CITY OF VISTA
STANDARD DRAWINGS

May, 2015
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Modifications to San Diego Regional Standard Drawings

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<td>SWR-30A Concrete Manhole Collar (Type A)</td>
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<td>SWR-30C Concrete Manhole Collar (Type C)</td>
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TRF-02   Speed Bumps
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TRF-04   Entering & Leaving City Sign Details
TRF-05   Standard Loop Detector Layout
TRF-06   Sign Post Footing in Hardscape
THIS SHEET INTENTIONALLY LEFT BLANK
MODIFICATIONS
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LEFT BLANK
<table>
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<tr>
<th>DWG.</th>
<th>MODIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-27</td>
<td>Add: A maximum of three (3) combined outlets in lieu of standard D-25</td>
</tr>
<tr>
<td>D-40</td>
<td>Add: “T” dimension shall be a minimum of three (3) times the nominal rip-rap diameter</td>
</tr>
<tr>
<td>D-75</td>
<td>Add: 6&quot;x6&quot;x10x10 welded wire mesh, instead of stucco netting</td>
</tr>
<tr>
<td>G-4</td>
<td>Replace type ‘A’ with SRF-10A</td>
</tr>
<tr>
<td>G-6</td>
<td>Replace type ‘B-3’ with SRF-15</td>
</tr>
<tr>
<td>G-11</td>
<td>Remove curb/gutter and sidewalk from score-mark to score-mark or from joint-to-joint, or approved combination</td>
</tr>
<tr>
<td>G-14</td>
<td>Change thickness in driveways for Commercial/Industrial/Multi-Family from 5-1/2” to 6”</td>
</tr>
<tr>
<td>G-24</td>
<td>Replace with SRF -8A and 8B</td>
</tr>
<tr>
<td>G-25</td>
<td>Replace with SRF -8A and 8B</td>
</tr>
<tr>
<td>G-27</td>
<td>Change slope of ramp from 8.33% maximum to 7.1% maximum. Change note 4 to read: “Landing cross slope shall be 1.5% maximum in both directions”</td>
</tr>
<tr>
<td>G-28</td>
<td>Change slope of ramp from 8.33% maximum to 7.1% maximum. Change note 4 to read: “Landing cross slope shall be 1.5% maximum in both directions”</td>
</tr>
<tr>
<td>G-29</td>
<td>Change slope of ramp from 8.33% maximum to 7.1% maximum. Change note 3 to read: “Landing cross slope shall be 1.5% maximum in both directions”</td>
</tr>
<tr>
<td>G-31</td>
<td>Change slope of ramp from 8.33% maximum to 7.1% maximum. Change note 2 to read: “Landing cross slope shall be 1.5% maximum in both directions”</td>
</tr>
<tr>
<td>G-32</td>
<td>Change slope of ramp from 8.33% maximum to 7.1% maximum. Change note 6 to read: “Landing cross slope shall be 1.5% maximum in both directions”</td>
</tr>
<tr>
<td>G-33</td>
<td>Replace with SFR-8A and 8B</td>
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<tr>
<td>G-36</td>
<td>Replace with SFR-8A and 8B</td>
</tr>
<tr>
<td>M-4</td>
<td>Add: To be used only with specific approval of the City Engineer</td>
</tr>
<tr>
<td>SM-03</td>
<td>Replace with SWR-32</td>
</tr>
<tr>
<td>SM-08</td>
<td>Replace with SWR-31</td>
</tr>
<tr>
<td>SP-02</td>
<td>Replace with SWR-11</td>
</tr>
</tbody>
</table>
DRAINAGE STRUCTURES
THIS SHEET INTENTIONALLY LEFT BLANK
NOTES:
1. ALL COMPONENTS SHALL BE GALVANIZED.
2. INSTALL #5 GALVANIZED REINFORCING STEEL BARS INSIDE CORRUGATED METAL PIPE ABOVE AND BELOW JOINT TO SUPPORT UPPER SECTION AND ALLOW HINGE AND HASP TO SECURE TOP SECTION.
3. SEE SDRSD D-16 FOR ADDITIONAL NOTES.

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**DROP INLET TABLE**

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<th>PIPE SIZE</th>
<th>OUTLET SIZE</th>
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<td>18&quot;</td>
<td>24&quot;</td>
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<tr>
<td>24&quot;</td>
<td>30&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>36&quot;</td>
</tr>
</tbody>
</table>

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**LEGEND**

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**CITY OF VISTA**

STANDARD DRAWING

CORRUGATED METAL PIPE DROP INLET

Revision By Apprvd Date
New WH 01/18/90
Updated TR GM 10/22/12

DRAWING NUMBER: DRN-01
NOTES:

1. SEE CITY OF VISTA STANDARD DRAWING SRF-08A AND SRF-08B (TRENCH PAVING STANDARD) WHEN TRENCHING ON IMPROVED STREETS - NOTE 95% COMPACTION IS REQUIRED ONE FOOT BELOW THE REQUIRED STREET STRUCTURAL SECTION.

2. INDICATES THE MINIMUM RELATIVE COMPACTION.

3. 90N NON-WOVEN NEEDLE PUNCHED GEOTEXTILE PER 2012 GREENBOOK SECTION 213-2 SHALL ENVELOPE THE 3/4" CRUSHED ROCK IN THE BEDDING ZONE.

FIRM TRENCH BOTTOM TO BE CREATED USING CRUSHED ROCK 1/2" - 1" IN SIZE.
BRIDGE NATIVE SOILS UNTIL FIRM SUBGRADE FORMS.
THICKNESS AS REQUIRED.
ELECTRICAL SYSTEMS
THIS SHEET INTENTIONALLY LEFT BLANK
CASE 1: FULL WIDTH SIDEWALK OR NO SIDEWALK

CASE 2: TYPICAL 5' WIDE SIDEWALK

NOTES:
1. STREET LIGHT LOCATION MUST BE STAKED PRIOR TO TRENCHING FOR INSTALLATION OF ELECTRIC, GAS, TELEPHONE AND CABLE TELEVISION CONDUITS TO AVOID CONFLICT.
2. STREET LIGHT BASES SHALL BE INSTALLED PRIOR TO SIDEWALK.
4. MODIFY IRRIGATION APPURTENANCES AS NECESSARY TO AVOID CONFLICT WITH STREET LIGHT, PULL BOX, CONCRETE PAD AND CONDUIT LOCATION.
5. STREET LIGHTS SHALL BE PLACED AT EVENLY SPACED INTERVALS PER THE TABLE BELOW OR AS APPROVED BY THE CITY ENGINEER.

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<th>ST. LT. WATTAGE / MODEL</th>
<th>SPACING CRITERIA</th>
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<td>37 WATT BetaLED (STR-LWY-2M-HT-02-D-UL-SV-525-R UTL)</td>
<td>EVERY 150 LF STAGGERED</td>
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<td>92 WATT BetaLED (STR-LWY-3M-HT-04-D-UL-SV-700-R UTL)</td>
<td>EVERY 165 LF STAGGERED</td>
</tr>
<tr>
<td>116 WATT BetaLED (STR-LWY-5M-HT-05-D-UL-SV-700-R UTL)</td>
<td>FOR TRAFFIC SIGNAL POLES</td>
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CITY OF VISTA
STANDARD DRAWING

LED STREET LIGHT
TYPE AND LOCATION

CITY ENGINEER, DATE
RCE 55075

DRAWING NUMBER: ELE-01A

Revision | By | Approv | Date
New | TR | GM | 10/17/12
120 VOLT SYSTEM

NOTE: STREET LIGHT WIRE INSULATION MARKINGS SHALL BE PER 2012 GREENBOOK SUBSECTION 209-4.2.1

INSTALL 10 AMP FUSE (MAXIMUM) IN ONE DIRECTION ONLY

WEATHER TIGHT SEALANT (PER 2012 GREENBOOK 307-12.1)

WIRE SIZE: AWG 10 THWN OR 10 THW 600 V WIRE PER CoFV STD. DWG. ELE-02D (SIZE SHALL BE PRINTED OR TAGGED ON WIRE) (PER 2012 GREENBOOK 209-4.2.1)

DO NOT FUSE WHITE NEUTRALS

CONNECT GREEN GROUNDING WIRE WITH 2' OF SLACK TO BARE #4 STRANDED WIRE (SEE 2012 GREENBOOK SUPPLEMENT 307-16.4.1)

#3-1/2 (MINIMUM SIZE) PULL BOX WITH "STREET LIGHTING" COVER AND BRASS LOCKING BOLTS

2' EXCESS WIRE IN PULL BOX (PER 2012 GREENBOOK 307-13.1)

4" P.C.C. SIDEWALK (TYPICAL) (SDRSD G-7)

WEATHER-TIGHT SEALANT (PER 2012 GREENBOOK 307-12.1)

24" RADIUS (MINIMUM) (CoFV STD. DWG. ELE-02C)

1" PVC SCHEDULE 40 (MINIMUM) (CoFV STD. DWG. ELE-02C)

15" NO. 4 BARE STRANDED WIRE - COILED AND SECURELY FASTENED TO ANCHOR BOLT (SDRSD E-2)

PULL BOX SHALL REST FIRMLY ON A 12" THICK BED OF 3/4" CRUSHED ROCK EXTENDING 6" BEYOND THE OUTSIDE EDGE OF THE PULLBOX (PER GREENBOOK 307-11.1)

14" MINIMUM - 36" MAXIMUM (PER 2012 GREENBOOK 307-12.1) PCC FOUNDATION AND ANCHOR BOLTS (PER SDRSD E-1)

OPEN COIL (N.E.C.)

LEGEND

CITY OF VISTA
STANDARD DRAWING

LED STREET LIGHT INSTALLATION CRITERIA

CITY ENGINEER, DATE
RCE 55075

DRAWING NUMBER: ELE-01B
120 VOLT SYSTEM

PHOTO CELL WINDOW MUST
POINT NORTH (PER STATE
SPECIFICATIONS &
MANUFACTURER'S
RECOMMENDATION)

HOUSING
LIGHT ENGINE

WATTAGE STICKER
BLACK
CONDUCTOR
WHITE
CONDUCTOR

GREEN BOND

QUICK-DISCONNECT
CONNECTOR

LUMINAIRE
HOUSING

QUICK-DISCONNECT
CONNECTOR

TENON OPENING
DOOR SHALL BE HINGED AND
ALLOW FOR TOOL-LESS ENTRY

LEGEND

CITY OF VISTA
STANDARD DRAWING

LED STREET LIGHT
INSTALLATION CRITERIA

CITY ENGINEER, DATE
RCE 55075
DRAWING NUMBER: ELE-01C
CITY OF VISTA - LED STREET LIGHTING STANDARDS

GENERAL:
New or relocated streetlights located within City R/W or City easements are required to include light emitting diode (LED) luminaires and be constructed per City Standards and per Plan, and field inspected and approved prior to requesting energizing or acceptance.

NON-STANDARD LIGHTING:
Other types and styles of poles and/or non-solid-state (non LED) luminaires may be allowed with PRIOR approval from the City Engineer. Since solid-state LED luminaires have a long life, use less electricity, and are mercury and lead-free, justification must be provided for a non-solid-state luminaire substitution.

INDUSTRY STANDARDS:
LED streetlight luminaires shall meet the applicable requirements of the following industry standards:
1. IES LM-80-08 - Approved Method for Measuring Lumen Maintenance of LED chips (fixture manufacturer must provide extrapolation calculations method of explanation for lumen maintenance derived from in-situ testing upon request)
4. IES LM-79-08 - Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products
5. IEEE C62.41.2-2002 - IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits
6. ANSI/UL 1598 - Poles & luminaires: UL
7. ANSI/UL 8750: Additional requirements for LED luminaires as well as drivers and LED arrays

Test data that establishes conpliance with the requirements listed above shall be provided upon request.

REFERENCE:
1. Project Plans and Specifications - Location and project-specific details.
2. California Electric Code - As applicable by the Building Department.
3. SDG&E Standards - As applicable.
6. San Diego Regional Standard Drawings E-1 & E-2 (as applicable) - for anchor base foundation and ground wire only.

LUMINAIRES:
Fixtures shall be one of the following:
BetaLED / CREE Catalog #: STR-LWY-2M-HT-02-D-US-SF-525-R UTL (LED SYSTEM WATTS = 37)
BetaLED / CREE Catalog #: STR-LWY-3M-HT-04-D-US-SF-700-R UTL (LED SYSTEM WATTS = 92)
BetaLED / CREE Catalog #: STR-LWY-5M-HT-05-D-US-SF-700-R UTL (LED SYSTEM WATTS = 116)

Catalog definitions: STR = product; LWY = family; 2M = Optic: IESNA Type II medium distribution; HT = horizontal tenon mount; 02 = # of LEDs x 10 (20 LEDs); D = LED series; US = voltage, universal 120-277 Vac; SF = housing color, silver; 525 = 525mA drive current; R = NEMA phootcell receptacle; UTL = Factory-Installed Options (UTL = Utility Option) (includes exterior wattage label that reflects watts for the drive current selected. The ability to exceed the selected drive current will be disabled).

3M = Optic: IESNA Type III medium distribution; 04 = # of LEDs x 10 (40 LEDs); 700 = 700mA drive current

5M = Optic: IESNA Type V medium distribution; 05 = # of LEDs x 10 (50 LEDs); 700 = 700mA drive current

General description of LEDway (light emitting diode) Streetlight – Standard fixture utilizes terminal block for power input suitable for #6 - #14 AWG wire and operates at 700mA. Drive current is field switchable. A three-pole terminal block capable of accepting #14 to #10 AWG shall be mounted to the housing inside the electrical compartment. Luminaire shall be provided with capability for optional backlight control. Complete assembly weight shall not exceed 45 lbs. Fixture is designed to mount on a schedule 40, 2” nominal pipe size (NPS) horizontal tenon (minimum 8” in length) and is adjustable +/- 5 degrees to allow for fixture leveling (includes two axis T-level to aid in this process). Fixture, including the LEDs, drivers and electrical components, shall carry a limited five year warranty and housing paint and finish shall carry a ten year warranty.

Color temperature and CRI: 6000K +/- 500 color temperature, minimum 70 CRI
LUMINAIRE HOUSING:
Luminaire housing shall be furnished with an optical assembly, be powder-coated silver, include a level bubble to facilitate installation, allow for tool-less entry and shall include an integral twistlock type receptacle for photoelectric cell control in accordance with the latest EEI-NEMA standards which is adjustable with respect to north and pre-wired to the terminal board.

Luminaire external housing shall have a minimum rating of IP56 as specified in IEC 60529, with the ability to shed water from inside the housing (i.e. weep holes).

The LED luminaire shall be designed for horizontal mounting. The LED assembly shall have a slip-fitted mounting bracket capable of attaching to a two-inch (2") pipe without the need for special mounting parts. They shall be installed in a horizontal position with leveling and clamping to the mast arm pipe accomplished by tightening mounting bolts, which are externally or internally accessible. Bolts shall be minimum 5/8" x 2" size and either stainless steel or cadmium-plated steel.

Luminaire circuitry shall include quick connect / disconnects to allow easy separation and removal of driver and power door. See City of Vista Standard Drawing ELE-1C. Grounding requirements: ANSI/UL Standards and NFPA 70.

The luminaire power unit assembly shall consist of an integral driver, capacitor, 10K surge suppressor, and heavy-duty terminal block. The power unit assembly shall be mounted on a separate component of the luminaire to facilitate replacement.

The luminaire optical chamber shall have a minimum rating of IP66 as specified in IEC 60529.

The luminaire housing cooling system shall consist of a passive heat sink with no fans, pumps, or liquids and shall be designed and constructed to accept a standard plug type, locking, three-pole, three-wire, streetlight photo control. The fixture and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117.

All fasteners shall be stainless steel and all polycarbonate components shall be UV stabilized.

An easily-viewable nameplate shall be permanently affixed to the inside of each luminaire housing. The nameplate shall contain the following information: manufacturer's name, manufacturer's catalog number, date of manufacture (month and year), plant location, input power consumption, driver output current, IEC IP Rating, correlated color temperature (CCT), IES light distribution type, IESNA TM-15 BUG ratings, and serial number. A utility-approved luminescent name plate with light source and wattage listed shall also be permanently affixed on the exterior of the luminaire and be visible from the ground.

The driver assembly shall be enclosed in a separate compartment from the optical assembly. The entire fixture shall be 'wet listed' with the optical assembly compartment being rated at IP66. The LED luminaire shall be constructed to provide the required light distribution with the lower edge of the luminaire housing below the entire light source close contact refractors. The luminaire must be Dark Sky compliant with a 'UO' BUG rating. The light distribution pattern shall be per the Fixture Application table in the OPTICAL DISTRIBUTION METHOD & CONFIGURATIONS section below:

OPTICAL DISTRIBUTION METHOD & CONFIGURATIONS:
Optical configurations shall meet the following criteria:
1. No reflectors or single lensed fixture accepted; close contact refractors to be employed for optical distribution
2. Refractors are to be polymeric material rated 5VA, f1 rating
3. Kelvin temperature to be 6,000K (+/- 500)
4. Lumen maintenance at 50,000 hours of life to be no less than 88% of initial lumen output
5. Shall have a 95% survival rate at 50,000 hours
6. Integral 10K surge suppressor for diode and entire system protection

<table>
<thead>
<tr>
<th>Fixture Application</th>
<th>LED Fixture Wattage</th>
<th>Minimum Lumens @ 100 hrs</th>
<th>Light Distribution Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Street</td>
<td>37 Watts</td>
<td>2,600 Lumens</td>
<td>IESNA Type II medium distribution</td>
</tr>
<tr>
<td>Collector &amp; Arterial Streets</td>
<td>92 Watts</td>
<td>6,490 Lumens</td>
<td>IESNA Type III medium distribution</td>
</tr>
<tr>
<td>For above with Traffic Signals</td>
<td>116 Watts</td>
<td>8,900 Lumens</td>
<td>IESNA type V medium distribution</td>
</tr>
</tbody>
</table>

BIRD SPIKES:
Bird spikes are required on luminaire housing and light engine per the catalog numbers listed below:

Component | Catalog Number
---|---
Housing  | XA-BRDSPKHSG
Light Engine (37 Watts) | XA-BRDSPK30
Light Engine (92 & 116 Watts) | XA-BRDSOK60

Revision | By | Approv'd Date
---|----|----------------
New | TR | GM | 10/17/12

CITY OF VISTA
LED STREET LIGHTING STANDARDS

CITY ENGINEER, DATE
RCE 55075
DRAWING NUMBER: ELE-02B
CITY OF VISTA - LED STREET LIGHTING STANDARDS

DRIVERS:
Light Emitting Diode (LED) drivers shall be component-type consisting of precision wound coils and welded magnetic steel laminations assembled together and impregnated with baked-on, insulating, weatherproof varnish; and metal-cased, hermetically-sealed capacitor, suitable for use on multiple distribution circuits with 60Hz, 120 or 240 Volt rating. The operating sound pressure noise level shall not exceed the ambient noise level by more than five (5) decibels at a distance of 30 feet when measured by a sound level meter conforming to the American Standards for Sound Level Meters. Where the ambient noise level is less, a minimum of 40 decibels shall be assumed.

Power supply / driver shall be field replaceable by means of quick-disconnect connectors and easy access mounting hardware.

Power supply / driver shall be wet-listed in the US and Canada, UL, ROHS compliant, meet Caltrans 611 vibration testing and GR-63-CORE section 4.4.1/5.4.2 earthquake zone 4.

DRIVER SPECIFICATIONS:
Electronic; voltage range = universal 120 - 277 v +/- 10%; frequency = 50/60 Hz; power factor > 90% @ full load; THD < 20% @ full load; output ripple < 10%; output shall be isolated; case temperature rated for -40 to 60C; fully encased and potted; overheat protection, self limited short circuit protection, and overload protected - minimum integral 10k surge protection tested in accordance with IEEE C62.41 and ANSI standard 62.41.2; Driver Life Rating not less than 100,000 hours.

PHOTOELECTRIC CONTROL UNIT:
Fisher-Pierce # FPN7790B (blue cap, 105 - 285 volt range).
The photoelectric unit shall consist of a photoelectric cell in a weatherproof housing which plugs into an EEI-NEMA twist-lock receptacle integral with the luminaire and shall be installed with the clear UV-stabilized photocell window facing north. The control unit shall contain a uniformly coated cadmium-sulfide photoelectric cell suitable for operation with 120 or 240 volt line supply with surge protection to prevent damage and made to fail in the "ON" position. The unit shall have a HID load rating of 1,800 VA with a Tungsten load rating of 1,000 watts.

The response level of the unit to changing light levels shall remain stable throughout the life of the unit (5,000 operations). The "turn-on" level shall be a nominal 1 foot-candle and the "turn-on:turn-off" ratio shall be 1.5.

FUSES:
Fuses shall be slow blow 13/32" x 1 1/2" in-line type in 10 amp size (unless specified otherwise by City Electrician). The fuse shall be installed in the hot leg of the lighting conductor. The circuit shall be fused in the base of the pole - NOT in the pull box. 240-volt installations require each leg to be fused using a double fuse holder and two fuses of appropriate size.

FUSEHOLDERS:
Fuseholders shall be completely waterproof, shall grip the fuse in the load side section when opened, and be able to take a 13/32" x 1 1/2" fuse, with crimp-type tubular terminals of a proper size for the cable in the particular light.

MAST ARMS:
8-foot steel or aluminum.
Mast arms shall be two inch (2") I.P.S. galvanized steel or aluminum and shall be self-supporting without braces, scrolls or rods. Mounting shall be perpendicular to the street centerline unless otherwise directed by the City Engineer. They shall have a minimum of six inches (6") of horizontal straight section at the end of the arm to mount a two inch (2") I.P.S. slipfitter type luminaire mount.

Mast arms shall be eight feet (8') long for all luminaires unless otherwise specified in the plans and shall be capable of handling the EPA and weight of the luminaire. Steel arms shall conform to ASTM A 120. Aluminum arms shall be corrosion resistant alloys such as Aluminum Association wrought alloys 6061 or 6062 or cast alloys 319 or 356.

All exposed hardware shall be stainless steel. All protected hardware not visible after installation shall be cast aluminum and / or stainless steel, hot-dipped galvanized or cadmium-plated steel. Anti-seize shall be used.

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CITY OF VISTA - LED STREET LIGHTING STANDARDS

FOUNDATIONS:
Per SDRSD No. E-1 and E-2. Anchor base foundation only. For E-2 use No. 2 for ground wire; no ground rod.

Anchor bolts shall be the type and size shown on SDRSD E-1 and shall conform to the specifications of ASTM A 307 and be provided with two nuts and two washer each. Bolts, nuts and washers shall be galvanized by the hot-dip process conforming to ASTM A 153 or cadmium-plated with Type NS coating conforming to ASTM A 165. Direct burial poles may use 2-sack mix slurry backfill.

Plumbing of the standard shall be accomplished by adjusting the nuts on the anchor bolts before the foundation cap is placed. Shims or other similar devices for plumbing or raking will not be permitted. After plumbing the standard, anchor bolts shall be cut off 1/4" above the nuts and the exposed surfaces shall be repaired.

CONCRETE POLES:
RESIDENTIAL STREETS: Ameron 2B2-24(37)-2AP6A or 2B2-24(37)-2AP8A (27.5' mounting height)
COLLECTOR AND ARTERIAL STREETS: Ameron 6B1-26(37)-1AP9A (29.83' mounting height)
(Note: Use 8’ arm for poles located adjacent to the sidewalk on residential, collector and arterial streets)

Concrete poles shall be tapered, centrifugally cast and prestressed. Poles shall be round black and white marble aggregate or natural exposed aggregate. Pole shape and color shall be uniform for any one project. Replacement poles shall match existing.

The ultimate strength of a pole shall be calculated in accordance with the latest revision of American Concrete Institute (A.C.I.) standard 318. Under working loads (including wind loading, as specified in the latest edition of AASHTO standards), the pole must not be stressed beyond the cracking strength. The pole and mast arm must be capable of handling the EPA and weight of the luminaire.

Aggregates shall conform to current requirements of ASTM C33, except that abrasion requirements therein shall not apply and that no more than seven percent (7%) shall pass a #100 mesh sieve. No dye or sealer shall be used.

The centrifugal casting process shall produce a center duct throughout the length of the pole, which shall be free from sharp projections or edges and shall be a minimum of one and one-half inch (1-1/2") in diameter. All reinforcing steel shall have a minimum cover of five-eighths inch (5/8") of concrete. After curing, the surface of the pole shall be treated to remove cement laitance and to develop the surface texture. When finished, poles shall be without cracks or crazing and shall have a uniform surface (without objectionable mold marks) and texture throughout the entire length. Maximum deviation from stringline at any point shall not exceed 0.03" per foot of length.

Hand hole cover plates shall be aluminum and securing bolts shall be stainless steel tamper-proof bolts of the type installed with a pent-head wrench.

PROTECTIVE COATINGS FOR POLES:
All poles shall be provided with a clear, factory applied Amershield Anti-Graffiti coating.

PULL BOXES:
State No. 3-1/2 Pull Boxes (15 3/8" x 10 1/8"), or approved equal, shall be installed per CALTRANS Standard Plan ES-8 as follows:
1. Located at the end of the conduit run and three feet (3') from SDG&E service point and five feet (5') clear of curb face (NOTE: if the street light is within ten feet (10') of the service point only one pull box is required).
2. Located within five feet (5') of each street light.
3. Located at conduit interval runs of not more than 150 LF. Additional #5 pull boxes will be required for conduit runs over 150 LF long.

The bottom of the pull box shall rest firmly on a twelve-inch (12") thick bed of three-quarter-inch (3/4") crushed rock extending six inches (6") beyond the outside edges of the box. Pull boxes shall be installed behind sidewalk or five feet (5') behind the face of curb or dike and, where practical, shall be installed with the short side parallel to the curb. They shall not be installed in any part of a driveway or other traveled way, unless approved by the City Engineer and provided with a metal traffic cover. Pull box covers shall be inscribed "STREET LIGHTING" and shall be secured with 3/8" bolts, cap screws or studs and nuts made of brass, stainless steel or non-corroding material.
CITY OF VISTA - LED STREET LIGHTING STANDARDS

CONDUIT AND TRENCH:
All conduit shall be one-inch (1") UL approved heavy wall polyvinyl chloride (PVC) Schedule 40. Conduit shall be encased in a minimum of three inches (3") of sand on all sides. The minimum sweep radius shall be twenty-four inches (24"). The maximum length of a conduit run shall be one hundred fifty feet (150'). The Contractor may, at his expense, use conduit of a larger size, provided the larger size is used for the entire length of the conduit runs between pull boxes (reducing couplings shall not be allowed).

Conduit shall be laid to a depth of not less than thirty inches (30") unless placed under sidewalk in which case only fourteen inches (14") shall be required. Conduit laid in open trench shall not be covered nor shall any trench or inspection hole be backfilled until accepted by the City Engineer of his designated representative. Conduit shall be installed per SDRSD M-15 if in joint trench.

SPLICING:
Splices shall be permitted in pull boxes and lighting standard bases ONLY. All splices shall be waterproofed with epoxy encapsulation or heat shrink tubing.

CONDUCTORS AND SERVICE RUNS:
All conductors shall be stranded copper, THHN, #10AWG minimum. Neither aluminum nor direct-burial cable shall be accepted. All street light systems shall be provided with 110-120V service.

Wire shall conform to the applicable portion of ASTM B3 and B8. Wire size shall be indicated on the "As-Built" plans. Wire connectors shall be approved by the City Engineer or his designated representative and shall bear the UL seal of approval. The installation procedure, connector size and crimping tools shall conform to the manufacturer's recommendations.

Wire from the base of the pole to the luminaire shall be #10. For 120-volt installations, the wires shall be black and white, with black being the hot wire and fused. For 240-volt installations, one hot wire shall be black and the other shall be red. Both hot wires shall be fused. Any ground wires shall be green and connected to a clamp attached to an anchor bolt - NO EXCEPTIONS!

Service runs parallel to the street shall be installed under the sidewalk where new sidewalk is being constructed or directly behind the existing sidewalk. Voltage drop shall not exceed five percent (5%).

PRE-INSTALLATION:
1. Obtain a City R/W permit for any work to be done within a City R/W or City easement. Attached to the R/W permit are the construction requirements applicable to all work performed within the City R/W.
2. Call Underground Service Alert at 800-422-4133 at least 48 hours before excavating.

INSTALLATION AND INSPECTION:
1. Concrete and/or asphalt removal & replacement shall be per City of Vista public street requirements as directed by the City. A sidewalk extension may be required to meet ADA access requirements.
2. Conduit depth shall be as described in the CONDUIT AND TRENCH section. All trenches shall be compacted per the City of Vista public street requirements as directed by the City.
3. Street Lights shall be located per City approved plan or per City of Vista Standard Drawing ELE- 1A-1C, and shall not be relocated without prior City approval.
4. Minimum Engineering Department Inspections Required:
   a. Schedule an Engineering Department Inspection 48 hours in advance by calling 760-639-6113
   b. All work performed within a Public Right-Of-Way
   c. All conduit placement
   d. Prior to and during any concrete foundation placement
   e. Pole installation
5. Building Department inspection is required for final wiring and splicing prior to energizing. Contact the Building Department for inspection 48 hours in advance at 760-639-6106.
6. Pedestrian and vehicle traffic control and access shall be maintained per the Plans, Specifications, 2012 Standard Specifications for Public Works Construction (Greenbook) subsection 7-10 (Public Convenience and Safety), MUTCD, and as otherwise required or directed by the City.

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CITY OF VISTA - LED STREET LIGHTING STANDARDS

ACCEPTANCE AND ENERGIZING:
1. Upon completion of all street light construction, the Contractor (on public projects) or Developer (on private development projects) shall submit two (2) sets of professionally drafted streetlight "As-Built" plans on 11" x 17" size mylar sheets to the Development Services Division (Permit Center), City of Vista, showing the following information:
   a. Layout of curbs, gutter, sidewalks, driveways and other improvements, drawn to scale
   b. Location of street lights, with dimensions from the nearest cross street intersection and between streetlights
   c. Location of pull boxes dimensioned from the streetlights, curbs or other features
   d. Location of service point (power source) and SDG&E identification number
   e. Location of conduit service runs dimensioned from face of curb, edge of pavement or back of sidewalk as applicable
   f. Size and type of wire used
   g. Size (wattage and voltage rating) and type (LED) of each lamp and number of lamps used
   h. North arrow
   i. Contractor's name, address and telephone number
   j. Identifying project name and number

   - INCOMPLETE SUBMITTALS WILL NOT BE ACCEPTED -

2. For private development projects, the Developer shall submit a one-year Streetlight Energy fee for each new streetlight, paid when streetlight "As-Built" plans are submitted. The fees shall be paid in accordance with the most recent City of Vista Fee Schedule. All installations shall be guaranteed for a period of one year from the date of acceptance by the City for maintenance.

3. After "As-built" plans have been accepted by the City, the Contractor or Developer shall anticipate a minimum of five (5) working days for the City to contact SDG&E for streetlight energizing. Release of a Building Occupancy requires that streetlights be energized.
CITY OF VISTA - LED STREET LIGHTING STANDARDS
SAMPLE STREETLIGHT "AS-BUILT" PLAN

STREET NAME

STREETLIGHT "A-BUILT" PLAN FOR [LOCATION / PROJECT NO.]

INCLUDE THE FOLLOWING ON THE PLAN: STREETLIGHT LINE VOLTAGE, FIXTURE WATTAGE, FIXTURE MANUFACTURER, POLE MANUFACTURER, POLE TYPE AND MODEL NUMBER, CONTRACTOR'S NAME, ADDRESS AND TELEPHONE NUMBER (INCLUDING AREA CODE).

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CITY OF VISTA
STANDARD DRAWING

LED STREET LIGHTING STANDARDS

CITY OF VISTA
STANDARD DRAWING

CITY ENGINEER, DATE
RCE 55075
DRAWING NUMBER: ELE-02G
SEWERAGE SYSTEMS
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CITY OF VISTA
STANDARD DRAWING

STANDARD SEWER LEGEND AND SYMBOLS

Revision: By: Approvd: Date:
New: SJ: GM: 12/27/12
GL: EA: 05/16/14

CITY ENGINEER, DATE:
RCE 55075
DRAWING NUMBER: SWR-01
WATER & SEWER MAINS SHALL BE INSTALLED INSEPARATE TRENCHES. SEWERS SHALL BE INSTALLED AT LEAST TEN FEET (10') HORIZONTALLY FROM NEW OR EXISTING WATER MAINS.

### Parallel Construction

![Parallel Construction Diagram]

### Perpendicular Construction

![Perpendicular Construction Diagram]

**NOTES:**

1] DIMENSIONS ARE FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER MAIN.

2] SANITARY SEWERS ARE NOT PERMITTED WITHIN ANY OF THE ABOVE INDICATED ZONE UNLESS CONSTRUCTED IN CONFORMANCE WITH THE SPECIAL REQUIREMENTS SHOWN BELOW.

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<th>SPECIAL SEWER CONSTRUCTION REQUIREMENTS</th>
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<tr>
<td>A</td>
<td>SEWER LINES WILL NOT BE PERMITTED IN THIS ZONE WITHOUT SPECIAL WRITTEN PERMISSION FROM THE DEPARTMENT OF HEALTH.</td>
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<tr>
<td>B</td>
<td>EXTRA-STRENGTH VITRIFIED CLAY WITH COMPRESSION JOINT; OR RUBBER–GASKETED PLASTIC PIPE (C–900, CL305).</td>
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<tr>
<td>C</td>
<td>SEWER PIPE WITHIN A CONTINUOUS STEEL CASING. CASING SHALL HAVE A THICKNESS OF NOT LESS THAN ONE–FOURTH INCH (1/4&quot;) AND WITH ALL VOIDS BETWEEN SEWER PIPE AND CASING PRESSURE GRATWED WITH SAND CEMENT GRATW.</td>
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<tr>
<td>D</td>
<td>PROHIBITED ZONE. NO SEWER</td>
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**CITY OF VISTA**

**STANDARD DRAWING**

**SEWER AND WATER MAINLINE SEPARATION REQUIREMENTS**

**CITY ENGINEER, DATE**

**RCE 55075**

**DRAWING NUMBER:** SWR-02
SEE SAN DIEGO REGIONAL STANDARD DRAWINGS:

SM-01 (48" DIAMETER PRECAST MANHOLE INSTALLATION),
SM-03 (SEWER MANHOLE BASE),
SM-04 (MANHOLE PIPE CONNECTORS)
AND
SM-05 (MANHOLE MISCELLANEOUS DETAILS)
SEE SAN DIEGO REGIONAL STANDARD DRAWINGS:

**SM-02** (60" DIAMETER PRECAST MANHOLE INSTALLATION),
**SM-03** (SEWER MANHOLE BASE),
**SM-04** (MANHOLE PIPE CONNECTORS)
AND
**SM-05** (MANHOLE MISCELLANEOUS DETAILS)
NOTES:

1. DROP MANHOLE SHALL BE IDENTICAL TO STANDARD CONCRETE MANHOLE, EXCEPT FOR PIPE DETAILS AS SHOWN.

2. THE DROP MANHOLE TEE SHALL ENTER THE 5’ Ø RING; SEAL WALL PENETRATION PER SDRSD SM-04.

3. CLEAN AND ROUGHEN OUTSIDE SURFACE OF RINGS AND APPLY BONDING AGENT CEMENT PRIOR TO POURING SUPPORT FOR DROP SECTION.

4. NO MANHOLE STEPS ALLOWED.

5. DROP MANHOLES SHALL BE INSTALLED ONLY WITH PRIOR APPROVAL OF THE CITY OR DISTRICT.

SECTION A–A

FOUR #4 BARS, DRILL & EMBED WITH EPOXY CEMENT

SECTION B–B

CITY OF VISTA
STANDARD DRAWING

STANDARD SEWER PRECAST
CONCRETE DROP MANHOLE

Revision  By  Approvd  Date
New   SJ   GM  12/27/12

CITY ENGINEER,  DATE
RCE 55075
DRAWING NUMBER:  SWR-05A
NOTES:


2. CLASS 560-C-3250 CONCRETE WITH TYPE V CEMENT, AS DESCRIBED IN SECTION 201 OF THE GREENBOOK SHALL BE USED FOR ALL MANHOLE BASES UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER. THE MAXIMUM WATER / CEMENT RATIO SHALL BE 0.53 BY WEIGHT AND THE MAXIMUM SLUMP SHALL BE FOUR TO SIX INCHES (4" - 6"). IN CERTAIN CIRCUMSTANCES, RAPID-SETTING CONCRETE MAY BE REQUIRED. ACCELERATING ADMIXTURES SHALL CONFORM TO ASTM C-494 AND MAY BE USED IN THE CONCRETE MIX AS PERMITTED BY THE CITY ENGINEER. CALCIUM CHLORIDE SHALL NOT BE USED IN CONCRETE. HAND MIXED CONCRETE MATERIALS TYPE AND PROPORTIONS SHALL BE SUBMITTED AND APPROVED BY THE CITY ENGINEER PRIOR TO APPLICATION ON SITE.

3. ALL PRECAST COMPONENTS SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478.

4. VERTICAL WALL OF THE CONE SHALL BE ON THE UPSTREAM SIDE OF THE MANHOLE.

5. REFER TO SDRSD SM-01 THROUGH SM-08 & M-3 FOR ALL OTHER PERTINENT CONSTRUCTION DATA.

6. MANHOLE INSTALLATION WILL REQUIRE 1" A.C. OVER A 12" WIDE BY 11" THICK CONCRETE COLLAR AROUND THE MANHOLE (MINIMUM).

7. DROP MANHOLES EXCEEDING TWENTY FEET (20') IN DEPTH SHALL BE DESIGNED WITH THICKER WALLS AND THICKER BASE.

8. PLACE BASE AGAINST A SIX INCH (6") LAYER OF 3/4" CRUSHED ROCK.

9. MANHOLE FRAMES SHALL BE SET IN CLASS 'C' MORTAR AND CONFORM TO THE PROVISIONS OF SUBSECTION 201-5 OF THE LATEST EDITION OF THE GREENBOOK. ALL JOINTS SHALL BE SET IN MASTIC AND CONFORM TO THE PROVISIONS OF SUBSECTION 207 OF THE GREENBOOK.

10. ALL PATCHING WITHIN MANHOLE BASE SHALL BE WITH A TWO-COMPONENT, POLYMER-MODIFIED, PORTLAND CEMENT, FAST SETTING, NON-SAG EPOXY MORTAR WITH A PENETRATING CORROSION INHIBITOR (E.G. SIKATOP 123 PLUS).

11. GPK SAND COLLAR MANHOLE ADAPTERS (OR APPROVED EQUAL) SHALL BE UTILIZED FOR ALL MANHOLE CONNECTIONS.
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

**M-1** (24" MANHOLE FRAME AND COVER HEAVY DUTY)
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

**M-3** (36" MANHOLE FRAME AND TWO CONCENTRIC COVERS HEAVY DUTY)
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

**SC-01 (SEWER CLEANOUT)**
SECTION A–A

NOTES:
1. MATERIAL SHALL BE GRAY CAST IRON ASTM A48, CLASS 30B AND MADE IN U.S.A.
2. BEARING SURFACES SHALL BE MACHINED FOR CLOSE & QUIET FIT.
3. CASTINGS SHALL BE DIPPED IN BLACK BITUMINOUS PAINT FOR FINISH.
4. FRAME AND LID SHALL MEET HS–20 WHEEL LOAD REQUIREMENTS.
5. CAST SHALL BE BY SOUTH BAY FOUNDRY 1242 (OR APPROVED EQUAL).
NOTES:

1. SIMILAR POLYVINYL CHLORIDE COMPONENTS SHALL BE USED IN ACCORDANCE WITH ASTM D-2241 AND D-3139.

2. CONCRETE SLAB TO BE 560-C-3250.

3. USE MANHOLE FRAME AND COVER PER SDRSD M-3.

4. MORE THAN ONE 22-1/2' BEND SHALL BE APPROVED BY CITY ENGINEER.

5. PIPE PRESSURE CLASS MINIMUM 200 PSI OR EQUAL TO FORCE MAIN PRESSURE CLASS WHICH EVER IS GREATER.

CITY OF VISTA
STANDARD DRAWING

SEWER FORCE MAIN CLEANOUT

LEGEND ON PLANS

wg
NOTES:

1. ALL PIPING SHALL BE INSTALLED IN ACCORDANCE W/ ASTM D2321 (STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF PIPE FOR SEWERS & OTHER GRAVITY-FLOW APPLICATIONS).

2. (*) INDICATES MINIMUM RELATIVE COMPACtion.

3. UNDISTURBED NATIVE SOIL IS ANTICIPATED TO BE 85% RELATIVE COMPACtion AT TRENCH BOTTOM, WHICH IS SUITABLE AS "FIRM TRENCH BOTTOM." IF THE TRENCH BOTTOM IS LESS THAN 85% RELATIVE COMPACtion, CONTRACTOR SHALL PLACE CRUSHED ROCK AS INDICATED BY TRENCH DETAIL.

4. PROVIDE COMPACtion EFFORT SUITABLE TO UNIFORMLY LOAD THE ENTIRE CIRCUMFERENCE OF THE PIPE.
SEE CITY OF VISTA STANDARD DRAWINGS:

**SRF-08A AND SRF-08B** (TRENCH PAVING STANDARD TYPES)
SEE CITY OF VISTA STANDARD DRAWINGS:

**SRF-11A AND SRF-11B**

(TEMPORARY STEEL PLATE COVERS & NOTES)

AND

SAN DIEGO REGIONAL STANDARD DRAWING:

**SP-03 (CONCRETE PROTECTION FOR SEWER PIPE)**
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

SP-09

(PIPE SUPPORT FOR UNDERCUT SEWER MAINS OR SEWER LATERALS)

CITY OF VISTA
STANDARD DRAWING

CONCRETE SUPPORT FOR UNDERCUT SEWER PIPE

CITY ENGINEER:
RCE 55075

DRAWING NUMBER: SWR-14
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

**SP-03** (CONCRETE PROTECTION FOR SEWER PIPE)
SEE SAN DIEGO REGIONAL STANDARD DRAWINGS:

**SP-05** (SLOPE PROTECTION INSTALLATIONS)

AND

**SP-07** (CUT-OFF WALL INSTALLATIONS IN TRAVELED AREAS)
SEE SAN DIEGO REGIONAL STANDARD DRAWINGS:

**SS-01** (4" AND 6" SEWER LATERAL INSTALLATION)

AND

**SS-03** (SEWER LATERAL NOTES AND DETAIL)
SEE SAN DIEGO REGIONAL STANDARD DRAWINGS:

SS-02 (4" AND 6" DEEP-CUT SEWER LATERAL INSTALLATION)

AND

SS-03 (SEWER LATERAL NOTES AND DETAIL)
THIS SHEET
INTENTIONALLY LEFT BLANK
BEDDING PER SECTION 306-1.3 OF SSPWC GREENBOOK, LATEST EDITION

NEW LATERAL PIPE AS REQUIRED. CONNECT TO EXIST LATERAL WITH CALDER COUPLING

WYE FOR LATERAL CONNECTION PER COV STD DWG NO. SWR-17, SIZE PER PLAN

PVC PIPE
12” MIN
(TYP)

MIN 2’ TO NEAREST JOINT (TYP)

1/2” CRUSHED ROCK IN PIPE ZONE PER STANDARD SPECIFICATIONS

UNDISTURBED SOIL MINIMUM 85% RELATIVE COMPACTION

REPAIR WITH CALLDER TYPE COUPLING

DEPTH PER PLAN

PIPE PER PLAN

6” MIN

CITY OF VISTA
STANDARD DRAWING

CITY ENGINEER, DATE
RCE 55075

SEWER CUT-IN WYE CONNECTION

DRAWING NUMBER: SWR-20
NOTES:

1. GATE, LOCK BOX, HINGES AND POSTS ARE TO BE PAINTED PER PUBLIC WORKS DEPARTMENT REQUIREMENTS. POSTS IN FOOTINGS ARE TO BE SET PLUMB AND CONCRETE ALLOWED TO CURE FOR 48 HOURS PRIOR TO HANGING OF GATE.

2. POSTS ARE TO BE INSTALLED TO ACCOMODATE GATE, LOCK BOX AND HINGES. CONTRACTOR SHALL VERIFY INSIDE MEASUREMENT BETWEEN THE POSTS.

3. PROVIDE MINIMUM FIVE FOOT (5') WIDE OPENING FOR NON-VEHICULAR ACCESS.

4. ATTACH SIGNS TO GATE WITH SELF TAPPING SCREWS.

LEGEND

- **GATE**
  - 20' MIN.
  - C&G OR EP

<table>
<thead>
<tr>
<th>Revision</th>
<th>By</th>
<th>Approvd</th>
<th>Date</th>
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<td>PN</td>
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<td>SS</td>
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<td>Revised</td>
<td>SJ</td>
<td>GM</td>
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CITY OF VISTA 
STANDARD DRAWING

SEWER EASEMENT GATE

CITY ENGINEER, DATE 
RCE 55075

DRAWING NUMBER: SWR-21A
14' TO 16' (PER PLAN)

INSERT 8" x 1-5/8" SLEEVE

EQUAL
28" MAX.

3/16"

4" RADIUS
(TYPICAL)

6"

INSERT 8" x 1-5/8" SLEEVE

38" x 1-5/8" STANDARD
STEEL PIPE UPRIGHT WITH
END NOTCHED FOR WELDING

14' TO 16' (PER PLAN)

1-7/8" STANDARD
STEEL PIPE

USE TWO SECTIONS OF PIPE AND
WELD TOGETHER ENSURING THAT
THE GATE'S OVERALL LENGTH IS
PER PLAN (14' TO 16')

REFERENCES:

1. PIPE SHALL BE ASTM A53 GRADE 'B'.
2. WELD AND GRIND SMOOTH ALL CONNECTIONS.
3. HOT DIP GALVANIZE AFTER FABRICATION.

CITY OF VISTA
STANDARD DRAWING

SEWER EASEMENT GATE

CITY ENGINEER,
RCE 55075

DRAWING NUMBER: SWR-21B

Revision | By | Apprvd | Date
--- | --- | --- | ---
New | | PN | 09/11/00
Updated | SJ | SS | 03/01/12
Revised | SJ | GM | 01/30/13
Fabricate lid from 1/4" flat stock cut to 8-1/2" Ø.

Note: This is welded on in the field after box has been fitted to gate post. Provide 4" Ø hole on top of lid to see inside (save 4" Ø piece — see note C below).

Main body of lock box is fabricated from an 8" (inside) Ø pipe, 1/4" thick and 12" long.

Slot is cut out on the side of the body to accommodate the locking device on the gate.

Note: This is done in the field as all gates are different when installed.

This is the main part of the locking device. It has a 4" Ø and is welded to the inside of the main body. It consists of two pieces of 1/4" stock drilled out to accommodate six locks.

Fabricate rectangular pieces from 1-1/2" x 1/4" flat stock, cut to 8" lengths (two are required).

The two pieces are welded together and a 7/8" Ø hole is drilled in the center to accommodate the locking handle. Six outer 3/4" Ø holes are drilled as shown to accommodate multiple locks.

This piece is welded to the inside of the main body to guide the handle when lifted up and down. Drill a 7/8" Ø hole in the center.

The handle is fabricated from 3/4" Ø round stock. Cut to a 15" length, then heat and bend to 90°.

The locking pin is 1/2" Ø round stock cut to 5", then heat and bend to 90°. Weld the 1-1/2" side to the handle as shown on standard drawing SWR-21D at the approximate center of the longest part.

The handle top is fabricated from 1/4" flat stock cut to a 1-1/2" Ø.
**LID:** TACK WELD IN FIELD.

**HANDLE TOP:** TACK WELD TO TOP END OF HANDLE IN FIELD.

**SUPPORT BAR:** THIS IS THE MOST IMPORTANT PART OF THE ASSEMBLY – IT MUST BE EXACT.

**HANDLE:** THE UPPER PORTION MUST STICK UP THROUGH SUPPORT BAR. ALLOW FOR CLEARANCE OF LOCKING PIN TO CLEAR ANY INSTALLED LOCKS.

**LOCKING RING ASSEMBLY:**
THIS PIECE IS ASSEMBLED ACCORDING TO HOW THE HANDLE LINES UP IN THE SUPPORT BAR.

**LOCKING PIN:**

---

**LID:**
8-1/2” Ø x 1/4”
LID WELDED ON IN FIELD

**LOCKING RING ASSEMBLY:**
8” x 1-1/2” x 1/4” FLAT STOCK
DRILL 7/8” Ø HOLE
WELD TOGETHER
8” INSIDE Ø x 1/4”
OR SCHEDULE 40 METAL PIPE

**SUPPORT BAR:**
8” x 1-1/2” x 1/4” FLAT STOCK
DRILL 7/8” Ø HOLE

**HANDLE:**
3/4” Ø ROUND STOCK
1-1/2” Ø x 1/4” FLAT STOCK

**HANDLE TOP:**
12”
3-1/2”
1/2” Ø ROUND STOCK

**LOCKING PIN:**
1-1/2” CUT TO FIT LOCKING RING
NOTES:
1. SPECIFY TURN AROUND BY TYPE NUMBER OR AS OTHERWISE APPROVED BY CITY ENGINEER.
2. FOR CUSTOM DESIGN CONSTRAINTS USE VEHICLE DIMENSIONS 30' LONG BY 10' WIDE.
MINIMUM SHOULDER WIDTH
NO OBSTRUCTIONS (TYPICAL)

STREET STRUCTURAL SECTION SHALL BE BASED ON A MINIMUM
TRAFFIC INDEX (T.I.) = 5.0 AND A KNOWN SUBGRADE "R"
VALUE AS DETERMINED BY A GEOTECHNICAL ENGINEER

NOTES:

1) MINIMUM ACCESS ROAD STRUCTURAL SECTION ALTERNATIVE TYPES:
   TYPE A: MINIMUM 3" THICK OF 3/4" GRAVEL OVER 4" CLASS 2 AGGREGATE BASE
   TYPE B: MINIMUM 3" A.C. OVER 4" CLASS 2 AGGREGATE BASE
   TYPE C: MINIMUM 5" P.C.C. (WITH BROOM OR GROOVE FINISH AS DIRECTED BY CITY
            ENGINEER) OVER 4" CLASS 2 AGGREGATE BASE

2) STREET CROSS SLOPE SHALL BE ONE OF THE FOLLOWING:
   ALTERNATIVE A: -2% SLOPE FROM CROWN C/L TO THE OUTSIDE EDGES OF THE PAVEMENT
   ALTERNATIVE B: -2% SLOPE TO THE CENTER OF THE PAVEMENT
   ALTERNATIVE C: -2% SLOPE TO THE LEFT SIDE OF THE PAVEMENT
   ALTERNATIVE D: -2% SLOPE TO THE RIGHT SIDE OF THE PAVEMENT
TABLE 1 – DROP TO MAIN

<table>
<thead>
<tr>
<th>SEWER SIZE</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
<th>15&quot;</th>
<th>18&quot;</th>
<th>21&quot;</th>
<th>24&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>DROP TO MAIN</td>
<td>1.2’</td>
<td>1.3’</td>
<td>1.4’</td>
<td>1.8’</td>
<td>2.0’</td>
<td>2.2’</td>
<td>2.4’</td>
</tr>
</tbody>
</table>

SEWER LATERAL TABLES

A SEWER LATERAL TABLE (SEE EXAMPLE BELOW) SHALL BE INCLUDED IN THE IMPROVEMENT PLANS FOR ALL LATERALS. AT A MINIMUM THE LATERAL TABLE SHALL INCLUDE THE FOLLOWING:

1. SEQUENCE NUMBER
2. LOT NUMBER
3. SEWER MAIN STATION
4. INVERT AT SEWER MAIN (INVERT ELEVATION OF COLLECTION SEWER AT LATERAL CONNECTION)
5. LENGTH (DISTANCE FROM SEWER MAIN CENTERLINE TO PROPERTY LINE) LESS 2’ (THE APPROXIMATE INSTALLED LENGTH OF A LATERAL WYE AND 1/8TH BEND)
6. DROP TO MAIN (SEE TABLE 1 ABOVE)
7. INVERT ELEVATION OF LATERAL AT PROPERTY LINE
8. SLOPE IN % = \[\frac{(\text{ITEM 7} - (\text{ITEM 4} + \text{ITEM 6}))*100}{\text{ITEM 5} - 2.0'}\], WHICH SHALL BE GREATER THAN 2% FOR A FOUR INCH (4”) DIAMETER LATERAL OR 1% FOR A SIX INCH DIAMETER (6” Ø) LATERAL
9. GROUND ELEVATION AT PROPERTY LINE
10. DEPTH OF LATERAL (GROUND ELEVATION – LATERAL INVERT) AT PROPERTY LINE
11. PAD ELEVATION OF BUILDING BEING SERVED
12. RIM ELEVATION OF NEXT UPSTREAM MANHOLE (MH)
13. BACKWATER VALVE REQUIRED ON LATERAL – YES OR NO – REQUIRED WHEN UPSTREAM MANHOLE (MH) RIM ELEVATION IS HIGHER THAN THE HOUSE PAD ELEVATION
14. REMARKS (SUCH AS "DEEP CUT LATERAL")

TABLE SHALL BE PRESENTED IN THE FORM SHOWN BELOW:

<table>
<thead>
<tr>
<th>SEWER LATERAL TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEQ. NO.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Revision By Approvd Date
New TR GM 01/31/13

CITY OF VISTA
STANDARD DRAWING

SEWER LATERAL TABLES
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

**SC-01** (SEWER CLEANOUT)
NOTES:

1. GREASE INTERCEPTOR SHALL BE SIZED IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA PLUMBING CODE (CPC) REQUIREMENTS.

2. GREASE INTERCEPTORS SHALL BE DESIGNED, CONSTRUCTED, TESTED, AND MARKED IN ACCORDANCE WITH THE ASME A112.14.6 FOR FOG DISPOSAL SYSTEMS. SUBMIT SHOP DRAWINGS SHOWING COMPLIANCE.

3. ALL GREASE INTERCEPTORS SHALL BE PROVIDED WITH SAMPLE BOX AS SHOWN.

4. ALL GREASE INTERCEPTORS SHALL HAVE A CLEANOUT INSTALLED AFTER THE SAMPLE BOX ON THE PRIVATE LATERAL AND AT INTERVALS REQUIRED BY THE CPC.

5. INTERCEPTORS SHALL HAVE A SANITARY TEE LOCATED INSIDE THE SAMPLE BOX ON THE DISCHARGE SIDE OF THE SAMPLE BOX.

6. INTERCEPTOR BOX AND COVER SHALL BE DESIGNED FOR HS–20 TRAFFIC LOADING.

7. EXCAVATION SHALL BE BEDDED WITH SUITABLE GRANULAR MATERIAL AND SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY OR TO THE REQUIREMENTS OF THE GEOTECHNICAL ENGINEER.
SEE SAN DIEGO REGIONAL STANDARD DRAWINGS:

**SM-01** (48" DIAMETER PRECAST MANHOLE INSTALLATION)

AND

**SM-02** (60" DIAMETER PRECAST MANHOLE INSTALLATION)
SEE SAN DIEGO REGIONAL STANDARD DRAWING:

**M-4** (MANHOLE COVER - LOCKING DEVICE)
NOTES:

1. IF APPLICABLE, SUBMIT A COPY OF WRITTEN APPROVAL FROM THE JURISDICTIONAL AGENCY ALLOWING THE USE OF CAST IRON RISER RINGS FOR MANHOLE HEIGHT ADJUSTMENT.

2. MANHOLE HEIGHT ADJUSTMENT BETWEEN ONE AND TWO INCHES (1" – 2") PER RISER RING ALLOWED.

3. MANHOLE RISER RINGS SHALL BE SPECIFICALLY MANUFACTURED TO MATCH THE EXISTING MANHOLE FRAME AND COVER DIMENSIONALLY AND BY CASTING NUMBER.

4. NO MORE THAN TWO (2) CAST IRON RISER RINGS SHALL BE INSTALLED ON AN EXISTING MANHOLE FRAME.

5. FOR A HEIGHT ADJUSTMENT GREATER THAN THAT ALLOWED BY TWO (2) CAST IRON RISER RINGS, NEW CONCRETE RISERS SHALL BE USED PER SDRSD SM-01 (48" Ø PRECAST MANHOLE INSTALLATION) AND SM-02 (60" Ø PRECAST MANHOLE INSTALLATION).


7. RISERS SHALL HAVE A FLANGE 360 DEGREES ON THE OUTSIDE OF THE RISER. THE FLANGE SHALL EXTEND A MINIMUM OF ONE-HALF INCH (½") IN HEIGHT.

8. ALL SEATING SURFACES SHALL BE MACHINED AND ATTAIN FULL CONTACT OF MATING SURFACES SUCH THAT THE RAISED MANHOLE COVER DOES NOT "ROCK" OR MOVE ON THE ORIGINAL MANHOLE FRAME.


10. CAST IRON RISER RINGS SHALL BE MANUFACTURED BY SOUTH BAY FOUNDRY (OR APPROVED EQUAL).
NOTES:

1. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR (2012 GREENBOOK SUBSECTION 201-5.1).

2. PRECAST MANHOLE SHALL BE PER PLAN AND PER SAN DIEGO REGIONAL STANDARD DRAWINGS:
   SM–01 (48" Ø PRECAST MANHOLE INSTALLATION),
   SM–02 (60" Ø PRECAST MANHOLE INSTALLATION),
   SM–03 (SEWER MANHOLE BASE),
   SM–04 (MANHOLE PIPE CONNECTORS),
   SM–05 (MANHOLE MISCELLANEOUS DETAILS).

3. MANHOLE FRAME AND COVER SHALL BE PER SAN DIEGO REGIONAL STANDARD DRAWINGS:
   M–3 (36" MANHOLE FRAME AND TWO CONCENTRIC COVERS HEAVY DUTY)
   M–4 (MANHOLE COVER – LOCKING DEVICE)
   MANHOLE FRAME AND COVER FOR TYPE 'A' LOCATIONS SHALL BE GMI COMPOSITE FRAME AND COVER,
   WITH TITUS LOCKING SYSTEM, DESIGNED FOR AASHTO H–20 TRAFFIC LOADING.

4. LOCKING / SEALED MANHOLE FRAMES & COVERS, WHERE SPECIFIED, SHALL BE PAMREX FRAMES AND
   COVERS BY CERTAINTEED.

5. FOR MANHOLES WITHIN EXISTING SLOPES, THE UPHILL SIDE SHALL EXTEND SIX INCHES (6") ABOVE THE
   EXISTING GRADE. THE DOWNHILL SIDE SHALL BE VARIABLE, DEPENDING UPON THE STEEPNESS OF THE
   SLOPE. A TWELVE INCH (12") MINIMUM EMBEDMENT SHALL BE MAINTAINED ON ALL SIDES.
TYPE 'B' FOR PAVED AREAS

NOTES:
1. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR (2012 GREENBOOK SUBSECTION 201–5.1).

2. PRECAST MANHOLE SHALL BE PER PLAN AND PER SAN DIEGO REGIONAL STANDARD DRAWINGS:
   SM–01 (48" Ø PRECAST MANHOLE INSTALLATION),
   SM–02 (60" Ø PRECAST MANHOLE INSTALLATION),
   SM–03 (SEWER MANHOLE BASE),
   SM–04 (MANHOLE PIPE CONNECTORS),
   SM–05 (MANHOLE MISCELLANEOUS DETAILS).

3. MANHOLE FRAME AND COVER SHALL BE PER SAN DIEGO REGIONAL STANDARD DRAWINGS:
   M–3 (36" MANHOLE FRAME AND TWO CONCENTRIC COVERS HEAVY DUTY),
   M–4 (MANHOLE COVER – LOCKING DEVICE).

4. LOCKING / SEALED MANHOLE FRAMES & COVERS, WHERE SPECIFIED, SHALL BE PAMREX FRAMES AND COVERS BY CERTAINTED.
NOTES:
1. MANHOLE FRAME SHALL BE SET IN CLASS "C" MORTAR (2012 GREENBOOK SUBSECTION 201-5.1).
2. PRECAST MANHOLE SHALL BE PER PLAN AND PER SAN DIEGO REGIONAL STANDARD DRAWINGS:
   SM-01 (48" # PRECAST MANHOLE INSTALLATION),
   SM-02 (60" # PRECAST MANHOLE INSTALLATION),
   SM-03 (SEWER MANHOLE BASE),
   SM-04 (MANHOLE PIPE CONNECTORS),
   SM-05 (MANHOLE MISCELLANEOUS DETAILS).
3. MANHOLE FRAME AND COVER SHALL BE PER SAN DIEGO REGIONAL STANDARD DRAWINGS:
   M-3 (36" MANHOLE FRAME AND TWO CONCENTRIC COVERS HEAVY DUTY)
   M-4 (MANHOLE COVER - LOCKING DEVICE).
4. LOCKING / SEALED MANHOLE FRAMES & COVERS, WHERE SPECIFIED, SHALL BE PAMREX FRAMES AND COVERS BY CERTAINEED.
NOTES:

1. ALL SALVAGE MATERIALS SHALL BE DELIVERED TO THE CITY OF VISTA PUBLIC WORKS YARD.

2. CONTRACTOR, AT HIS OPTION AND EXPENSE, MAY REMOVE THE ENTIRE MANHOLE STRUCTURE.

3. SEE CITY OF VISTA STANDARD DRAWINGS SRF-08A AND SRF-08B (TRENCH PAVING STANDARD TYPES) FOR MINIMUM SURFACE RESTORATION REQUIREMENTS.
NOTES:

1. IF 'D1' ≠ 'D2', MAINTAIN THE LOWEST INVERT ELEVATION AND USE THE LARGER ø PIPE TO CALCULATE THE INVERT ELEVATION OF THE PROPOSED SEWER MAIN.

2. MANHOLE SHALL BE PER SAN DIEGO REGIONAL STANDARD DRAWINGS SM-01 (48" ø PRECAST MANHOLE INSTALLATION) OR SM-02 (60" ø PRECAST MANHOLE INSTALLATION).
1. Salvageable materials shall be delivered to the City of Vista Public Works Yard.

2. Replace existing 2' ø risers, frames, cones and covers with new 3' ø risers, frames, cones and covers. Reconstruct existing sewer manholes per San Diego Regional Standard Drawings: SM-01 (48" ø precast manhole installation), SM-02 (60" ø precast manhole installation) and M-3 (36" manhole frame and two concentric covers heavy duty).

3. Apply new coat of high-strength non-shrinking mortar and concrete to the exterior walls.

4. Construct existing sewer manholes per San Diego Regional Standard Drawings: SM-01 (48" ø precast manhole installation), SM-02 (60" ø precast manhole installation).

Legend

SMIH
#4 DIAGONAL TO MAIN REINFORCEMENT AROUND MANHOLE OPENING

2" MINIMUM CLEARANCE FROM EDGE OF CONCRETE APRON TO CENTER OF NEAREST STEEL REINFORCEMENT

CONCRETE APRON

2" MINIMUM CLEARANCE FROM EDGE OF MANHOLE TO NEAREST STEEL REINFORCEMENT

PLAN VIEW

STANDARD MANHOLE FRAME AND COVER

SECTION A-A
MANHOLE FLUSH WITH APRON

SECTION A-A
RAISED MANHOLE

STANDARD MANHOLE FRAME AND COVER

GENERAL NOTES:

1. THE 6" THICK CONCRETE APRON SHOULD BE CAST-IN-PLACE CONCRETE (520-C-2500).
2. PROVIDE A MINIMUM OF 2" OF CONCRETE COVER FOR ALL REINFORCEMENT STEEL.
3. STEEL REINFORCEMENT SHALL MEET ASTM C-478 REQUIREMENTS.
4. NO. 4 REBARS SPACED EQUALLY MAY BE LAP TIED OR SQUARE HOOPS.
SURFACE IMPROVEMENTS
THIS SHEET INTENTIONALLY LEFT BLANK
STREET NAME SIGN LOCATION
(NUMBERS INDICATE PRIORITY OF LOCATION SELECTION)

<table>
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<tr>
<th>CURB AND SIDEWALK</th>
<th>SIDEWALK WIDTH</th>
<th>SETBACK</th>
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<tr>
<td>CONTIGUOUS</td>
<td>EQUAL TO OR LESS THAN 6'</td>
<td>SIDEWALK WIDTH + 0.5' (4' MINIMUM)</td>
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<tr>
<td>CONTIGUOUS</td>
<td>GREATER THAN 6'</td>
<td>1.5'</td>
</tr>
<tr>
<td>SEPARATE</td>
<td>4' MINIMUM</td>
<td>PARKWAY WIDTH − 1'</td>
</tr>
</tbody>
</table>

NOTES:
1. HOLE SPACING SHALL MATCH THE HOLES IN THE EXTRUDED BLADES.
2. BRACKET TO BE DIE CAST ALUMINUM.
3. ALL ATTACHING SCREWS SHALL BE STAINLESS STEEL VANDAL PROOF TYPE.
TYPICAL PUBLIC STREET NAME SIGN LAYOUT

TYPICAL LAYOUT OF LEGEND ON VARIABLE LENGTH SIGN BLADE OF EXTRUDED ALUMINUM WITH (DIAMOND GRADE 3) REVERSE SCREENED REFLECTIVE SHEETING WITH DIAMOND GRADE WHITE LETTERS.

1. REFLECTIVE 5" CITY SEAL ON THE LEFT SIDE OF ALL 9' HIGH PUBLIC STREET NAME SIGNS.

2. 6" FOR UPPER CASE LETTERING AND 4.5" FOR LOWERCASE LETTERING (C SERIES). SUFFIX/BLK # 2.5" C SERIES.

3. * 2.5" E.D. FOR HANGING LEGEND; 6" FOR UPPERCASE LETTERING AND 4.5" FOR LOWERCASE LETTERING (C SERIES) (B TO FIT). SUFFIX/BLK # 2.5" C SERIES.

4. ARROW TO BE 1.17" WIDE AND 2.61" HIGH.

5. PREFERRED ABBREVIATIONS:

AVENUE: AV. OR AVE.
BOULEVARD: BL. OR BLVD.
CANYON: CYN.
CIRCLE: CIR.
DRIVE: DR.
HEIGHTS: HTS.
HIGHWAY: HWY.
LANE: LN.
PARK: PK.
PARKWAY: PKY. OR PKWY.
PLACE: PL.
ROAD: RD.
STREET: ST.
TERRACE: TER.
TRAIL: TR.
WAY: WY. OR WAY

NOTE: SEE THE CITY OF VISTA TRAFFIC (TRF) STANDARD DRAWING TRF-03 FOR THE DESIGN CRITERIA FOR STREET NAME SIGNS ATTACHED TO THE TRAFFIC SIGNAL MAST ARM AT SIGNALIZED INTERSECTIONS.
TYPICAL PRIVATE STREET NAME SIGN LAYOUT

TYPICAL LAYOUT OF LEGEND ON VARIABLE LENGTH SIGN BLADE OF EXTRUDED ALUMINUM WITH (DIAMOND GRADE 3) REVERSE SCREENED REFLECTIVE SHEETING WITH DIAMOND GRADE WHITE LETTERS.

① 6” FOR UPPERCASE LETTERING AND 4.5” FOR LOWERCASE LETTERING (C SERIES). SUFFIX/BLK#” 2.5” C SERIES.

② 6” FOR UPPER CASE LETTERING AND 4.5” FOR LOWERCASE LETTERING (C SERIES) (B TO FIT). SUFFIX/BLK#” 2.5” C SERIES.

③ ARROW TO BE 1.17” WIDE AND 2.61” HIGH.

④ PREFERRED ABBREVIATIONS:

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<tr>
<th>AVENUE:</th>
<th>AV. OR AVE.</th>
<th>DRIVE:</th>
<th>DR.</th>
<th>PARK:</th>
<th>PK.</th>
<th>STREET:</th>
<th>ST.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOULEVARD:</td>
<td>BL. OR BLVD.</td>
<td>HEIGHTS:</td>
<td>HTS.</td>
<td>PARKWAY:</td>
<td>PKY. OR PKWY.</td>
<td>TERRACE:</td>
<td>TER.</td>
</tr>
<tr>
<td>CANYON:</td>
<td>CYN.</td>
<td>HIGHWAY:</td>
<td>HWY.</td>
<td>PLACE:</td>
<td>PL.</td>
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<tr>
<td>CIRCLE:</td>
<td>CIR.</td>
<td>LANE:</td>
<td>LN.</td>
<td>ROAD:</td>
<td>RD.</td>
<td>WAY:</td>
<td>WY.</td>
</tr>
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CITY OF VISTA
STANDARD DRAWING

PUBLIC STREET NAME SIGN DETAILS
(FOR NON–SIGNALIZED INTERSECTIONS)
# PUBLIC STREET DESIGN CRITERIA

<table>
<thead>
<tr>
<th>STREET CLASS</th>
<th>6-LANE PRIME ARTERIAL (DIVIDED)</th>
<th>6-LANE URBAN ARTERIAL (DIVIDED)</th>
<th>4-LANE MAJOR ARTERIAL (DIVIDED)</th>
<th>4-LANE COLLECTOR (UNDIVIDED)</th>
<th>2-LANE COLLECTOR WITH TWLTL (22)</th>
<th>2-LANE COLLECTOR</th>
<th>2-LANE LITE COLLECTOR/LOCAL STREET</th>
<th>CUL-DE-SAC STREET</th>
<th>HILLSIDE STREET</th>
<th>ALLEY</th>
<th>SEMI-RURAL ROAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADT (LOS &quot;C&quot;)</td>
<td>48,000</td>
<td>40,000</td>
<td>32,000</td>
<td>21,000</td>
<td>12,000</td>
<td>1,500</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>ADT (LOS &quot;D&quot;)</td>
<td>54,000</td>
<td>45,000</td>
<td>36,000</td>
<td>24,500</td>
<td>13,000</td>
<td>4,500</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>ADT (LOS &quot;E&quot;)</td>
<td>60,000</td>
<td>50,000</td>
<td>40,000</td>
<td>30,000</td>
<td>15,000</td>
<td>7,000</td>
<td>1,500</td>
<td>300</td>
<td>300</td>
<td>N/A</td>
<td>7,000</td>
</tr>
<tr>
<td>DESIGN SPEED</td>
<td>55 MPH (1)</td>
<td>50 MPH (1)</td>
<td>45 MPH</td>
<td>45 MPH</td>
<td>35 MPH</td>
<td>30 MPH</td>
<td>25 MPH</td>
<td>25 MPH</td>
<td>20 MPH</td>
<td>N/A</td>
<td>20 MPH</td>
</tr>
<tr>
<td>R.O.W. WIDTH</td>
<td>126 FT (2)</td>
<td>110 FT (2)</td>
<td>100 FT (2)</td>
<td>84 FT (2)</td>
<td>70 FT (15)</td>
<td>60 FT (60 FT)</td>
<td>60 FT</td>
<td>56 FT</td>
<td>40 FT</td>
<td>20 FT (20)</td>
<td>60 FT</td>
</tr>
<tr>
<td>CURB-TO-CURB WIDTH (MEDIAN WIDTH OR N/A)</td>
<td>106 FT (2)</td>
<td>94 FT (2)</td>
<td>80 FT (2)</td>
<td>64 FT (2)</td>
<td>48 FT (2)</td>
<td>50 FT (15)</td>
<td>40 FT</td>
<td>36 FT</td>
<td>28 FT</td>
<td>20 FT</td>
<td>28 FT</td>
</tr>
<tr>
<td>SIDEWALK WIDTHS (EXCLUDING CURB)</td>
<td>5-FT (MIN.)</td>
<td>5-FT (MIN.)</td>
<td>5-FT (MIN.)</td>
<td>5-FT (MIN.)</td>
<td>5-FT (MIN.)</td>
<td>5-FT (MIN.)</td>
<td>AS REQUIRED</td>
<td>AS REQUIRED</td>
<td>AS REQUIRED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MINIMUM TRAFFIC INDEX</td>
<td>9.0</td>
<td>9.0</td>
<td>8.5</td>
<td>8.0</td>
<td>8.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
<td>6.0</td>
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</tr>
<tr>
<td>MIN. STRUCTURAL SECTION (3)</td>
<td>6&quot; AC 8&quot; AB</td>
<td>6&quot; AC 8&quot; AB</td>
<td>5&quot; AC 8&quot; AB</td>
<td>4&quot; AC 8&quot; AB</td>
<td>4&quot; AC 8&quot; AB</td>
<td>4&quot; AC 8&quot; AB</td>
<td>4&quot; AC 8&quot; AB</td>
<td>4&quot; AC 8&quot; AB</td>
<td>4&quot; AC 8&quot; AB</td>
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</tr>
<tr>
<td>MIN. HORIZONTAL RADIUS (4)</td>
<td>2,200 FT</td>
<td>2,200 FT</td>
<td>1,400 FT</td>
<td>1,100 FT</td>
<td>600 FT</td>
<td>425 FT</td>
<td>300 FT</td>
<td>300 FT</td>
<td>150 FT (18)</td>
<td>100 FT</td>
<td>150 FT</td>
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<tr>
<td>MIN. &quot;RECOVERY&quot; TANGENT</td>
<td>200 FT</td>
<td>200 FT</td>
<td>150 FT</td>
<td>100 FT</td>
<td>100 FT</td>
<td>100 FT</td>
<td>50 FT</td>
<td>50 FT</td>
<td>N/A</td>
<td>50 FT</td>
<td>50 FT</td>
</tr>
<tr>
<td>CURB RETURN RADIUS (5)</td>
<td>35 FT</td>
<td>35 FT</td>
<td>35 FT</td>
<td>35 FT</td>
<td>35 FT</td>
<td>35 FT</td>
<td>25 FT</td>
<td>25 FT</td>
<td>25 FT</td>
<td>10 FT</td>
<td>25 FT</td>
</tr>
<tr>
<td>MAXIMUM INTERSECTION SKEW</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>10'</td>
<td>0'</td>
<td>10'</td>
<td></td>
</tr>
<tr>
<td>MIN. INTERSECTION SPACING (OFFSET &quot;Ts&quot;)</td>
<td>2,600 FT (1,300 FT)</td>
<td>2,600 FT (1,300 FT)</td>
<td>1,200 FT (600 FT)</td>
<td>600 FT (300 FT)</td>
<td>600 FT (300 FT)</td>
<td>300 FT (300 FT)</td>
<td>200 FT (150 FT)</td>
<td>200 FT (150 FT)</td>
<td>150 FT</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>MIN. MEDIAN CURB OPENING SPACING</td>
<td>600 FT</td>
<td>600 FT</td>
<td>500 FT</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>MIN. INTERSECTION TANGENT (6)</td>
<td>100 FT</td>
<td>100 FT</td>
<td>100 FT</td>
<td>100 FT</td>
<td>50 FT</td>
<td>50 FT</td>
<td>25 FT</td>
<td>25 FT</td>
<td>25 FT</td>
<td>N/A</td>
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</tr>
<tr>
<td>MAXIMUM GRADE (7)</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
<td>12% (17)</td>
<td>12% (17)</td>
<td>12% (17)</td>
<td>12% (17)</td>
<td>13% (17)</td>
</tr>
<tr>
<td>MINIMUM GRADE</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>
## Public Street Design Criteria

<table>
<thead>
<tr>
<th>Street Class</th>
<th>6-Lane Prime Arterial (Divided)</th>
<th>6-Lane Urban Arterial (Divided)</th>
<th>4-Lane Major Collector (Divided)</th>
<th>4-Lane Collector (Undivided)</th>
<th>2-Lane Collector</th>
<th>2-Lane Collector/Local Street</th>
<th>Cul-de-Sac Street</th>
<th>Hillside Street</th>
<th>Alley</th>
<th>Semi-Rural Road</th>
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</thead>
<tbody>
<tr>
<td>Vertical Curve (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;K&quot; Sag</td>
<td>120–160</td>
<td>120–160</td>
<td>90–110</td>
<td>60–70</td>
<td>40</td>
<td>40</td>
<td>30</td>
<td>20</td>
<td>30</td>
<td>N/A</td>
</tr>
<tr>
<td>&quot;K&quot; Crest</td>
<td>190–310</td>
<td>190–310</td>
<td>110–160</td>
<td>60–80</td>
<td>30</td>
<td></td>
<td>30</td>
<td>20</td>
<td>30</td>
<td>N/A</td>
</tr>
<tr>
<td>Maximum Super Elevation (9)</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
<td>2%</td>
<td>-2% (16)</td>
<td>-2% (16)</td>
<td>-2% (16)</td>
<td>-2% (16)</td>
<td>-2% (16)</td>
</tr>
<tr>
<td>Lighting at:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersection / Non-Intersection (10)</td>
<td>116 Watt LED</td>
<td>116 Watt LED</td>
<td>116 Watt LED</td>
<td>92 Watt LED</td>
<td>92 Watt LED</td>
<td>92 Watt LED</td>
<td>92 Watt LED</td>
<td>37 Watt LED</td>
<td>37 Watt LED</td>
<td>N/A</td>
</tr>
<tr>
<td>Stopping Sight Distance</td>
<td>525 FT-650 FT</td>
<td>525 FT-650 FT</td>
<td>400 FT-475 FT</td>
<td>350 FT-400 FT</td>
<td>275 FT-325 FT</td>
<td>175 FT-225 FT</td>
<td>150 FT-200 FT</td>
<td>150 FT</td>
<td>125 FT</td>
<td>325 FT</td>
</tr>
<tr>
<td>Driveway Access (11)</td>
<td>None (12)</td>
<td>None (12)</td>
<td>None (12)</td>
<td>None (12)</td>
<td>None (12)</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
</tr>
<tr>
<td>Driveway / Intersection Spacing (13)</td>
<td>300 FT</td>
<td>300 FT</td>
<td>200 FT</td>
<td>200 FT</td>
<td>100 FT</td>
<td>100 FT</td>
<td>50 FT</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Driveway to Driveway Separation (14)</td>
<td>250 FT</td>
<td>250 FT</td>
<td>250 FT</td>
<td>175 FT</td>
<td>50 FT</td>
<td>50 FT</td>
<td>50 FT</td>
<td>25 FT</td>
<td>50 FT</td>
<td>N/A</td>
</tr>
<tr>
<td>On-Street Parking</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>OK (14)</td>
<td>OK (14)</td>
<td>OK (14)</td>
<td>None (19)</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>
1) Design speed for prime arterials may be reduced in urban areas at the discretion of the city engineer.

2) Right-of-way and curb-to-curb distance may be increased to provide for special roadway geometrics at arterial / arterial intersections (e.g. dual left turn pockets or dedicated, right turn only ancillary lanes).

3) Actual structural sections to be determined by geotechnical engineer's testing of the subgrade and recommendations.

4) Super elevation and upgraded roadway drainage may be used to reduce these minimums.

5) At the intersection of two dissimilarly classified streets, the larger of the two radii shall be used. All radii are measured at curb face.

6) Used when approaching major signalized intersections (existing or planned), or terminus of street. Distance is measured from the P.C.R. Maybe reduced only with permission of the city engineer.

7) Maybe increased up an additional 2% for short distances in mountainous terrain with approval of the city engineer. The maximum grade through an intersection shall not exceed 5%.

8) The AASHTO "Comfort Curve" for sag curve conditions, L = A(V squared)/46.5, is an acceptable alternative if adequate supplemental street illumination is provided.

9) A 0.04 (4.0%) maximum "super" is to be exceeded only with permission of the city engineer. An absolute maximum of 0.06 (6.0%) should never be exceeded in urban areas or on routes with significant truck traffic in the traffic stream.

10) At the intersection of two dissimilarly classified streets, the luminary requirements for the higher classified street shall be used. At signalized intersections, lighting shall be designed to provide an illumination level of 0.6 foot-candle at the intersection of the street centerlines. All street lights shall be light emitting diode (BetaLED). See City of Vista Standard Drawing ELE-1A for streetlight spacing criteria.

11) Maximum driveway width is thirty feet (30'). An alternate maximum driveway width of thirty-six feet (36') is acceptable if there is joint access between adjacent properties. New driveways in commercially and industrially zoned areas shall be the radius type per the city's standard drawing handout.

12) None if other available. 24' to 30' (36' for joint access) driveways only when absolutely necessary. Driveway geometrics maybe required to restrict turns to right turn in or right turn out on an auxiliary lane. A 20' minimum throat distance (measured from the ultimate right-of-way line) is required as part of on-site parking lot design.

13) Distance is measured from P.C.R. to near side of the driveway. Approval of driveways within this separation maybe contingent upon driveway geometrics that allow only right turns in or right turns out on an auxiliary lane, and / or reciprocal access agreements with the adjacent property owner(s).

14) Maybe restricted. New driveways in commercial and industrially zoned areas shall be the radius type per the city's standard drawing handout.

15) For streets designed with a center turn lane.

16) Super elevation is not recommended on industrial, local, cul-de-sacs, hillside streets, rural roads or alleys.

17) A 14% maximum grade (15% for rural roads) with reinforced concrete as a street surface instead of asphalt concrete.

18) Subject to approval by city engineer.

19) Parking permitted on one side of street only.

20) May vary.

21) With popouts @ 30 feet.

22) Two way left turn (in striped center median)
## PRIVATE STREET DESIGN CRITERIA

<table>
<thead>
<tr>
<th>CASE NUMBER</th>
<th>LOT SIZE</th>
<th>ROAD EASEMENT WIDTH</th>
<th>PUBLIC UTILITY EASEMENT WIDTH</th>
<th>PAVED WIDTH</th>
<th>MINIMUM TRAFFIC INDEX</th>
<th>CURB &amp; GUTTER REQUIRED?</th>
<th>SINGLE LOADED</th>
<th>GRADED SHOULDER REQUIRED</th>
<th>ZONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LESS THAN 0.5 ACRE &amp; LESS THAN 600 FT IN LENGTH</td>
<td>46 FEET</td>
<td>5 FEET (EACH SIDE)</td>
<td>36 FEET</td>
<td>5.5</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>5 FEET (EACH SIDE) (P.U.E.)</td>
</tr>
<tr>
<td>2</td>
<td>LESS THAN 0.5 ACRE &amp; GREATER THAN 600 FT IN LENGTH</td>
<td>50 FEET</td>
<td>5 FEET (EACH SIDE)</td>
<td>40 FEET</td>
<td>5.5</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>5 FEET (EACH SIDE) (P.U.E.)</td>
</tr>
<tr>
<td>3</td>
<td>LESS THAN 0.5 ACRE &amp; SINGLE LOADED</td>
<td>40 FEET</td>
<td>5 FEET (EACH SIDE)</td>
<td>32 FEET</td>
<td>5.5</td>
<td>YES - GUTTER ON ONE SIDE</td>
<td>YES - ONE SIDE</td>
<td>YES</td>
<td>5 FEET (EACH SIDE) (P.U.E.)</td>
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<tr>
<td>4</td>
<td>0.05 ACRE AND GREATER</td>
<td>30 FEET</td>
<td>AS REQUIRED</td>
<td>24 FEET</td>
<td>5.0</td>
<td>MOUNTABLE PCC OR AC CURB</td>
<td>NO</td>
<td>N/A</td>
<td>3 FEET AND NO PARKING</td>
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</tbody>
</table>

---

**PUBLIC AND PRIVATE STREET DESIGN CRITERIA**

**CITY OF VISTA**

**STANDARD DRAWING**

**DRAWING NUMBER:** SRF-03D

**DRAWN BY:**

**CHECKED BY:**

**PRINTED BY:**

**REVISED BY:**

**DATE:** 03/01/95

---

**ZONE:**

- **R-1:** Residential
- **E:** Exclusive
- **A:** Access
MAILBOX CAN BE SET SIDEWAYS, WITH OPENING INLINE WITH ROADWAY TRAVEL DIRECTION, IN ORDER TO MAINTAIN A 48" PATH OF TRAVEL. CAN BE UTILIZED ONLY IF RIGHT-OF-WAY OR OTHER OBSTRUCTION LIMITS SIDEWALK WIDTH.
TYPICAL PLAN

NOTES:


3. CONCRETE MIX DESIGN SHALL BE 560-C-3250 (6 SACK). NO CONCRETE SHALL BE PLACED UNTIL SUBGRADE, BASE AND FORMS HAVE BEEN INSPECTED BY THE CITY.

4. TRANSITION FROM FULL HEIGHT CURB TO FLUSH. PROVIDE WEAKENED PLANE JOINT 6" BEHIND CURB AND AT CURB LINE WHERE CURB IS FLUSH.

5. WEAKENED PLANE JOINTS SHALL BE INSTALLED ON BOTH SIDES OF THE DRIVEWAY AND AT TEN FOOT (10') INTERVALS (MAXIMUM) (OPTIONAL AT GRADE BREAK). SEE SDRSD G-2 AND G-10 FOR CURB AND JOINT DETAILS.

* OR AS REQUIRED BY THE CITY ENGINEER
DRIVEWAY SELECTION TABLE

<table>
<thead>
<tr>
<th>TYPE OF DRIVEWAY Approach</th>
<th>2-WAY DAILY DRIVEWAY VOLUME</th>
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</thead>
<tbody>
<tr>
<td>SDRS G-14 &amp; G-26</td>
<td>0 - 200</td>
</tr>
<tr>
<td>VISTA DWG SRF-05A &amp; -05B</td>
<td>200 - 2500</td>
</tr>
<tr>
<td>STANDARD INTERSECTION</td>
<td>2500+</td>
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</table>

DRIVEWAY DIMENSIONS

<table>
<thead>
<tr>
<th>RADIUS R</th>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'</td>
<td>9.00'</td>
<td>9.95'</td>
</tr>
<tr>
<td>15'</td>
<td>13.51'</td>
<td>14.93'</td>
</tr>
<tr>
<td>20'</td>
<td>18.01'</td>
<td>19.90'</td>
</tr>
<tr>
<td>25'</td>
<td>22.51'</td>
<td>24.88'</td>
</tr>
<tr>
<td>30'</td>
<td>27.01'</td>
<td>29.85'</td>
</tr>
</tbody>
</table>

3' TAPERED DOWN CURB FACE UNLESS JOINING OPTIONAL ON-SITE CURB (TYPICAL)

"R" = AS SHOWN ON PLANS, (12' MINIMUM, 30' MAXIMUM)
CURB HEIGHT VARIES
6" PCC CURB
8.33% MAXIMUM SLOPE
0" CURB (UNLESS CURB CONTINUES)
SIDEWALK (WIDTH MAY VARY)
ALTERNATE BACKS OF SIDEWALK
GUTTER (FLOW) LINE WITH 1" LIP
GRADE BREAK
WEAKENED PLANE JOINT (TYPICAL)
GUTTER EDGE
SIDEWALK WIDTH AS SHOWN ON PLANS
1/2" EXPANSION JOINT AT R/W
1 1/2" EXPANSION JOINT

NOTES:
*P* = PARKWAY WIDTH
P - 6" = OFFSET
* = USE OFFSET TRANSITION WHEN "W" < 18 FEET AND *P* = OR > 10 FEET.
1. AUXILIARY 12" WIDE RIGHT TURN LANE IN STREET SHALL BE REQUIRED WHEN RIGHT TURN MOVEMENT EXCEEDS 125 VEHICLES PER HOUR. MINIMUM 250 FOOT LENGTH INCLUDING A 90 FOOT BAY TAPER TRANSITION.
2. DRIVEWAY THROAT OR RESERVOIR LENGTH SHALL BE 20' MINIMUM TO 150' MAXIMUM. THROAT AREA SHALL BE CLEAR OF CROSS TRAFFIC. THROAT LENGTH TO BE 20' PER 1000 ADT AND APPROVED BY THE CITY ENGINEER.

Revisions by Approver Date
New TH 06/26/91
Updated TR GM 02/11/13

CITY OF VISTA
STANDARD DRAWING

ALLEY TYPE DRIVEWAY

CITY ENGINEER, DATE RCE 55075
DRAWING NUMBER: SRF-05B
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

10' 44' 9' 2' 9' 44' 10'

MEDIAN CURB PER SDRSD G-6
MEDIAN CURB PER SDRSD G-6

NOTE 6

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 9.0

2' MAINTENANCE WALKWAY ON COMPACTED NATIVE SOIL

ALL SLOPES ARE TO BE A MAXIMUM 2:1 UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER

6" TYPE 'G' CURB AND GUTTER (TYPICAL)

4" CONCRETE SIDEWALK ON 6" CLASS 2 AGGREGATE BASE OR AS RECOMMENDED BY GEOTECHNICAL ENGINEER

TYPICAL 6-LANE PRIME ARTERIAL (DIVIDED)

NO SCALE

MINIMUM PAVEMENT DESIGN REQUIREMENTS

<table>
<thead>
<tr>
<th>SUBBASE</th>
<th>BASE</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>8&quot; CLASS 2 AGGREGATE BASE</td>
<td>6&quot; ASPHALT</td>
</tr>
</tbody>
</table>

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.

6. A 4" THICK AND TWO FOOT (2) WIDE LANDSCAPE MAINTENANCE WALKWAY (STAMPED CONCRETE, BRICK Pavers OR AS APPROVED BY CITY ENGINEER) SHALL BE CONSTRUCTED CONTIGUOUS TO THE MEDIAN CURB ADJACENT TO ALL MEDIAN LANDSCAPE AREAS.
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

6" TYPE 'G' CURB AND GUTTER (TYPICAL)

4" CONCRETE SIDEWALK ON 6" CLASS 2 AGGREGATE BASE OR AS RECOMMENDED BY GEOTECHNICAL ENGINEER

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 9.0

2' MAINTENANCE WALKWAY ON COMPACTED NATIVE SOIL

ALL SLOPES ARE TO BE A MAXIMUM 2:1 UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER

TYPICAL 6-LANE URBAN ARTERIAL (DIVIDED)

NO SCALE

MINIMUM PAVEMENT DESIGN REQUIREMENTS

<table>
<thead>
<tr>
<th>SUBBASE</th>
<th>BASE</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>8&quot; CLASS 2 AGGREGATE BASE</td>
<td>6&quot; ASPHALT</td>
</tr>
</tbody>
</table>

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.

6. A 4" THICK AND TWO FOOT (2') WIDE LANDSCAPE MAINTENANCE WALKWAY (STAMPED CONCRETE, BRICK PAVERS OR AS APPROVED BY CITY ENGINEER) SHALL BE CONSTRUCTED CONTIGUOUS TO THE MEDIAN CURB ADJACENT TO ALL MEDIAN LANDSCAPE AREAS.
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 8.5

TYPICAL 4-LANE COLLECTOR (DIVIDED)

NO SCALE

<table>
<thead>
<tr>
<th>MINIMUM PAVEMENT DESIGN REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBBASE</td>
</tr>
<tr>
<td>N.A.</td>
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<tr>
<td></td>
</tr>
</tbody>
</table>

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.

6. A 4" THICK AND TWO FOOT (2') WIDE LANDSCAPE MAINTENANCE WALKWAY (STAMPED CONCRETE, BRICK PAVERS OR AS APPROVED BY CITY ENGINEER) SHALL BE CONSTRUCTED CONTIGUOUS TO THE MEDIAN CURB ADJACENT TO ALL MEDIAN LANDSCAPE AREAS.
NOTES:

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.

2. THE PAVEMENT DESIGN IS BASED ON A MINIMUM TRAFFIC INDEX (T.I.) VALUE OF 8.0. THE ACTUAL DESIGN OF THE STREET STRUCTURAL SECTION SHALL BE BASED ON THE T.I. VALUE OF THE SUBBASE SOIL AS DETERMINED BY A GEOTECHNICAL ENGINEER. THE PAVEMENT DESIGN MUST BE APPROVED BY THE CITY ENGINEER.

3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREEN BOOK.

4. AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R.W. LIMITS. AN UNDERGROUND SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR THE SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADS.

PUBLIC STREET AND UTILITIES EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HyDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM T.i. VALUE OF 8.0

6" TYPE 'G' CURB AND GUTTER (TYPICAL)

4" CONCRETE SIDEWALK ON 6" CLASS 2 AGGREGATE BASE OR AS RECOMMENDED BY GEOTECHNICAL ENGINEER

MINIMUM PAVEMENT DESIGN REQUIREMENT

<table>
<thead>
<tr>
<th>SUBBASE</th>
<th>BASE</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>4&quot;</td>
<td>4&quot; ASPHALT</td>
</tr>
</tbody>
</table>

84'
32'
32'
10'
10'
10'
5.5'
5.5'
1.5'
1.5'
2'
2'
4'

CITY OF VISTA
STANDARD DRAWING

CITY ENGINEER,
DATE
RCE 55075
DRAWING NUMBER: SRF-06D

Revision | By | Approv | Date
------- | --- | ------ | ----
New | GL | TR | 11/01/12

TYPICAL 4-LANE COLLECTOR (UNDIVIDED)
TYPICAL SECTION
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

4" CONCRETE SIDEWALK ON 6" CLASS 2 AGGREGATE BASE OR AS RECOMMENDED BY GEOTECHNICAL ENGINEER

6" TYPE 'G' CURB AND GUTTER (TYPICAL)

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 8.0

TYPICAL 2-LANE COLLECTOR WITH TWO-WAY LEFT TURN LANE (TWLTL)

MINIMUM PAVEMENT DESIGN REQUIREMENT

<table>
<thead>
<tr>
<th>SUBBASE</th>
<th>BASE</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.A.</td>
<td>8&quot; CLASS 2 AGGREGATE BASE</td>
<td>4&quot; ASPHALT</td>
</tr>
</tbody>
</table>

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.
3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.
4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED Adjacent TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.
5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.
2 LANE COLLECTOR STREET
TYPICAL SECTION

PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

All slopes are to be a maximum 2:1 unless approved otherwise by the City Engineer.

4" concrete sidewalk on 6" class 2 aggregate base or as recommended by geotechnical engineer

6" type 'C' curb and gutter (typical)

Minimum structural section as required per table below based on a minimum "R" value of 50 and minimum T.I. = 6.0

Typical 2-Lane Collector
No Scale

<table>
<thead>
<tr>
<th>Minimum Pavement Design Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subbase</td>
</tr>
<tr>
<td>N.A.</td>
</tr>
</tbody>
</table>

1. The pavement depths are minimum compacted depths.
2. The pavement design is based on a minimum traffic index (T.I.) value of 6.0. The actual design of the street structural section shall be based on the "R" value of the subbase soil as determined by a geotechnical engineer at the time of construction and the T.I. The final pavement design must be approved by the City Engineer.
3. Materials and construction shall be in accordance with the latest edition of the Greenbook.
4. If an irrigation system is proposed within the R/W limits, an underdrain system must be provided adjacent to the curb and gutter. A maintenance agreement for said system must be provided between the developer and the City of Vista.
5. A uniform street cross sectional width and consistent pavement design are required for all roadways.

* For streets designed with a center turn lane per note #15 on City of Vista standard drawing SRF-03C.
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

ALL SLOPES ARE TO BE A MAXIMUM 2:1 UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER

4" CONCRETE SIDEWALK ON 6" CLASS 2 AGGREGATE BASE OR AS RECOMMENDED BY GEOTECHNICAL ENGINEER

6" TYPE 'G' CURB AND GUTTER (TYPICAL)

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 6.0

TYPICAL CUL-DE-SAC STREET

NO SCALE

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1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

SIDEWALK (IF REQUIRED)

6" TYPE 'G' CURB AND GUTTER (TYPICAL)

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 6.0

TYPICAL HILLSIDE STREET
NO SCALE

<table>
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<tbody>
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1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSSSECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 6.0

ALL SLOPES ARE TO BE A MAXIMUM 2.1 UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER

TYPICAL ALLEY
NO SCALE

<table>
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<td>4&quot; ASPHALT</td>
</tr>
<tr>
<td>N.A.</td>
<td>8&quot; CLASS 2 AGGREGATE BASE</td>
<td>5-1/2&quot; 560-C-3250 CONCRETE</td>
</tr>
</tbody>
</table>

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.

5. 5-1/2" OF CONCRETE (560-C-3250) OVER 6" OF CLASS 2 AGGREGATE BASE MAY BE SUBSTITUTED FOR THE 4" ASPHALT CONCRETE OVER 8" OF CLASS 2 AGGREGATE BASE.
PUBLIC STREET AND UTILITY EASEMENT FOR STREET, SIDEWALK, STREET LIGHTS, FIRE HYDRANTS, ELECTRIC, TELEPHONE & CABLE TV AS NEEDED

ALL SLOPES ARE TO BE A MAXIMUM 2:1 UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER

MINIMUM STRUCTURAL SECTION AS REQUIRED PER TABLE BELOW BASED ON A MINIMUM "R" VALUE OF 50 AND MINIMUM T.I. = 6.0

TYPICAL SEMI-RURAL ROAD
NO SCALE

| MINIMUM PAVEMENT DESIGN REQUIREMENT |
|-------------------------------|-----------------|-----------------|
| SUBBASE                       | BASE            | SURFACE         |
| N.A.                          | 8" CLASS 2      | 4" ASPHALT      |
| AGGREGATE BASE                |                 |                 |

1. THE PAVEMENT DEPTHS ARE MINIMUM COMPACTED DEPTHS.


3. MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE GREENBOOK.

4. IF AN IRRIGATION SYSTEM IS PROPOSED WITHIN THE R/W LIMITS, AN UNDERDRAIN SYSTEM MUST BE PROVIDED ADJACENT TO THE CURB AND GUTTER. A MAINTENANCE AGREEMENT FOR SAID SYSTEM MUST BE PROVIDED BETWEEN THE DEVELOPER AND THE CITY OF VISTA.

5. A UNIFORM STREET CROSS SECTIONAL WIDTH AND CONSISTENT PAVEMENT DESIGN ARE REQUIRED FOR ALL ROADWAYS.
NOTE:

1. THIS GUTTER TRANSITION SHALL BE USED WITH THE CONSTRUCTION OF TYPE ‘B’ CURB INLETS.

2. GUTTER TRANSITION SHALL BEGIN 10' FROM BOTH SIDES OF CURB INLET BY MAINTAINING THE SAME ELEVATION DIFFERENCE BETWEEN THE TOP OF CURB AND THE EDGE OF GUTTER, BUT WARPING THE X-SLOPE OF THE CONCRETE GUTTER FROM THE TYPICAL 9.4% (ASSUMING A 6" TYPE ‘G’ CURB FACE) TO A 34.4% X-SLOPE WITH A 10" CURB FACE AT THE EDGES OF CURB INLET.
GENERAL PROVISIONS
A. THE GENERAL CONTRACTOR IS REQUIRED TO OBTAIN A CITY RIGHT-OF-WAY PERMIT FOR ANY AND ALL WORK PERFORMED WITHIN THE CITY RIGHT-OF-WAY.
B. ALL WORK PERFORMED REQUIRES CITY INSPECTION.
C. IN NO CASE SHALL TEMPORARY ASPHALT OR PLATES BE LEFT IN PLACE LONGER THAN TEN (10) WORKING DAYS ABOVE TRENCH TYPES A, C & D; NO TRENCHES SHALL BE LEFT OPEN OVERNIGHT.
D. CONSTRUCTION MATERIALS & CONSTRUCTION METHODS ARE CONSIDERED THE MINIMUM REQUIRED AND MAY BE REVISED BY THE CITY AT ANY TIME.
E. ALL TRENCHING REQUIRES COMPACTION TESTING OF THE BACKFILL AND AGGREGATE BASE UNLESS WAIVED BY THE CITY ENGINEER.
F. ALL TRENCH PLATES SHALL BE RECESSED (SEE STANDARD DRAWINGS SRF-11A & SRF-11B).

CONSTRUCTION MATERIALS
A. ASPHALT CONCRETE (AC): 1/2" SURFACE COURSE = C2-AR-4000-RAP; 3/4" BASE COURSE = B-AR-4000-RAP (PERFORMANCE GRADE (PG) ASPHALT BINDER PG 64-10 MAYBE SUBSTITUTED FOR THE SPECIFIED AR GRADE ASPHALT BINDER).
B. AGGREGATE BASE: CLASS 2 (PER CALTRANS SPECIFICATION SUBSECTION 26-1.02B) OR CRUSHED AGGREGATE BASE (PER 2012 GREENBOOK SUBSECTION 200-2.2).
C. SLURRY BACKFILL: ROCKSAW TRENCH - CLASS 380-E-800; ALL OTHER: CLASS 190-E-400 (OR AS APPROVED).
D. TACK COAT: AR-4000 PAVING ASPHALT OR GRADE SS-1h EMULSIFIED ASPHALT (PER 2012 GREENBOOK SUBSECTION 302-5.4).

CONSTRUCTION METHODS
A. TYPE A, C & D TRENCHES
1. EXISTING AC PAVING SHALL BE SAWCUT AND REMOVED ALONG CLEAN, STRAIGHT LINES, TAKING CARE NOT TO UPLIFT OR TEAR ADJOINING PAVING (PER 2012 GREENBOOK 300-1.3.2).
2. AGGREGATE BASE MATERIAL TO BE REPLACED TO DEPTH OF EXISTING BASE. A MINIMUM OF 6" AC MAY BE SUBSTITUTED FOR BASE WITH PRIOR CITY APPROVAL.
3. A TACK COAT OF ASPHALTIC EMULSION OR PAVING ASPHALT SHALL BE APPLIED TO ALL CONTACT SURFACES.
4. AC BASE COURSE TO MEET EXISTING STREET GRADE - LEAVING DEPRESSIONS FOR CAP PAVING IS NOT ALLOWED.
5. AC BASE COURSE DEPTH SHALL BE 1" DEEPER THAN EXISTING - MINIMUM 4" DEPTH AC SHALL BE HOT-PLANT MIX.
6. COLD PLANE EXISTING AC PAVEMENT TO A MINIMUM DEPTH OF ONE-HALF THICKNESS OF EXISTING AC - NOT TO EXCEED 2".
7. AC SURFACE COURSE SHALL BE PLACED USING A SPREADER BOX OR PAVING MACHINE AND SHALL BE DENSIFIED / FINISHED PER 2012 GREENBOOK 302-5.6.1 & 302-5.6.2.
8. AC RESURFACING SHALL BE SEAL COATED WITH EMULSIFIED ASPHALT AND COVERED WITH SAND UNLESS WAIVED BY CITY ENGINEER.

B. TYPE B TRENCH
1. CEMENT SLURRY SHALL HAVE A MINIMUM 4" SLUMP AND BE THOROUGHLY CONSOLIDATED WITH VIBRATORS AND TAMPERED.
2. CEMENT SLURRY SHALL BE LEFT ¼" LOW FROM EXISTING STREET SURFACE; TEMPORARY AC SHALL BE PLACED OVER SLURRY IN ALL AREAS SUBJECT TO VEHICLE OR PEDESTRIAN TRAFFIC.
3. ALLOW SLURRY FIVE (5) DAYS TO CURE BEFORE PLAINING.
4. COLD PLANE EXISTING AC PAVEMENT TO A MINIMUM DEPTH OF ONE-HALF THICKNESS OF EXISTING AC - NOT TO EXCEED 2".
5. A TACK COAT OF ASPHALTIC EMULSION OR PAVING ASPHALT SHALL BE APPLIED TO ALL SURFACES.
6. AC SURFACE COURSE SHALL BE PLACED USING A SPREADER BOX OR PAVING MACHINE AND SHALL BE DENSIFIED / FINISHED PER 2012 GREENBOOK 302-5.6.1 & 302-5.6.2.
7. AC RESURFACING SHALL BE SEAL COATED WITH EMULSIFIED ASPHALT AND COVERED WITH SAND UNLESS WAIVED BY CITY ENGINEER.
MODIFIED ROLLED CURB AND GUTTER

NOTES:

1. PCC SHALL BE 560-C-3250 CONCRETE (6-SACK) MINIMUM IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

2. TRANSITION TO A TYPE "G" CURB & GUTTER PER SDRSD G-2 AT ALL CUL-DE-SACS WITH DRAINAGE STRUCTURES AND AT ALL CURB RETURNS IF A PEDESTRIAN RAMP IS NOT PROVIDED.
NOTES:

1. PCC SHALL BE 560-C-3250 CONCRETE (6-SACK) MINIMUM IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

2. TRANSITION TO A TYPE G CURB & GUTTER PER SDRSD G-2 AT ALL CUL-DE-SACS WITH DRAINAGE STRUCTURES AND AT ALL CURB RETURNS IF A PEDESTRIAN RAMP IS NOT PROVIDED.
SAW CUT AND MILL SURFACE TO A DEPTH EQUAL TO STEEL PLATE COVER THICKNESS (SEE NOTE 10 ON STANDARD DRAWING SRF-11B)

NON-SKID COATING (SEE NOTE 11 ON STANDARD DRAWING SRF-11B)

STEEL PLATE COVERS WITH THICKNESS APPROPRIATE TO CARRY ANTICIPATED LOAD (SEE NOTE 3 ON STANDARD DRAWING SRF-11B)

OPENINGS GREATER THAN 1/4" SHALL BE FILLED WITH COLD MIX ASPHALT MATERIAL

OPEN TRENCH

TYPICAL CROSS SECTION

12" MINIMUM ON ALL SIDES

12" MINIMUM
NOTES:

1. THE CONTRACTOR SHALL PROVIDE SUITABLE STEEL PLATE COVERS WHERE TRAFFIC MUST CROSS TRENCHES.

2. THE USE OF STEEL PLATE COVERS SHALL BE APPROVED BY THE ENGINEERING INSPECTION DIVISION PRIOR TO INITIATION OF CONSTRUCTION.

3. SEE SAN DIEGO REGIONAL "GREENBOOK" SUPPLEMENT SUBSECTION 7-10.5.3 FOR STEEL PLATE COVER THICKNESS TABLE. THE THICKNESS OF THE STEEL PLATE COVERS FOR TRENCH WIDTHS EXCEEDING SIXTY-THREE INCHES (63") SHALL BE ESTABLISHED IN AN ANALYSIS COMPLETED BY A LICENSED PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. THE ANALYSIS SHALL BE BASED ON A-36 GRADE STEEL WITH HS20-44 TRUCK LOADING PER THE CALTRANS BRIDGE DESIGN SPECIFICATIONS MANUAL AND A MAXIMUM STEEL PLATE COVER DEFLECTION OF 1/2" WHEN EXPERIENCING SAID LOADING. FOR SITUATIONS WHERE MULTIPLE LAYERS OF STEEL PLATE COVERS (OR STACKED STEEL PLATE COVERS) ARE TO BE EMPLOYED, THE SEAMS (I.E. THE INTERFACE BETWEEN THE STEEL PLATE COVERS SIDE-BY-SIDE) OF THE UPPER LAYER SHALL BE PLACED PERPENDICULAR TO THE SEAMS OF THE UNDERLYING STEEL PLATE COVERS.

4. TEMPORARY STEEL PLATE COVER INSTALLATION SHALL NOT EXCEED FOUR (4) CONSECUTIVE WORKING DAYS.

5. THE TOPSIDE OF THE STEEL PLATE COVERS SHALL BE FLAT AND FREE OF ANY CLIPS, CHAINS, ATTACHMENTS, WELDMENTS OR SURFACE IRREGULARITIES.

6. STEEL PLATE COVERS WITH A PERMANENT DISPLACEMENT (I.E. DISPLACEMENT ANYWHERE ON THE SURFACE OF THE STEEL PLATE COVER WITH RESPECT TO A PLANE FORMED BY THE OUTSIDE EDGES) THAT EXCEEDS 1/2" SHALL NOT BE USED FOR STEEL PLATE COVERING PURPOSES. STEEL PLATE COVERS THAT DEVELOP A PERMANENT DISPLACEMENT EXCEEDING 1/2" DURING SERVICE SHALL BE REMOVED AND REPLACED.

7. THE STEEL PLATE COVERS SHALL BE PROVIDED WITH THE APPROPRIATE NUMBER OF KEYHOLE SLOTS OR CIRCULAR HOLES FOR HANDLING, LIFTING, INSTALLATION AND REMOVAL PURPOSES.

8. THE CONTRACTOR SHALL AVOID USING A LONG SERIES OF STEEL PLATE COVERS THAT RUN PARALLEL TO VEHICULAR TRAFFIC WHEEL PATH.

9. STEEL PLATE COVERS SHALL BE INSTALLED TO OPERATE WITH MINIMUM NOISE.

10. THE PAVEMENT SHALL BE COLD-MILLED TO A DEPTH EQUAL TO THE THICKNESS OF THE STEEL PLATE COVER AND TO A WIDTH AND LENGTH EQUAL TO THE DIMENSIONS OF THE STEEL PLATE COVER. ADDITIONAL METHODS OF SECURING STEEL PLATE COVERS MAYBE REQUIRED DEPENDING ON FIELD CONDITIONS.

11. THE SURFACE OF ALL STRUCTURAL STEEL PLATE COVERS USED BY THE CONTRACTOR TO BRIDGE ANY EXCAVATION IN THE PUBLIC RIGHT-OF-WAY SHALL HAVE A NON-SKID COATING ("SKID GUARD" OR EQUAL) WITH A MINIMUM COEFFICIENT OF FRICTION = 0.35 PER CALIFORNIA TEST METHOD 342 FOR ALL TRAFFIC STEEL PLATE COVERS WITHIN THE TRAVELED ROADWAY OF STREETS AND ALLEYS, AND A MINIMUM COEFFICIENT OF FRICTION OF 0.50 PER ASTM C 1028 FOR THOSE STEEL PLATE COVERS IN PEDESTRIAN CROSSWALKS OR ACCESSIBLE AREAS. THE NON-SKID COATING SHALL BE BLACK. WHEN REQUIRED BY THE ENGINEER, THE CONTRACTOR OR PERMITTEE SHALL CERTIFY IN WRITING TO THE AGENCY THAT THE STEEL PLATE COVERS TO BE USED IN THE WORK MEET THE REQUIRED STATIC COEFFICIENT OF FRICTION. ALSO WHEN REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL HAVE THE STEEL PLATE COVERS TO BE USED IN THE WORK TESTED IN ACCORDANCE WITH THE ABOVE STANDARDS FOR THE VERIFICATION OF THE REQUIRED STATIC COEFFICIENT OF FRICTION. TESTING SHALL BE DONE BY AN INDEPENDENT LABORATORY APPROVED BY THE ENGINEER. THE CONTRACTOR OR PERMITTEE SHALL PAY FOR ANY COSTS ASSOCIATED WITH THE TESTING OF THE STEEL PLATE COVERS.
HEADER CUT ACROSS STREET

HEADER CUT AT SIDE STREET

EDGE CUT NEXT TO EXISTING CURB & GUTTER

EDGE CUT NEXT TO EXISTING AC DIKE

CITY OF VISTA
STANDARD DRAWING

COLD MILLING DETAILS

CITY ENGINEER, DATE
RCE. 55075
DRAWING NUMBER: SRF-12
PAVEMENT RESTORATION FOR
CURB & GUTTER OR CROSS GUTTER

2" GRIND & AC OVERLAY
EXISTING AC

DISTANCE FROM CONCRETE TO
EDGE OF SAW-CUT = 1' MIN.

EXISTING AGGREGATE BASE
FULL DEPTH AC PATCH

DISTANCE FROM CONCRETE TO
EDGE OF SAW-CUT = 1' MIN.

NEW CURB OR MEDIAN CURB
CONCRETE SIDEWALK
OR MEDIAN STAMPED CONCRETE

NEW CURB & GUTTER
(OR CROSS GUTTER)

$\frac{3}{8}$ LIP

SAW-CUT OR COLD MILL

6" MIN.

2" GRIND & AC OVERLAY
EXISTING AC

EXISTING AGGREGATE BASE
FULL DEPTH AC PATCH

6" MIN.
RESURFACE STREET AFTER ABANDONING MONITORING WELL IN STREET PER CITY OF VISTA STD. DWG. SRF-08A & -08B, TYPE A

REPLACE SIDEWALK PER SDRSD G-11 AFTER ABANDONING MONITORING WELL IN SIDEWALK

EXISTING ASPHALT CONCRETE (THICKNESS VARIES)

EXISTING SIDEWALK (NOMINAL 4" THICKNESS)

SAND COMPACTION TO 90% OR USE 1 SACK CONCRETE SLURRY

5' MIN.

EXISTING AGGREGATE BASE (THICKNESS VARIES)

MONITORING WELL SEALED WITH BENTONITE BACKFILL PER SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH REQUIREMENTS

SURFACE REPAIRS FOR MONITORING WELL ABANDONMENT

NOTE:
MONITORING WELLS SHALL, AT A MINIMUM, BE DESTROYED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 23 OF THE WATER WELL STANDARDS IF LOCATED IN AN AREA FREE OF ANY KNOWN OR POTENTIAL CONTAMINATION OR POLLUTION.
CONCRETE RETAINING WALL WITH ADJACENT SIDEWALK

**Diagram:***
- **Existing or proposed concrete curb & gutter per SDRSD G-2 existing slope**
- **1.5% grade**
- **6" compacted class 2 aggregate base**
- **Concrete retaining wall utilizing (560-C-2500) concrete with steel reinforcement as shown. Provide 3/4" chamfer on all exposed corners.**
- **4.33' minimum (or distance per plan) from back of existing or proposed curb**
- **Extend top of wall 4" past existing ground elevation at back of wall line**
- **2" x 4" key joint**
- **8"**
- **2"**
- **1-1/2"**
- **In**
- **X per table below**
- **Y per table below**

**Steel reinforcement placement table:***

<table>
<thead>
<tr>
<th>H</th>
<th>X</th>
<th>Y</th>
<th>Diagram</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'-0&quot;</td>
<td>2'-6&quot;</td>
<td>2'-1.5&quot;</td>
<td>(4) #4 Rebar @ 1' O.C.</td>
</tr>
<tr>
<td>3'-0&quot;</td>
<td>2'-6&quot;</td>
<td>3'-1.5&quot;</td>
<td>(5) #4 Rebar @ 1' O.C.</td>
</tr>
</tbody>
</table>

*Calculation note:*
Engineer of work to provide structural calculations for loading condition behind proposed concrete wall.

---

**City of Vista Standard Drawing**

**Revision:** New

**By:** GL

**Approved:** TS

**Date:** 12/01/11

**Drawing number:** SRF-16

**City Engineer, Date:**

**RCE 55075**

**Concrete retaining wall and sidewalk.**
THIS SHEET INTENTIONALLY LEFT BLANK
TRAFFIC AND STRIPING
THIS SHEET INTENTIONALLY LEFT BLANK
NOTES:

1. A SINGLE SPEED BUMP AHEAD (W-17-1/W16-9P) SIGN SHALL BE INSTALLED IN ADVANCE OF THE FIRST BUMP IN EACH DIRECTION.

2. SPEED BUMP (W17-1) SIGN MAY BE INSTALLED IN ADVANCE OF EACH INDIVIDUAL SPEED BUMP.

3. PAINT 12" SOLID WHITE LEGEND AS SHOWN AND PER CALIFORNIA MUTCD FIGURE 3B-29 OPTION A.

USE ON PRIVATE PROPERTY:
PRIVATE PROPERTY OWNERS AND MANAGERS MAY CHOOSE TO USE THIS STANDARD FOR INSTALLING SPEED BUMPS ON THEIR PROPERTY OR STREET. HOWEVER, PROPERTY OWNERS AND MANAGERS ARE WHOLLY RESPONSIBLE FOR THE USE OF THIS STANDARD OR ANY CONSEQUENCES.
TYPICAL PUBLIC STREET NAME SIGN LAYOUT AT SIGNALIZED INTERSECTIONS

① REFLECTIVE 10" CITY SEAL ON THE LEFT SIDE OF ALL PUBLIC STREET NAME SIGNS AT SIGNALIZED INTERSECTIONS. REQUEST THE DIGITAL FILE OF THE CITY SEAL FROM THE ENGINEERING DEPARTMENT.

② DIAMOND GRADE WHITE 8" D-SERIES FHWA FONT FOR UPPERCASE LETTERING AND 6" D-SERIES FHWA FONT FOR LOWERCASE LETTERING WITH 3M HIGHWAY BLUE (OR APPROVED EQUAL) BACKGROUND.

③ 0.080 GUAGE ALUMINUM WITH FRAMED BACKING, SINGLE FACE WITH DIAMOND GRADE 3 REVERSE SCREENED REFLECTIVE SHEETING.

④ PREFERRED ABBREVIATIONS:

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>AVENUE</td>
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<tr>
<td>BOULEVARD</td>
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<tr>
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<td>CYN</td>
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<td>CIRCLE</td>
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<td>DRIVE</td>
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<td>HEIGHTS</td>
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<td>LANE</td>
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</table>

CITY OF VISTA
STANDARD DRAWING

STREET NAME SIGN DETAILS FOR SIGNALIZED INTERSECTIONS

CITY ENGINEER, RCE 55075
DATE

DRAWING NUMBER: TRF-03A

Revision By Approvd Date
New TR LP 11/14/08
Updated TR SS 12/16/10
Updated GL HH 05/07/14
**TYPICAL PUBLIC STREET NAME SIGN LAYOUT AT SIGNALIZED INTERSECTIONS**

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2. DIAMOND GRADE WHITE 8" D-SERIES FHWA FONT FOR UPPERCASE LETTERING AND 6" D-SERIES FHWA FONT FOR LOWERCASE LETTERING WITH 3M HIGHWAY BLUE (OR APPROVED EQUAL) BACKGROUND.

3. 0.080 GAUGE ALUMINUM WITH FRAME BACKING, SINGLE FACE WITH DIAMOND GRADE 3 REVERSE SCREENED REFLECTIVE SHEETING.

4. PREFERRED ABBREVIATIONS:

   - AVENUE: AV OR AVE
   - BOULEVARD: BL OR BLVD
   - CANEY: CYN
   - CIRCLE: CIR
   - DRIVE: DR
   - HEIGHTS: HTS
   - HIGHWAY: HWY
   - LANE: LN
   - PARK: PK
   - PARKWAY: PKY OR PKWY
   - PLACE: PL
   - ROAD: RD
   - STREET: ST
   - TERRACE: TER
   - TRAIL: TR
   - WAY: WY OR WAY

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**CITY OF VISTA**

STANDARD DRAWING

**STREET NAME SIGN DETAILS FOR SIGNALIZED INTERSECTIONS**

<table>
<thead>
<tr>
<th>Revision</th>
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<tr>
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<td>LP</td>
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<tr>
<td>Updated</td>
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<td>HH</td>
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CITY ENGINEER, DATE RCE 55075

DRAWING NUMBER: TRF-03B
TYPICAL PUBLIC STREET NAME SIGN LAYOUT AT SIGNALIZED INTERSECTIONS

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3. 0.080 GAUGE ALUMINUM WITH FRAMED BACKING, SINGLE FACE WITH DIAMOND GRADE 3 REVERSE SCREENED REFLECTIVE SHEETING.

4. PREFERRED ABBREVIATIONS:

<table>
<thead>
<tr>
<th>Avenue</th>
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Revision | By | Approv | Date    |
---------|----|--------|---------|
New      | TR | LP     | 11/14/08 |
Updated  | TR | SS     | 12/16/10 |
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CITY OF VISTA
STANDARD DRAWING
STREET NAME SIGN DETAILS FOR SIGNALIZED INTERSECTIONS

CITY ENGINEER, DATE
RCE 55075
DRAWING NUMBER: TRF-03D
TYPICAL PUBLIC STREET NAME SIGN
LAYOUT AT SIGNALIZED INTERSECTIONS

1. REFLECTIVE 10" CITY SEAL ON THE LEFT SIDE OF ALL PUBLIC STREET NAME SIGNS AT SIGNALIZED INTERSECTIONS. REQUEST THE DIGITAL FILE OF THE CITY SEAL FROM THE ENGINEERING DEPARTMENT.

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   AVENUE: AV OR AVE  DRIVE: DR  PARK: PK  STREET: ST
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   CANYON: CYN  HIGHWAY: HWY  PLACE: PL  TRAIL: TR
   CIRCLE: CIR  LANE: LN  ROAD: RD  WAY: WY OR WAY
NOTES:

1. BORDER WIDTH = 5/8"; COLOR: WHITE.
2. MARGIN WIDTH = 3/8"; COLOR: GOLD – PANTONE #143C (C=8 M=33 Y=82 K=1).
3. BACKGROUND COLOR: DARK BLUE – PANTONE #295C (C=100 M=57 Y=0 K=40).
4. USE 0.080 GUAGE ALUMINUM WITH HIGH INTENSITY PRISMATIC RETRO-REFLECTIVE SHEETING.
5. USE 4" D-SERIES FHWA WHITE FONT.
6. REQUEST THE STANDARD CITY LOGO DIGITAL FILE FROM THE ENGINEERING DEPARTMENT.
NOTES:

1. ALL LOOP DETECTORS SHALL BE INSTALLED IN PAVEMENT SURFACE.

2. ALL LOOP DETECTORS SHALL BE CENTERED IN LANE, UNLESS OTHERWISE NOTED.

3. ADVANCE LOOPS SHALL BE INSTALLED FOR MAJOR STREET THROUGH MOVEMENTS PER STANDARDS ESTABLISHED IN THE LATEST EDITION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA – MUTCD).

4. FIRST LOOP IN EVERY TRAVEL LANE, EXCEPT FOR STRAIGHT THROUGH LANES ON THE MAJOR STREET APPROACHES, SHALL BE A BICYCLE SENSITIVE LOOP.

MODIFIED TYPE E BICYCLE SENSITIVE LOOP SAWCUT AND WINDING DETAIL

NOTES:

1. LOOP DIAMETER IS 6’ (TYP.)
2. DEPTH OF CUT IS 3 1/8” MIN.
3. ROUND CORNERS TO REDUCE WEAR OF LOOP WIRE.

SYMBOL
WHEN SIGN POST IS TO BE PLACED IN HARDSCAPE AREAS IT SHALL BE SET IN A 4" DIAMETER BY 6" DEEP SCHEDULE 40 PVC ANCHOR SLEEVE AND BACK FILLED WITH 1/4" GRAVEL TO WITHIN 1" OF THE TOP OF THE SLEEVE; THE LAST 1" IS TO BE FILLED WITH GROUT. USE DIRECT BURIAL WHERE SIGN IS TO BE PLACED IN SOIL.