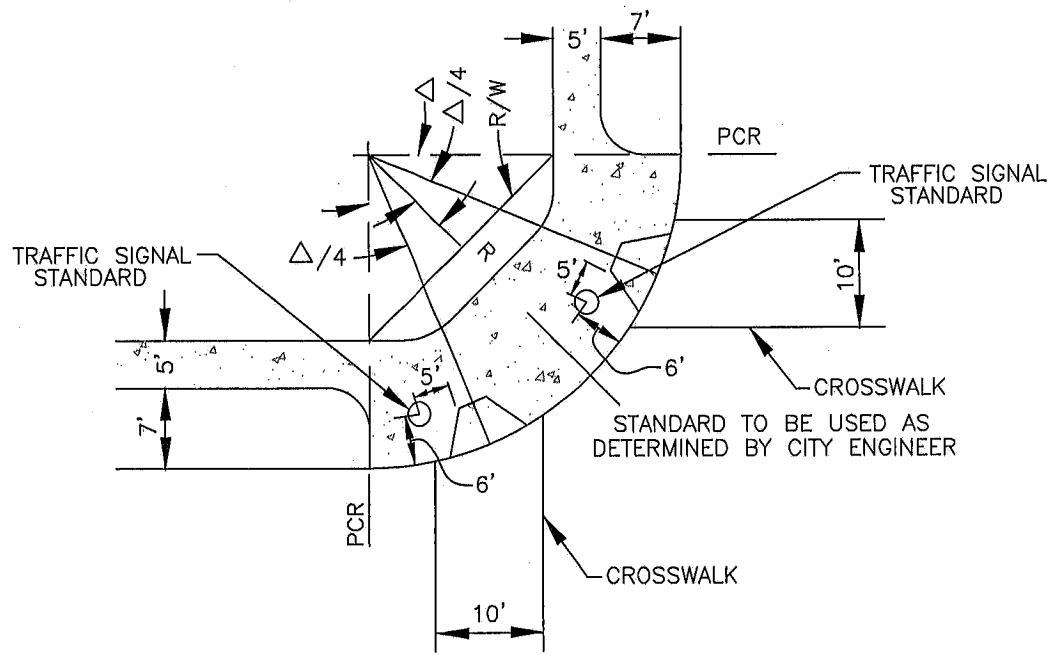
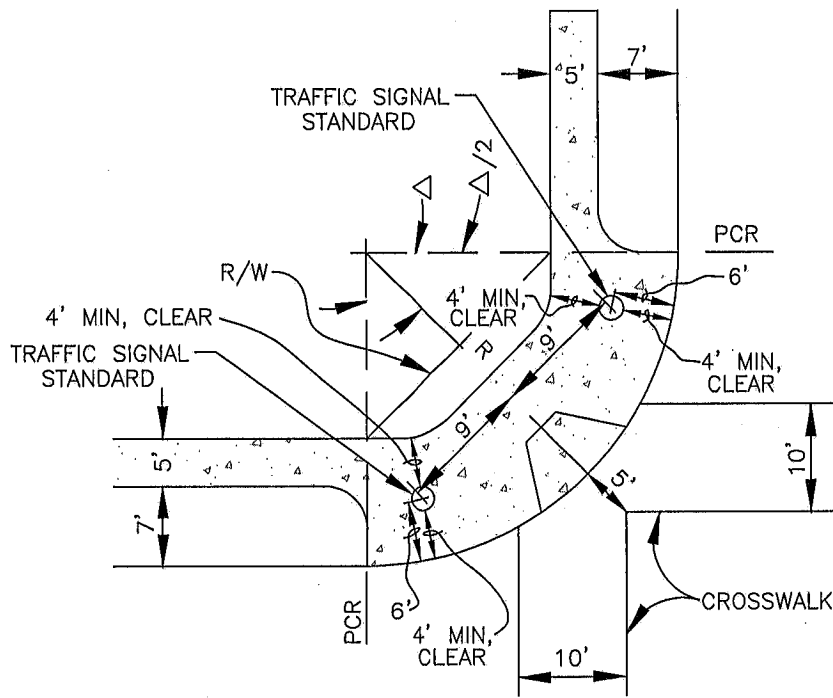


# TRAFFIC

(TRF)





**NOTES:**

FINAL DETERMINATION OF TRAFFIC SIGNAL STANDARD LOCATION SHALL BE MADE BY THE CITY'S TRAFFIC ENGINEERING SECTION PRIOR TO INSTALLATION.

REVISION	BY	APPROVED	DATE
ORIGINAL			2/90
REVISION	CVM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

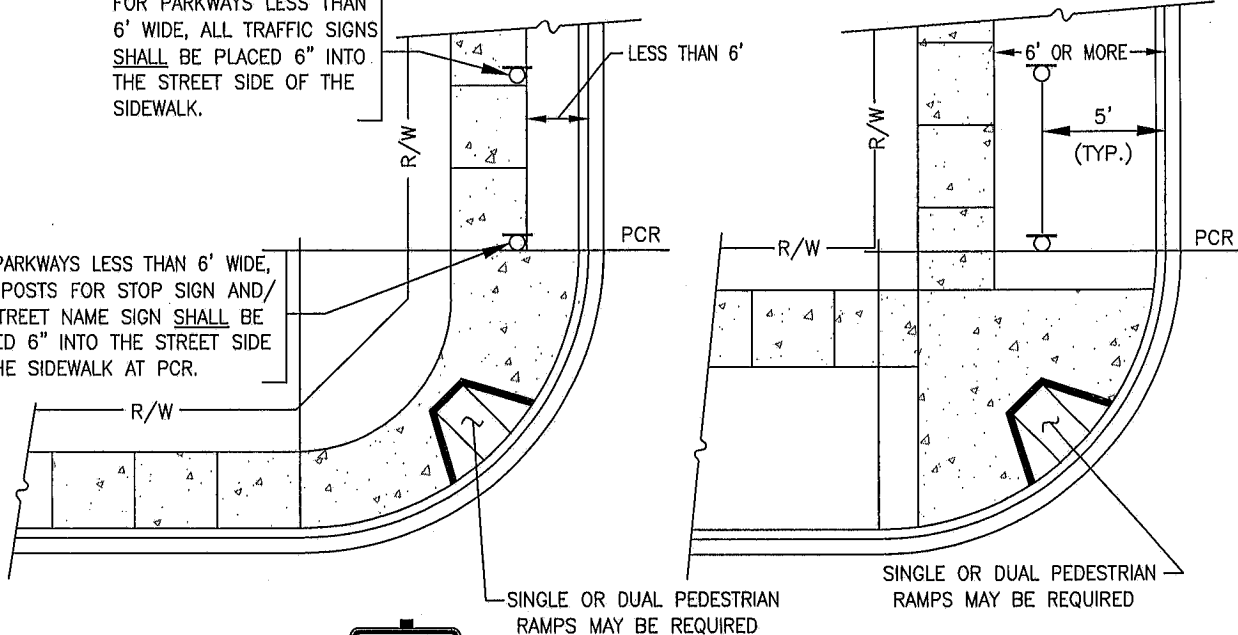
TRAFFIC SIGNAL STANDARD  
LOCATIONS

*William S. Valle*  
WILLIAM S. VALLE 11/21/2017  
CITY ENGINEER

TRF-01

FOR PARKWAYS LESS THAN 6' WIDE, ALL TRAFFIC SIGNS SHALL BE PLACED 6" INTO THE STREET SIDE OF THE SIDEWALK.

FOR PARKWAYS LESS THAN 6' WIDE, SIGN POSTS FOR STOP SIGN AND/OR STREET NAME SIGN SHALL BE PLACED 6" INTO THE STREET SIDE OF THE SIDEWALK AT PCR.



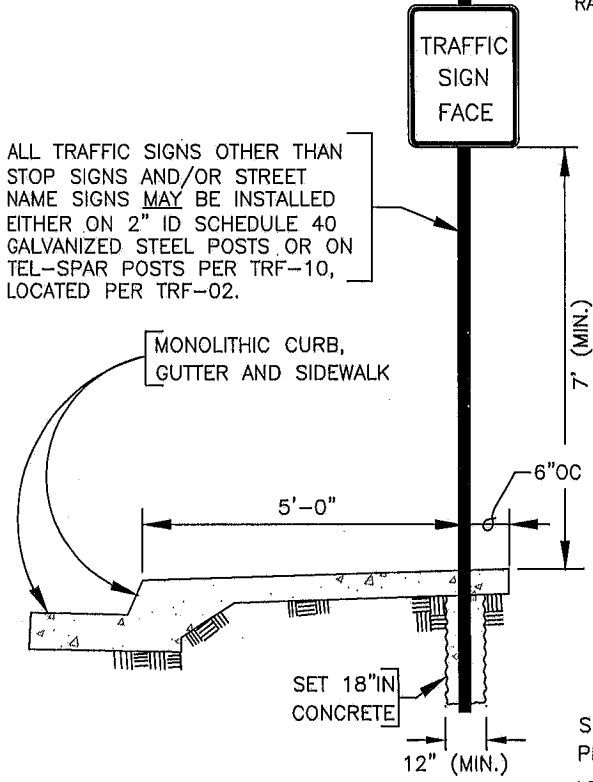
SINGLE OR DUAL PEDESTRIAN RAMPS MAY BE REQUIRED

SINGLE OR DUAL PEDESTRIAN RAMPS MAY BE REQUIRED

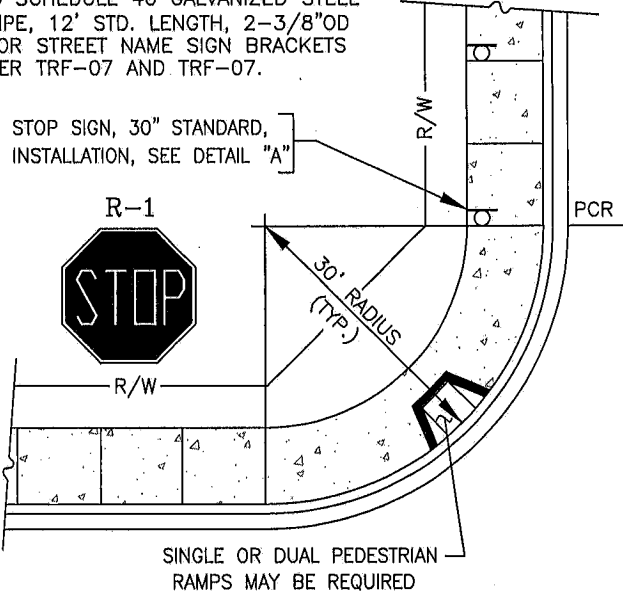
ALL TRAFFIC SIGNS OTHER THAN STOP SIGNS AND/OR STREET NAME SIGNS MAY BE INSTALLED EITHER ON 2" ID SCHEDULE 40 GALVANIZED STEEL POSTS OR ON TEL-SPAR POSTS PER TRF-10, LOCATED PER TRF-02.

STOP SIGNS AND/OR STREET NAME SIGNS SHALL BE INSTALLED ON 2" ID SCHEDULE 40 GALVANIZED STEEL PIPE, 12' STD. LENGTH, 2-3/8" OD FOR STREET NAME SIGN BRACKETS PER TRF-07 AND TRF-07.

STOP SIGN, 30" STANDARD, INSTALLATION, SEE DETAIL "A"



DETAIL "A"  
NO SCALE



SINGLE OR DUAL PEDESTRIAN RAMPS MAY BE REQUIRED

- SEVERAL ORDINANCES IN THE CITY OF CHULA VISTA CITY CODE PROHIBIT THE OBSTRUCTION OF REGULATORY SIGNS IN THE CITY:
- 12.12.040 OBSTRUCTING PUBLIC WAYS WITH VEGETATION PROHIBITED.
  - 12.12.120 VISION CLEARANCE-INTERSECTION REQUIREMENTS.
  - 12.32.040 APPROVAL AND PERMIT REQUIRED.
  - 12.32.150 TRIMMING REGULATIONS-OWNER RESPONSIBILITY-CITY TO PERFORM WORK WHEN.
  - 12.32.190 MAINTENANCE OF PUBLIC RIGHT-OF-WAY BY PROPERTY OWNER.

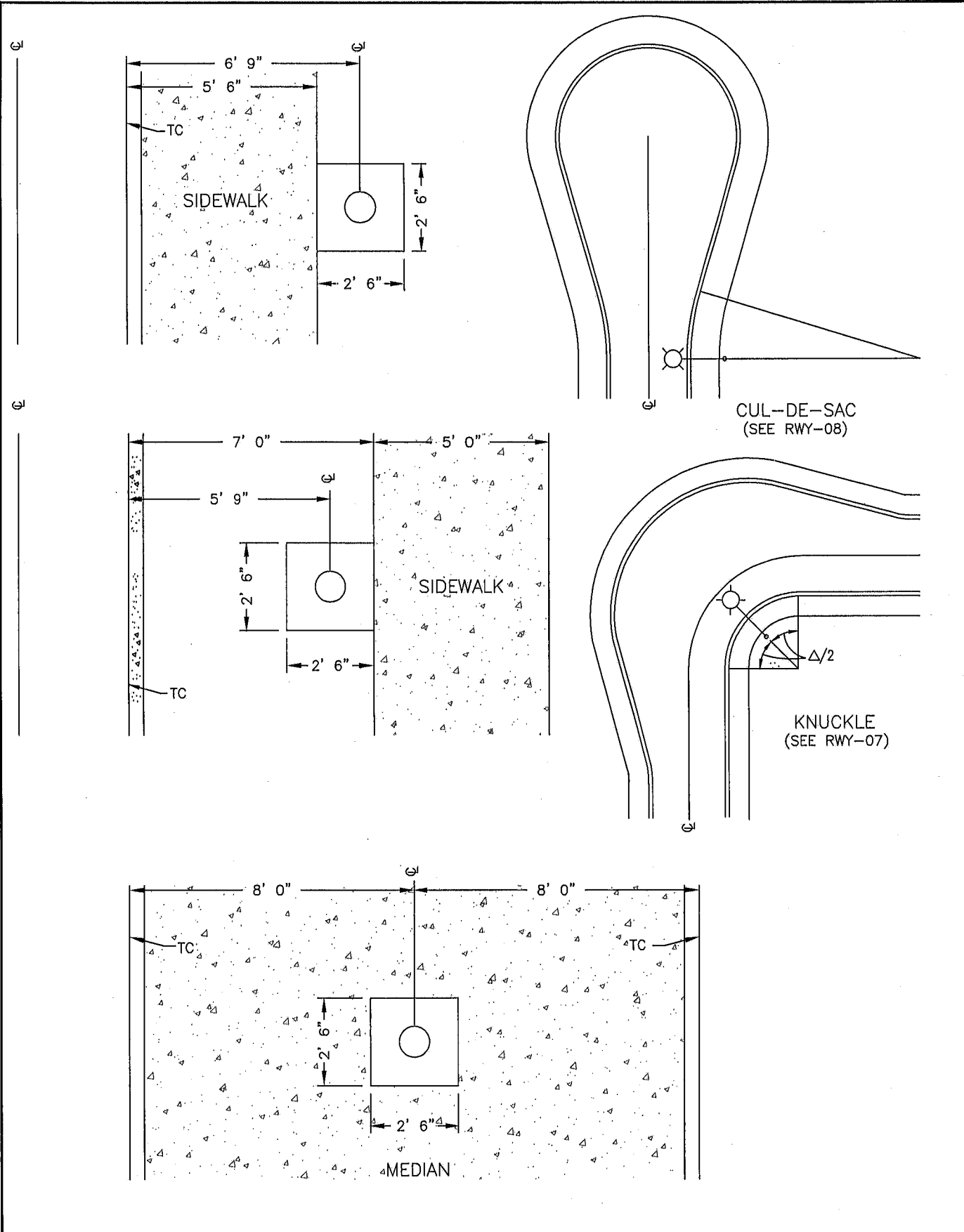
REVISION	BY	APPROVED	DATE
ORIGINAL			2/90
REVISION	CVM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

TYPICAL SIGN POST PLACEMENT

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CITY ENGINEER

TRF-02



CUL-DE-SAC  
(SEE RWY-08)

KNUCKLE  
(SEE RWY-07)

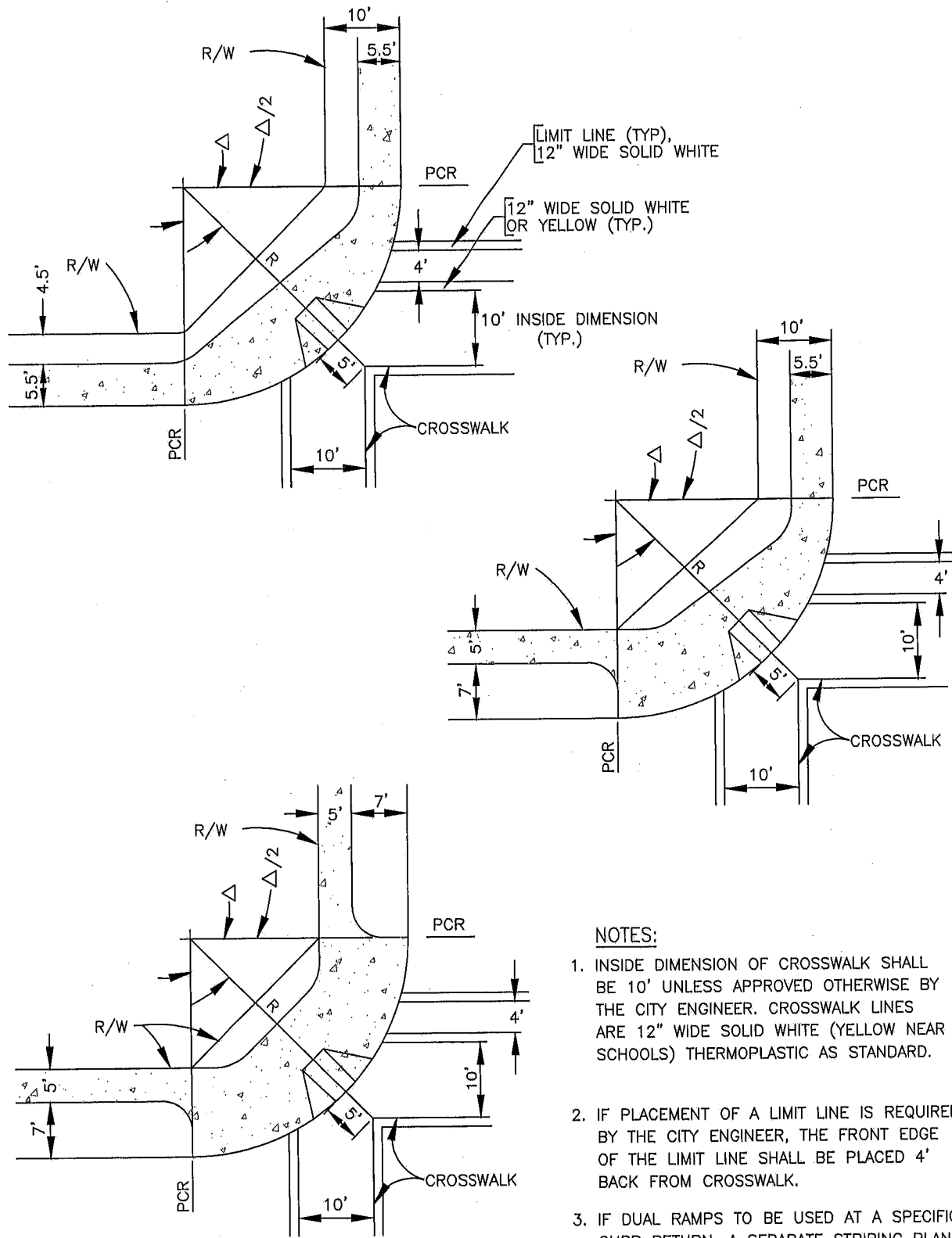
REVISION	BY	APPROVED	DATE
ORIGINAL			2/90
REVISION	CVM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

STREET LIGHT LOCATIONS

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CITY ENGINEER

TRF-03



**NOTES:**

1. INSIDE DIMENSION OF CROSSWALK SHALL BE 10' UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER. CROSSWALK LINES ARE 12" WIDE SOLID WHITE (YELLOW NEAR SCHOOLS) THERMOPLASTIC AS STANDARD.
2. IF PLACEMENT OF A LIMIT LINE IS REQUIRED BY THE CITY ENGINEER, THE FRONT EDGE OF THE LIMIT LINE SHALL BE PLACED 4' BACK FROM CROSSWALK.
3. IF DUAL RAMPS TO BE USED AT A SPECIFIC CURB RETURN, A SEPARATE STRIPING PLAN SHALL BE SUBMITTED FOR APPROVAL BY THE CITY ENGINEER.

REVISION	BY	APPROVED	DATE
ORIGINAL			2/90
REVISION	CVM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

TYPICAL SIDEWALK AND CROSSWALK  
LOCATIONS

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CITY ENGINEER

TRF-04

NIPPLES OF SUFFICIENT LENGTH TO PROVIDE NECESSARY LATERAL ADJUSTMENT OF HEADS

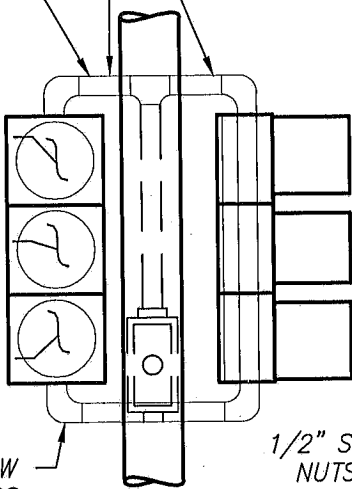
1 1/2" STANDARD PIPE FRAMEWORK

12" RED (L.E.D., UNLESS OTHERWISE SPECIFIED)

12" AMBER (L.E.D., UNLESS OTHERWISE SPECIFIED)

12" GREEN (L.E.D., UNLESS OTHERWISE SPECIFIED)

SPECIAL 90° ELBOW AND FITTINGS



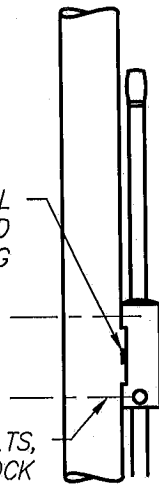
ELEVATION-TYPICAL  
NO SCALE

FRONT VIEW

11" X 5" X 3 1/2" ALUMINUM TERMINAL BOX AND COVER

SEAL AROUND OPENING

CABLE GUIDE



1/2" STANDARD BOLTS, NUTS, AND V-BLOCK WASHERS, GALVANIZED

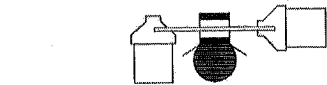
NOTES:

BRACKET MOUNTINGS SHALL BE ON SIDE OF POLE AWAY FROM TRAFFIC

BRACKET MOUNTING  
NO SCALE

SIDE VIEW

TERMINAL BOX  
NO SCALE

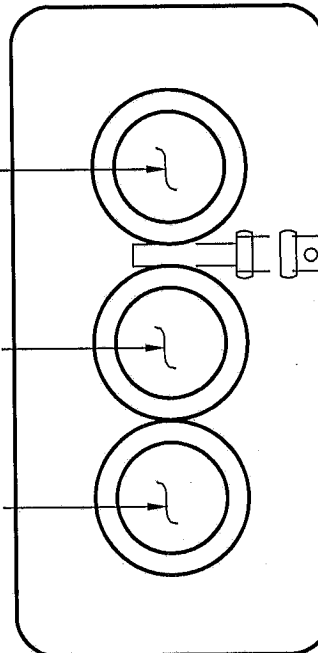


CURB LINE

12" RED (L.E.D., UNLESS OTHERWISE SPECIFIED)

12" AMBER (L.E.D., UNLESS OTHERWISE SPECIFIED)

12" GREEN (L.E.D., UNLESS OTHERWISE SPECIFIED)



2" STANDARD PIPE MAST ARM

NUTS

BRONZE ELEVATOR PLUMBIZER

CONNECTING WASHERS

1/2" CARRIAGE BOLTS & NUTS.

NOTES:

PLUMB AND SECURE SIGNAL HEAD, THEN DRILL 7/16" HOLE THRU MAST ARM IN LINE WITH HOLE IN SLIPFITTER. PLACE 3/8" GALVANIZED BOLT WITH WASHER UNDER HEAD THRU HOLE & SECURE WITH WASHER AND TWO NUTS.

ELEVATOR PLUMBIZER ASSEMBLY  
NO SCALE

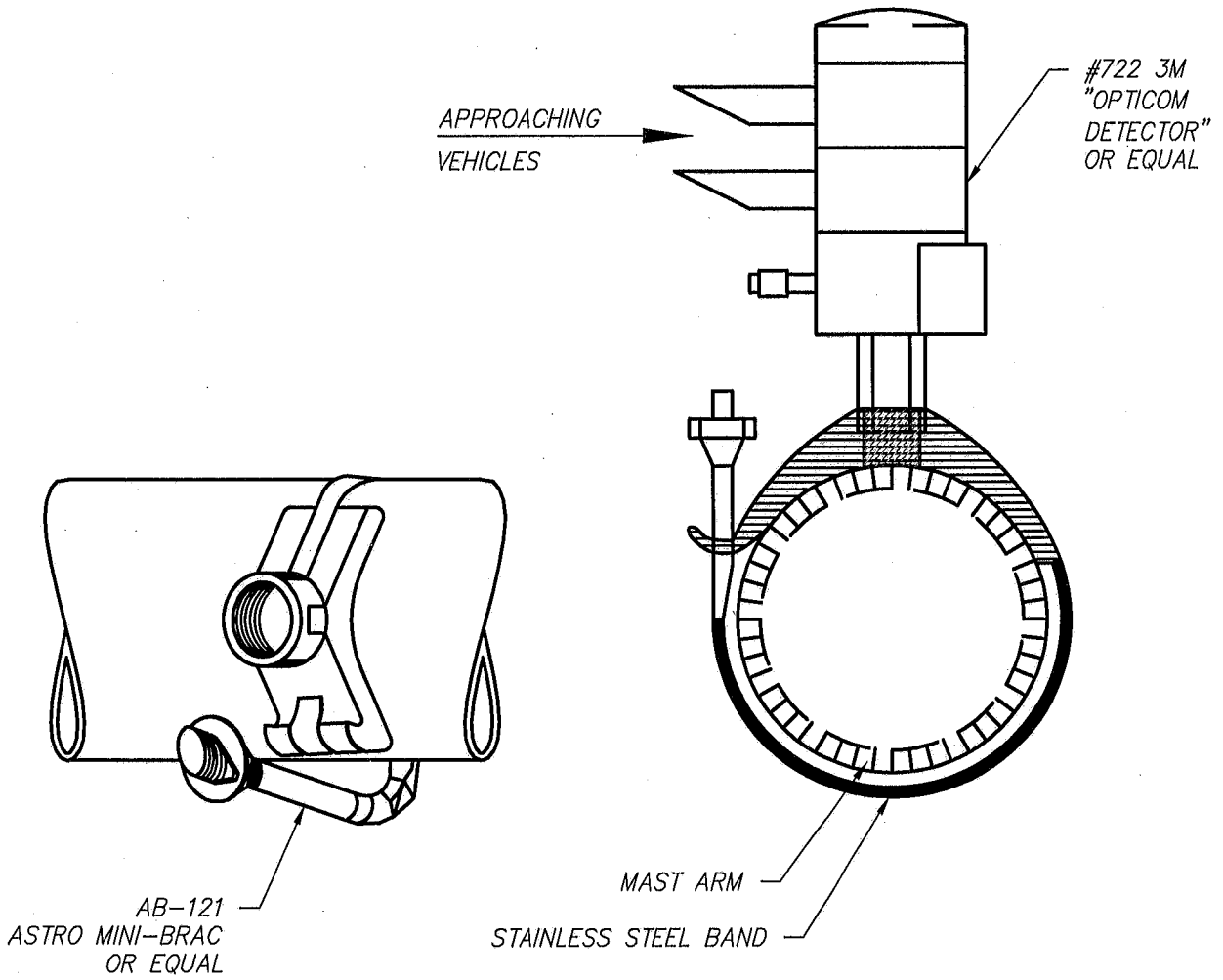
REVISION	BY	APPROVED	DATE
ORIGINAL			12/67
REVISION	CM	CVM	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

SIGNAL HEAD MOUNTING BRACKET  
AND MAST ARM INSTALLATION

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CITY ENGINEER

TRF-05



EMERGENCY VEHICLE PRE-EMPTION (EVPE) DETECTOR  
 NO SCALE MOUNTING DETAILS

REVISION	BY	APPROVED	DATE
ORIGINAL			3/83
REVISION	CM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
 ENGINEERING & CAPITAL PROJECTS  
 STANDARD DRAWING

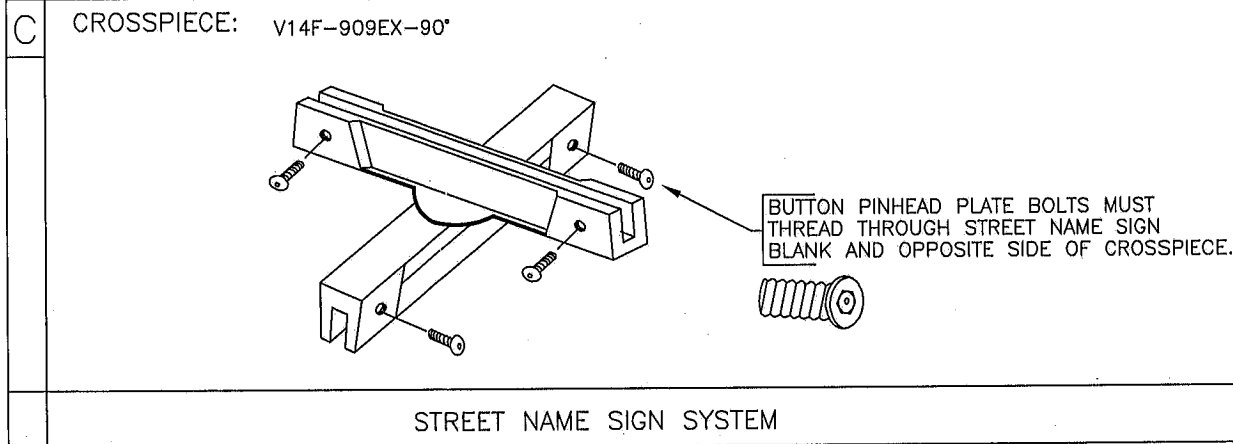
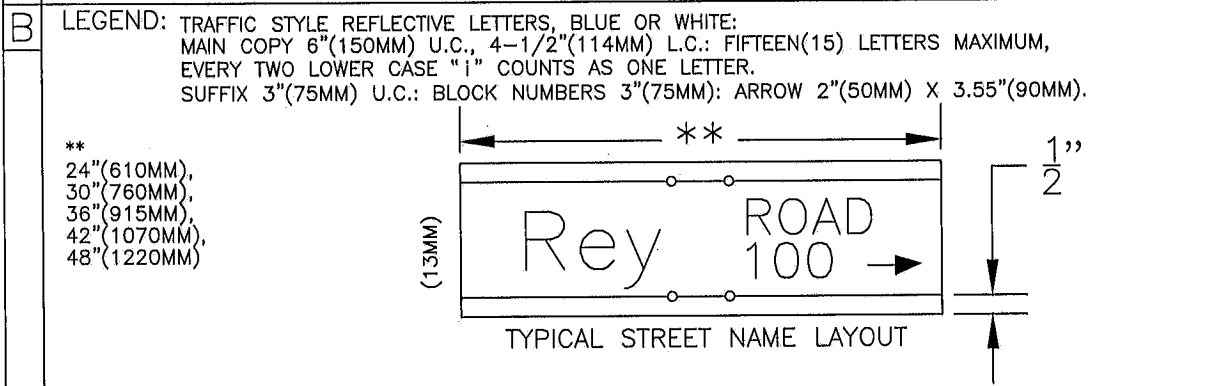
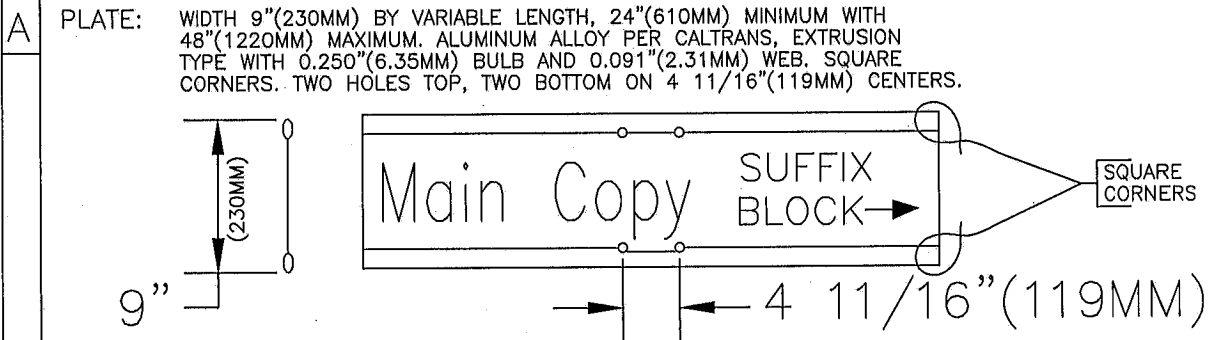
EVPE DETECTOR

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 WILLIAM S. VALLE 11/21/2017  
 CITY ENGINEER

TRF-06

STOCK NO.	SIZE	MATERIAL & FINISH CODE		BORDER
V14F-909EX-2C1P V14F-909EX-2C2P	9" HEIGHT BY VARIABLE LENGTH 24" MINIMUM	ALUMINUM EXTRUSION PER CALTRANS 6061T6 OR 5052-H38 ALLOY MATERIAL .250" BULB WITH .091" WEB ONLY		3/8" (9.53MM)
LETTER COLOR	BK/GR COLOR	HOLES	HOLE $\varnothing$	RADIUS
REFLECTIVE WHITE *REFLECTIVE BLUE	REFLECTIVE BLUE *REFLECTIVE WHITE	TWO HOLES TOP & TWO HOLES BOTTOM	4-11/16" ON CENTERS	SQUARE CORNERS

\* FOR PRIVATE STREETS.



SHEET 1 OF 5

REVISION	BY	APPROVED	DATE
ORIGINAL			7/90
REVISION	CM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
 ENGINEERING & CAPITAL PROJECTS  
 STANDARD DRAWING

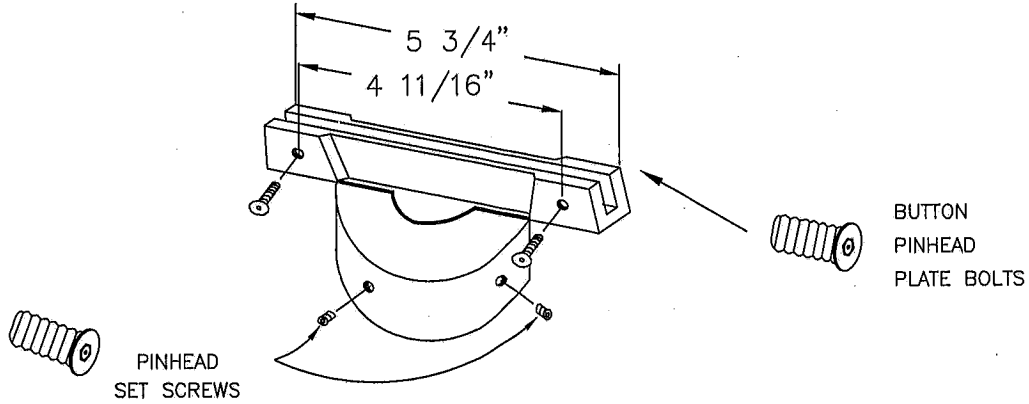
STREET NAME SIGNS

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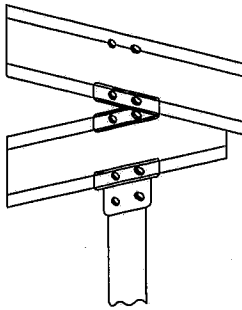
TRF-07



D CAP: V14F-909EX-2C TO FIT 2" I.D. GALVANIZED STEEL PIPE



E MOUNTING: V14F-90EX-2C2P ILLUSTRATED



F SPECIFICATION: V14F-909EX-2C1P ONE NAME ASSEMBLY OR  
V14F-909EX-2C2P TWO NAME ASSEMBLY

9" WIDTH x VARIABLE, 24" LENGTH MINIMUM, 48" MAXIMUM LENGTH. EXTRUSION TYPE ALUMINUM BLADE WITH .250" BULB AND .091" WEB. REFLECTIVE BLUE BACKGROUND, DOUBLE FACED. SQUARE CORNER. TWO HOLES TOP, TWO HOLES BOTTOM ON 4 11/16" CENTERS.

TRAFFIC STYLE LETTERS REFLECTIVE WHITE 6" U.C. AND 4 1/2" L.C. MAIN COPY. SUFFIX 3" U.C. ON TOP LINE, 3" BLOCK NUMBERS SECOND LINE WITH 2" x 3.55" ARROW TO THE RIGHT.

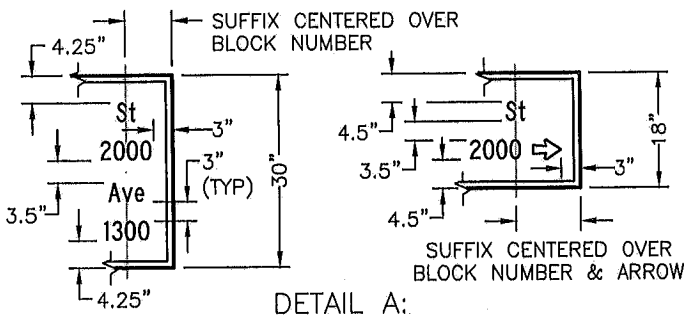
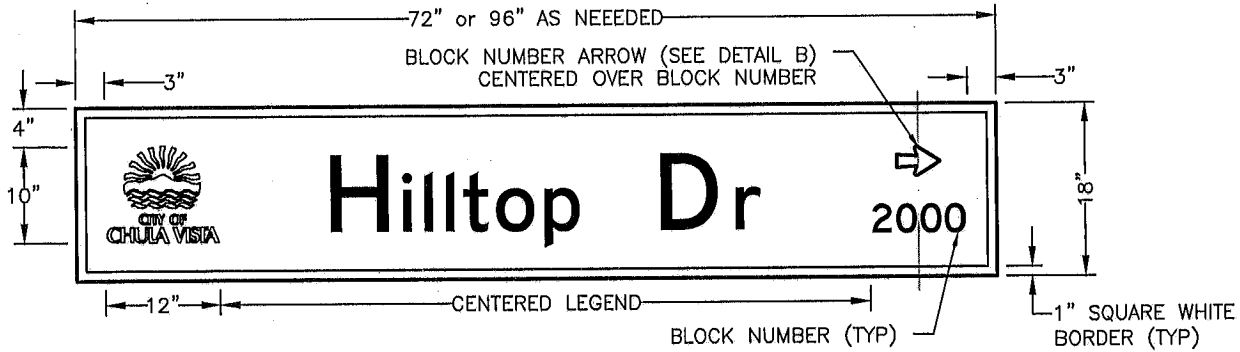
90° CROSS PIECE COMPLETE WITH BUTTON PIN HEAD PLATE BOLTS. BOLTS MUST THREAD THROUGH STREET NAME SIGN BLANK AND OPPOSITE SIDE OF CROSSPIECE. CAP TO FIT 2" I.D. PIPE, WITH PIN HEAD SET SCREWS AND BUTTON PIN HEAD PLATE BOLTS, PURSUANT TO CITY OF CHULA VISTA SPECIFICATIONS.

STREET NAME SIGN SYSTEM

NOTE: FORMERLY CVDS 35  
NOTE: FORMERLY CVDS 33

SHEET 2 OF 5

REVISION	BY	APPROVED	DATE	CITY OF CHULA VISTA ENGINEERING & CAPITAL PROJECTS STANDARD DRAWING	 WILLIAM S. VALLE 11/21/2017 CITY ENGINEER
ORIGINAL			7/72		
REVISION	CM	C. SWANSON	11/02		
REVISION	DPH	W. VALLE	11/17		
STREET NAME SIGNS DETAILS				TRF-07	

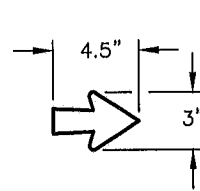


DETAIL A:  
SUFFIX PLACEMENT RESTRICTIVE CONDITIONS

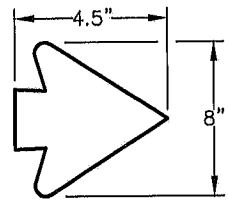
NOTES:

1. DG3 REFLECTIVE SHEETING PER ASTM D 4956 TYPE XI STANDARDS
2. GREEN BACKGROUND WITH WHITE FHWA HIGHWAY GOTHIC FONT. STREET NAME 8" UPPERCASE AND 6" LOWERCASE. BLOCK NUMBER 3".
3. 0.05 ALUMINUM SUBSTRATE
4. RELATIVE DIMENSIONS FOR BLOCK AND STREET NAME ARROWS (DETAILS B AND C) PER STANDARD HIGHWAY SIGN AND MARKINGS DETAIL S-2

GUIDANCE FOR FONT SERIES, SIGN SIZE AND PLACEMENT: DEFAULT TO AN 18" X 72" SIGN BLANK AND SERIES E FONT. PLACE ABBREVIATED SUFFIX IN-LINE WITH STREET NAME. FOR ALPHA STREET NAMES ONLY, SPELL OUT "STREET". TO ACHIEVE LEGEND FIT USE THE FOLLOWING IN ORDER OF PRIORITY: 1.) SERIES D 2.) ABBREVIATIONS (SEE DETAIL CVD-TRXX SHEET 3) 3.) SERIES C FONT. 4.) 96" X 18" SIGN BLANK WITH SERIES E FONT FOLLOWED BY D, C AND B SERIES. 5.) STACK STREET SUFFIX OVER THE BLOCK NUMBER AND ARROW USING 3" FONT (SEE DETAIL A). USE SERIES E FONT FOLLOWED BY D, C AND B SERIES. ONLY ONE SERIES FONT SHALL BE USED PER SIGN.



DETAIL B:  
BLOCK NUMBER  
ARROW



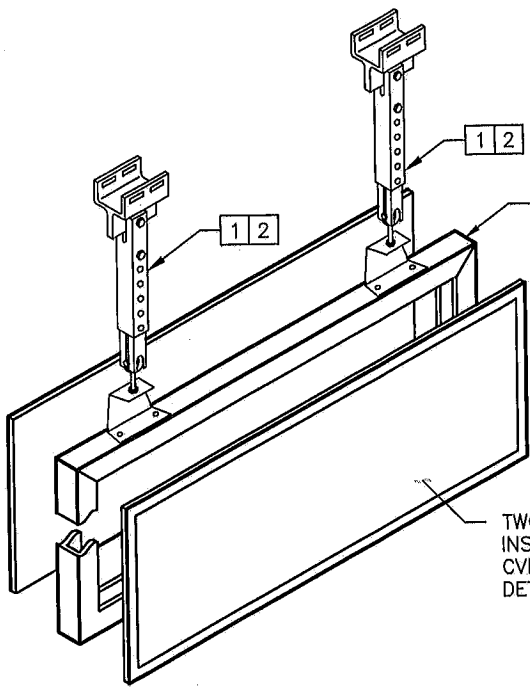
DETAIL C:  
STREET NAME  
DIRECTIONAL  
ARROW

REVISION	BY	APPROVED	DATE
ORIGINAL	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

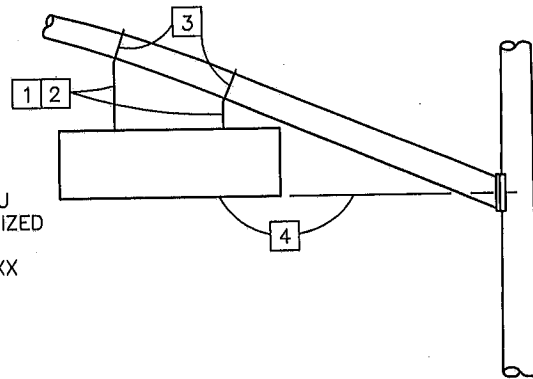
OVERHEAD STREET NAME SIGNS

*William S. Valle*  
WILLIAM S. VALLE 11/21/2017  
CITY ENGINEER  
TRF-07



0.50 ALUMINUM U CHANNEL GALVANIZED PER CALTRANS SPECIFICATION XXX

TWO SIGNS PER DUAL SIDED INSTALLATION. SEE DETAIL CVD-TRXX SHEET 1 FOR SIGN DETAILS.



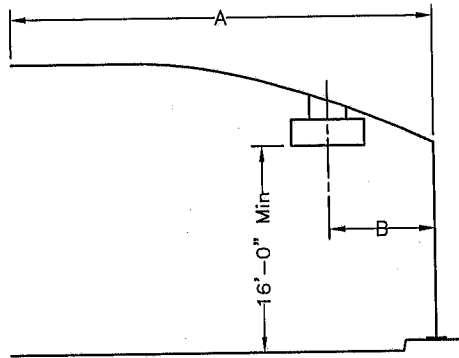
DETAIL E:  
SIGN MOUNTING

DETAIL D:  
SIGN FRAME AND ATTACHMENT

NOTES:

1. BRACKET, 1/4" X 1 1/2" MINIMUM, LENGTH VARIABLE
2. BRACKET, 2-PIECE ADJUSTABLE. 1/4" X 1 1/2" MINIMUM. TWO 1/2" Ø HEXAGON HEAD BOLTS WITH NUTS AND LOCKWASHERS
3. 3/4" X 0.02" 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.
4. ADJUST FIXTURE LEVEL NO LOWER THAN CENTER OF SIGNAL MAST ARM CONNECTION.

NOTES THIS PAGE ARE FOR REFERENCE ONLY. USE CALTRANS STANDARD DRAWING ES-7P FOR THE LATEST STANDARD DETAILS FOR SIGN HARDWARE, PLACEMENT AND NOTES.



DETAIL F:  
SIGN PLACEMENT

SIGN PLACEMENT

A	B	
PROJECTED LENGTH	72" SIGN	96" 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"	12'-6"	13'-6"
45'-0"		
50'-0"		
55'-0"		
60'-0"		
65'-0"		

REVISION	BY	APPROVED	DATE
ORIGINAL	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

OVERHEAD STREET NAME SIGN  
DETAILS

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CITY ENGINEER

NAME TO BE  
ABBREVIATED ABBREVIATION

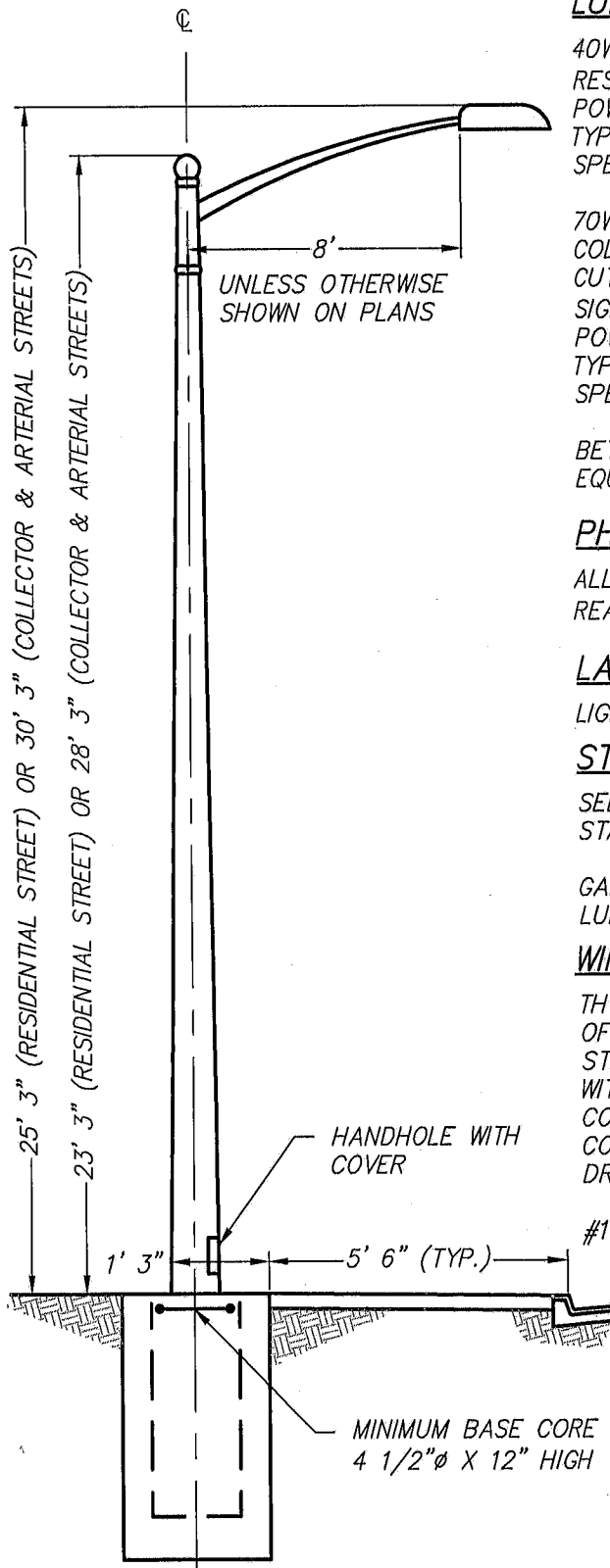
Avenida	Avd
Avenue	Ave
Boulevard	Blvd
Calle	Cl
Callejon	Clj
Caminito	Cmto
Camino	Cam
Center	Ctr
Circle	Cir
Corte	Cte
Court	Ct
Creek	Ck
Drive	Dr
East	E
Elementary	Elem
Entrance	Ent
Estate	Est
Freeway	Fwy
Gardens	Gdns
Heights	Hts
Highlands	Hghlds
Highway	Hwy
Lake	Lk
Lane	Ln
Loop	Lp
Meadow	Mdw
Mount	Mt
Mountain	Mnt
North	N
Park	Pk

NAME TO BE  
ABBREVIATED ABBREVIATION

Parkway	Pkwy
Paseo	Pas
Place	Pl
Plaza	Plz
Rambla	Rmbla
Ranch	Rch
Rancho	Rcho
Ridge	Rdg
River	Riv
Road	Rd
Saint	St
Santa	Snta
School	Sch
South	S
Spring	Spg
Springs	Spgs
Station	Sta
Street	St
Summit	Smt
Terrace	Ter
Trail	Tr
Truck Trail	TT
Valley	Vly
View	Vw
Village	Vlg
Vista	Vis
Way	Wy
West	W
Driveway	Dwy

SHEET 5 OF 5

REVISION	BY	APPROVED	DATE	CITY OF CHULA VISTA ENGINEERING & CAPITAL PROJECTS STANDARD DRAWING	<i>William S. Valle</i> WILLIAM S. VALLE 11/21/2017 CITY ENGINEER
ORIGINAL	DPH	W. VALLE	11/17		
				OVERHEAD STREET NAME SIGN ABBREVIATIONS	TRF-07



**LUMINAIRE:**

40W-60W L.E.D. LUMINAIRE WITH CUT-OFF OPTICS ON RESIDENTIAL STREET. USE MULTI-VOLT (120V/240V) POWER SUPPLY, TWIST-LOCK P.E.C. RECEPTACLE AND I.E.S. TYPE II LIGHT DISTRIBUTION PATTERN UNLESS OTHERWISE SPECIFIED.

70W-90W L.E.D. LUMINAIRE WITH CUT-OFF OPTICS ON COLLECTOR STREET. 100W-150W L.E.D. LUMINAIRE WITH CUT-OFF OPTICS ON ARTERIAL STREET AND ON TRAFFIC SIGNAL SAFETY LIGHTING. USE MULTI-VOLT (120V/240V) POWER SUPPLY, TWIST LOCK P.E.C. RECEPTACLE AND I.E.S. TYPE III LIGHT DISTRIBUTION PATTERN UNLESS OTHERWISE SPECIFIED.

BETALED, GE, LED ROADWAY, LEOTEK, OR APPROVED EQUAL.

**PHOTO ELECTRIC CONTROL:**

ALL LUMINAIRES/FIXTURES SHALL BE "ADAPTIVE CONTROL READY" PER CITY OF CHULA VISTA SPECIFICATIONS.

**LAMP:**

LIGHT EMITTING DIODE (L.E.D.)

**STANDARD:**

SEE SECTION 307 OF THE CITY OF CHULA VISTA STANDARD SPECIAL PROVISIONS. TWO-INCH STANDARD

GALVANIZED STEEL OR ALUMINUM PIPE BRACKET FOR LUMINAIRE. HANDLE TO FACE STREET.

**WIRING:**

THW STRANDED COPPER TO SERVICE POINT. NEUTRAL LEG OF LIGHTING CONDUCTORS GROUNDED IN BASE OF STANDARD. HOT LEG OF LIGHTING CONDUCTORS FUSED WITH 10-AMPERE MIDGET FERRULE TYPE FUSE IN PLUG CONNECTOR, IN BASE OF STANDARD. SIZE ALL CONDUCTORS FOR MAXIMUM THREE PERCENT VOLTAGE DROP IN ALL STREET LIGHT CIRCUITS.

#10 THW STRANDED COPPER IN STANDARD.

**GENERAL NOTES:**

1. LUMINAIRE & PHOTO CELL SHALL BE APPROVED BY CITY ENGINEER PRIOR TO INSTALLATION.
2. STREET LIGHT PLANS SHALL SHOW WIRING FROM SERVICE POINT TO STREET LIGHTS, AND SHALL BE APPROVED BY CITY ENGINEER PRIOR TO INSTALLATION.

**FOUNDATION & GROUNDING:**

SEE TRF-08  
REFER TO MANUFACTURER'S DETAIL FOR ANCHOR BOLT SPACING.

SHEET 1 OF 3

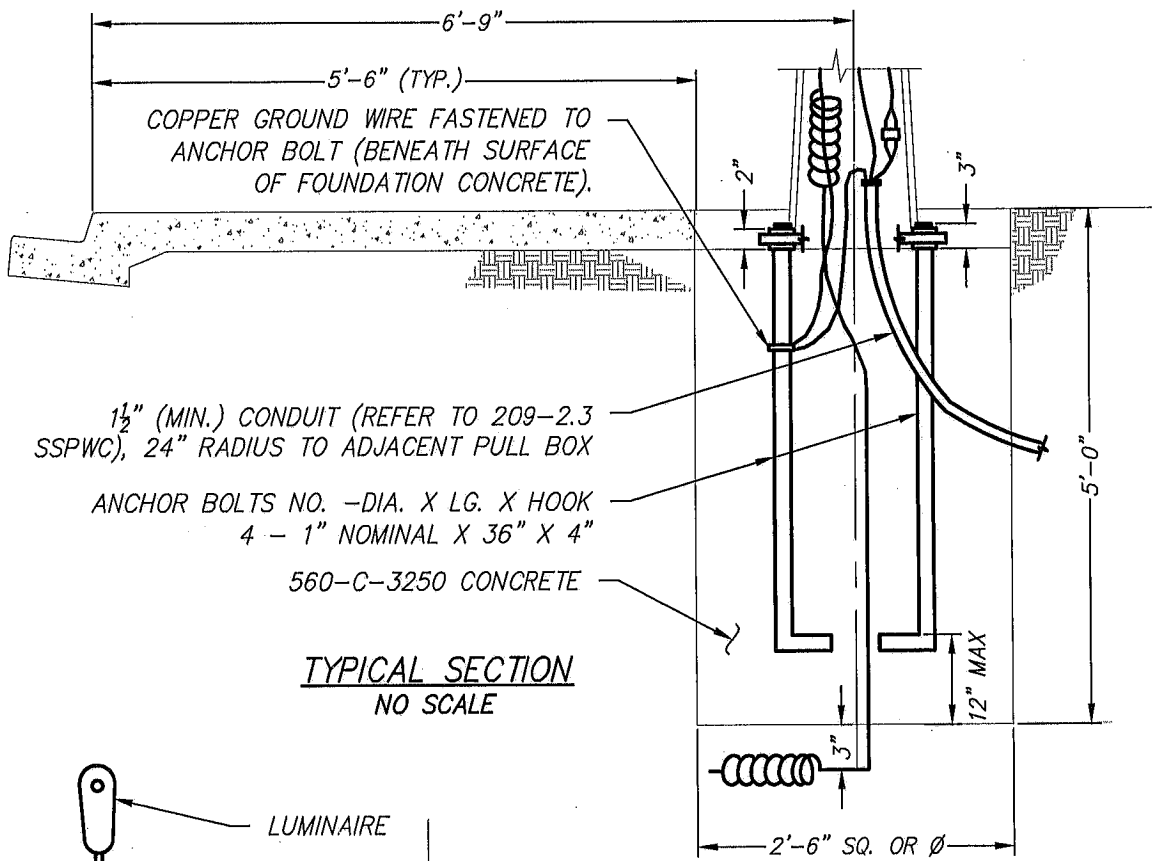
REVISION	BY	APPROVED	DATE
ORIGINAL			7/80
REVISION	CVM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

*William S. Valle*  
WILLIAM S. VALLE 11/21/2017  
CITY ENGINEER

STREET LIGHTING STANDARD

TRF-08

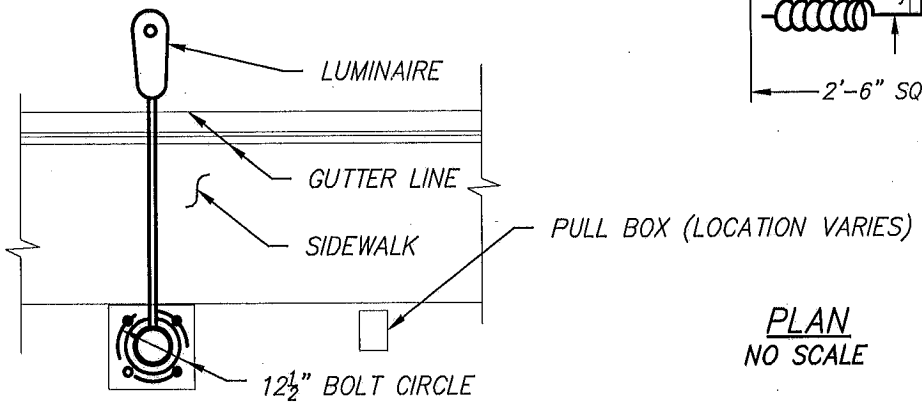


1 1/2" (MIN.) CONDUIT (REFER TO 209-2.3 SSPWC), 24" RADIUS TO ADJACENT PULL BOX

ANCHOR BOLTS NO. -DIA. X LG. X HOOK  
4 - 1" NOMINAL X 36" X 4"

560-C-3250 CONCRETE

TYPICAL SECTION  
NO SCALE

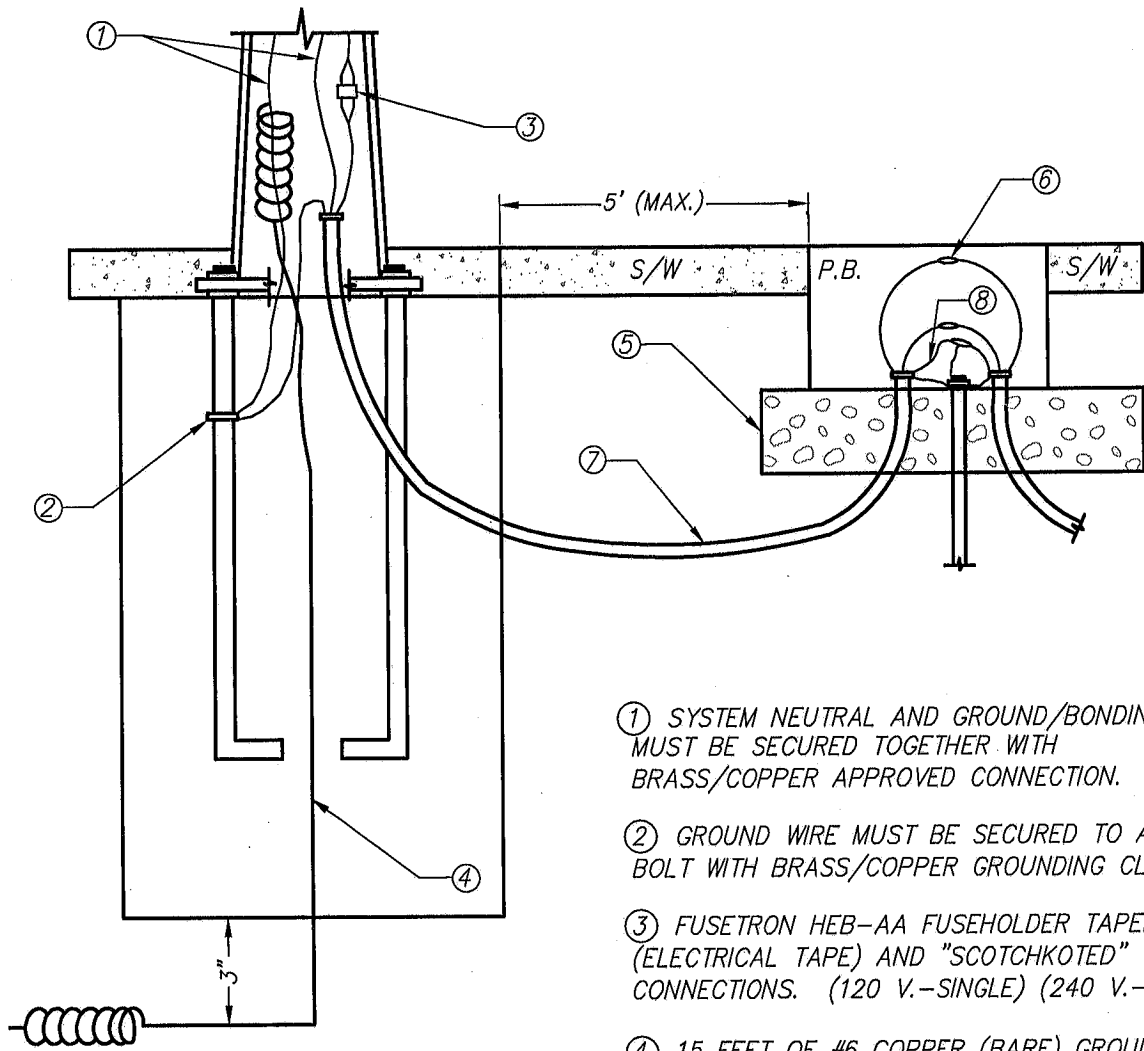


PLAN  
NO SCALE

**NOTES:**

1. CONDUIT SHOULD BE RIGID STEEL OR PVC SCHEDULE 80, PLACED 30" TO 60" DEEP IN THE STREET OR 18" TO 36" DEEP BEHIND CURB LINE. REFER TO CHULA VISTA CONSTRUCTION STANDARD DWG. TRF-08 - STREET LIGHTING STANDARD.
2. WIRING - MINIMUM #8 THW STRANDED COPPER, 5/64" INSULATION TO SERVICE POINT. TWO CONDUCTORS: [1-RED OR BLACK, 1-WHITE (NEUTRAL), 120 VOLT] [2-RED OR BLACK, 1-GREEN #6, 240 VOLT], #10 THW STRANDED COPPER IN THE STANDARD.
3. EACH ANCHOR BOLT SHALL BE PROVIDED WITH 2 NUTS AND 2 WASHERS, GALVANIZED. THE TOP 8" OF ALL ANCHOR BOLTS AND ALL NUTS SHALL BE GALVANIZED. COMPLETED INSTALLATION WHEREIN ENDS OF ANCHOR BOLTS ARE EXPOSED SHALL HAVE BOLT ENDS CUT AND GROUND DOWN TO MAXIMUM EXPOSED LENGTH OF 1/4" ABOVE ANCHOR NUTS. BEVEL SHARP EDGES OF BOLTS.
4. SQUARE FOUNDATIONS SHALL BE INSTALLED IN NON-GRANULAR CLAY SOILS. CIRCULAR FOUNDATIONS MAY BE INSTALLED IN COURSE GRANULAR SOIL.
5. PULL BOXES SHALL BE PER CITY OF CHULA VISTA CONSTRUCTION STANDARD DWG. TRF-09.
6. STREET LIGHTING STD. (ELECTRICAL DETAILS) SHALL BE PER TRF-08.

REVISION	BY	APPROVED	DATE	CITY OF CHULA VISTA ENGINEERING & CAPITAL PROJECTS STANDARD DRAWING	<i>William S. Valle</i> WILLIAM S. VALLE 11/21/2017 CITY ENGINEER
ORIGINAL			3/83		
REVISION	CVM	C. SWANSON	11/02		
REVISION	DPH	W. VALLE	11/17		
				STREET LIGHT STANDARD FOUNDATION DETAIL	TRF-08



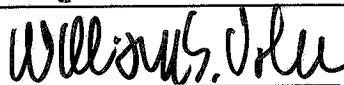
- ① SYSTEM NEUTRAL AND GROUND/BONDING WIRE MUST BE SECURED TOGETHER WITH BRASS/COPPER APPROVED CONNECTION.
- ② GROUND WIRE MUST BE SECURED TO ANCHOR BOLT WITH BRASS/COPPER GROUNDING CLAMP.
- ③ FUSETRON HEB-AA FUSEHOLDER TAPED (ELECTRICAL TAPE) AND "SCOTCHKOTED" AT CONNECTIONS. (120 V.-SINGLE) (240 V.-DUAL).
- ④ 15 FEET OF #6 COPPER (BARE) GROUND WIRE TO BE INSTALLED 3" BELOW THE FOUNDATION AND EXTENDED THROUGH THE @ NOTE 1.
- ⑤ GRAVEL BASE FOR PULL BOXES TO BE 6" DEEP AND 3" BEYOND THE EDGE OF THE PULL BOX. (SEE TRF-09).
- ⑥ ALL CONNECTIONS ARE TO BE TAPED (ELECTRICAL TAPE) AND "SCOTCHKOTED".
- ⑦ IF RIGID CONDUIT IS USED, IT SHALL BE BONDED TO THE NEUTRAL AND THE GROUND WIRE.
- ⑧ IF 240 V. SYSTEM, GROUND WIRE IS REQUIRED.

**MINIMUM WIRE SPECIFICATIONS:**

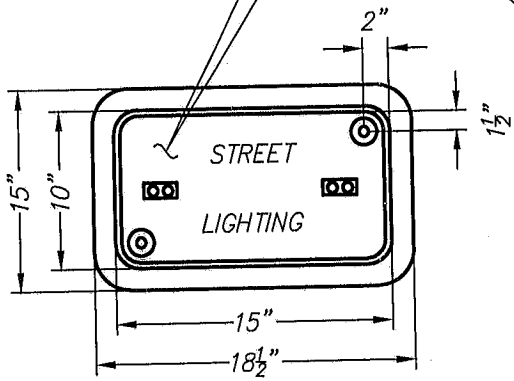
SERVICE RUN: #8 COPPER THW  
 STRANDED POLE: #10 COPPER THW  
 STRANDED GROUND AND BONDING: #6 COPPER (BARE)

**STREET LIGHTING ELECTRICAL DETAILS:**

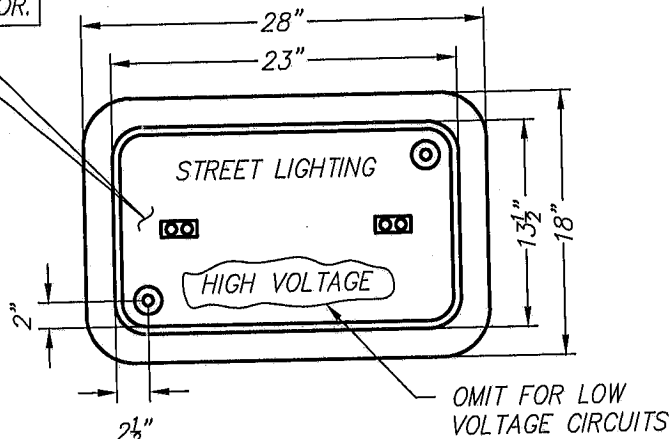
SEE CHULA VISTA CONSTRUCTION STANDARDS NO. TRF-08, TRF-08, TRF-09, AND TRF-09 FOR CONSTRUCTION DETAILS.

REVISION	BY	APPROVED	DATE	CITY OF CHULA VISTA ENGINEERING & CAPITAL PROJECTS STANDARD DRAWING  STREET LIGHTING STANDARD ELECTRICAL DETAILS	 WILLIAM S. VALLE CITY ENGINEER
ORIGINAL			12/85		
REVISION	CVM	C. SWANSON	11/02		
REVISION	DPH	W. VALLE	11/17		
TRF-08					

INSCRIBE "TRAFFIC SIGNAL" WHEN CONTAINING SIGNAL CONDUCTOR.

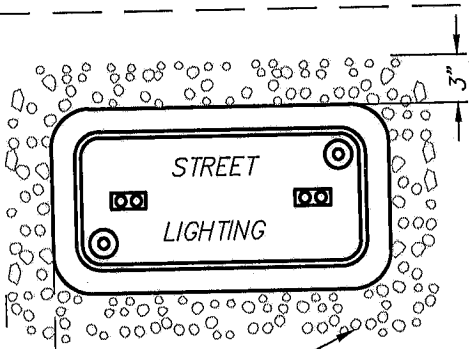


#3 1/2 P.B.



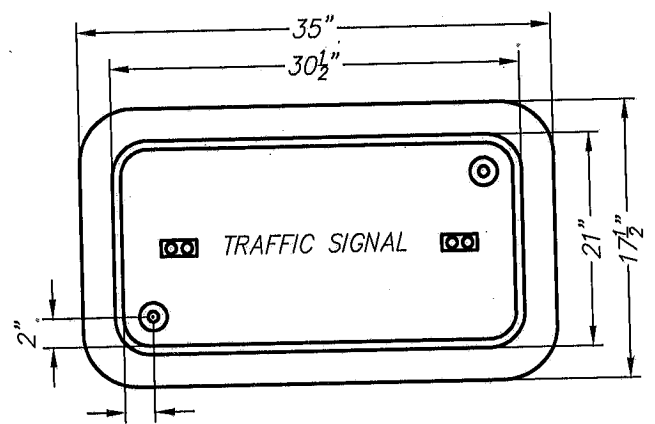
#5 P.B.

OMIT FOR LOW VOLTAGE CIRCUITS

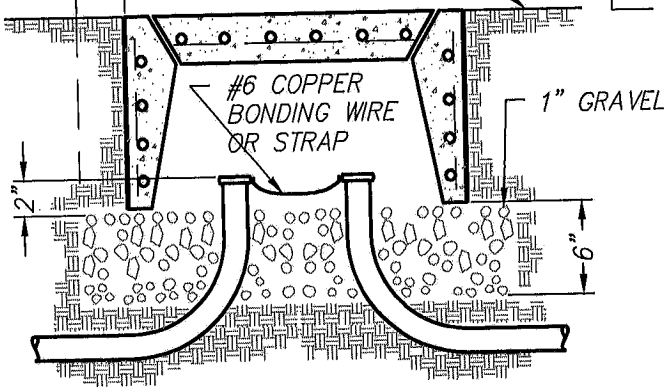


1" GRAVEL

TOP OF CURB OR SIDEWALK GRADE



#6 P.B.



#6 COPPER BONDING WIRE OR STRAP

1" GRAVEL

**PULL BOX REQUIREMENTS:**

CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 86-2.06.

**CHULA VISTA REQUIRED PULL BOX LOCATIONS:**

1. ADJACENT TO SERVICE POINTS, TRANSFORMERS.
2. ADJACENT TO EVERY STREET LIGHTING STANDARD.
3. BOTH SIDES OF STREET CROSSINGS.
4. WHEN THE SERVICE POINT IS WITHIN 20' FEET OF THE STREET LIGHTING STANDARD, ONE PULL BOX IS SUFFICIENT.
5. TRAFFIC SIGNAL AND TELEPHONE INTERCONNECT: PULL BOXES SHALL BE #5 MINIMUM.

**NOTES:**

STEEL REINFORCING SHALL BE AS REGULARLY USED IN THE STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER. PULL BOXES NOT TO BE CONSTRUCTED IN DRIVEWAY APPROACHES.

ALL BOXES IN VEHICLE TRAVEL WAY SHALL HAVE A TRAFFIC LOAD BEARING COVER.

REVISION	BY	APPROVED	DATE
ORIGINAL			12/67
REVISION	CM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

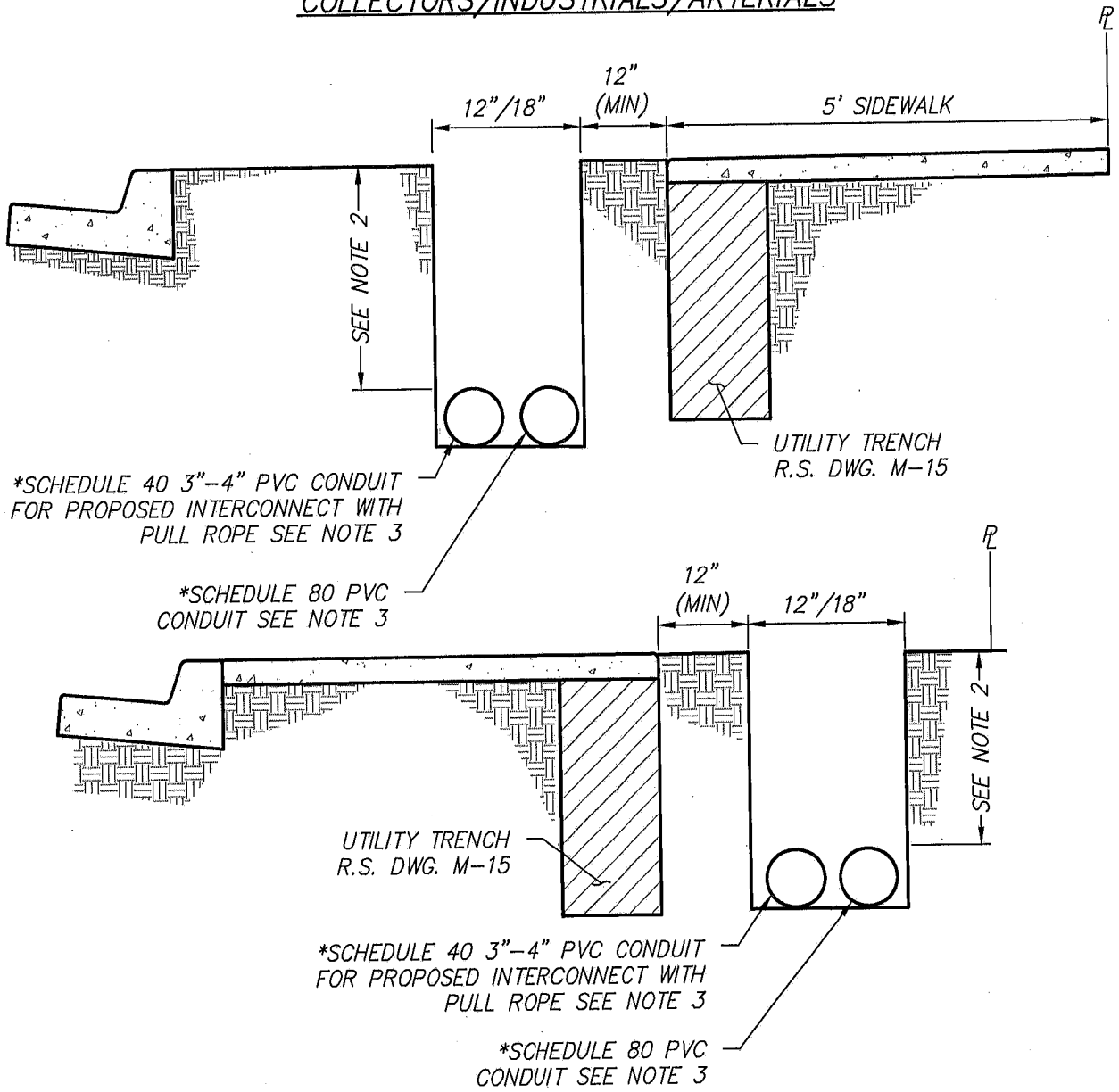
*William S. Valle*  
WILLIAM S. VALLE 11/21/2017  
CITY ENGINEER

PULL BOXES

TRF-09



COLLECTORS/INDUSTRIALS/ARTERIALS



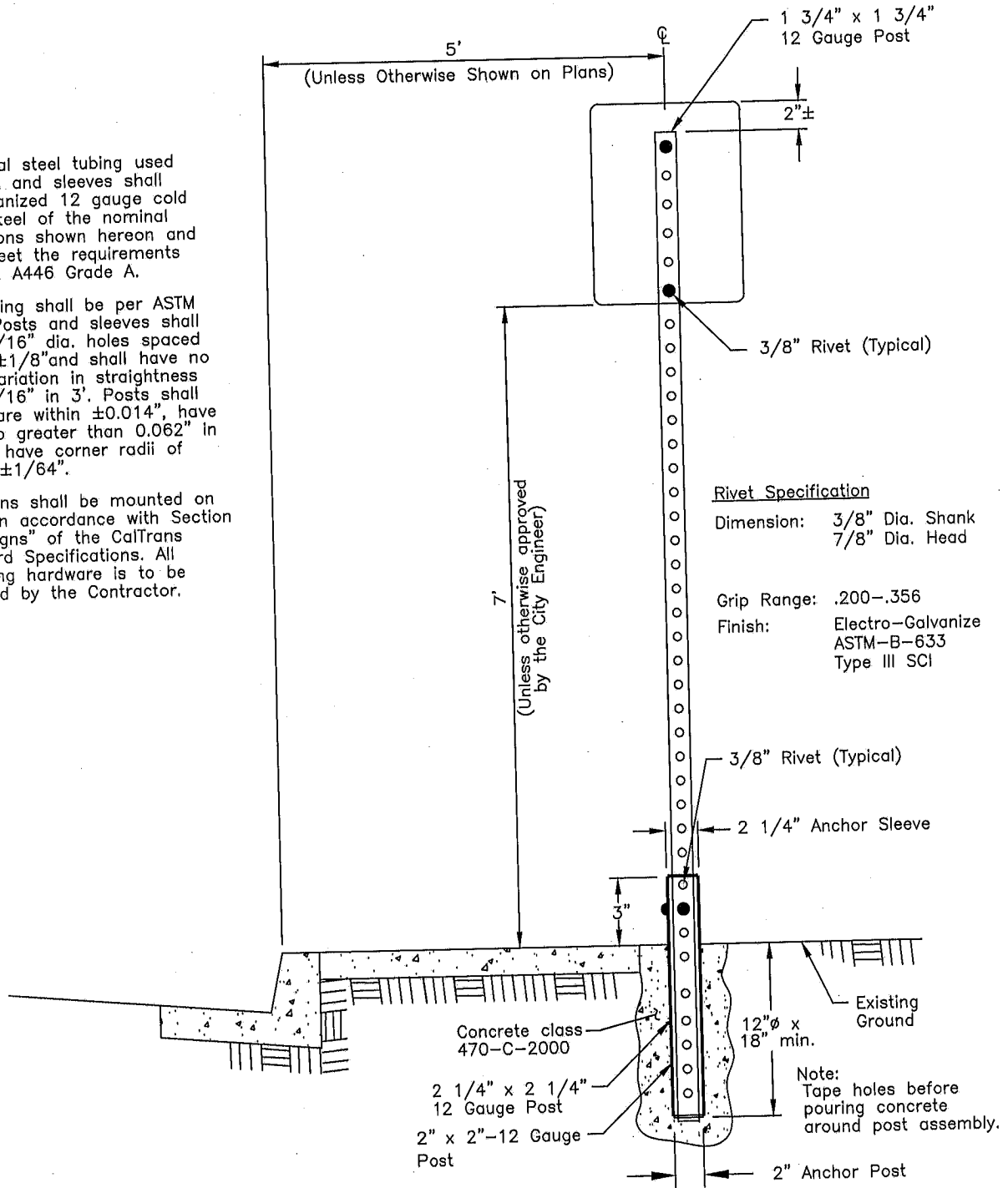
STREET LIGHT/TRAFFIC SIGNAL CONDUIT TRENCH - 18" DEEP MIN.  
NOT TO SCALE

1. BACKFILL TO BE COMPACTED 90%.
2. CONDUIT SHALL BE PLACED A MINIMUM OF 30" BELOW GRADE IN STREET, AND A MINIMUM OF 18" BELOW GRADE BEHIND CURB.
3. PULL ROPE SHALL BE INSTALLED FOR FUTURE STREET LIGHT/TRAFFIC SIGNALS/INTERCONNECT.
4. CONDUCTOR TYPE & QUANTITY AS APPROVED BY CITY ENGINEER.
5. SEE TRF-09 FOR PULL BOX DETAILS.
6. \* FOR COLLECTOR/INDUSTRIAL/ARTERIAL ROADWAYS USE AN 18" WIDE TRENCH.

REVISION	BY	APPROVED	DATE	CITY OF CHULA VISTA ENGINEERING & CAPITAL PROJECTS STANDARD DRAWING	<i>William S. Valle</i> WILLIAM S. VALLE CITY ENGINEER	
ORIGINAL			8/78			
REVISION	CM	C. SWANSON	11/02			
REVISION	DPH	W. VALLE	11/17			
				STREET LIGHT & TRAFFIC SIGNAL CONDUIT TRENCH	11/21/2017 TRF-09	

**NOTES:**

1. Structural steel tubing used for post and sleeves shall be galvanized 12 gauge cold rolled steel of the nominal dimensions shown hereon and shall meet the requirements of ASTM A446 Grade A.
2. Galvanizing shall be per ASTM A525. Posts and sleeves shall have 7/16" dia. holes spaced 1" o.c.  $\pm 1/8"$  and shall have no more variation in straightness than 1/16" in 3'. Posts shall be square within  $\pm 0.014"$ , have twist no greater than 0.062" in 3' and have corner radii of 5/32"  $\pm 1/64"$ .
3. The signs shall be mounted on posts in accordance with Section 56, "Signs" of the CalTrans Standard Specifications. All fastening hardware is to be provided by the Contractor.



**Rivet Specification**

Dimension: 3/8" Dia. Shank  
7/8" Dia. Head

Grip Range: .200-.356

Finish: Electro-Galvanize  
ASTM-B-633  
Type III SCl

SHEET 1 OF 2

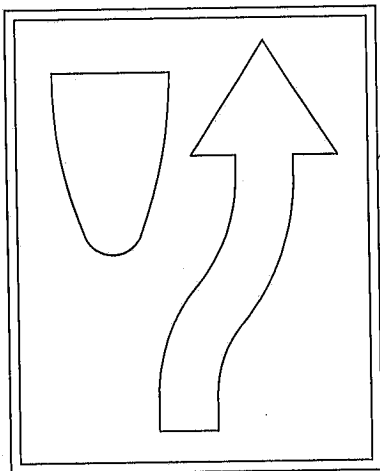
REVISION	BY	APPROVED	DATE
ORIGINAL			2/95
REVISION	CVM	C. SWANSON	11/02
REVISION	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

*William S. Valle*  
WILLIAM S. VALLE 11/21/2017  
CITY ENGINEER

BREAK-AWAY SIGN POST

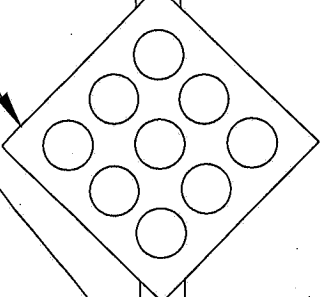
TRF-10



R4-7 KEEP RIGHT SIGN

OM1-1 SIGN

1.75", 12 GAUGE SQ. STEEL TUBING, PRE-GALVANIZED PERFORATED 7/16" DIAMETER HOLES AT 1" O.C. ON 4 SIDES

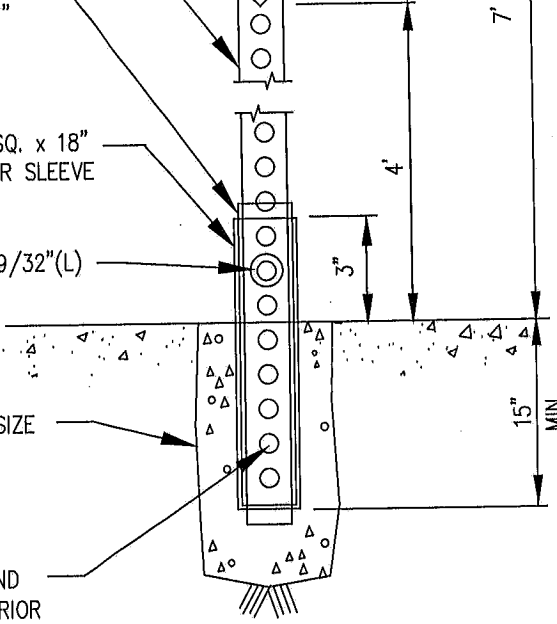


7' MIN.

2" x 2" x 18" (MIN.) ANCHOR TO BE 36" WHEN NOT SET IN CONCRETE.

2 1/4" SQ. x 18" STIFFENER SLEEVE

RIVET 3/8"(D) x 19/32"(L)



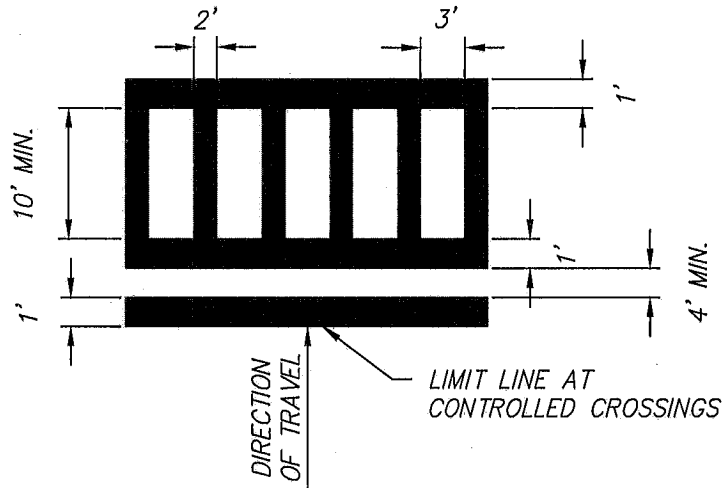
FOUNDATION SIZE 6" x 18" (MIN.)

TAPE HOLES AROUND POST ASSEMBLY PRIOR TO POURING CONCRETE.

NO SCALE

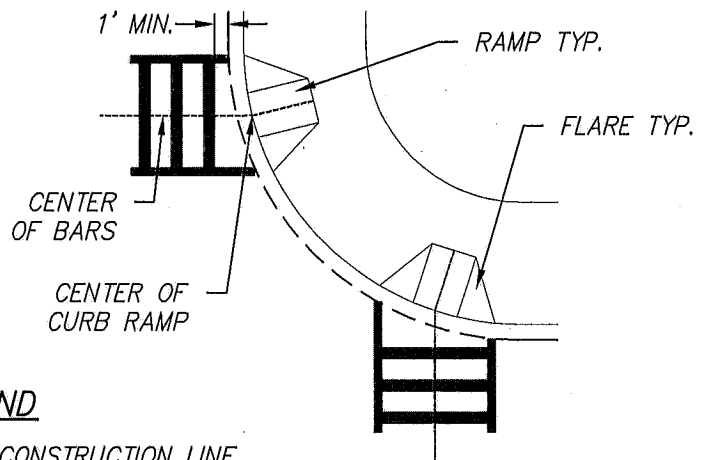
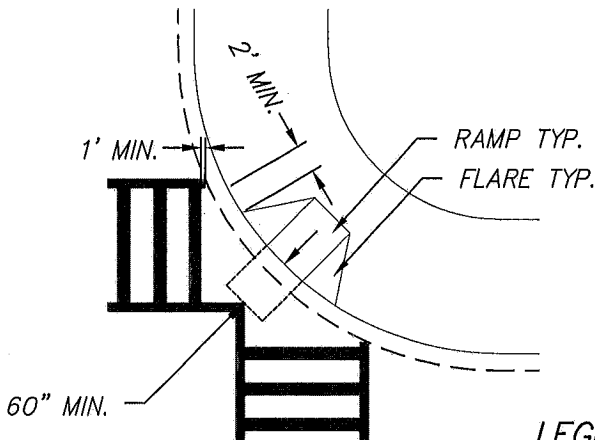
REVISION	BY	APPROVED	DATE	CITY OF CHULA VISTA ENGINEERING & CAPITAL PROJECTS STANDARD DRAWING	<i>William S. Valle</i> WILLIAM S. VALLE CITY ENGINEER
ORIGINAL	DPH	W. VALLE	11/17		
				BREAKAWAY POST ON MEDIAN	TRF-10

TYPICAL LADDER CROSSWALK MARKINGS



SINGLE RAMP CORNER

DUAL RAMP CORNER



LEGEND

- CONSTRUCTION LINE
- ==== CURB & GUTTER
- CROSSWALK BAR (2' WIDE)

GENERAL NOTES:

1. MARKED CROSSWALKS SHALL BE WHITE OR YELLOW THERMOPLASTIC (AS REQUIRED) AND SHALL HAVE LADDER MARKINGS UNLESS APPROVED OTHERWISE.
2. MARKED CROSSWALK LOCATIONS CONSISTING OF BRICK PAVERS OR OTHER DECORATIVE PAVING SHALL BE PROVIDED WITH A LIMIT LINE ONLY.
3. SIGNALIZED INTERSECTIONS SHALL BE PROVIDED WITH A MARKED CROSSWALK ACROSS EACH LEG WHERE PEDESTRIANS ARE PERMITTED TO CROSS.
4. LONGITUDINAL LINES IN A LADDER CROSSWALK SHALL BE ANGLED PARALLEL TO THE DIRECTION OF VEHICULAR TRAVEL.
5. LIMIT LINES SHALL BE INSTALLED A MINIMUM OF 4 FEET IN ADVANCE OF MARKED CROSSWALKS FOR THE APPROACH LANES AT ALL CONTROLLED CROSSINGS.
6. MARKED CROSSWALKS SHOULD BE A MINIMUM OF 10 FEET IN WIDTH, PLACEMENT OF LADDER CROSSWALKS SHALL COMPLY WITH ACCESSIBILITY REGULATIONS PER THE MOST RECENT VERSION OF AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
7. THE CROSSWALK BETWEEN A DUAL RAMP CORNER AND A SINGLE RAMP CORNER SHALL BE AT LEAST 10 FEET WIDE AND SATISFY THE MINIMUM OF 2 FEET BEYOND THE FLARE REQUIREMENT FOR THE SINGLE RAMP.
8. LADDER CROSSWALK BARS SHALL BE UNIFORM WITHIN THE SAME CROSSING. NO PARTIAL BARS SHALL BE INSTALLED.
9. A CROSSWALK BAR SHALL BE CENTERED IN THE CENTER OF THE CROSSING.
10. CROSSWALK MARKINGS SHALL BE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA-MUTCO) RETROREFLECTIVITY COMPLIANT AND SKID RESISTANT.

REVISION	BY	APPROVED	DATE
ORIGINAL	DPH	W. VALLE	11/17

CITY OF CHULA VISTA  
ENGINEERING & CAPITAL PROJECTS  
STANDARD DRAWING

LADDER CROSSWALK MARKINGS  
LAYOUTS AND NOTES

*William S. Valle*

WILLIAM S. VALLE 11/21/2017  
CITY ENGINEER

TRF-11