-12



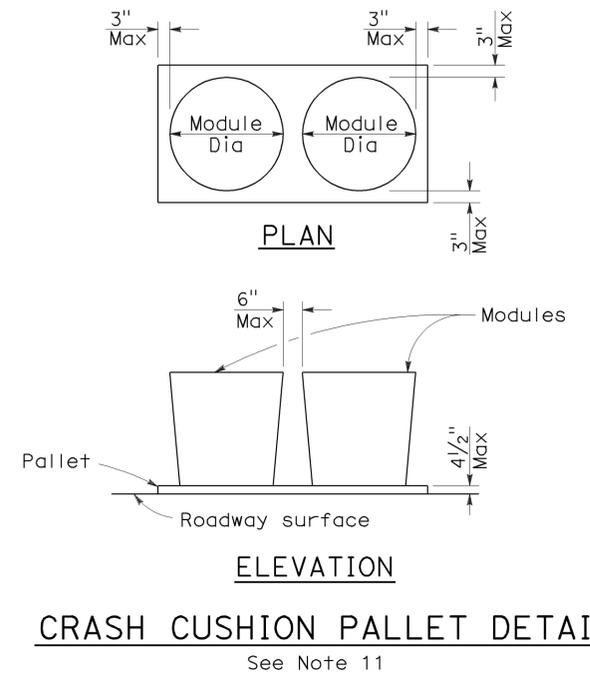
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



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

NOTES:

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



CRASH CUSHION PALLET DETAIL
See Note 11

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

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2