



**City of Rialto**  
**COMMUNITY DEVELOPMENT DEPARTMENT**  
**ENGINEERING DIVISION**

335 W. Rialto Avenue, Rialto, CA 92376

Phone: (909) 421-4999 • Fax: (909) 421-7210

Email Application to: [UtilityPermits@rialto.ca.gov](mailto:UtilityPermits@rialto.ca.gov) Website: [www.yourrialto.com](http://www.yourrialto.com)

## ENCROACHMENT PERMIT APPLICATION

Applicant (Name/Company): \_\_\_\_\_

Address: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Phone: ( ) \_\_\_\_\_ Email: \_\_\_\_\_

Contractor (Name/Company): \_\_\_\_\_

Phone: ( ) \_\_\_\_\_ Email: \_\_\_\_\_

Contractor License #: \_\_\_\_\_ Type: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Rialto Business License: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

**(Note: This permit is valid until the insurance expiration date.)**

Said work to be in conformance with Encroachment Permit General Provisions, applicable City Ordinances, and/or according to City Specifications for such work, and to the satisfaction of the City Engineer.

Permission is requested to open the following street/address: \_\_\_\_\_ Street

between \_\_\_\_\_ Street and \_\_\_\_\_ Street

For the purpose of: \_\_\_\_\_

For the duration of: ☐ One Day or Less ☐ Two Days ☐ Three or more Days ☐ \_\_\_\_\_

### APPLICANT MUST PROVIDE PROOF OF THE FOLLOWING:

- ☐ 1. Current Business License with the City of Rialto.
- ☐ 2. Certificate of General Liability Insurance, including additional Insurance Endorsements, in the minimum amount of \$1 Million dollars, naming the City of Rialto as additionally insured.
- ☐ 3. Franchise Agreement (As Applicable)
- ☐ 4. Plans/Drawings of work to be performed.
- ☐ 5. Traffic Control Plans in conformance with policies, methods and procedures described in the CA MUTCD, CATTCH or WATCH.

**NOTE: Applications will not be accepted unless ALL items are provided. If upon review of the permit, it is determined that other conditions are necessary, those conditions will be attached to this permit.**

Application fee will be collected at the time of submittal. Inspection fees must be paid prior to the issuance of the permit.

**\*Hours of work are from 7:00 a.m. to 5:00 p.m. Monday through Friday unless otherwise approved by the City Engineer.\***

Contractor must contact Underground Service Alert at 1 (800) 442-4133 to have utilities marked out before the pre-construction meeting. After approval of the permit, the Contractor will contact the Engineering Division Inspector at (909) 421-7294 and must have a minimum of 48-hours notification prior to scheduling of a pre-construction meeting and construction. All restorations shall be per City Standard. Where applicable, restorations must also abide by City Council approved moratorium requirements.

**FEES:**

<input type="checkbox"/> Extension \$125.20 + \$378.40 each standard (20 sq. ft.) street work	\$	_____
<input type="checkbox"/> Standard Street Work \$378.40 (20 sq. ft.) Per Location	\$	_____
<input type="checkbox"/> Street Work Up to 1,000 Lf \$378.40 + _____	Lf x \$1.80 per Lf =	\$ _____
<input type="checkbox"/> Street Work Over 1,000 Lf \$2,178.40 + _____	Lf x \$1.20 per Lf =	\$ _____
<input type="checkbox"/> Street Cut Permit/Inspection Fee	\$	_____
<input type="checkbox"/> Overtime/Night Inspection	\$	_____

**TOTAL** \$  

Applicant's Signature: \_\_\_\_\_

Permit Issued By: \_\_\_\_\_

Restoration Completed by Inspector: \_\_\_\_\_

Date \_\_\_\_\_

Date \_\_\_\_\_

Date \_\_\_\_\_

*Standard and Special Drawings  
(Green Pages)*

## ***LIST OF STANDARD AND SPECIAL DRAWINGS (GREEN PAGES)***

**NOTICE TO RESIDENTS (ENGLISH)**

**NOTICE TO RESIDENTS (SPANISH)**

### **SAN BERNARDINO COUNTY STANDARDS**

116 6" CURB AND GUTTER

117 ASPHALT CONCRETE DIKE (MODIFIED) VERSION 1

119 CROSS GUTTER

203A LOCAL DEPRESSION 6" CURB

303 STREET MARKER

303b STREET MARKER POST INSTALLATION

### **CALTRANS STANDARD PLANS 2018**

A20A	A20B	A20D	A24A	A24B	A24D	A24E
RS4	ES-3B	ES-4E DETAIL B		ES-7N	ES-7P	ES-7R
RSP ES-2E		RSP ES-4B DETAIL B		RSP ES-7B		RSP ES-8A
RSP ES-8B						

### **CALTRANS STANDARD PLANS 2015**

RSP T9 RSP T10 T11 T13

### **CALIFORNIA MUTCD 2014**

FIG 2A-2 (CA) FIG 3B-102(CA) FIG 6H-28 FIG 6H-29 SEC 6D.01  
SEC 6D.02



## **NOTICE TO THE RESIDENTS OF EL RIVINO ROAD AND AGUA MANSA ROAD**

The County of San Bernardino Department of Public Works has contracted with (Company name) for the (type of work) of (name of road) in the (city) area. The construction shall include (detailed description of work).

This work will be performed between the dates of (start date) and (end date).

Normal working hours will be between the hours of \_\_\_\_\_ A.M. and \_\_\_\_\_ P.M. Monday through Friday.

There will be "No Parking Signs" posted on your street indicating the specific dates work will be performed on the street. During the time we are working, access to the public will be limited and we ask the following:

1. Do not park your vehicles on the roadway
2. Do not allow water to run on the roadway
3. Do not allow children to play in the roadway
4. Do not place trash cans or other debris on the roadway

We regret any inconvenience that this work may cause you and we thank you for your cooperation in assisting us in rebuilding your street.

**Thank you.**

**(Company name)**

**(Company contact name)**

**(Company phone number)**

**If you need further assistance contact the Department of Public Works at (909) 387-7920**





## NOTIFICACIÓN A LOS RESIDENTES DE EL RIVINO ROAD Y AGUA MANSA ROAD

El Condado de San Bernardino, Departamento de Obras Públicas, a contratado con (Company name) para (type of work) la calle llamada (name of road) en la ciudad de (city). La construcción va a incluir (detailed description of work).

Este trabajo será hecho entre la fecha de (start date) y (end date). Las horas elegidas para hacer este trabajo serán entre las \_\_\_\_\_ de la mañana y \_\_\_\_\_ de la tarde de lunes a viernes.

Habrà letreros indicando que "No Habrà Estacionamiento" en la calle y especificando el horario cuando el trabajo será hecho. Durante el tiempo que estaremos trabajando en la calle, la entrada para el público será limitada y por esta razón pedimos lo siguiente:

1. No estacionen sus vehículos en la calle.
2. No permita que corre el agua hacia la calle.
3. No permita que los niños jueguen en la calle.
4. No ponga los botes de basura o cualquier otra basura en la calle.

Lamentamos la inconveniencia que causara este trabajo y les agradecemos por su cooperación y asistencia en el mejoramiento de su calle.

**Muchas Gracias.**

**(Company name)**

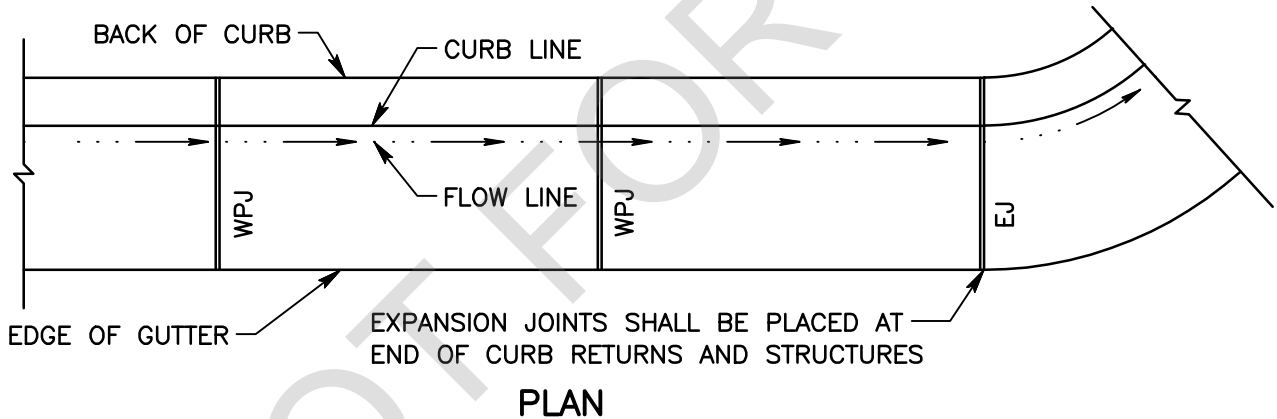
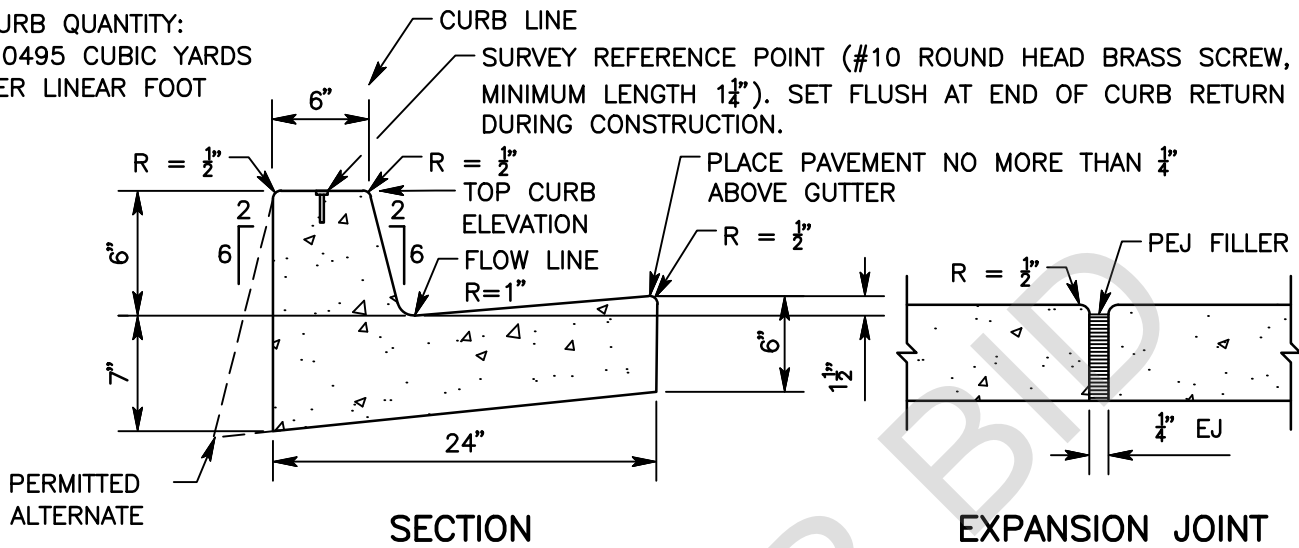
**(Company contact name)**

**(Company phone number)**

**Si necesita asistencia favor de hablar al Departamento de Obras Publicas, (909) 387-7920.**

R = RADIUS  
 EJ = EXPANSION JOINT FILLER  
 WPJ = WEAKENED PLANE JOINT  
 PEJ = PREFORMED EXPANSION JOINT  
 FILLER PER ASTM D 1751

CURB QUANTITY:  
 0.0495 CUBIC YARDS  
 PER LINEAR FOOT



#### NOTES:

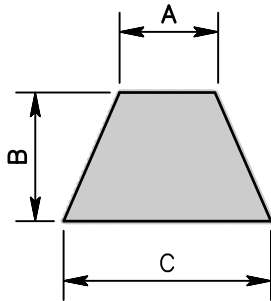
1. CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY OF MINOR CONCRETE.
2. WIDTHS OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINE UNLESS OTHERWISE INDICATED.
3. WEAKENED PLANE JOINTS ( $\frac{3}{16}$ " x  $1\frac{1}{2}$ " DEEP) SHALL BE CONSTRUCTED AT TEN FOOT (10') INTERVALS, EXCEPT THAT THE INTERVAL SHALL BE VARIED TO ALLOW MATCHING OF JOINTS IN ADJACENT EXISTING IMPROVEMENTS.
4. CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES.
5. WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, MINOR FINISHING MAY BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINTS MAY BE SAWCUT.
6. PEJ FILLER SHALL BE APPLIED IN THE WHOLE CROSS SECTION OF THE CURB AND GUTTER.
7. WHEN IN FRONT OF A CURB RAMP, USE GUTTER PAN TRANSITION ON THE CURRENT CALTRANS STANDARD PLAN A88A.



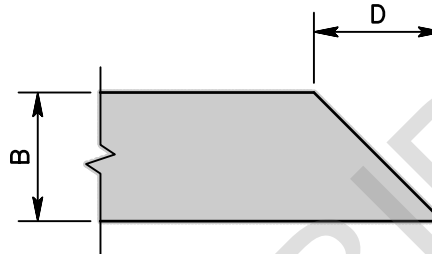
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS

6" CURB AND GUTTER

BRENDON P. BIGGS, PE  
 DIRECTOR OF PUBLIC  
 WORKS/ROAD  
 COMMISSIONER



SECTION



END CUT OFF

	A	B	C	D
6" ASPHALT DIKE	0.5'	0.5'	1.08'	0.5'
8" ASPHALT DIKE	0.5'	0.67'	1.08'	0.67'

NOTES:

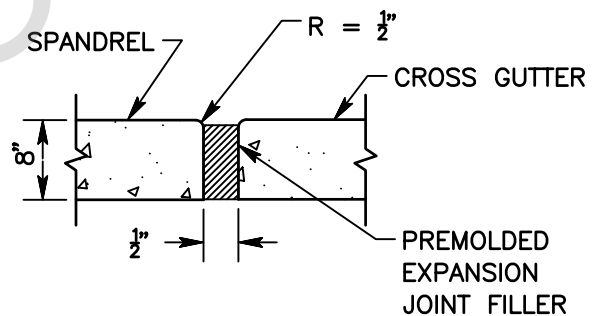
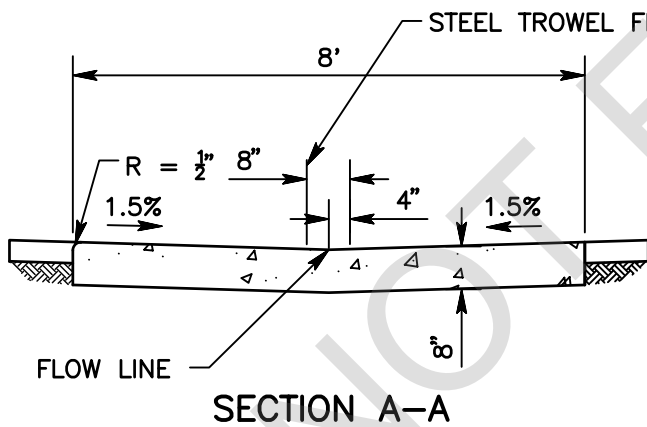
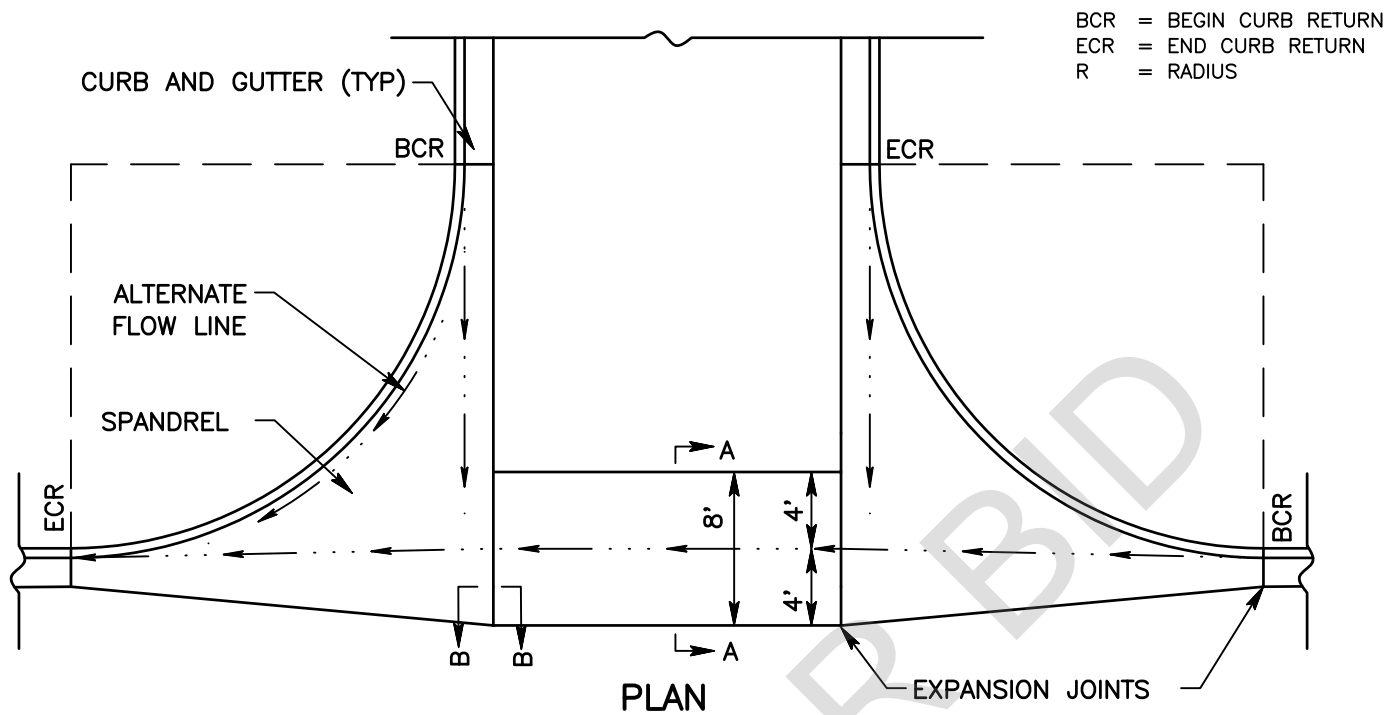
1. DIKE SHALL BE CONSTRUCTED OF TYPE A ASPHALT CONCRETE.
2. PAINT BINDER SHALL BE PLACED ON EXISTING ASPHALT CONCRETE PAVEMENT PRIOR TO THE INSTALLATION OF THE DIKE.



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS

**ASPHALT CONCRETE DIKE**

BRENDON P. BIGGS, PE  
DIRECTOR OF PUBLIC  
WORKS/ROAD  
COMMISSIONER



NOTES:

1. CROSS GUTTER SHALL BE CONSTRUCTED OF MINOR CONCRETE.
2. THE STRAIGHT GRADE BETWEEN BCR'S MAY BE ALTERED ON AN EXCESSIVE GRADE.
3. A 0.3' MINIMUM FALL IS REQUIRED BETWEEN BCR AND ECR, AND CROSS GUTTER FLOW LINE.
4. SPANDREL SHALL BE 8" THICKNESS MINOR CONCRETE.
5. VARIABLE CURB FACE ALLOWED FOR DRAINAGE PURPOSES



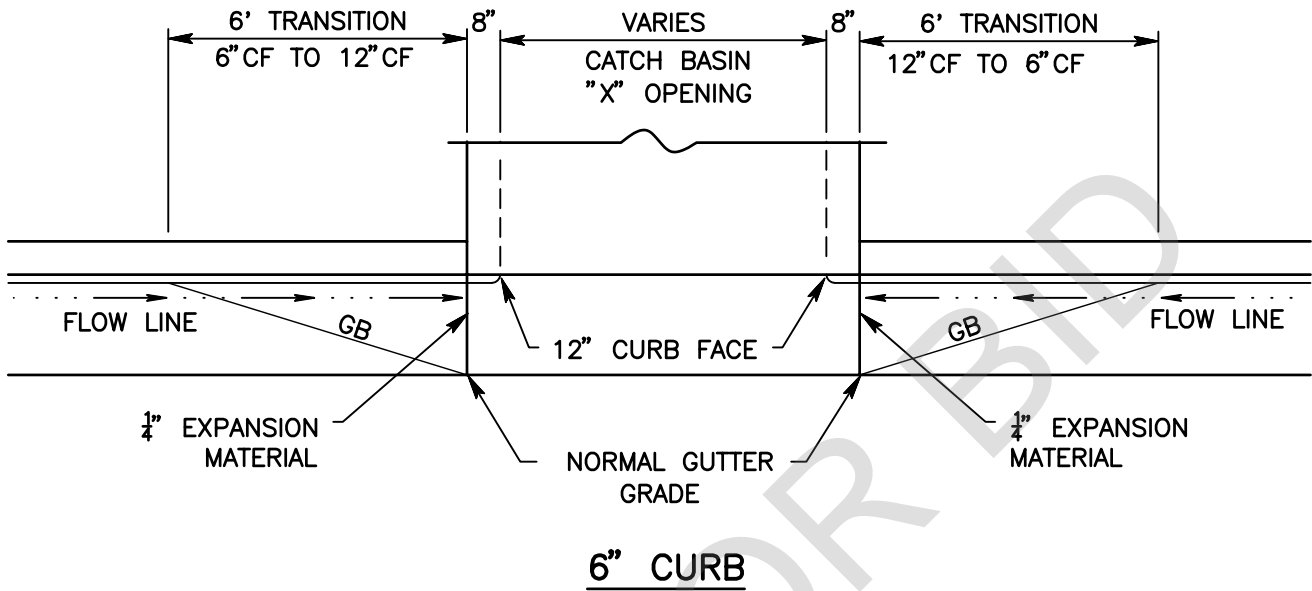
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS

CROSS GUTTER

BRENDON P. BIGGS, PE  
DIRECTOR OF PUBLIC  
WORKS/ROAD  
COMMISSIONER

119

CF = CURB FACE  
GB = GRADE BREAK



NOTES:

1. LOCAL DEPRESSION SHALL BE CONSTRUCTED OF MINOR CONCRETE 6\" THICK.
2. CURB AND GUTTER SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTING TOP OF CATCH BASIN AND CURB TRANSITIONS.

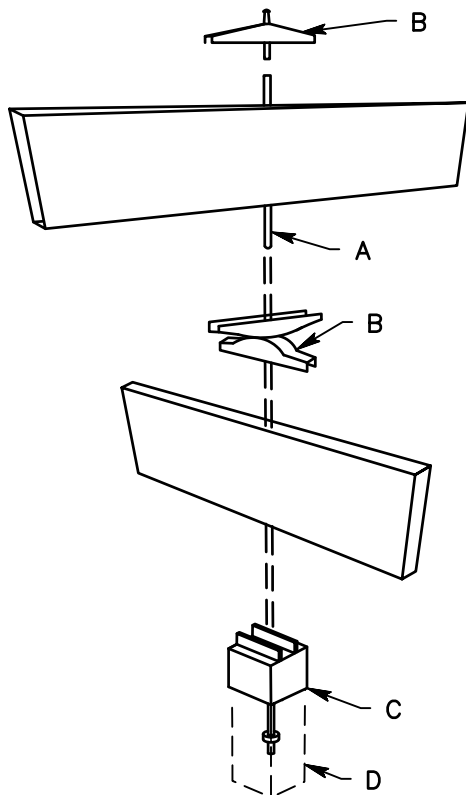


SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS

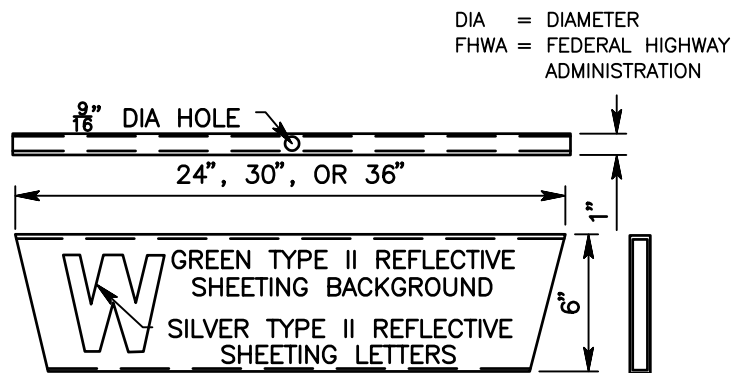
LOCAL DEPRESSION  
6\" CURB

BRENDON P. BIGGS, PE  
DIRECTOR OF PUBLIC  
WORKS/ROAD  
COMMISSIONER

203A



### ASSEMBLY



- A  $\frac{5}{8}$ " x 15" CADMIUM PLATED CARRIAGE BOLT.
- B ORNAMENTAL TOP SHALL BE 14 GAGE ANODIZED ALUMINUM. CENTER CROSS SADDLE SHALL BE ONE PIECE CAST ANODIZED ALUMINUM.
- C ONE PIECE 2" CAST ANODIZED ALUMINUM POST CAP WITH FOUR  $\frac{3}{8}$ " STAINLESS STEEL ALLEN HEAD SET SCREWS.
- D 2" SQUARE STEEL POST 8'-12' LONG INSTALLED WITH A DRIVEN 2  $\frac{1}{2}$ " SQUARE STEEL BREAKAWAY BASE 3' LONG AS PER STANDARD 303B.

DESIGN: EACH FOUR-WAY UNTIL SHALL CONSIST OF TWO DOUBLE FACE SIGNS WITH STREET NAMES MOUNTED AT RIGHT ANGLES WITH CENTER ROD ASSEMBLY.

BRACKET ASSEMBLY: THE POST CAP, ORNAMENT, AND CENTER ROD ASSEMBLY SHALL BE MADE TO MOUNT ON 2" SQUARE GALVANIZED POST. THE CENTER ROD SHALL BE A  $\frac{5}{8}$ " CADMIUM PLATED CARRIAGE BOLT. HEAD OF BOLT SHALL FORM TOP OF ORNAMENT. BOLT SHALL EXTEND THROUGH SIGNS AND FASTEN WITH NUT INSIDE OF POST CAP. POST CAP SHALL BE DEEPLY GROOVED TO SECURELY HOLD SIGN FROM TWISTING AND SHALL BE SECURED TO THE PIPE WITH THREE  $\frac{3}{8}$ " STAINLESS STEEL ALLEN HEAD SET SCREWS.

MATERIAL: SIGN SHALL BE GREEN ANODIZED ALUMINUM EXTRUSION OF 6063T - 4 ALLOY MATERIAL. ALL ANODIZING SHALL CONFORM WITH ALUMILITE SPECIFICATIONS #215 - R1.

FINISH: SIGN FACES SHALL BE FHWA TYPE II REFLECTIVE SHEETING. THE TRANSPARENT SCREEN PROCESS COLOR SHALL BE AS RECOMMENDED BY THE REFLECTIVE SHEETING MANUFACTURER. APPLICATION OF THE REFLECTIVE SHEETING TO THE SIGN SHALL BE BY METHODS AS APPROVED BY THE REFLECTIVE SHEETING MANUFACTURER.

LETTERING: STREET NAMES SHALL BE 4" HIGH. EACH NAME SHALL BE INDIVIDUALLY LAID OUT TO FIT EITHER THE 24" OR 30" SPACE. THE LETTERS SHALL BE OF THE ROUNDED TYPE STYLE CONFORMING WITH THE STANDARD ALPHABET FOR HIGHWAY SIGNS DESIGNED BY THE U.S. PUBLIC ROADS ADMINISTRATION. LETTERS SHALL BE FHWA TYPE II REFLECTIVE SHEETING.



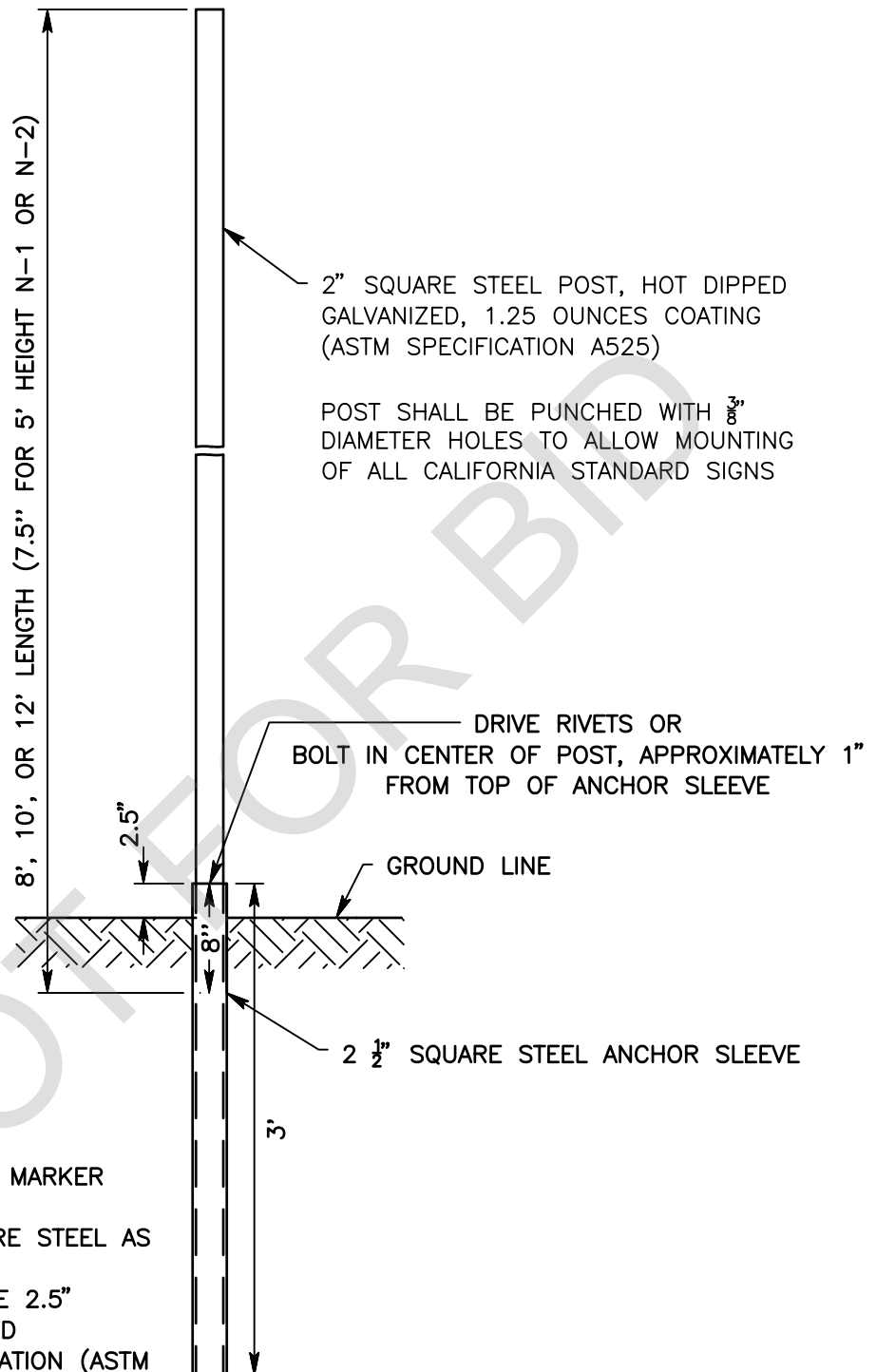
**SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS**

**STREET MARKER**

BRENDON P. BIGGS, PE  
DIRECTOR OF PUBLIC  
WORKS/ROAD  
COMMISSIONER

**303**





NOTES:

1. SEE STANDARD 303A FOR MARKER LOCATIONS.
2. POST SHALL BE 2" SQUARE STEEL AS SHOWN AND STATED.
3. ANCHOR SLEEVE SHALL BE 2.5" SQUARE STEEL HOT DIPPED GALVANIZED AFTER FABRICATION (ASTM SPECIFICATION A-123).
4. SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD 303.



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS

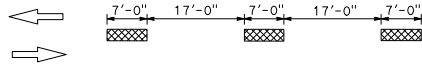
STREET MARKER INSTALLATION

BRENDON P. BIGGS, PE  
DIRECTOR OF PUBLIC  
WORKS/ROAD  
COMMISSIONER

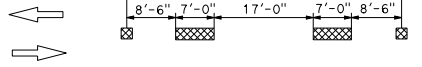
303B

### CENTERLINES (2 LANE HIGHWAYS)

DETAIL 1



DETAIL 2

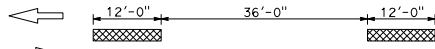
~~DETAIL 3~~

DETAIL 3 DELETED

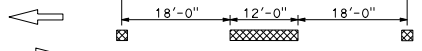
~~DETAIL 4~~

DETAIL 4 DELETED

DETAIL 5



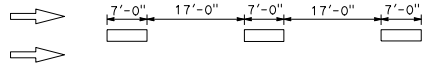
DETAIL 6

~~DETAIL 7~~

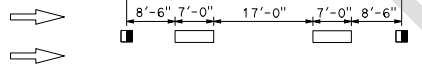
DETAIL 7 DELETED

### LANELINES (MULTILANE HIGHWAYS)

DETAIL 8

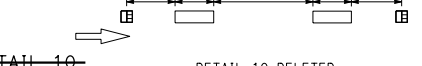


DETAIL 9



DETAIL 9A

SEE NOTE

~~DETAIL 10~~

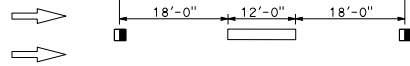
DETAIL 10 DELETED

DETAIL 11



### LANELINES (Cont)

DETAIL 12



DETAIL 12A

SEE NOTE

~~DETAIL 13~~

DETAIL 13 DELETED

~~DETAIL 14~~

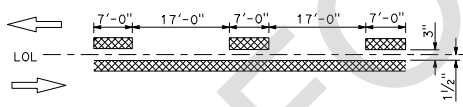
DETAIL 14 DELETED

~~DETAIL 14A~~

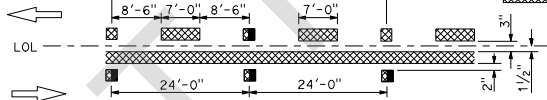
DETAIL 14A DELETED

### NO PASSING ZONES-ONE DIRECTION

DETAIL 15

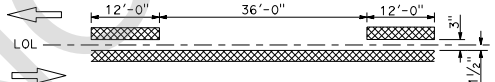


DETAIL 16

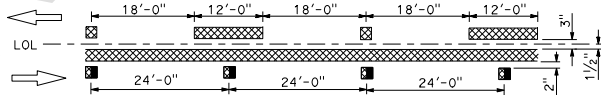
~~DETAIL 17~~

DETAIL 17 DELETED

DETAIL 18



DETAIL 19

~~DETAIL 20~~

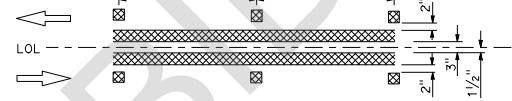
DETAIL 20 DELETED

### NO PASSING ZONES-TWO DIRECTION

DETAIL 21



DETAIL 22

~~DETAIL 23~~

DETAIL 23 DELETED

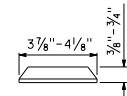
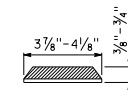
### LEGEND

#### MARKERS

- TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE D TWO-WAY YELLOW RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE
- TYPE H ONE-WAY YELLOW RETROREFLECTIVE

#### LINES

- 6" WHITE
- 6" YELLOW



TYPE C AND TYPE D

TYPE G AND TYPE H

RETROREFLECTIVE FACE

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

A20A

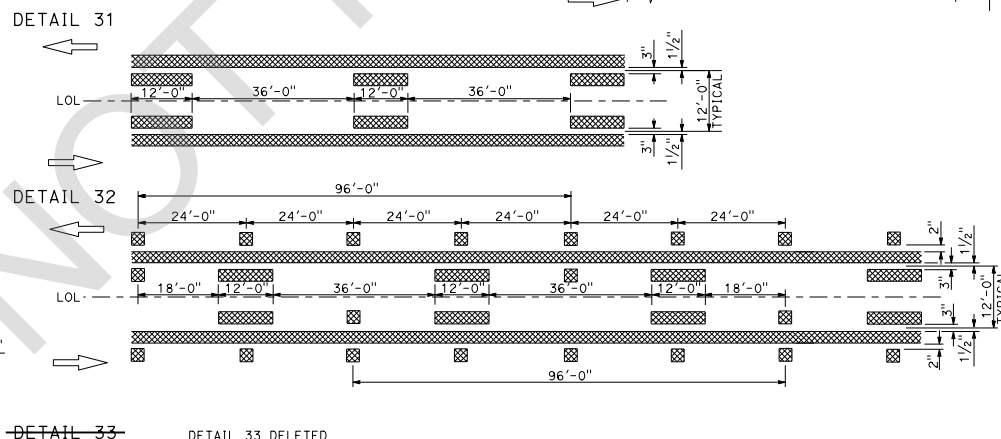
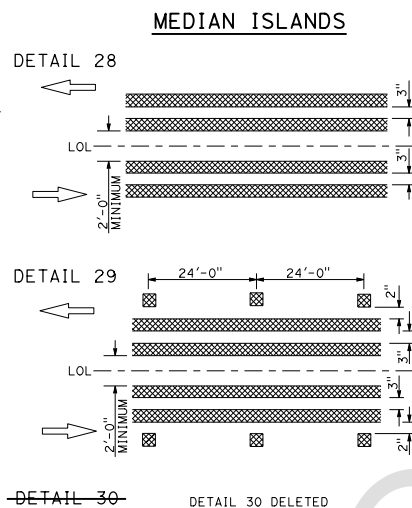
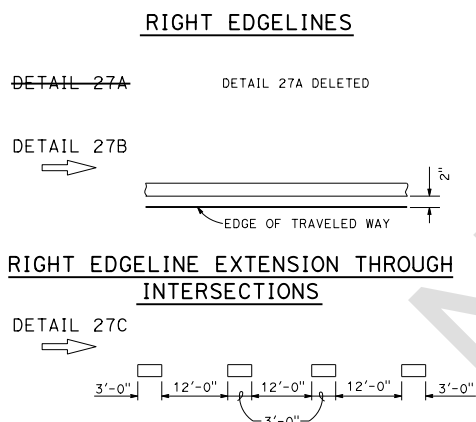
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS




Atifa Ferrouz  
REGISTERED CIVIL ENGINEER


May 31, 2018  
PLANS APPROVAL DATE


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

REGISTERED PROFESSIONAL ENGINEER  
No. C80402  
EXP. 3-31-19  
CIVIL  
STATE OF CALIFORNIA

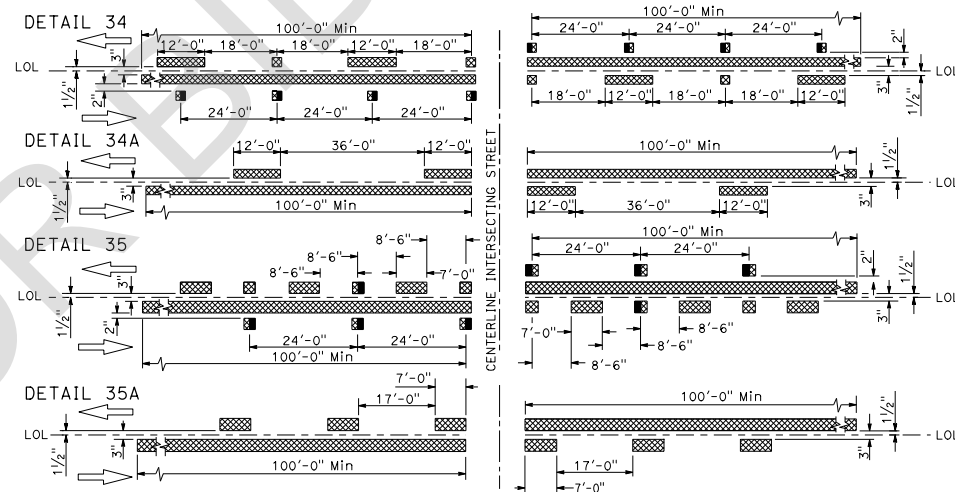


	TYPE D	TWO-WAY YELLOW RETROREFLECTIVE
	TYPE H	ONE-WAY YELLOW RETROREFLECTIVE
	TYPE RY	RED-YELLOW RETROREFLECTIVE

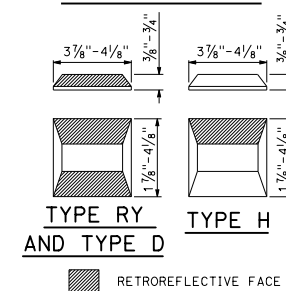
 6" WHITE

 6" YELLOW

## INTERSECTION TREATMENTS



### MARKER DETAILS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## PAVEMENT MARKERS AND TRAFFIC LINES TYPICAL DETAILS

NO SCALE

## A20B

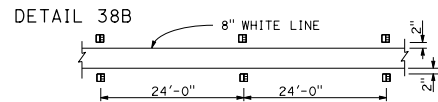
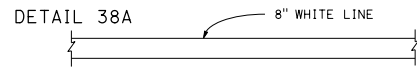
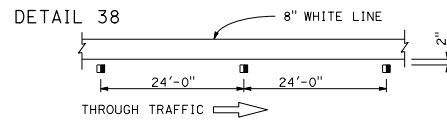
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEET

*Atifa Ferouz*  
REGISTERED CIVIL ENGINEER

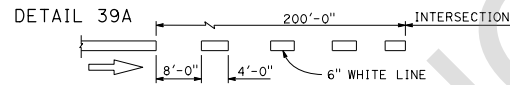
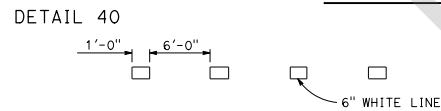
May 31, 2018  
PLANS APPROVAL DATE

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

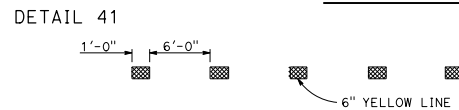
REGISTERED PROFESSIONAL ENGINEER  
Atifa Ferouz  
No. C80402  
Exp. 3-31-19  
CIVIL  
STATE OF CALIFORNIA

**CHANNELIZING LINE**

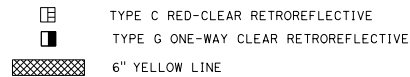
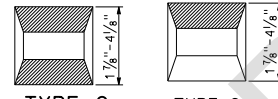
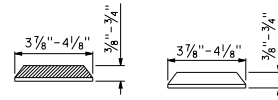
DETAIL 38C  
DETAIL 38C DELETED

**BIKE LANE LINE****INTERSECTION LINE  
BIKE LANE****LANE LINE EXTENSIONS  
THROUGH INTERSECTIONS**

DETAIL 40A  
DETAIL 40A DELETED

**CENTER LINE EXTENSIONS  
THROUGH INTERSECTIONS**

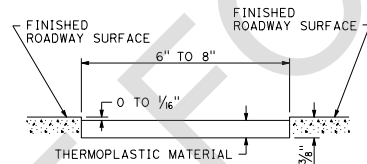
DETAIL 41A  
DETAIL 41A DELETED

**LEGEND****MARKERS****MARKER DETAILS**

TYPE C

TYPE G

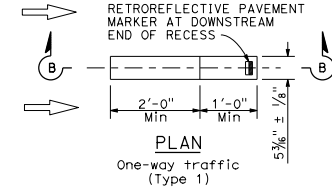
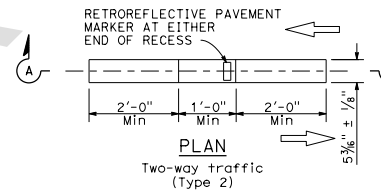
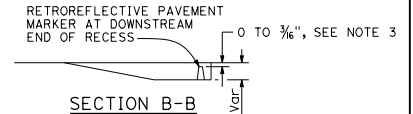
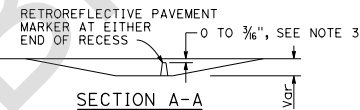
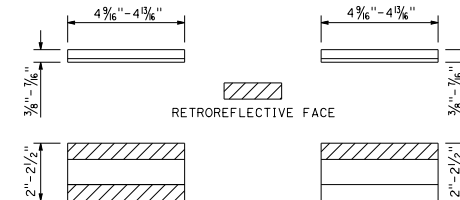
RETROREFLECTIVE FACE

**DETAIL FOR RECESSED  
THERMOPLASTIC TRAFFIC STRIPE**

See Notes A and B.

**RECESSED THERMOPLASTIC NOTES**

- A. See typical traffic line details for pavement marking patterns.
- B. The top of the thermoplastic installed in recessed pavement shall be 0 to 1/16" below the pavement surface.

**RECESS DETAIL FOR  
RETROREFLECTIVE PAVEMENT MARKER****RECESSED MARKER NOTES:**

1. See typical traffic line details for marker patterns to be used with recessed pavement markers. Detail 14A requires a Type 2 recess.
2. The retroreflective pavement markers shown for recessed installations are not to be used for non-recessed installations.
3. The top of pavement markers installed in recesses shall be 0 to 3/16" below the pavement surface.

TYPE C AND TYPE D TYPE G AND TYPE H  
See Notes 1 and 2.

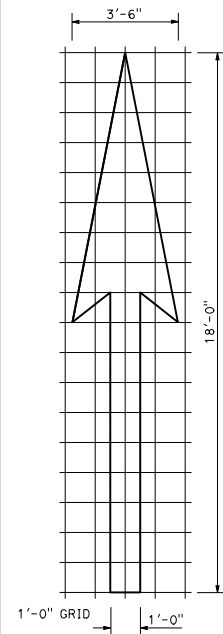
**RETROREFLECTIVE PAVEMENT MARKER  
FOR RECESSED INSTALLATION**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

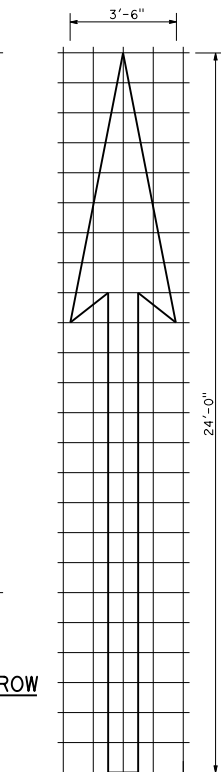
**PAVEMENT MARKERS  
AND TRAFFIC LINES  
TYPICAL DETAILS**

NO SCALE

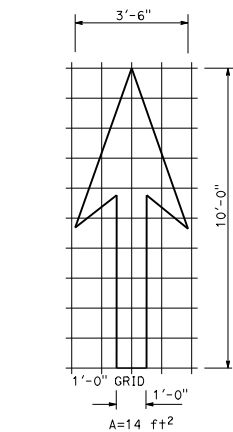
**A20D**



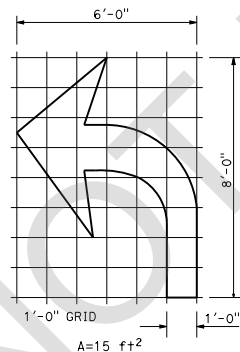
A=25 ft<sup>2</sup>  
**TYPE I 18'-0" ARROW**



A=31 ft<sup>2</sup>  
**TYPE I 24'-0" ARROW**

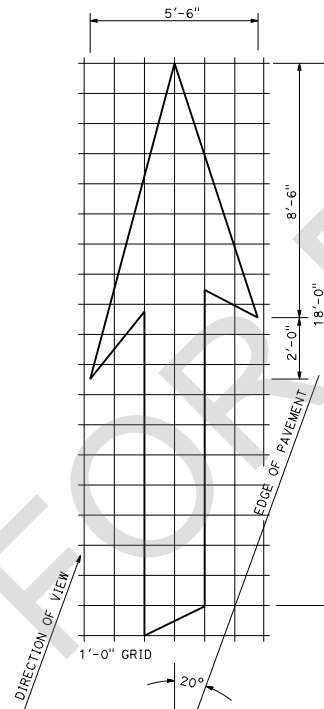


A=14 ft<sup>2</sup>  
**TYPE I 10'-0" ARROW**

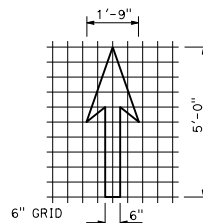


A=15 ft<sup>2</sup>  
**TYPE IV (L) ARROW**  
(For Type IV (R) arrow,  
use mirror image)

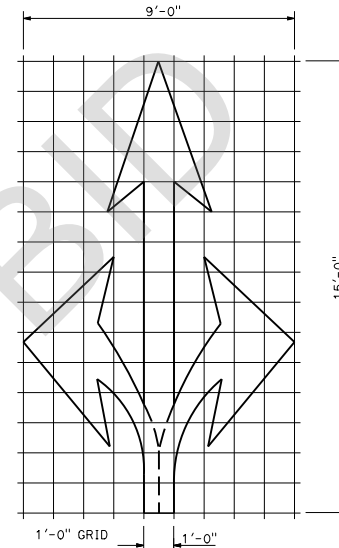
**NOTE:**  
Minor variations in dimensions  
may be accepted by the Engineer.



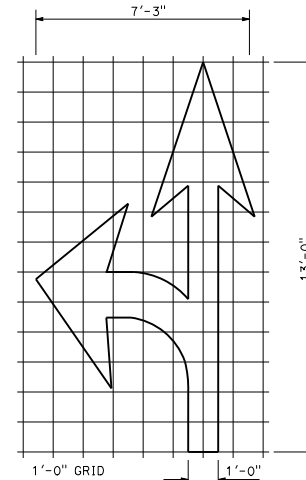
A=42 ft<sup>2</sup>  
**TYPE VI ARROW**  
Right lane drop arrow  
(For left lane,  
use mirror image)



A=3.5 ft<sup>2</sup>  
**BIKE LANE ARROW**

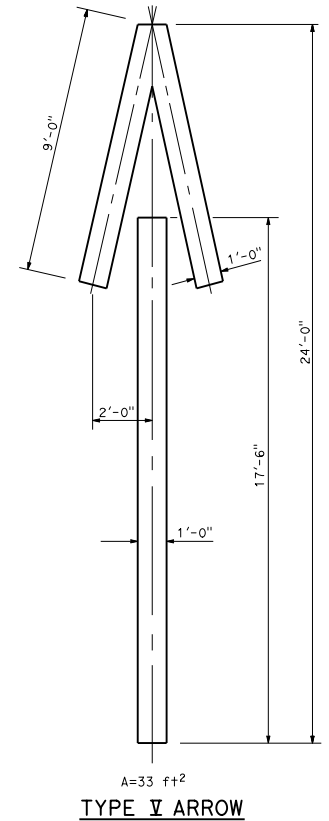


A=36 ft<sup>2</sup>  
**TYPE VIII ARROW**



A=27 ft<sup>2</sup>  
**TYPE VII (L) ARROW**  
(For Type VII (R) arrow,  
use mirror image)

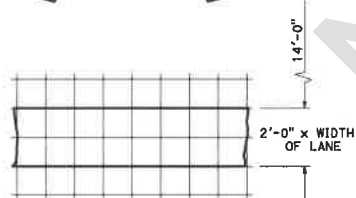
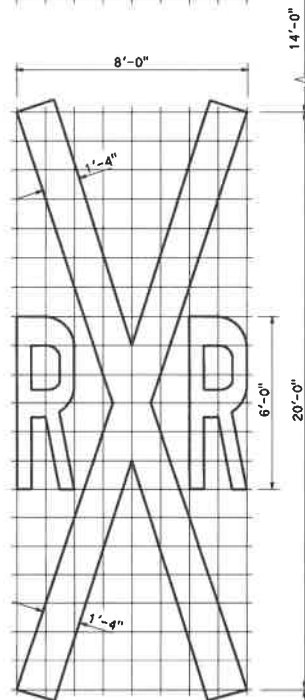
DIS*	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
<p>Atifg Forouzi REGISTERED CIVIL ENGINEER</p> <p>May 31, 2018 PLANS APPROVAL DATE</p> <p>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</p>					



A=33 ft<sup>2</sup>  
**TYPE V ARROW**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
ARROWS**  
NO SCALE

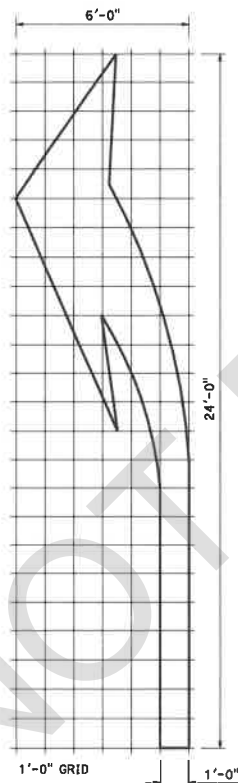
**A24A**



1'-0" GRID  
A=70 ft<sup>2</sup> \*

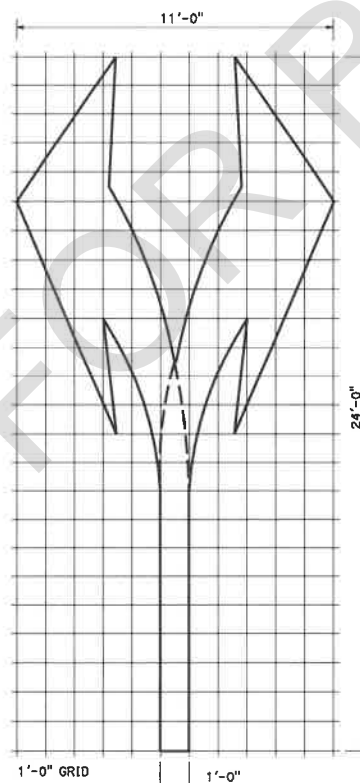
### RAILROAD CROSSING SYMBOL

\* 70 ft<sup>2</sup> does not include the 2'-0" x variable width transverse lines.

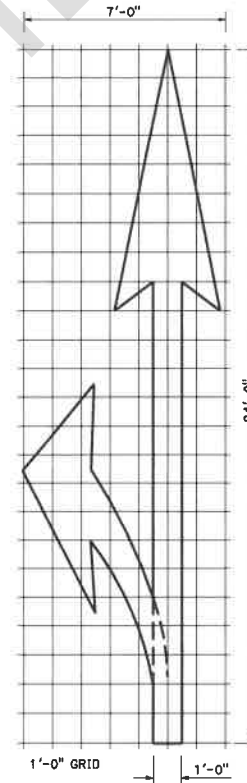


### TYPE III (L) ARROW

(For Type III (R) use mirror image)

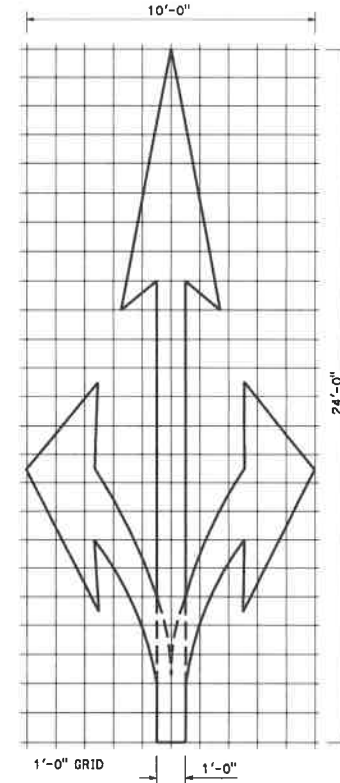


### TYPE III (B) ARROW



### TYPE II (L) ARROW

(For Type II (R) use mirror image)



### TYPE II (B) ARROW

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

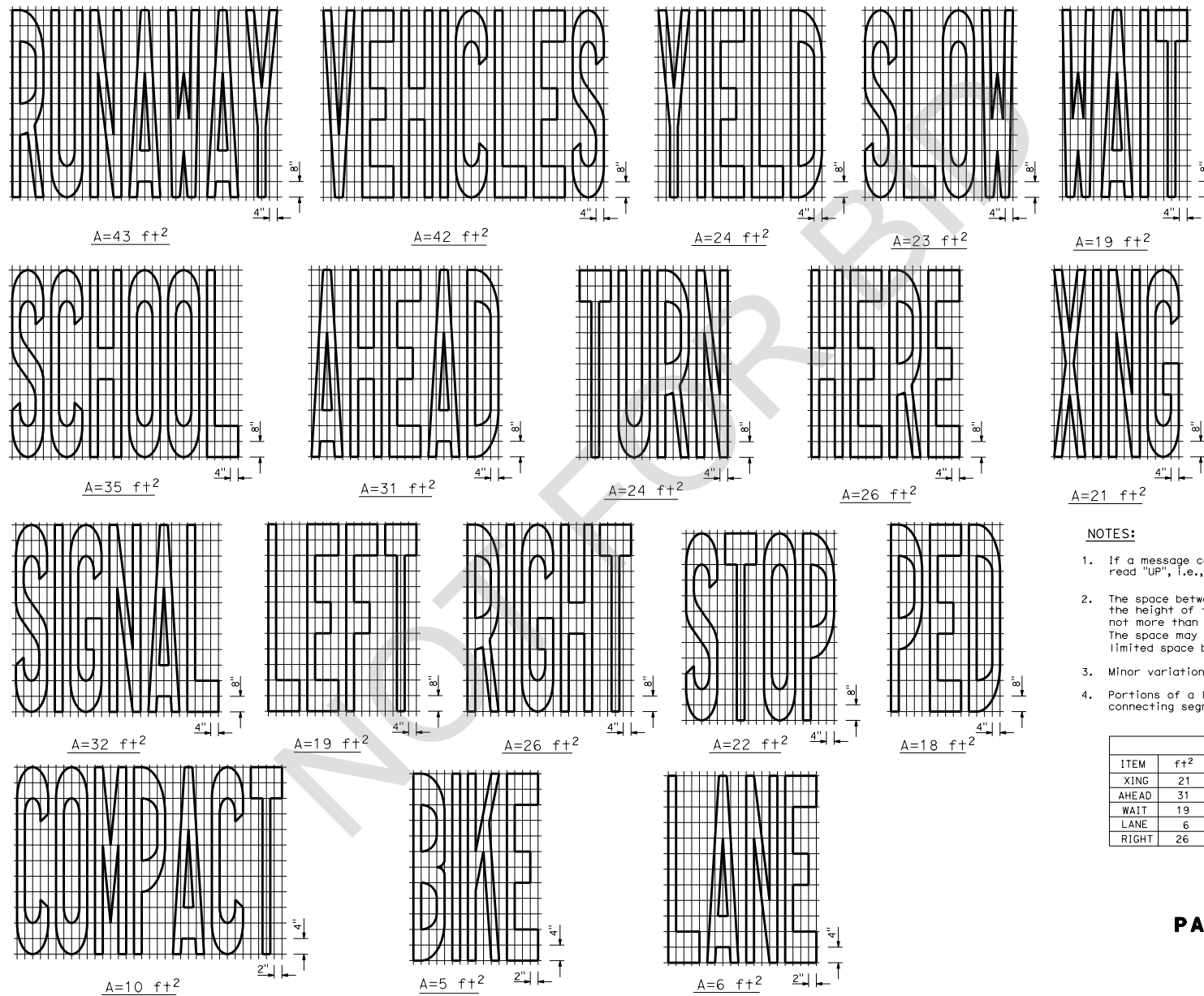
## PAVEMENT MARKINGS ARROWS AND SYMBOLS

NO SCALE

A24B

Dist.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL NO. SHEETS
<p><i>Atifa Farooq</i> REGISTERED CIVIL ENGINEER</p> <p>May 31, 2018 PLANS APPROVAL DATE</p> <p>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.</p>				
<p>REGISTERED PROFESSIONAL ENGINEER <i>Atifa Farooq</i> CRO402 3-31-19 CIVIL STATE OF CALIFORNIA</p>				



**NOTES:**

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.

**WORD MARKINGS**

ITEM	ft+2	ITEM	ft+2	ITEM	ft+2	ITEM	ft+2
XING	21	YIELD	24	BIKE	5	PED	18
AHEAD	31	SCHOOL	35	SLOW	23	COMPACT	10
WAIT	19	SIGNAL	32	STOP	22	RUNAWAY	43
LANE	6	TURN	24	LEFT	19	VEHICLES	42
RIGHT	26	HERE	26				

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS  
WORDS**

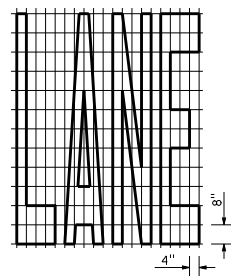
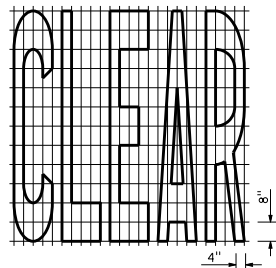
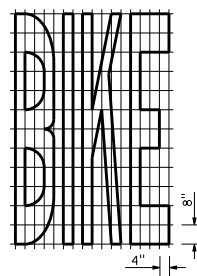
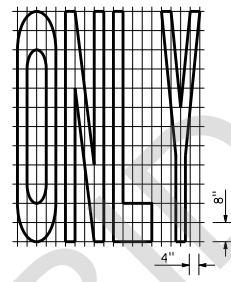
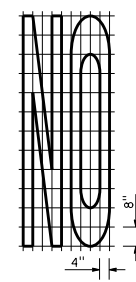
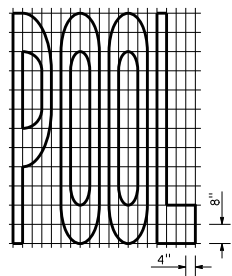
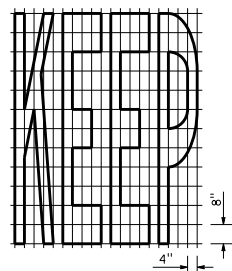
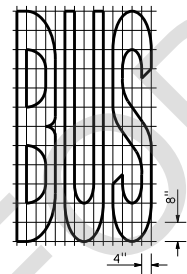
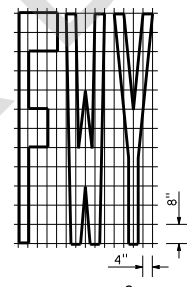
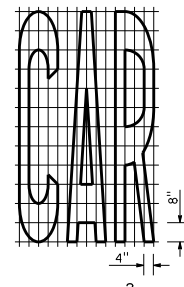
NO SCALE

**A 24D**

DIS#	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

*Atifa Ferouz*  
 REGISTERED CIVIL ENGINEER  
 May 31, 2018  
 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.

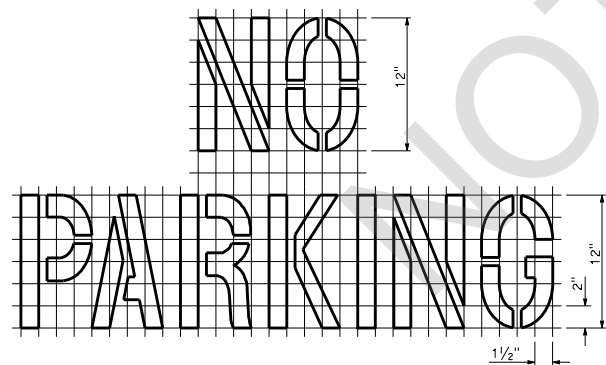
Atifa Ferouz  
 No. C80402  
 Exp. 3-31-19  
 CIVIL  
 STATE OF CALIFORNIA


 $A=24 f+2$ 

 $A=27 f+2$ 

 $A=21 f+2$ 

 $A=22 f+2$ 

 $A=14 f+2$ 

 $A=23 f+2$ 

 $A=24 f+2$ 

 $A=20 f+2$ 

 $A=16 f+2$ 

 $A=17 f+2$ 

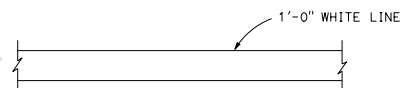
WORD MARKINGS			
ITEM	f+2	ITEM	f+2
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16

#### NOTES:

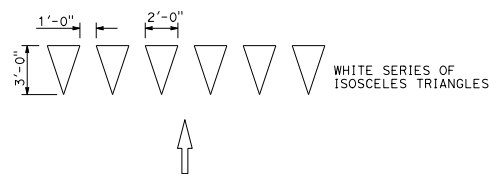
1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.


 $A=2 f+2$ 

See Notes 6 and 7



LIMIT LINE (STOP LINE)



WHITE SERIES OF ISOSCELES TRIANGLES

YIELD LINE

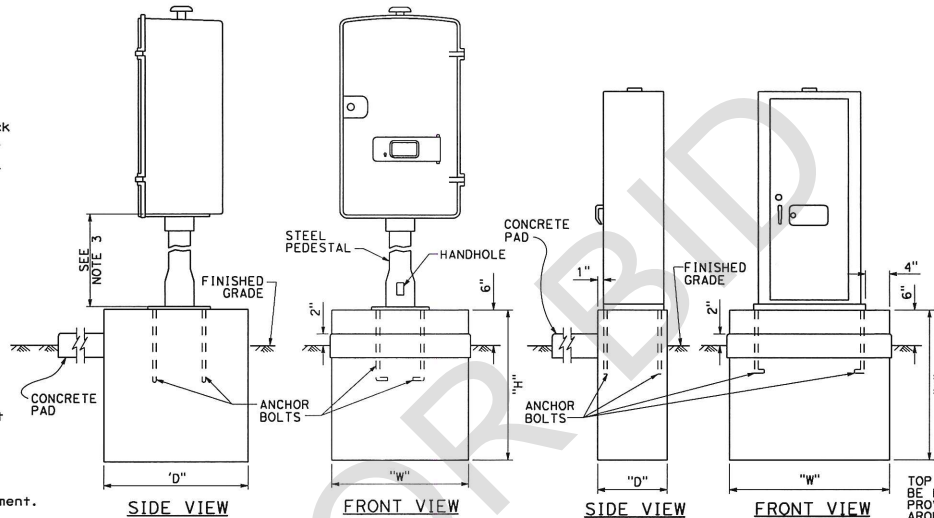
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS**  
**WORDS, LIMIT AND YIELD LINES**

NO SCALE

**A 24E**

**NOTES:**

- Type G, M, P, R, S and Model 336L cabinets shall be installed with the back toward the nearest lane of traffic.
- In unpaved areas, a raised portland cement concrete pad shall be constructed in front of each controller cabinet. The pad shall be 3'-0" x 3'-0" x 4" for a Type G cabinet and shall be 3'-0" x 4" thick x width of foundation for Type M, P, R, S and Model 336L cabinets.
- The steel pedestal, base plate, and bolt circle for Type G cabinet shall be the same as that shown for a Type 1-C Standard (see Standard Plan ES-78). Pedestal shall be 2'-1" to 2'-6" in length. Anchor bolts shall be  $\frac{3}{4}$ "  $\phi$  x 1'-6" with a 2" - 90° bend. Four bolts required per cabinet.
- Type G cabinet shall be provided with a slipfitter to permit mounting on  $4\frac{1}{2}$ " outside diameter pedestal. Slipfitter shall be bolted to bottom of the cabinet.
- A 1" drain shall be provided through the foundation of a Type M or Model 336L cabinet. Drain pipe shall be screened.
- Cabinet shelves shall be adjustable for vertical spacing and shall be removable. Type M, P, R and S cabinets shall be provided with a minimum of two shelves.
- Controller units, plug-mounted equipment, shelf-mounted equipment and wall-mounted equipment shall be located to permit safe and easy removal or replacement without removing any other piece of equipment.
- Where telephone interconnect is required, a minimum of 5" clear vertical space shall be provided inside the cabinet for the equipment.
- Telephone interconnect conductors shall be enclosed in a  $\frac{3}{4}$ " C or larger conduit through the foundation. Type 4 conduit shall be used to separate telephone and power conductors in cabinets or pedestals.
- Anchor bolts for Type M, P, R, S and Model 336L cabinets shall be  $\frac{3}{4}$ "  $\phi$  x 1'-6" with a 2" - 90° bend.



**FOUNDATION FOR  
TYPE G CABINET**

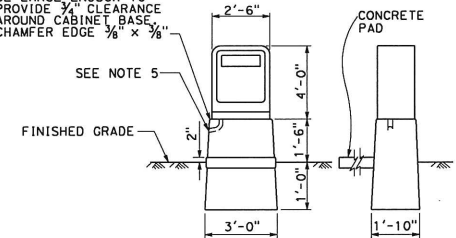
DETAIL A

**FOUNDATION FOR  
TYPE P, R AND S CABINETS**

DETAIL B

CABINET TYPE	FOUNDATION		
	"W"	"H"	"D"
G	2'-0"	3'-6"	2'-0"
M	3'-2"	2'-6"	1'-6"
P	4'-4 $\frac{1}{2}$ "	1'-6"	2'-4"
R	4'-2"	1'-6"	2'-4"
S	5'-11 $\frac{1}{2}$ "	1'-6"	2'-4"

TOP OF PEDESTAL SHALL  
BE LARGE ENOUGH TO  
PROVIDE  $\frac{3}{4}$ " CLEARANCE  
AROUND CABINET BASE,  
CHAMFER EDGE  $\frac{3}{8}$ " x  $\frac{3}{8}$ "



**FRONT VIEW SIDE VIEW  
PEDESTAL FOUNDATION  
FOR TYPE M OR  
MODEL 336L CABINET**  
DETAIL C

**NOTES:**

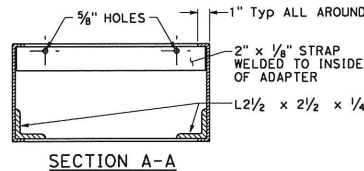
- Material: 0.188" thickness aluminum plate.
- Adapter for Type P or Type R cabinet foundation.
- Adapter for Type M cabinet foundation.
- Mounting bolts shall be  $\frac{3}{8}$ "  $\phi$  minimum size.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

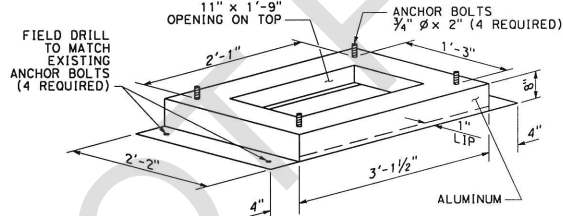
**ELECTRICAL SYSTEMS  
(CONTROLLER CABINET ADAPTER,  
FOUNDATIONS, AND PAD DETAILS)**

NO SCALE

**ES-3B**

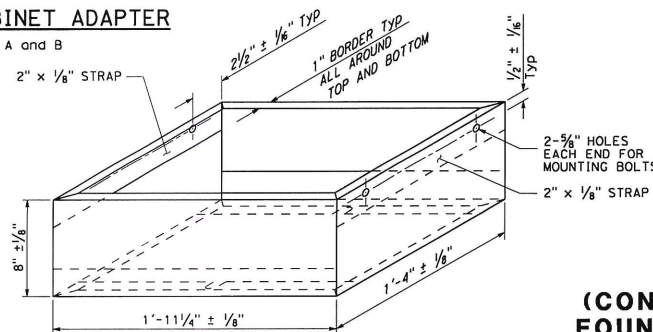


**SECTION A-A**



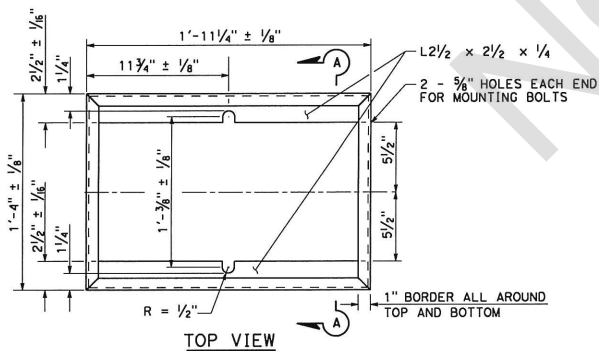
**TYPE PR CABINET ADAPTER**

See Notes A and B

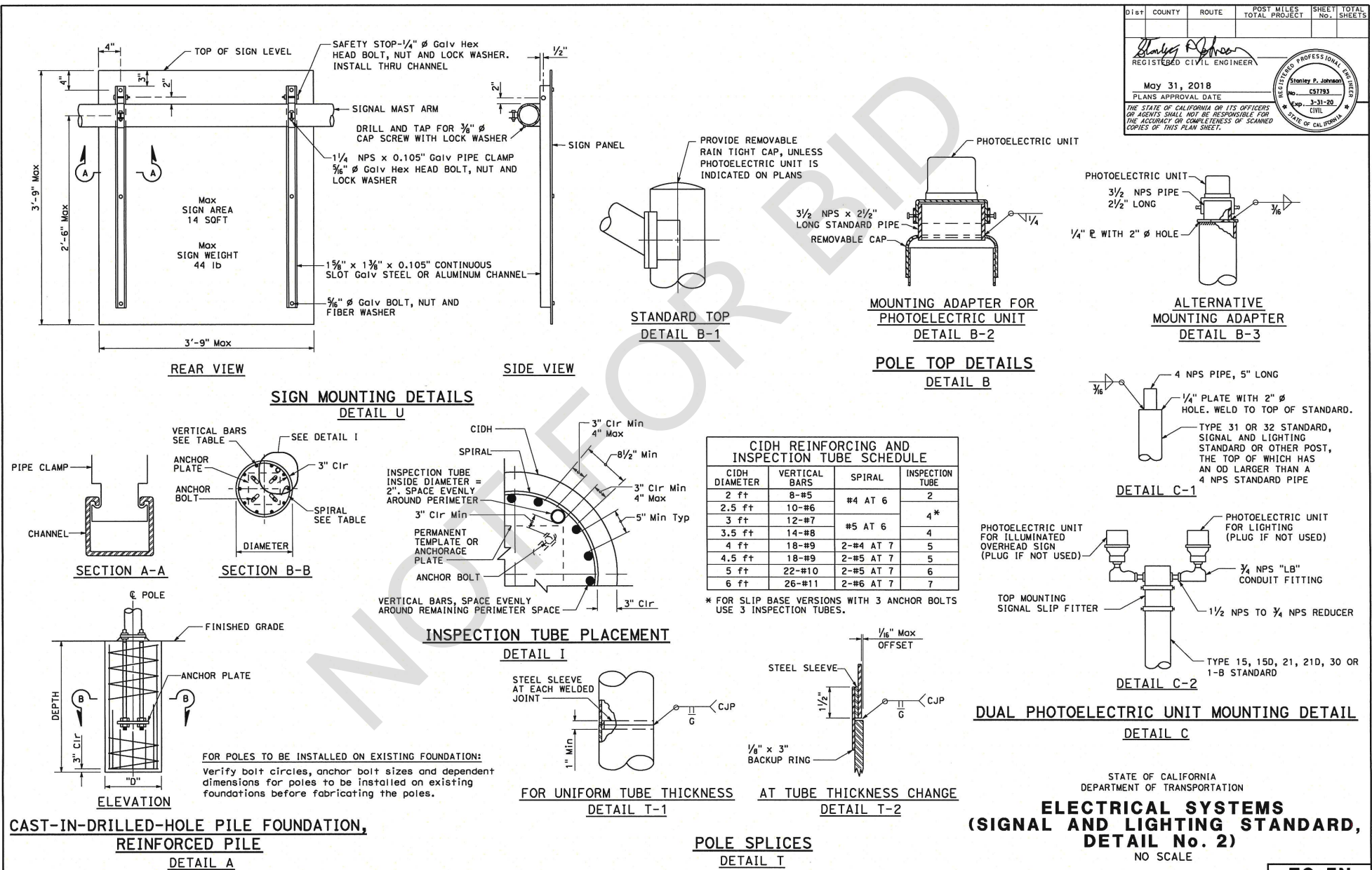


**TYPE M CABINET ADAPTER**

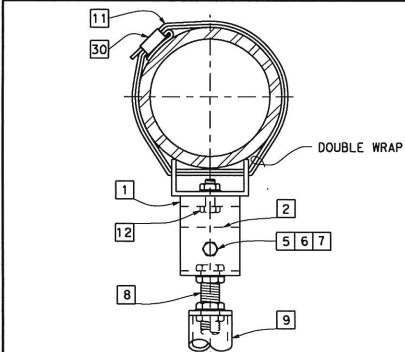
See Notes A, C, and D



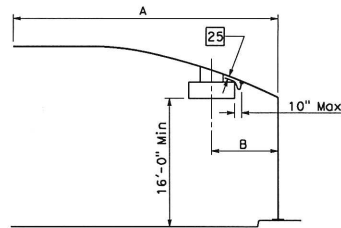
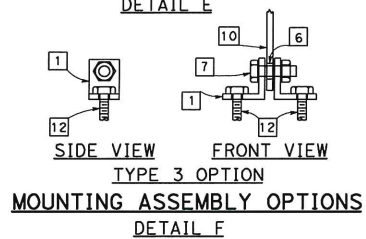
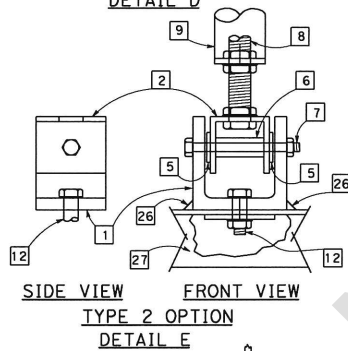
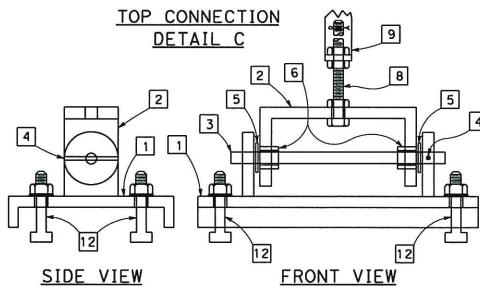
**TOP VIEW**



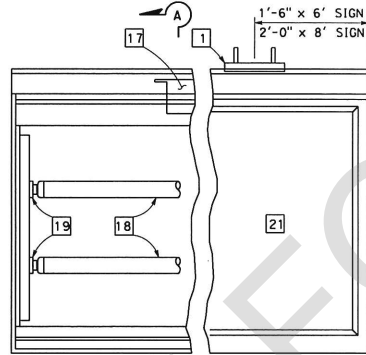




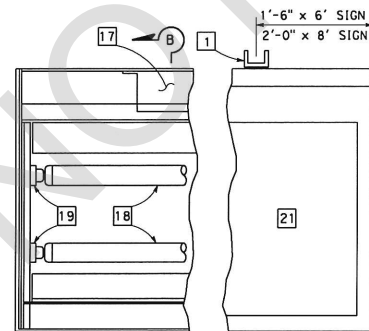
TOP CONNECTION  
DETAIL C



SIGN PLACEMENT  
DETAIL G

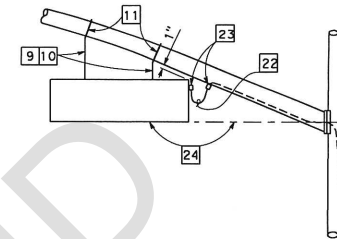


DETAIL A-1 TYPE A SIGN  
DETAIL A



DETAIL B-1 TYPE B SIGN  
DETAIL B

SIGN PLACEMENT		
PROJECTED LENGTH	6'-0" SIGN	8'-0" SIGN
20'-0"	7'-10"	8'-10"
25'-0"	9'-2"	10'-2"
30'-0"	9'-6"	10'-6"
35'-0"	10'-6"	11'-6"
40'-0"		
45'-0"		
50'-0"	12'-6"	13'-6"
55'-0"		
60'-0"		
65'-0"		



SIGN MOUNTING  
DETAIL H

LEGEND:

- 1 LOWER MOUNTING ASSEMBLY WITH GASKET.
- 2 UPPER MOUNTING ASSEMBLY.
- 3 ROD,  $\frac{1}{2}$ "  $\phi$ , STAINLESS STEEL.
- 4 LOCKING PIN, STEEL.
- 5 FLAT WASHER, STAINLESS STEEL.
- 6 BUSHING, BRONZE.
- 7 BOLT,  $\frac{1}{4}$ "  $\phi$  STAINLESS STEEL, WITH SELF-LOCKING NUT.
- 8 BOLT,  $\frac{1}{2}$ "  $\phi$  STAINLESS STEEL, WITH THREE NUTS, AND COTTER KEY, LENGTH AS REQUIRED FOR PROPER MOUNTING OF SIGN.
- 9 BRACKET,  $\frac{1}{4}$ " X  $\frac{1}{2}$ " MINIMUM, LENGTH VARIABLE.
- 10 BRACKET, 2-PIECE ADJUSTABLE.  $\frac{1}{4}$ " X  $\frac{1}{2}$ " MINIMUM. TWO  $\frac{1}{2}$ "  $\phi$  HEXAGON HEAD BOLTS WITH NUTS AND LOCKWASHERS.
- 11  $\frac{3}{4}$ " X 0.020" MINIMUM ROUNDED EDGE STAINLESS STEEL STRAP WITH 2" LONG BEND UNDER BUCKLE. IF ATTACHING TO A MULTISIDED SECTION BEND UNDER SECTION SHALL BE LONG ENOUGH TO CONTACT AT LEAST 3 CORNERS.
- 12 MOUNTING BOLT,  $\frac{1}{4}$ "  $\phi$  MINIMUM, WITH NUT AND LOCKWASHER, OR SELF-LOCKING NUT AND COTTER KEY.
- 13 CONTINUOUS HINGE.
- 14 THUMB SCREW,  $\frac{3}{8}$ "  $\phi$  MINIMUM TWO PER SIDE ON 4'-0" CENTERS.
- 15 REFLECTOR, 0.040" MINIMUM THICKNESS.
- 16 ALUMINUM STIFFENER.
- 17 FLUORESCENT BALLAST (2 REQUIRED).
- 18 LAMP, F72T12CW FOR 6'-0" SIGN F96T12CW FOR 8'-0" SIGN
- 19 LAMP HOLDER.
- 20 LAMP HOLDER TURRET.
- 21 SIGN PANEL, 1'-3" MINIMUM HEIGHT. MESSAGE IS SHOWN ELSEWHERE.
- 22 CORD, 16/3 TYPE SJT. CONTINUOUS FROM SIGN TERMINAL BLOCK TO SIGNAL HEAD MOUNTING TERMINAL COMPARTMENT. FORM A 1'-0" DRIP LOOP BETWEEN SIGN AND SIGNAL MAST ARM.
- 23 CORD CONNECTOR, 90° ANGLE CONNECTOR AT THE SIGN LOCATED IN UPPER 1/3 OF THE SIGN AND STRAIGHT CONNECTOR AT THE SIGNAL MAST ARM. DRILL AND TAP BOTTOM OF THE SIGNAL MAST ARM.
- 24 ADJUST FIXTURE LEVEL NO LOWER THAN CENTER OF SIGNAL MAST ARM CONNECTION.
- 25 APPROXIMATE CLEARANCE, 1".
- 26  $\frac{1}{4}$ " FILLET WELD,  $\frac{1}{4}$ " LONG.
- 27 SIGN FRAME.
- 28 FUSE HOLDER AND FUSE.
- 29 CLOSE CELL NEOPRENE GASKET (CONTINUOUS).
- 30 STAINLESS STEEL STRAP BUCKLE.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(INTERNALLY ILLUMINATED  
STREET NAME SIGN)**

NO SCALE

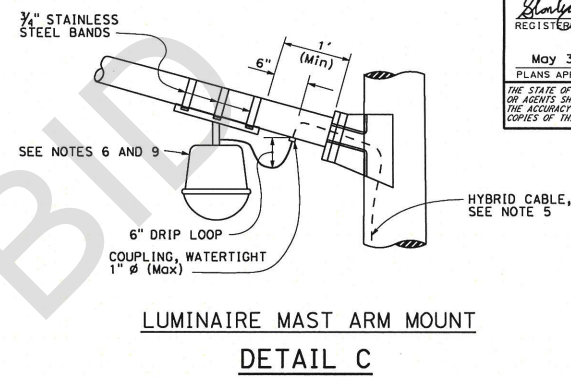
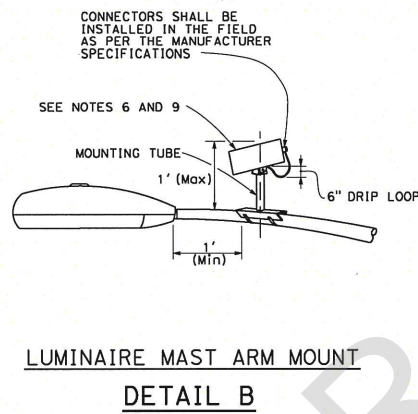
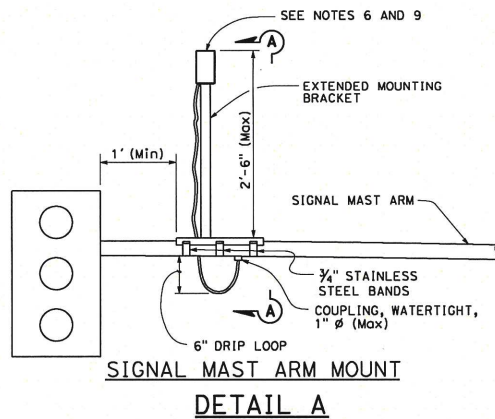
ES-7P

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL No. SHEETS

May 31, 2018  
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS  
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REGISTERED CIVIL ENGINEER  
Stanley P. Johnson  
No. CS1793  
Exp. 3-31-20  
CIVIL  
STATE OF CALIFORNIA



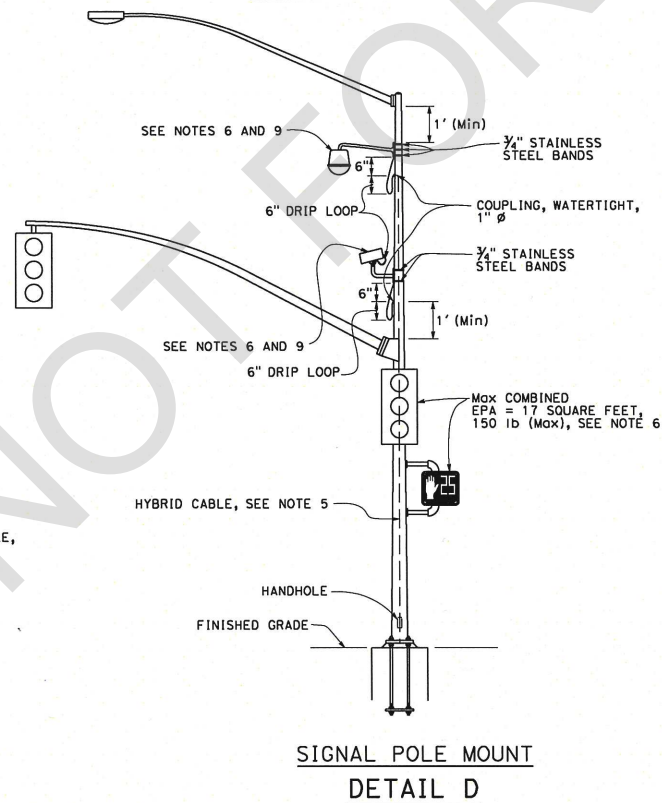
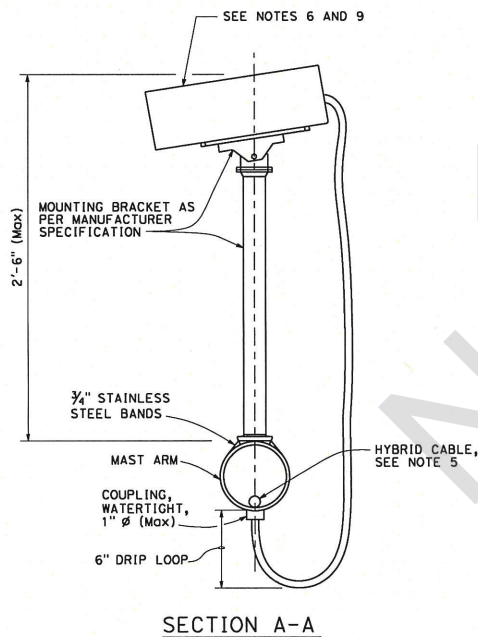
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL No.	TOTAL SHEETS

Stanley P. Johnson  
REGISTERED CIVIL ENGINEER

May 31, 2018  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
Stanley P. Johnson  
No. C67793  
Exp. 3-31-20  
CIVIL  
STATE OF CALIFORNIA

**NOTES:**

1. Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
2. Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
3. Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
4. Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
5. A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
6. Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet with 10 lb Max.
7. Maximum of two miscellaneous attachments per traffic signal standard.
8. Maximum of one miscellaneous attachment per mast arm.
9. Miscellaneous attachment shall be mounted using clamping devices.

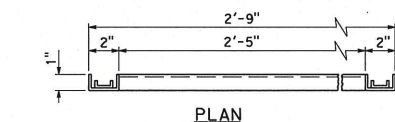
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(SIGNAL AND LIGHTING,  
MISCELLANEOUS ATTACHMENT)**

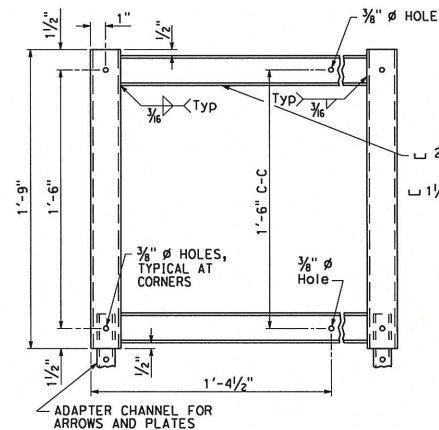
NO SCALE

**ES-7R**

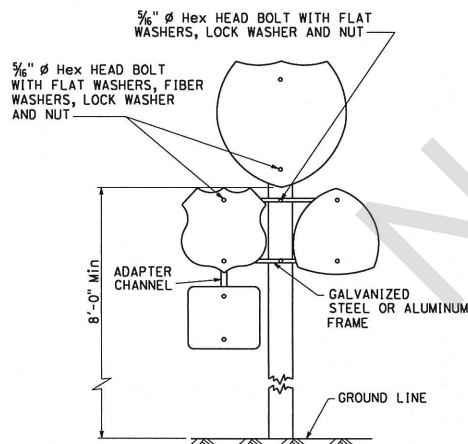




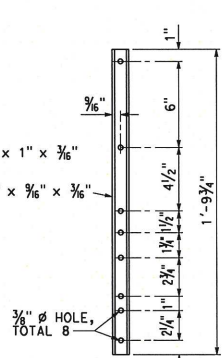
PLAN



ELEVATION

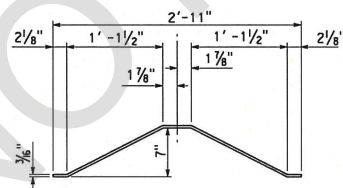
**GALVANIZED STEEL FRAME**

ELEVATION

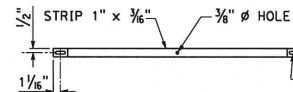
**MULTIPLE SIGN INSTALLATION****NOTE:**

Adapter channel rests inside frame channel when used.

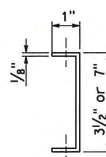
ADAPTER CHANNEL



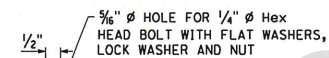
PLAN



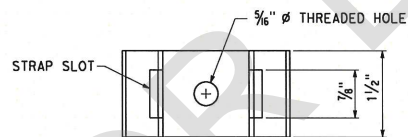
ELEVATION

**BACK BRACE DETAILS**

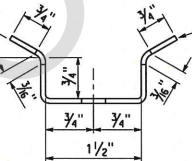
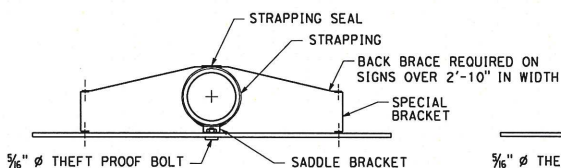
PLAN



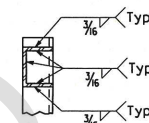
ELEVATION

**SPECIAL BRACKET**

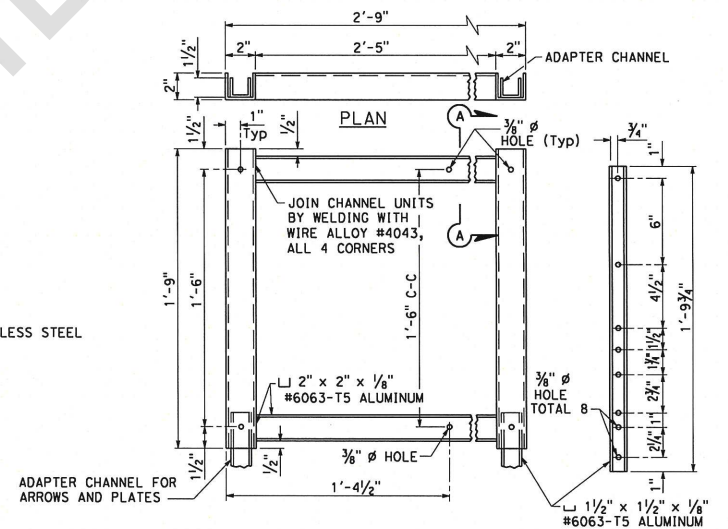
STRAP SLOT

**SADDLE BRACKET**

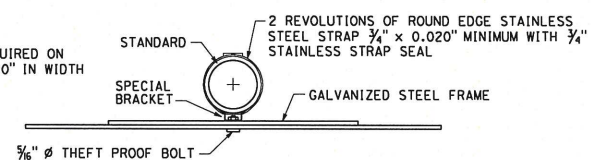
SINGLE SIGN

**INSTALLATION ON ELECTROLIER, SIGNAL STANDARD****OR SIGN STRUCTURE POST**

SECTION A-A



ELEVATION

**ALUMINUM FRAME**

MULTIPLE SIGN

**ROADSIDE SIGNS  
TYPICAL INSTALLATION  
DETAILS No. 4**

NO SCALE

**RS4**

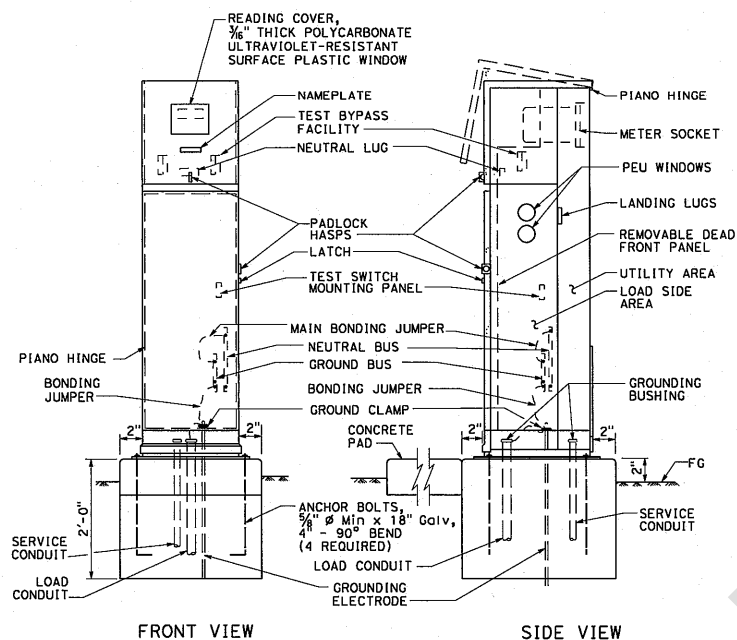
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

Stanley P. Johnson  
REGISTERED CIVIL ENGINEER

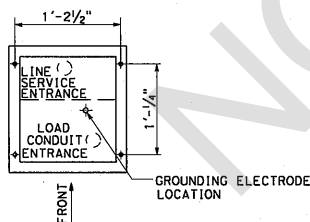
May 31, 2018  
PLANS APPROVAL DATE

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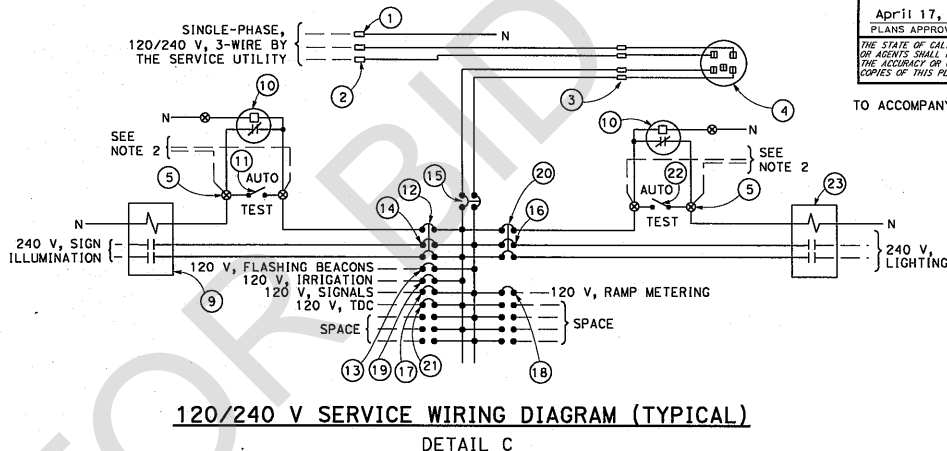
REGISTERED PROFESSIONAL ENGINEER  
Stanley P. Johnson  
No. CS1793  
Exp. 3-31-20  
CIVIL  
STATE OF CALIFORNIA



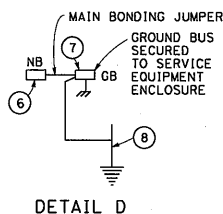
**TYPE III-BF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)**  
DETAIL A



**BASE FOR TYPE III-B  
SERVICE EQUIPMENT ENCLOSURE**  
DETAIL B



**120/240 V SERVICE WIRING DIAGRAM (TYPICAL)**  
DETAIL C



**DETAIL D**

**TYPE III-B SERVICE EQUIPMENT ENCLOSURE LEGEND (120/240 V)**

ITEM	COMPONENT	NAMEPLATE DESCRIPTION	ITEM	COMPONENT	NAMEPLATE DESCRIPTION
1	NEUTRAL LUG		13	15 A, 120 V, 1P, CB	FLASHING BEACON
2	LANDING LUG		14	30 A, 240 V, 2P, CB	SIGN ILLUMINATION
3	TEST BYPASS FACILITY		15	100 A, 240 V, 2P, CB	MAIN BREAKER
4	METER SOCKET AND SUPPORT		16	30 A, 240 V, 2P, CB	LIGHTING
5	TERMINAL BLOCKS		17	50 A, 120 V, 1P, CB	SIGNALS
6	NEUTRAL BUS		18	30 A, 120 V, 1P, CB	RAMP METERING
7	GROUND BUS		19	20 A, 120 V, 1P, CB	IRRIGATION
8	GROUNDING ELECTRODE		20	15 A, 120 V, 1P, CB	LIGHTING CONTROL
9	30 A, 2P, NO CONTACTOR	SIGN ILLUMINATION	21	20 A, 120 V, 1P, CB	TELEPHONE DEMARICATION CABINET
10	PHOTOELECTRIC UNIT (NOTE 4)	PEU	22	15 A, 1P, TEST SWITCH	LIGHTING TEST SWITCH
11	15 A, 1P, TEST SWITCH	SIGN ILLUMINATION TEST SWITCH	23	60 A, 2P, NO CONTACTOR	LIGHTING
12	15 A, 120 V, 1P, CB	SIGN ILLUMINATION CONTROL			

**NOTES:**

1. Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
2. Connect to remote test switch mounted on lighting standards, sign post, or structure when required.
3. Items 1 and 6 shall be isolated from the service equipment enclosure.
4. Type I photoelectric control shall be used unless otherwise indicated on the plans.
5. Item 12 and 23 shall be ganged operated CB.
6. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(SERVICE EQUIPMENT ENCLOSURE AND  
TYPICAL WIRING DIAGRAM,  
TYPE III-B SERIES)**  
NO SCALE

RSP ES-2E DATED APRIL 17, 2020 SUPERSEDES RSP ES-2E DATED OCTOBER 19, 2018 AND  
STANDARD PLAN ES-2E DATED MAY 31, 2018 - PAGE 482 OF THE STANDARD PLANS BOOK DATED 2018.

**REVISED STANDARD PLAN RSP ES-2E**

2018 REVISED STANDARD PLAN RSP ES-2E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

H.R.T.  
REGISTERED ELECTRICAL ENGINEER  
October 19, 2018  
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
Hamid Zolfaghari  
No. E15636  
Exp. 12-31-19  
ELECTRICAL  
STATE OF CALIFORNIA

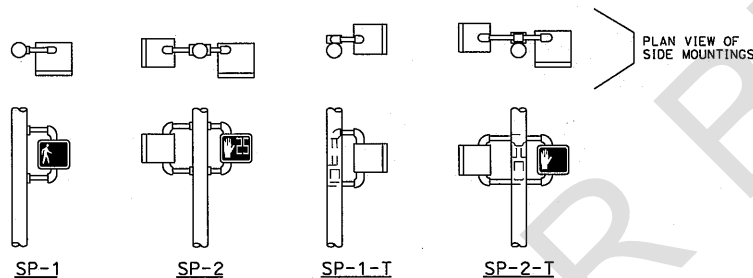
TO ACCOMPANY PLANS DATED \_\_\_\_\_

**NOTES:**

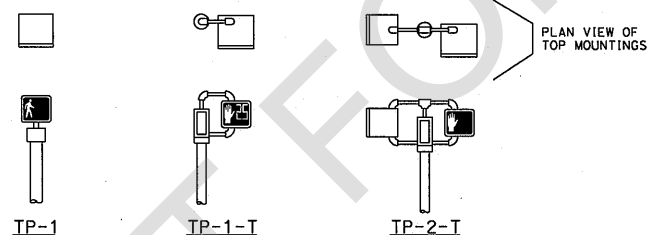
1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. See Revised Standard Plan RSP ES-4D for attachment fittings details.

**ABBREVIATIONS:**

- 1, 2 NUMBER OF SIGNAL FACES  
SP SIDE MOUNTED PEDESTRIAN SIGNAL  
T TERMINAL COMPARTMENT  
TP TOP MOUNTED PEDESTRIAN SIGNAL



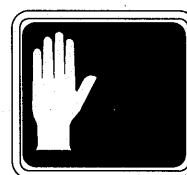
**SIDE MOUNTINGS**



**TOP MOUNTINGS**

**PEDESTRIAN SIGNAL HEAD MOUNTINGS**

**DETAIL A**



PERSON WALKING INTERVAL FLASHING UPRaised HAND INTERVAL STEADY UPRaised HAND INTERVAL

LED COUNTDOWN PEDESTRIAN SIGNAL FACE MODULE

**DETAIL B**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

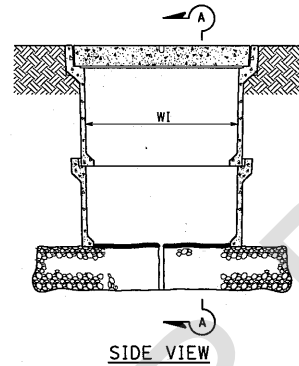
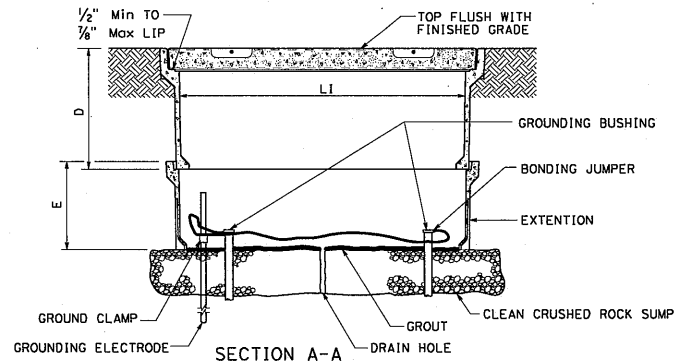
**ELECTRICAL SYSTEMS  
(PEDESTRIAN SIGNAL HEADS)**

NO SCALE

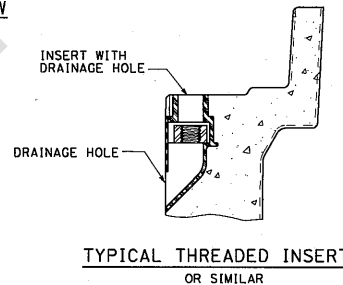
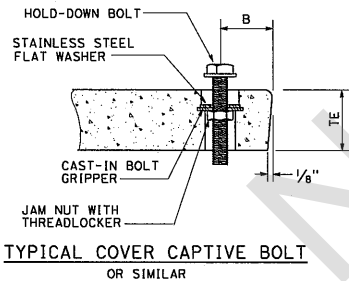
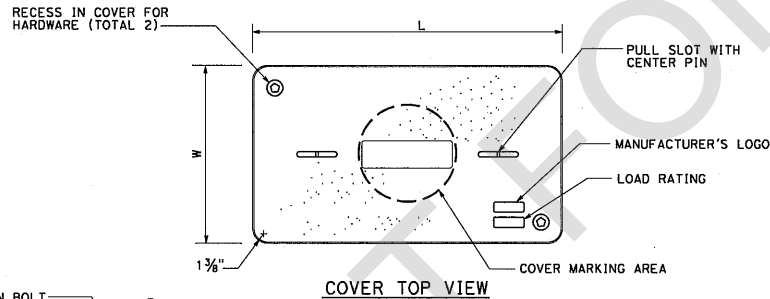
RSP ES-4B DATED OCTOBER 19, 2018 SUPERSEDES STANDARD PLAN ES-4B  
DATED MAY 31, 2018 - PAGE 500 OF THE STANDARD PLANS BOOK DATED 2018.

**REVISED STANDARD PLAN RSP ES-4B**

2018 REVISED STANDARD PLAN RSP ES-4B



**INSTALLATION DETAILS  
DETAIL A**



**NOMINAL DIMENSIONS TABLE**

PULL BOX						COVER				
PULL BOX TYPE	MINIMUM DEPTH BOX (D)	MINIMUM DEPTH EXTENSION (E)	MAXIMUM WEIGHT	LI Min	WI Min	TE	B	L	W	MAXIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 2 3/8"	9"	1 5/8" - 1 3/4"	1 3/4"	1' - 3 1/4" - 1' - 3 3/8"	10" - 10 1/8"	30 lb
No. 5	12"	10"	65 lb	1' - 8"	11"	2"	1 3/4"	1' - 11 1/4"	1' - 1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2' - 6 1/2"	1' - 5 1/2"	95 lb

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL No. SHEETS

H.R.T.  
REGISTERED ELECTRICAL ENGINEER  
October 18, 2019  
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.

TO ACCOMPANY PLANS DATED \_\_\_\_\_

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(NON-TRAFFIC PULL BOX)**


NO SCALE

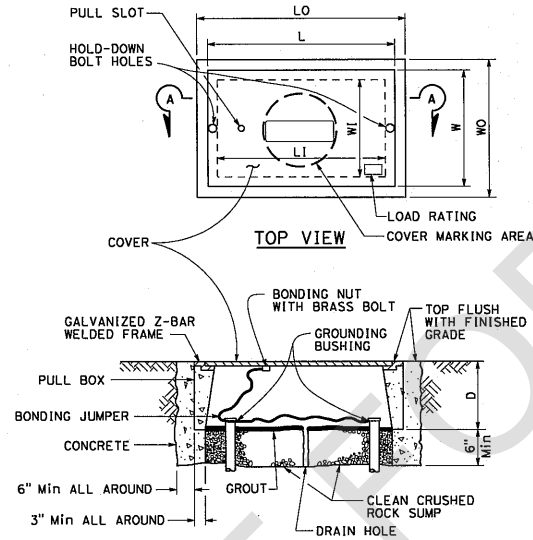
RSP ES-8A DATED OCTOBER 18, 2019 SUPERSEDES STANDARD PLAN ES-8A  
DATED MAY 31, 2018 - PAGE 532 OF THE STANDARD PLANS BOOK DATED 2018.

**REVISED STANDARD PLAN RSP ES-8A**

2018 REVISED STANDARD PLAN RSP ES-8A

Dist#	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
<p><i>H.R.T.</i> REGISTERED ELECTRICAL ENGINEER</p> <p>October 18, 2019 PLANS APPROVAL DATE</p> <p>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.</p>					
<p>TO ACCOMPANY PLANS DATED _____</p>					





SECTION A-A

**No. 3½(T), No. 5(T), AND No. 6(T)**  
**TRAFFIC PULL BOX**

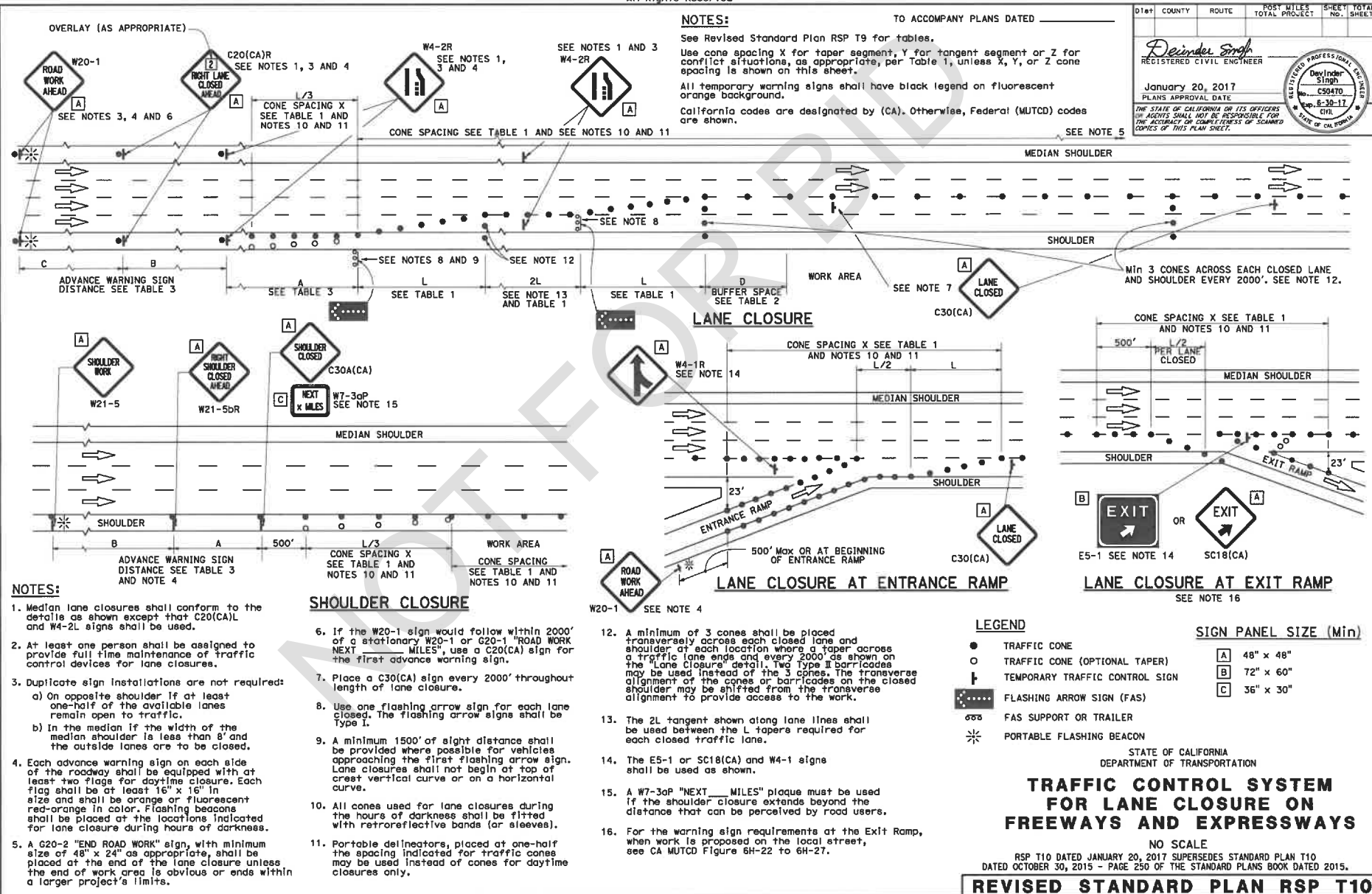
NOMINAL DIMENSIONS TABLE								
PULL BOX							COVER	
PULL BOX TYPE	MINIMUM THICKNESS	MINIMUM DEPTH D	LO	LI	WO	WI	L	W
No. 3½(T)	1½"	1'-0"	1'-10" - 1'-11"	1'-5" - 1'-6½"	1'-3" - 1'-4"	10" - 1'-0"	1'-8" - 1'-8½"	1'-1" - 1'-2"
No. 5(T)	1¾"	1'-0"	2'-5" - 2'-6"	2'-0" - 2'-1"	1'-6" - 1'-7"	1'-1" - 1'-2"	2'-3" - 2'-3½"	1'-4" - 1'-4½"
No. 6(T)	2"	1'-0"	2'-11" - 3'-1"	2'-6" - 2'-7"	1'-10" - 2'-0"	1'-5" - 1'-6"	2'-9" - 2'-9½"	1'-8" - 1'-8½"

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(TRAFFIC PULL BOX)**  
NO SCALE

RSP ES-8B DATED OCTOBER 18, 2019 SUPERSEDES STANDARD PLAN ES-8B  
DATED MAY 31, 2018 - PAGE 533 OF THE STANDARD PLANS BOOK DATED 2018.

**REVISED STANDARD PLAN RSP ES-8B**

2018 REVISED STANDARD PLAN RSP ES-8B





DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL NO. SHEETS
<i>Devinder Singh</i> REGISTERED CIVIL ENGINEER				
January 20, 2017 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.				
TO ACCOMPANY PLANS DATED _____				




TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	50	100	25
60	1440	720	360	240	50	100	25
65	1560	780	390	260	50	100	25
70	1680	840	420	280	50	100	25
75	1800	900	450	300	50	100	25

\* - For other offsets, use the following merging taper length formula for L:  
For speed of 40 mph or less,  $L = WS^2/60$   
For speed of 45 mph or more,  $L = WS$

Where: L = Taper length in feet

W = Width of offset in feet

S = Posted speed limit, off-peak 85th-percentile  
speed prior to work starting, or the anticipated  
operating speed in mph

\*\* - Use for taper and tangent sections where there are no pavement markings or where  
there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891
75	820	866	927	1003

\* - Speed is posted speed limit, off-peak 85th-percentile  
speed prior to work starting, or the anticipated  
operating speed in mph

\*\* - Longitudinal buffer space or flagger station spacing

\*\*\* - Use on sustained downgrade steeper than -3 percent  
and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

\* - The distances are approximate, are intended for guidance  
purposes only, and should be applied with engineering judgment.  
These distances should be adjusted by the Engineer for field  
conditions, if necessary, by increasing or decreasing the  
recommended distances.

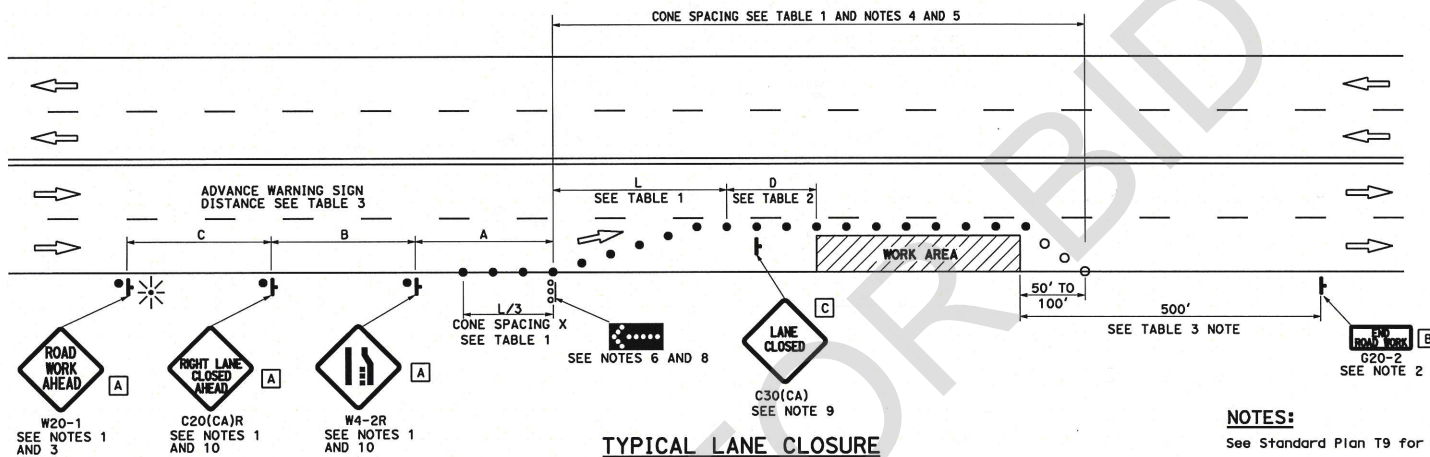
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## TRAFFIC CONTROL SYSTEM TABLES FOR LANE AND RAMP CLOSURES

NO SCALE

RSP T9 DATED JANUARY 20, 2017 SUPERSEDES STANDARD PLAN T9  
DATED OCTOBER 30, 2015 - PAGE 249 OF THE STANDARD PLANS BOOK DATED 2015.

REVISED STANDARD PLAN RSP T9

**NOTES:**

- Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT MILES", use a C20(CA) sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves).
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Flashing arrow sign shall be either Type I or Type II.
- For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- Median lane closures shall conform to the details shown except that C20(CA)L and W4-2L signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

**NOTES:**

See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

All temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

**LEGEND**

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⬢ FLASHING ARROW SIGN (FAS)
- ☼ FAS SUPPORT OR TRAILER
- ☼ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

- |   |           |
|---|-----------|
| A | 48" x 48" |
| B | 36" x 18" |
| C | 30" x 30" |

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
FOR LANE CLOSURE ON  
MULTILANE CONVENTIONAL  
HIGHWAYS**

NO SCALE

**T11**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL No. SHEETS

*Devinder Singh*  
REGISTERED CIVIL ENGINEER

October 30, 2015  
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.

Devinder Singh  
C50470  
Exp. 6-30-17  
CIVIL  
STATE OF CALIFORNIA

# NOTES:

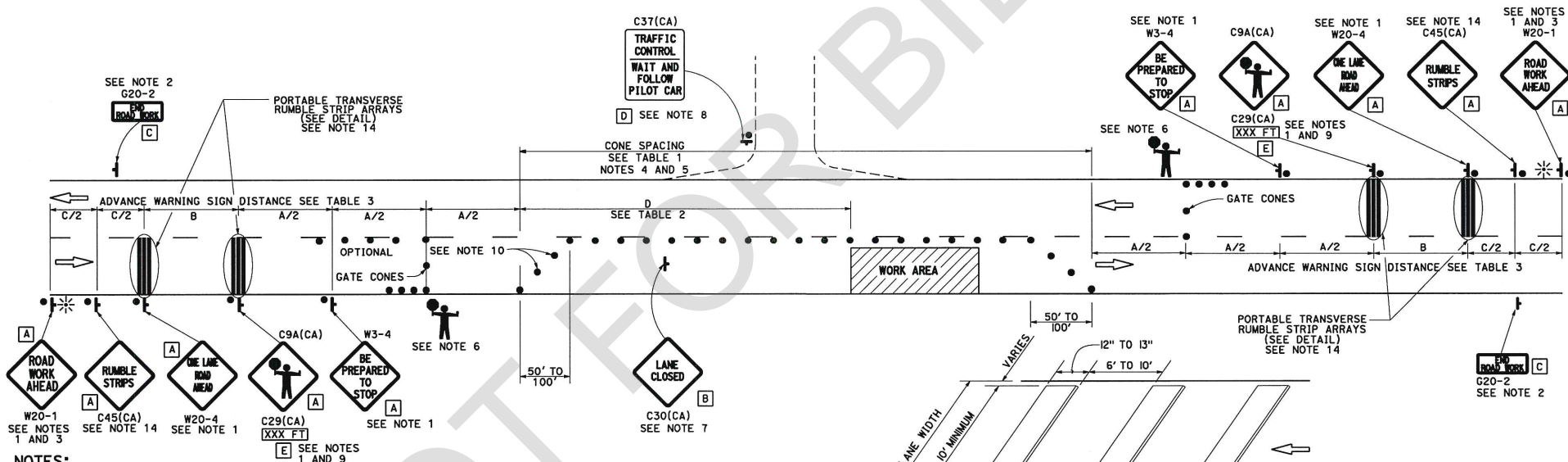
See Standard Plan T9 for tables.

Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

All temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

## TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL



# NOTES:

- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT" sign, use a W20-4 sign for the first advance warning sign.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves).
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
- Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
- If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
- Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
  - Work duration occupies a location for four hours or less
  - Posted speed limit is below 45 MPH
  - Work is of emergency nature
  - Work zone is in snow or icy weather conditions

Dist	COUNTY	ROUTE	POST MILES	SHEET TOTAL
			TOTAL PROJECT	No. SHEETS
December Singh REGISTERED CIVIL ENGINEER October 30, 2015 PLANS APPROVAL DATE THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.				
REGISTERED PROFESSIONAL ENGINEER December Singh No. C50470 Exp. 8-30-17 CIVIL STATE OF CALIFORNIA				

## TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

T13