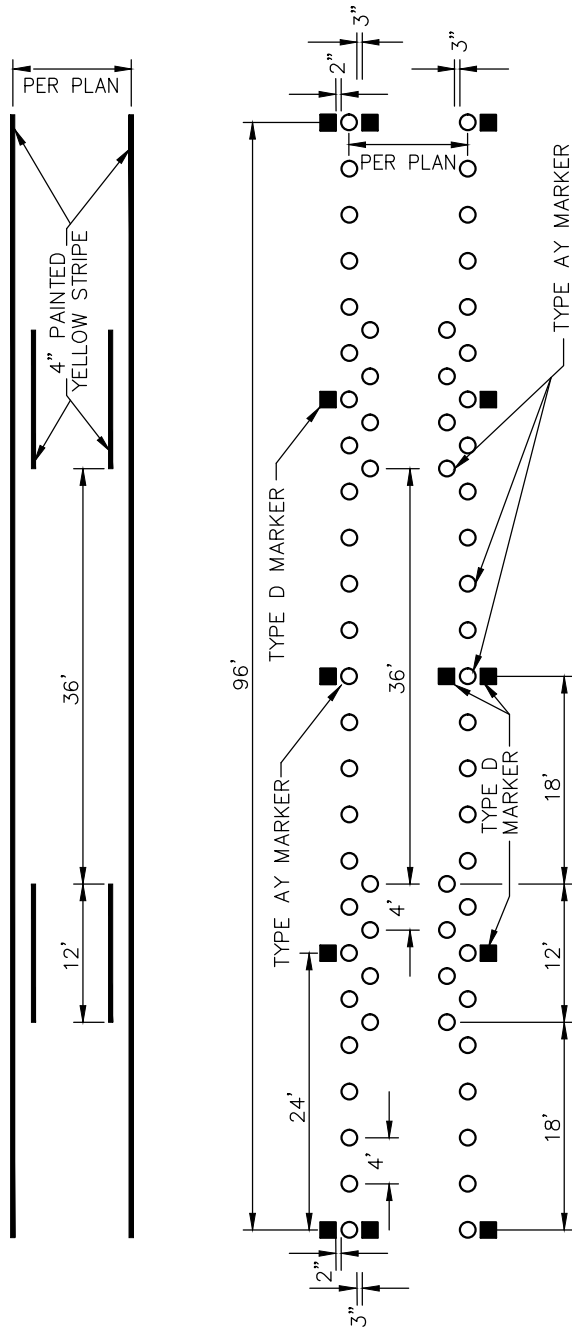




CITY OF GARDEN GROVE PUBLIC WORKS STANDARD PLANS

SERIES B-300 TRAFFIC AND LIGHTING

- B-301 STREET SIGN FOR PUBLIC STREETS
- B-302 STREET SIGN FOR PRIVATE STREETS
- B-303 ROADWAY STRIPING DETAILS
- B-305 TYPICAL TRAFFIC MARKER & SIGN INSTALLATION
- B-306 STANDARD BARRICADE
- B-307 STEEL DAVIT STANDARD
- B-308 PRIVATE PROPERTY TOW AWAY SIGN
- B-309 STREET NAME SIGN MOUNTING BRACKET (FLAT OR EXTRUDED)
- B-310 STREET NAME SIGN POLE DETAIL
- B-311 PARKING LOT LAYOUT
- B-312 PARKING & QUEUING FOR DRIVE THROUGH RESTAURANTS
- B-313 STREET LIGHTING



DETAIL 2

DO NOT USE THIS STANDARD FOR NEW STRIPING OF ENTIRE ROADWAYS – TO BE USED ONLY FOR REPLACEMENT OF EXISTING STRIPING IN ISOLATED AREAS TO MATCH ADJACENT STRIPING.

NOTES:

1. BOTH PAINT AND MARKERS TO BE INSTALLED PER DETAIL AS SHOWN, WITH PAINT INSTALLED FIRST.
2. INSTALLATION OF ALL MARKERS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST CALTRANS STANDARD SPECIFICATIONS SECTION 85.

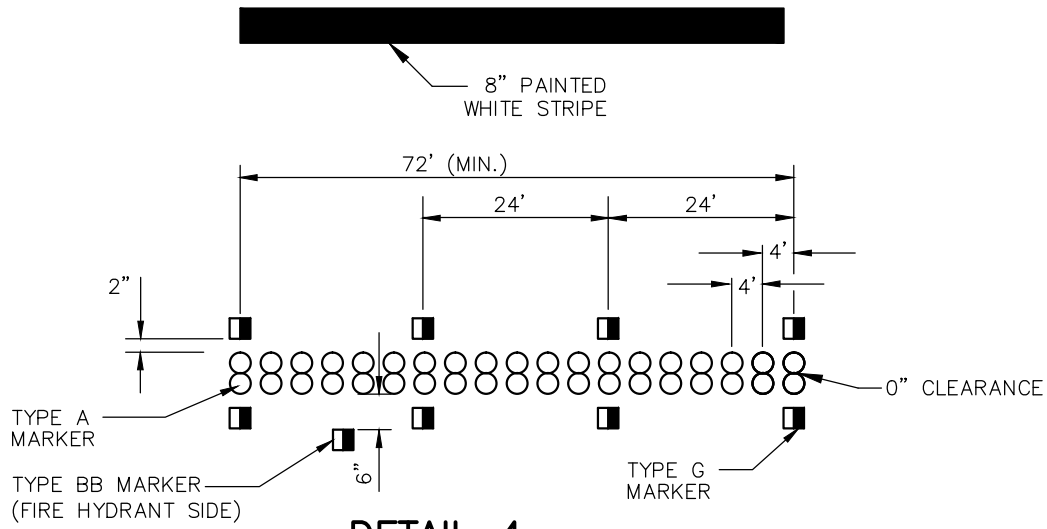


ROADWAY STRIPING DETAILS

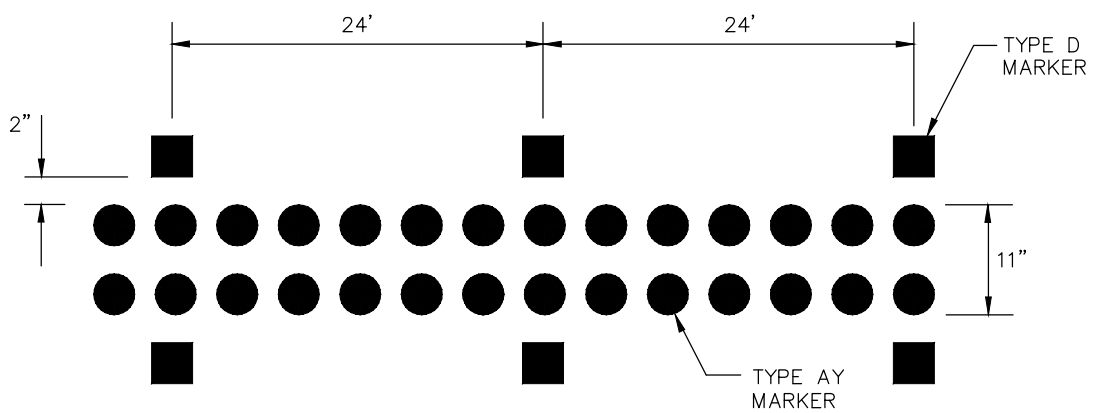
Approved:  Date: 12-8-15
 City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-303
 SHEET 2 OF 3



DETAIL 4



DETAIL 5

NOTES:

1. BOTH PAINT AND MARKERS TO BE INSTALLED PER DETAIL AS SHOWN, WITH PAINT INSTALLED FIRST.
2. INSTALLATION OF ALL MARKERS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST CALTRANS STANDARD SPECIFICATIONS SECTION 85.

DO NOT USE THIS STANDARD FOR NEW STRIPING OF ENTIRE ROADWAYS - TO BE USED ONLY FOR REPLACEMENT OF EXISTING STRIPING IN ISOLATED AREAS TO MATCH ADJACENT STRIPING.

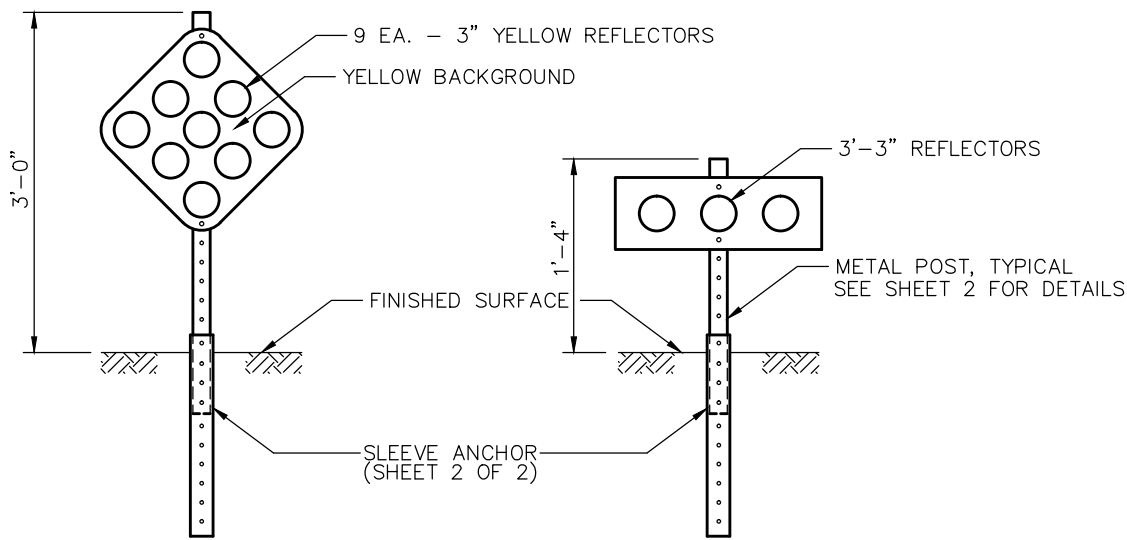


ROADWAY STRIPING DETAILS FOR SINGLE DOUBLE LINES

Approved: *[Signature]* Date: 12-8-15
 City Engineer R.C.E. 52125 Exp. 12-31-16

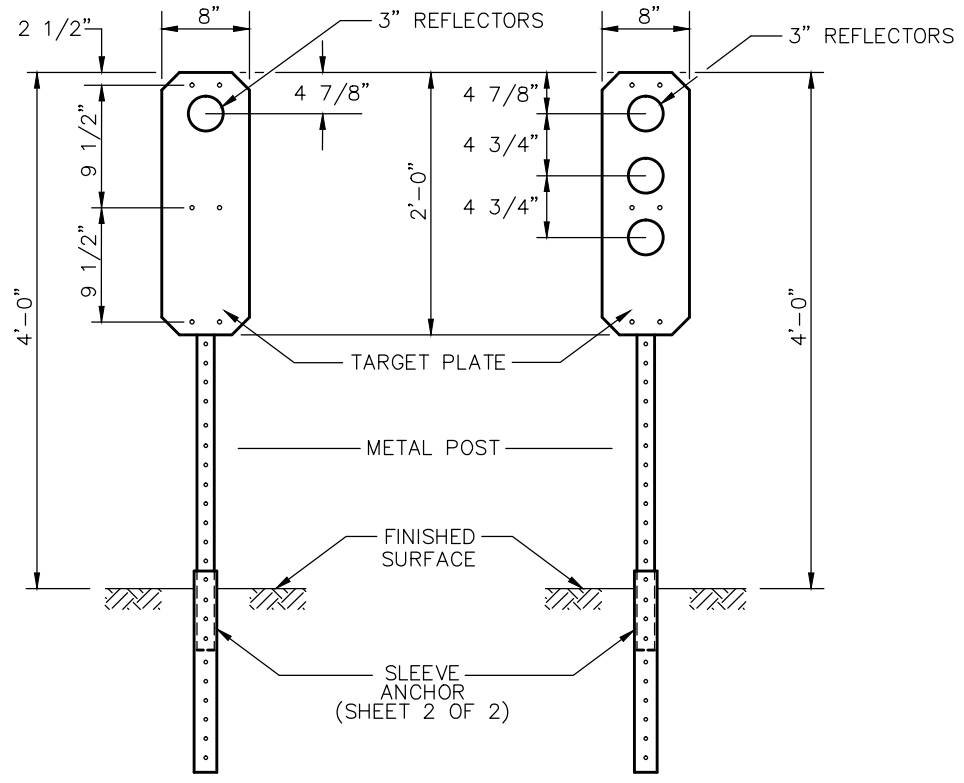
REVISIONS	BY	DATE

STD. PLAN NUMBER
B-303
 SHEET 3 OF 3



TYPE N-4

(RAISED MEDIAN)
TYPE K



**GUIDE MARKER
TYPE F**

**CLEARANCE MARKER
TYPE L**

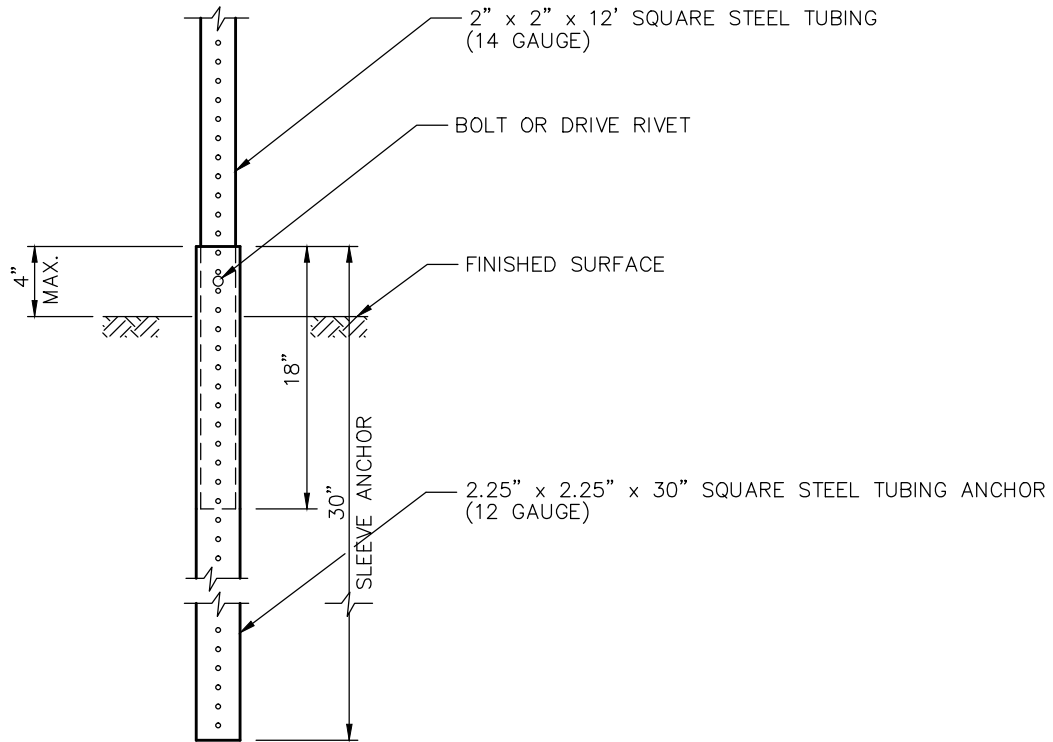


**TYPICAL TRAFFIC
MARKER & SIGN INSTALLATION**

Approved:  Date: 12-8-15
City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-305
SHEET 1 OF 2



SECTION

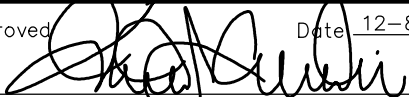
NOTES:

1. SQUARE STEEL TUBING SHALL BE GALVANIZED, WITH 7/16" DIAMETER DIE – CUT KNOCKOUTS ON 1" CENTERS, FULL LENGTH ON FOUR SIDES, AS MANUFACTURED BY ALLIED TUBE CONDUIT, OR APPROVED EQUAL.
2. SIGNS SHALL BE MOUNTED WITH GALVANIZED NUTS, BOLTS, AND WASHERS, OR DRIVE RIVETS.



City of
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**TYPICAL TRAFFIC
MARKER & SIGN INSTALLATION**

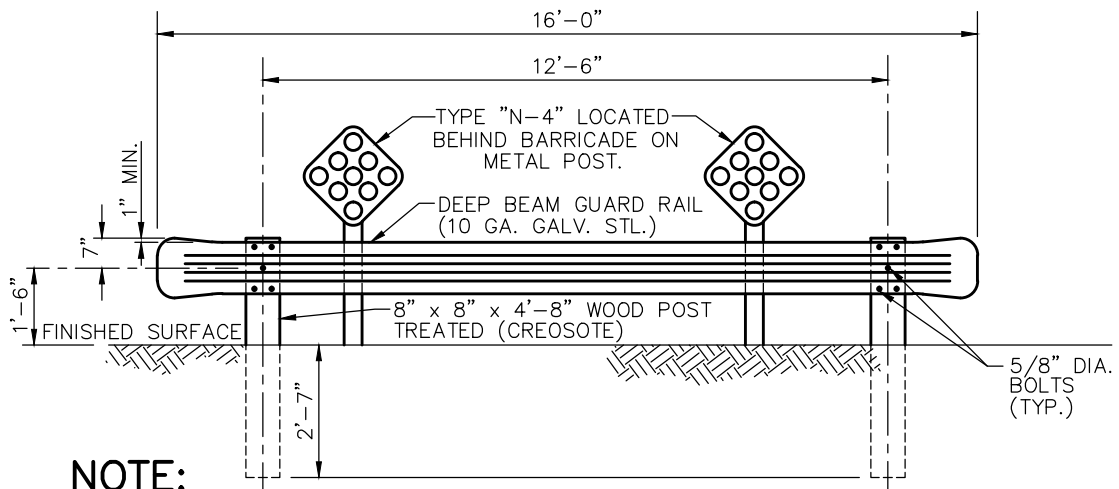
Approved  Date 12-8-15
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER

B-305

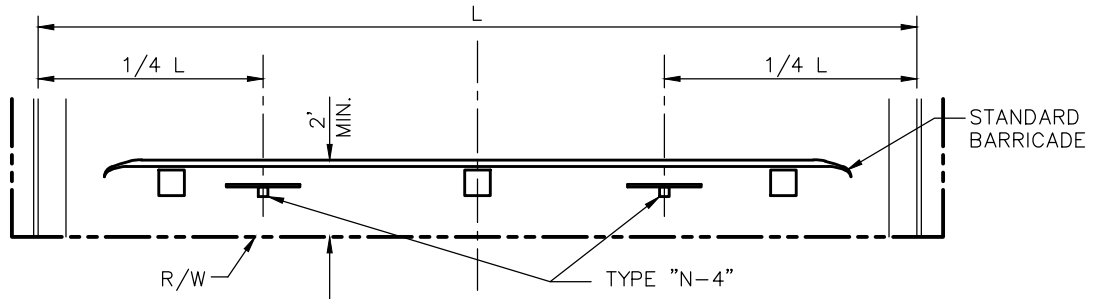
SHEET 2 OF 2



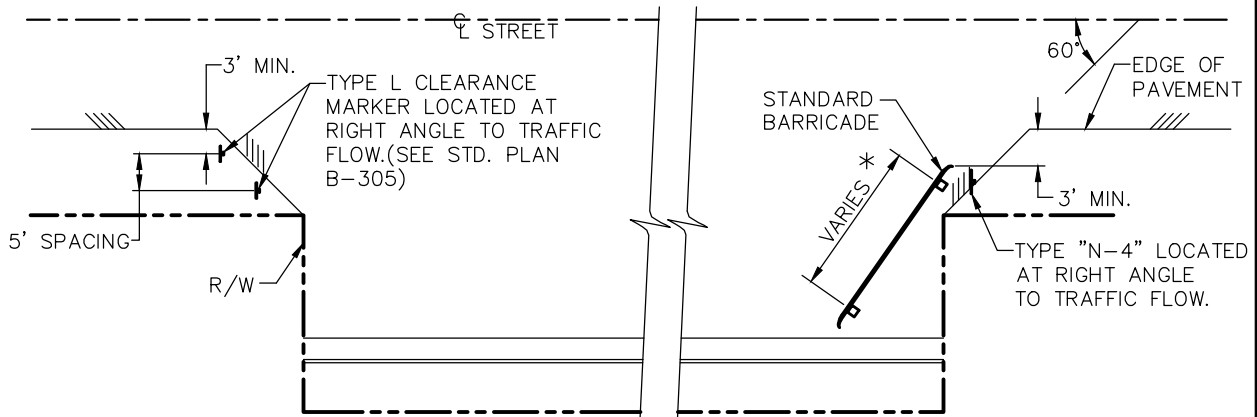
NOTE:

GUARD RAIL AND POSTS SHALL CONFORM TO THE PROVISIONS IN SECTION 83-1.02B OF THE STD. STATE SPECIFICATIONS & AS SHOWN IN THIS STD. PLAN.

STANDARD BARRICADE



TREATMENT FOR DEAD END STREET OR ALLEY



* LENGTH SHALL BE IN MULTIPLES OF 12'-6" WITH END SECTIONS OF 1'-9".

TREATMENT FOR WIDENING SECTION



City of
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California

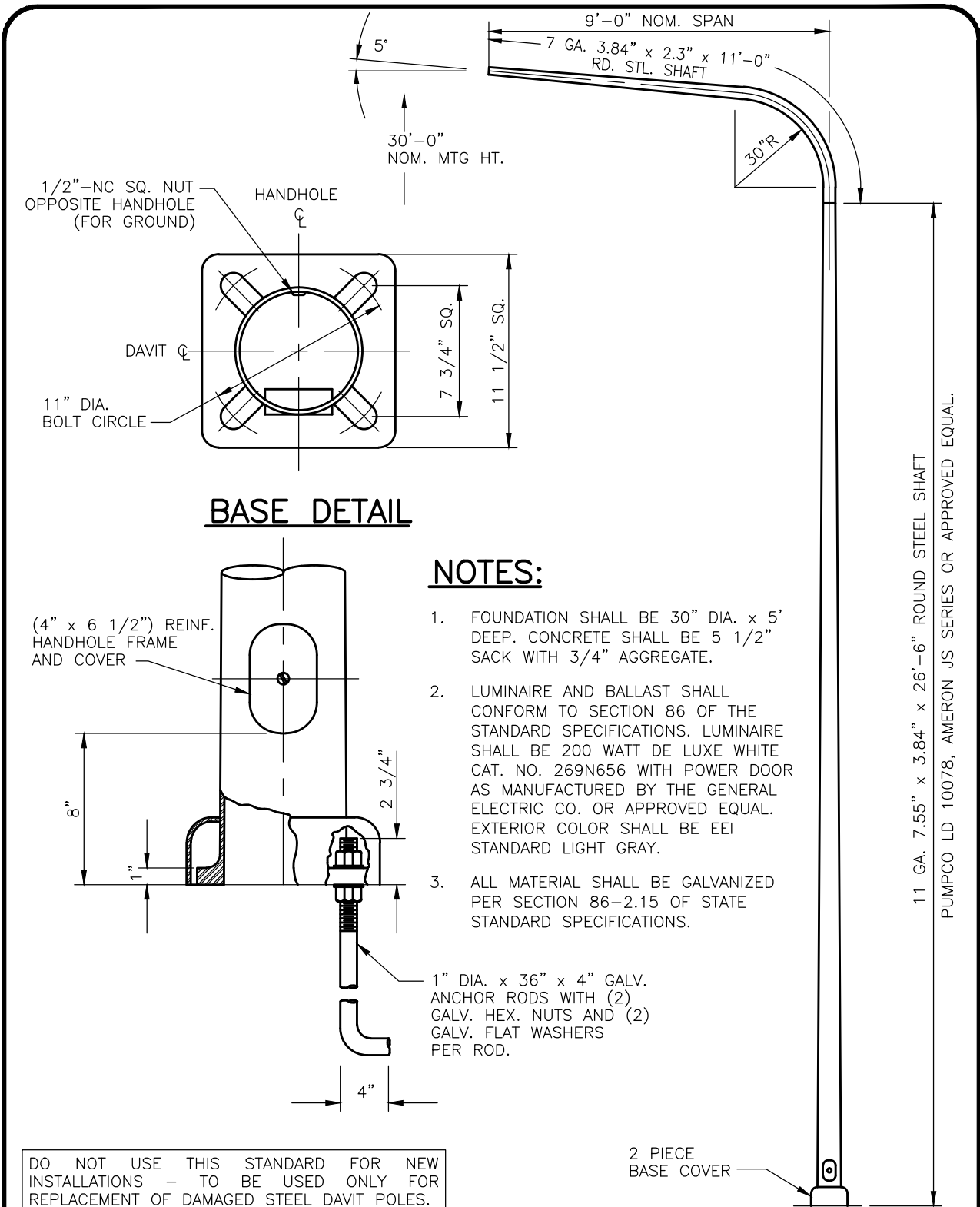
**STANDARD
BARRICADE**

Approved:  Date: 12-8-15
City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER

B-306

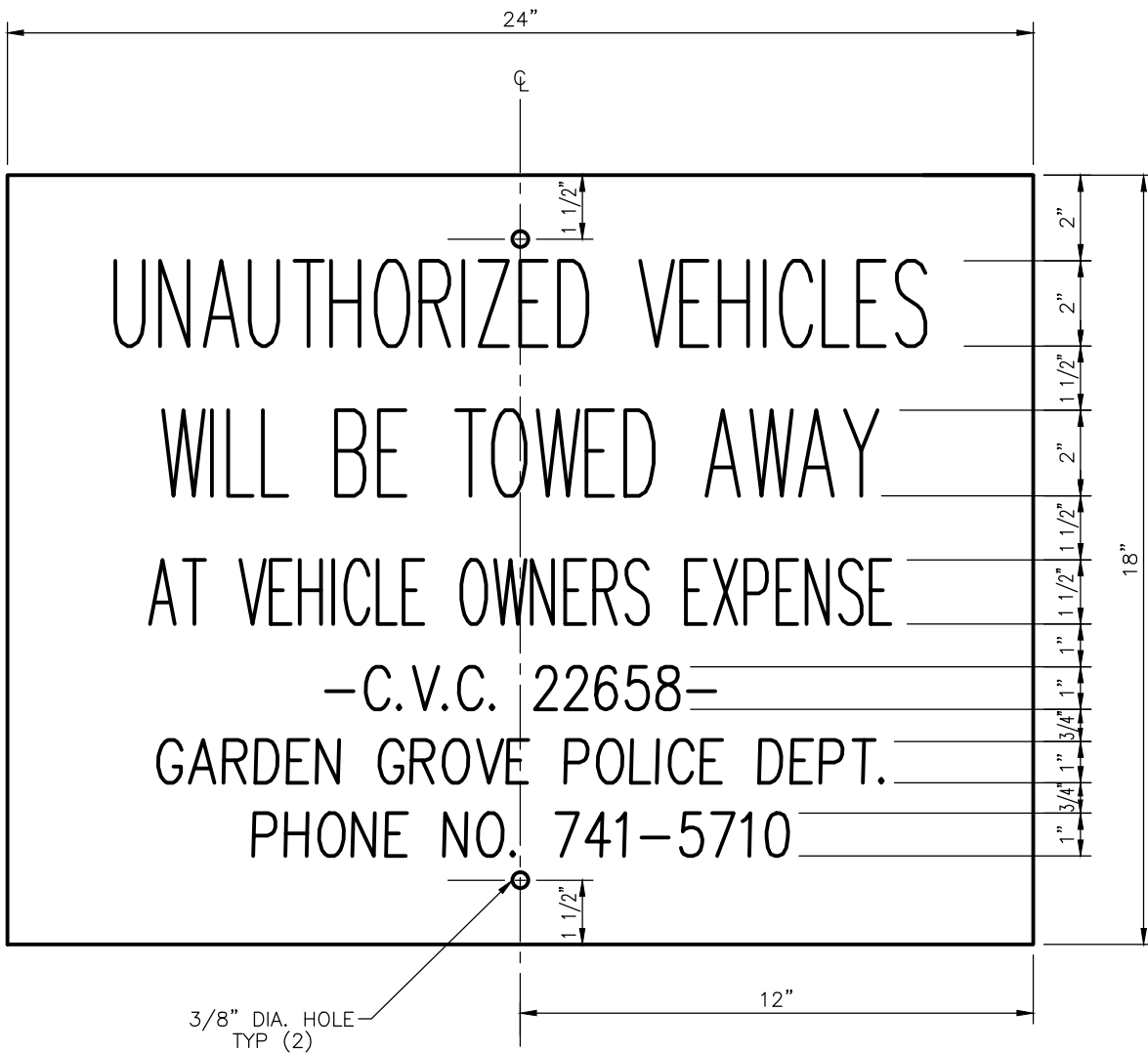


**STEEL DAVIT
STANDARD**

Approved  Date 12-8-15
City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-307



NOTE:

- 1. COLOR SHALL BE BLACK LETTERS AND BORDER ON A WHITE BACKGROUND.
- 2. SIZES SHOWN ARE MINIMUM.
- 3. SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH M.C. 10.56.220 AND C.V.C. 22658.



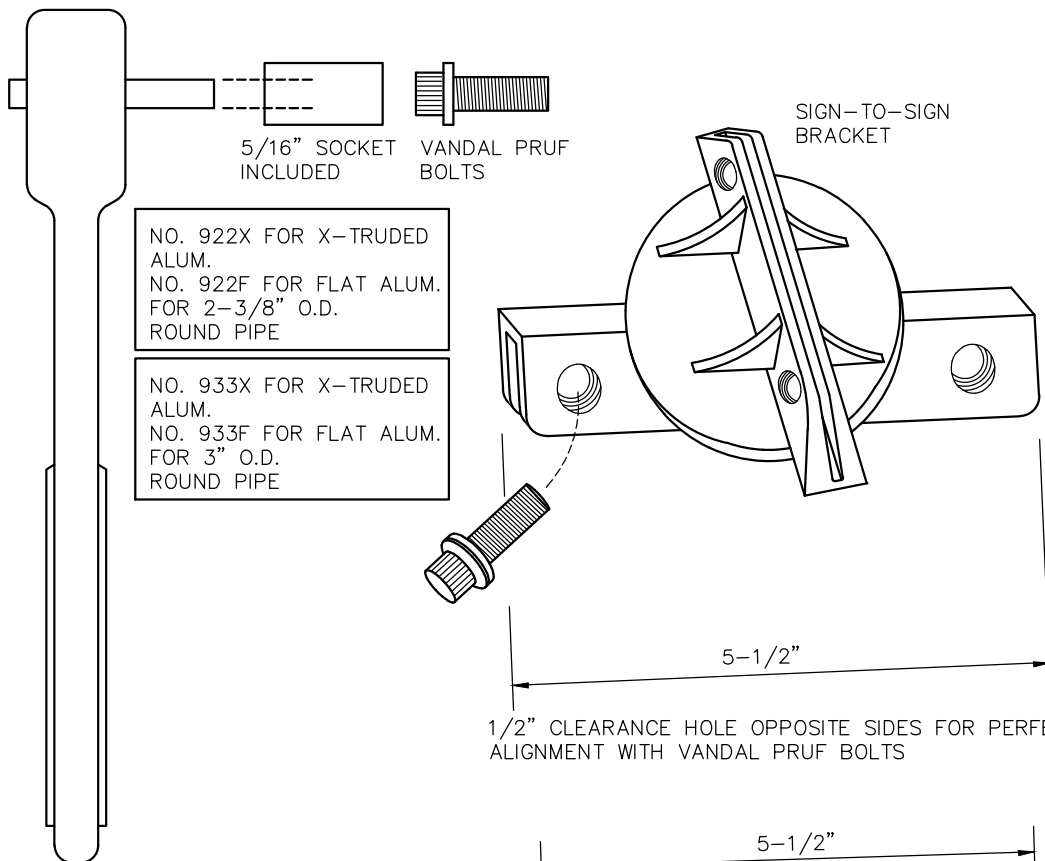
City of
Garden Grove
California

**PRIVATE PROPERTY
TOW AWAY SIGN**

Approved:  Date: 12-8-15
City Engineer R.C.E. 52125 Exp.12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-308

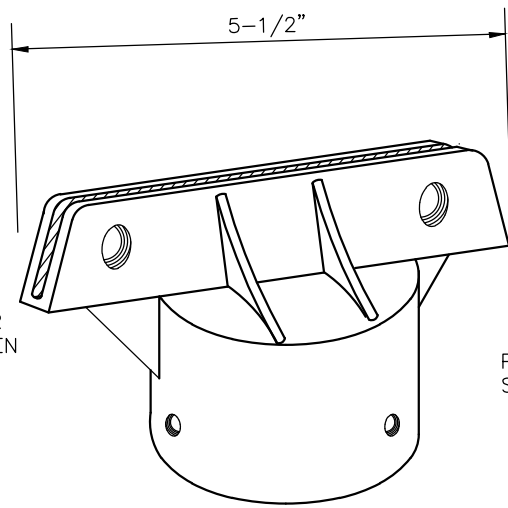


NO. 922X FOR X-TRUDED ALUM.
 NO. 922F FOR FLAT ALUM.
 FOR 2-3/8" O.D.
 ROUND PIPE

NO. 933X FOR X-TRUDED ALUM.
 NO. 933F FOR FLAT ALUM.
 FOR 3" O.D.
 ROUND PIPE

SHALL BE DIE CAST OF NO. 380 ALLOY WITH TENSILE STRENGTH OF 49,000 PSI WITH EXCELLENT RESISTANCE TO CORROSION. THE BRACKETS SHALL BE SMOOTHLY FINISHED FREE OF HOLES, PITS OR FLAWS. ALL BRACKETS SHALL HAVE 2 ANGLED GUSSETS, OR RIBS ON EACH SIDE FOR EXTRA STRENGTH. ALL SETS OF BRACKETS SHALL BE TAPPED AND DRILLED FOR 10 EACH 5/16" ZINC DICHROMATE PLATED ALLEN TYPE SET SCREWS HAVING SELF LOCKING SAWTOOTH ENDS.

1/2" CLEARANCE HOLE OPPOSITE SIDES FOR PERFECT ALIGNMENT WITH VANDAL PRUF BOLTS



EXCLUSIVE FEATURE 4 FASTENERS IN BASE CAP PLUS LONGER BASE CAP FOR PERFECT ALIGNMENT

NOTE:

CAP SIZE 2-1/2" I.D.



City of
 Garden Grove
 California

**STREET NAME SIGN MOUNTING
 BRACKET (FLAT OR EXTRUDED)**

Approved:  Date: 12-8-15
 City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

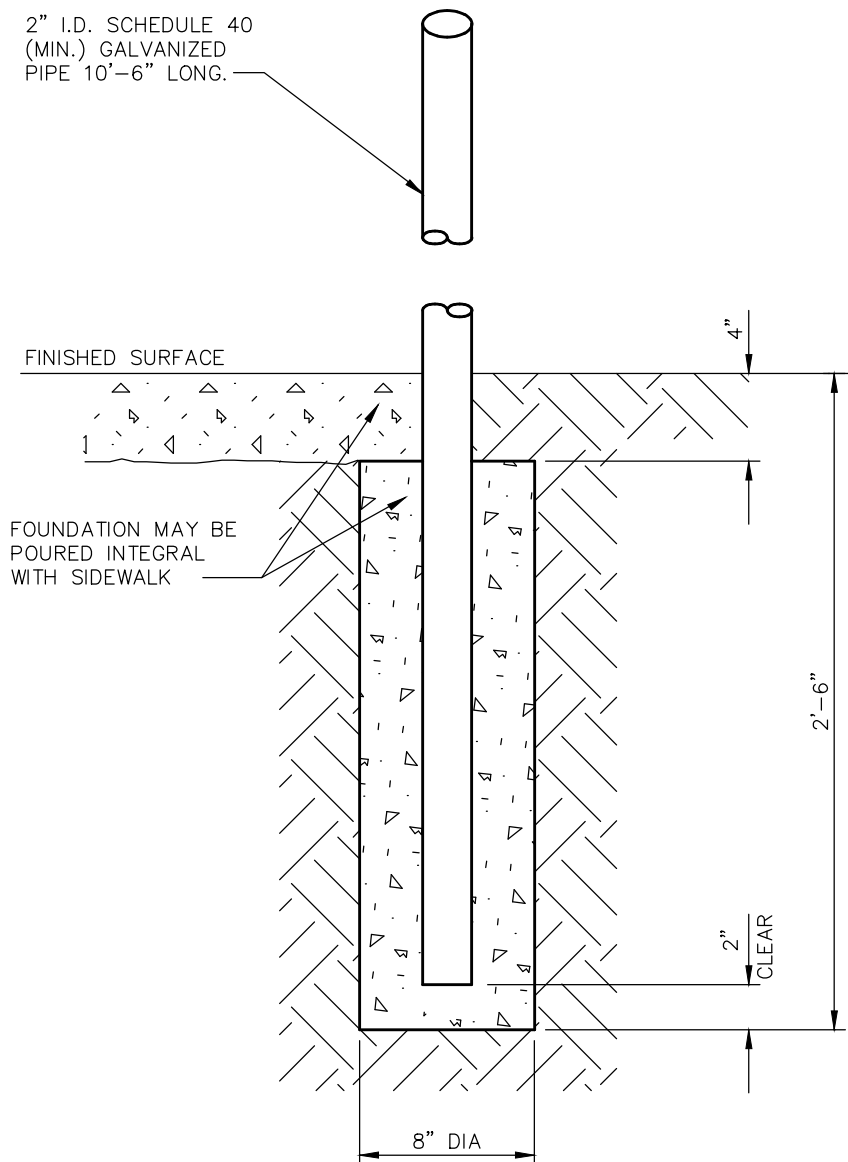
STD. PLAN NUMBER

B-309

NOTE:

SEE B-301 & B-302 FOR STREET SIGN DETAILS
AND B-305 FOR SIGN MOUNTING BRACKET DETAILS.

2" I.D. SCHEDULE 40
(MIN.) GALVANIZED
PIPE 10'-6" LONG.



SECTION



City of
Garden Grove
California

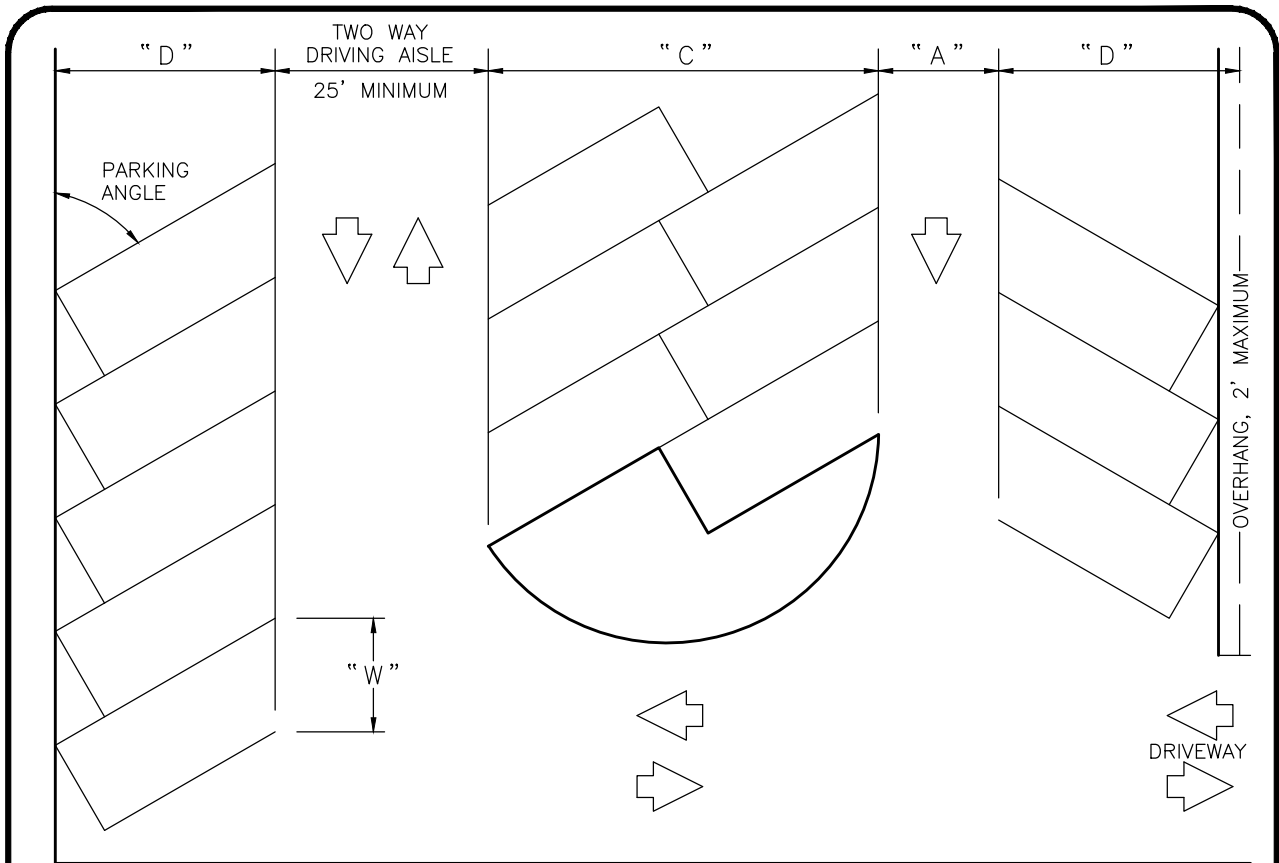
**STREET NAME SIGN
POLE DETAIL**

Approved:  Date: 12-8-15
City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

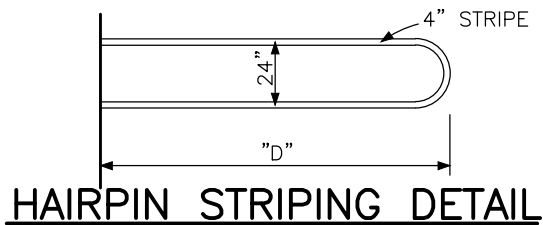
STD. PLAN NUMBER

B-310



STALL TYPE	PARKING ANGLE (DEGREES)	"W" WIDTH of STALL PARALLEL to AISLE	"D" DEPTH of STALL PERPENDICULAR to AISLE	"A" MIN. WIDTH of DRIVING AISLE	"C" CENTER SECTION PARKING WIDTH
FULL SIZE	90	9'	19'	25'	38'
	60	10'-5"	20'-11"	17'	37'-5"
	45	12'-9"	19'-10"	14'-6"	33'-3"
	30	18'	17'-4"	14'	26'-10"
	0*	22'	**8'	14'	---
COMPACT	90	8'	15'	25'	30'
	60	9'-3"	17'	17'	30'
	45	11'-4"	16'-3"	14'-6"	26'-10"

* PARALLEL PARKING ** 9' AGAINST A WALL

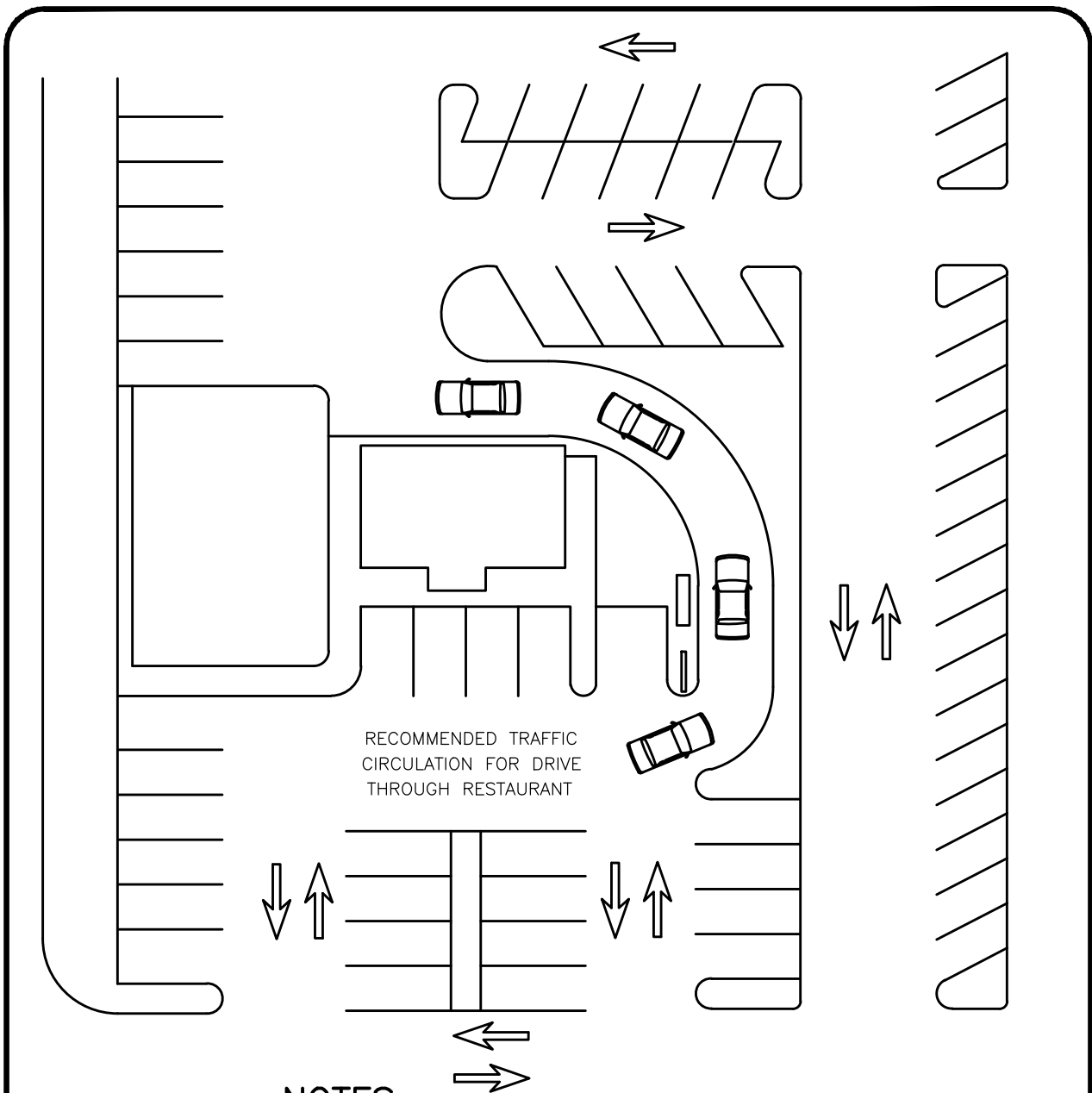


PARKING LOT LAYOUT

Approved:  Date: 12-8-15
City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-311



RECOMMENDED TRAFFIC CIRCULATION FOR DRIVE THROUGH RESTAURANT

NOTES:

1. QUEUEING CRITERIA OF APPROXIMATELY 80 FEET OR FOUR VEHICLE LENGTHS BETWEEN THE SERVICE WINDOW AND THE ORDER BOARD.
2. PROVIDE AN ADDITIONAL 80 FEET OR FOUR VEHICLE LENGTHS OF QUEUEING DISTANCE BEHIND THE ORDER BOARD.
3. BASED ON PEAK CONDITIONS OCCURRING, THE QUEUEING LENGTH OF 160 FEET UTILIZES THE ABSOLUTE MAXIMUM DEMAND THAT WOULD OCCUR.
4. MAINTAIN A CLEAR CIRCULATION PATTERN WITHIN THE SITE OR SHOPPING CENTER.
5. THE PARKING AISLE ORIENTATION SHOULD BE TO PROVIDE EASY PEDESTRIAN ACCESS BY WALKING THE LENGTH OF AISLES INSTEAD OF THROUGH ROWS OF PARKED VEHICLES.



PARKING & QUEUEING FOR DRIVE THROUGH RESTAURANTS

Approved:  Date: 12-8-15
 City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-312

STREET LIGHTING STANDARDS

GENERAL

WHERE STREET LIGHTING IS CALLED FOR, IT SHALL BE PROVIDED IN ACCORDANCE WITH CITY OF GARDEN GROVE STD. PLAN NO. B-313 ON CITY STREETS AND ALL OTHER LOCATIONS WHERE ILLUMINATION IS JUSTIFIED, AS DETERMINED BY THE ENGINEER. ALL STREET LIGHT LAYOUTS AND LIGHTING DESIGNS SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

ELECTROLIERS

ELECTROLIER IS DEFINED AS THE STREET LIGHT POLE, MAST ARM, AND LUMINAIRE. LUMINAIRE IS DEFINED AS THE LIGHT FIXTURE ON THE END OF THE MAST ARM.

ELECTROLIERS SHALL BE OF THE TYPE PROVIDED BY THE SERVING UTILITIES, OR AS APPROVED BY THE ENGINEER AND THE SERVING UTILITY WHERE AESTHETIC OR LIGHT DISTRIBUTION CONSIDERATIONS ARE WARRANTED.

ELECTROLIERS SHALL BE PLACED AT LOT LINES EXCEPT AS APPROVED BY THE ENGINEER. THE DISTANCE OF THE ELECTROLIER BEHIND CURB SHALL BE APPROVED BY THE ENGINEER.

AT INTERSECTIONS, WHERE PRACTICAL, ELECTROLIERS SHALL BE PLACED NEAR THE END OF THE CURB RETURN ON THE FAR RIGHT SIDE OF THE INTERSECTION. AT A "T" INTERSECTION AN ELECTROLIER SHALL BE PLACED AT THE HEAD OF THE INTERSECTION OR AT ALTERNATE LOCATIONS NEAR THE END OF CURB RETURN ON EITHER THE FAR RIGHT OR THE FAR LEFT SIDE OF THE INTERSECTION.

ELECTROLIERS IN MEDIAN ISLANDS SHALL NOT BE PLACED CLOSER THAN 100 FEET FROM AN ARTERIAL HIGHWAY OR COLLECTOR STREET INTERSECTION. ELECTROLIERS SHALL NOT BE PLACED IN MEDIAN ISLANDS LESS THAN SIX (6) FEET IN WIDTH.

ELECTROLIERS SHOULD BE PLACED ALTERNATELY ON EACH SIDE OF THE ROADWAY WHEN INSTALLED ALONG THE SIDES OF A ROADWAY.

ELECTROLIERS SHALL BE SPACED IN ACCORDANCE WITH THE FOLLOWING:


<u>LOCATION</u>	<u>MINIMUM HPSV LAMP SIZE (LUMENS)</u>	<u>APPROX. SPACING (FEET)</u>
A. LOCAL STREETS	9,500	100-150
B. SECONDARY ARTERIAL (4-LANE WITHOUT RAISED MEDIANS)	16,000	150-200
C. PRIMARY ARTERIAL (4-LANE WITH RAISED MEDIANS) (6-LANE WITHOUT RAISED MEDIANS)	16,000 22,000	150-200 200-250
D. MAJOR ARTERIAL (6-LANE WITH RAISED MEDIANS)	22,000	200-250

REQUIRED SPACING AND LUMEN LEVELS MAY BE MODIFIED ON AN EXCEPTIONAL BASIS FOR PURPOSES OF CRIME PREVENTION, ENERGY SAVINGS, AND/OR AS ADVISED BY THE ENGINEER. CONSISTENCY OF ELECTROLIER SPACING AND LAMP LUMEN LEVELS SHALL BE MAINTAINED ALONG ALL STREETS WHENEVER POSSIBLE.



City of
Garden Grove
California

STREET LIGHTING

Approved:  Date: 12-8-15
City Engineer R.C.E. 52125 Exp. 12-31-16

REVISIONS	BY	DATE

STD. PLAN NUMBER
B-313
SHEET 1 OF 2

STREET LIGHTING STANDARDS (Continued):

POLES, MAST ARMS, AND LUMINAIRES

POLES SHALL BE MARBELITE.

LENGTH OF MAST ARMS SHALL BE A MINIMUM OF 6- FEET.

MAST ARMS MAY BE MOUNTED ON EXISTING WOOD POLES WHERE:

A. THE PROXIMITY OR NUMBER OF EXISTING WOOD POLES WITHIN THE RIGHT-OF-WAY PRECLUDES THE INSTALLATION OF SEPARATE STREET LIGHTING POLES.

B. TEMPORARY LIGHTING IS TO BE INSTALLED IN UNDEVELOPED AREAS.

HEIGHT OF LUMINAIRES SHALL BE A MINIMUM OF 30- FEET.

LUMINAIRES SHALL BE OF THE TYPE USED BY THE SERVING UTILITY AND SHALL BE THE COBRA HEAD STYLE HOUSING.

LAMPS

LAMPS SHALL BE HIGH PRESSURE SODIUM VAPOR (HPSV).

MISCELLANEOUS MATERIALS AND WORKMANSHIP

MATERIAL AND WORK SHALL MEET OR EXCEED THE APPLICABLE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE, THE ELECTRICAL SAFETY ORDERS OF THE DEPARTMENT OF INDUSTRIAL SAFETY, STATE OF CALIFORNIA, THE AMERICAN SOCIETY FOR TESTING MATERIALS AND SECTION 86 OF THE STANDARD SPECIFICATIONS OF THE CALIFORNIA STATE DEPARTMENT OF TRANSPORTATION, LATEST EDITION.

IN ADDITION TO THE ABOVE, NON-UTILITY-OWNED STREET LIGHTING INSTALLATIONS SHALL CONFORM TO THE LATEST PUBLICATION OF SECTION 307 OF THE SOUTHERN CALIFORNIA CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION AND THE SOUTHERN CALIFORNIA DISTRICT OF ASSOCIATED GENERAL CONTRACTORS STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THIS STANDARD PLAN.

THE CONSTRUCTION PRACTICES AND MATERIALS USED FOR STREET LIGHTS OWNED BY UTILITIES SUBJECT TO THE REGULATION OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION ARE SPECIFIED EXCLUSIVELY BY THE ORDERS OF THE COMMISSION. ALL STREET LIGHTS OWNED BY REGULATED UTILITIES SHALL MEET OR EXCEED THE REQUIREMENTS OF GENERAL ORDERS 95 AND 128.

SERVICE AND MAINTENANCE

SERVICE AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE ELECTROLIER.



City of
Garden Grove
California

STREET LIGHTING

Approved

Date

12-8-15

REVISIONS

BY

DATE

STD. PLAN NUMBER

City Engineer

R.C.E. 52125

Exp. 12-31-16

B-313

SHEET 2 OF 2