

STANDARD DETAILS AND SPECIFICATIONS



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***SECTION 321**

ASPHALT CONCRETE PAVEMENT

321.8 PLACEMENT is changed to add:

321.8.11 Preservative Seal A surface treatment per Section 334 shall be required on streets other than arterial. The surface treatment shall be Tire Rubber Modified Surface Seal (TRMSS) and shall be applied immediately prior to the end of the construction warranty period.

***SECTION 334**

PRESERVATIVE SEAL FOR ASPHALT CONCRETE

334.1 GENERAL first paragraph is changed to read:

The asphalt concrete preservative seal shall be Tire Rubber Modified Surface Seal (TRMSS) to preserve the asphalt concrete pavement.

334.3 CONSTRUCTION METHOD third paragraph is changed to read:

Application rates shall be per the manufacturer or as specified in Section 718 for Type E..

***SECTION 336**

PAVEMENT MATCHING AND SURFACING REPLACEMENT

336.1 DESCRIPTION: is changed to read:

Asphalt concrete pavement replacement shall be constructed in accordance with "T-Top" Trench Repair per Detail 200, with a minimum shelf depth of 16 inches, as indicated on the plans, and as required by Sections 321 and 710.

Asphalt concrete shall be EVAC mix.

This item shall include the installation of pavement marking and reflective pavement markers to restore the surface to the condition prior to construction.

336.5 PAYMENT: is changed to add:

There will be no additional payment for the installation of pavement marking and reflective pavement markers.

***SECTION 340**

CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY, AND ALLEY ENTRANCE

340.2.1 Detectable Warnings is changed to add:

Refer to the *List of Approved Products* for approved detectable warning systems.

340.3 CONSTRUCTION METHODS is changed:

The last sentence of the second paragraph of this section shall read (applies to expansive soils only):

The subgrade shall then be compacted to relative density of 80% minimum to 90% maximum at a moisture content within 3% of optimum.

SECTION 360

TELECOMMUNICATIONS INSTALLATION

360.3 CABLE INSTALLATION:

(A) Trunk Lines (2), second sentence is changed to read:

The cable shall be placed within a steel casing at a minimum depth of 48 inches.

(B) Telecommunications cables other than "trunk lines" depth of placement is changed according to the following schedule:

<u>Location</u>	<u>Depth of Placement</u>
Arterial Street	48 Inches
Collector Street or Industrial Area	36 Inches
All Others	36 Inches

SECTION 401

TRAFFIC CONTROL

401.4 TRAFFIC CONTROL MEASURES is changed to add:

At areas where striping obliteration has occurred, the roadway surface shall be sealed with a slurry seal product approved by the City. Refer to the *List of Approved Products*. The product shall be thoroughly mixed with #30 mesh sand conforming to Section 701 at a rate of two pounds per gallon prior to application. Application shall be made on the area of striping obliteration by means of a squeegee.

Striping obliteration by grinding is not permitted.

SECTION 450

GUIDED BORE CONSTRUCTION

450.1 DESCRIPTION:

This work shall consist of installing a conduit by guided bore.

450.2 CONSTRUCTION:

Prior to construction, the contractor shall submit for approval a location plan and profile of the work in accordance with COC Detail C-112.

Only approved slurry boring methods shall be allowed. Water jetting shall not be substituted for slurry boring. All pneumatic boring shall be at a minimum depth of 36 inches below pavement surface.

Uncased guided bore holes shall be at a depth below finish grade no less than four times the diameter of the hole. Uncased guided bore holes shall be limited to a maximum of 12 inches. Bore holes in excess of 12 inches in diameter shall be cased, unless otherwise approved by the Engineer. Contractor shall stipulate the size of bore on the permit application.

Over drilling or final reaming of uncased guided bores should be limited to no more than one inch over the maximum cross section of the conduit bank, casing, or pipe. Annular spaces exceeding this requirement shall be pressure grouted.

Guided bore methods shall minimize over-reaming or over-drilling of holes. Fluids shall not cause scour of the bore hole beyond the previously noted tolerance. Controlled fluid boring is preferred and should utilize fluids to remove cuttings, stabilize and lubricate bore holes, soften soils for advancing bores, provide directional control of guided bores, and for cooling of drilling equipment. Uncontrolled jetting, where the primary purpose is to use fluid pressure to erode soil for creation of the final bore hole diameter, is prohibited. Methods which vary from these requirements shall require demonstration and shall have a history of successful use prior to acceptance. Any method utilized shall not disturb the soils outside the final bore hole diameter.

Unless site specific soil information is available indicating otherwise, caving of soils around bore holes should be assumed. Pipe, case, or conduit banks should be advanced during final reaming.

Guided bores through unstable granular soils and granular utility backfill should be stabilized with a pressurized bentonite slurry drilling fluid having a consistency of at least one pound of bentonite to five gallons of water, or an approved equal. The flow rate and applied pressure shall be monitored. A sudden loss of pressure indicates that slurry may be intruding excessively into the backfill. Cased bores may be used in lieu of stabilization.

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Equipment operators shall observe the bore hole and monitor cuttings for excessive soil removal. When evidence of excessive voids are found, bore holes shall be pressure grouted after placement of pipe, casing, or conduit banks.

***SECTION 601**

TRENCH EXCAVATION, BACKFILLING, AND COMPACTION

601.2.9 Shoring and Sheathing: is changed to add:

When vertical side walls are to be excavated and trench boxes are not used, the contractor shall do such trench bracing, sheathing, or shoring necessary to perform and protect the excavation as required for safety and conformance to governing laws. Shoring, sheeting, or other protective procedures reviewed by the Engineer or his designee for conformance to standards shall be required when the trench depth exceeds five feet. The contractor shall provide a shoring and bracing plan designed by his engineer for review for adherence to OSHA requirements. Spacing of shoring braces shall not exceed ten feet center to center.

601.2.10 Open Trench: the third paragraph is changed to add:

Steel plates shall be installed in accordance with Std Dtl 211. Where the steel plates are restrained by temporary asphalt, they may be required to be spot-welded together for any period of time that the contractor is not present to adjust for their longitudinal movement due to traffic.

601.4.5: Final Backfill: the third paragraph is changed to read:

Backfill under street pavement shall be half-sack CLSM per Section 728 and be constructed per Detail 200 with 16" minimum depth of ABC shelf, "T-Top" pavement replacement unless otherwise stated on the construction plans or special provisions. Pavement matching and surface replacement shall be in accordance with Section 336.

SECTION 610

WATERLINE CONSTRUCTION

610.3 MATERIALS: is changed to read:

Pipe shall be ductile iron pipe in accordance with Section 750 or polyvinyl chloride (PVC) in accordance with COC Supplement Section 751 - PVC Pressure Pipe.

610.4 CONSTRUCTION METHODS: is changed to add:

All pipe shall be bedded in accordance with COC Detail C-308 and installed in accordance with the latest revision of AWWA C600.

Polyvinyl Chloride pipe shall be installed in accordance with the AWWA Manual 23.

For all pipe materials, locator wire and marking tape shall be installed in accordance with COC Detail C-408.

610.7 VALVES: is changed to read:

All gate valves shall conform to the latest revisions of AWWA C509 or C515 standards.

Gate valves for buried service shall be the non-rising stem (NRS) type.

Direction of opening shall be counterclockwise (Open Left).

***SECTION 610**

The body and bonnet of the valves shall be constructed of ductile-iron per ASTM A536.

The marking "D.I." or "Ductile Iron" shall be cast in raised letters on the valve.

Valve body, bonnet, and stuffing box shall be coated and lined with fusion-bonded epoxy conforming to the AWWA C550 standard.

Valve stem diameters and minimum turns to open shall conform to Table 7 in AWWA C509-09 and AWWA C515-09.

The NRS-type valve stems shall be made of bronze or stainless steels. Bronze stems shall use copper alloys that contain less than 6% zinc and 6% aluminum. Stainless steel stems shall contain not less than 15% chromium and be from the 300 or 400 alloy series.

NRS stems must have a thrust collar that is integral with the stem in accordance with section 4.4.5.3 of AWWA C515-09. Thrust collars that are non-integral with the stem are not acceptable.

Valve wedge must be completely encapsulated with EPDM rubber, symmetrical in design, and seat equally well with flow in either direction.

Gate valves four inches and larger shall be equipped with male-type wedge guides and polymer guide covers. Wedges employing female-type designs are not acceptable.

All gaskets shall be pressure-energized type such as O-rings.

The top two stem O-rings must be replaceable while fully open and while subject to full rated working pressure. O-rings set in cartridges are not allowed.

Valves shall be equipped with stainless steel bolting that meets the requirements of ASTM F593 Standard Specifications for Stainless Steel bolts, Type 304, Alloy group 1, CW condition, and ASTM F594 Standard Specification for Stainless Steel Nuts, Type 304, Alloy group 1, CW Condition.

Bolt head and nuts shall be hexagonal shaped with dimensions conforming to ANSI B18.2.1. Metric sized and recessed socket head bolts, are not allowed.

Operating nuts shall be 2 inches square.

Valves shall be NSF Certified to Standard 61.

All valves 2 inches to 48 inches:

Valves may be used in either the horizontal or vertical positions.

Valve gearing shall be in accordance with Table 9 of AWWA C515-09 or C509-09 Standard.

610.11 METER SERVICE CONNECTIONS: is changed to add:

(E) Service taps shall be installed using an all bronze double-strap tapping saddle or a tapped tee. Any tapping saddle for use on PVC pipe shall provide full support around the circumference of the pipe and a bearing area for 2 inches minimum along the axis of the pipe.

610.15 TESTING: is changed to add:

The Contractor shall test water lines for water tightness, including all fittings and connections to the water lines. Each pipe shall be tested for leakage and pressure in accordance with applicable provisions of AWWA standards and/or Manuals, except as modified below.

The Contractor shall provide all vents, piping, plugs, bulkheads, valves, bracing, blocking, pump, including measuring devices and all other equipment necessary for making the tests, and including necessary pressure gauges.

The pipe shall be tested between each valve or between a valve and the closed end of the pipe. Pipe test sections shall be limited to ½ linear mile or less, unless otherwise approved in writing by the Engineer.

All connections, blow-offs, hydrants and valves shall be tested with the main, where practical.

The test section shall be slowly filled with potable water and all air shall be vented from the line. The rate of filling shall be as approved by the Off-site Inspector, with at least 24 hour notice required before filling is scheduled.

(A) Pressure Tests: is changed to add:

Water lines, including all fittings and connections, shall be tested for water tightness by subjecting each test section to a pressure test. The test pressure shall be measured at the lowest end of the test section. The test pressure shall be 188 psi unless otherwise specified. The duration of each pressure test shall be at least 2 hours.

The pressure test shall begin after the pipe has been filled with water for at least 24 hours to allow for absorption.

(B) Leakage Tests: is changed to read:

Leakage tests shall be made after the pressure test has been completed, pressure test results are satisfactory, and all backfilling and compaction is completed.

The duration of each leakage test shall be at least 2 hours. Leakage test pressure shall be at least 150 psi and not vary more than 5 psi during the test.

The maximum allowable leakage from the pipe line shall be determined by the applicable formula:

$$L = ND \frac{\sqrt{P}}{7400}$$

in which:

L = allowable leakage in gallons per hour

N = number of joints in the pipe line being tested, with no allowance for joints at branches, blow-offs, fittings, and similar appurtenances. “N” is calculated using the standard length of pipe installed divided into the length being tested.

D = nominal inside diameter of pipe in inches

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P = average test pressure, in psi gage, as measured at the lowest point in the test section.

Should the test on any section of the pipe line show leakage greater than that specified above, the Contractor shall locate and correct the deficiency and retest until the leakage is within the specified allowance for a 2 hour duration. All repairs and retests shall be the contractor's responsibility and expense.

Leakage is defined as the quantity of make-up water necessary for the test section to maintain the specified leakage test pressure after the pipe line has been filled with water and all air expelled.

SECTION 615

SEWER LINE CONSTRUCTION

615.1 DESCRIPTION: is modified to add:

Polypropylene pipe shall conform to Section 739.

615.4 LAYING PIPE: is changed to read:

HDPE, polypropylene, and PVC pipe and fittings shall be installed in accordance with ASTM D-2321.

Pipe bedding for polypropylene pipe shall be ABC in accordance with Section 701.

615.6.2 Water Stops is changed to read:

Water stops will be required when connecting HDPE and polypropylene pipe to concrete structures, manholes, etc.

615.7 SANITARY SEWER SERVICE TAPS: is modified to add:

Sanitary sewer service taps for polypropylene pipe shall be made utilizing standard manufacturer fittings.

615.10 BACKFILLING: is modified to add:

Backfilling and compaction shall be in accordance with Section 601 and ASTM D2321 for polypropylene pipe.

615.11 TESTING (C) is changed to read:

(C) Deflection Test for HDPE, Polypropylene, and PVC Pipe

In addition to the tests prescribed above, the Contractor shall perform a deflection test on the system as directed by the Engineer. Any part of the installation which shows deflection in excess of 5% of the nominal inside diameter per Section 738 for HDPE pipe, or in excess of 5% of the minimum inside diameter per ASTM F-2736 or F-2764 for polypropylene pipe, or in excess of 5% of the average inside diameter per ASTM D-3034 for PVC pipe, shall be corrected.

SECTION 616

RECLAIMED WATERLINE CONSTRUCTION

616.2 MATERIALS: is changed to read:

Valve boxes shall be in accordance with Section 345, this Section, Detail 391 and COC Detail C-406.

616.3 INSTALLATION: is changed to add:

Pipe will be bedded in accordance with COC Detail C-308 and identified in accordance with C-408.

SECTION 618

STORM DRAIN CONSTRUCTION

618.1 DESCRIPTION: is changed to read:

This section covers concrete, polypropylene and high density polyethylene (HDPE) pipeline construction used for the conveyance of irrigation water and storm drainage in streets, easements, and alley rights-of-way, under low hydrostatic heads.

618.2 MATERIALS: is changed to read:

Polypropylene pipe and fittings shall be in accordance with COC Supplement Section 739 - Polypropylene pipe & Fittings for Storm Drain and Sanitary Sewer.

Pipe bedding for polypropylene pipe shall be ABC in accordance with Section 701.

618.3 CONSTRUCTION METHODS: is changed to add:

Water stops will be required when connecting HDPE and polypropylene pipe to concrete structures, manholes, etc.

Lateral service taps for polypropylene pipe shall be made utilizing standard manufacturer fittings.

Backfilling and compaction shall be in accordance with Section 601 and ASTM D2321 for polypropylene pipe.

***SECTION 625**

MANHOLE CONSTRUCTION AND DROP SEWER CONNECTIONS

625.3 CONSTRUCTION METHODS is changed to add:

Manholes constructed as a separate project or permit from subsequent surface improvements shall be constructed with a minimum of 12" and a maximum of 24" of reinforced concrete adjusting rings. All other project manholes shall conform to Detail 420.

Manholes constructed in arterial streets or serving sewer lines 18" in diameter or greater shall be coated with a corrosion-protective coating applied in accordance with the manufacturer's specification. Refer to the City of Chandler *List of Approved Products* for allowable corrosion-protective coating products.

All manholes shall be coated with an latex insecticide coating applied in accordance with the manufacturer's recommendations. Refer to the City of Chandler *List of Approved Products* for allowable insecticide coating products. The coating shall be applied in accordance with US Environmental Protection Agency recommendations starting from the top of the manhole to a depth of 8 feet below. Minimum coating thickness shall be 0.25 inches.

SECTION 630

TAPPING SLEEVES, VALVES AND VALVE BOXES ON WATERLINES

630.2 GENERAL: is changed to add:

Potable water valve boxes shall conform to Detail 391, Type 'C', deep skirted lid type and COC Detail C-307.

Reclaimed water valve boxes shall conform to Detail 391, Type 'C', deep skirted lid type with a square surface box and COC Detail C-406.

630.3 GATE VALVES: is changed to add:

The connecting ends of valves may be flange, mechanical joint, push-on, or an appropriate combination. Valves which require transition gaskets to ductile iron pipe sizes may be furnished only in sizes 4 inches through 8 inches.

630.4.2 Tapping Sleeves Subsection (A) (2) (a) is changed:

Following the word Cast Iron, add

(Not allowed for use on PVC pipe).

***SECTION 718**

PRESERVATIVE SEAL FOR ASPHALTIC CONCRETE

718.1 GENERAL is changed to add:

Type E - Tire Rubber Modified Surface Seal (TRMSS) consisting of a clay-stabilized cationic asphalt emulsion of asphalt cements modified with terminal-blended, digested ground scrap tire rubber. Applies at 0.1 to 0.2 gallons per square yard, undiluted.

718.2 TEST METHODS AND REQUIREMENTS is changed to add:

Type E TRMSS preservative seal shall meet the requirements of Table 718-2 by certification from the manufacturer.

TABLE 718-2

Treated Base Asphalt Characteristics (prior to emulsification)		
<u>Test Property</u>	<u>Test Procedure</u>	<u>Requirement</u>
Tire Rubber Content, %	Terminal Certification	10% minimum
Flash Point, °F	ASTM D 93	> 550°F
Softening Point, °F	ASTM D 36	> 130°F
Penetration, 77°F, dmm	ASTM D 5	12 to 30 dmm
Solubility, %	ASTM D 2042	> 98.5%

Emulsion Characteristics		
<u>Test Property</u>	<u>Test Procedure</u>	<u>Requirement</u>
Uniformity	ASTM D 2939.05	PASS Product shall be homogenous and show no separation or coagulation that cannot be overcome by moderate stirring.
Viscosity, Krieb Unit	ASTM D 562	35 to 85 KU
Specific Gravity	ASTM D2939.07	< 1.04
Residue by Evaporation	ASTM D 2939.08	> 33%
Residue Softening Point, °F	ASTM D 36	> 250°F Sample evaporated within Softening Point Ring in conformance to ASTM D 2939.08 at 190 to 200°F.

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Performance Based Characteristics		
A ceramic tile panel shall be incorporated in place of the metal panels. The ceramic tile panel preparation shall be in accordance with Test Methods D 2939-25.1.1 guidelines.		
<u>Test Property</u>	<u>Test Procedure</u>	<u>Requirement</u>
Resistance to Heat	ASTM D 2939.14	PASS No sagging or slippage of film beyond the initial reference line after 212°F exposure for 2 hrs.
Resistance to Water	ASTM D 2939.15	PASS No blistering or re-emulsification after 24 hr submersion in water.
Wet Flow	ASTM D 2939.19	PASS No flow beyond initial reference line.
Direct Flame Test	ASTM D 2939.20	PASS No continued combustion or slippage and run-down.
Wet Film Continuity	ASTM D 2939.22	PASS A uniformly homogenous consistency.
Resistance to Kerosene	ASTM D 2939.25	PASS Report any evidence of leakage of kerosene, loss of adhesion and discoloration of tile.
Wet Track Abrasion Test	ISSA (TB-100)	< 2% Calculated weight loss, percentage of original volume.
Accelerated Weathering Test	ASTM G 154 1000 hrs UVA-340 lamp, 0.77 W/m ² (v1.0 calibration), 8 hrs UV light at 50°C, 5 min spray, 3:55 hrs condensation at 50°C	PASS No cracking, chipping, surface discoloration or loss of adhesion. No color fading or lightening.

SECTION 739

POLYPROPYLENE PIPE & FITTINGS FOR STORM DRAIN AND SANITARY SEWER

739.1 GENERAL:

This specification presents the requirements for polypropylene pipe utilized for gravity flow, low pressure storm drain and sanitary sewer systems.

739.2 MATERIALS:

Pipe and fittings shall be double wall, smooth interior, with annular exterior corrugations in conformance to ASTM F-2736 for pipe diameters up to and including 24". Pipe and fittings shall be triple wall, smooth interior and exterior, with annular inner corrugations in conformance to ASTM F-2764 for pipe diameters 30" to 60".

739.3 JOINTING SYSTEMS:

Pipe shall be joined with a gasketed integral bell and spigot joint. The joint shall be water-tight in accordance with ASTM D-3212. Sanitary sewer pipe shall have dual gaskets. Gaskets shall conform to ASTM F-477. They shall be installed by the pipe manufacturer and covered with a removable protective wrap to ensure the gasket is free of debris. A manufacturer-recommended joint lubricant shall be applied during assembly. The pipe bells shall be reinforced with a polymer composite band installed by the manufacturer.

739.4 FITTINGS:

Lateral pipes shall be connected to the main by manufactured fittings. Water stops in accordance with ASTM C-923 shall be installed at structures. Water stops, joint seals, field repair couplers, and connections to dissimilar pipe shall be in accordance with manufacturer's recommendations, and shall be submitted to the City for approval prior to use.

SECTION 751

POLYVINYL CHLORIDE (PVC) PRESSURE PIPE

751.1 GENERAL:

These specifications apply to Polyvinyl Chloride (PVC) pressure pipe intended for use as potable, wastewater, and reclaimed water distribution pipelines, which carry water under pressure.

751.2 WORKMANSHIP:

Pipe shall be homogeneous throughout. It shall be free of voids, cracks, inclusions, or other defects. It shall be as uniform as commercially practical in color, density, and other physical properties. Pipe surfaces shall be free from nicks and scratches. Joining surfaces of spigots and other joints shall be free from gouges and imperfections that could cause leakage. The contractor shall supply the Engineer with certified third party test data establishing both the long-term compressive strength and the long-term modulus of elasticity of the PVC material.

751.3 MATERIAL:

4 inch through 12 inch PVC pressure pipe shall be designed, manufactured and tested in accordance with AWWA C900, latest edition. The barrel of furnished pipe shall conform to the outside dimensions of steel pipe (IPS) or cast-iron-pipe-equivalent (CI), and with the wall thickness of dimension-ratio (DR) Series 14. All approved PVC pipe shall carry a NSF rating.

The pressure rating for C900 pipe shall be 200 psi minimum.

16 inch and larger PVC pressure pipe shall be designed, manufactured, and tested in accordance with AWWA C905, latest edition. The barrel of furnished pipe shall have an iron-pipe-size-equivalent (IPS) outside diameter and wall thickness equal to the dimension-ratio (DR) Series 18.

The pressure rating for C905 pipe shall be 235 psi.

All PVC pipe furnished shall be integral bell with elastomeric gaskets. Plain ends with elastomeric gasket couplings will be allowed only for intermediate pipe lengths. PVC joints using elastomeric gaskets to achieve the pressure seal shall be tested as assembled joints and shall meet the laboratory performance requirements specified in ASTM D3139.

A Manufacturer's Affidavit for compliance to AWWA C900 and AWWA C905 shall be furnished. The manufacturer shall provide documentation of the long-term compressive strength of the pipe material, or the long-term hydrostatic design strength, which shall be certified by an independent third party.

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All required manufacturing quality control inspection and testing shall be performed in the United States of America at the pipe manufacturer's plant or at an approved testing laboratory in the United States. The seal of the testing agency that verified the suitability of the pipe material for potable water service shall be marked on the pipe. In addition, markings on the pipe shall include the following:

Nominal size and OD base

Material code designation

Dimension ratio number

AWWA pressure class

AWWA designation number for this standard

Manufacturer's name or trademark and production record code.

Pipe shall be supplied within 270 days of its manufacture. A Manufacturer's written Verification of date of manufacture shall be provided.

751.4 APPLIED LOAD CALCULATIONS:

Assumption of soil arching shall not be used in calculation embankment loads over PVC pipe. The prism earth load formula shall be used to determine earth loads.

$$W_c = HwB_c$$

Where:

W_c = Embankment Load, lbs/ft

H = Depth of soil cover, ft

w = Soil Density, lbs/ft

B_c = Pipe outside diameter, ft

751.5 BEDDING:

Pipe bedding shall be in conformance with COC Detail C-308. Bedding shall consist of ABC in conformance to Section 702.

751.6 FITTINGS:

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Fittings shall be ductile iron and conform to AWWA C110 or C153 for 250 psi minimum working pressure rating.

All fittings shall be cement lined in accordance with AWWA C104.

Fittings which require transition gaskets to ductile iron pipe sizes may be furnished only in sizes 6 inch through 8 inch.

PVC connections to asbestos cement or ductile iron pipe shall be ductile or gray iron adapters.

751.7 STORAGE:

Storage of PVC pipe shall be in accordance with the manufacturer's recommendation and guidelines. PVC pipe and fittings shall be stored in a dry, ventilated area that protects the pipe from UV radiation and the elements. Pipe stockpiled at the construction site shall not remain exposed to the elements and weather in excess of 24 hours, or as approved by the Engineer.

PVC pipe shall be delivered to the site and stored and handled in accordance with the manufacturer's instructions. During shipment and storage, the pipe ends shall be securely covered. PVC pipe shall be stored in a manner such that it is protected from exposure to sunlight and/or extreme heat.

751.8 THRUST BLOCKS:

Thrust blocks shall be installed per Section 610.14.

C-100 SERIES: GENERAL INFORMATION

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-100	2010	HAZARD MARKER PLACEMENT
C-103	2009	FIBER OPTIC CABLE SPLICING VAULT
C-104	2011	FIBER OPTIC CABLE DUCTS
C-105	2009	GUARD POST FOR BACKFLOW PREVENTION ASSEMBLIES
C-108	1999	AIR GAP BACKFLOW PROTECTION FOR WATER TANKS
C-109	DEL	USE DOUBLE - RING INFILTRMETER
C-110	DEL	USE MAG STD DTL 200
C-111	2011	MINIMUM POTHOLE SPACING FOR PAVEMENT RESTORATION FEE EXEMPTION
C-112	2009	ENGINEERED UTILITY BORE
C-113	2015	TRASH RECEPTACLE ENCLOSURE

C-200 SERIES: STREETS

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-200	2009	STANDARD UTILITY LOCATIONS - ARTERIAL STREETS
C-201	2015	STANDARD UTILITY LOCATIONS - COLLECTOR STREETS
C-202	2015	STANDARD UTILITY LOCATIONS - LOCAL STREETS
C-203	2015	MAJOR ARTERIAL STREET - TYPICAL CROSS SECTION
C-204	2015	PHASED MAJOR ARTERIAL STREET - TYPICAL CROSS SECTION
C-205	2015	MINOR ARTERIAL STREET - TYPICAL CROSS SECTION
C-206	2015	COLLECTOR STREET WITH MEDIAN - TYPICAL CROSS SECTION
C-208	2015	INDUSTRIAL COLLECTOR STREET - TYPICAL CROSS SECTION
C-209	2015	COLLECTOR BOULEVARD-TYPICAL CROSS SECTION
C-210	2015	COLLECTOR STREET - TYPICAL CROSS SECTION
C-211	2015	LOCAL STREET WITH MEDIAN - TYPICAL CROSS SECTION
C-212	2015	LOCAL BOULEVARD WITH FRONTAGES LESS THAN 65' TYPICAL CROSS SECTION
C-213	2015	LOCAL STREET - TYPICAL CROSS SECTION
C-214	2014	PRIVATE SHARED DRIVEWAY - TYPICAL CROSS SECTION WITH UTILITIES
C-215	2015	ON-STREET PARKING - TYPICAL CROSS SECTION
C-221	2015	LOCAL BLVD WITH FRONTAGES OF 65' TO 90'-TYPICAL CROSS SECTION
C-222	2015	LOCAL BLVD - WITH FRONTAGES GREATER THAN 90' - TYPICAL CROSS SECTION
C-223-1	2007	STANDARD MAJOR ARTERIAL/MAJOR ARTERIAL INTERSECTION RIGHT-OF-WAY, AND STREET DIMENSIONS
C-223-2	2013	ULTIMATE MAJOR ARTERIAL/MAJOR ARTERIAL INTERSECTION RIGHT-OF-WAY, STREET DIMENSIONS
C-224	2009	MAJOR ARTERIAL DECELERATION LANE
C-225	2013	GENERAL MEDIAN DESIGN
C-226	2013	"LEFT IN ONLY" MEDIAN DESIGN 16' WIDE MEDIAN

C-200 SERIES: STREETS (CONTINUED)

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-227	2013	"LEFT IN ONLY" MEDIAN DESIGN 40' WIDE MEDIAN
C-228	2014	TYPICAL DRIVEWAY ACCESS TO PRIVATE GATED COMMUNITY
C-229	2002	LEFT TURN BAY ON TWO-LANE ROADWAY (TEMP. WIDENING, CROSS STREET ON ONE SIDE ONLY)
C-230	2014	CONCRETE BUS BAYS
C-231	2015	RIGHT TURN/DECELERATION LANE FOR DRIVEWAYS
C-232	2015	CUL-DE-SAC
C-233	2015	8' MID BLOCK VALLEY GUTTER
C-234	2009	SPEED HUMP
C-236	2009	INTERLOCKING PAVING BLOCKS AND DECORATIVE CONCRETE TRAVELED SURFACE
C-237	2007	INTERLOCKING PAVING BLOCKS AND DECORATIVE CONCRETE NON-TRAVELED SURFACE
C-238	1999	DECORATIVE CONCRETE AT GRADE TRAVELED SURFACE
C-239	2009	DEPTH OF BASE COURSE - MAJOR & MINOR ARTERIALS
C-240	2010	DEPTH OF BASE COURSE - NON RESIDENTIAL COLLECTOR AND LOCAL STREETS
C-241	2010	DEPTH OF BASE COURSE - COLLECTOR STREETS
C-242	2010	DEPTH OF BASE COURSE - RESIDENTIAL LOCAL STREETS
C-243	2015	CURB RAMP FOR ROLL CURB
C-244	DEL	SIDEWALK RAMP AT INTERSECTIONS FOR ROLL CURB
C-245	2014	COMBINED SIDEWALK RAMP AND RESIDENTIAL DRIVEWAY
C-246	2011	SIGHT DISTANCE FOR ARTERIAL AND COLLECTOR STREETS
C-247	2011	SIGHT DISTANCE FOR LOCAL STREETS
C-248	1999	KEY LOT SIGHT DISTANCE
C-249	2015	ACCESSIBLE CURB RAMP ALIGNMENT
C-250	2007	LEFT TURN BAY IN 40' MEDIAN DESIGN
C-251	2009	ALLEY PAVEMENT LOT DRAINAGE FROM ALLEY
C-252	2009	ALLEY PAVEMENT LOT DRAINAGE TO ALLEY
C-253	1999	DECORATIVE CONCRETE
C-254	1999	ARTERIAL/COLLECTOR ROADWAY LANDSCAPE DRAINAGE
C-255	2007	TYPICAL ROUNDABOUT
C-256	2013	TYPICAL RAISED CROSSWALK
C-257	2015	IN-LINE RAMP DETAIL FOR RETURN TYPE DRIVEWAY
C-258-1	2015	DIRECTIONAL CURB RAMP ARTERIAL STREETS
C-258-2	2015	DIRECTIONAL CURB RAMP COLLECTOR STREETS
C-258-3	2015	DIRECTIONAL CURB RAMP LOCAL STREETS
C-259	2015	MODIFIED ENTRANCE
C-260-1	2015	ON-STREET PARKING USING BULB-OUTS
C-260-2	2015	ON-STREET PARKING ACCESSIBLE SPACES



C-300 SERIES: WATER

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-300	2009	FLUSHING PIPE ASSEMBLY WITH BALL VALVE
C-301-1	2015	WATER SERVICE INSTALLATION
C-301-2	2013	MULTI-METER WATER SERVICE INSTALLATION
C-302	1999	RESIDENTIAL BACKFLOW PREVENTION ASSEMBLY INSTALLATION - 1" OR UNDER
C-303-1	2016	FIRE HYDRANT INSTALLATION
C-303-2	2016	FIRE HYDRANT COLOR CODE
C-304	DEL	FIRE HYDRANT LOCK
C-305	2012	LOCATIONS FOR NEW FIRE HYDRANT
C-306	DEL	FIRE HYDRANT MARKER > > USE MAG STD DTL 122 INSTEAD
C-307	2015	VALVE BOX INSTALLATION (POTABLE WATER)
C-308	2009	WATER PIPE BEDDING DETAIL
C-309	DEL	PRESSURE VACUUM BREAKER BACKFLOW PREVENTION ASSEMBLY INSTALLATION - 2" & UNDER
C-310	DEL	DOUBLE-CHECK VALVE BACKFLOW PREVENTION INSTALLATION - 3" & UNDER
C-311	2013	REDUCED PRESSURE - PRINCIPLE BACKFLOW PREVENTION ASSEMBLY INSTALLATION - 3" AND UNDER
C-312	DEL	DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY 2 1/2", 4", 6", 8", 10" PRIVATE DOMESTIC WATER MAIN
C-314	DEL	DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY 3", 4", 6", 8", 10"
C-315	2016	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY INSTALLATION - 4" AND LARGE
C-316	2015	3" TO 10" METER VAULT
C-317	2002	CONCRETE COLLAR DETAIL WATER VALVE BOX PLACEMENT UNPAVED AREAS
C319	2011	2" COMBINATION AIR/VACUUM VALVE ASSEMBLY
C-320	2010	VAULT FOR 24" GATE VALVE
C-321	2011	WATER QUALITY MONITORING STATION
C-322	2013	POTABLE WATER METER SAMPLING STATION CONVERSION

C-400 SERIES: WASTEWATER

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-400	2009	MANHOLE COVER
C-401	2009	MANHOLE CONCRETE COLLAR DETAIL
C-402	2009	SEWER PIPE BEDDING DETAIL

C-400 SERIES: WASTEWATER (CONTINUED)

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-404-1	2016	RECLAIMED WATER SERVICE CONNECTIONS
C-404-2	2008	RECLAIMED WATER SERVICE CONNECTION DATA FORM
C-404-3	2016	2" RECLAIMED WATER IRR SERVICE LINE INLINE PUMP TYPE
C-404-4	2014	3" RECLAIMED WATER IRR SERVICE LINE INLINE PUMP TYPE
C-404-5	2014	4" RECLAIMED WATER IRR SERVICE LINE INLINE PUMP TYPE
C-404-6	2014	4" RECLAIMED WATER IRR SERVICE LINE INLINE PUMP TYPE
C-404-7	2014	6" RECLAIMED WATER IRR SERVICE LINE INLINE PUMP TYPE
C-404-8	2014	6" RECLAIMED WATER IRR SERVICE LINE INLINE PUMP TYPE
C-404-9	2014	4" RECLAIMED WATER IRR SERVICE LINE CAN PUMP TYPE
C-404-10	2008	4" RECLAIMED WATER IRR SERVICE LINE CAN PUMP TYPE
C-404-11	2014	6" RECLAIMED WATER IRR SERVICE LINE CAN PUMP TYPE
C-404-12	2008	6" RECLAIMED WATER IRR SERVICE LINE CAN PUMP TYPE
C-405-1	2009	LARGE WATER USER (WITH LAKE) RECLAIMED WATER TURNOUT
C-405-2	2009	ANTENNA
C-405-3	2009	ROLLING GATE
C-405-4	2009	LEVEL SENSORS
C-405-5	2009	METERPED
C-405-6	2009	TURNOUT COMPOUND
C-405-7	2009	COMPOUND WALL
C-405-8	2009	SCADA CABINET
C-405-9	2009	MATERIALS LIST 1 OF 2
C-405-10	2009	MATERIALS LIST 2 OF 2
C-405-11	2009	SIGNAGE
C-405-12	2009	GENERAL NOTES
C-406-1	2015	VALVE BOX INSTALLATION (RECLAIMED WATER)
C-406-2	1999	VALVE BOX INSTALLATION (RECLAIMED WATER)
C-408	2011	PIPE LOCATOR WIRE & I.D. TAPE
C-409	2009	PIPE PENETRATION AND MANHOLE FRAME TERMINATION DETAIL
C-410	2010	DEEP CUT SEWER CONNECTION (SEWER LATERAL)
C-411	2010	BUILDING SEWER CONNECTION
C-416	2011	3" THROUGH 6" RECLAIMED WATER METER VAULT
C-417-1	2015	INDUSTRIAL MONITORING VAULT DETAILS
C-417-2	2014	INDUSTRIAL MONITORING VAULT SITE PLAN



C-500 SERIES: STORM SEWER & DRAINAGE

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-500	2015	SCUPPER
C-501	2009	DRY WELL SYSTEM DETAIL AND SPECIFICATIONS
C-502	2009	PRETREATMENT DRYWELL SYSTEM
C-503	1999	TRASH RACK/ACCESS BARRIER
C-504	2002	RETENTION BASIN INLET
C-506	1999	CATCH BASIN GRATES
C-507-1	2009	BELOW GRADE RETENTION BASIN INLET (BUBBLER BOX)
C-507-2	2009	BELOW GRADE RETENTION BASIN INLET (BUBBLER BOX)
C-507-3	2009	BELOW GRADE RETENTION BASIN INLET (BUBBLER BOX)
C-508	2009	STORM DRAIN INLET MARKER
C-509	2016	BACKFILL DETAIL CMP UNDERGROUND RETENTION STORAGE TANK

C-600 SERIES: SIGNAGE

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-600	2009	MEDIAN SIGNAGE
C-601-1	2015	STREET NAME SIGNS (FOR PUBLIC STREETS)
C-601-2	2015	STREET NAME SIGNS (FOR PRIVATE STREETS)
C-602	2002	COLLECTOR ROAD PAVEMENT MARKINGS
C-603	2009	ADVANCED STREET NAME SIGNS
C-604	1999	ADDRESS IDENTIFICATION FOR CLUSTER DEVELOPMENTS
C-605-1	2009	NEARSIDE STREET NAME SIGNS (FOR PUBLIC STREETS)
C-605-2	2009	NEARSIDE STREET NAME SIGNS (FOR PRIVATE STREETS)
C-606	2015	INTERNALLY ILLUMINATED STREET NAME SIGN
C-607	2013	INTERNALLY ILLUMINATED STREET NAME SIGN - BRACKET ASSEMBLY
C-608	2013	INTERNALLY ILLUMINATED STREET NAME SIGN - J/R POLE MOUNTING
C-609	1999	INTERNALLY ILLUMINATED STREET NAME SIGN - F POLE MOUNTING
C-610	1999	INTERNALLY ILLUMINATED STREET NAME SIGN - F POLE MOUNTING
C-611	2015	HANDICAP PARKING SPACE SIGN
C-612	2015	HANDICAP PAVEMENT MARKING SYMBOL
C-613	2007	SIGN POST AND BASE

C-600 SERIES: SIGNAGE (CONTINUED)

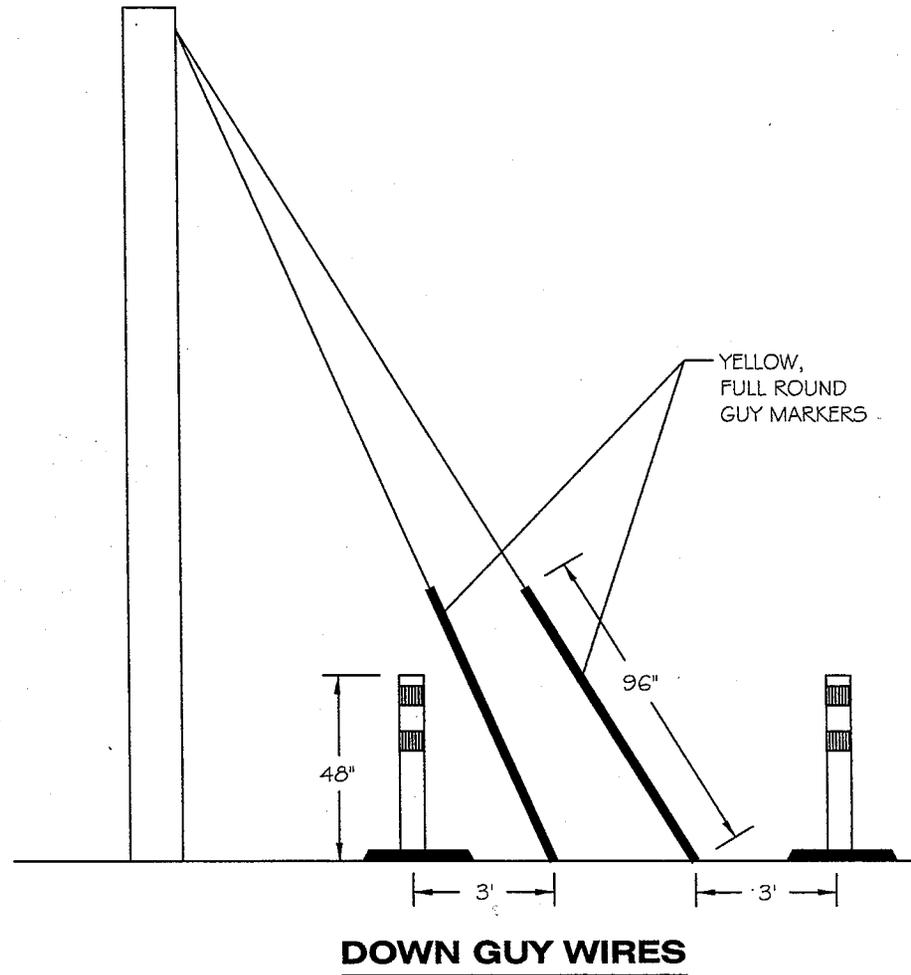
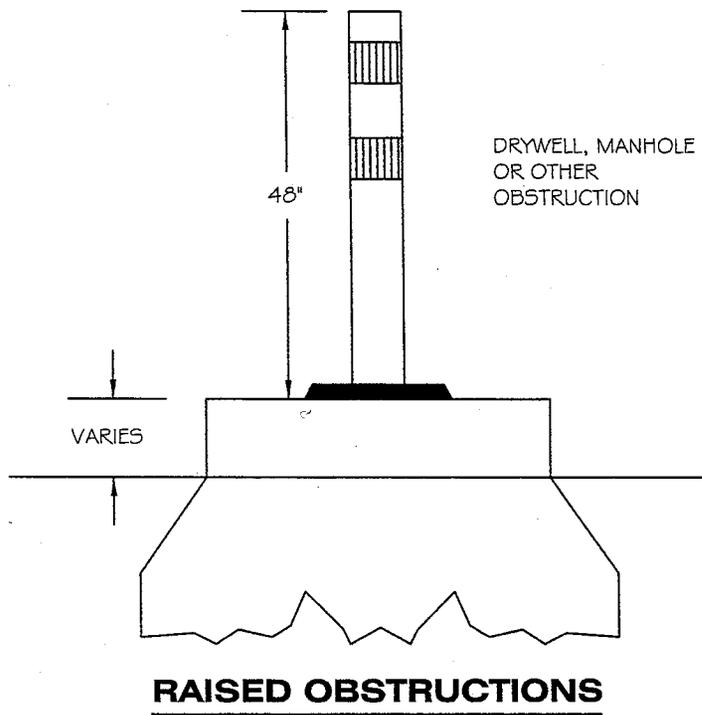
<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-614	2007	PAVEMENT MARKING DETAILS
C-615	2002	SIGN POST AND BASE LOCATIONS FOR RESIDENTIAL STREETS
C-616	2013	RIGHT TURN LANE DROP
C-618	2013	TYPICAL SIGNS AND MARKINGS ARTERIAL ROAD
C-619	2013	TYPICAL LANE WIDTHS - ARTERIAL ROAD WITH DOUBLE LEFT TURNS
C-620	2009	MAJOR ARTERIAL DECELERATION LANE SIGNING & STRIPING
C-621	2002	ARTERIAL SIGNAGE
C-622	2007	ARTERIAL ROADWAY MARKINGS (W/O MEDIANS)
C-623	2013	INTERSECTION MARKINGS (WITH MEDIANS)

C-800 SERIES: LANDSCAPE

<u>Detail</u>	<u>Revised</u>	<u>Title</u>
C-801	2012	TREE PLANTING AND STAKING
C-802	2012	TREE PLANTING SLOPE
C-803	2012	PALM PLANTING AND BRACING
C-804	2012	CACTUS AND ACCENT PLANTING
C-805	2012	SHRUB AND GROUND COVER PLANTING
C-806	2012	PLANT PIT SCHEDULE
C-807	2012	MEDIAN
C-808	2012	EMITTER ACCESS BOX AND EMITTER LAYOUT
C-809	2012	REMOTE CONTROL ELECTRIC VALVE TURF
C-810	2012	REMOTE CONTROL ELECTRIC VALVE DRIP
C-811	2012	IRRIGATION TRENCH
C-812	2012	BUBBLER
C-813	2012	GEAR-DRIVEN POP-UP ROTER
C-814	2012	POP-UP SPRAY HEAD
C-815	2012	QUICK COUPLER
C-816	2012	TYPICAL IRRIGATION LEGEND AND INFORMATION
C-817	2012	EMITTER-BUBBLER SCHEDULE

GENERAL INFORMATION

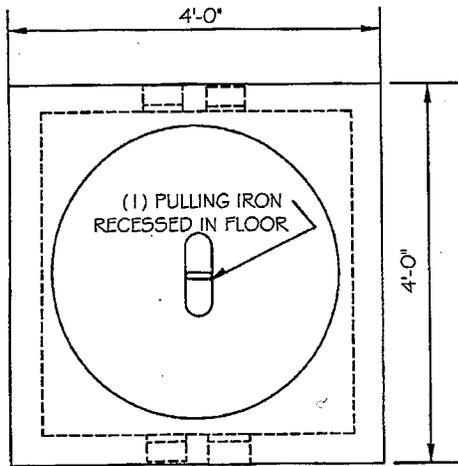
C-100 TO C-113



NOTES:

1. HAZARD MARKERS SHALL BE INSTALLED WHEN AN OBSTRUCTION MAY POSE A HAZARD TO MOTORIZED VEHICLES, MOWING EQUIPMENT, PEDESTRIANS, MAINTENANCE OPERATIONS OR AS DIRECTED BY THE ENGINEER.
2. HAZARD MARKERS SHALL MEET THOSE SPECIFICATIONS AS SHOWN IN MAG STD DTL 141.
3. MAG STD DTL 141 TYPE 2 MAY BE USED AROUND RAISED OBSTRUCTIONS AS AN ALTERNATE; HOWEVER, THREE (3) MARKERS MUST BE PLACED AT 120° INTERVALS AROUND THE OBSTRUCTION.

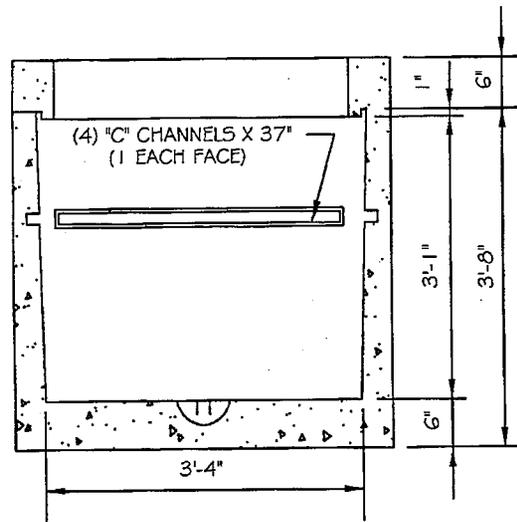
DETAIL NO. C-100 NTS	 CITY OF CHANDLER STANDARD DETAIL	HAZARD MARKER PLACEMENT	APPROVED:  CITY ENGINEER DATE: 01/14/10	DETAIL NO. C-100 NTS
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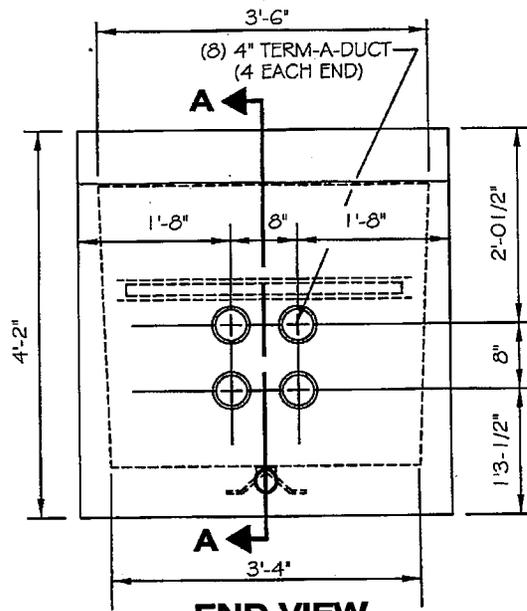
PLAN VIEW

NOTES:

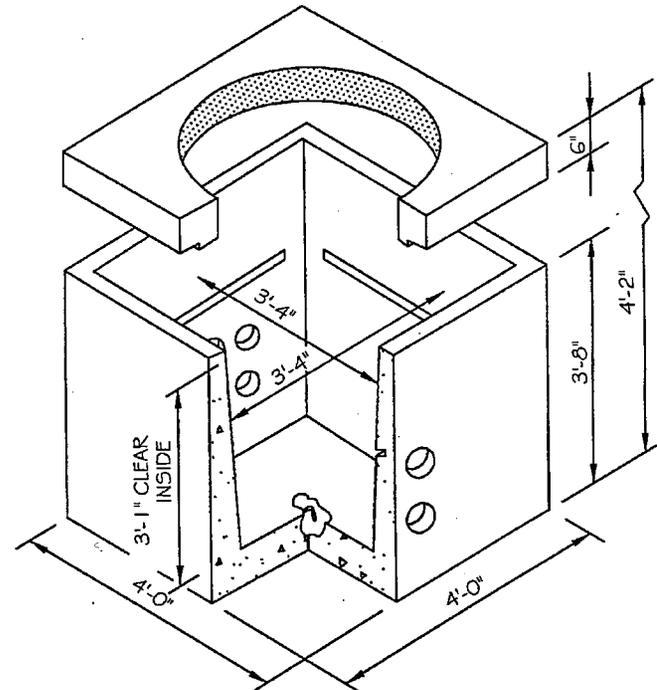
1. VAULT SHALL BE UTILITY VAULT CO. #444-TA OR APPROVED EQUAL.
2. FRAME AND COVER SHALL BE MAG STD DTL 536 - ALTERNATE COVER FOR CURB OPENING CATCH BASINS.
3. COVER SHALL BE FILLED WITH CONCRETE, BROOM FINISHED, AND STAMPED WITH CITY OF CHANDLER LOGO.



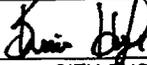
SECTION VIEW A-A

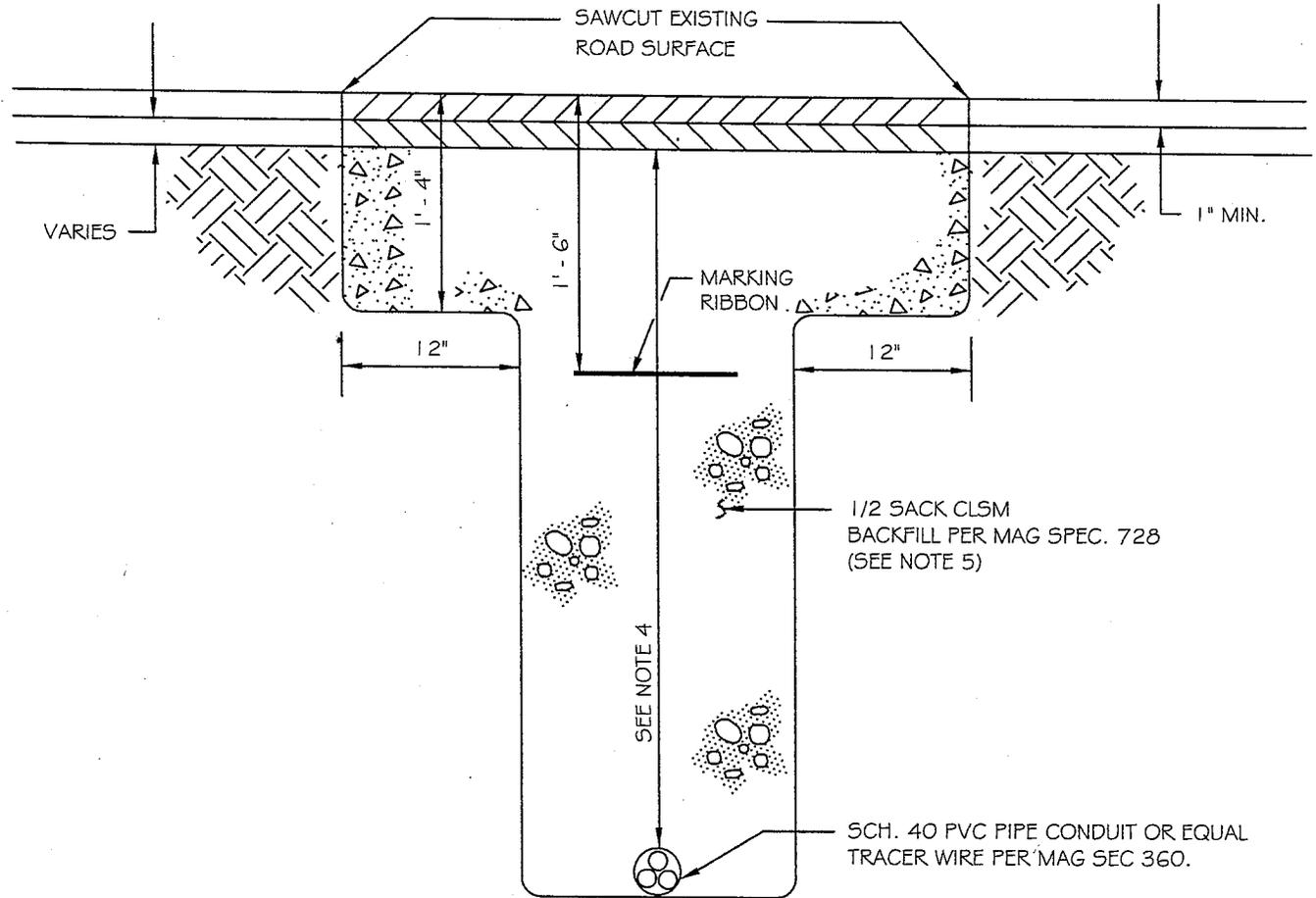


END VIEW



ISOMETRIC VIEW

DETAIL NO. C-103 NTS	 CITY OF CHANDLER STANDARD DETAIL	FIBER OPTIC CABLE SPLICING VAULT	APPROVED:  CITY ENGINEER DATE: 01/08/09	DETAIL NO. C-103 NTS
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NOTES:

1. MARKING RIBBON TO BE 3" MINIMUM WIDTH, 5 MIL THICK METALLIC DETECTABLE TAPE WITH THE MESSAGE "CAUTION - FIBER OPTIC CABLE BURIED BELOW".
2. FOR BORES OR PUSHES, STEEL SLEEVES MUST BE USED.
3. REPLACE ROAD SURFACE PER MAG STANDARD DETAIL 200 'T' TOP.
4. INSTALLATION SHALL BE PER MAG SECT 360.
5. NATIVE MATERIAL CAN BE UTILIZED FOR BACKFILL IN P.U.E. OR MIN. 2 FEET FROM SURFACE IMPROVEMENTS.

DETAIL NO.

C-104

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

FIBER OPTIC CABLE DUCTS

APPROVED:

Karin Hill
CITY ENGINEER

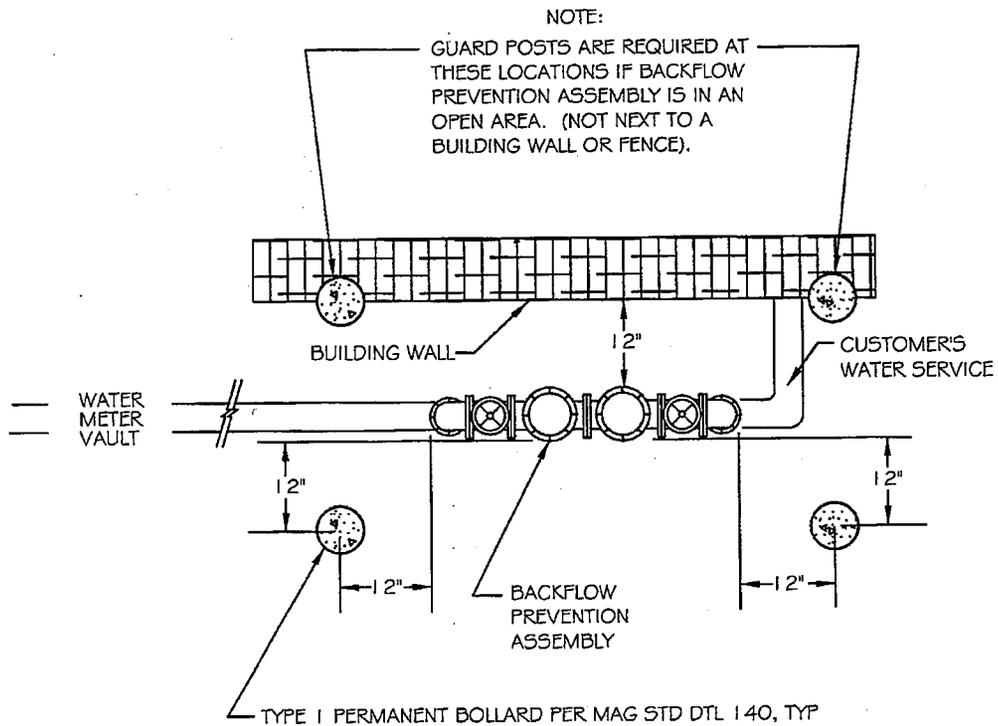
DATE:

01-27-11

DETAIL NO.

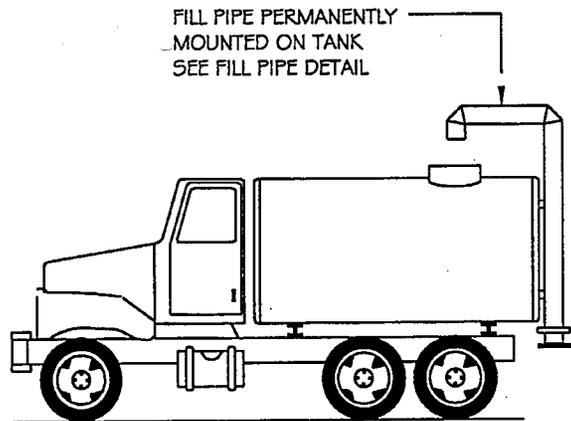
C-104

NTS

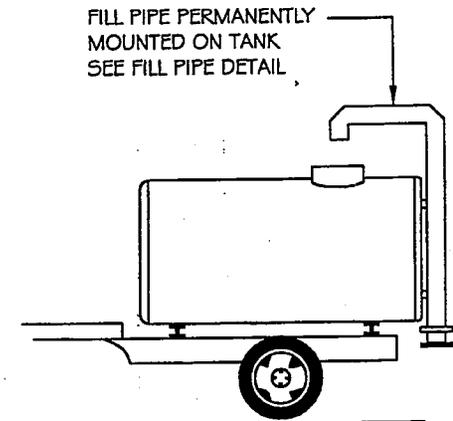


GUARD POST FOR BACKFLOW
PREVENTION ASSEMBLY

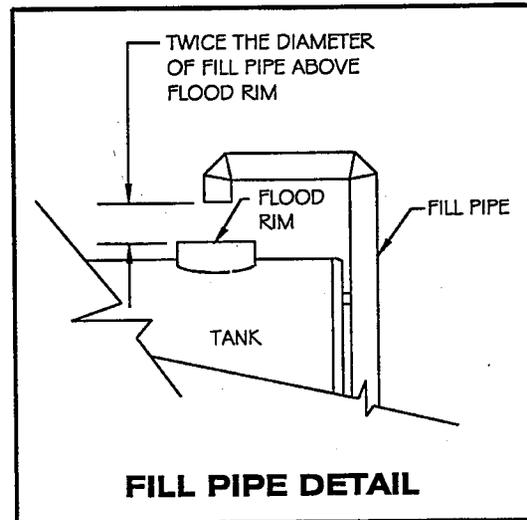
DETAIL NO. C-105 NTS	 CITY OF CHANDLER STANDARD DETAIL	GUARD POST FOR BACKFLOW PREVENTION ASSEMBLIES	APPROVED: <i>John Hyl</i> CITY ENGINEER DATE: <u>01/06/09</u>	DETAIL NO. C-105 NTS
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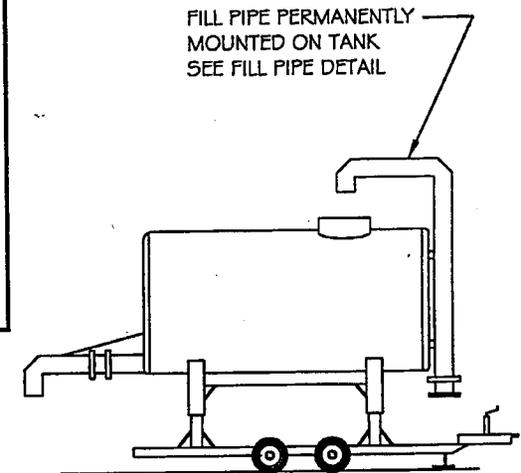
WATER TRUCK



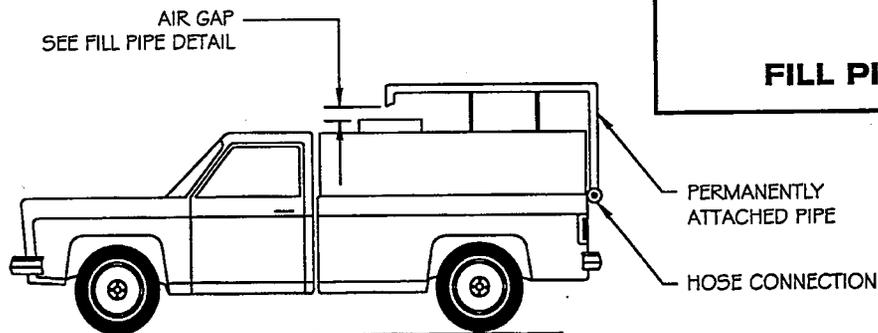
WATER WAGON



FILL PIPE DETAIL



ELEVATED TANK



WATER TRUCK

C-108
REPLACES
95

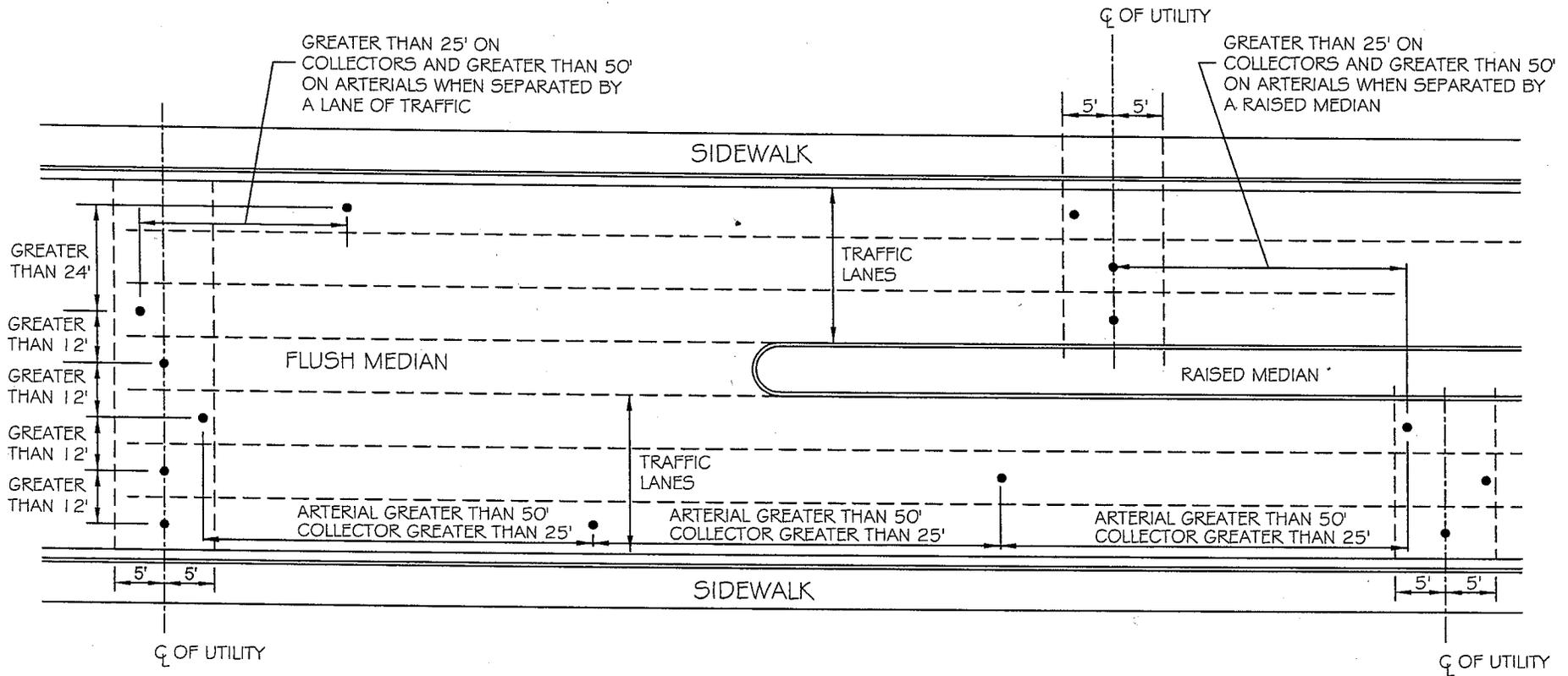


CITY OF
CHANDLER
STANDARD
DETAIL

**AIR GAP BACKFLOW PROTECTION
FOR WATER TANKS**

APPROVED: *Boyer D. Falkner*
CITY ENGINEER
DATE: *11-19-99*

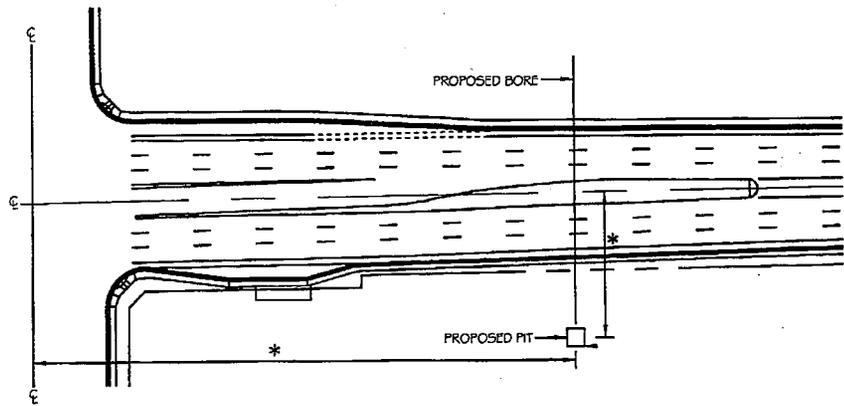
DETAIL NO.
C-108
NTS



NOTES:

1. REFER TO THE REQUIREMENTS OF ENCROACHMENT PERMITS, STREET CUT PERMITS, AND THE FEE EXEMPTION POLICY.
2. DIMENSIONS FOR POTHOLE SPACING ARE MEASURED TO THE EDGES OF THE POTHOLES.

DETAIL NO. C-111 NTS	 CITY OF CHANDLER STANDARD DETAIL	MINIMUM POTHOLE SPACING FOR PAVEMENT RESTORATION FEE EXEMPTION	APPROVED:  CITY ENGINEER DATE: 01-27-11	DETAIL NO. C-111 NTS
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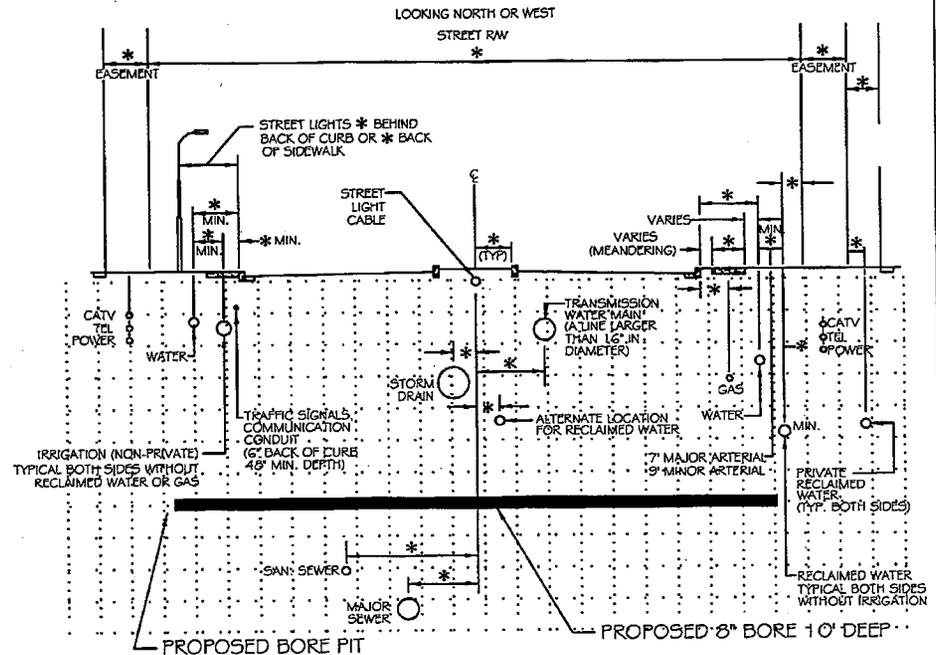


PLAN VIEW

NOT TO SCALE

NOTES:

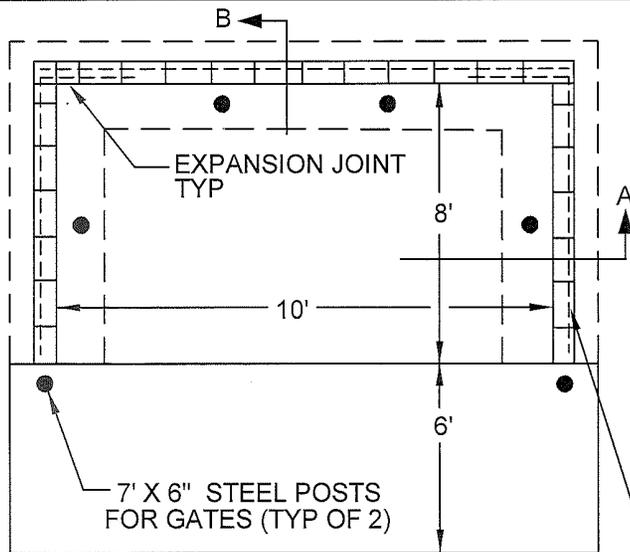
1. * PROVIDE PROPOSED LOCATION OF BORE AND ALL UTILITIES WITH VERTICAL & HORIZONTAL DIMENSIONS, AS WELL AS DIMENSIONS OF FACILITIES TO BE CROSSED.
2. 12" BY 12" MAX. SIZE POTHOLES ALLOWED TO VERIFY UNKNOWN UTILITY LOCATION AND TO MONITOR BORES PASSING WITHIN 2' OF EXISTING UTILITIES. CORE DRILLING IS PREFERRED.
3. 1' X 1' AND 2' X 2' POTHOLE PLATES ARE NOT PERMITTED. RESTORE POTHOLES PER MAG STD DTL 212.
4. ALL BORES TO BE SLEEVED IN SCHEDULE 40 PVC OR BETTER.
5. BACKFILL REQUIREMENTS OF PIT SHALL BE PER MAG SECTION 601
6. JURISDICTION SHALL BE NOTIFIED IF OBSTRUCTIONS ARE ENCOUNTERED.
7. GUIDED BORE REQUIRED IF LENGTH IS MORE THAN 45'.
8. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER OF ANY DAMAGED FACILITY FOR ITS REPAIR OR REPLACEMENT. COST OF SUCH REPAIRS SHALL BE IN COMPLIANCE WITH M.A.G. OR SPECIAL AGREEMENTS.



**BORE PROFILE
TYPICAL SECTION**

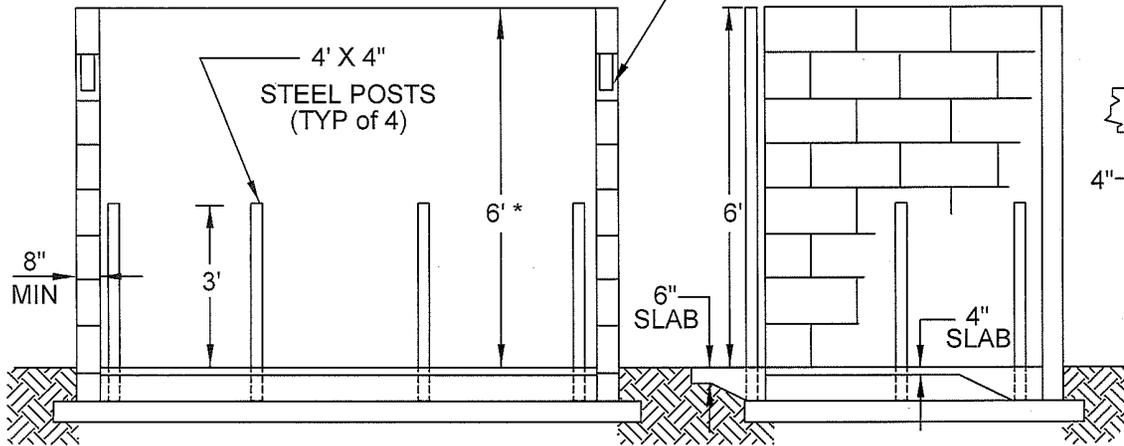
9. REPLACE OR REPAIR ANY LANDSCAPING/SPRINKLER DAMAGED DURING THE COURSE OF THE WORK. PER MAG 107.9.
10. PERMISSION REQUIRED FROM THE CITY PRIOR TO REMOVING OR TRIMMING ANY LANDSCAPING.
11. 24" MIN. CLEARANCE SHALL BE PROVIDED BETWEEN BORE AND ALL EXISTING UTILITIES.

DETAIL NO. C-112 NTS	 CITY OF CHANDLER STANDARD DETAIL	ENGINEERED UTILITY BORE	APPROVED: <i>Jim Hyl</i> CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-112 NTS
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PLAN

PROVIDE BOND BEAM IN SECOND COURSE W/ #4 CONTINUOUS RE-BAR, FULLY GROUTED



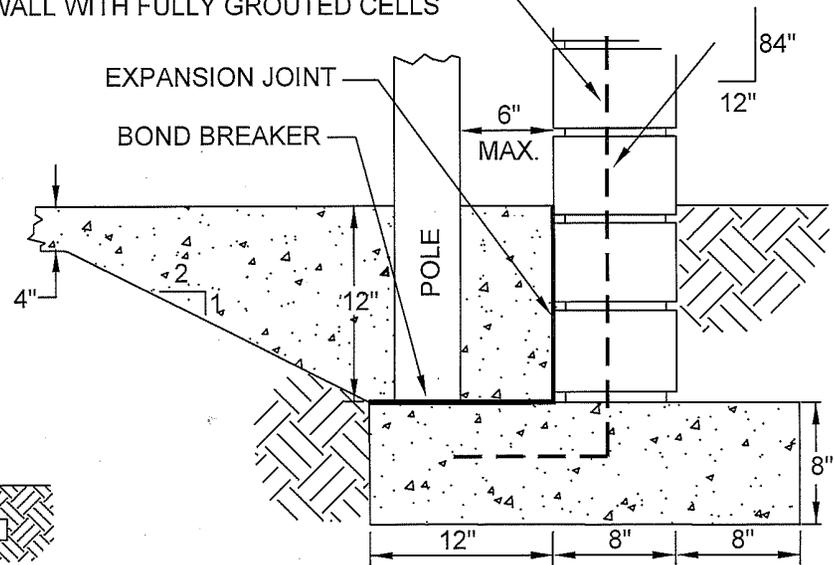
FRONT SECTION A

SIDE SECTION B

NOTES:

1. INSIDE DIMENSIONS: 10' WIDE, 8' DEEP, AND 6" HIGH. A MIN 5' HIGH WALL / GATE MUST BE PROVIDED FOR RECESSED ENCLOSERS.
2. CONCRETE BASE 4" THICK AT ENCLOSURE AND 6" THICK EXTENDED 6" BEYOND FRONT OF ENCLOSURE, BOTH WITH SUB-BASE OF 4". BASE MUST BE LEVEL WITH GRADE.
3. FOUR 4" X 4" STEEL PIPES SET 1' IN GROUND FILLED WITH CONCRETE, MOUNTED INSIDE ENCLOSURE. SIDE POLES PLACED 1/2 THE DISTANCE FROM FRONT TO BACK. BACK POLES PLACED 1/3 THE DISTANCE OF 6" FROM THE WALL.
4. 9' WIDTH FOR EACH ADDITIONAL CONTAINER. ADD 2 ADDITIONAL PIPES AT REAR OF ENCLOSURE FOR EACH ADDITIONAL CONTAINER.
5. GATES TO BE MOUNTED ON SEPARATE POST NOT CONNECTED TO WALL.
6. GATES TO BE SOLID AND PAINTED TO MATCH ENCLOSURE, CUSTOM DESIGNS WILL BE APPROVED ON A CASE-BY-CASE BASIS.
7. CMU BLOCK MAY BE ANY STD SIZE, 8" MIN WIDTH W/ SMOOTH, SPLIT, SCORED OR FLUTED EXTERIOR FACE OR SPECIALTY BLOCK. TOP TO BE SOLID BLOCK, CAPPED OR ALL CORES FILLED. WALL TO BE FINISHED AND PAINTED TO MATCH BUILDING.

#4 RE-BAR AT FOUR CORNERS AND AT 48" MAX SPACING ALONG WALL WITH FULLY GROUTED CELLS



FOOTING DETAIL

DETAIL NO.

C-113

NTS



CITY OF CHANDLER
STANDARD DETAIL

TRASH RECEPTACLE ENCLOSURE

APPROVED:

David W. Cook
CITY ENGINEER

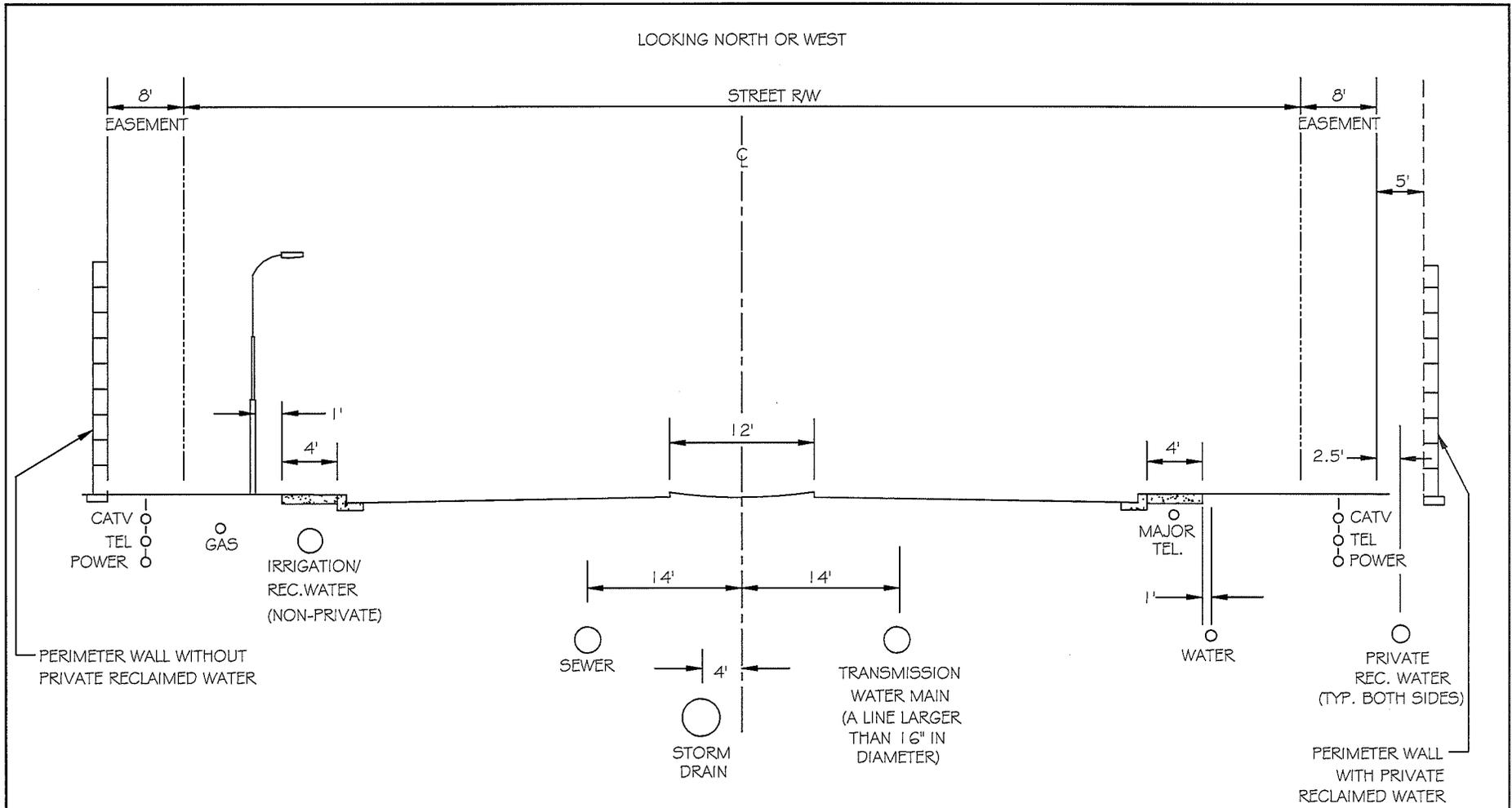
DATE: 07-09-2015

DETAIL NO.

C-113

NTS

STREETS
C-200 TO C-259



NOTE:
 WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE,
 MAY WAIVE SIDEWALK ON ONE SIDE OF ROADWAY IN INDUSTRIAL AREAS.

DETAIL NO.
C-201
 NTS



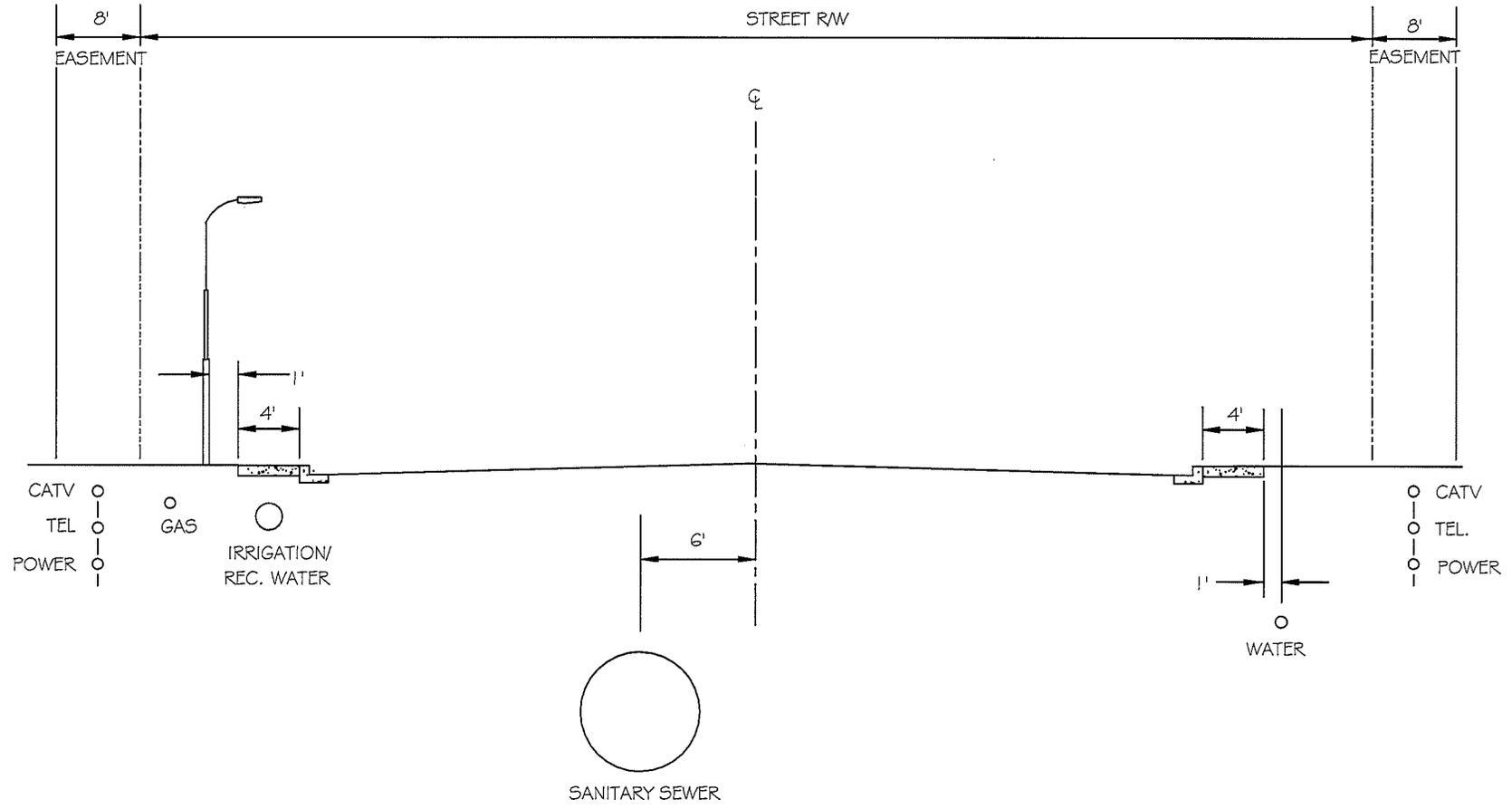
CITY OF
 CHANDLER
 STANDARD
 DETAIL

**STANDARD UTILITY LOCATIONS
 COLLECTOR STREETS**

APPROVED: *[Signature]*
 CITY ENGINEER
 DATE: 07-09-2015

DETAIL NO.
C-201
 NTS

LOOKING NORTH OR WEST



DETAIL NO.
C-202
NTS

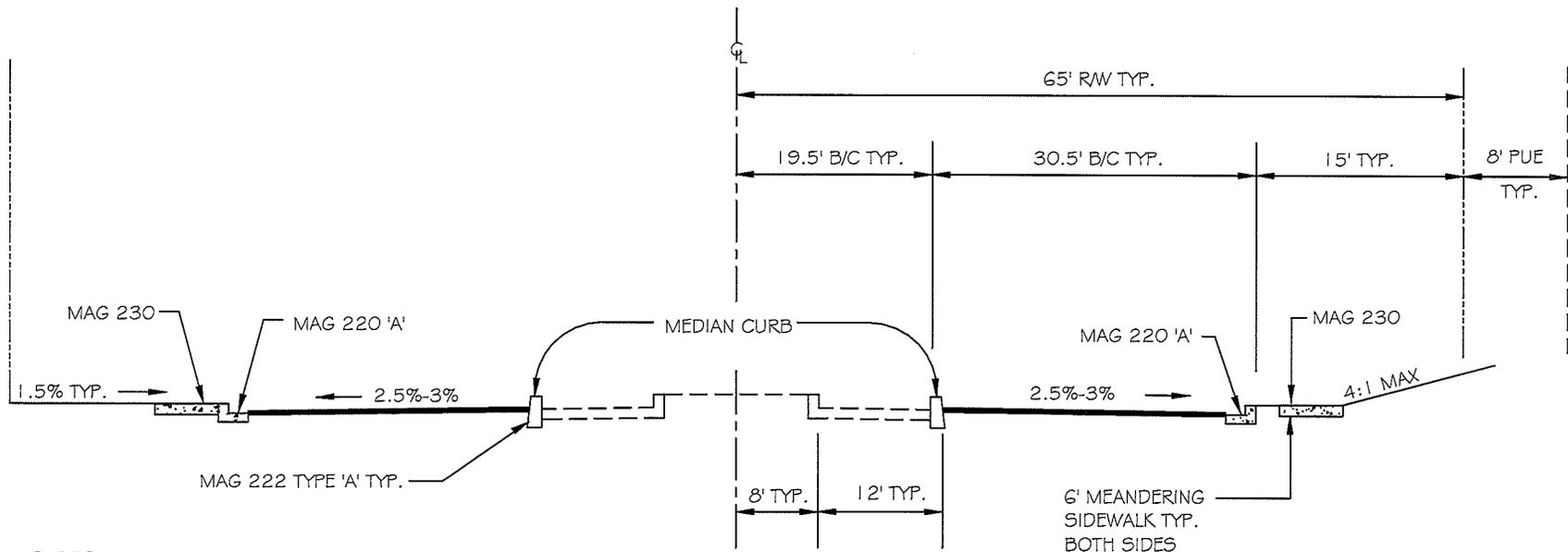


CITY OF
CHANDLER
STANDARD
DETAIL

**STANDARD UTILITY LOCATIONS
LOCAL STREETS**

APPROVED: *Daniel W. Cook*
CITY ENGINEER
DATE: 07-09-2015

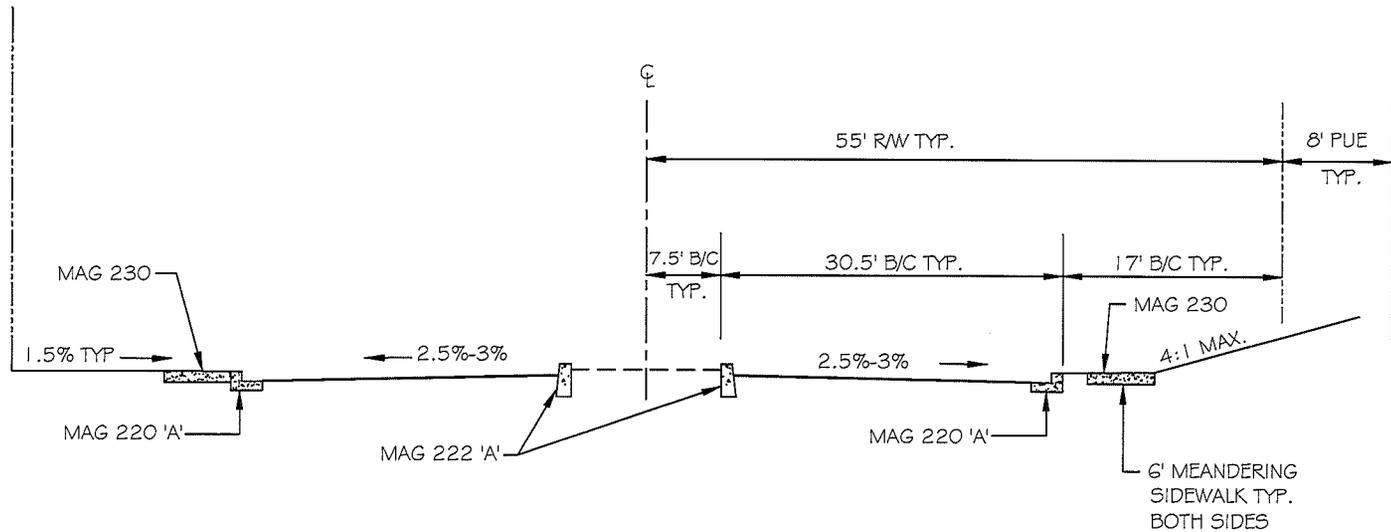
DETAIL NO.
C-202
NTS



NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-239.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. 3" THICK A19 OR A25 EVAC BASE COURSE WITH 2" OF A12.5 EVAC SURFACE COURSE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
4. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS.
5. MEDIAN LANDSCAPE AREA SHALL BE PER COC STANDARD DETAIL C-807 (MOUNDING IN MEDIAN NOT PERMITTED).
6. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

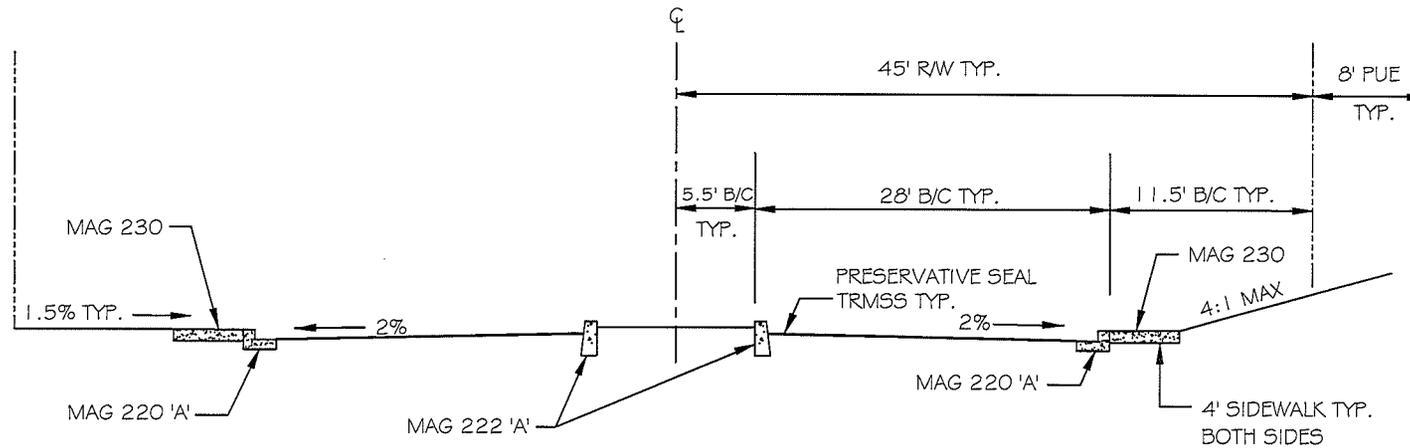
DETAIL NO. C-204 NTS	 CITY OF CHANDLER STANDARD DETAIL	PHASED MAJOR ARTERIAL STREET TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-204 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-239.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. 3" THICK A19 OR A25 EVAC BASE COURSE WITH 2" OF A12.5 EVAC SURFACE COURSE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
4. ADDITIONAL RIGHT-OF-WAY SHALL BE PROVIDED WHERE NECESSARY TO ACCOMMODATE DOUBLE LEFT TURN LANES OR RIGHT TURN LANES WARRANTED BY TRAFFIC DEMANDS.
5. RAMP END OF MEDIAN PER COC STANDARD DETAIL C-225.
6. MEDIAN LANDSCAPE AREA SHALL BE PER COC STANDARD DETAIL C-807 (MOUNDING IN MEDIAN NOT PERMITTED).
7. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

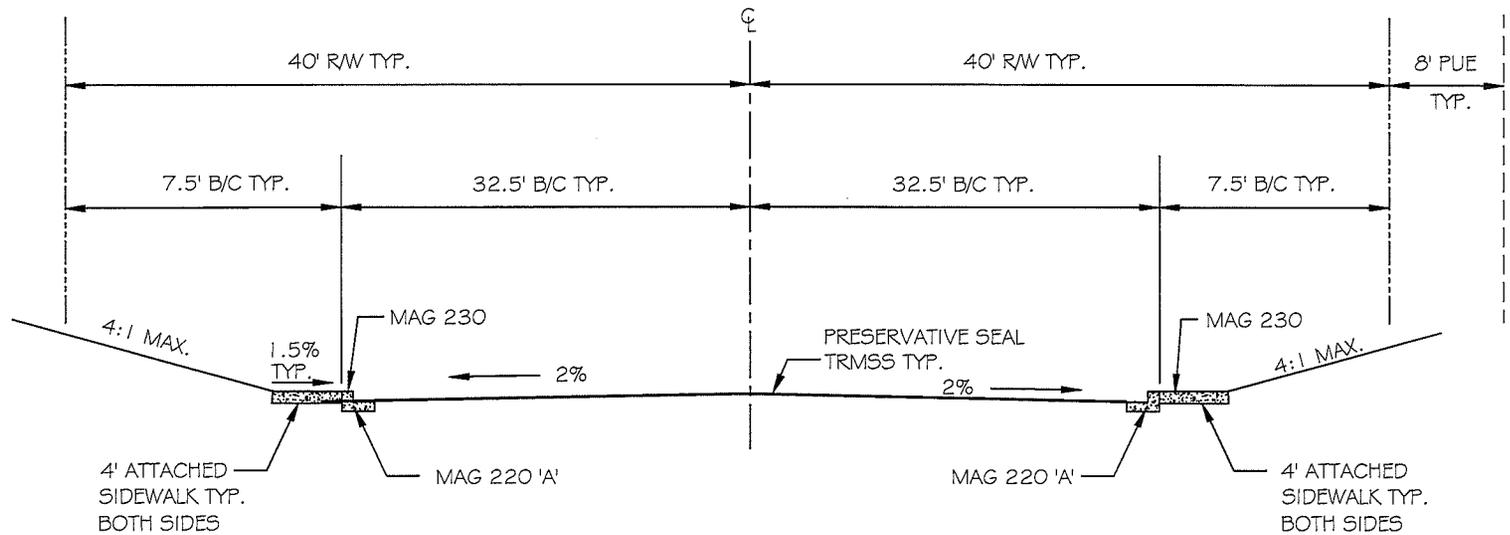
DETAIL NO. C-205 NTS	 CITY OF CHANDLER STANDARD DETAIL	MINOR ARTERIAL STREET TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-205 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-240.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK A-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. AREAS OF VISIBLE MIXTURE SEGREGATION SHALL BE MILLED TO A DEPTH OF 2" AND OVERLAID A MINIMUM OF THE LANE WIDTH.
 - C. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - D. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE SIDE OF ROADWAY IN INDUSTRIAL AREAS.
5. RAMP END OF MEDIAN PER COC STANDARD DETAIL C-225.
6. MEDIAN LANDSCAPE AREA SHALL BE PER COC STANDARD DETAIL C-807 (MOUNDING IN MEDIAN NOT PERMITTED).
7. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

DETAIL NO. C-206 NTS	 CITY OF CHANDLER STANDARD DETAIL	COLLECTOR STREET WITH MEDIAN TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-206 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-240.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK A-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. AREAS OF VISIBLE MIXTURE SEGREGATION SHALL BE MILLED TO A DEPTH OF 2" AND OVERLAID A MINIMUM OF THE LANE WIDTH.
 - C. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - D. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE OR BOTH SIDES OF ROADWAY.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

DETAIL NO.
C-208
NTS

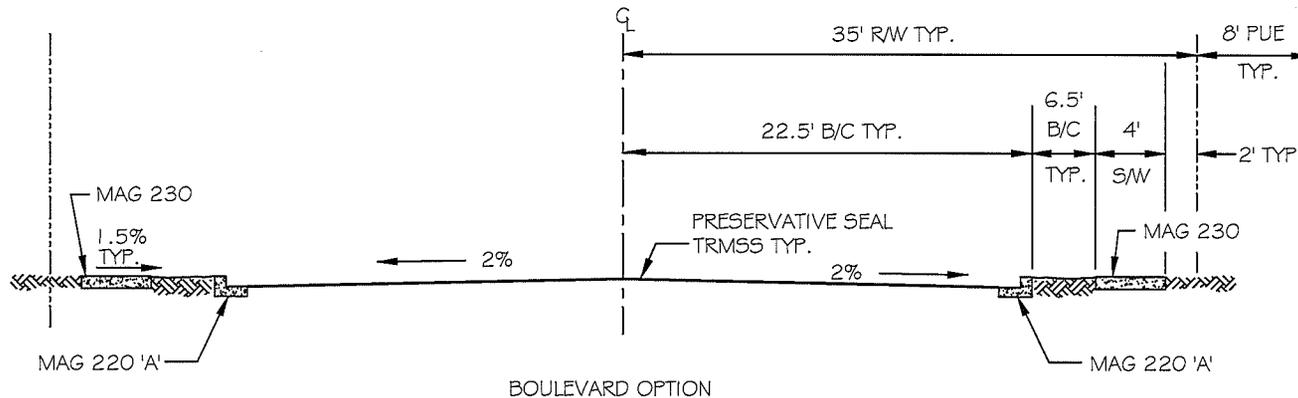


CITY OF
CHANDLER
STANDARD
DETAIL

**INDUSTRIAL COLLECTOR STREET
TYPICAL CROSS SECTION**

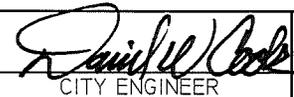
APPROVED: *[Signature]*
CITY ENGINEER
DATE: 07-09-2015

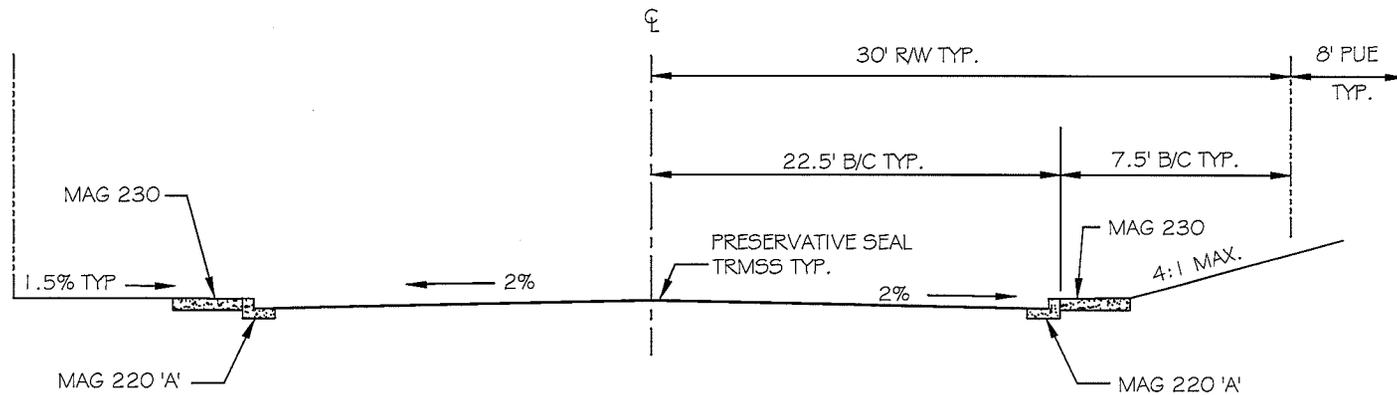
DETAIL NO.
C-208
NTS



NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-241 FOR RESIDENTIAL AREAS AND COC STANDARD DETAIL C-240 FOR ALL OTHER AREAS.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK A-12.5 EVAC ASPHALTIC CONCRETE.
 - B. AREAS OF VISIBLE MIXTURE SEGREGATION SHALL BE MILLED TO A DEPTH OF 2" AND OVERLAID A MINIMUM OF THE LANE WIDTH.
 - C. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - D. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE SIDE OF ROADWAY OR ON BOTH SIDES IN INDUSTRIAL AREAS.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.
6. DUCTILE IRON WATER LINE UNDER STREET; METERS BACK OF WALK.

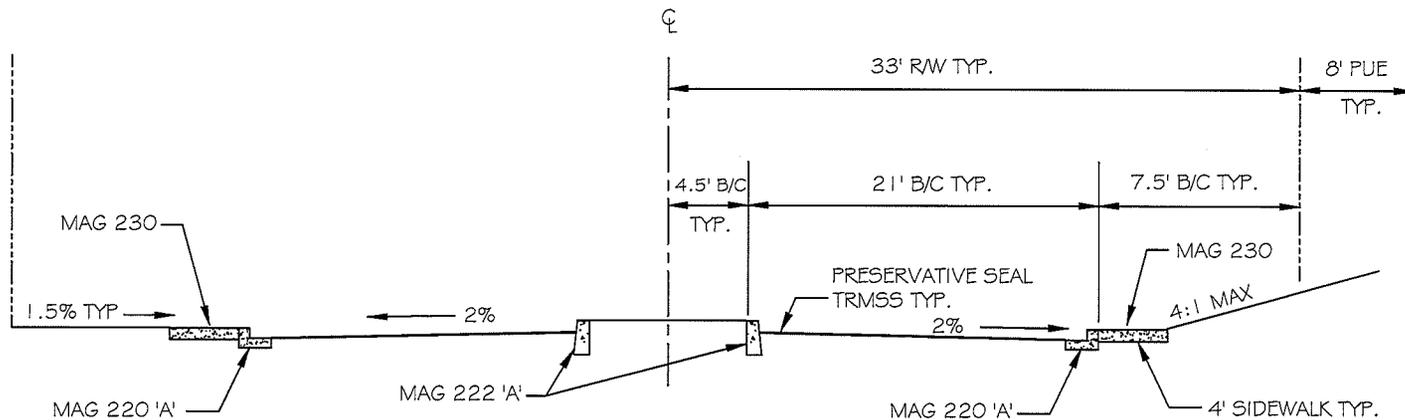
DETAIL NO. C-209 NTS	 CITY OF CHANDLER STANDARD DETAIL	COLLECTOR BOULEVARD TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-209 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-241 FOR RESIDENTIAL AREAS AND COC STANDARD DETAIL C-240 FOR ALL OTHER AREAS.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK A-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. AREAS OF VISIBLE MIXTURE SEGREGATION SHALL BE MILLED TO A DEPTH OF 2" AND OVERLAID A MINIMUM OF THE LANE WIDTH.
 - C. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - D. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRM55 PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE SIDE OF ROADWAY OR ON BOTH SIDES IN INDUSTRIAL AREAS.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

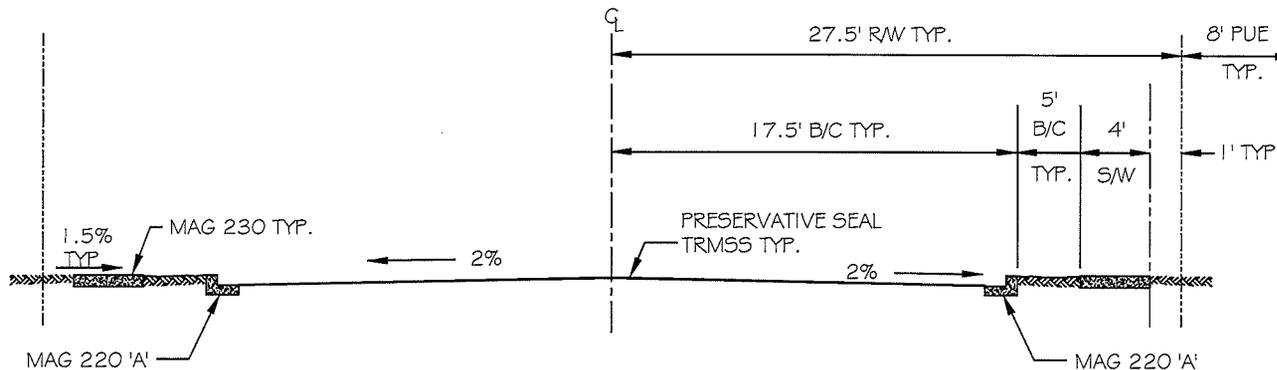
DETAIL NO. C-210 NTS	 CITY OF CHANDLER STANDARD DETAIL	COLLECTOR STREET TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-210 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-242.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK R-12.5 EVAC ASPHALTIC CONCRETE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - C. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. NO PARKING IS PERMITTED.
5. RAMP END OF MEDIAN PER COC STANDARD DETAIL C-225.
6. MEDIAN LANDSCAPE AREA SHALL BE PER COC STANDARD DETAIL C-807 (MOUNDING IN MEDIAN NOT PERMITTED).
7. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.

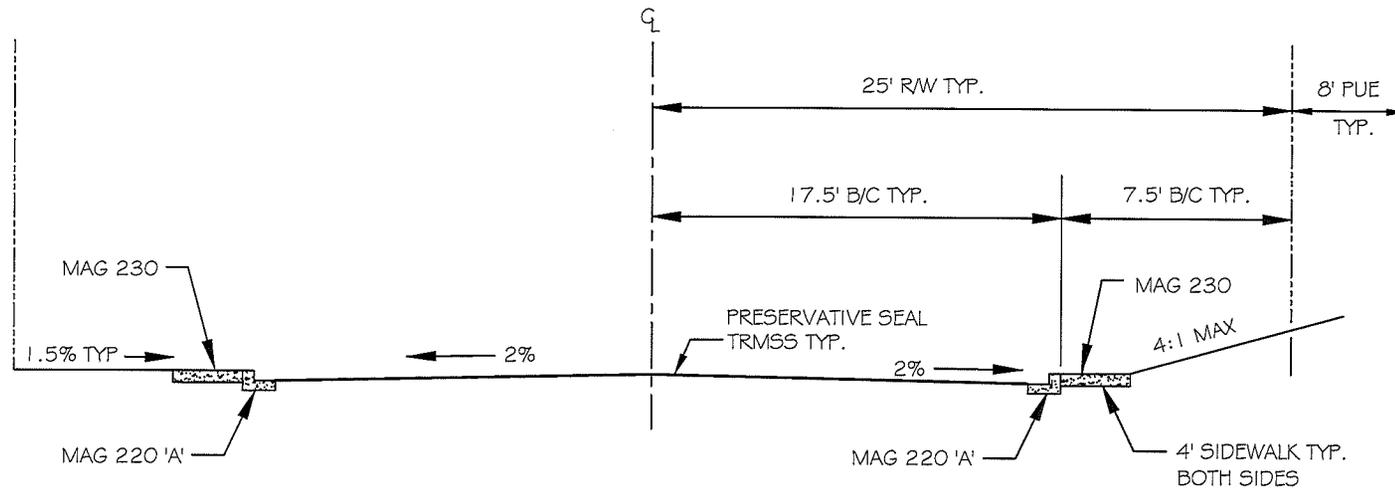
DETAIL NO. C-211 NTS	 CITY OF CHANDLER STANDARD DETAIL	LOCAL STREET WITH MEDIAN TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-211 NTS
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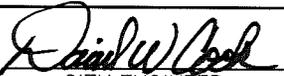
1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-241 FOR RESIDENTIAL AREAS AND COC STANDARD DETAIL C-240 FOR ALL OTHER AREAS.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK R-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - C. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE OR BOTH SIDES OF ROADWAY IN INDUSTRIAL AREAS.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.
6. ALLOWED FOR MULTI-FAMILY DEVELOPMENTS, OR SINGLE FAMILY RESIDENTIAL DEVELOPMENTS WITH FRONTAGES LESS THAN 65'.
7. DUCTILE IRON WATER LINE UNDER STREET; METERS BACK OF WALK.

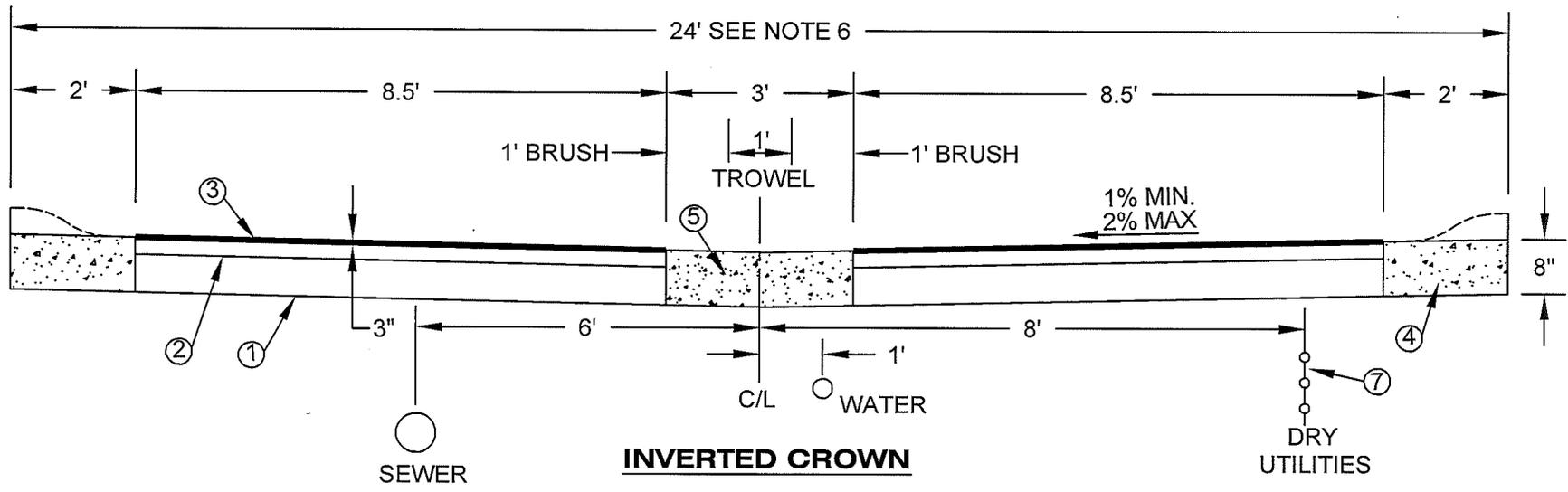
DETAIL NO. C-212 NTS	 CITY OF CHANDLER STANDARD DETAIL	LOCAL BOULEVARD WITH FRONTAGES LESS THAN 65' TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-212 NTS
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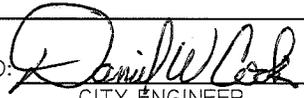
1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-242.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK R-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - C. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.
5. IF ALL ABUTTING LOT FRONTAGES EXCEED 65', STREET WIDTH MAY BE REDUCED TO 32' (B.C.) AND ROW WIDTH MAY BE REDUCED TO 42'.
6. IF ALL ABUTTING LOT FRONTAGES EXCEED 90', STREET WIDTH MAY BE REDUCED TO 29' (B.C.) AND ROW WIDTH MAY BE REDUCED TO 42'.

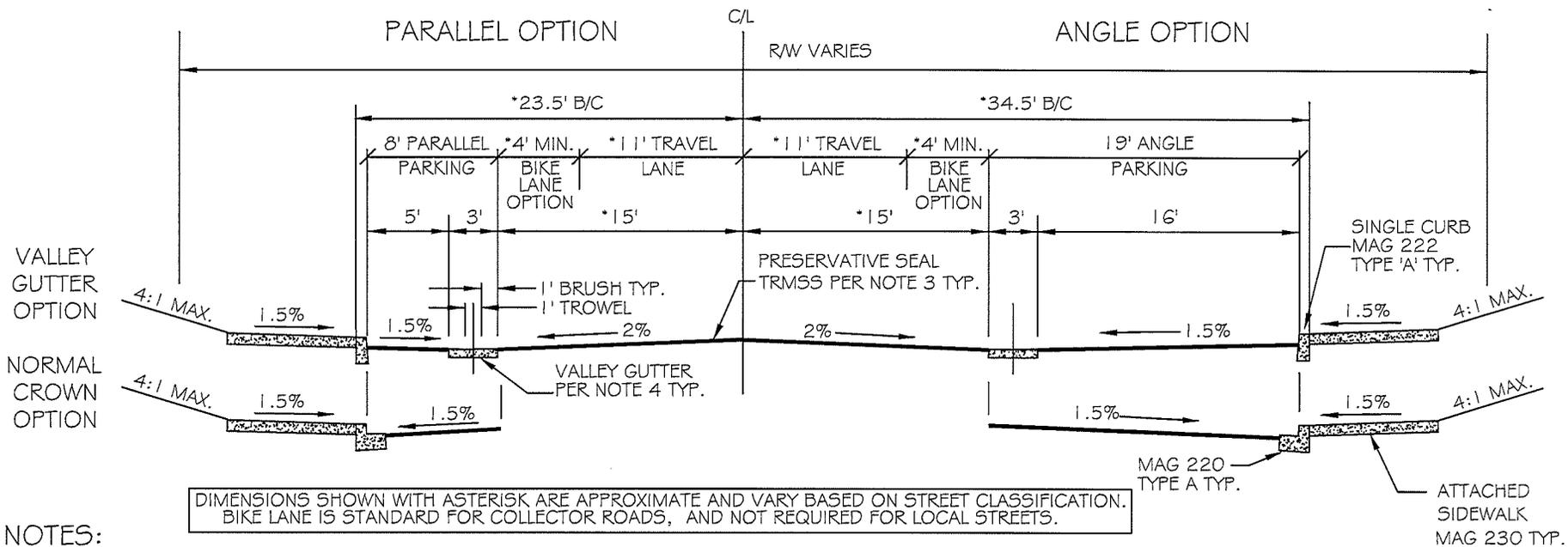
DETAIL NO. C-213 NTS	 CITY OF CHANDLER STANDARD DETAIL	LOCAL STREET TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-213 NTS
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INVERTED CROWN

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STD. DTL. C-242.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STD. SPECIFICATIONS, SEC. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE MINIMUM 3" THICK R-12.5 EVAC ASPHALTIC CONCRETE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STD. SPECIFICATIONS, SEC. 321 AND 710.
 - C. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC. 334 AND SHALL BE TRMSS PER SEC. 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. CONCRETE RIBBON CURB PER MAG DTL. 220-1 (TYPE B) OR ROLL CURB PER MAG DTL. 200-1 (TYPE C). CONCRETE SHALL BE CLASS "B" PER MAG SEC. 725 AND INSTALLED PER MAG SEC. 505.
5. VALLEY GUTTER SHALL BE CLASS "B" PER MAG SEC. 725 AND INSTALLED PER MAG SEC. 505. BRUSH / TROWEL SURFACES AS SHOWN.
6. EASEMENTS REQUIRED OVER PRIVATE DRIVE:
 - A. WATER AND SEWER EASEMENT.
 - B. PUBLIC UTILITY EASEMENT.
 - C. CROSS ACCESS EASEMENT.
 - D. DRAINAGE EASEMENT.
7. ALL DRY UTILITIES WILL BE TRENCHED WITHIN THE 24' PUE.

DETAIL NO. C-214 NTS	 CITY OF CHANDLER STANDARD DETAIL	PRIVATE SHARED DRIVEWAY TYPICAL CROSS SECTION & UTILITIES	APPROVED:  CITY ENGINEER DATE: <u>1-9-14</u>	DETAIL NO. C-214 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-240.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK A-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. AREAS OF VISIBLE MIXTURE SEGREGATION SHALL BE MILLED TO A DEPTH OF 2" AND OVERLAID A MINIMUM OF THE LANE WIDTH.
 - C. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO EVAC AND MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - D. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. VALLEY GUTTER SHALL BE 9" THICK CLASS "B" PER MAG SEC 725 AND INSTALLED PER MAG SEC 505. BRUSH / TROWEL SURFACES AS SHOWN. CROSS SLOPE GRADES NOT TO EXCEED 2%.
5. MINIMUM LONGITUDINAL GRADE IS 0.2%.
6. ON-STREET PARKING SHALL COMPLY WITH CITY STREET DESIGN AND ACCESS CONTROL TDM #4, SECTION 5. SEE ALSO COC STD DTL C-260.

DETAIL NO.
C-215
NTS

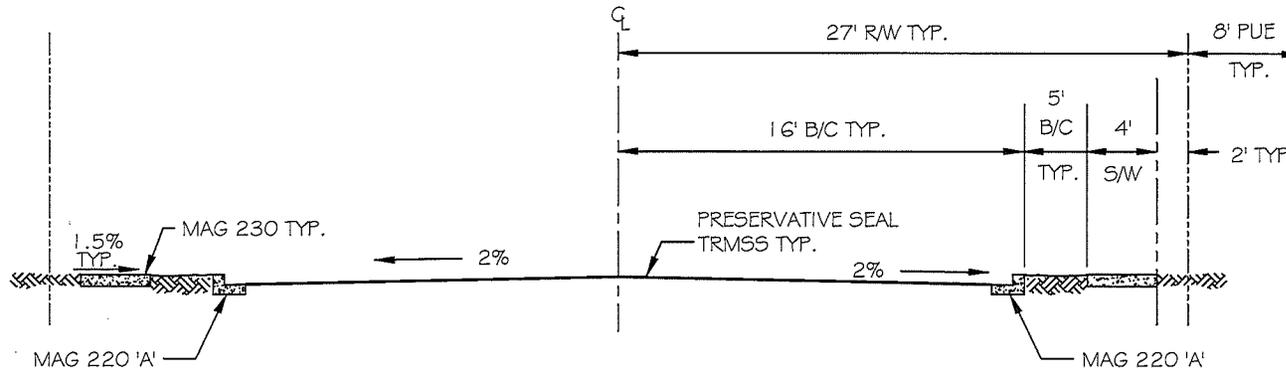


CITY OF
CHANDLER
STANDARD
DETAIL

**ON-STREET PARKING
TYPICAL CROSS SECTION**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 07-09-2015

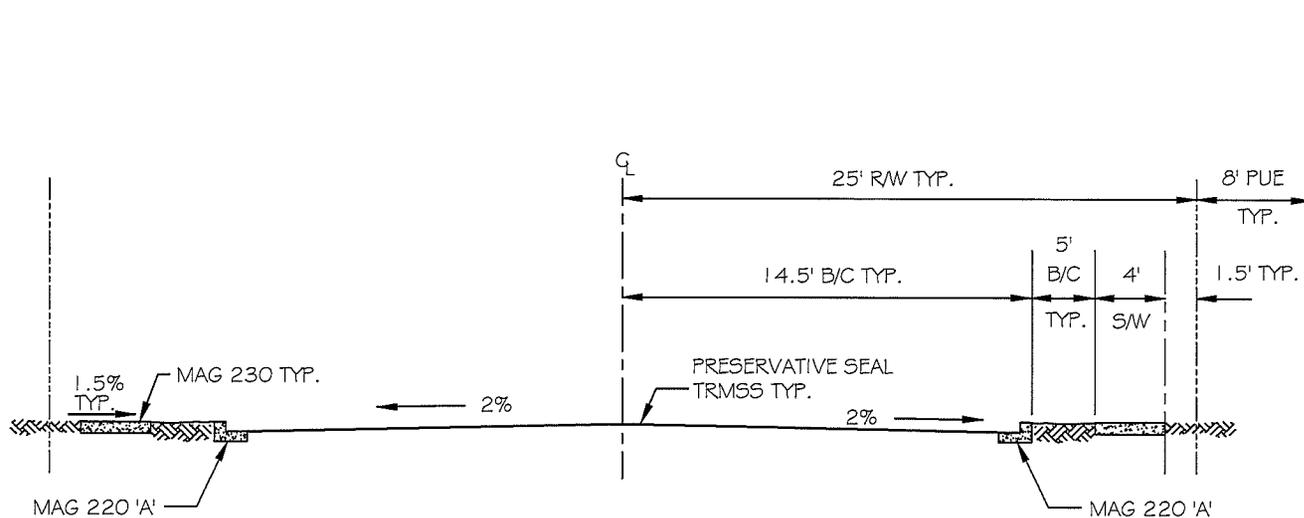
DETAIL NO.
C-215
NTS



NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-241 FOR RESIDENTIAL AREAS AND COC STANDARD DETAIL C-240 FOR ALL OTHER AREAS.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK R-1 2.5 EVAC ASPHALTIC CONCRETE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - C. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE OR BOTH SIDES OF ROADWAY IN INDUSTRIAL AREAS.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.
6. ALLOWED ONLY FOR SINGLE FAMILY RESIDENTIAL DEVELOPMENTS WITH FRONTAGES OF 65' TO 90'.
7. DUCTILE IRON WATER LINE UNDER STREET; METERS BACK OF WALK.

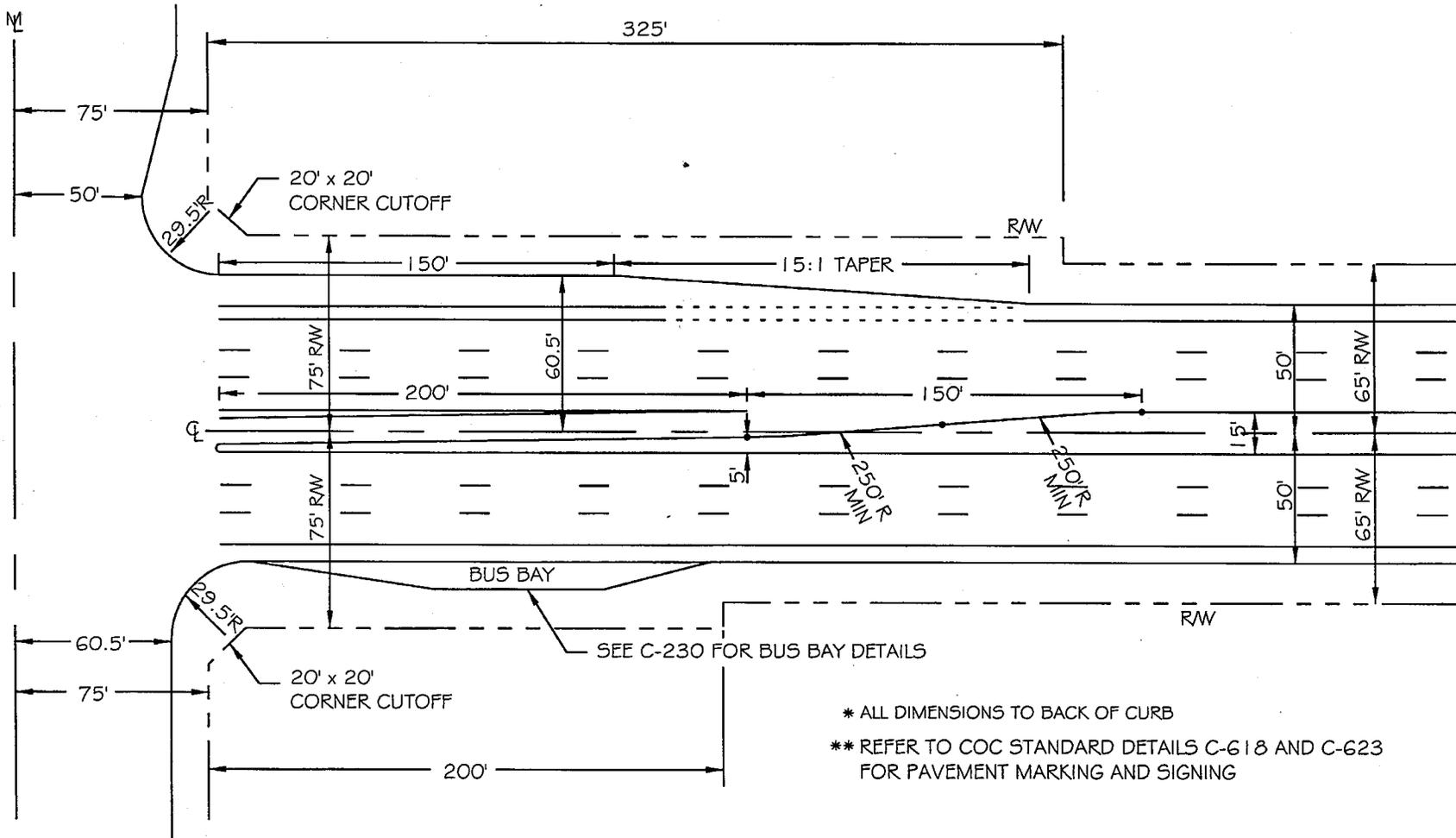
DETAIL NO. C-221 NTS	 CITY OF CHANDLER STANDARD DETAIL	LOCAL BOULEVARD WITH FRONTAGES OF 65' TO 90' TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-221 NTS
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NOTES:

1. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS, SEC. 301.
2. BASE COURSE:
 - A. THE THICKNESS SHALL CONFORM TO COC STANDARD DETAIL C-241 FOR RESIDENTIAL AREAS AND COC STANDARD DETAIL C-240
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 310 AND 702. FOR ALL OTHER AREAS.
3. ASPHALTIC CONCRETE PAVEMENT:
 - A. THE PAVEMENT SHALL BE 3" THICK R-12.5 EVAC ASPHALTIC CONCRETE.
 - B. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO MAG STANDARD SPECIFICATIONS, SECS. 321 AND 710.
 - C. PRESERVATIVE SEAL COAT CONFORMING TO MAG SEC 334 AND SHALL BE TRMSS PER SEC 718. APPLICATION PER PAVING CONSTRUCTION NOTE.
4. WHEN IN THE BEST INTEREST OF THE CITY, THE PUBLIC WORKS DIRECTOR, OR DESIGNEE, MAY WAIVE SIDEWALK ON ONE OR BOTH SIDES OF ROADWAY IN INDUSTRIAL AREAS.
5. 0.2% MINIMUM LONGITUDINAL GRADE ALLOWED.
6. ALLOWED ONLY FOR SINGLE FAMILY RESIDENTIAL DEVELOPMENTS WITH FRONTAGES GREATER THAN 90'.
7. DUCTILE IRON WATER LINE UNDER STREET; METERS BACK OF WALK.

DETAIL NO. C-222 NTS	 CITY OF CHANDLER STANDARD DETAIL	LOCAL BOULEVARD WITH FRONTAGES GREATER THAN 90' TYPICAL CROSS SECTION	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-222 NTS
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DETAIL NO.
C-223
NTS

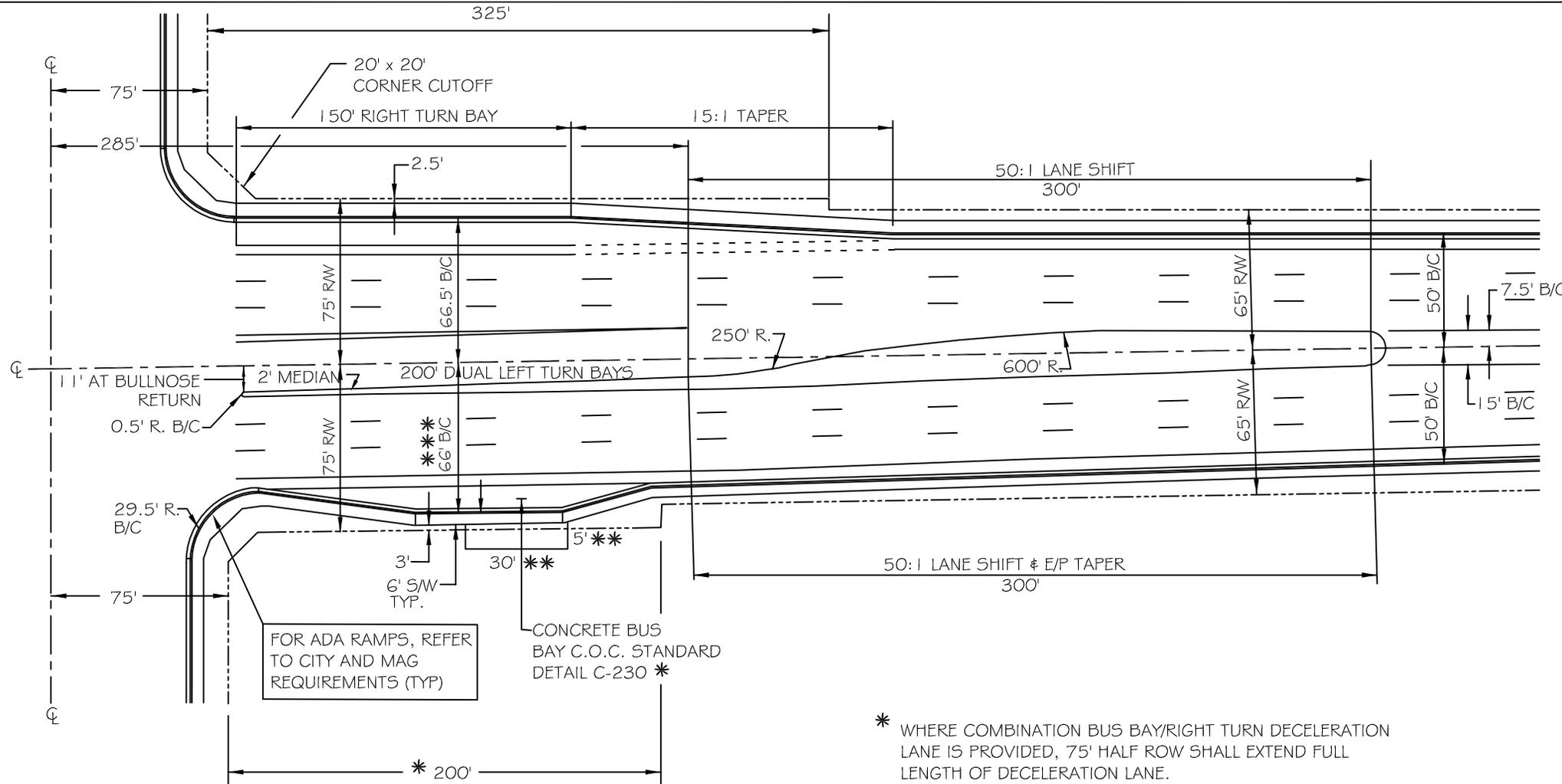


CITY OF
CHANDLER
STANDARD
DETAIL

**STANDARD MAJOR ARTERIAL/MAJOR ARTERIAL
INTERSECTION RIGHT-OF-WAY, AND
STREET DIMENSIONS**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 2/26/07

DETAIL NO.
C-223
PAGE 1 OF 2



- * WHERE COMBINATION BUS BAY/RIGHT TURN DECELERATION LANE IS PROVIDED, 75' HALF ROW SHALL EXTEND FULL LENGTH OF DECELERATION LANE.
- ** ADDITIONAL 5' X 30' EASEMENT SHALL BE REQUIRED OF DEVELOPER FOR BUS SHELTER PAD.
- *** 66.5' B/C AND 2.5' FOR INTEGRAL BUS BAY/DECELERATION LANE, SEE C.O.C. STANDARD DETAIL C-231.
- **** REFER TO COC STANDARD DETAIL C-619 AND C-623 FOR PAVEMENT MARKING AND SIGNING.

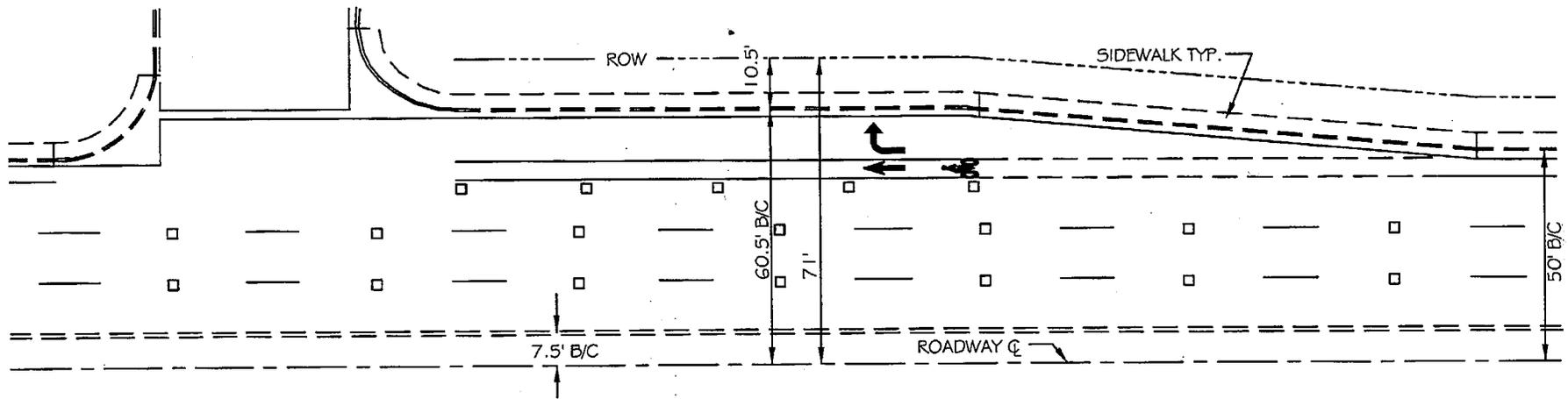
NOTES:
 50 : 1 TAPERS FOR REDIRECTION OF THROUGH LANES
 15 : 1 TAPERS FOR RIGHT TURN BAY APPROACHES



**ULTIMATE MAJOR ARTERIAL/MAJOR ARTERIAL
 INTERSECTION RIGHT-OF-WAY,
 STREET DIMENSIONS**

APPROVED: *Tim K...*
 CITY ENGINEER
 DATE: 3/14/2013

* REFER TO COC DETAIL C-620 FOR PAVEMENT MARKING AND SIGNING



DETAIL NO.

C-224

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**MAJOR ARTERIAL
DECELERATION LANE**

APPROVED:

CITY ENGINEER

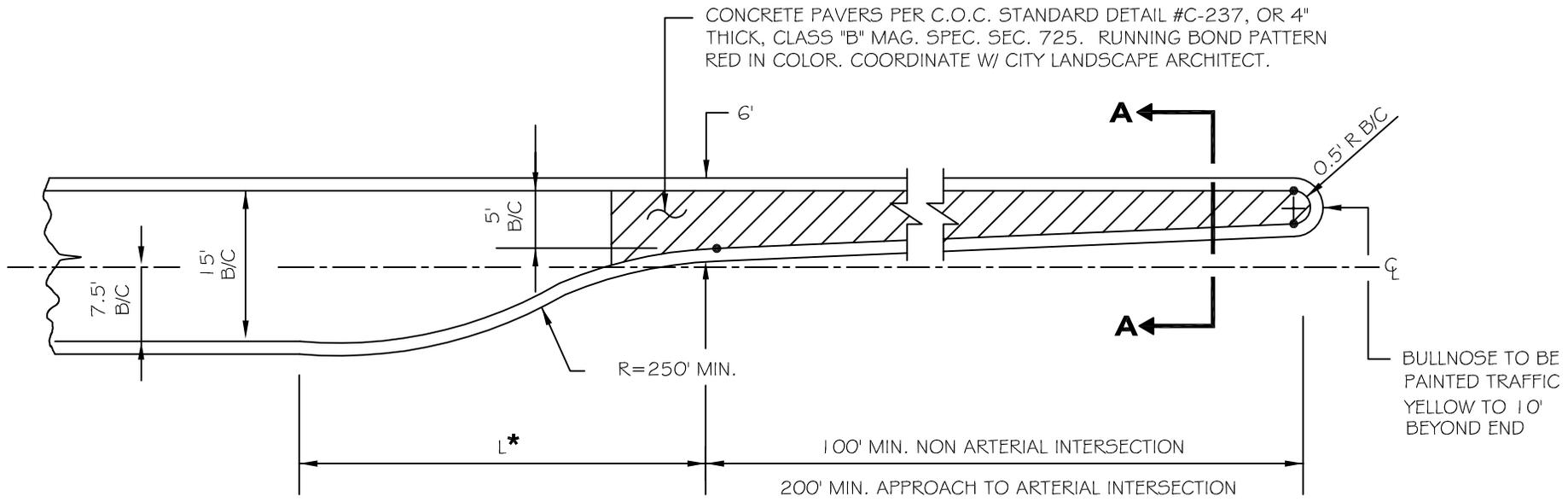
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01/08/09

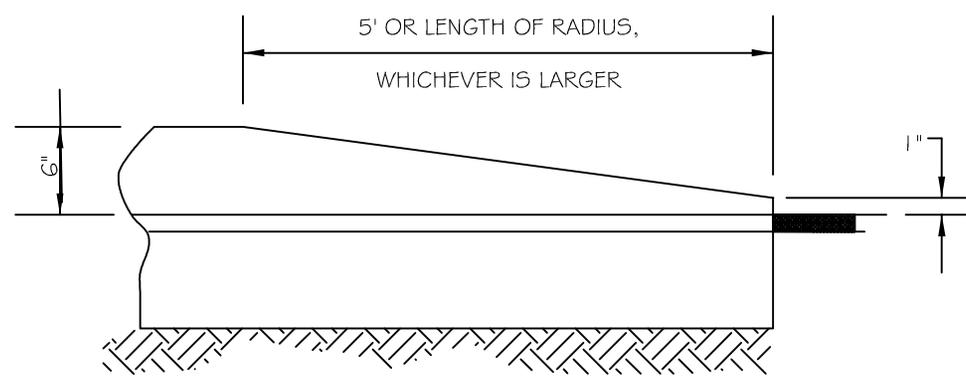
DETAIL NO.

C-224

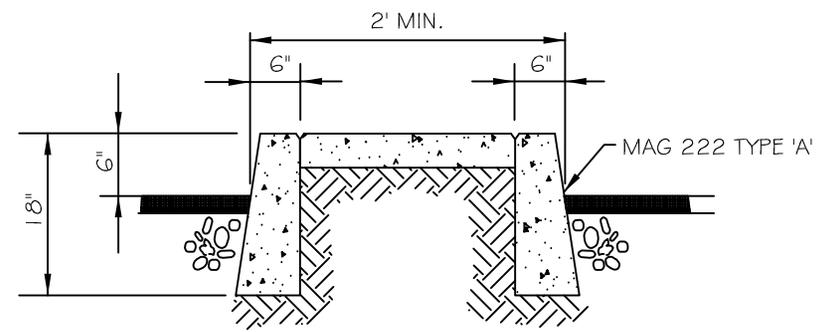
NTS



* TAPER LENGTH 'L' = $\frac{WS}{3}$, WHERE 'W' IS TURN LANE WIDTH IN FEET AND 'S' IS DESIGN SPEED IN MPH. MINIMUM 'L' = 100'

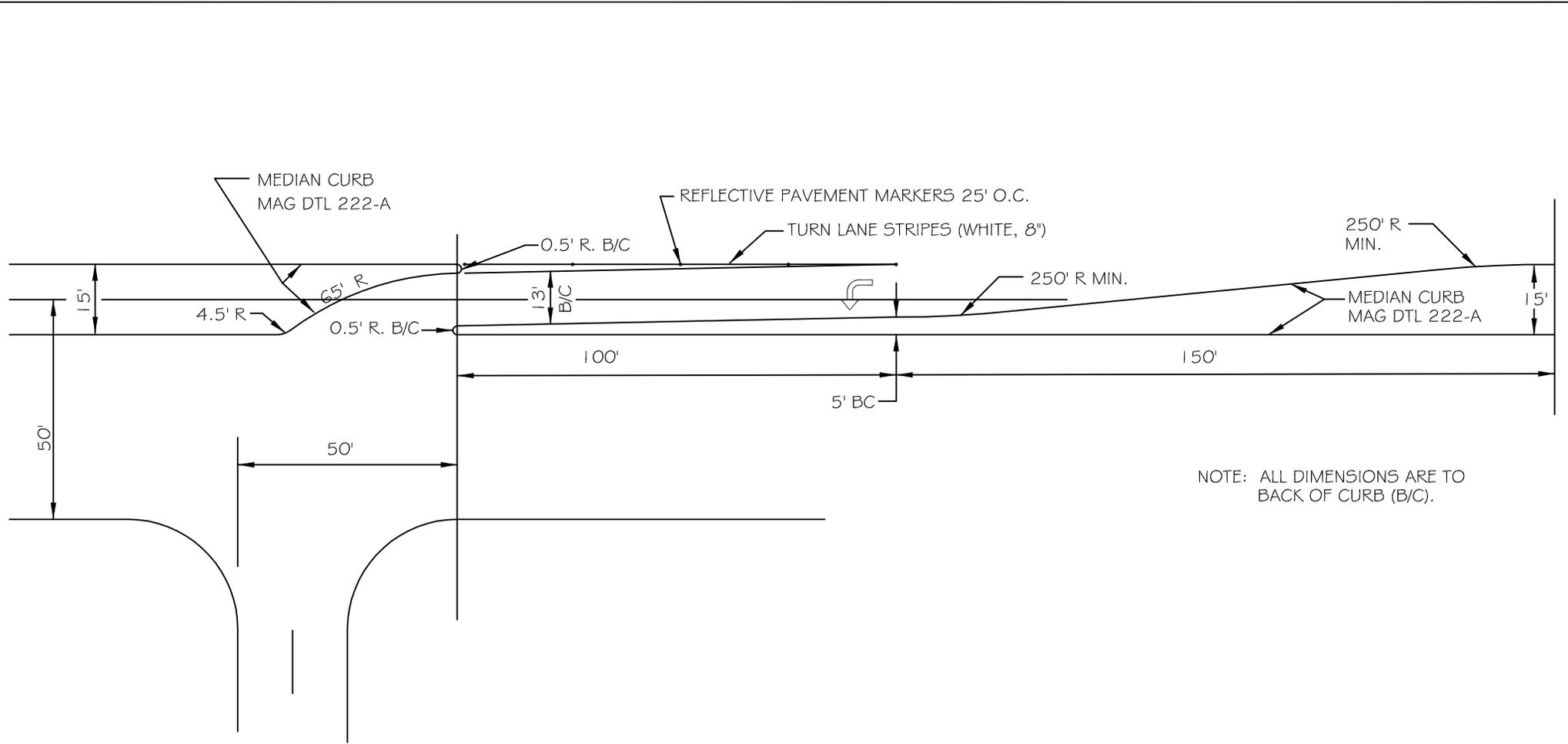


END OF MEDIAN RAMP



SECTION A - A

DETAIL NO. C-225 NTS	 CITY OF CHANDLER STANDARD DETAIL	GENERAL MEDIAN DESIGN	APPROVED:  CITY ENGINEER DATE: <u>3/14/2013</u>	DETAIL NO. C-225 NTS
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NOTE: ALL DIMENSIONS ARE TO BACK OF CURB (B/C).

DETAIL NO.
C-226
 NTS

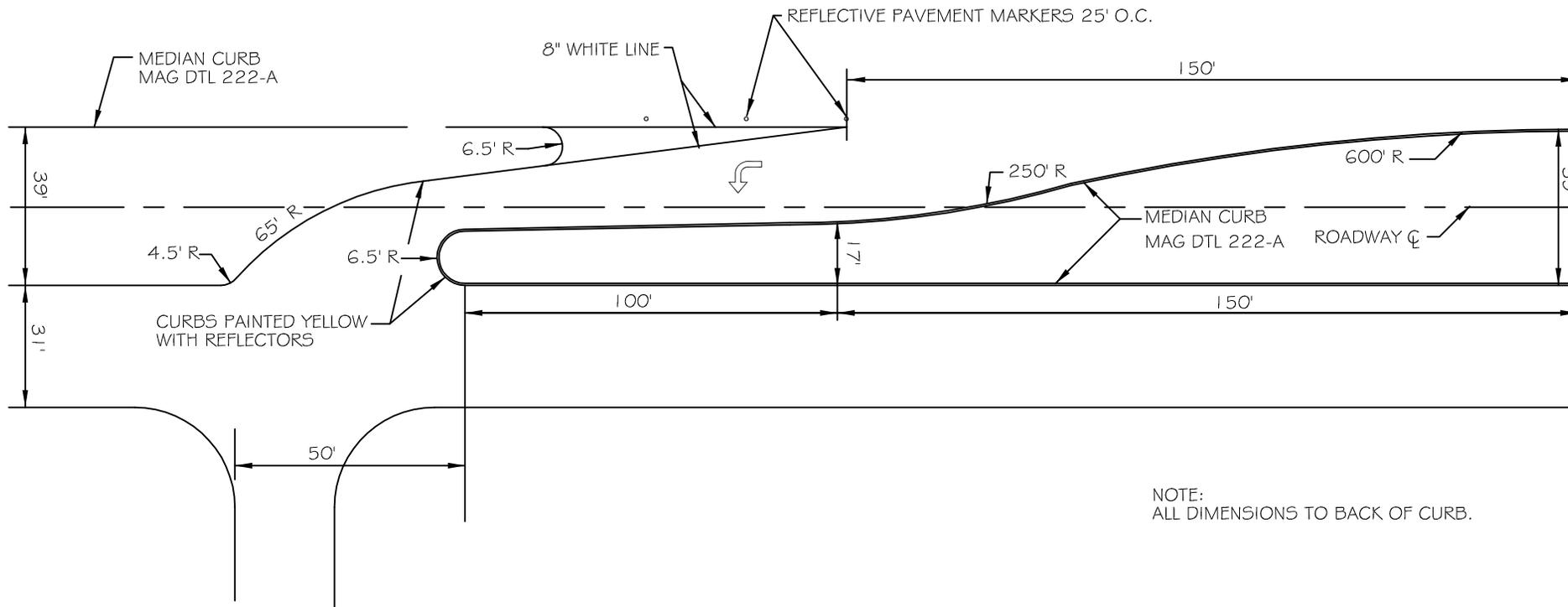


CITY OF
 CHANDLER
 STANDARD
 DETAIL

"LEFT IN ONLY" MEDIAN DESIGN
16' WIDE MEDIAN

APPROVED: *Tim K...*
 CITY ENGINEER
 DATE: 3/14/2013

DETAIL NO.
C-226
 NTS



NOTE:
ALL DIMENSIONS TO BACK OF CURB.

DETAIL NO.
C-227
NTS

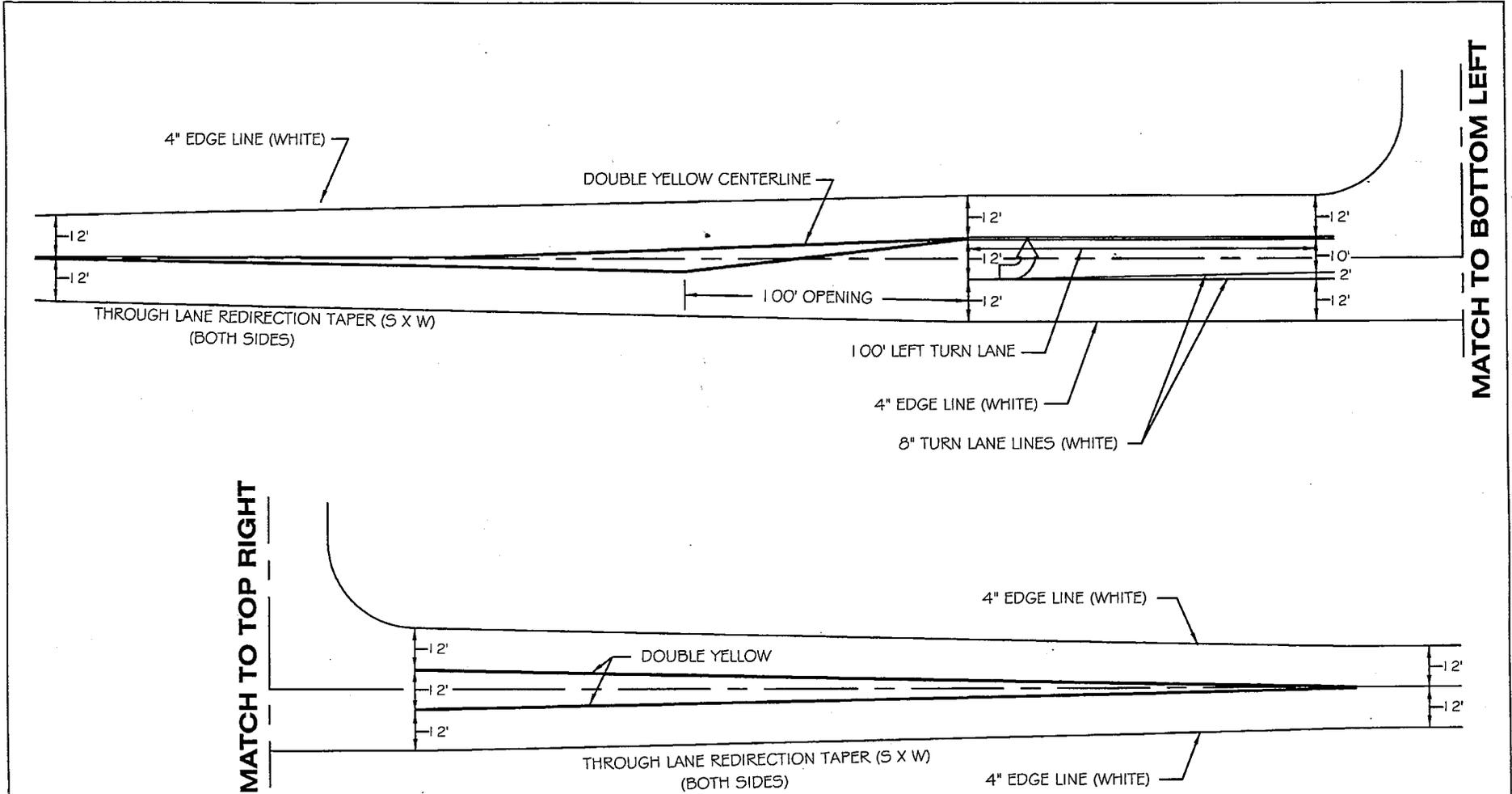


CITY OF
CHANDLER
STANDARD
DETAIL

**"LEFT IN ONLY" MEDIAN DESIGN
40' WIDE MEDIAN**

APPROVED: 
CITY ENGINEER
DATE: 3/14/2013

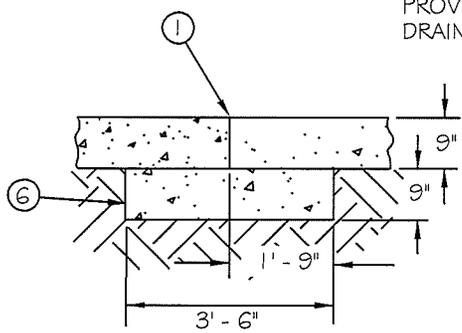
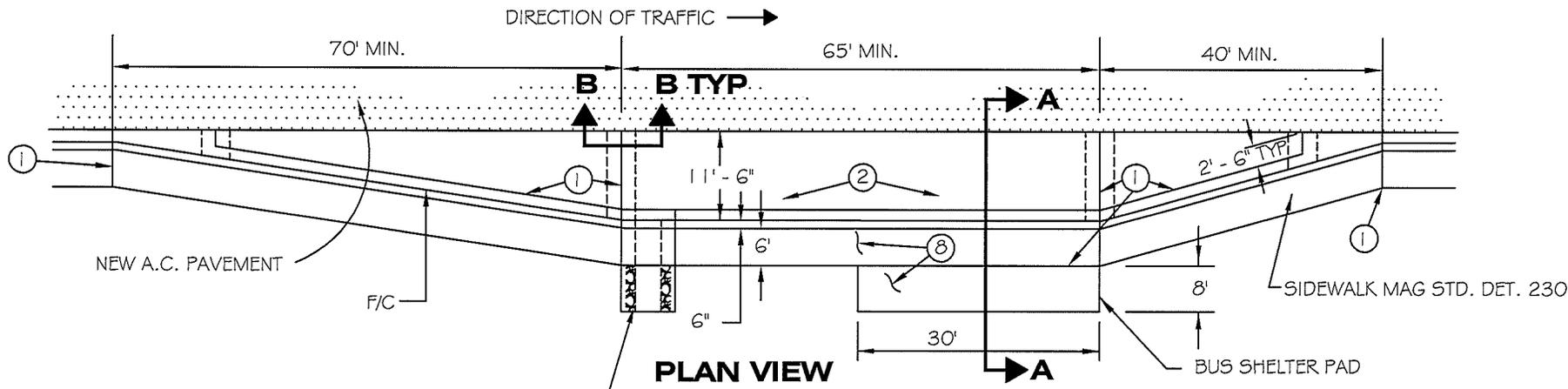
DETAIL NO.
C-227
NTS



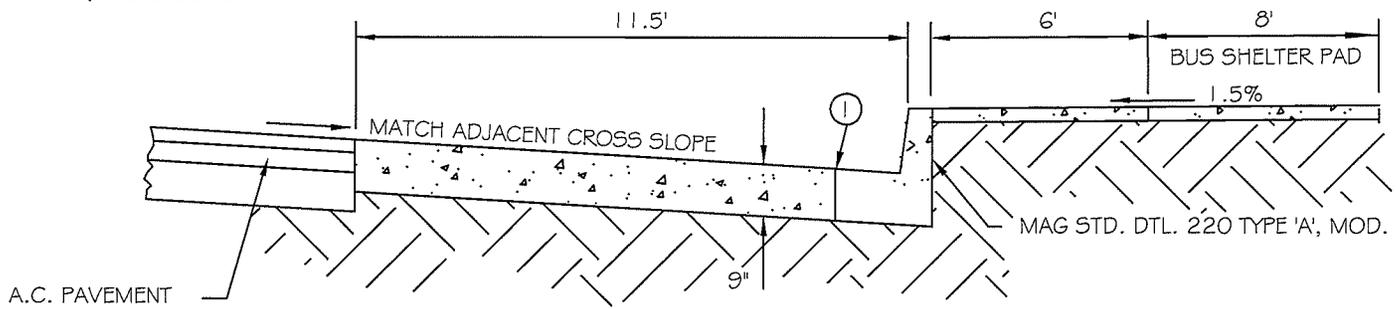
NOTE:

FOR SPEED LIMIT LESS THAN 40 M.P.H. USE 100' TURN LANE ENTRY

DETAIL NO. C-229 NTS	 CITY OF CHANDLER STANDARD DETAIL	LEFT TURN BAY ON TWO-LANE ROADWAY (TEMPORARY WIDENING, CROSS STREET ON ONE SIDE ONLY)	APPROVED  CITY ENGINEER DATE: <u>January 11, 2002</u>	DETAIL NO. C-229 NTS
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SECTION B-B

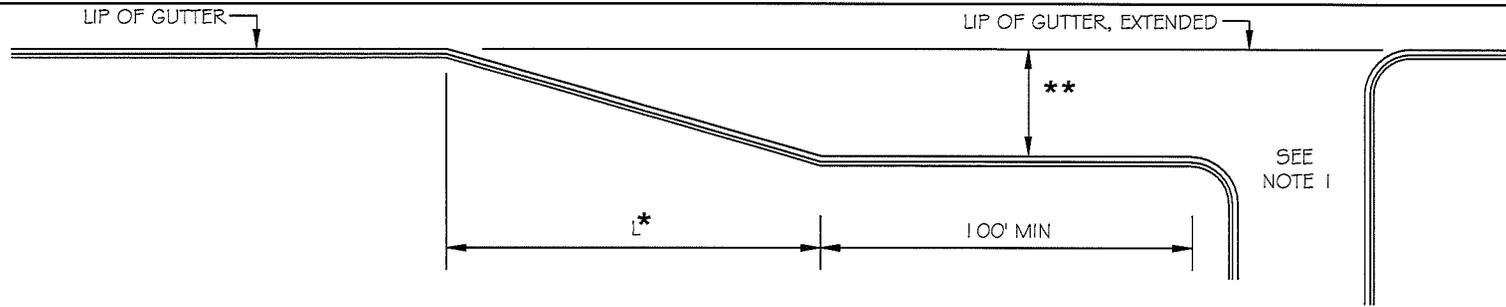


SECTION A-A

NOTES:

1. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS PREFORMED EXPANSION JOINT FILLER ASTM D-1751. (FULL 8" DEPTH.)
2. CONCRETE BUS BAY SHALL BE BROOM FINISHED.
3. ALL CONCRETE SHALL CONFORM TO MAG STD. SPEC. SEC. 725. (CLASS 'A' FOR PAVEMENT.)
4. PLACE A COMBINATION CLEAR CURING COMPOUND AND WEATHER SEALER ON FINISHED SURFACE.
5. THE SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH MAG STD. SPEC. SEC. 301.
6. CONCRETE PAD SHALL BE POURED SEPARATELY FROM THE BUS BAY PAVEMENT.
7. CONTRACTION JOINTS IN THE BUS BAY SHALL MATCH THE SPACING OF THOSE IN THE CURB AND GUTTER.
8. MUST KEEP 8'x8' LANDING AREA (FROM BACK-OF-CURB) CLEAR OF OBSTRUCTIONS.

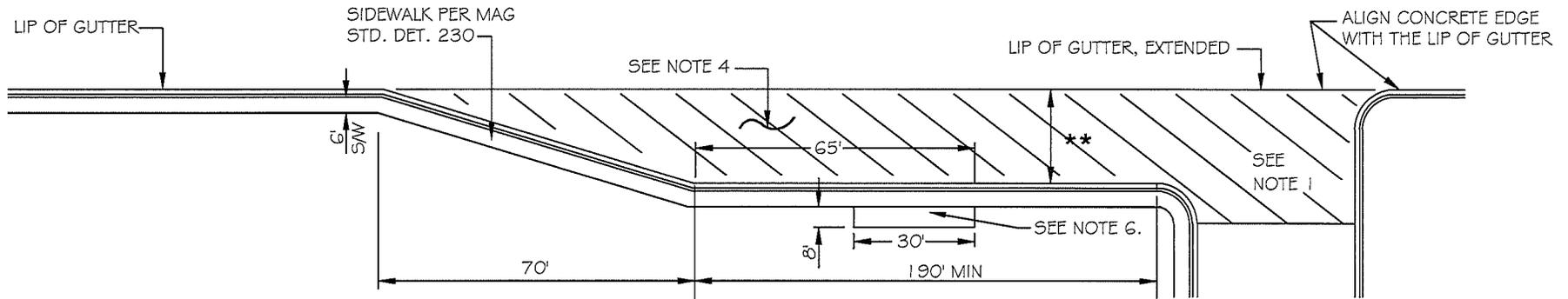
DETAIL NO. C-230 NTS	 CITY OF CHANDLER STANDARD DETAIL	CONCRETE BUS BAYS	APPROVED: CITY ENGINEER DATE: 1-9-14	DETAIL NO. C-230 NTS
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**RIGHT TURN/DECELERATION LANE
FOR DRIVEWAYS**

* TAPER LENGTH $L = \frac{WS}{3}$, WHERE W IS TURN LANE WIDTH IN FEET AND S IS POSTED SPEED IN MPH. MINIMUM L = 100'

** 10.5' LIP TO LIP FOR ARTERIAL WITH BIKE LANE. SEE C-620 FOR STRIPING.



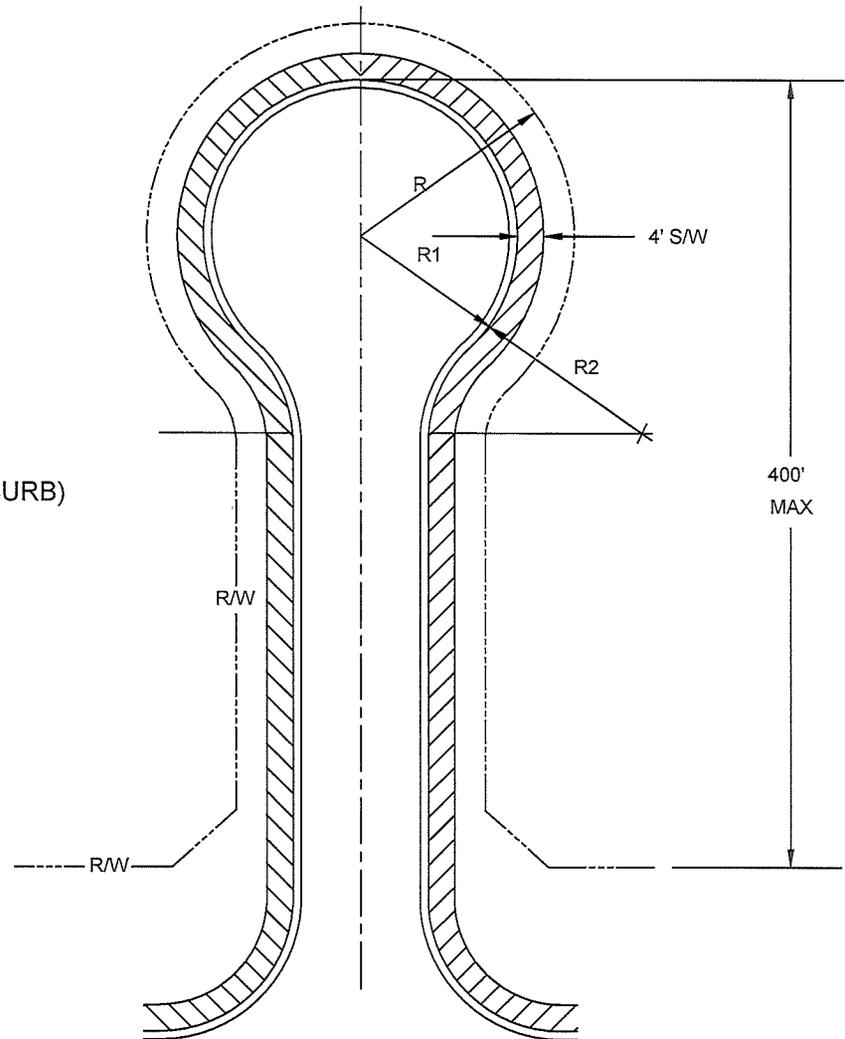
INTEGRAL BUS BAY/DECELERATION LANE

NOTES:

1. USE MAG STANDARD DETAIL 250 OR 251 FOR ENTRANCE, CURB AND SIDEWALK CONFIGURATION. RECOMMENDED DRIVEWAY DIMENSIONS ARE SPECIFIED IN TECHNICAL DESIGN MANUAL NO. 4, TABLE 7.
2. MAINTAIN NORMAL CROWN THROUGHOUT ENTIRE CROSS-SECTION. A VALLEY GUTTER IS NOT ALLOWED BETWEEN THE THROUGH LANE AND THE RIGHT TURN/DECELERATION LANE, OR IN THE BUS BAY/DECELERATION LANE.
3. THE SIDEWALK IS TO BE CONSTRUCTED ADJACENT TO THE BACK OF CURB FOR THE ENTIRE LANE LENGTH, BUS BAY/DECELERATION LANE ONLY.
4. BUS BAY / DECELERATION LANE SHALL BE CONSTRUCTED OF 9" MINIMUM CLASS 'A' CONCRETE.
5. REFER TO C-620 FOR SIGNING AND STRIPING.
6. MUST KEEP 8x8' LANDING AREA (FROM BACK-OF-CURB) CLEAR OF OBSTRUCTIONS.

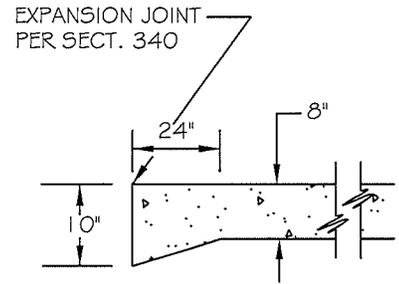
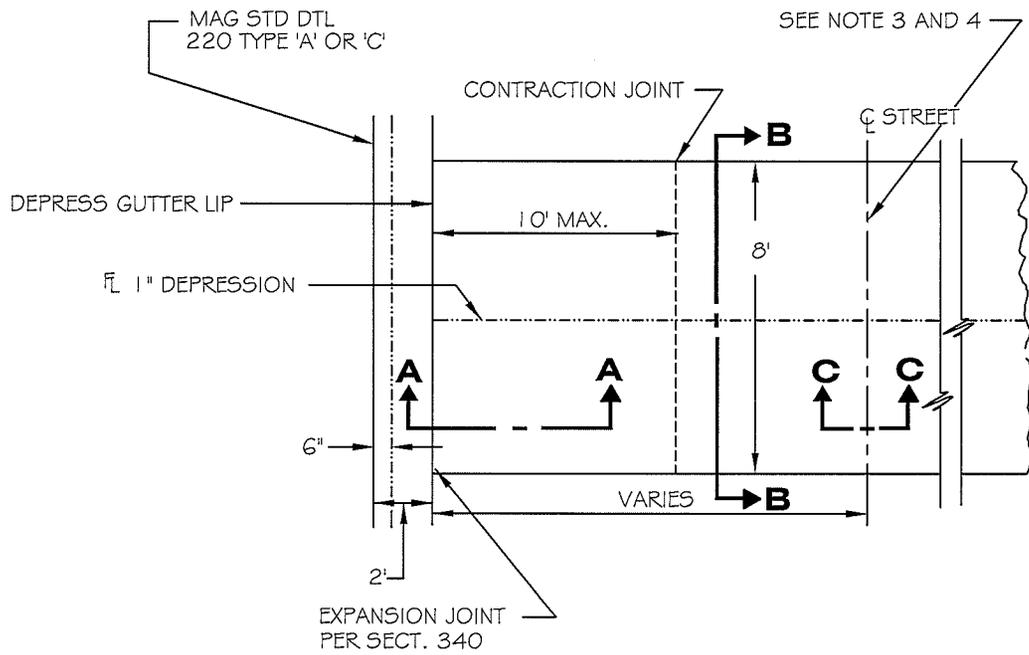
DETAIL NO. C-231 NTS	 CITY OF CHANDLER STANDARD DETAIL	RIGHT TURN/DECELERATION LANE FOR DRIVEWAYS	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-231 NTS
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R- 50' RIGHT-OF-WAY
 R1 - 44' RADIUS (BACK-OF-CURB)
 R2 - 26' MINIMUM RADIUS (BACK-OF-CURB)

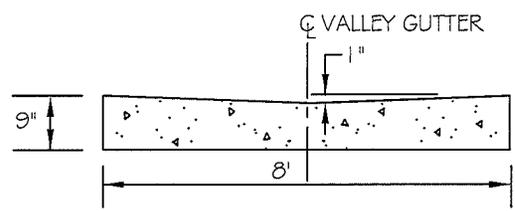


NOTE
 SEE CITY OF CHANDLER STANDARD DETAIL C-213 FOR LOCAL ROAD REQUIREMENTS.

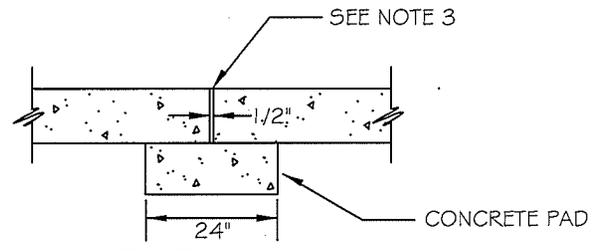
DETAIL NO. C-232 NTS	 CITY OF CHANDLER STANDARD DETAIL	CUL-DE-SAC	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-232 NTS
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SECTION A-A



SECTION B-B

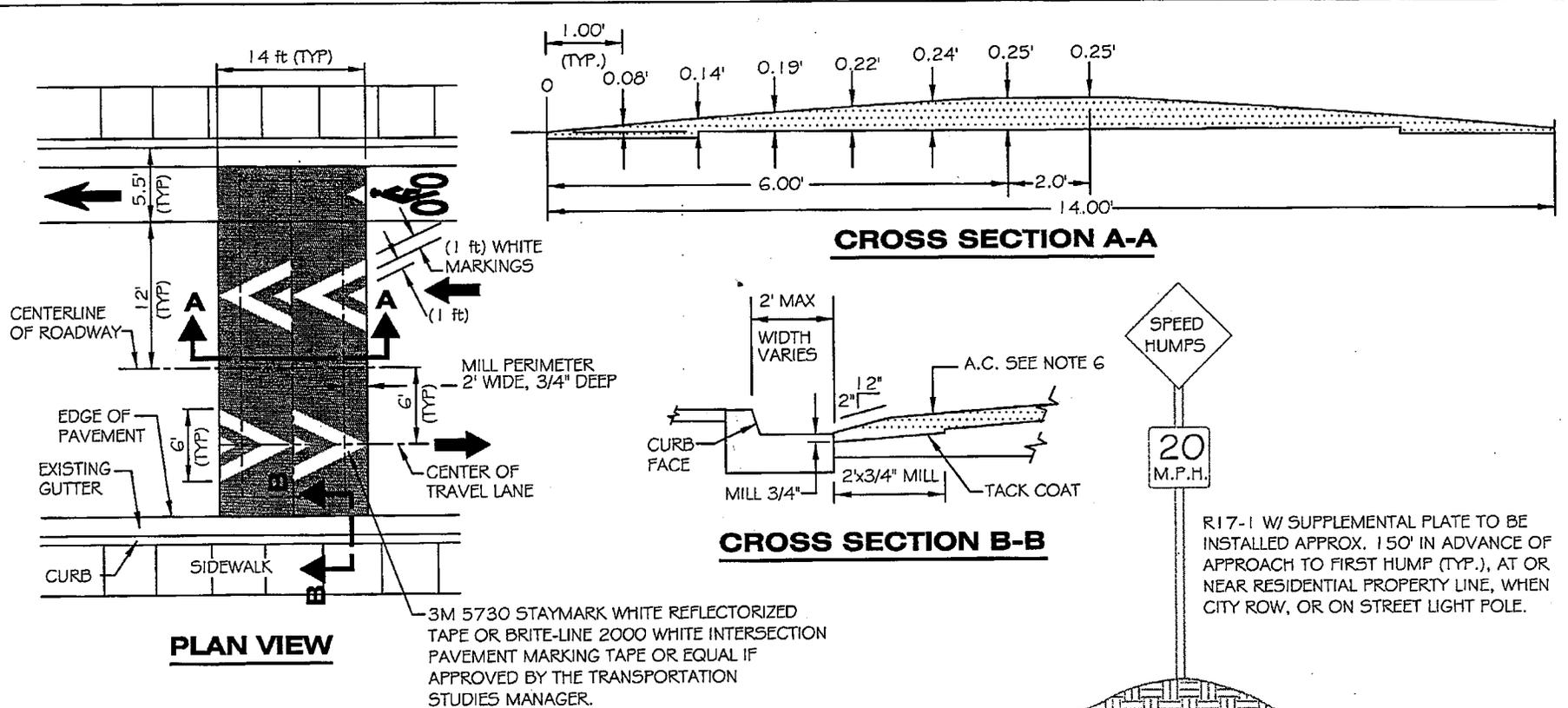


SECTION C-C

NOTES:

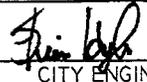
1. 8' MID-BLOCK VALLEY GUTTER IS TO BE USED ON LOCAL AND COLLECTOR STREETS ONLY.
2. ALL CONCRETE TO BE CLASS 'B' UNLESS OTHERWISE APPROVED. (SECT. 725)
3. EITHER CONSTRUCTION JOINT OR CONTRACTION JOINT IS REQUIRED AT CENTER LINE OF STREET.
4. A SEPARATE CONCRETE PAD IS REQUIRED AT CONSTRUCTION JOINTS PER MAG STD DTL 240, MODIFIED AS SHOWN.

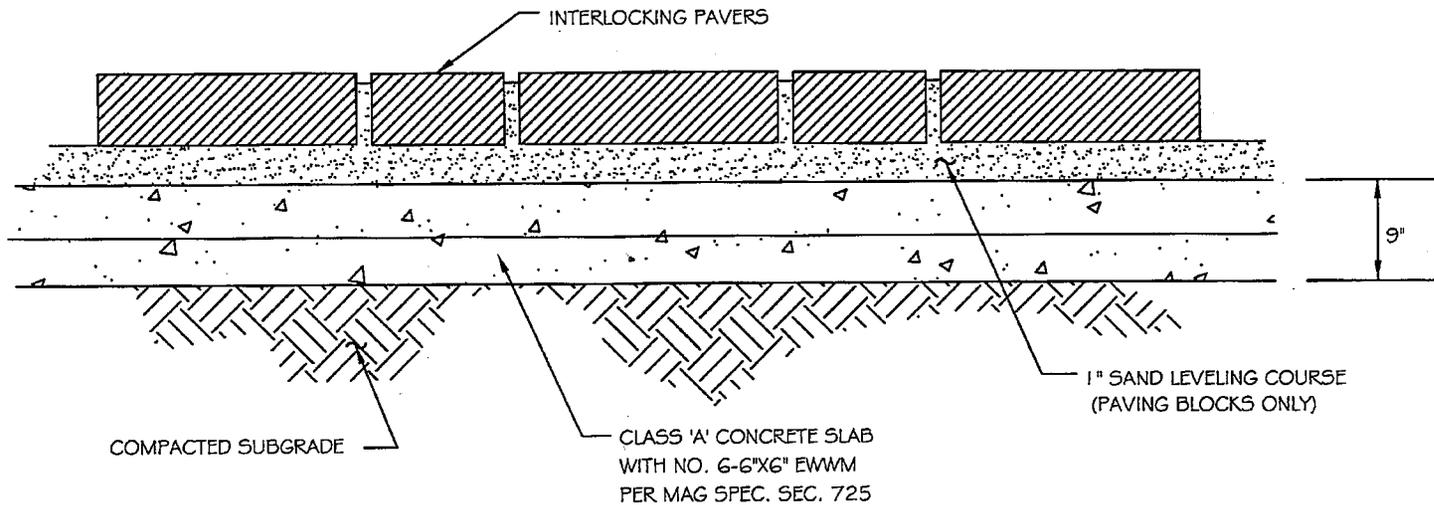
DETAIL NO. C-233 NTS	 CITY OF CHANDLER STANDARD DETAIL	8' MID-BLOCK VALLEY GUTTER	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-233 NTS
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NOTES:

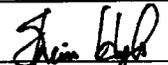
1. HUMPS MUST BE THE FULL 0.25' FOR MAXIMUM EFFECT BUT SHALL NOT EXCEED 0.27'.
2. HUMPS CONSTRUCTED OVER 0.27' SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.
3. CROSS-SECTION ELEVATIONS SHALL HAVE A MAXIMUM TOLERANCE OF $\pm 0.02'$.
4. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, WATER VALVES, JUNCTION STRUCTURES, ETC.
5. THE EXISTING ROADWAY SHALL BE MILLED TO A DEPTH OF 3/4", AROUND THE PERIMETER AS SHOWN. CROSS SECTION DIMENSIONS DO NOT INCLUDE THE 3/4" MILLING.
6. HUMP SHALL BE CONSTRUCTED WITH A 1 2.5 MM EVAC MIX. A TACK COAT SHALL BE APPLIED PRIOR TO APPLICATION OF PAVEMENT.
7. SPEED HUMPS SHALL BE PLACED AT LOCATIONS APPROVED BY TRAFFIC ENGINEERING.
8. CONTACT TRAFFIC ENGINEERING (782-3454) ONE WEEK PRIOR TO INSTALLATION TO COORDINATE PAVEMENT MARKINGS AND SIGNING.

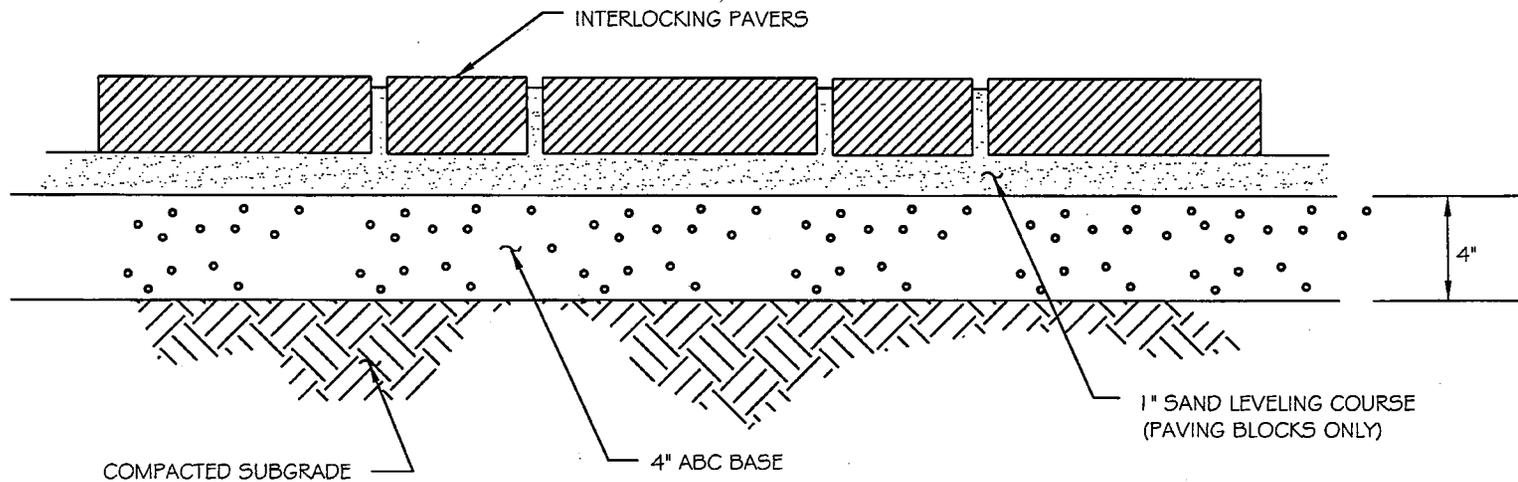
DETAIL NO. C-234 NTS	 CITY OF CHANDLER STANDARD DETAIL	14' SPEED HUMP	APPROVED:  CITY ENGINEER DATE: 01/06/09	DETAIL NO. C-234 NTS
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NOTES:

1. 1 2" MINIMUM CONCRETE RIBBON TO BE PLACED ON THE SIDES AND AT THE BEGINNING AND END OF PAVERS.
2. PROVIDE CITY STONE II, OLD TOWN BLEND PAVER AND PATTERN.
3. DEVELOPER SHALL SUPPLY THE CITY 100 EACH REPLACEMENT PAVERS.

DETAIL NO. C-236 NTS	 CITY OF CHANDLER STANDARD DETAIL	INTERLOCKING PAVING BLOCKS AND DECORATIVE CONCRETE TRAVELED SURFACE	APPROVED:  CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-236 NTS
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NOTES:

1. 1/2" MINIMUM CONCRETE RIBBON TO BE PLACED ON THE SIDES AND AT THE BEGINNING AND END OF PAVERS.
2. PROVIDE CITY STONE II, OLD TOWN BLEND PAVER AND PATTERN.
3. DEVELOPER SHALL SUPPLY CITY WITH 100 EACH REPLACEMENT PAVERS.

C-237
REPLACES
14B

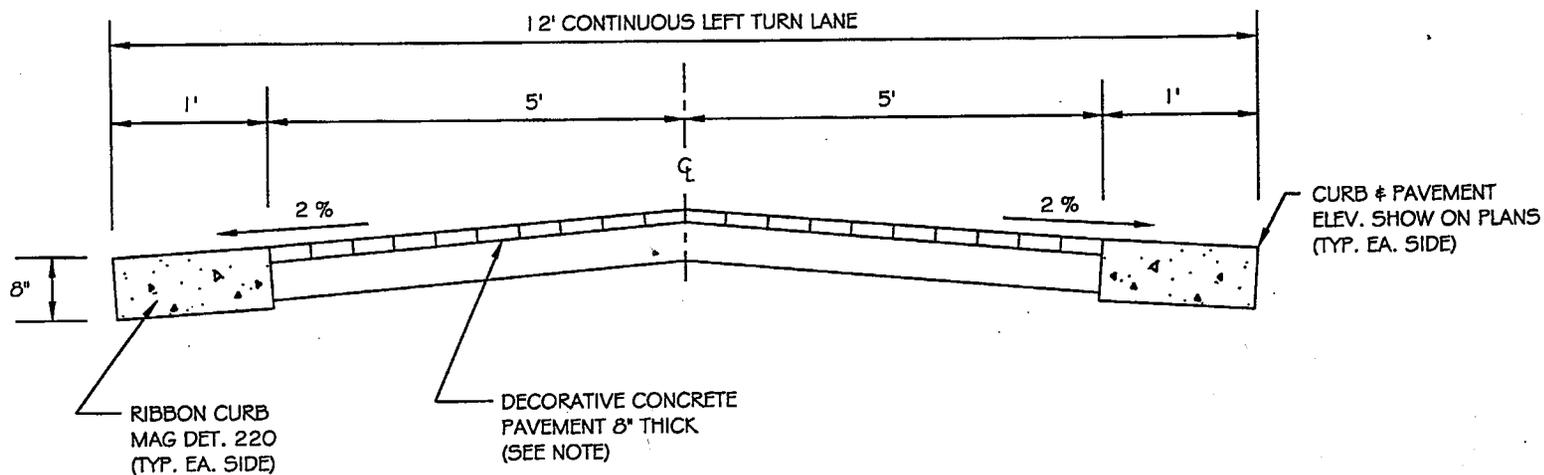


CITY OF
 CHANDLER
 STANDARD
 DETAIL

**INTERLOCKING PAVING BLOCKS
 AND DECORATIVE CONCRETE
 NON-TRAVELED SURFACE**

APPROVED: *Elizabeth...*
 CITY ENGINEER
 DATE: 2/26/07

DETAIL NO.
C-237
 NTS

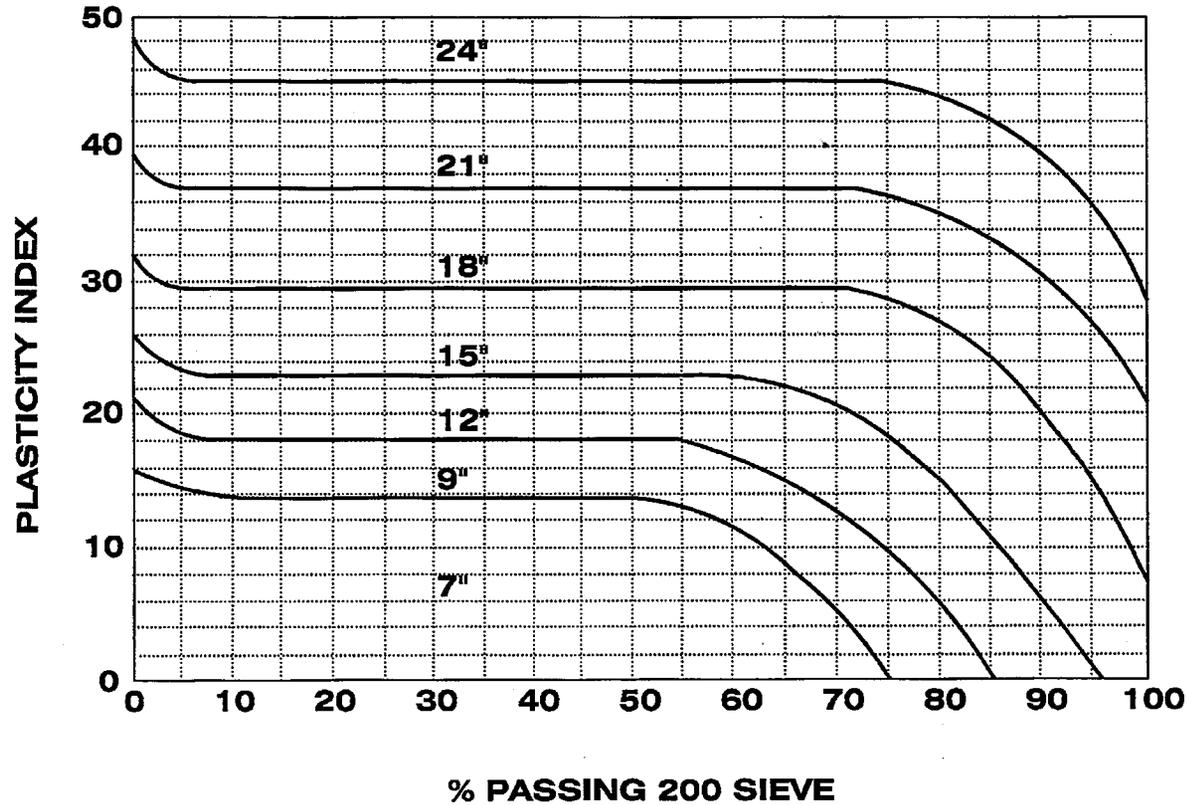


NOTE:

1. DECORATIVE CONCRETE SHALL BE COMMON BRICK PATTERN CONSTRUCTED IN ACCORDANCE WITH MAG SPEC. 340 WITH A MINIMUM THICKNESS OF 8". DECORATIVE SURFACE SHALL BE 3000 PSI MIX (6 SACK MIN.) IF NOT POURED MONOLITHICALLY IT SHALL BE POURED WITHIN 4 HOURS OF THE BASE COURSE WITH A MINIMUM THICKNESS OF 1-1/2" AND FINISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. COLOR TO BE APPROVED BY CITY ENGINEER.

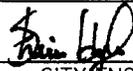
<p>C-238 REPLACES 14C</p>	 <p>CITY OF CHANDLER STANDARD DETAIL</p>	<p>DECORATIVE CONCRETE AT GRADE TRAVELED SURFACE</p>	<p>APPROVED: <i>Dwight D. Johnson</i> CITY ENGINEER DATE: <i>11-19-99</i></p>	<p>DETAIL NO. C-238 NTS</p>
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BASE THICKNESS CHART

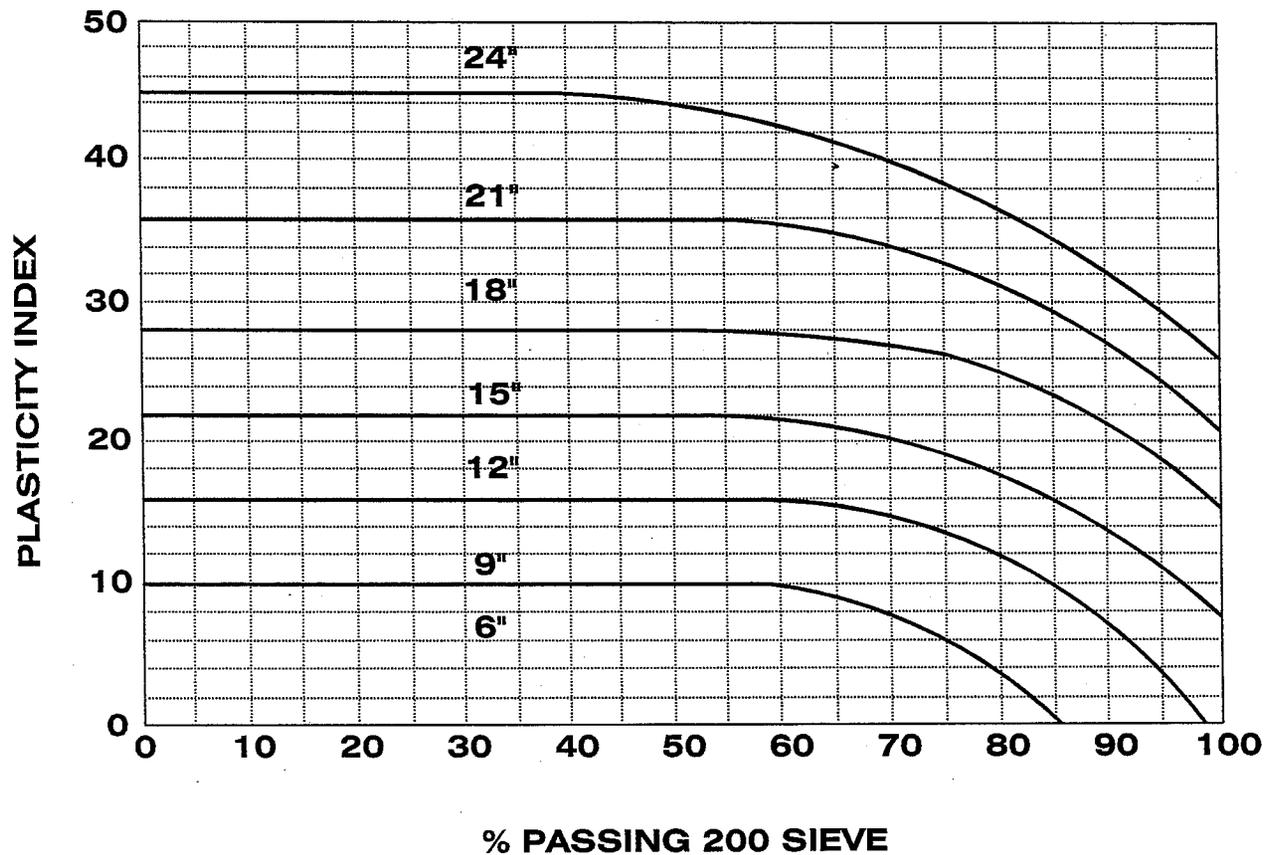


NOTES:

1. TOP 6" OF BASE SHALL BE ABC. BALANCE SHALL BE ABC OR SELECT MATERIAL.
2. MINIMUM DEPTH OF FLEXIBLE BASE COURSE REQUIRED UNDER 5" (MIN.) BIT. SURFACE.

DETAIL NO. C-239 NTS	 CITY OF CHANDLER STANDARD DETAIL	DEPTH OF BASE COURSE MAJOR & MINOR ARTERIALS	APPROVED:  CITY ENGINEER DATE: <u>01/06/09</u>	DETAIL NO. C-239 NTS
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BASE THICKNESS CHART

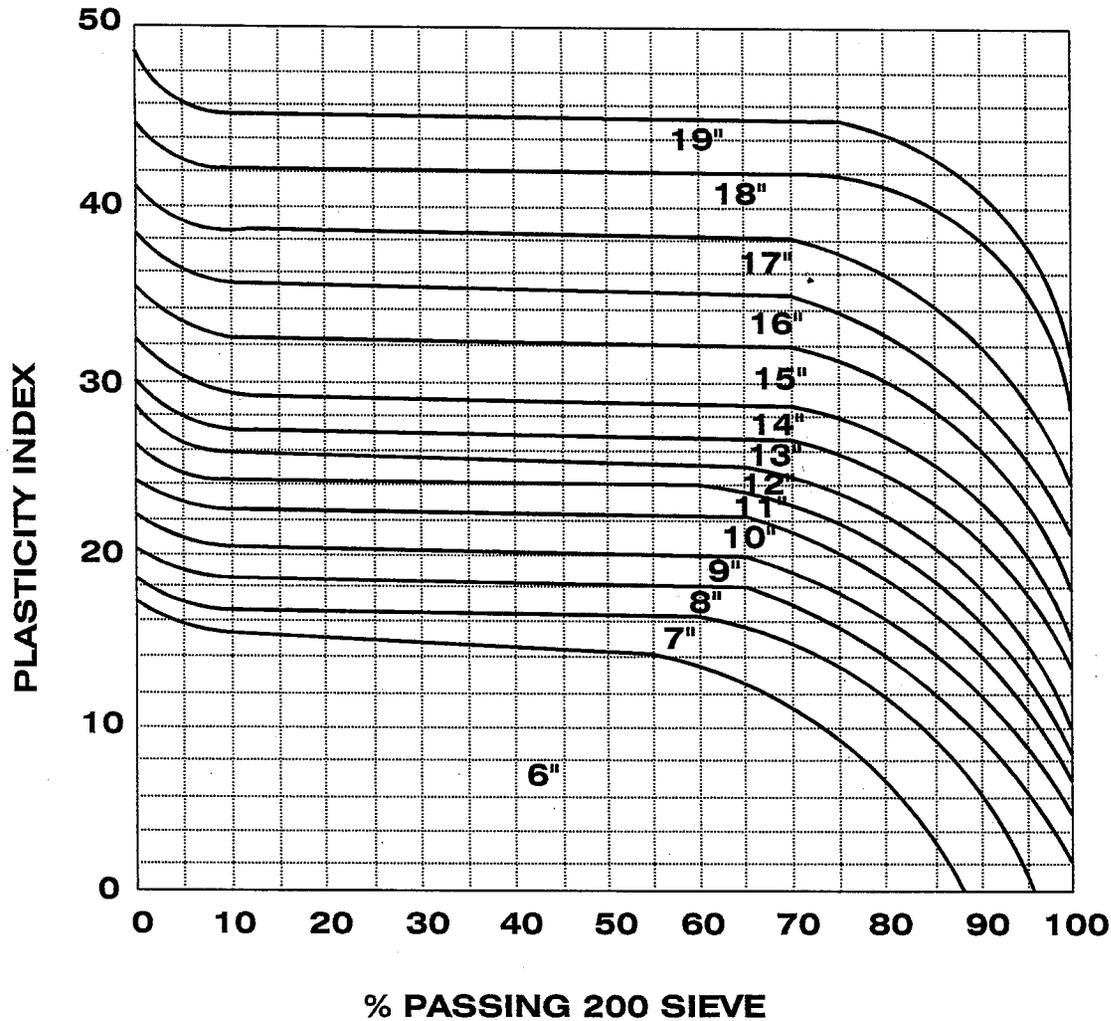


NOTES:

1. TOP 6" OF BASE SHALL BE ABC. BALANCE SHALL BE ABC OR SELECT MATERIAL.
2. MINIMUM DEPTH OF FLEXIBLE BASE COURSE REQUIRED UNDER 3" (MIN.) BIT. SURFACE.

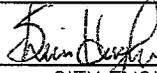
DETAIL NO. C-240 NTS	 CITY OF CHANDLER STANDARD DETAIL	DEPTH OF BASE COURSE NON RESIDENTIAL COLLECTOR & LOCAL STREETS	APPROVED: <u><i>Kevin Hahn</i></u> CITY ENGINEER DATE: <u>01/14/16</u>	DETAIL NO. C-240 NTS
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BASE THICKNESS CHART

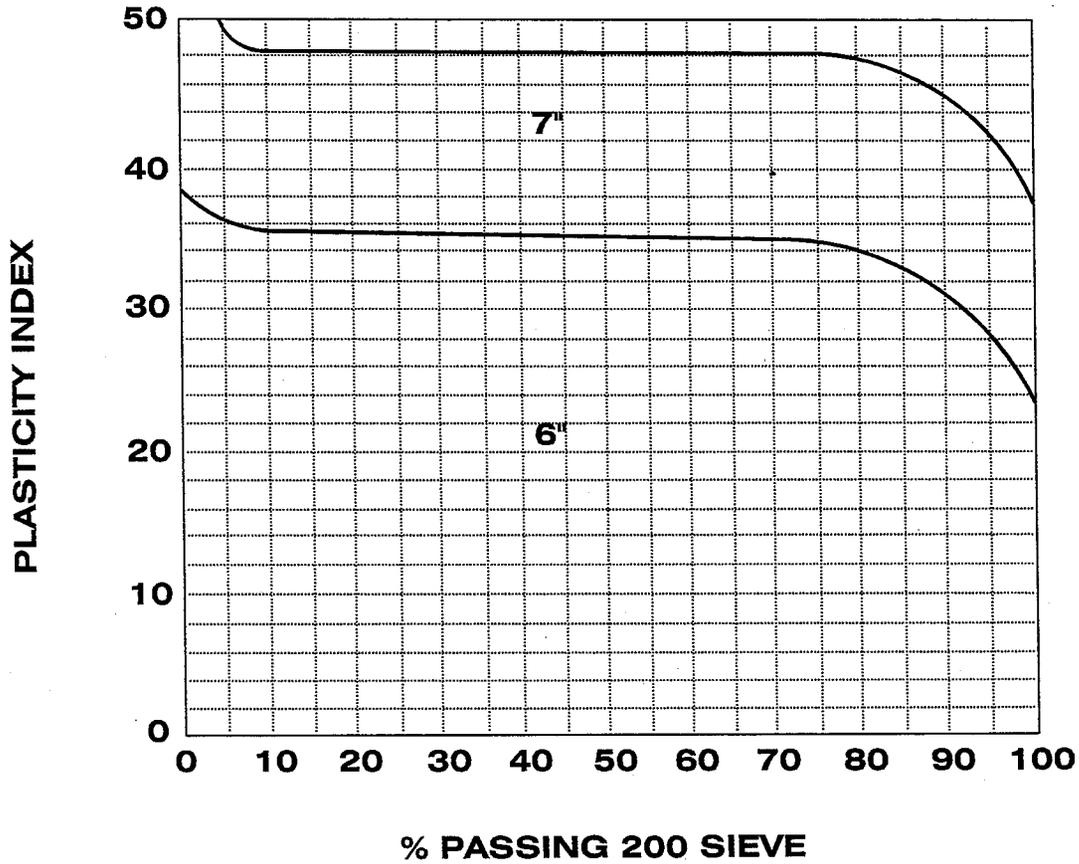


NOTES:

1. TOP 6" OF BASE SHALL BE ABC. BALANCE SHALL BE ABC OR SELECT MATERIAL.
2. MINIMUM DEPTH OF FLEXIBLE BASE COURSE REQUIRED UNDER 3" (MIN.) BIT. SURFACE.

DETAIL NO. C-241 NTS	 CITY OF CHANDLER STANDARD DETAIL	DEPTH OF BASE COURSE COLLECTOR STREETS	APPROVED:  CITY ENGINEER DATE: 01/14/10	DETAIL NO. C-241 NTS
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BASE THICKNESS CHART



NOTE:

MINIMUM DEPTH OF FLEXIBLE BASE COURSE REQUIRED UNDER 3" (MIN.) BIT. SURFACE.

DETAIL NO.

C-242

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**DEPTH OF BASE COURSE
RESIDENTIAL LOCAL STREETS**

APPROVED:

[Signature]
CITY ENGINEER

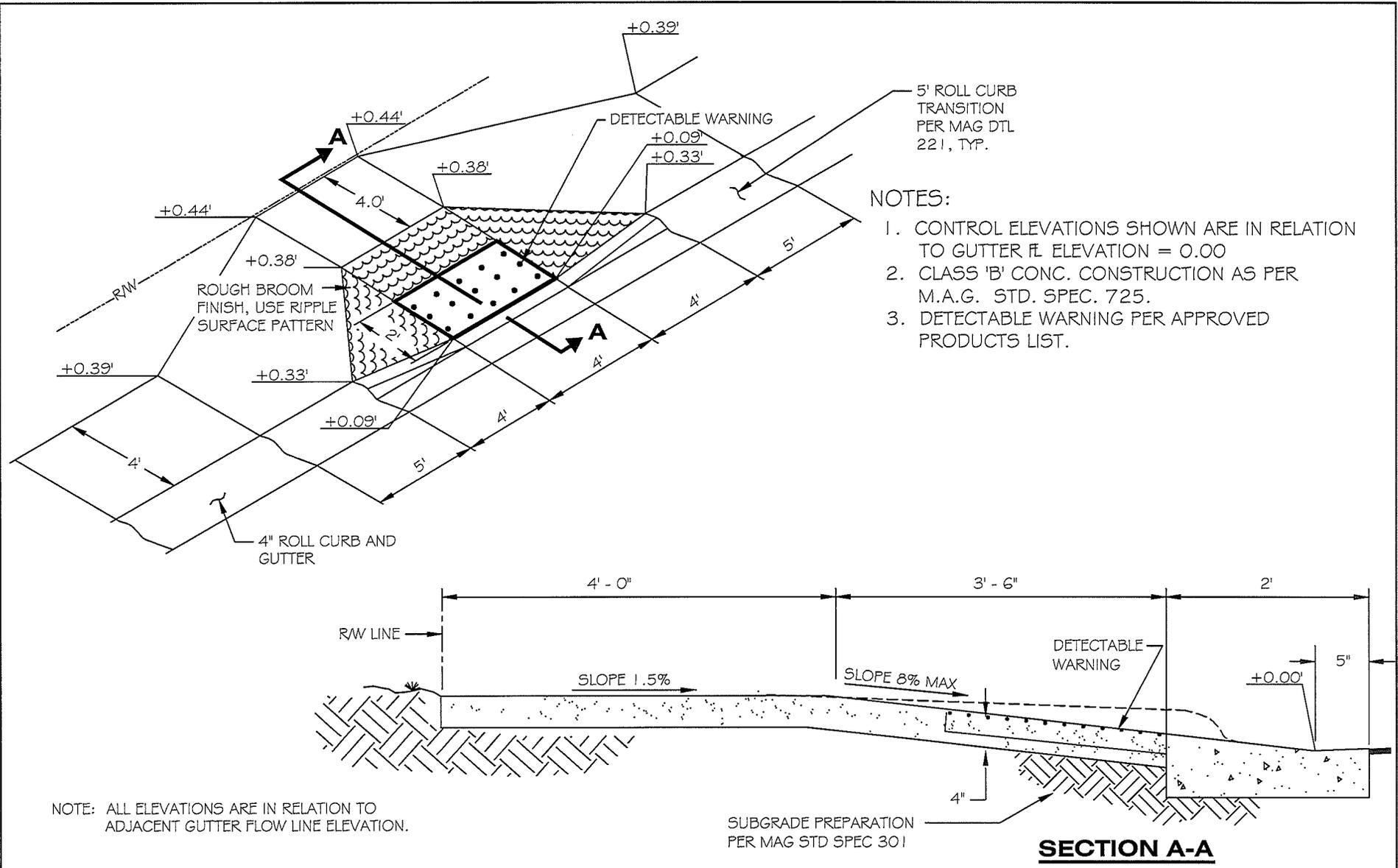
DATE:

01/14/10

DETAIL NO.

C-242

NTS



DETAIL NO.
C-243
 NTS

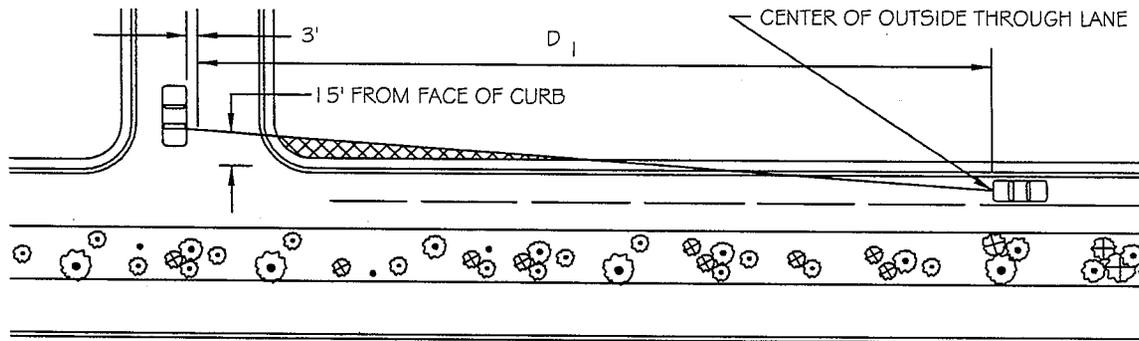
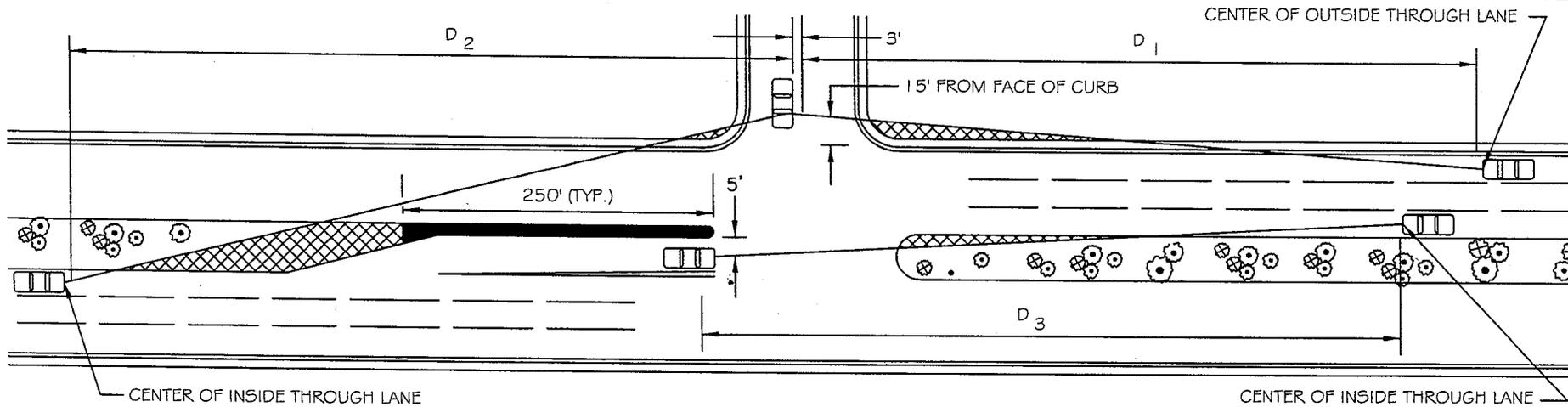


CITY OF
 CHANDLER
 STANDARD
 DETAIL

**CURB RAMP
 FOR ROLL CURB**

APPROVED: *Paula Cook*
 CITY ENGINEER
 DATE: 07-09-2015

DETAIL NO.
C-243
 NTS



 GROUND COVER, BUSHES, AND BOULDERS LESS THAN 24" (MATURE) IN HEIGHT, OR TREES TRIMMED TO 6' CLEARANCE ABOVE FINISHED GRADE ALLOWED IN THIS AREA. NO OTHER OBSTRUCTION ALLOWED UNLESS APPROVED BY THE CITY TRANSPORTATION ENGINEER.

 FLUSH DECORATIVE PAVING, DECOMPOSED GRANITE, AND GROUND COVER LESS THAN 12" IN HEIGHT. ALL LANDSCAPE AND HARDSCAPE MATERIAL, AND OTHER DECORATIONS SHALL BE SUBMITTED FOR APPROVAL TO THE CITY TRANSPORTATION ENGINEER.

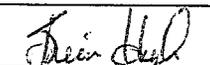
POSTED SPEED	RIGHT TURN ONTO THRU D_1	LEFT TURN ONTO THRU D_2	LEFT TURN FROM THRU D_3
30	310	400	290
35	360	470	340
40	410	530	380
45	460	600	430

DETAIL NO.
C-246
NTS

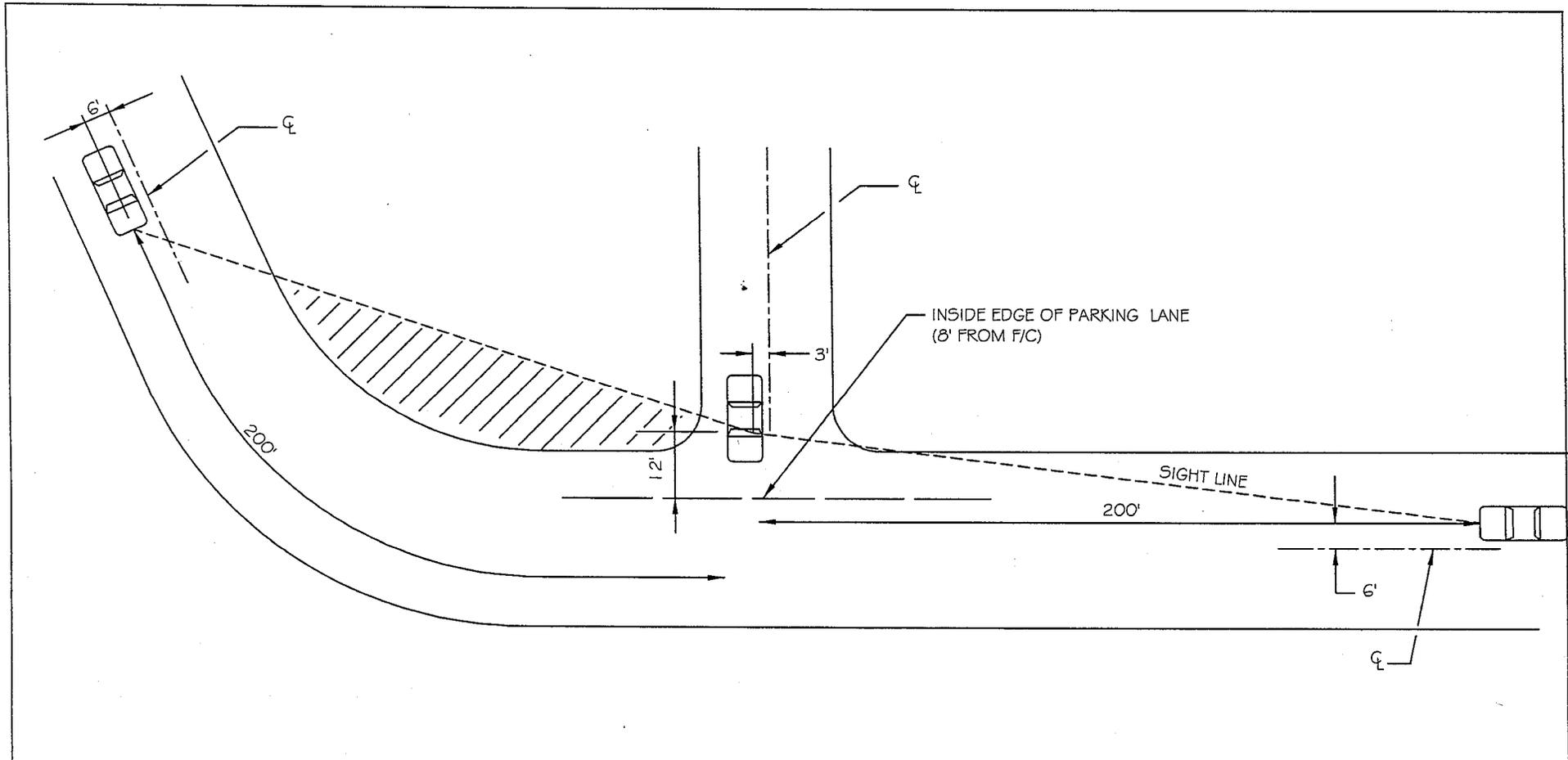


CITY OF
CHANDLER
STANDARD
DETAIL

**SIGHT DISTANCE FOR
ARTERIAL AND
COLLECTOR STREETS**

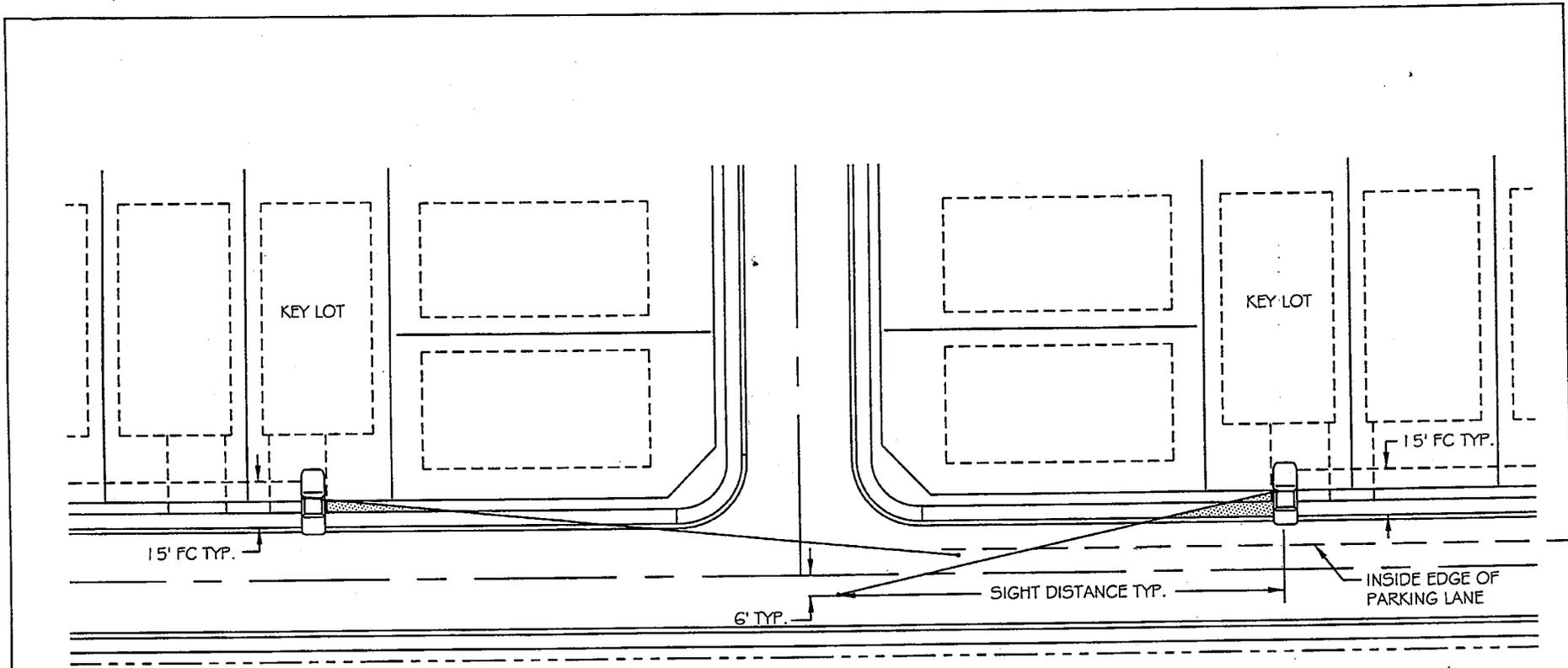
APPROVED: 
CITY ENGINEER
DATE: 01-27-11

DETAIL NO.
C-246
NTS



NOTE:
 THIS STANDARD APPLIES ONLY TO DRIVEWAY AND CROSS-STREET ENTRIES ONTO STREETS WITH A 25 MPH SPEED LIMIT AND ON-STREET PARKING. ONCOMING VEHICLE MUST BE VISIBLE TO DRIVER OF ENTERING VEHICLE FOR AT LEAST 200 FEET FROM INTERSECTION, MEASURED ALONG PATH OF ONCOMING VEHICLE. NO GROUND COVER, SHRUBS, FLOWERS, MOUNDS, WALLS OR STRUCTURES OVER 24 INCHES IN HEIGHT ALLOWED ON STREET SIDE OF SIGHT LINE. TREES MUST BE TRIMMED TO 6 FEET ABOVE GROUND ON STREET SIDE OF SIGHT LINE.

DETAIL NO. C-247 NTS	 CITY OF CHANDLER STANDARD DETAIL	SIGHT DISTANCE FOR LOCAL STREETS	APPROVED: <i>Devin Hall</i> CITY ENGINEER DATE: <u>01-27-11</u>	DETAIL NO. C-247 NTS
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NOTES:

DRIVEWAY ON KEY LOTS NEED TO BE PLACED ON FAR SIDE OF LOT FROM REAR FENCE OF CORNER LOT.

NO STRUCTURES OR LANDSCAPING ABOVE 24" IN HEIGHT ALLOWED IN THIS AREA EXCEPT TREES WITH BRANCHES NOT LESS THAN 6' ABOVE THE GROUND.

DESIGN SPEED	SIGHT DISTANCE
25 MPH	200 FEET

DETAIL NO.
C-248
 NTS

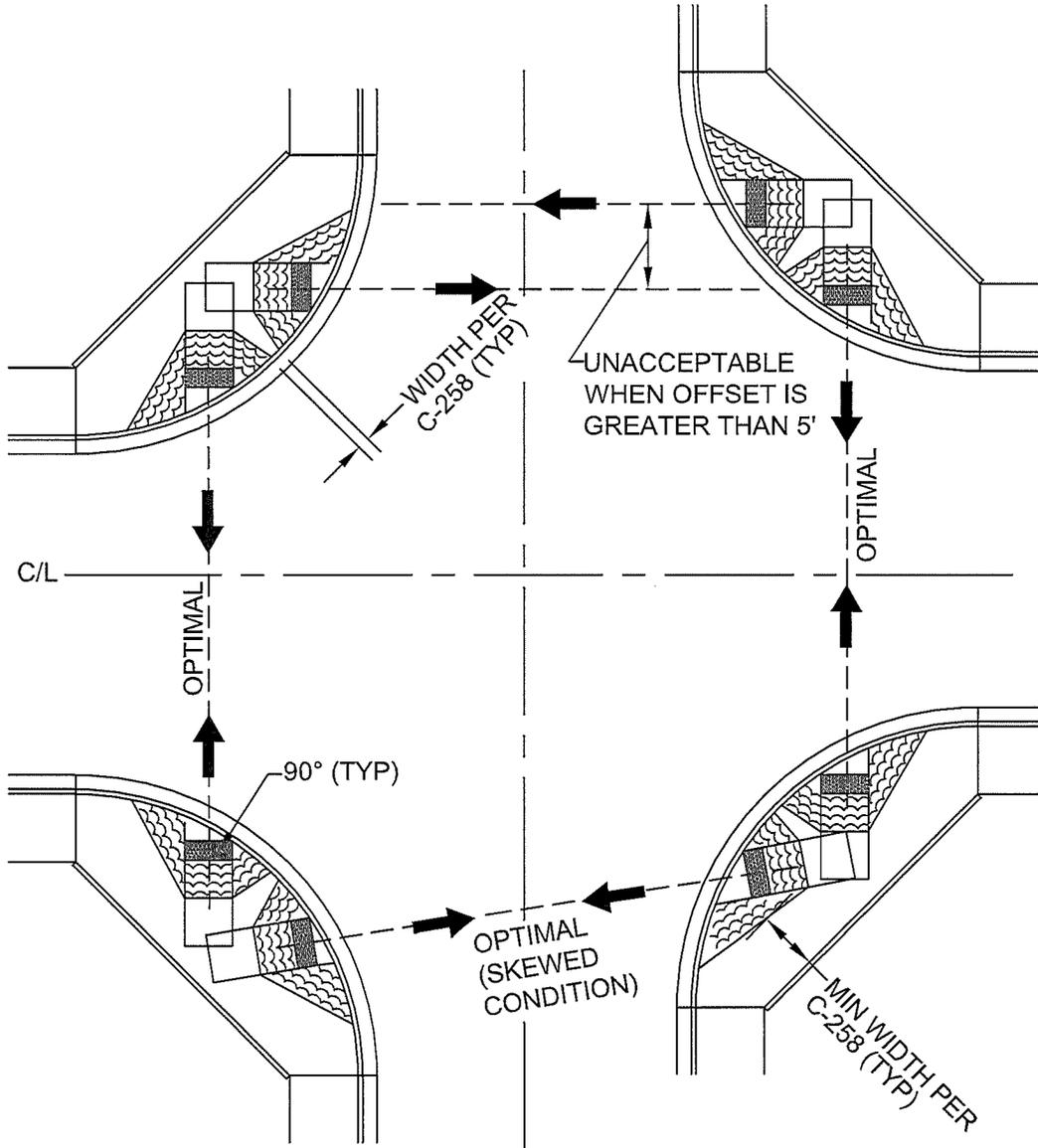


CITY OF
 CHANDLER
 STANDARD
 DETAIL

KEY LOT SIGHT DISTANCE

APPROVED: *Ray A. Feltner*
 CITY ENGINEER
 DATE: 11-19-99

DETAIL NO.
C-248
 NTS



1. ALL RAMPS AND TRUNCATED DOMES SHALL BE ALIGNED SUCH THAT A LINE DRAWN PERPENDICULAR TO THE DOMES ALIGNS WITH THE CENTER OF THE OPPOSING RAMP (OPTIMAL). IN NO CASE SHALL SAID LINE BE GREATER THAN 5' FROM THE CENTER OF OPPOSING RAMP (UNACCEPTABLE).
2. PEDESTRIAN AND TRAFFIC CONTROL INCLUDING PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO CITY AND MUTCD REQUIREMENTS.
3. REFER TO THIS PROJECTS APPROVED PEDESTRIAN ROUTING PLAN FOR RAMP LOCATION.

DETAIL NO.
C-249
NTS

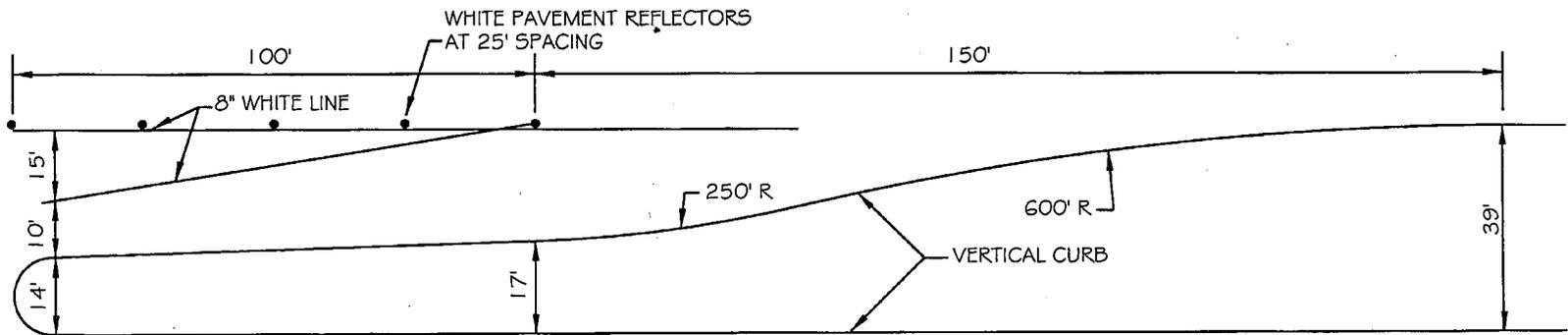


CITY OF
CHANDLER
STANDARD
DETAIL

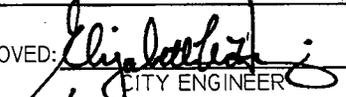
**ACCESSIBLE CURB RAMP
ALIGNMENT**

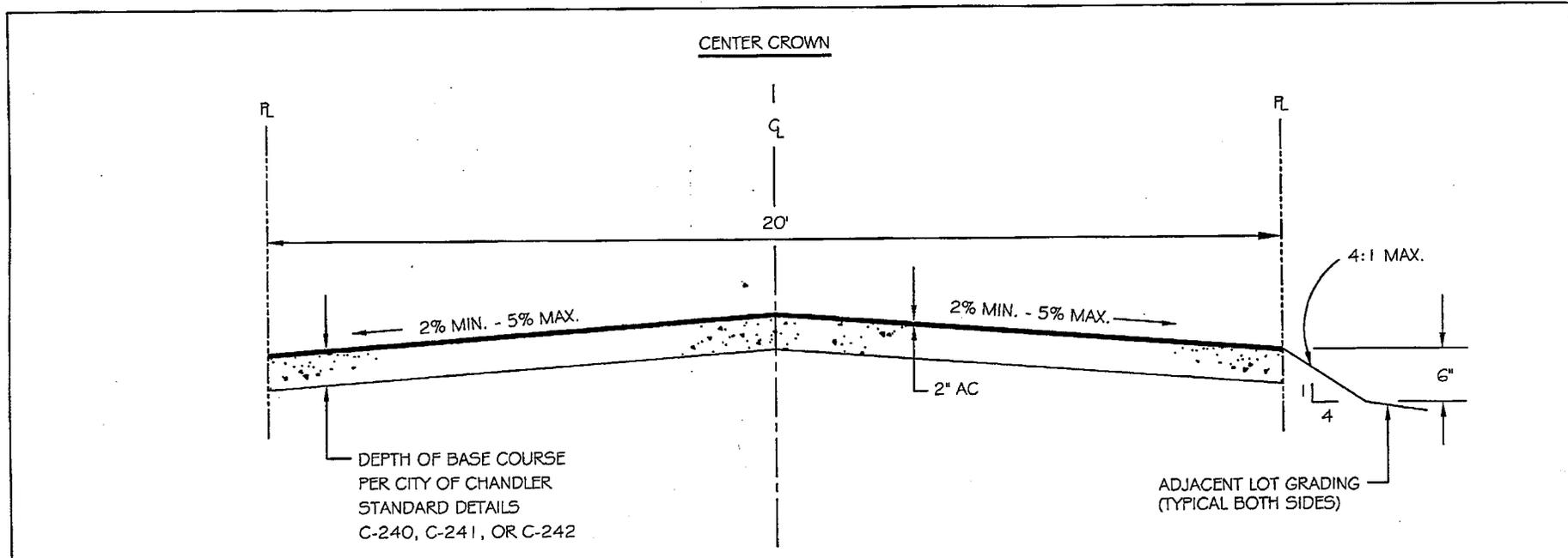
APPROVED: *David Wood*
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-249
NTS



ALL WIDTHS ARE TO FACE OF CURB OR CENTER OF LANE LINE

DETAIL NO. C-250 NTS	 CITY OF CHANDLER STANDARD DETAIL	LEFT TURN BAY IN 40' MEDIAN DESIGN	APPROVED:  CITY ENGINEER DATE: <u>2/26/07</u>	DETAIL NO. C-250 NTS
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NOTES:

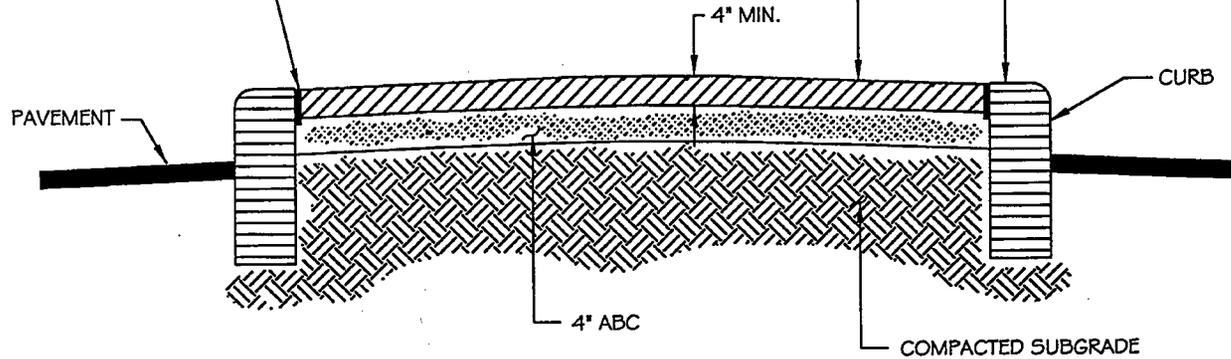
- A. ASPHALTIC CONCRETE:
 - 1. MATERIAL: TYPE R 19 EVAC MIX.
 - 2. COMPACTION TO BE TESTED IN ACCORDANCE WITH AASHTO T-99 METHOD A, AND T-191 OR ASTM D-2922 AND D-3017.
- B. AGGREGATE BASE COURSE: CONFORMING TO SECTION 702.2 MAG STANDARD SPECIFICATIONS.
- C. SUBGRADE PREPARATION: CONFORMING TO SECTION 301 MAG STANDARD SPECIFICATIONS

DETAIL NO. C-251 NTS	 CITY OF CHANDLER STANDARD DETAIL	ALLEY PAVEMENT LOT DRAINAGE FROM ALLEY	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-251 NTS
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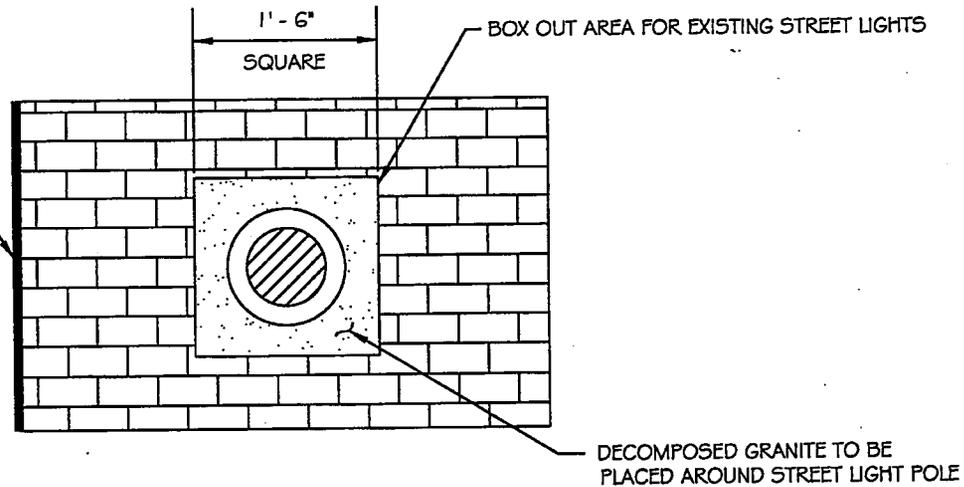
1/2" BITUMINOUS EXPANSION JOINT
CONTINUOUS BOTH SIDES AND
MAXIMUM 20' - 0" LONGITUDINALLY
(SEE PLAN VIEW)

DECORATIVE CONCRETE TO BE
RUNNING BOND COBBLESTONE
WITH A BRICK RED COLOR
SEE PLAN VIEW FOR BOND PATTERN

POLYETHYLENE COVER TO
PROTECT CURB FROM SPLASH.
TRIM ONE DAY AFTER
PLACEMENT OF CONCRETE



LONGITUDINAL EXPANSION JOINT
PLACED PERPENDICULAR
TO CENTERLINE (TYP.)



PLAN VIEW

DECOMPOSED GRANITE TO BE
PLACED AROUND STREET LIGHT POLE

C-253
REPLACES
37A

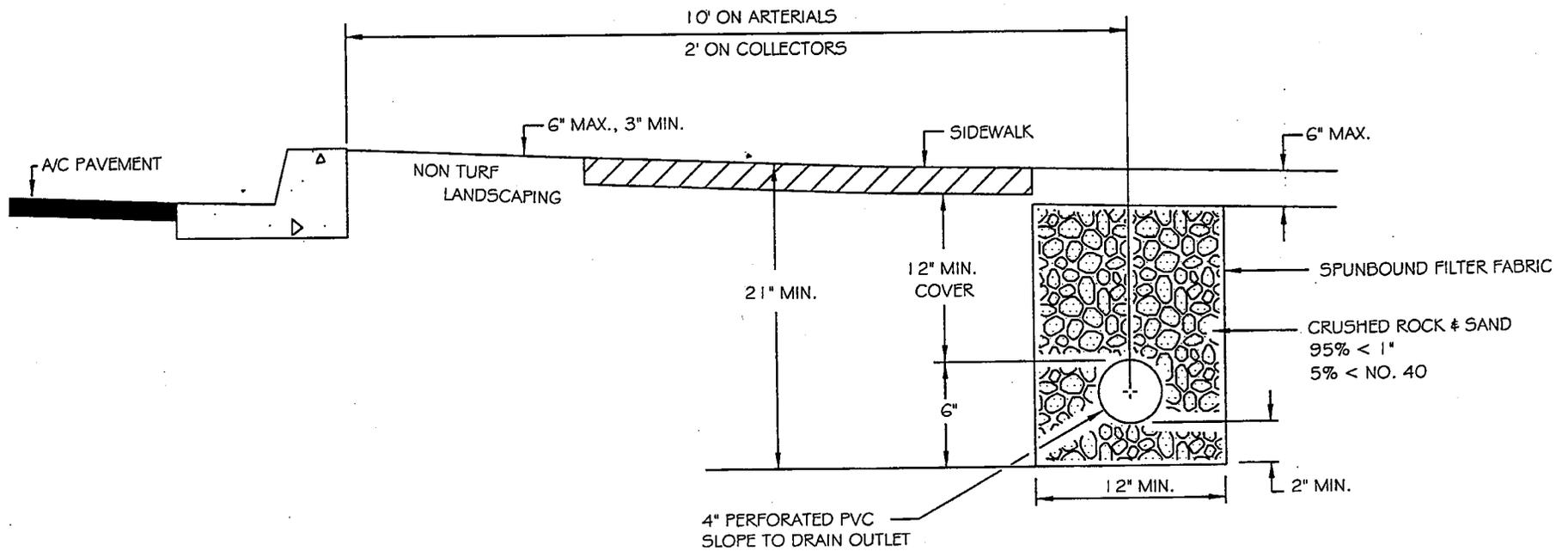


CITY OF
CHANDLER
STANDARD
DETAIL

DECORATIVE CONCRETE

APPROVED: *Bryan D. Peterson*
CITY ENGINEER
DATE: 11-19-99

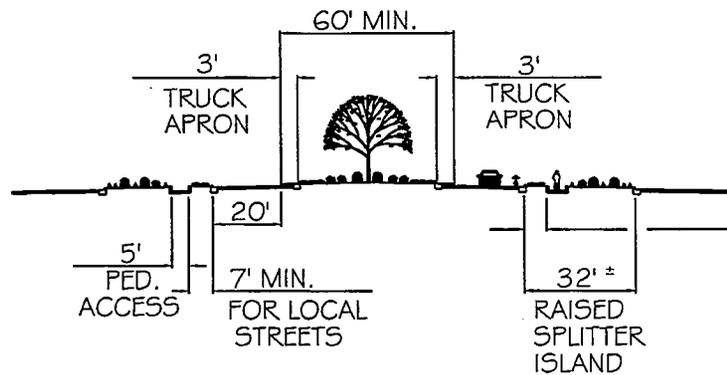
DETAIL NO.
C-253
NTS



NOTES:

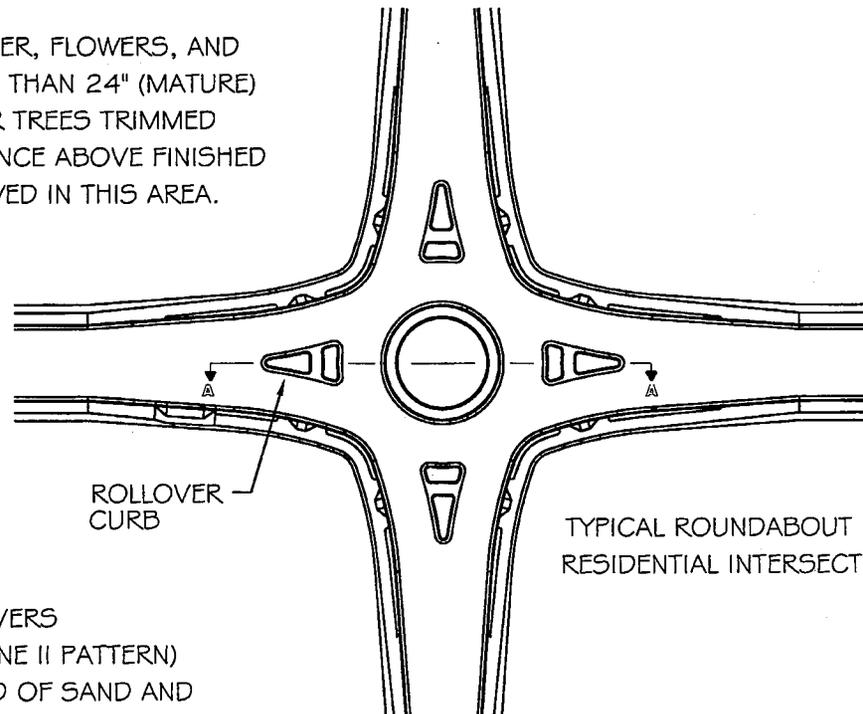
1. THIS DETAIL APPLIES ONLY TO AREAS THAT ARE TURF LANDSCAPED.
2. DRAIN MUST BE DESIGNED TO DISCHARGE TO RETENTION BASIN, STORM DRAIN OR DRYWELL.
3. MINIMUM SLOPE SHALL BE 0.2%.

DETAIL NO. C-254 NTS	 CITY OF CHANDLER STANDARD DETAIL	ARTERIAL/COLLECTOR ROADWAY LANDSCAPE DRAINAGE	APPROVED:  CITY ENGINEER DATE: 11-19-99	DETAIL NO. C-254 NTS
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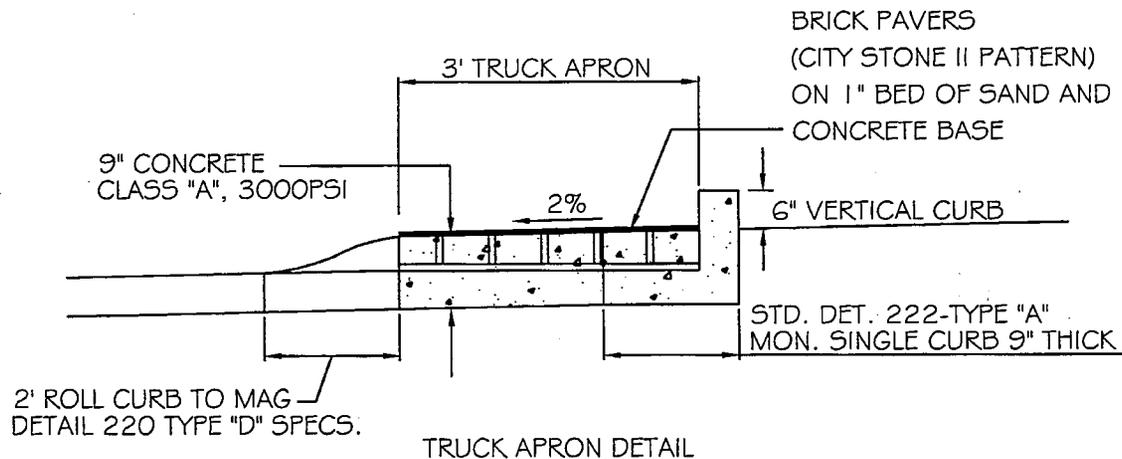


SECTION AA
THROUGH SPLITTER/CENTER ISLAND

GROUND COVER, FLOWERS, AND GRANITE LESS THAN 24" (MATURE) IN HEIGHT, OR TREES TRIMMED TO 6' CLEARANCE ABOVE FINISHED GRADE ALLOWED IN THIS AREA.



TYPICAL ROUNDABOUT
RESIDENTIAL INTERSECTION



TRUCK APRON DETAIL

RESIDENTIAL COLLECTOR
RESIDENTIAL LOCAL
TYPICAL ROUNDABOUT
CENTER/SPLITTER ISLAND DETAIL
TRUCK APRON DETAIL

DETAIL NO.
C-255
NTS

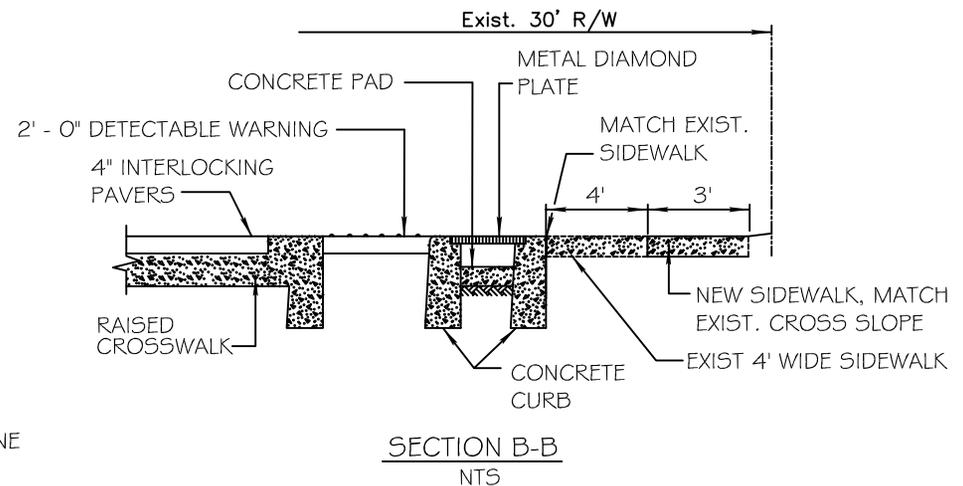
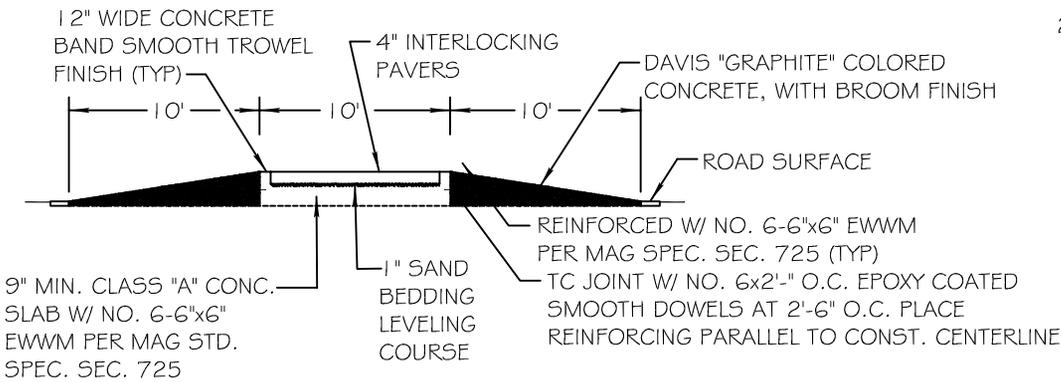
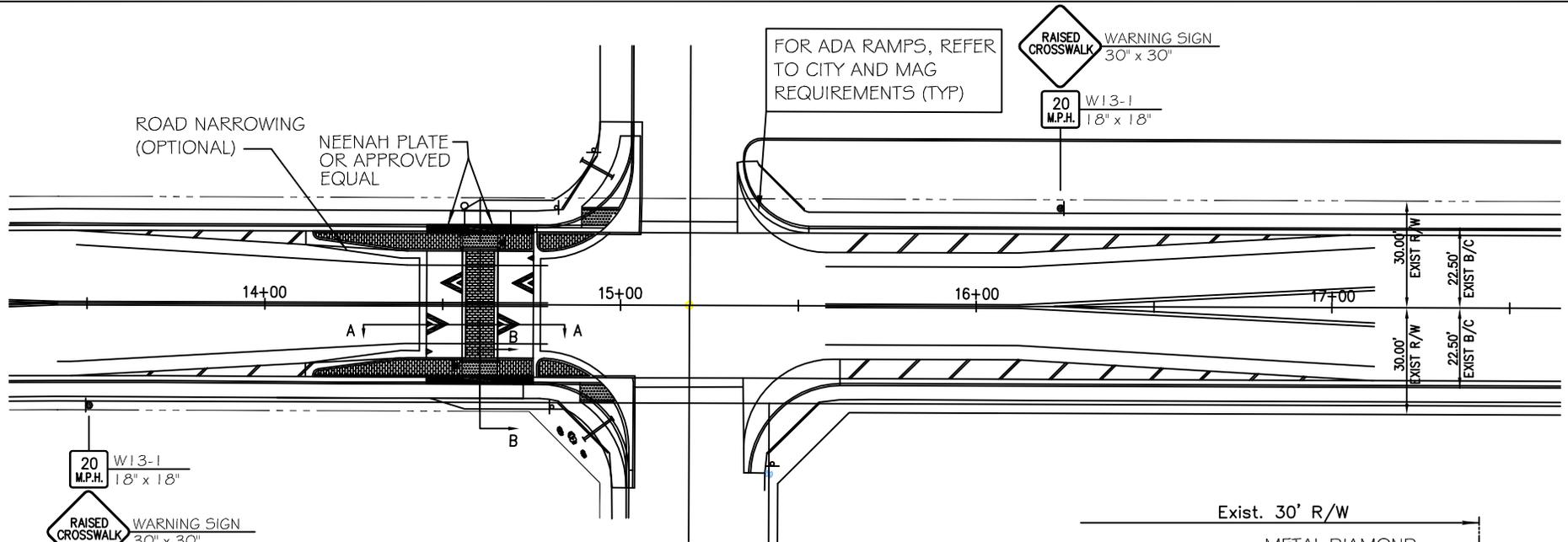


CITY OF
CHANDLER
STANDARD
DETAIL

TYPICAL ROUNDABOUT

APPROVED: *Kristen Lovell*
CITY ENGINEER
DATE: 2/26/07

DETAIL NO.
C-255
NTS



NOTES:

1. RETROFIT DESIGN SHOWN. NEW INSTALLATIONS MAY REQUIRE CURB, GUTTER, AND DRAINAGE FACILITIES TO BE DIFFERENT THAN SHOWN.
2. DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES MANUFACTURED BY CAST IN TAC, TEKWAY DOME TILES WITH ANCHOR SYSTEM, RAMP DOME SYSTEMS WITH METAL FRAME, ADA SOLUTIONS HEAVY DUTY COMPOSITE WET SET REPLACEABLE TILES WITH ANCHORS, OR APPROVED EQUAL. COLOR SHALL BE TERRACOTTA. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

DETAIL NO.
C-256
NTS

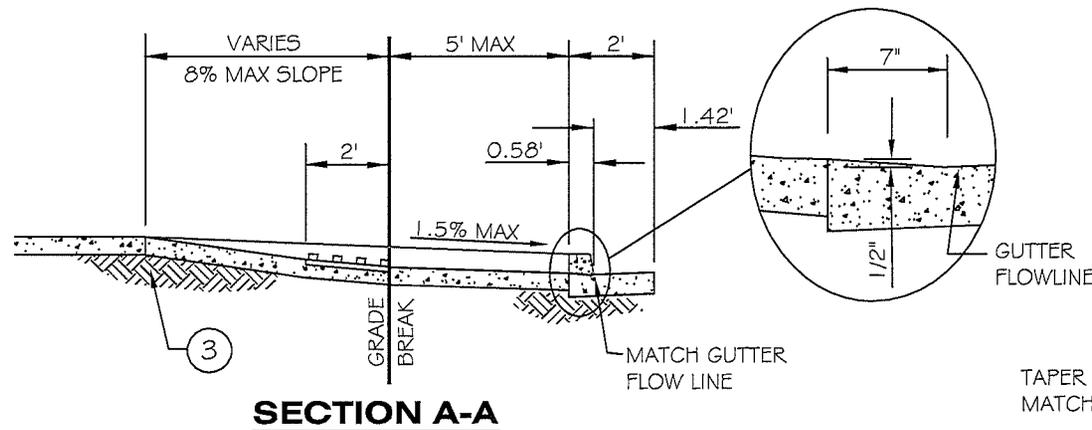


CITY OF
CHANDLER
STANDARD
DETAIL

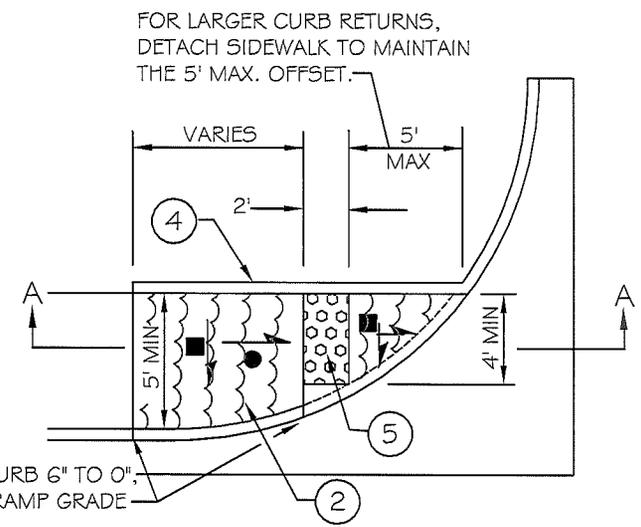
TYPICAL RAISED CROSSWALK

APPROVED: 
CITY ENGINEER
DATE: 3/14/2013

DETAIL NO.
C-256
NTS



SECTION A-A



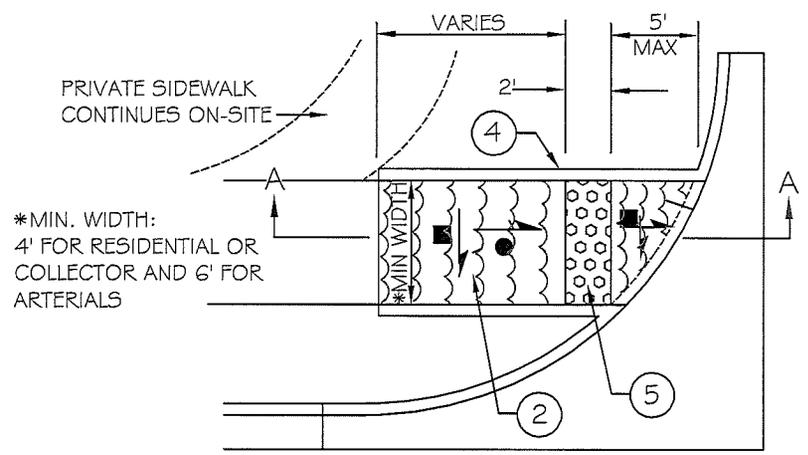
PLAN VIEW-ATTACHED SIDEWALK

NOTES:

- ①. CLASS "B" CONCRETE PER MAG SECTION 725.
- ②. LIMITS OF HEAVY ROUGH BROOM FINISH.
- ③. SUBGRADE PREPARATION PER MAG SECTION 301.
- ④. 6" SINGLE CURB PER MAG STD. DTL. 222.
- ⑤. DETECTABLE WARNING PER APPROVED PRODUCTS LIST.

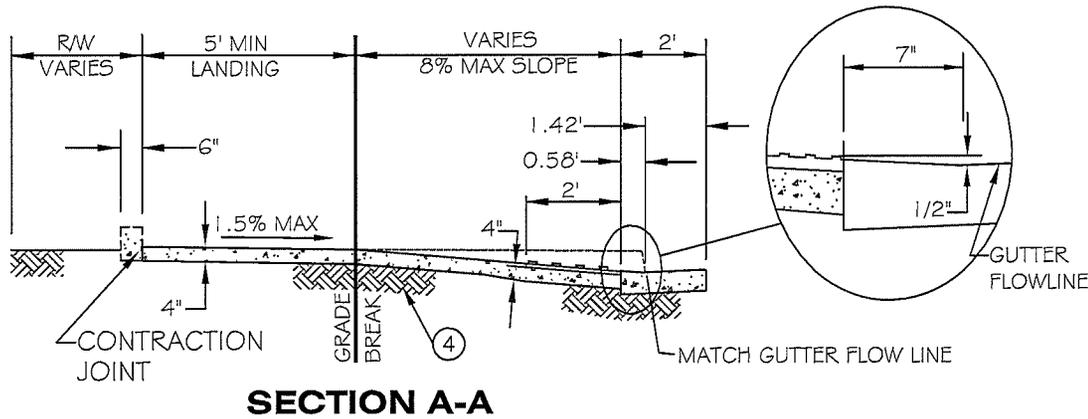
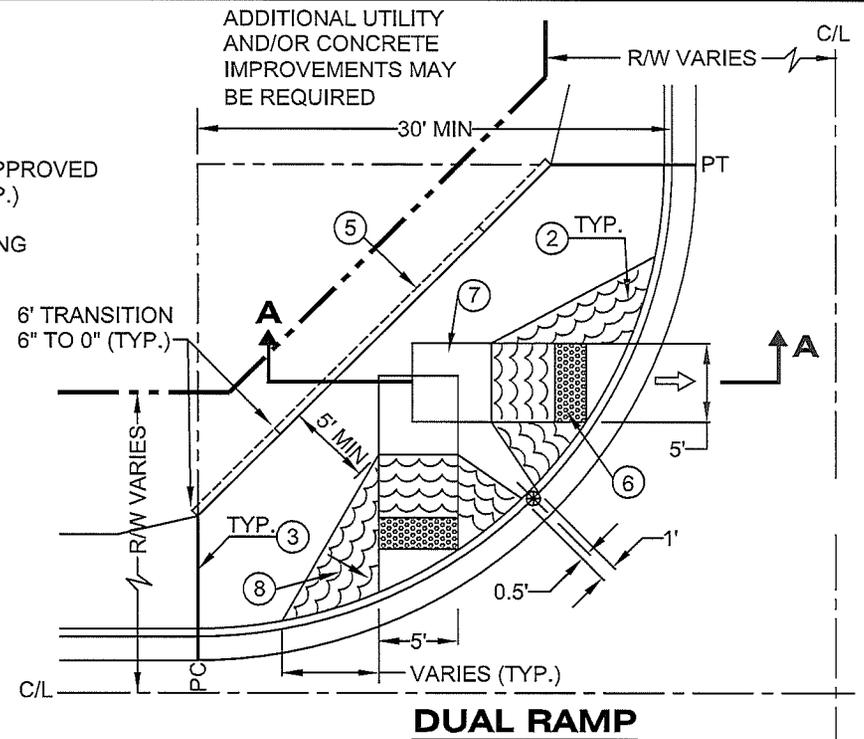
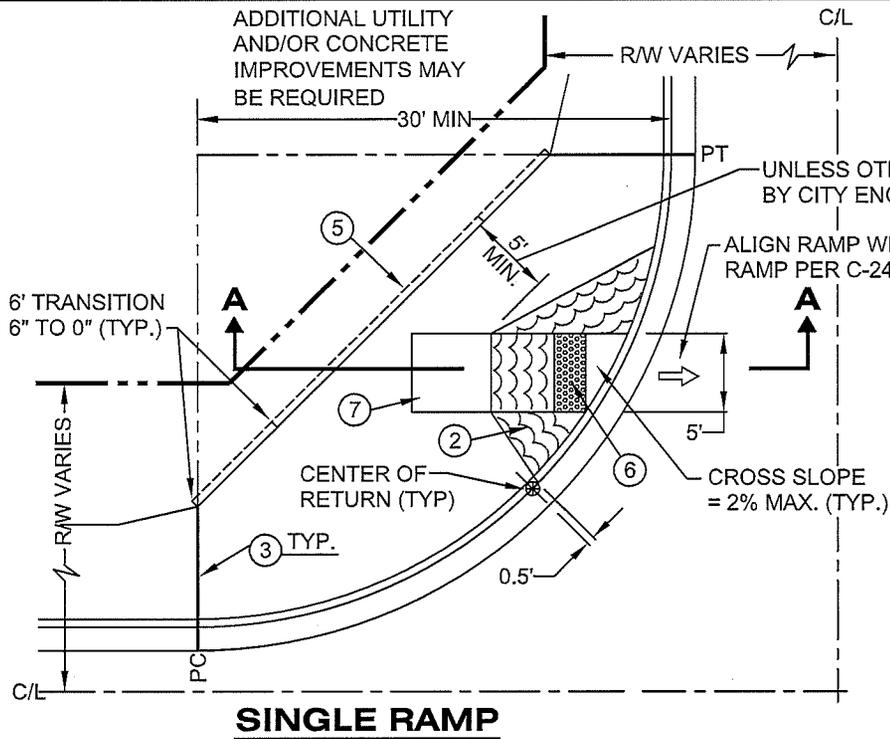
LEGEND:

- 8% MAXIMUM SLOPE
- 1.5% MAXIMUM SLOPE



PLAN VIEW-DETACHED SIDEWALK

DETAIL NO. C-257 NTS	 CITY OF CHANDLER STANDARD DETAIL	IN-LINE RAMP DETAIL FOR RETURN TYPE DRIVEWAY	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-257 NTS
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NOTES

- ① CLASS "B" CONCRETE PER MAG SECTION 725.
- ② LIMITS OF HEAVY ROUGH BROOM FINISH (TYP.)
- ③ EXPANSION JOINTS PER MAG SECTION 340.
- ④ SUBGRADE PREPARATION PER MAG SECTION 301.
- ⑤ OPTIONAL 6" CURB WITH 3' MIN. TRANSITION AS SHOWN, UNLESS OTHERWISE DIRECTED.
- ⑥ 2'x5' DETECTABLE WARNING PER APPROVED PRODUCTS LIST.
- ⑦ MUST MAINTAIN A 5'x5' LANDING PAD (TYP.)
- ⑧ 10% MAXIMUM WING SLOPE, ADJUST WING LENGTH AS NECESSARY (TYP.)

DETAIL NO.
C-258
PAGE 1 OF 3

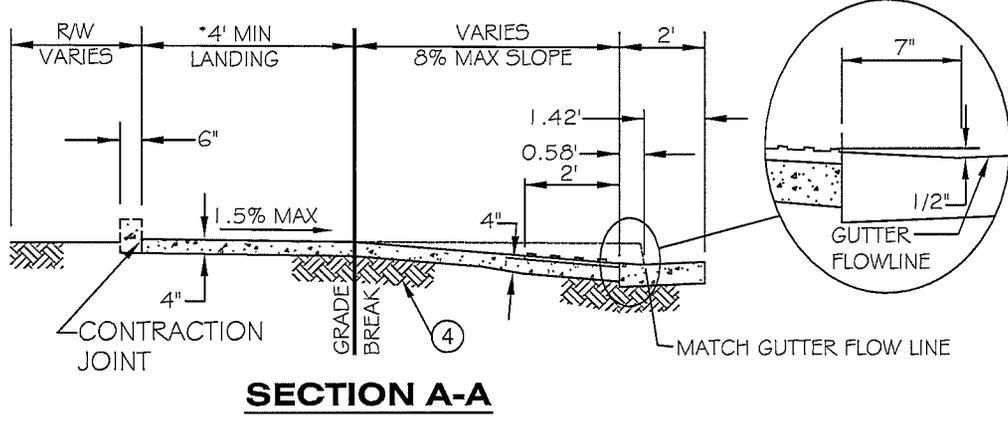
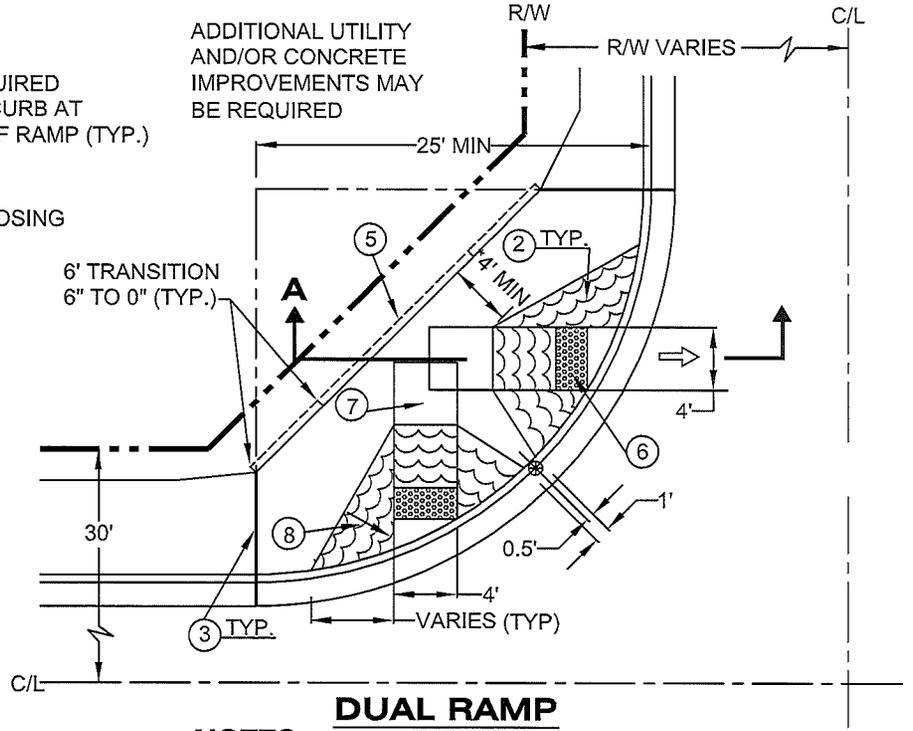
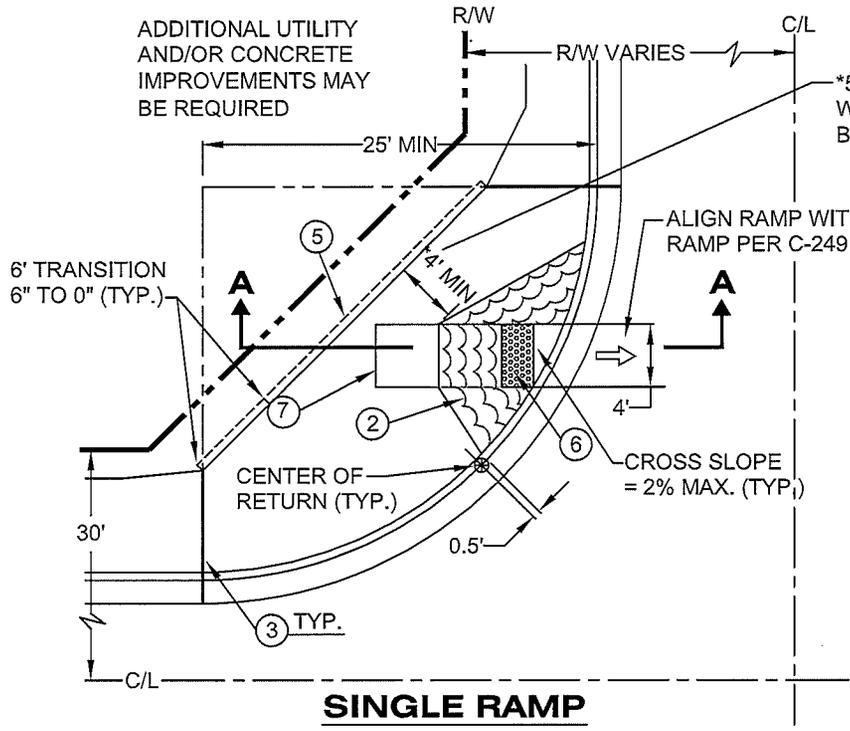


CITY OF
CHANDLER
STANDARD
DETAIL

**DIRECTIONAL CURB RAMP
ARTERIAL STREETS**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-258
PAGE 1 OF 3



NOTES

- ① CLASS "B" CONCRETE PER MAG SECTION 725.
- ② LIMITS OF HEAVY ROUGH BROOM FINISH (TYP.)
- ③ EXPANSION JOINTS PER MAG SECTION 340.
- ④ SUBGRADE PREPARATION PER MAG SECTION 301.
- ⑤ OPTIONAL 6" CURB WITH 3' MIN. TRANSITION AS SHOWN, UNLESS OTHERWISE DIRECTED.
- ⑥ 2'x4' DETECTABLE WARNING PER APPROVED PRODUCTS LIST.
- ⑦ MUST MAINTAIN A 4'x4' LANDING PAD (TYP.)
- ⑧ 10% MAXIMUM WING SLOPE, ADJUST WING LENGTH AS NECESSARY (TYP.)

DETAIL NO.
C-258
PAGE 2 OF 3

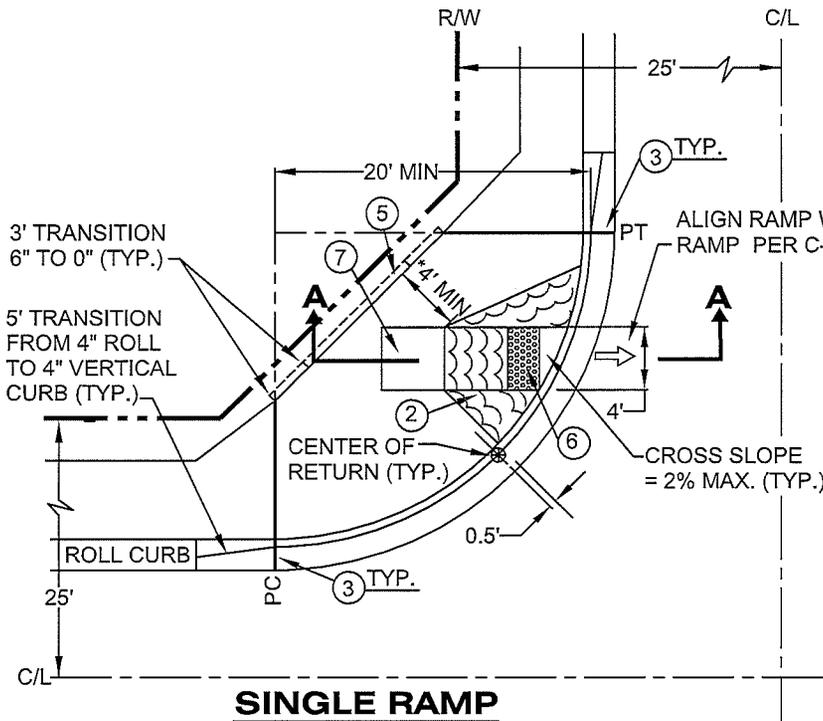


CITY OF
CHANDLER
STANDARD
DETAIL

**DIRECTIONAL CURB RAMP
COLLECTOR STREETS**

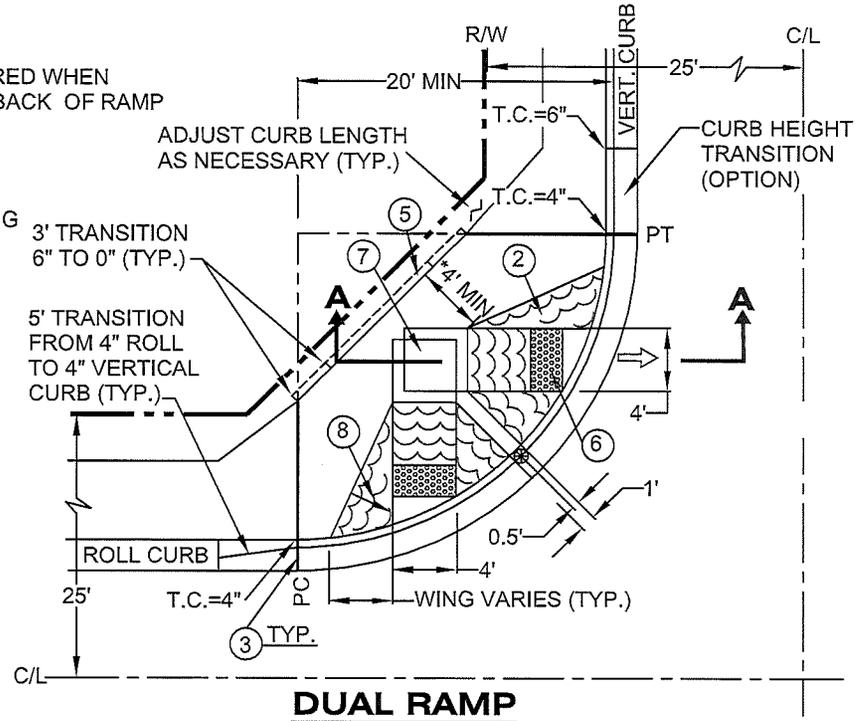
APPROVED: *David Walsh*
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-258
PAGE 2 OF 3

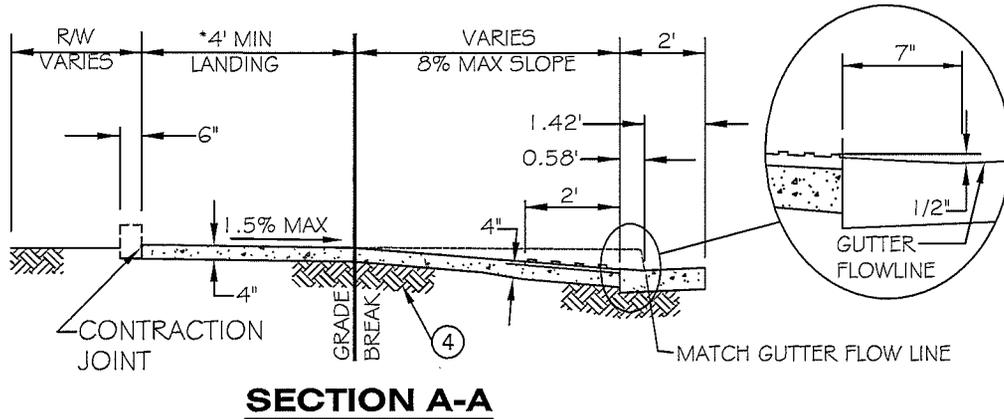


SINGLE RAMP

*5' REQUIRED WHEN CURB AT BACK OF RAMP



DUAL RAMP



SECTION A-A

NOTES

- ① CLASS "B" CONCRETE PER MAG SECTION 725.
- ② LIMITS OF HEAVY ROUGH BROOM FINISH (TYP.)
- ③ EXPANSION JOINTS PER MAG SECTION 340.
- ④ SUBGRADE PREPARATION PER MAG SECTION 301.
- ⑤ OPTIONAL 6" CURB WITH 3' MIN. TRANSITION AS SHOWN, UNLESS OTHERWISE DIRECTED.
- ⑥ 2'x4' DETECTABLE WARNING PER APPROVED PRODUCTS LIST.
- ⑦ MUST MAINTAIN A 4'x4' LANDING PAD (TYP.)
- ⑧ 10% MAXIMUM WING SLOPE, ADJUST WING LENGTH AS NECESSARY (TYP.)

DETAIL NO.
C-258
PAGE 3 OF 3



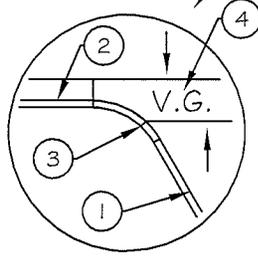
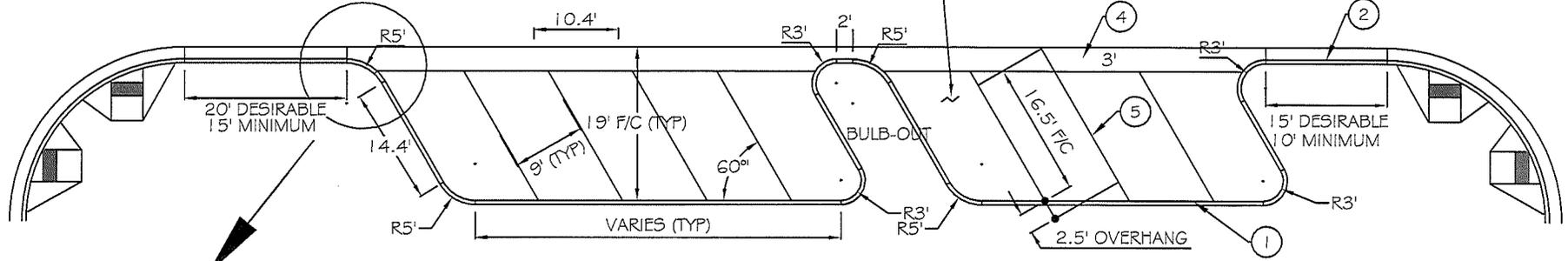
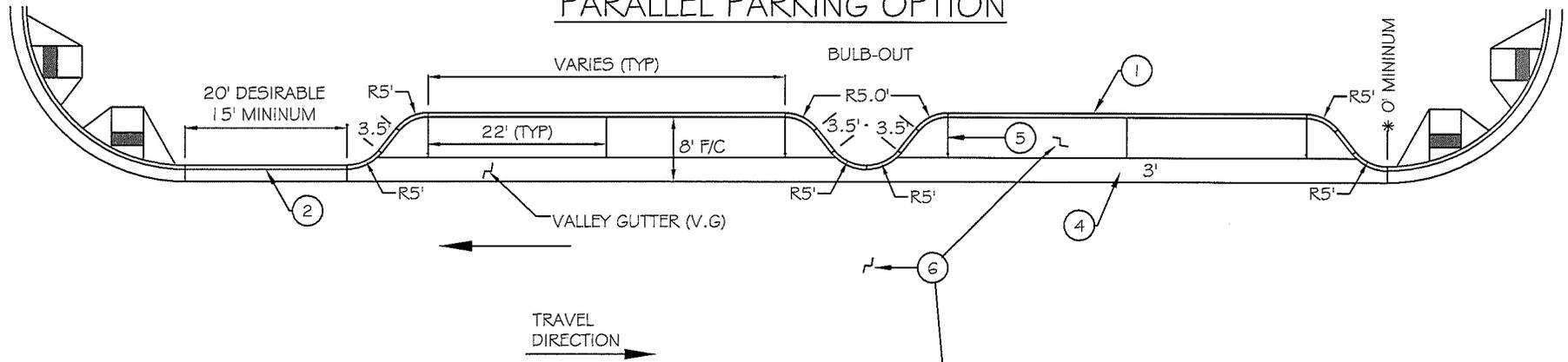
CITY OF
CHANDLER
STANDARD
DETAIL

**DIRECTIONAL CURB RAMP
LOCAL STREETS**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-258
PAGE 3 OF 3

PARALLEL PARKING OPTION



TYPICAL

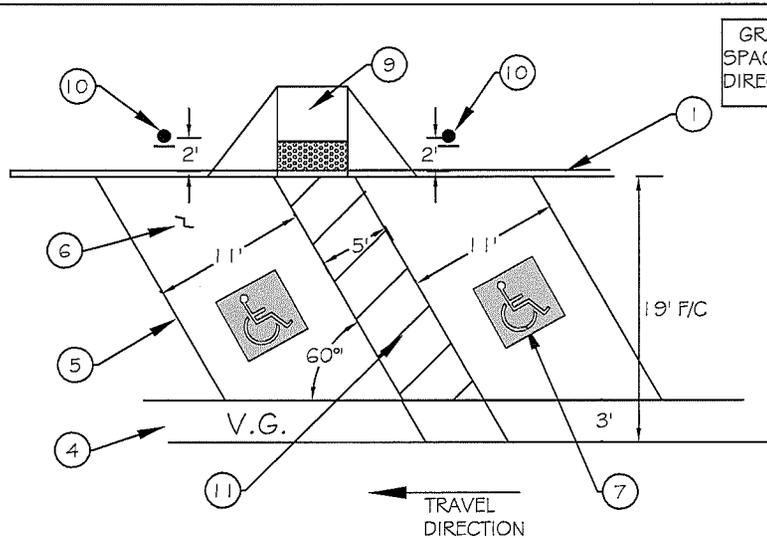
ANGLE PARKING OPTION

ALL DIMENSIONS SHOWN ARE TO BACK-OF-CURB, UNLESS OTHERWISE NOTED

NOTES:

1. 6" SINGLE CURB PER MAG STD DTL 222, TYPE 'A'.
2. 6" VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1, TYPE A.
3. TRANSITION POINT FROM SINGLE CURB TO VERTICAL CURB AND GUTTER.
4. VALLEY GUTTER SHALL BE CLASS "B" PER MAG SEC 725 AND INSTALLED PER MAG SEC 505. BRUSH AND TROWEL PER C-215.
5. 4" SOLID WHITE LINE. MARKING IN CONCRETE VALLEY GUTTER NOT NECESSARY.
6. SEE ON-STREET PARKING TYPICAL CROSS SECTION, C-215, FOR FURTHER REQUIREMENTS.
7. SEE CITY TDM# 4, SECTION 5, FOR FURTHER REQUIREMENTS.





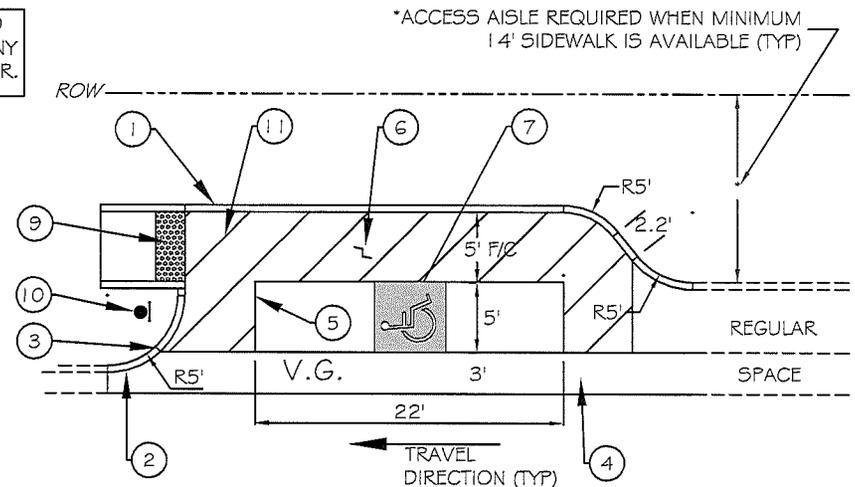
GRADES WITHIN PARKING AISLE AND SPACES SHALL NOT EXCEED 2% IN ANY DIRECTION, INCLUDING VALLEY GUTTER.

ACCESSIBLE ANGLE PARKING

REQUIRED ONLY IN SPECIFIC SITUATIONS. SEE TDM #4, SECTION 5.7.

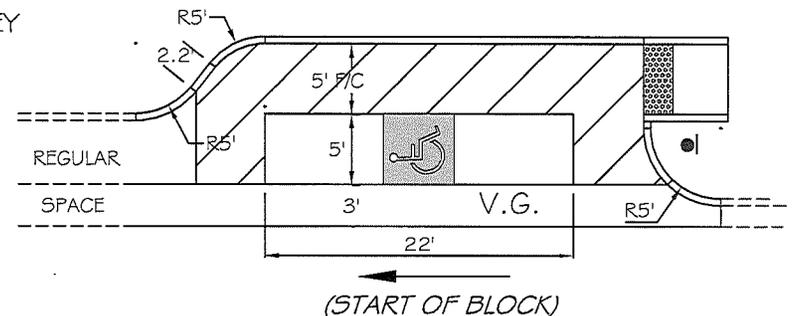
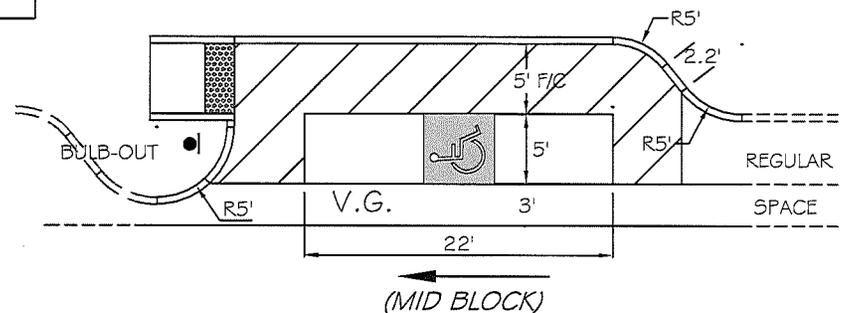
NOTES:

1. 6" SINGLE CURB PER MAG STD DTL 222, TYPE 'A'.
2. 6" VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1, TYPE A.
3. TRANSITION POINT FROM SINGLE CURB TO VERTICAL CURB AND GUTTER.
4. VALLEY GUTTER SHALL BE CLASS "B" PER MAG SEC 725 AND INSTALLED PER MAG SEC 505. BRUSH AND TROWEL PER C-215.
5. 4" SOLID WHITE LINE. MARKING IN CONCRETE GUTTER NOT NECESSARY.
6. SEE ON-STREET PARKING TYPICAL CROSS SECTION, C-215, FOR FURTHER REQUIREMENTS.
7. ACCESSIBLE PARKING SYMBOL PER C-612. DO NOT MARK IN CONCRETE VALLEY GUTTER.
8. IN-LINE RAMP PER C-257. COMPLY WITH RAMP GRADES AND LANDING REQUIREMENTS.
9. PERPENDICULAR RAMP PER C-258, PG 1. COMPLY WITH RAMP GRADES AND LANDING REQUIREMENTS.
10. ACCESSIBLE PARKING SIGN PER C-611.
11. 5' WIDE ACCESS AISLE MARKED WITH 4" SOLID WHITE LINES, 3' ON CENTER.



*ACCESS AISLE REQUIRED WHEN MINIMUM 14' SIDEWALK IS AVAILABLE (TYP)

ACCESSIBLE PARALLEL PARKING (END OF BLOCK)



DETAIL NO.
C-260
PAGE 2 OF 2



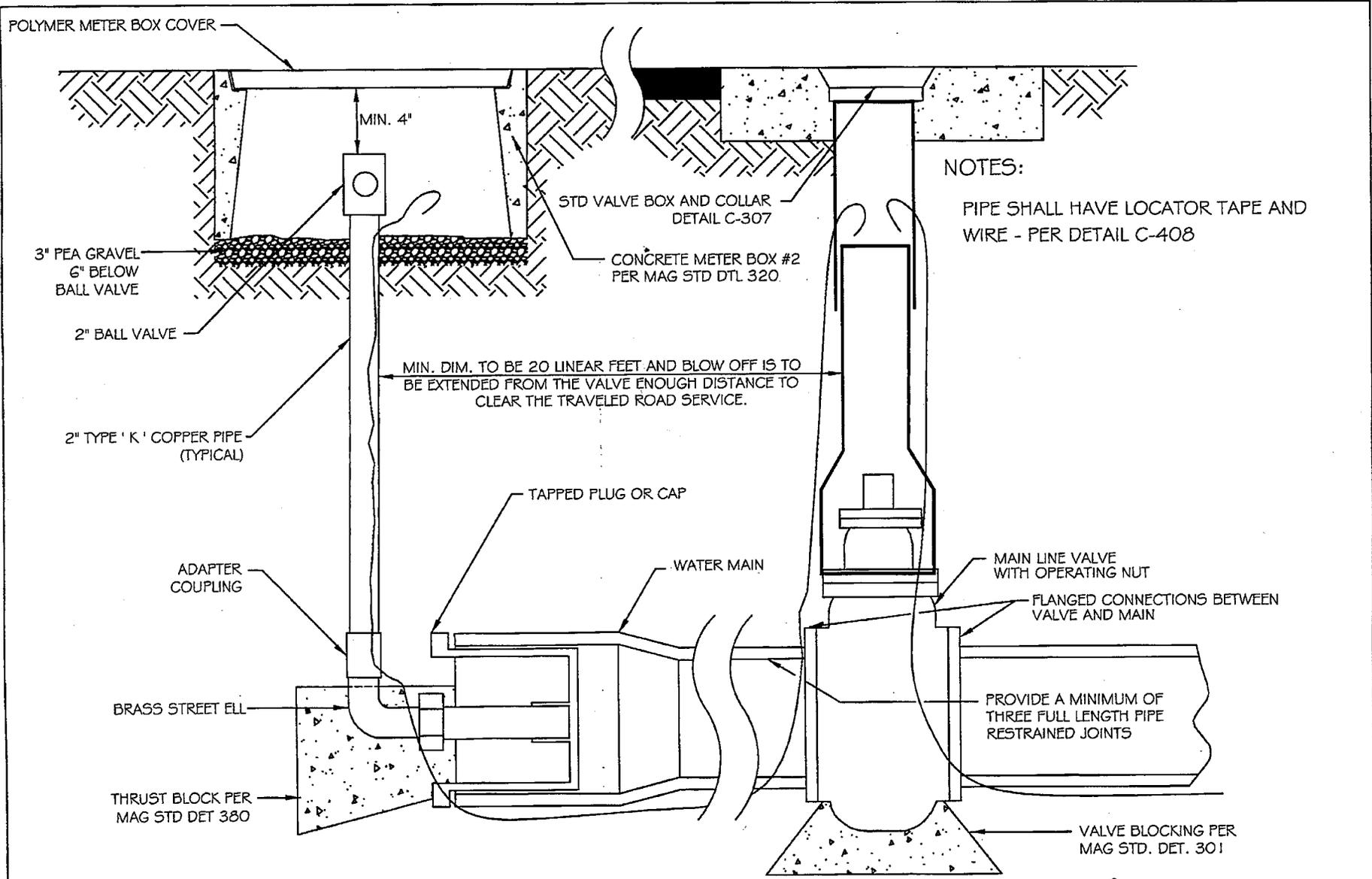
CITY OF
CHANDLER
STANDARD
DETAIL

ON-STREET PARKING ACCESSIBLE SPACES

APPROVED: *David Cook*
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-260
PAGE 2 OF 2

WATER
C-300 TO C-322



DETAIL NO.
C-300
NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**FLUSHING PIPE ASSEMBLY
WITH BALL VALVE**

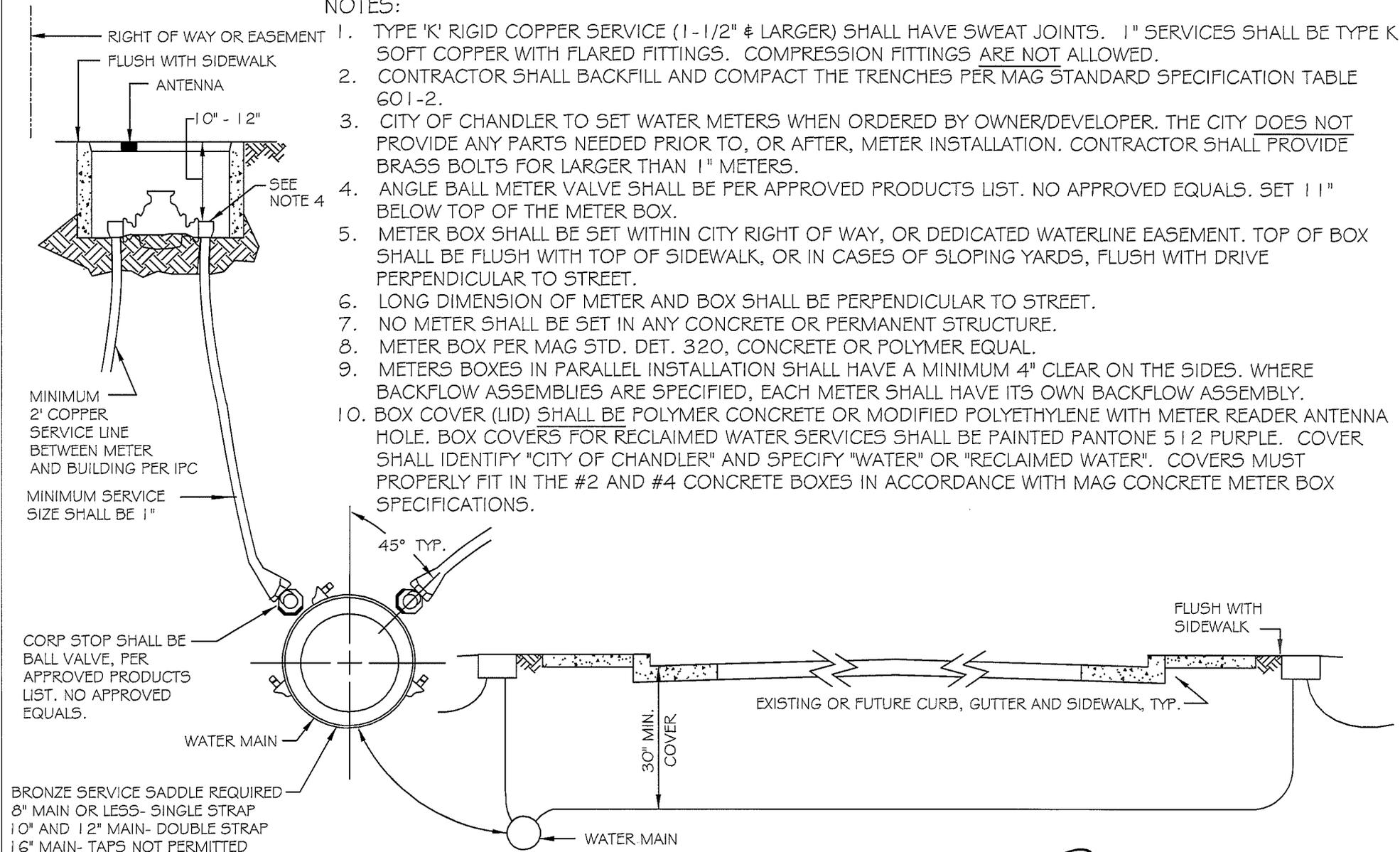
APPROVED: *[Signature]*
CITY ENGINEER
DATE: 01/08/09

DETAIL NO.
C-300
NTS

CAUTION: BEFORE SERVICES ARE INSTALLED, DRIVEWAY LOCATIONS SHOULD BE VERIFIED AND THE SERVICES CONSTRUCTED TO AVOID CONFLICTS

NOTES:

1. TYPE 'K' RIGID COPPER SERVICE (1-1/2" & LARGER) SHALL HAVE SWEAT JOINTS. 1" SERVICES SHALL BE TYPE K SOFT COPPER WITH FLARED FITTINGS. COMPRESSION FITTINGS ARE NOT ALLOWED.
2. CONTRACTOR SHALL BACKFILL AND COMPACT THE TRENCHES PER MAG STANDARD SPECIFICATION TABLE 601-2.
3. CITY OF CHANDLER TO SET WATER METERS WHEN ORDERED BY OWNER/DEVELOPER. THE CITY DOES NOT PROVIDE ANY PARTS NEEDED PRIOR TO, OR AFTER, METER INSTALLATION. CONTRACTOR SHALL PROVIDE BRASS BOLTS FOR LARGER THAN 1" METERS.
4. ANGLE BALL METER VALVE SHALL BE PER APPROVED PRODUCTS LIST. NO APPROVED EQUALS. SET 1 1/2" BELOW TOP OF THE METER BOX.
5. METER BOX SHALL BE SET WITHIN CITY RIGHT OF WAY, OR DEDICATED WATERLINE EASEMENT. TOP OF BOX SHALL BE FLUSH WITH TOP OF SIDEWALK, OR IN CASES OF SLOPING YARDS, FLUSH WITH DRIVE PERPENDICULAR TO STREET.
6. LONG DIMENSION OF METER AND BOX SHALL BE PERPENDICULAR TO STREET.
7. NO METER SHALL BE SET IN ANY CONCRETE OR PERMANENT STRUCTURE.
8. METER BOX PER MAG STD. DET. 320, CONCRETE OR POLYMER EQUAL.
9. METERS BOXES IN PARALLEL INSTALLATION SHALL HAVE A MINIMUM 4" CLEAR ON THE SIDES. WHERE BACKFLOW ASSEMBLIES ARE SPECIFIED, EACH METER SHALL HAVE ITS OWN BACKFLOW ASSEMBLY.
10. BOX COVER (LID) SHALL BE POLYMER CONCRETE OR MODIFIED POLYETHYLENE WITH METER READER ANTENNA HOLE. BOX COVERS FOR RECLAIMED WATER SERVICES SHALL BE PAINTED PANTONE 512 PURPLE. COVER SHALL IDENTIFY "CITY OF CHANDLER" AND SPECIFY "WATER" OR "RECLAIMED WATER". COVERS MUST PROPERLY FIT IN THE #2 AND #4 CONCRETE BOXES IN ACCORDANCE WITH MAG CONCRETE METER BOX SPECIFICATIONS.



DETAIL NO.
C-301
PAGE 1 OF 2



CITY OF
CHANDLER
STANDARD
DETAIL

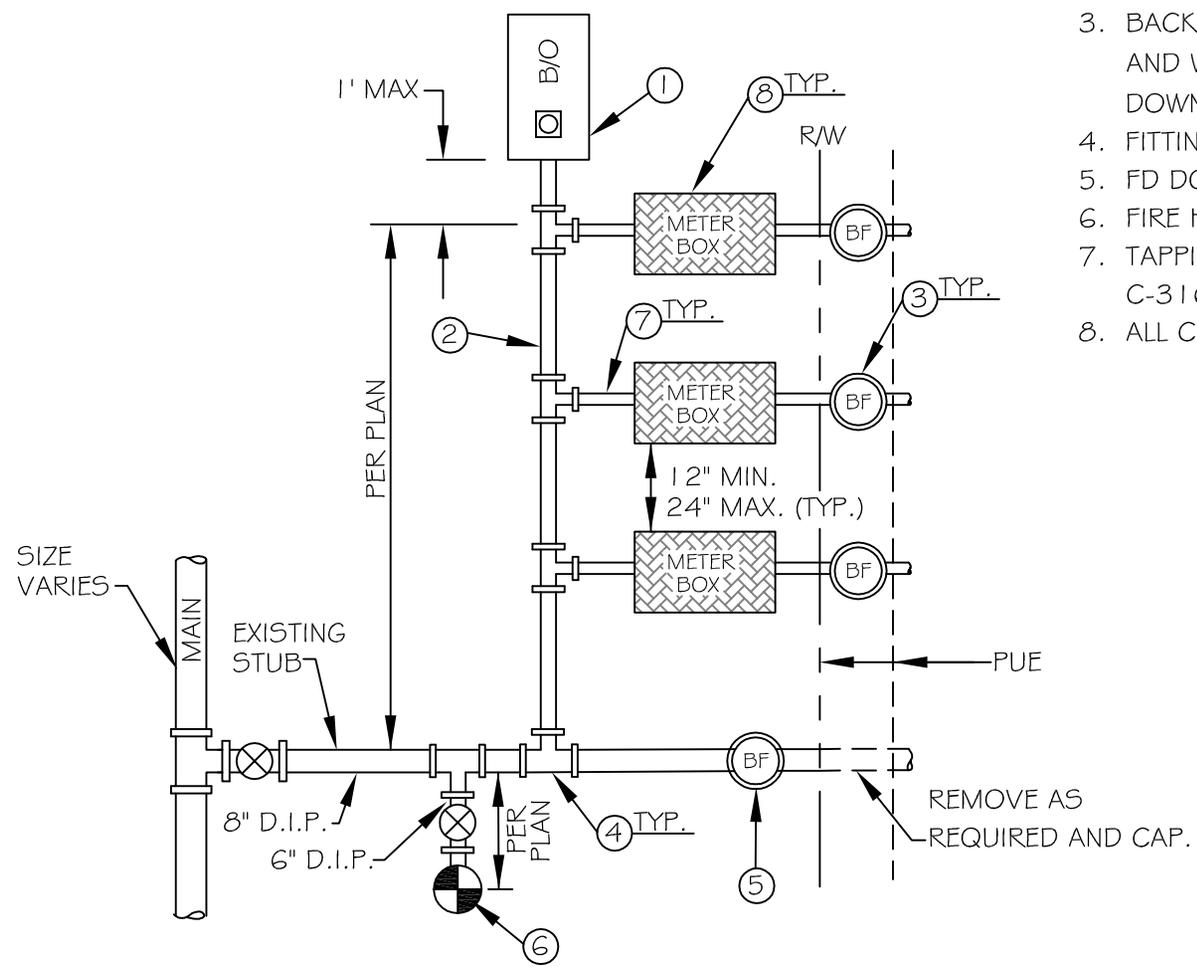
WATER SERVICE INSTALLATION

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-301
PAGE 1 OF 2

○ NOTES

1. FLUSHING PIPE ASSEMBLY WITH BALL PER C-300.
2. MIN. 6" D.I.P.
3. BACKFLOW PREVENTION PER PLAN, INSTALLED INLINE AND WITHIN 6 INCHES OF METER BOX, IMMEDIATELY DOWNSTREAM OF THE LI NESSETTER.
4. FITTINGS PER PLAN. FLANGED FITTINGS ONLY.
5. FD DOUBLE CHECK DETECTOR AS NEEDED PER PLAN.
6. FIRE HYDRANT AS NEEDED PER PLAN.
7. TAPPING: USE C-301 FOR 2" AND SMALLER OR C-316 FOR LARGER THAN 2".
8. ALL C-301 A NOTES APPLY.



DETAIL NO.
C-301
PAGE 2 OF 2

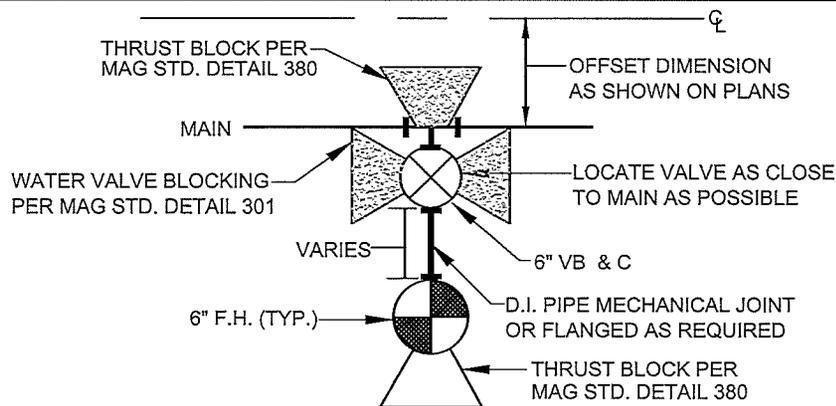


CITY OF
CHANDLER
STANDARD
DETAIL

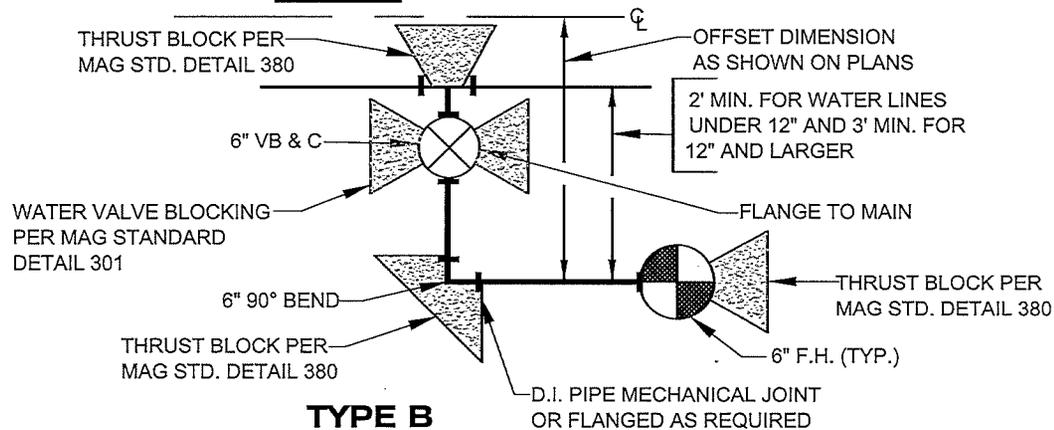
**MULTI-METER
WATER SERVICE INSTALLATION**

APPROVED: 
CITY ENGINEER
DATE: 3/14/2013

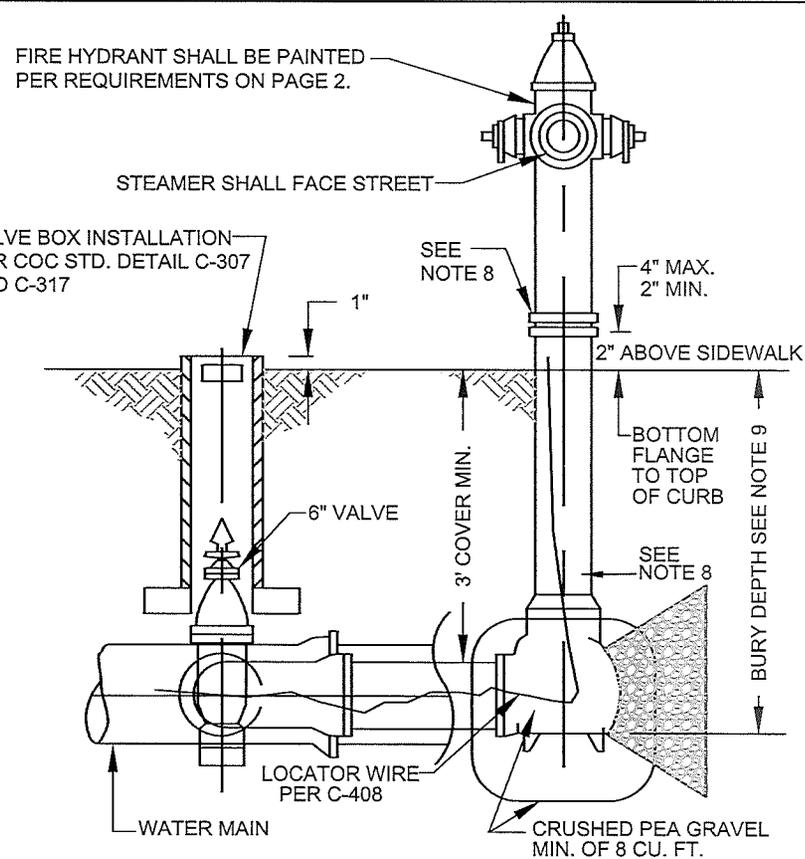
DETAIL NO.
C-301
PAGE 2 OF 2



TYPE A



TYPE B



TYPICAL INSTALLATION

NOTES:

1. FIRE HYDRANT VALVES INCLUDING ALL FITTINGS & 45° BENDS SHALL BE RESTRAINED TO MAIN LINE TEE BY FLANGES.
2. FIRE HYDRANT SHALL BE PER CITY LIST OF APPROVED PRODUCTS.
3. CONNECTIONS SHALL BE 2-1/2" & 4-1/2" N.S. THREADS.
4. INSTALLATION OF HYDRANT SHALL INCLUDE INSTALLATION OF REFLECTOR ON ADJACENT STREET(S) PER MAG STD DTL 122.
5. FIRE HYDRANT SHALL BE LOCATED PER DETAIL C-305 A MIN. OF 6' BEHIND FACE OF CURB, AND 12 INCHES BEHIND SIDEWALK, RIGHT OF WAY PERMITTING, AND INSTALLED SIX FEET BEYOND CURB RETURNS FOR HYDRANTS LOCATED AT INTERSECTIONS.
6. CAP CHAINS SHALL BE REMOVED AND THREADS GREASED WITH MANUFACTURER APPROVED HYDRANT GREASE.
7. EXTENSIONS ARE NOT ALLOWED.
8. STANDARD BURY DEPTHS ARE 36", 48", AND 54". ALL FITTINGS BETWEEN FH VALVE AND 6" HYDRANT RUNOUT SHALL BE RESTRAINED BY FLANGES.

DETAIL NO. C-303 PAGE 1 OF 2	 CITY OF CHANDLER STANDARD DETAIL	FIRE HYDRANT INSTALLATION	APPROVED:  CITY ENGINEER DATE: 1-14-16	DETAIL NO. C-303 PAGE 1 OF 2
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COLOR CODE

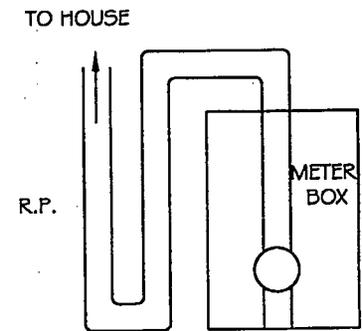
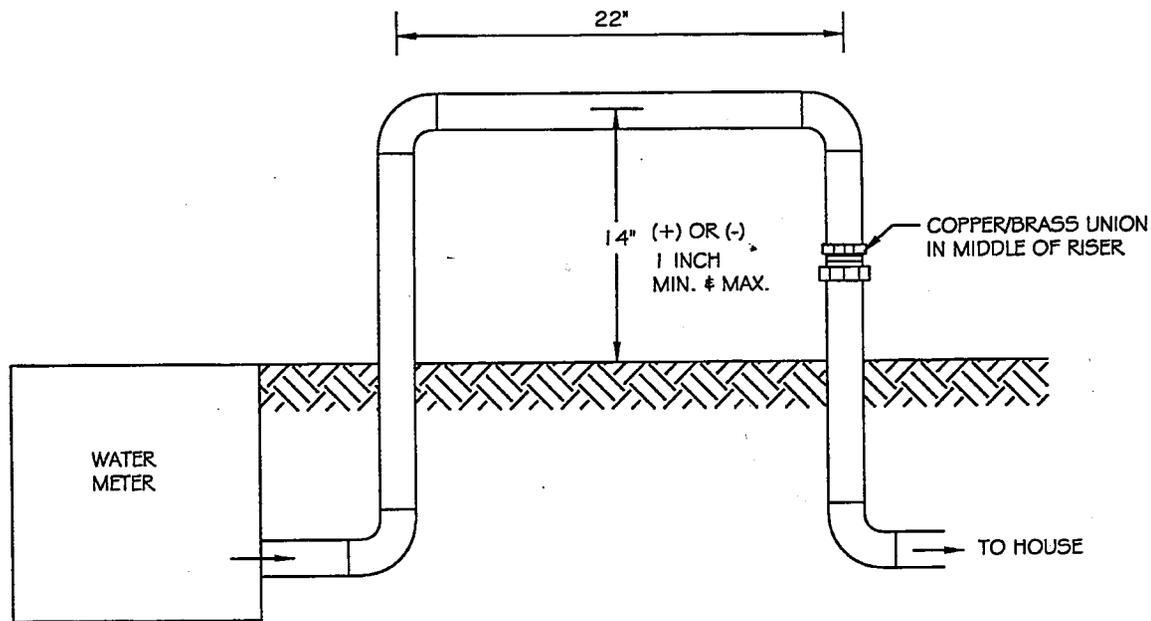
THE CITY OF CHANDLER WATER DIVISION AND FIRE DEPARTMENT UTILIZE THE FOLLOWING COLOR CODE IN DISTINGUISHING THE VARIOUS TYPES OF FIRE HYDRANTS:

TYPE 1. CAT YELLOW: THE BARREL AND BONNET OF ALL FIRE HYDRANTS INSTALLED ON PUBLIC WATER MAINS IN RIGHTS-OF-WAY AND IN PUBLIC UTILITY EASEMENTS (PUE'S) SHALL BE PAINTED CAT YELLOW.

TYPE 2. GLOSS BLACK/CAT YELLOW: THE BONNET OR 3" DOWN OF ALL FIRE HYDRANTS INSTALLED ON PRIVATELY OWNED AND MAINTAINED WATER MAINS SHALL BE PAINTED GLOSS BLACK. THE BARREL SHALL BE PAINTED CAT YELLOW.

TYPE 3. BRILLIANT RED: THE BARREL AND BONNET SHALL BE PAINTED BRILLIANT RED AFTER THE FIRE DEPARTMENT CONNECTIONS (FDC'S). SPECIAL APPROVAL IS REQUIRED FOR ALL RED HYDRANTS BY THE FIRE MARSHAL. FIRE DEPARTMENT SIAMESE CONNECTIONS (FDC'S). ALL SUCH FIRE HYDRANTS SHALL BE ISOLATED FROM THE MUNICIPAL WATER SYSTEM BY DOUBLE DETECTOR CHECK VALVES. ALL RED HYDRANTS SHALL BE APPROVED BY THE FIRE MARSHAL.

DETAIL NO. C-303 PAGE 2 OF 2	 CITY OF CHANDLER STANDARD DETAIL	FIRE HYDRANT COLOR CODE	APPROVED:  CITY ENGINEER DATE: <u>1-14-16</u>	DETAIL NO. C-303 PAGE 2 OF 2
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**ALTERNATE
INSTALLATION**

SEE NOTE 8

NOTES:

1. ALL PIPE/FITTINGS TO BE TYPE 'K' RIGID COPPER.
2. INSTALL COPPER PIPE LOOP DIRECTLY BEHIND, DOWNSTREAM OF WATER METER/WATER METER BOX.
3. COPPER LOOP TO BE 14 INCHES ABOVE GRADE PLUS OR MINUS ONE INCH.
4. COPPER LOOP TO BE LEVEL MEASURED WITH CONTRACTOR'S BUBBLE LEVEL.
5. TOP OF LOOP TO BE ONE SOLID PIECE OF PIPE. NO COUPLINGS OR JOINTED PIPE.
6. COMPRESSION TYPE FITTINGS ARE NOT ALLOWED.
7. A COPPER/BRASS UNION TO BE INSTALLED IN MIDDLE OF DOWNSTREAM RISER.
8. COPPER LOOP MAY BE INSTALLED ADJACENT TO METER BOX ON A CASE BY CASE BASIS WITH A MAXIMUM OF 24 INCHES OF PIPE EXTENDED UPSTREAM OF COPPER LOOP TO ALLOW COPPER LOOP TO SIT ADJACENT TO METER/WATER BOX.
9. COPPER LOOP LENGTH TO BE 22 INCHES IN LENGTH MEASURED FROM CENTER TO CENTER OF EACH RISER PIPE.
10. THIS DETAIL IS TO BE USED IN CONJUNCTION WITH A RECLAIMED WATER SYSTEM.

**C-302
REPLACES
103B**



CITY OF
CHANDLER
STANDARD
DETAIL

**RESIDENTIAL BACKFLOW
PREVENTION ASSEMBLY
INSTALLATION - 1" OR UNDER**

APPROVED:

Raymond D. Fallow
CITY ENGINEER

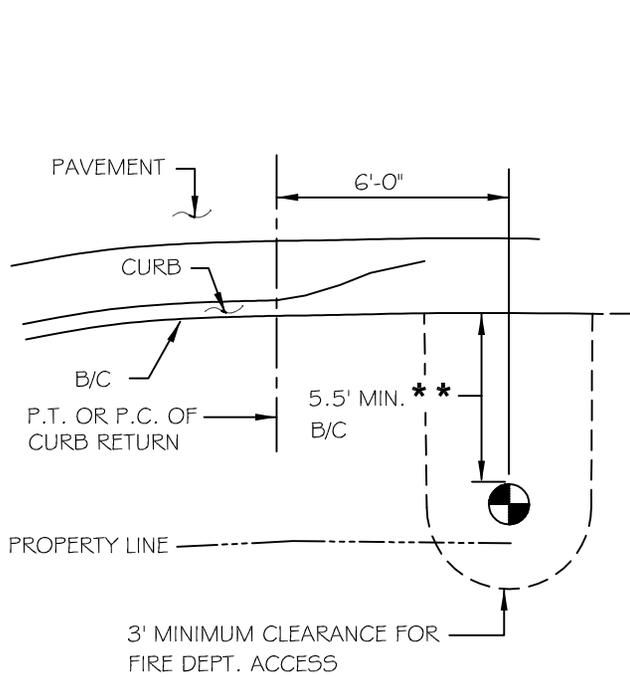
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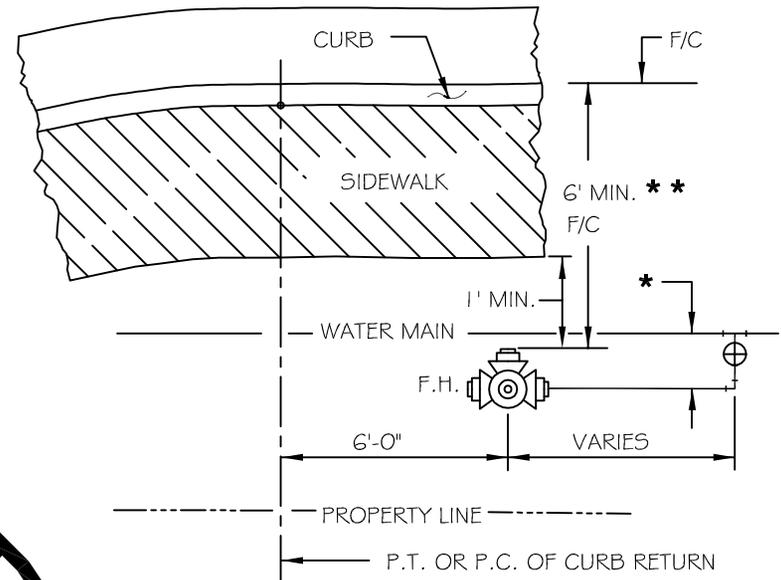
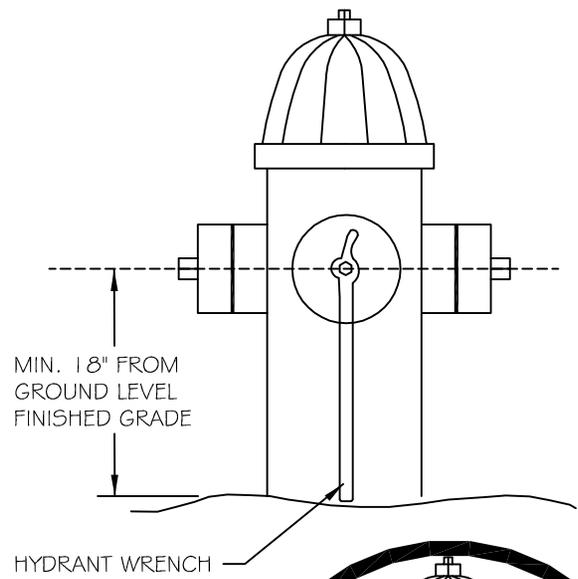
DETAIL NO.

C-302

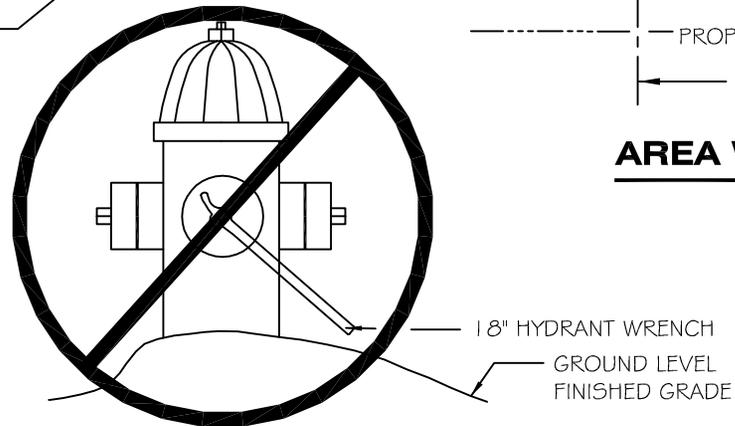
NTS



PARKWAY AREA, NO SIDEWALK



AREA WITH SIDEWALK



NOTES:

1. DIMENSION PER COC STANDARD DETAIL C-303.
2. COC STANDARD DETAIL C-303, TYPE B INSTALLATION SHOWN.
3. DIMENSIONS SHOWN ON APPROVED CONSTRUCTION DRAWINGS SUPERSEDE LOCATIONS SHOWN HERE.
4. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC., MUST NOT BE PLACED BETWEEN CURB AND HYDRANT.
5. ON LOCATIONS IN MID BLOCK, THE FIRE HYDRANT WILL BE ALIGNED WITH A PROPERTY LINE AND 6' MINIMUM FROM DRIVEWAYS.
6. ALL FIRE HYDRANTS INSTALLED PER STANDARD DETAIL C-303 SHALL BE LOCATED IN ACCORDANCE WITH THIS DETAIL.
7. **MINIMUM DIMENSION MUST BE SIDEWALK WIDTH PLUS ONE (1) FOOT OR SIX (6) FEET FROM FACE OF CURB, WHICHEVER IS GREATER.
8. IN INDUSTRIAL/COMMERCIAL ZONES A MINIMUM OF 6' FROM DRIVEWAYS SHALL BE MAINTAINED WITH VALVE INSTALLED AWAY FROM DRIVEWAY.
9. 3 FOOT UNOBSTRUCTED CLEARANCE AROUND FIRE HYDRANT AND HYDRANT VALVE. NO TREES, BUSHES, FENCES, WALLS, OR RIVER ROCK. NO CACTUS WITHIN 10 FEET OF A HYDRANT OR HYDRANT VALVE.

DETAIL NO.

C-305

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**LOCATIONS FOR NEW
FIRE HYDRANT**

APPROVED:

Kevin Liff

CITY ENGINEER

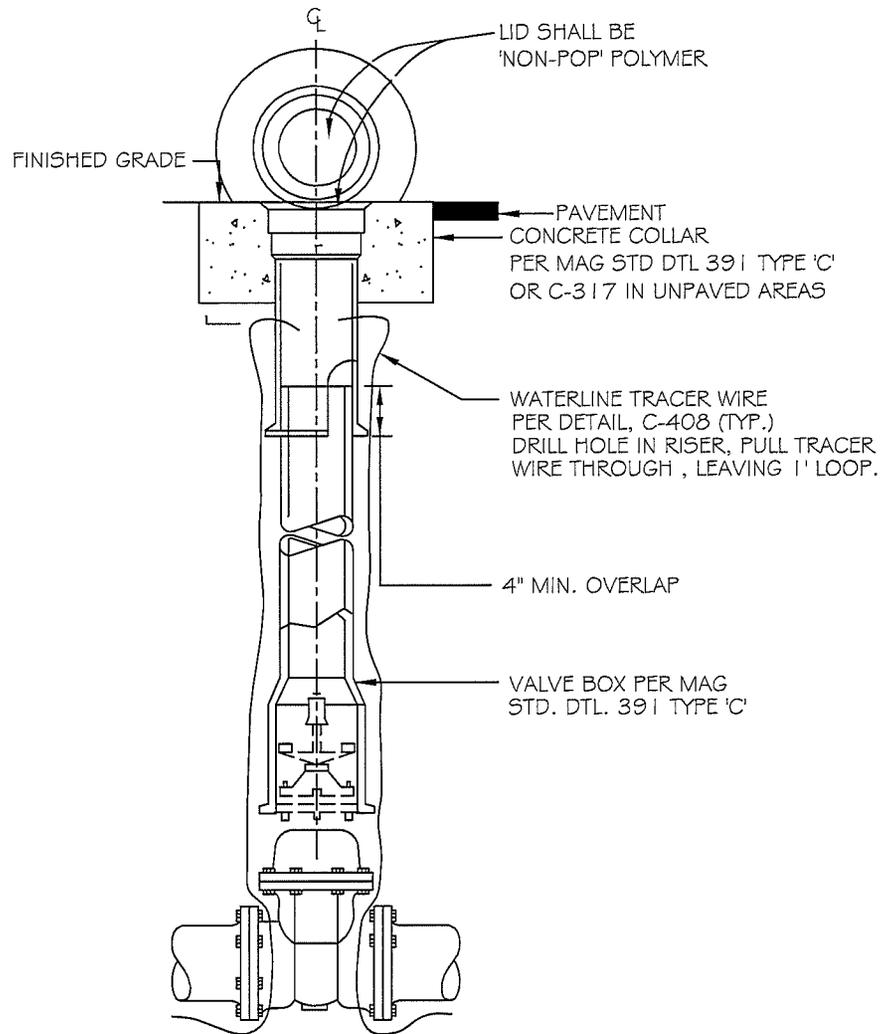
DATE:

02/09/12

DETAIL NO.

C-305

NTS



NOTES:

1. IN UNPAVED AREAS, CONCRETE COLLAR SHALL CONFORM TO DETAIL C-317.
2. BACKFILL SHALL BE 1/2 SACK CLSM. PER MAG. SPECIFICATION 718.
3. VALVE BOXES SHALL NOT BE INSTALLED WITHIN CONCRETE GUTTER, SIDEWALK, RAMPS OR VALLEY GUTTER.

DETAIL NO.

C-307

NTS



CITY OF
 CHANDLER
 STANDARD
 DETAIL

**VALVE BOX INSTALLATION
 (POTABLE WATER)**

APPROVED:

Randy Cook
 CITY ENGINEER

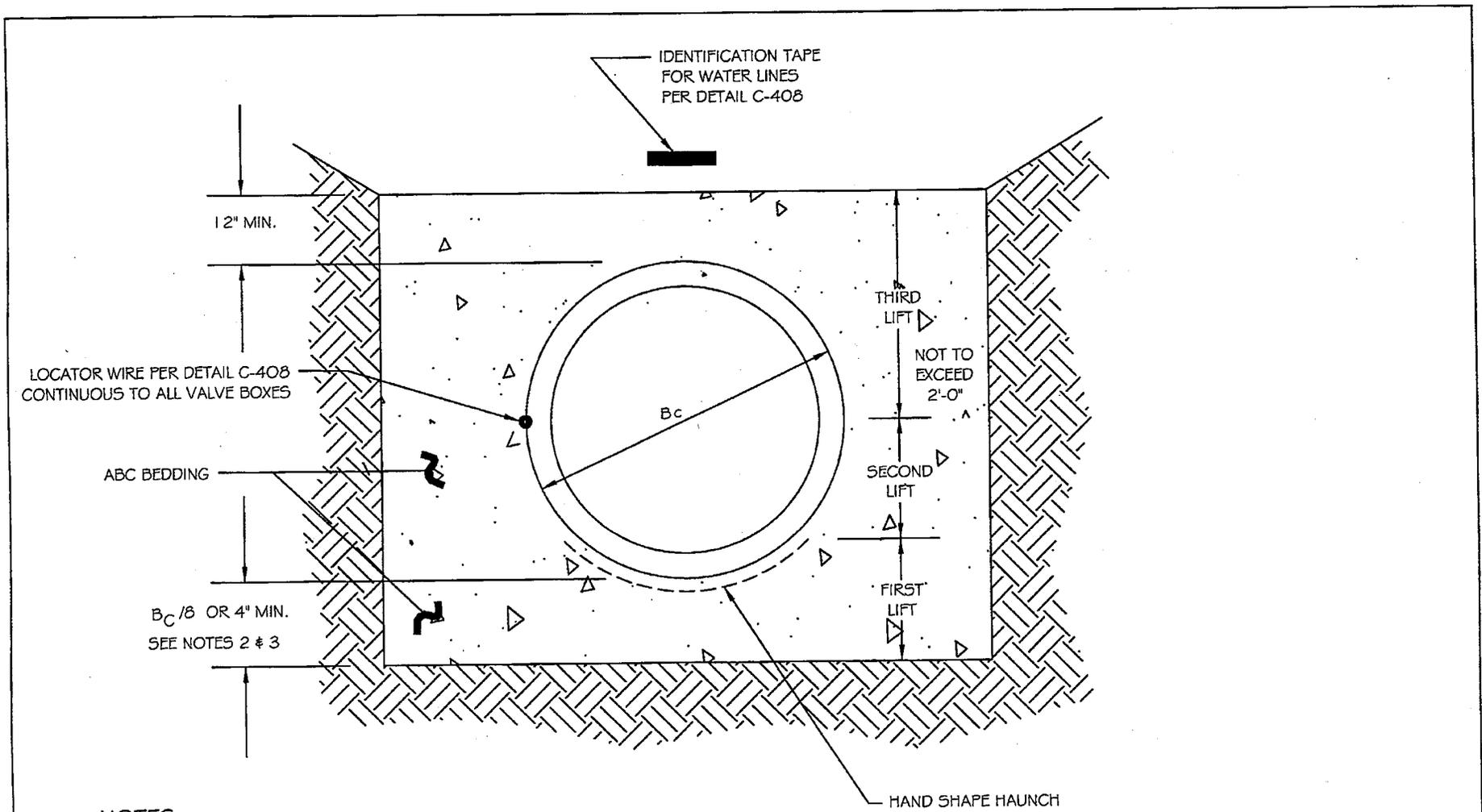
DATE:

07-09-2015

DETAIL NO.

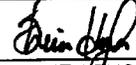
C-307

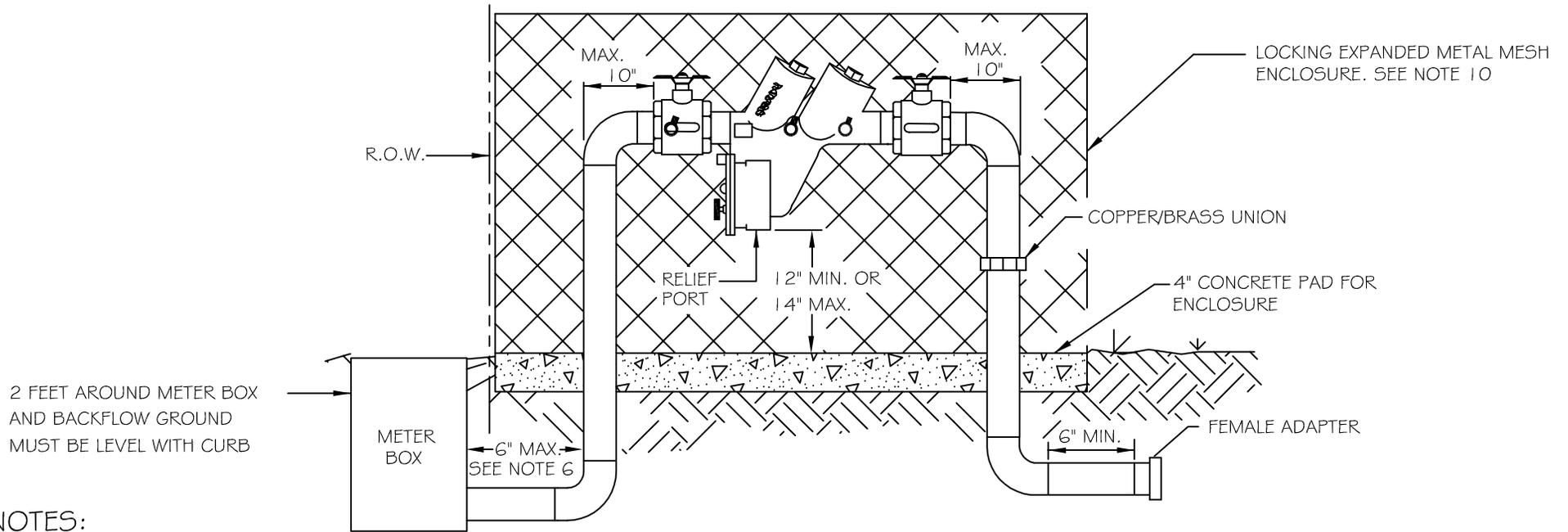
NTS



NOTES:

1. TRENCH WIDTH IN ACCORDANCE WITH MAG STD. TABLE 601-1.
2. MINIMUM 4" FOR PIPES 12" OR SMALLER.
3. MINIMUM 6" FOR PIPES LARGER THAN 12".

DETAIL NO. C-308 NTS	 CITY OF CHANDLER STANDARD DETAIL	WATER PIPE BEDDING DETAIL	APPROVED:  CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-308 NTS
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NOTES:

1. ASSEMBLY SHALL BE APPROVED BY UNIVERSITY OF SOUTHERN CALIFORNIA (USC) FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH. LIST OF APPROVED ASSEMBLIES ON FILE AT CIVIL ENGINEERING.
2. SHUTOFF VALVES SHALL BE RESILIENT BALL TYPE WITH REMOVABLE HANDLES.
3. ALL PIPE AND FITTINGS SHALL BE TYPE 'K' RIGID COPPER. COMPRESSION FITTINGS ARE NOT ALLOWED.
4. TEST COCKS SHALL BE FITTED WITH BRASS PLUGS INSTALLED WITH TEFLON TAPE.
5. NO TAPS SHALL BE ALLOWED BETWEEN THE METER AND THE BACKFLOW PREVENTION ASSEMBLY.
6. INSTALL BACKFLOW PREVENTION ASSEMBLY INLINE AND WITHIN 6 INCHES OF THE METER BOX, IMMEDIATELY DOWNSTREAM OF THE LINESETTER.
7. THE COPPER/BRASS UNION MAY NOT BE REQUIRED IF THE ASSEMBLY INCORPORATES THE UNION.
8. INSTALL BACKFLOW PREVENTION ASSEMBLY WITH RELIEF PORT FACING TOWARD THE GROUND.
9. BACKFLOW PREVENTION INSTALLATION MUST BE LEVEL, AND INSTALLED A MINIMUM OF 12 INCHES AND A MAXIMUM OF 14 INCHES FROM RELIEF PORT TO FINAL GRADE.
10. LOCKING ENCLOSURE SHALL BE GUARD SHACK OR EQUIVALENT, PAINTED 'DESERT TAN' WITH TNE MEC EDUROSHIELD PER MFG'S INSTRUCTIONS. MINIMUM 12 MILS DFT.
11. BACKFLOW PREVENTION ASSEMBLY SHALL HAVE AT LEAST THE SAME CROSS-SECTIONAL AREA AS THE WATER METER BUT NO MORE THAN ONE SIZE LARGER THAN THE METER.

DETAIL NO.

C-311

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**REDUCED PRESSURE-PRINCIPLE
BACKFLOW PREVENTION ASSEMBLY
INSTALLATION - 3" AND UNDER**

APPROVED:

Kevin G. [Signature]
CITY ENGINEER

DATE:

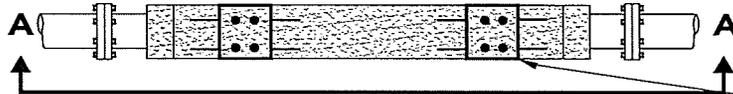
3/14/2013

DETAIL NO.

C-311

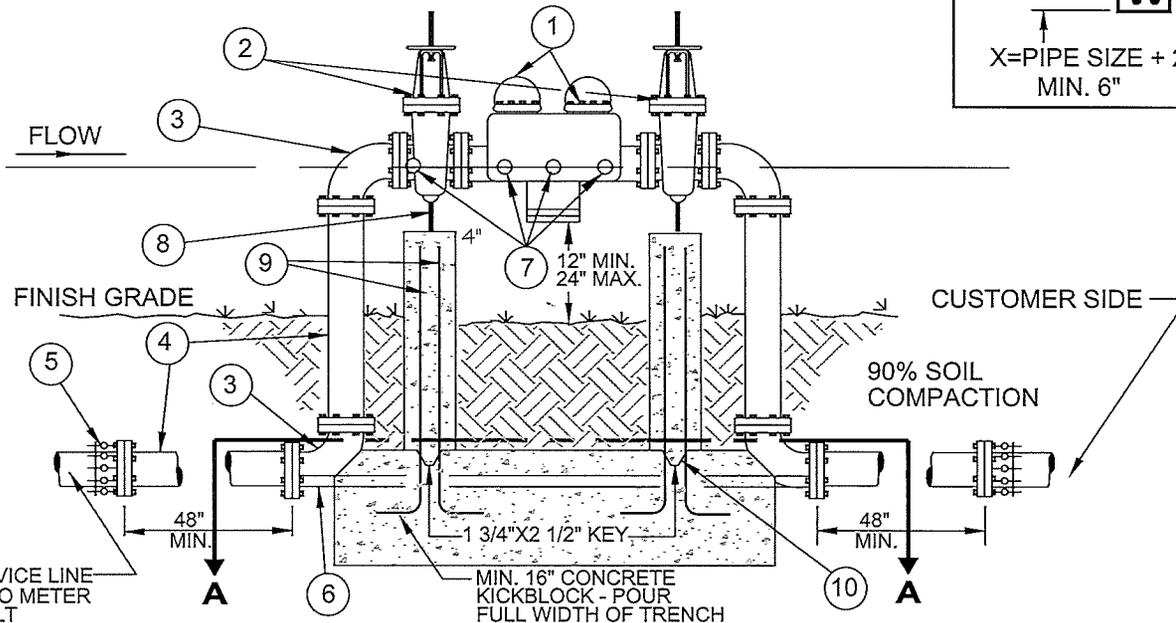
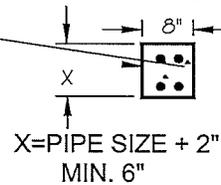
NTS

SERVICE LINE



TOP VIEW

MONOLITHIC SUPPORT DIMENSIONS



SIDE VIEW

LIST OF MATERIALS

1. APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY.
2. O.S.&Y. GATE VALVE, N.R.S. GATE VALVE, IF PREFERRED.
3. 90° ELL. (FLANGED D.I.P.)
4. PIPE SPOOL (FLANGED D.I.P.)
5. FLANGED ADAPTER (WHEN REQUIRED).
6. 3/4" ZINC COATED THREADED ROD, BOLTED TO FLANGES AS SHOWN, BOTH SIDES TYPICAL EQUAL TENSION.
7. TEST COCKS (4 REQUIRED WITH BRASS PLUGS USING ONLY TEFLON TAPE.)
8. ADJUSTABLE PIPE SUPPORT MUST BE PERMANENTLY ATTACHED TO BASE, 6" MAXIMUM HEIGHT.
9. #6 REINFORCING STEEL, DEFORMED BAR, 4" APART, EVENLY SPACED.
10. CONSTRUCTION JOINT KEY TO BE 1 3/4" X 2 1/2".

NOTES:

1. LIST OF LATEST APPROVED ASSEMBLIES ON FILE AT ENGINEERING. COPIES AVAILABLE.
2. ASSEMBLY SHALL BE AS APPROVED BY UNIVERSITY OF SOUTHERN CALIFORNIA (USC) FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH.
3. ABOVE GROUND PORTION OF ASSEMBLY TO BE PAINTED LIGHT TAN OR EQUIVALENT BACKGROUND COLOR.
4. WHEN UTILIZED FOR RECLAIMED WATER, THE WORDS 'RECLAIMED WATER' SHALL BE STENCILED ON THE ASSEMBLY USING THE COLOR 'SAFETY PURPLE'.
5. BACKFLOW PREVENTION ASSEMBLY SHALL BE LOCATED ON PRIVATE PROPERTY AND AS CLOSE AS PRACTICABLE TO THE POTABLE WATER METER.
6. BACKFLOW PREVENTION ASSEMBLY SHALL HAVE AT LEAST THE SAME CROSS-SECTIONAL AREA AS THE METER BUT NO MORE THAN ONE SIZE LARGER THAN THE METER.

SCREENING METHOD

1. SCREEN WALLS, PLANT MATERIAL, BERMING AND/OR BUILDING ORIENTATION SHALL BE SUBMITTED TO DEVELOPMENT SERVICES FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.

DETAIL NO.

C-315
NTS



CITY OF CHANDLER
STANDARD DETAIL

**REDUCED PRESSURE PRINCIPLE
BACKFLOW PREVENTION ASSEMBLY
INSTALLATION - 4" AND LARGER**

APPROVED:

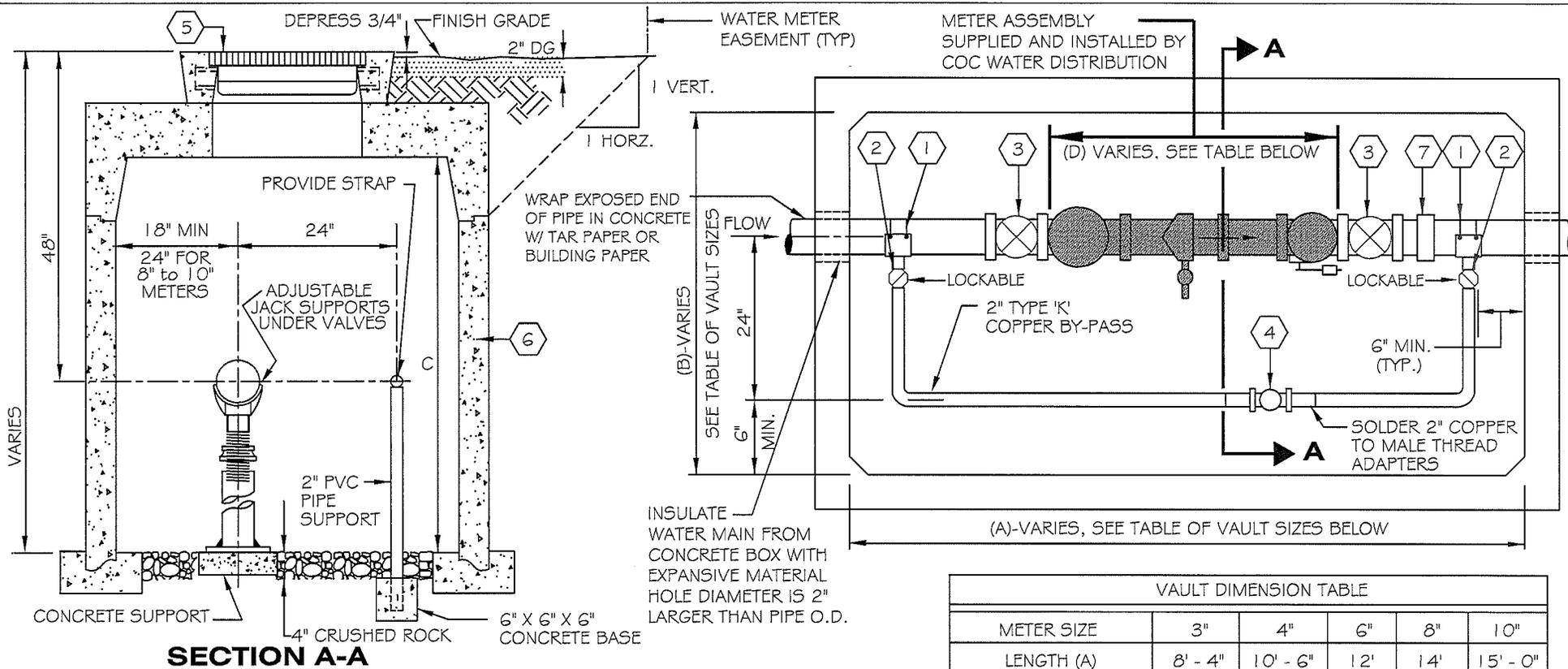
David W. Cole
CITY ENGINEER

DATE:

1-14-16

DETAIL NO.

C-315
NTS



NOTES:

1. METER VAULTS MAY BE EITHER CAST-IN-PLACE OR PRE-CAST CONCRETE. SEE MAG STANDARD DETAIL 321 FOR VAULT CONSTRUCTION, 3" TO 6" METERS.
2. FOR LARGER THAN 6" METERS SPECIAL VAULT DESIGN IS REQUIRED. SUBMIT FOR APPROVAL.
3. STAINLESS BOLTS AND NUTS REQUIRED FOR ENTIRE ASSEMBLY.
4. PIPE MAIN SHALL BE FULLY RESTRAINED BEYOND INLET AND OUTLET OF VAULT.
5. CONTRACTOR SHALL PROVIDE FLANGED SPOOL IN METER ASSEMBLY BLOCK-OUT TO PROVE CORRECT ALIGNMENT. SPOOL MAY BE SALVAGED AFTER METER INSTALLATION.
6. VAULT LID SHALL NOT BE INSTALLED UNTIL AFTER METER IS INSTALLED BY CITY. CALL (480) 782-3700.

LEGEND:

1. DOUBLE STRAP ALL BRONZE SERVICE SADDLES.
2. 2" CORP STOP WITH BRONZE OR BRASS BODY, LOCKABLE, TO NORMALLY BE CLOSED.
3. O.S. & Y. GATE VALVE, FLANGED WITH HAND WHEEL OPEN LEFT, AND RISING STEM.
4. 2" BRONZE CHECK VALVE. (LOW ZINC)
5. METER HATCH PER EJ GROUP, INC. CLS2 STYLE PEDESTRIAN RATED ALUMINUM WITH SLAM LOCK OR APPROVED EQUAL. 3" & 4", 42" X 42", 6" THROUGH 10", 36" X 60". UPON APPROVAL FROM CITY, DRILL 1-3/4" HOLE(S) IN HATCH FOR METER TRANSMITTER(S).
6. METER VAULT PER OLD CASTLE PRECAST COC STANDARD DRAWINGS OR APPROVED EQUAL.
7. PROVIDE 1" TO 1-1/2" OF PLAY IN THE FLEX COUPLING - CAULDER OR EQUAL.

DETAIL NO.

C-316

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

3" TO 10" METER VAULT

APPROVED:

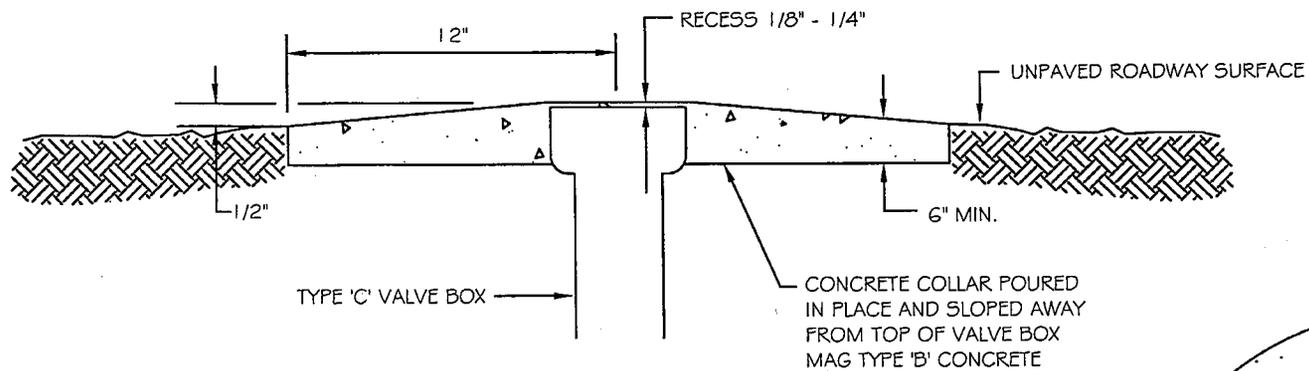
David Cook
CITY ENGINEER

DATE: 07-09-2015

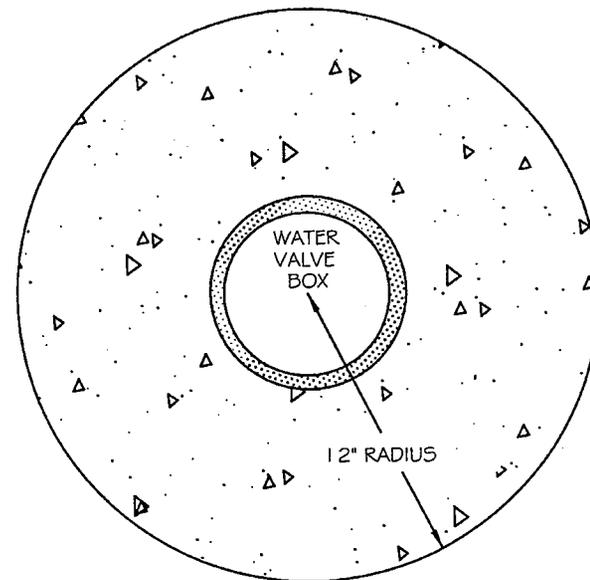
DETAIL NO.

C-316

NTS



SIDE VIEW



TOP VIEW

C-317
REPLACES
52



CITY OF
 CHANDLER
 STANDARD
 DETAIL

CONCRETE COLLAR DETAIL
WATER VALVE BOX PLACEMENT
UNPAVED AREAS

APPROVED:

DATE:

Elizabeth Walsh
 CITY ENGINEER
 January 11, 2002

DETAIL NO.

C-317

NTS

EXPANDED METAL MESH ENCLOSURE. SEE NOTE 4.

1/8" MESH SCREEN WITH THREADED CAP

PAD FOR ENCLOSURE

2" SCH 80 CPVC 90° ELBOW

CONCRETE THRUST BLOCK PER MAG STD. DET. 380

FIELD CUT PVC PIPE, INSTALL 2" FERNCO COUPLING W/ STAINLESS STEEL BANDS OR APPROVED EQUAL.

6" CRUSHED STONE
2" CURB STOP, PACK JOINT x IPT

90° BEND, SWEATx FIP
2" COPPER TUBING RIGID TYPE

2" BRASS 90° ELBOW
4" x 8" x 16" CONCRETE SUPPORT

2" SCH 80 CPVC 90° ELBOWS
2" SCH 80 CPVC PIPE

2" SCH 80 PVC 90° ELBOW

COVER PER MAG. STD. DETAIL 313

1" MIN. BACK OF CURB OR SIDEWALK

2" COMBINATION AIR/ VACUUM RELEASE VALVE

2" BRASS NIPPLE

2" RIGID TYPE "K" COPPER PIPE EXTEND LINE BEYOND PAVEMENT WHEN MAIN LINE IS IN STREET.

1/4" PER 1'-0" MIN. SLOPE DOWNWARD TO MAIN

2 #4 CONCRETE METER BOXES PER MAG. STD. DETAIL 320. MORTAR SECTIONS TOGETHER

90° BEND

INSTALL OUTLET IN VERTICAL POSITION

2" COPPER TUBING RIGID TYPE.

CORPORATION STOP

SERVICE SADDLE

WATER MAIN

NOTES

1. THE ARV VAULT SHALL BE LOCATED AS NEAR TO THE MAIN AS POSSIBLE. IN UNIMPROVED AREAS, PLACEMENT OF THE ARV VAULT SHALL BE 10' FROM THE EDGE OF PAVEMENT.
2. FOR RECLAIMED WATER APPLICATIONS, THE PIPE SHALL BE PAINTED PURPLE (PANTONE 512). POTABLE WATER SHALL BE PAINTED BLUE.
3. AIR RELEASE/VACUUM VALVE SHALL BE APCO-145C OR A.R.I. D-040.
4. ENCLOSURE SHALL BE GUARD SHACK OR EQUIVALENT, PAINTED 'DESERT TAN' WITH TNEMEC EDUROSHIELD PER MFG'S INSTRUCTIONS. MINIMUM 12 MILS DFT.

DETAIL NO.

C-319

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**2" COMBINATION AIR/VACUUM
VALVE ASSEMBLY**

APPROVED:

John Hill
CITY ENGINEER

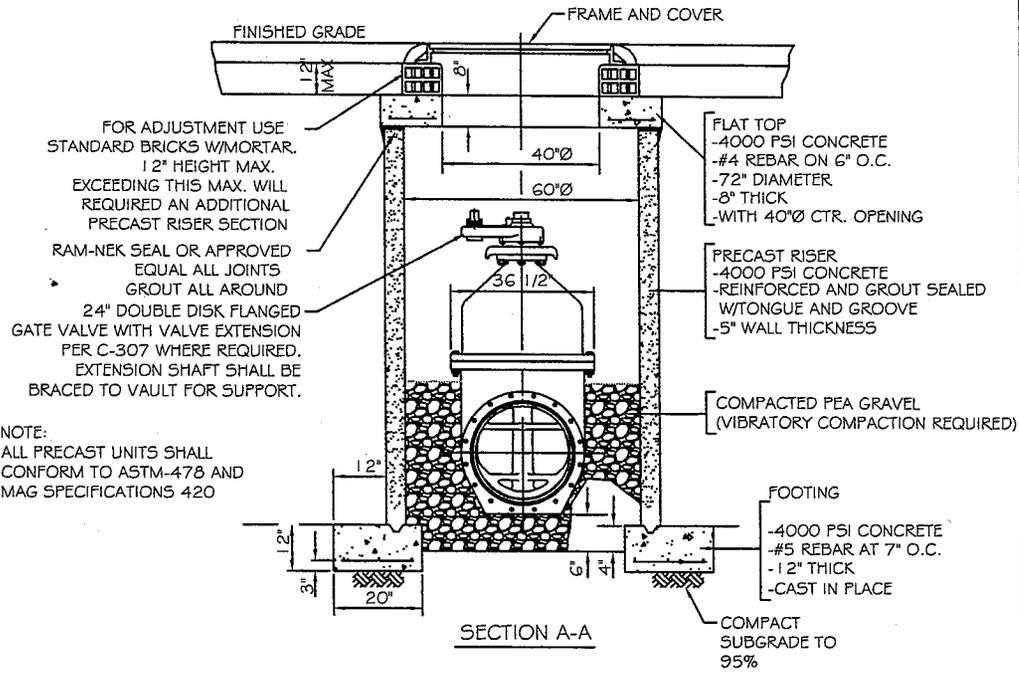
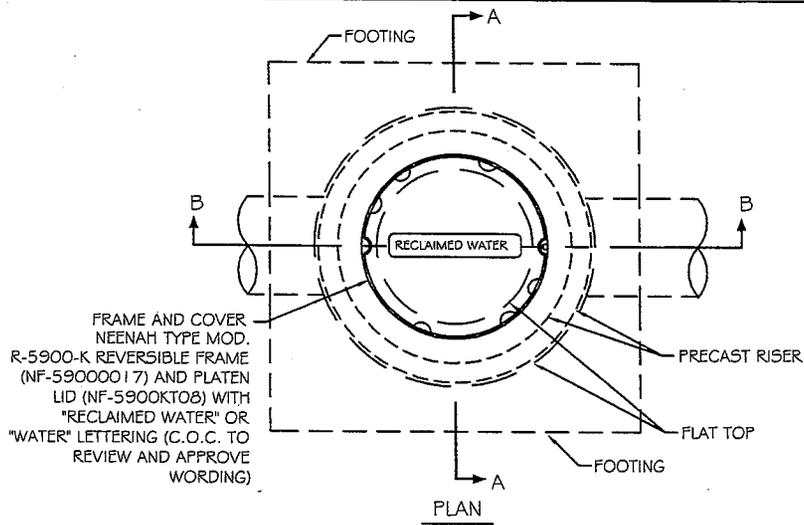
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01-27-11

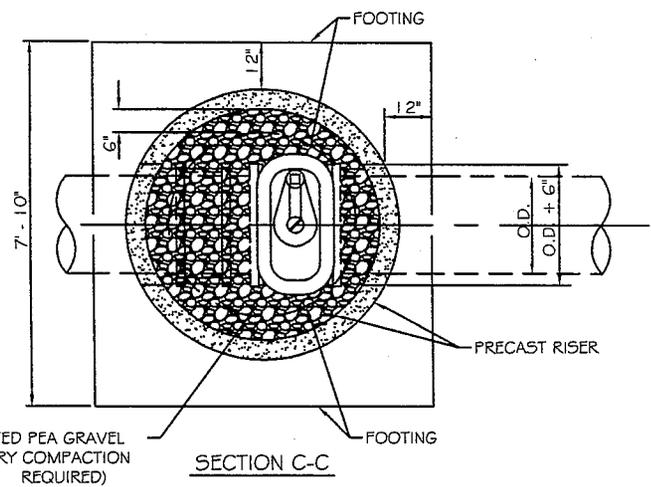
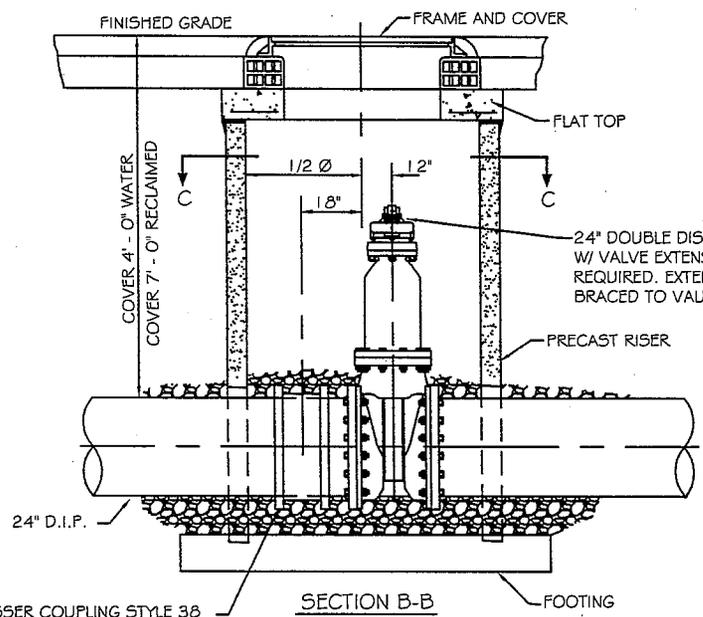
DETAIL NO.

C-319

NTS



NOTE:
ALL PRECAST UNITS SHALL
CONFORM TO ASTM-478 AND
MAG SPECIFICATIONS 420



DETAIL NO.
C-320
NTS

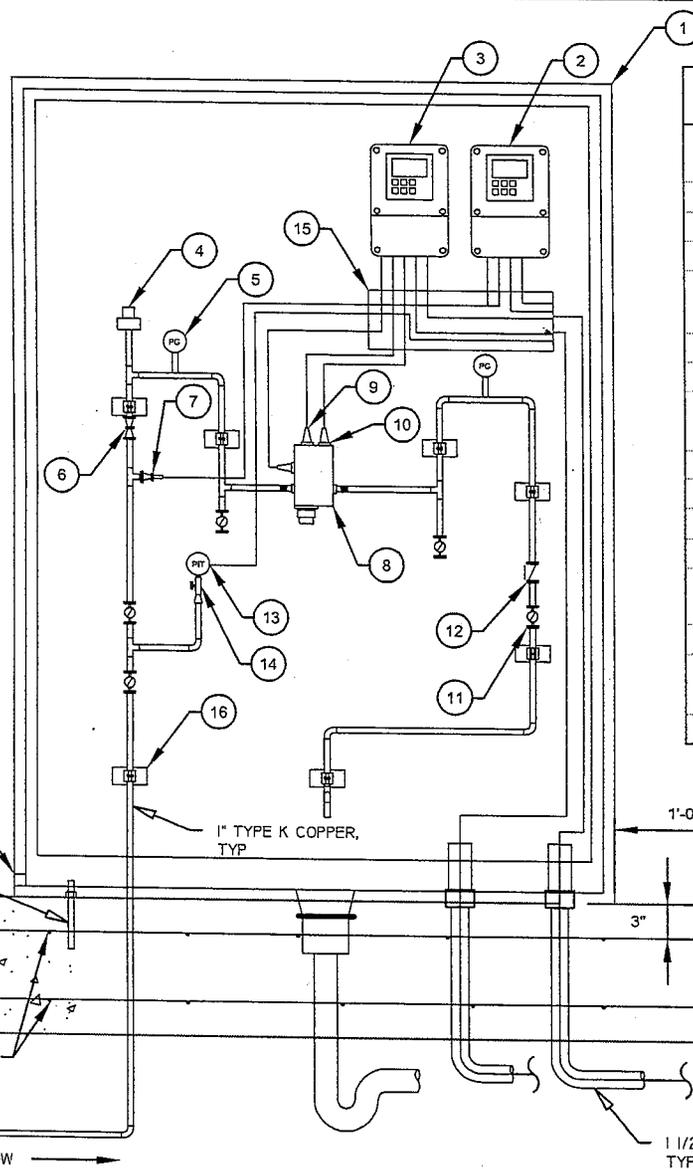


CITY OF
CHANDLER
STANDARD
DETAIL

VAULT FOR 24" GATE VALVE

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 01/19/10

DETAIL NO.
C-320
NTS



Item Number	Manufacturer	Model Number	Description
1	Hoffman	A724818SSFSDN4	60"H x 36"W x 24"D NEMA 4X Enclosure, Stainless Steel w/ 3pt latch
2	Endress + Hauser	CCM253	pH and Chlorine Analyzer
3	Endress + Hauser	CLM253	Conductivity and Temperature Analyzer
4	Watts	FV-4M1	1" Automatic Air Vent Valve
5	Ashcroft	25-1009SW02L 100#	Pressure Gage, Stainless Steel, 2 1/2" dial, 100 psi
6	Watts	123LP	1" Pressure Reducing Valve
7	Endress + Hauser	CLS21-C3B2A	Conductivity and Temperature Sensor
8	Endress + Hauser	CCA250-A1	Flow Assembly for Chlorine and pH/ORP Sensors
9	Endress + Hauser	CPS11-2BA2ESA	pH Sensor
10	Endress + Hauser	CCS140-N	Chlorine Sensor
11	Apollo	7010501	1" Bronze Ball Valve, Standard Port
12	Campbell	CV-4T	1" Brass Check Valve
13	Endress + Hauser	PMC71-AAC1S6RDAAA1	Pressure Transmitter
14	Endress + Hauser	ZVM-SS-8-RM	1/2" Stainless Steel Block and Bleed
15	Panduit	F2x2LG6C2LG6	2" x 2" Wireway, narrow slot, gray w/ cover
16	N/A	N/A	Non-metallic pipe clamp and offset

NOTES

1. INFLUENT SERVICE SHALL BE WATER TAP PER C-301.
2. EFFLUENT SHALL DISCHARGE VIA 4" AIR GAP TO 2" FLOOR DRAIN CONNECTED TO SEWER PER C-411.
3. FLOOR DRAIN SHALL BE INSTALLED WITH TRAP SEAL. BOTTOM OF CABINET SHALL BE CUT OUT TO EXPOSE.

1" Ø HOLE COVERED WITH #10 MESH FOR DRAINAGE
 1/2" S.S. ANCHOR BOLT 5" EMBEDMENT, TYP 4

DIRECTION OF FLOW →

NOT TO SCALE

DETAIL NO.
C-321
 NTS

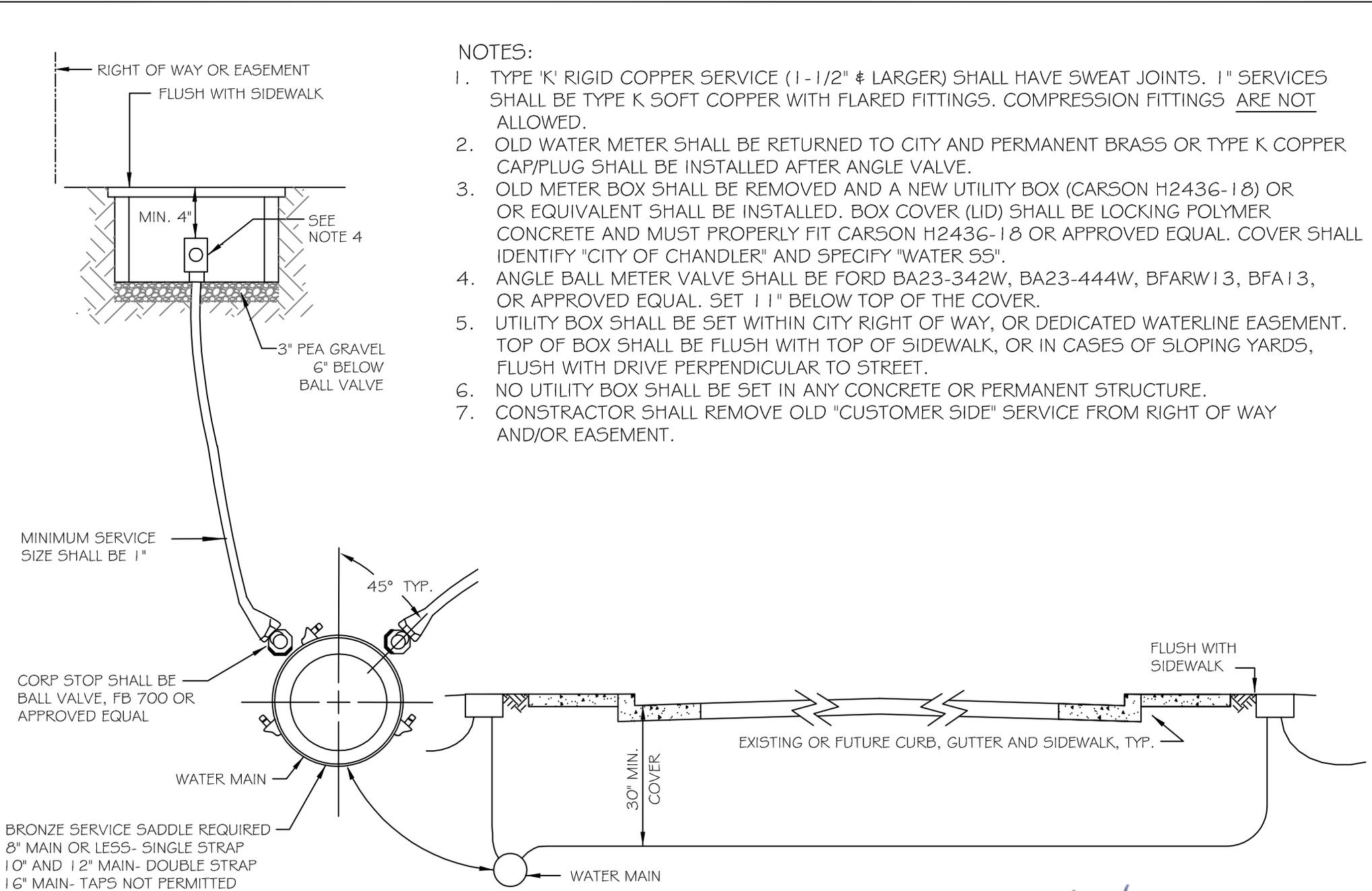


CITY OF CHANDLER
 STANDARD
 DETAIL

**WATER QUALITY
 MONITORING STATION**

APPROVED: *Kevin Hoyle*
 CITY ENGINEER
 DATE: 01-27-11

DETAIL NO.
C-321
 NTS



NOTES:

1. TYPE 'K' RIGID COPPER SERVICE (1-1/2" & LARGER) SHALL HAVE SWEAT JOINTS. 1" SERVICES SHALL BE TYPE K SOFT COPPER WITH FLARED FITTINGS. COMPRESSION FITTINGS ARE NOT ALLOWED.
2. OLD WATER METER SHALL BE RETURNED TO CITY AND PERMANENT BRASS OR TYPE K COPPER CAP/PLUG SHALL BE INSTALLED AFTER ANGLE VALVE.
3. OLD METER BOX SHALL BE REMOVED AND A NEW UTILITY BOX (CARSON H2436-18) OR OR EQUIVALENT SHALL BE INSTALLED. BOX COVER (LID) SHALL BE LOCKING POLYMER CONCRETE AND MUST PROPERLY FIT CARSON H2436-18 OR APPROVED EQUAL. COVER SHALL IDENTIFY "CITY OF CHANDLER" AND SPECIFY "WATER 55".
4. ANGLE BALL METER VALVE SHALL BE FORD BA23-342W, BA23-444W, BFARW13, BFA13, OR APPROVED EQUAL. SET 1 1/2" BELOW TOP OF THE COVER.
5. UTILITY BOX SHALL BE SET WITHIN CITY RIGHT OF WAY, OR DEDICATED WATERLINE EASEMENT. TOP OF BOX SHALL BE FLUSH WITH TOP OF SIDEWALK, OR IN CASES OF SLOPING YARDS, FLUSH WITH DRIVE PERPENDICULAR TO STREET.
6. NO UTILITY BOX SHALL BE SET IN ANY CONCRETE OR PERMANENT STRUCTURE.
7. CONSTRUCTOR SHALL REMOVE OLD "CUSTOMER SIDE" SERVICE FROM RIGHT OF WAY AND/OR EASEMENT.

MINIMUM SERVICE SIZE SHALL BE 1"

CORP STOP SHALL BE BALL VALVE, FB 700 OR APPROVED EQUAL

WATER MAIN

BRONZE SERVICE SADDLE REQUIRED
 8" MAIN OR LESS- SINGLE STRAP
 10" AND 12" MAIN- DOUBLE STRAP
 16" MAIN- TAPS NOT PERMITTED

DETAIL NO.
C-322
 NTS



**POTABLE WATER METER
 SAMPLING STATION CONVERSION**

APPROVED: *[Signature]*
 CITY ENGINEER

DATE: 3/14/2013

DETAIL NO.
C-322
 NTS

**WASTEWATER
C-400 TO C-417**

COVER - TOP VIEW
SANITARY SEWER



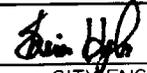
CAST 1"
 DIA. HOLE

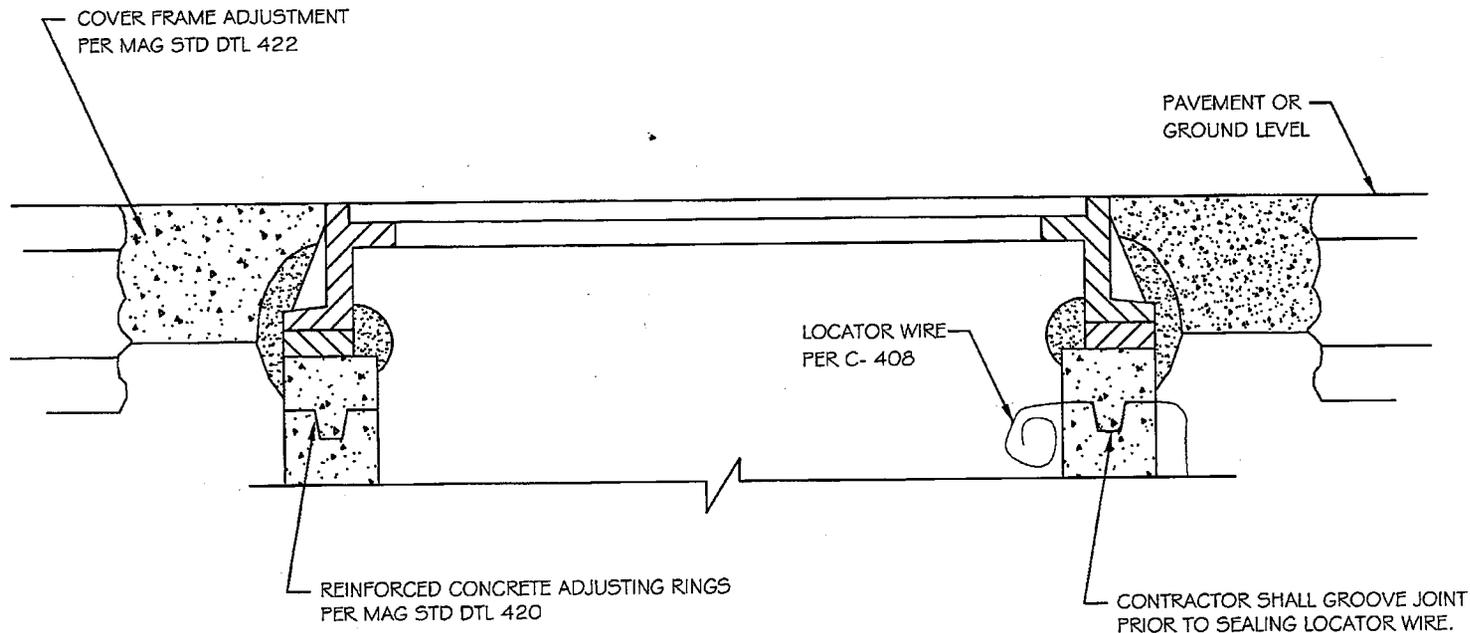
COVER - TOP VIEW
STORM SEWER



NOTE:

1. FRAME AND COVER SHALL CONFORM TO MAG. STD. DETAIL 423, 424, OR 425.
2. DELETE BEADS ON MAG. STD. DETAIL WHICH CONFLICT WITH LOGO SHOWN.
3. LETTERING ON MANHOLE COVER SHALL CONTAIN UTILITY FOR WHICH MANHOLE IS NEEDED, ("CHANDLER SANITARY SEWER" OR, "CHANDLER STORM SEWER"), OR AS DIRECTED.
4. THE TOTAL WIDTH OF INDIVIDUAL LETTERS SHALL BE SUCH THAT LETTERS AND WORDS ARE EQUALLY SPACED AND SHALL BE BALANCED TO FORM A COMPLETE CIRCLE WITH SPACES BEFORE AND AFTER THE WORD.
5. LETTERS SHALL BE 2" IN HEIGHT AND RAISED 1/8" ABOVE LEVEL OF COVER.
6. TYPE OF LETTERS SHALL BE SUBMITTED FOR APPROVAL.

DETAIL NO. C-400	 CITY OF CHANDLER STANDARD DETAIL	MANHOLE COVER	APPROVED:  CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-400
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DETAIL NO.
C-401
 NTS

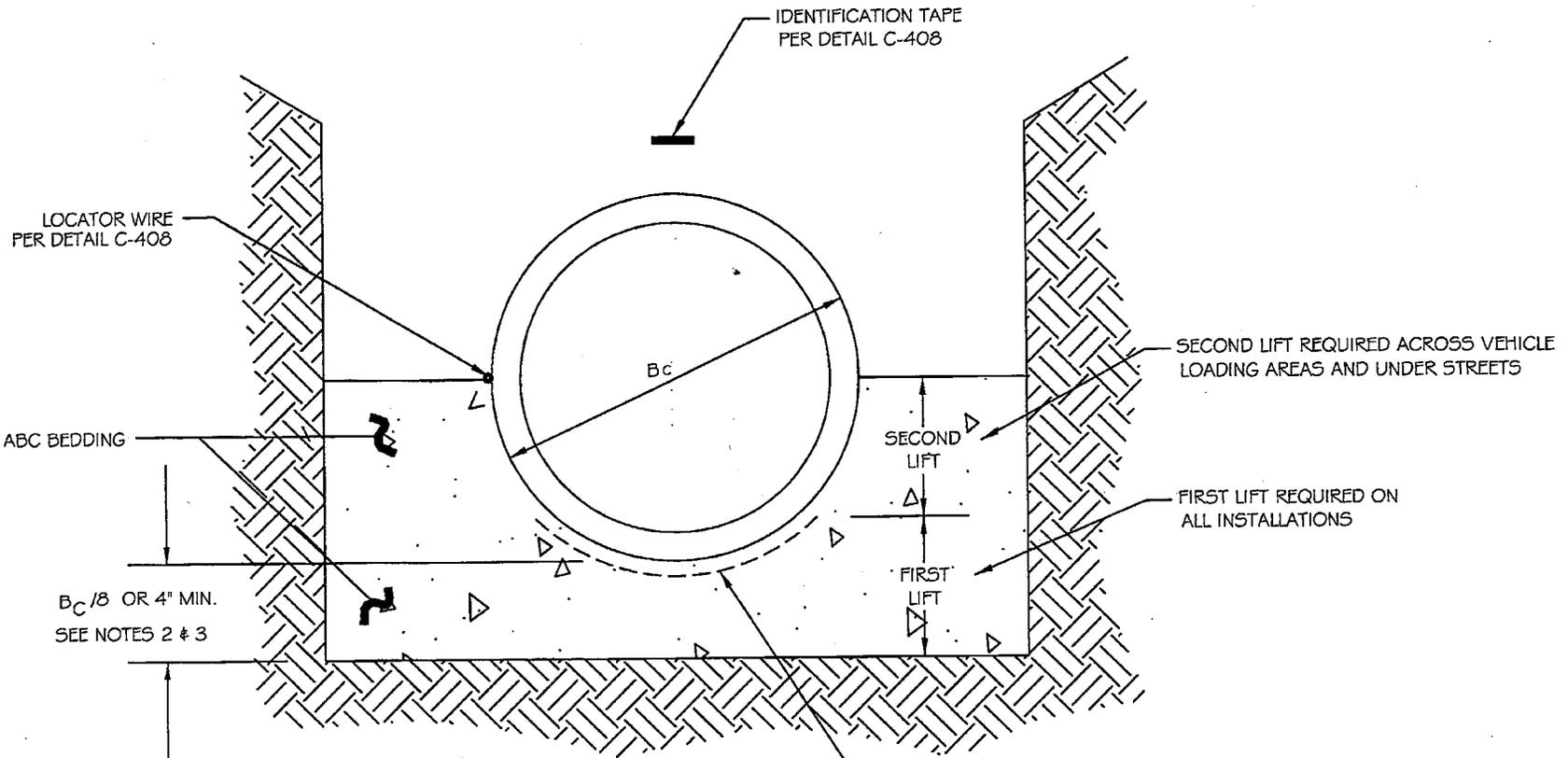


CITY OF
 CHANDLER
 STANDARD
 DETAIL

**MANHOLE
 CONCRETE COLLAR DETAIL**

APPROVED: *Jim Hill*
 CITY ENGINEER
 DATE: 01/08/09

DETAIL NO.
C-401
 NTS



NOTES:

1. TRENCH WIDTH IN ACCORDANCE WITH MAG STD. TABLE 601-1.
2. MINIMUM 4" FOR PIPES 12" OR SMALLER.
3. MINIMUM 6" FOR PIPES LARGER THAN 12".
4. SEWER PIPE SHALL BE EXTRA-STRENGTH VITRIFIED CLAY PIPE PER MAG SPEC 743. PVC PER MAG SPEC 745 IS PERMITTED AT DEPTHS OF COVER LESS THAN 10'. SOILS INVESTIGATION, TRENCH DETAIL, STRUCTURAL ANALYSIS, AND CITY ENGINEER'S APPROVAL IS REQUIRED FOR PERMITTING PVC PIPE AT GREATER THAN 10' COVER.

DETAIL NO. C-402 NTS	 CITY OF CHANDLER STANDARD DETAIL	SEWER PIPE BEDDING DETAIL	APPROVED:  CITY ENGINEER DATE: 01/08/09	DETAIL NO. C-402 NTS
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RECLAIMED WATER SERVICE CONNECTIONS SIZING TABLE

SERVICE CONNECTION FLOW RATE (GPM)	IRRIGATION SERVICE LINE SIZE (AFTER PUMP)	RECLAIMED WATER SERVICE CONNECTION LINE SIZE (FROM MAIN TO PUMP)	WET WELL PUMP SEE PAGES:	CAN PUMP SEE PAGES:
UP TO 80	2"	4"	PAGE 3	-
80 TO 70	3"	4"	PAGE 4	-
170 TO 300	4"	6"	PAGES 5 & 6	PAGES 9 & 10
300 TO 700	6"	8"	PAGES 7 & 8	PAGES 11 & 12

NOTES:

1. THE DATA FORM ON DETAIL C-404 PAGE 2 MUST BE COMPLETED AND SUBMITTED WITH THE BUILDING PERMIT APPLICATION FOR THE INLINE PUMP AND CAN PUMP SERVICE CONNECTIONS.
2. THESE RECLAIMED WATER SERVICE CONNECTION DETAILS PRESENT THE MINIMUM REQUIREMENTS TO ENSURE THE INTEGRITY OF THE CITY OF CHANDLER'S RECLAIMED WATER DISTRIBUTION SYSTEM. ALL RECLAIMED WATER SERVICE CONNECTIONS MUST BE DESIGNED IN ACCORDANCE WITH THESE DETAILS AND THE SITE-SPECIFIC REQUIREMENTS INCLUDING: THE GROUND ELEVATION, IRRIGATION SYSTEM FLOW REQUIREMENTS, AND IRRIGATION SYSTEM PRESSURE REQUIREMENTS.
3. ALL RECLAIMED WATER SERVICE CONNECTIONS SHALL BE DESIGNED IN ACCORDANCE WITH MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT (MCESD) AND ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) REQUIREMENTS.
4. AN APPROVAL TO CONSTRUCT PERMIT FROM MCESD IS REQUIRED FOR ALL RECLAIMED WATER SERVICE CONNECTIONS PRIOR TO CONSTRUCTION. A COPY OF THE APPROVAL OF CONSTRUCTION FROM MCDES MUST BE SUBMITTED TO THE CITY OF CHANDLER PRIOR TO PLACING THE RECLAIMED WATER SERVICE CONNECTION IN SERVICE.
5. ALL ABOVE GROUND PIPING SHALL BE PAINTED PURPLE OR STENCILED IN ACCORDANCE WITH MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) STANDARDS SECTION 616.4.2.

DEVELOPER: _____

TURNOUT ADDRESS: _____

FLOW RATE CRITERIA

ANNUAL AVERAGE _____ ACRE FT/YEAR

MAXIMUM MONTH _____ ACRE FT

INSTANTANEOUS _____ GPM

SUCTION HEAD CALCULATION

① LENGTH AND DIAMETER OF PIPING FROM NEAREST RECLAIMED WATER TRANSMISSION MAIN (RWTM) TO TURNOUT _____

② FRICTION LOSSES IN PIPING FROM RWTM TO TURNOUT AT INSTANTANEOUS FLOW RATE _____ FEET

③ HGL IN RWTM 1330 TO 1345 FEET

④ HGL AT TURNOUT (HGL OF RWTM LESS FRICTION LOSSES CALCULATED ABOVE) _____ TO _____ FEET

⑤ ELEVATION AT TURNOUT _____ FEET

⑥ SUCTION PRESSURE AT TURNOUT _____ TO _____ PSI

⑦ PUMP TDH _____ FEET

⑧ DISCHARGE PRESSURE _____ PSI

DETAIL NO.
C-404
PAGE 2 OF 14

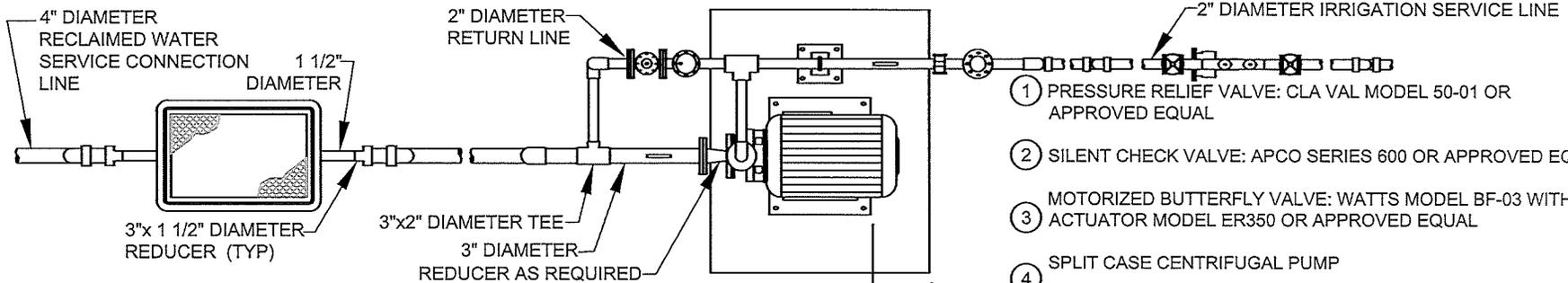


CITY OF
CHANDLER
STANDARD
DETAIL

**RECLAIMED WATER SERVICE
CONNECTION DATA FORM**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: June 12/08

DETAIL NO.
C-404
PAGE 2 OF 12

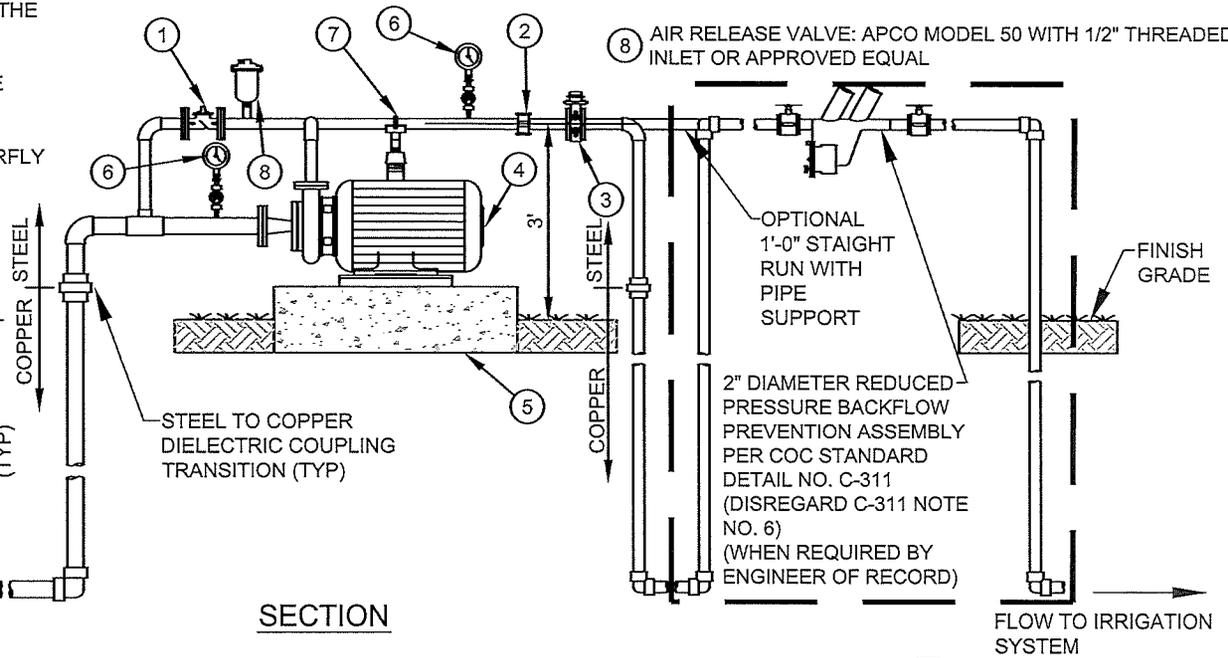
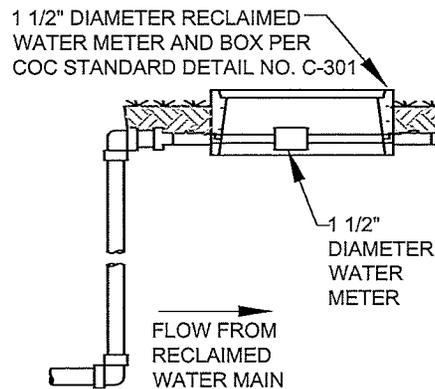


NOTES:

1. ALL ABOVE GROUND PIPING SHALL BE STEEL AND ALL BELOW GROUND PIPING SHALL BE COPPER AS INDICATED.
2. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
3. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
4. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
5. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.

- ① PRESSURE RELIEF VALVE: CLA VAL MODEL 50-01 OR APPROVED EQUAL
- ② SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ③ MOTORIZED BUTTERFLY VALVE: WATTS MODEL BF-03 WITH ACTUATOR MODEL ER350 OR APPROVED EQUAL
- ④ SPLIT CASE CENTRIFUGAL PUMP
- ⑤ PUMP CONCRETE SUPPORT PAD
- ⑥ 1/2" THREADED OUTLET, BALL VALVE, SS DIAPHRAGM, AND ASHCROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑦ PIPE SUPPORT: B-LINE FIGURE B3088T, B3089, AND B3090 OR APPROVED EQUAL
- ⑧ AIR RELEASE VALVE: APCO MODEL 50 WITH 1/2" THREADED INLET OR APPROVED EQUAL

PLAN



SECTION

DETAIL NO.
C-404
PAGE 3 OF 12

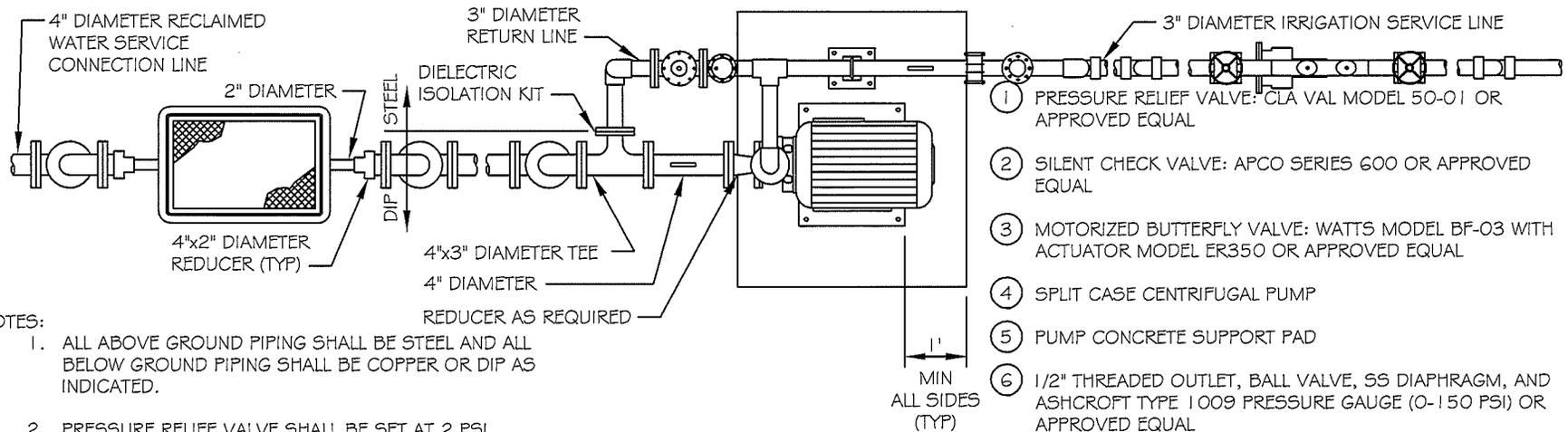


CITY OF CHANDLER
STANDARD DETAIL

**2" RECLAIMED WATER
IRRIGATION SERVICE LINE
INLINE PUMP TYPE**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 1-14-16

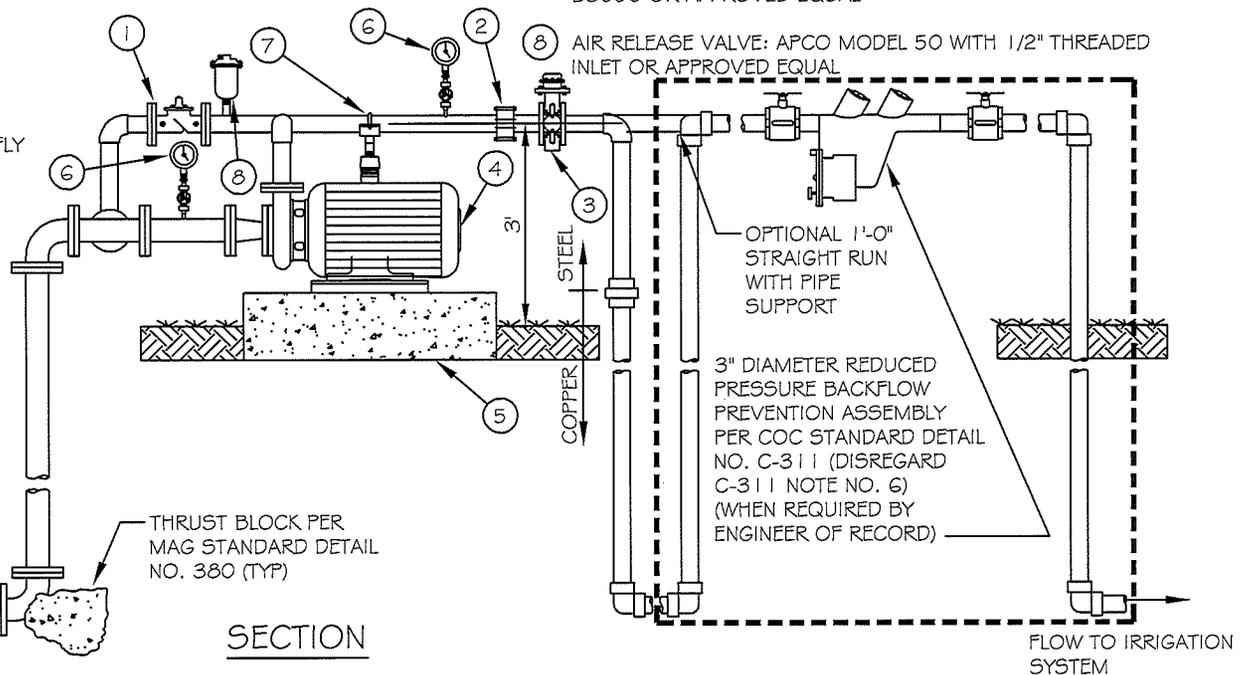
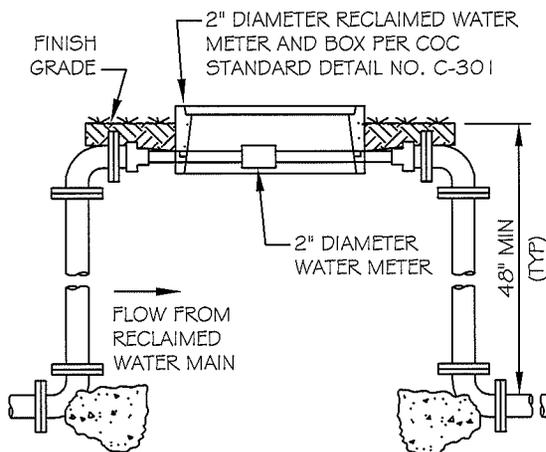
DETAIL NO.
C-404
PAGE 3 OF 12



NOTES:

1. ALL ABOVE GROUND PIPING SHALL BE STEEL AND ALL BELOW GROUND PIPING SHALL BE COPPER OR DIP AS INDICATED.
2. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
3. DEVELOPER SHALL PROVIDE UTILITY POWER TO THE FACILITY AS REQUIRED.
4. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
5. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.

PLAN



SECTION



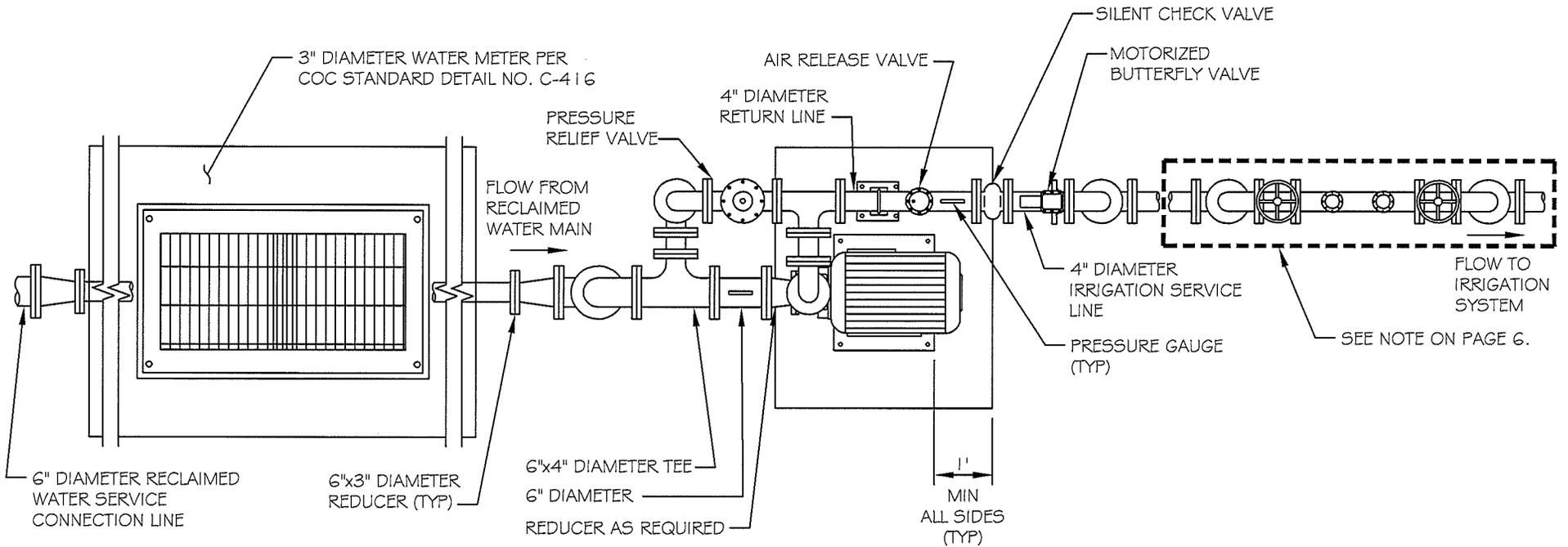
**3" RECLAIMED WATER
IRRIGATION SERVICE LINE
INLINE PUMP TYPE**

APPROVED:

DATE:

Daniel Cole
CITY ENGINEER

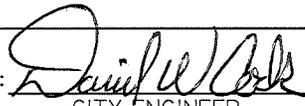
1-9-14



PLAN

NOTES:

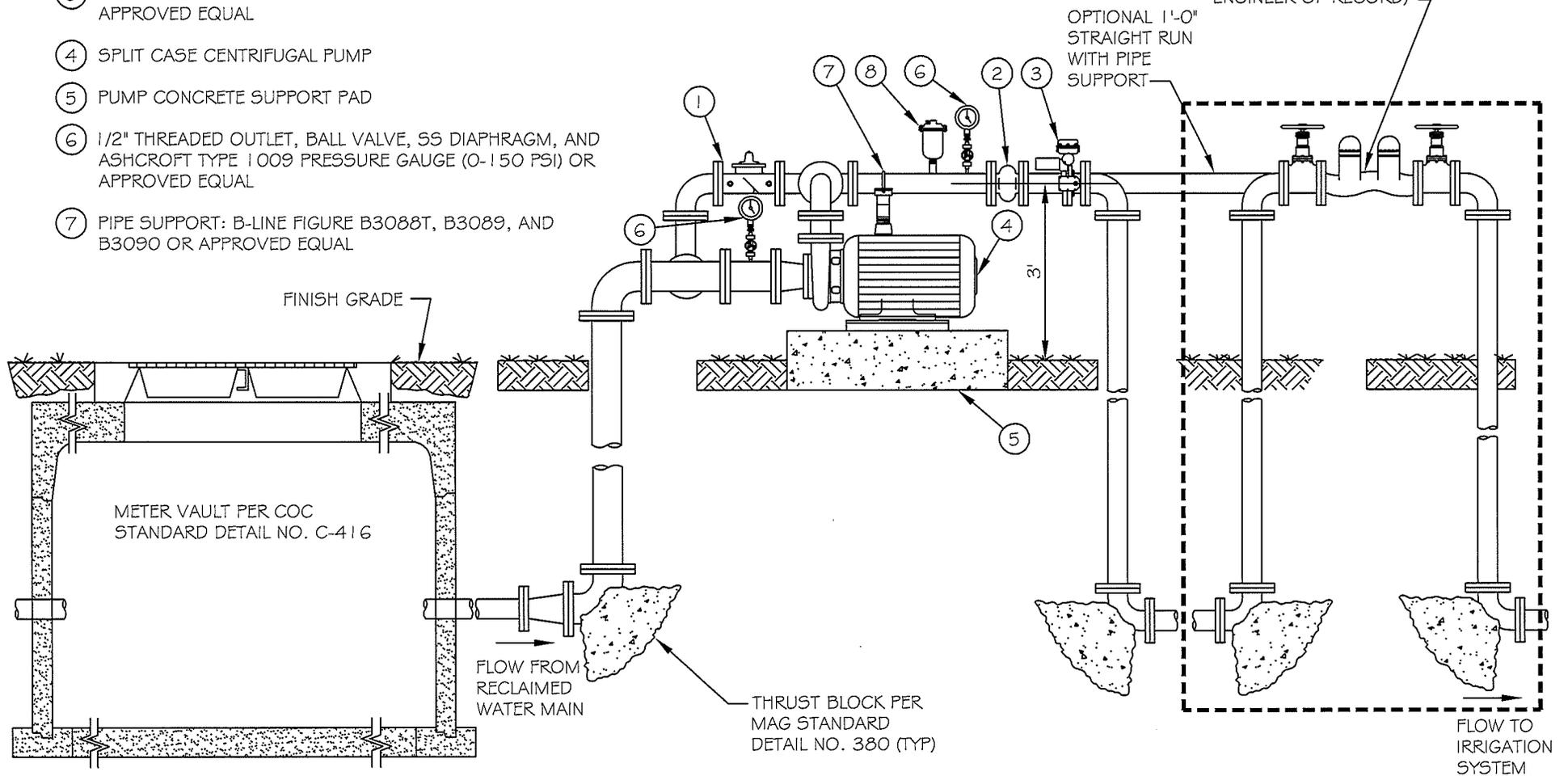
1. ALL PIPING SHALL BE DUCTILE IRON (DIP) AS SHOWN.
2. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
3. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
4. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
5. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.

DETAIL NO. C-404 PAGE 5 OF 12	 CITY OF CHANDLER STANDARD DETAIL	4" RECLAIMED WATER IRRIGATION SERVICE LINE INLINE PUMP TYPE	APPROVED:  CITY ENGINEER DATE: <u>1-9-14</u>	DETAIL NO. C-404 PAGE 5 OF 12
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- ① PRESSURE RELIEF VALVE: CLA VAL MODEL 50-01 OR APPROVED EQUAL
- ② SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ③ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL
- ④ SPLIT CASE CENTRIFUGAL PUMP
- ⑤ PUMP CONCRETE SUPPORT PAD
- ⑥ 1/2" THREADED OUTLET, BALL VALVE, SS DIAPHRAGM, AND ASHCROFT TYPE 1 009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑦ PIPE SUPPORT: B-LINE FIGURE B3088T, B3089, AND B3090 OR APPROVED EQUAL

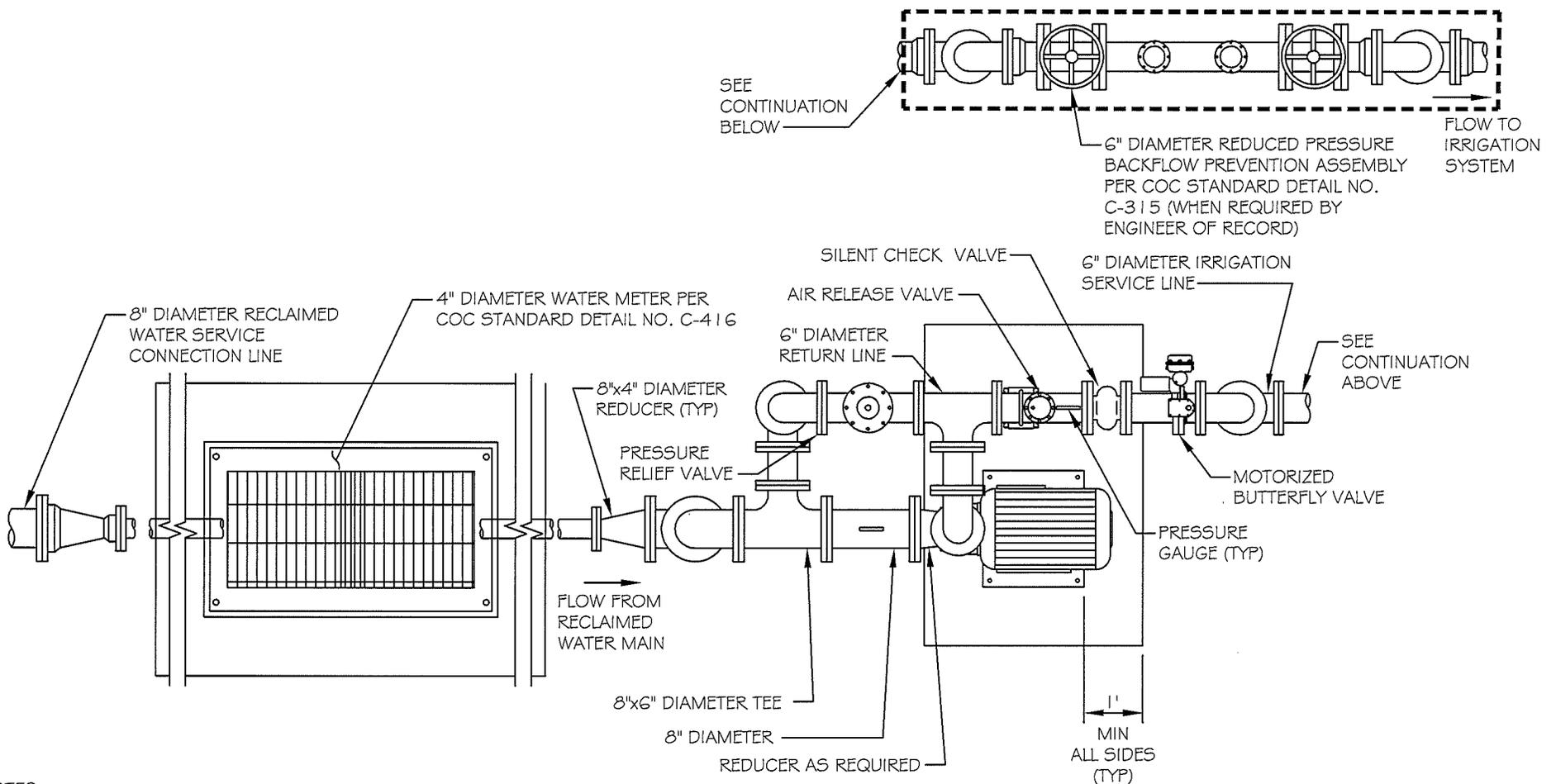
- ⑧ AIR RELEASE VALVE: APCO MODEL 50 WITH 1" THREADED INLET OR APPROVED EQUAL

4" DIAMETER REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY PER COC STANDARD DETAIL NO. C-315 (WHEN REQUIRED BY ENGINEER OF RECORD)



SECTION





PLAN

NOTES:

1. ALL PIPING SHALL BE DUCTILE IRON (DIP) AS SHOWN.
2. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
3. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO FACILITY AS REQUIRED.
4. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
5. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.

DETAIL NO.

C-404

PAGE 7 OF 12



CITY OF
CHANDLER
STANDARD
DETAIL

**6" RECLAIMED WATER
IRRIGATION SERVICE LINE
INLINE PUMP TYPE**

APPROVED:

David W. Cook
CITY ENGINEER

DATE:

1-9-14

DETAIL NO.

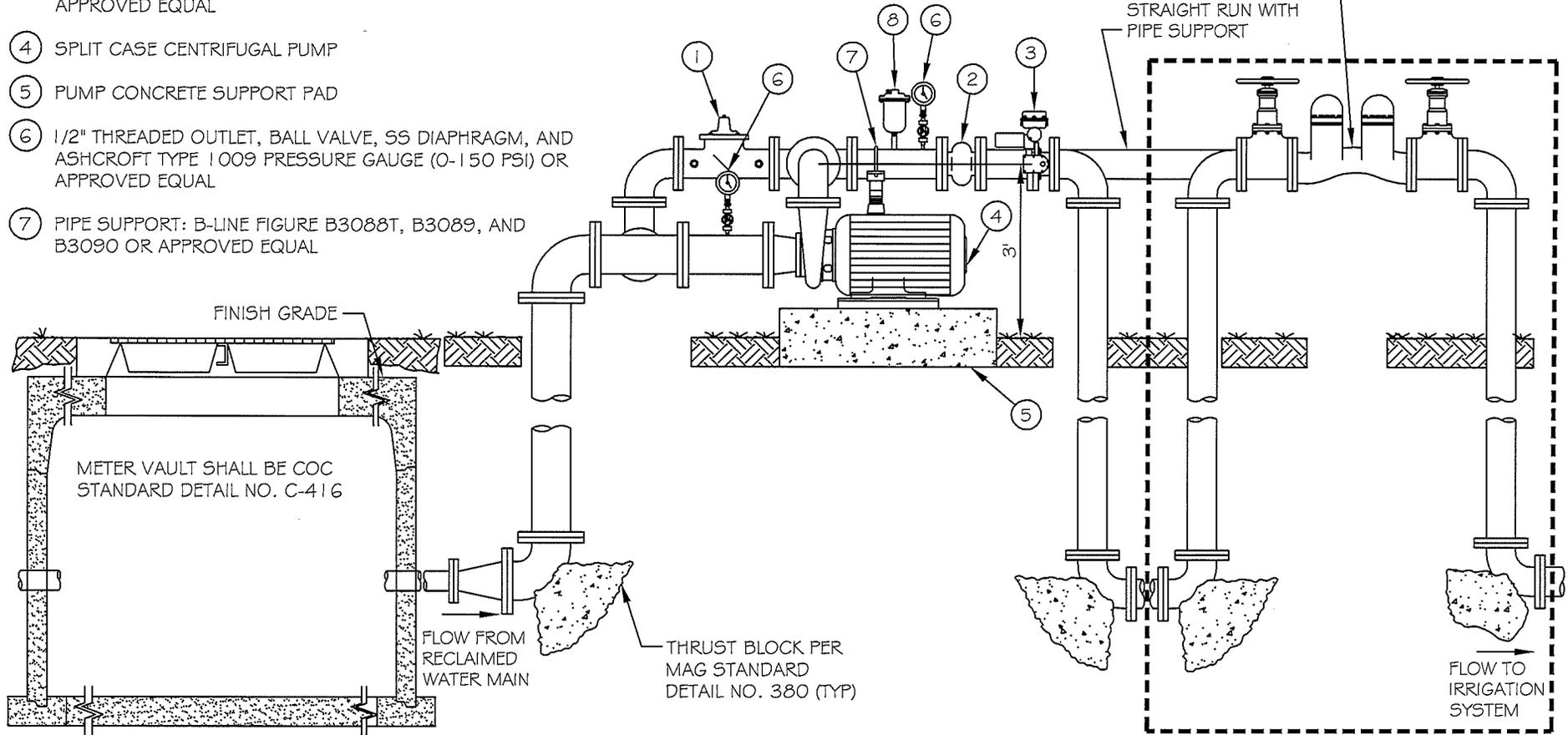
C-404

PAGE 7 OF 12

- ① PRESSURE RELIEF VALVE: CLA VAL MODEL 50-01 OR APPROVED EQUAL
- ② SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ③ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL
- ④ SPLIT CASE CENTRIFUGAL PUMP
- ⑤ PUMP CONCRETE SUPPORT PAD
- ⑥ 1/2" THREADED OUTLET, BALL VALVE, SS DIAPHRAGM, AND ASHCROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑦ PIPE SUPPORT: B-LINE FIGURE B3088T, B3089, AND B3090 OR APPROVED EQUAL
- ⑧ AIR RELEASE VALVE: APCO MODEL 50 WITH 1" THREADED INLET OR APPROVED EQUAL

6" DIAMETER REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY PER COC STANDARD DETAIL NO. C-315 (WHEN REQUIRED BY ENGINEER OF RECORD)

OPTIONAL 1'-0" STRAIGHT RUN WITH PIPE SUPPORT



SECTION



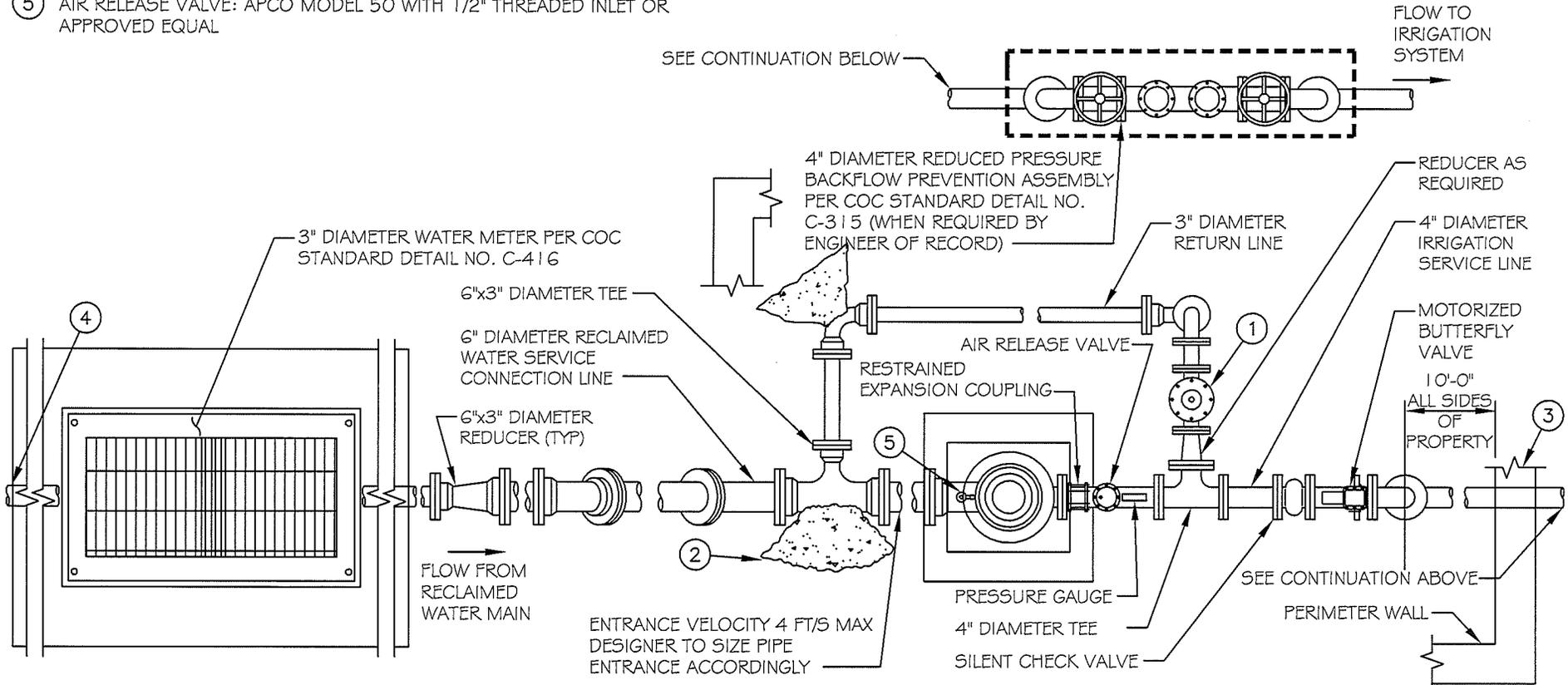
**6" RECLAIMED WATER
IRRIGATION SERVICE LINE
INLINE PUMP TYPE**

APPROVED: *[Signature]*
CITY ENGINEER
DATE: 1-9-14

NOTES:

- ① PRESSURE RELIEF VALVE : CLA VAL MODEL 6506-01 B OR APPROVED EQUAL
- ② THRUST BLOCK PER MAG STANDARD DETAIL NO. 380 (TYP)
- ③ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ④ PROVIDE 6"x3" REDUCER FOR CONTINUATION OF INSTALLATION OF 6" DIAMETER WATER SERVICE CONNECTION LINE, REDUCER SHALL BE LOCATED 2'-0" MAX FROM METER VAULT
- ⑤ AIR RELEASE VALVE: APCO MODEL 50 WITH 1/2" THREADED INLET OR APPROVED EQUAL

- 1. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
- 2. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
- 3. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
- 4. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.



PLAN

DETAIL NO.
C-404
PAGE 9 OF 12



CITY OF
CHANDLER
STANDARD
DETAIL

**4" RECLAIMED WATER
IRRIGATION SERVICE LINE
CAN PUMP TYPE**

APPROVED: *Daniel W. Berk*
CITY ENGINEER
DATE: 1-9-14

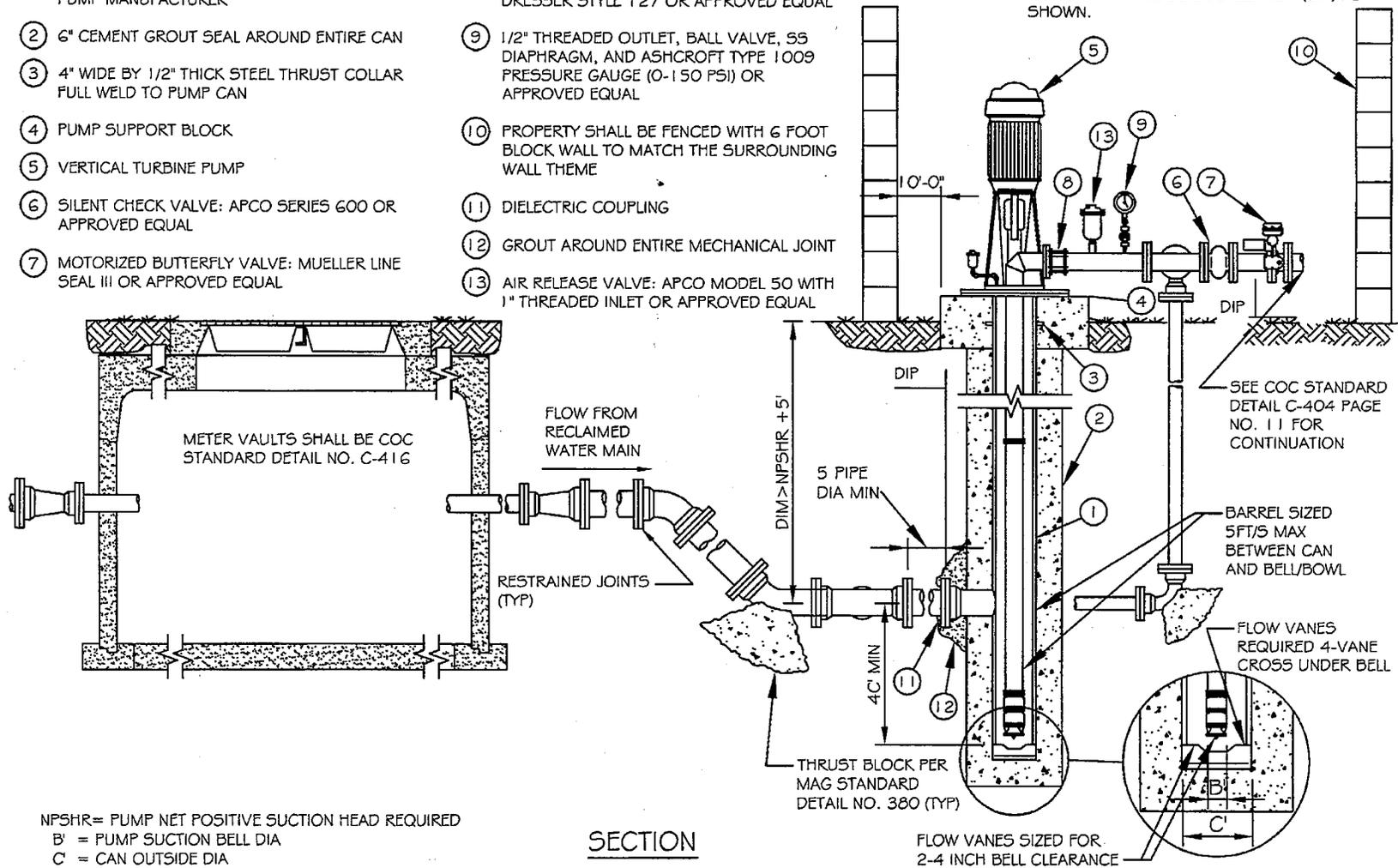
DETAIL NO.
C-404
PAGE 9 OF 12

- ① EPOXY LINED STEEL PUMP CAN, THICKNESS PER PUMP MANUFACTURER
- ② 6" CEMENT GROUT SEAL AROUND ENTIRE CAN
- ③ 4" WIDE BY 1/2" THICK STEEL THRUST COLLAR FULL WELD TO PUMP CAN
- ④ PUMP SUPPORT BLOCK
- ⑤ VERTICAL TURBINE PUMP
- ⑥ SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ⑦ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL

- ⑧ RESTRAINED EXPANSION COUPLING: DRESSER STYLE 127 OR APPROVED EQUAL
- ⑨ 1/2" THREADED OUTLET, BALL VALVE, SS DIAPHRAGM, AND ASHCROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑩ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ⑪ DIELECTRIC COUPLING
- ⑫ GROUT AROUND ENTIRE MECHANICAL JOINT
- ⑬ AIR RELEASE VALVE: APCO MODEL 50 WITH 1" THREADED INLET OR APPROVED EQUAL

NOTE:

1. ALL PIPING SHALL BE DUCTILE IRON (DIP) AS SHOWN.



NPSHR = PUMP NET POSITIVE SUCTION HEAD REQUIRED
 B' = PUMP SUCTION BELL DIA
 C = CAN OUTSIDE DIA

SECTION

DETAIL NO.
C-404
 PAGE 10 OF 12



CITY OF
 CHANDLER
 STANDARD
 DETAIL

**4" RECLAIMED WATER
 IRRIGATION SERVICE LINE
 CAN PUMP TYPE**

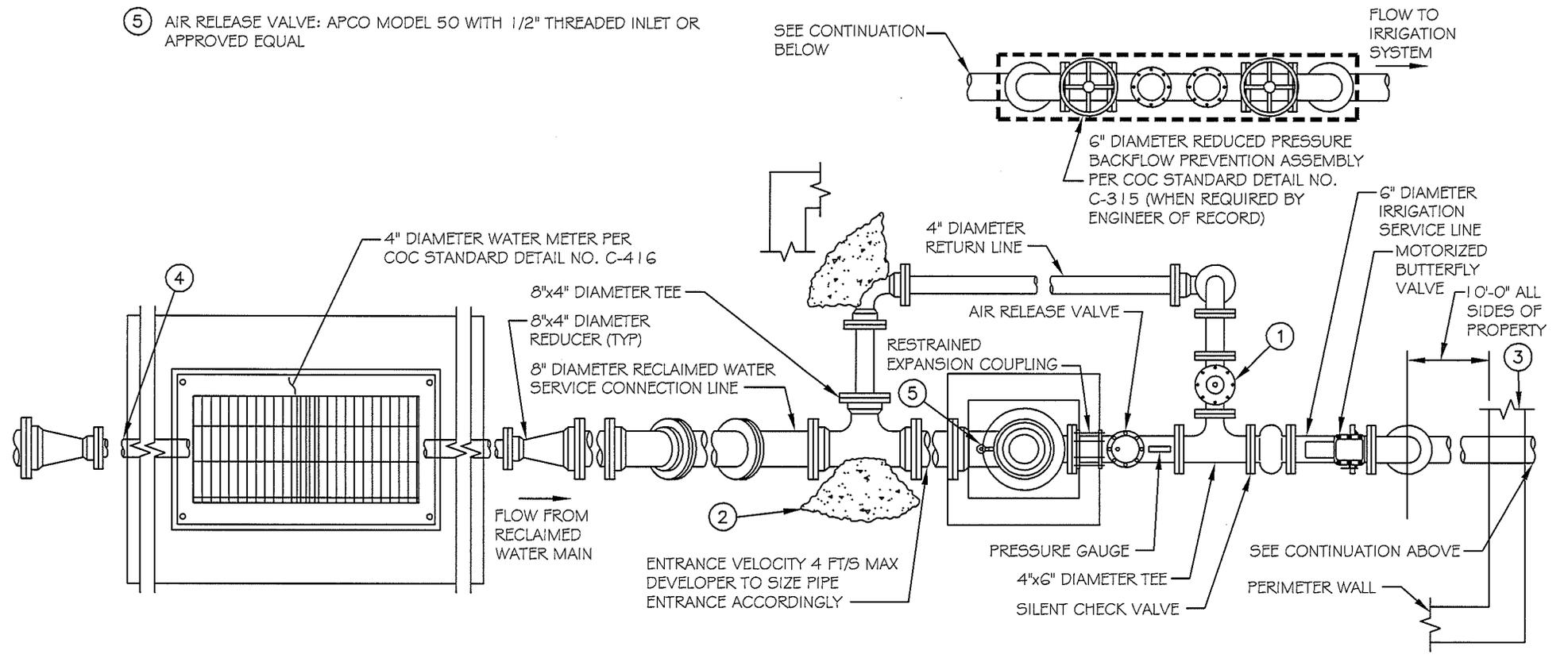
APPROVED: *[Signature]*
 CITY ENGINEER
 DATE: June 12/08

DETAIL NO.
C-404
 PAGE 10 OF 12

NOTES:

- ① PRESSURE RELIEF VALVE - CLA VAL MODEL 650G-01B OR APPROVED EQUAL
- ② THRUST BLOCK PER MAG STANDARD DETAIL NO. 380 (TYP)
- ③ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ④ PROVIDE 8"x4" REDUCER FOR CONTINUATION OF INSTALLATION OF 8" DIAMETER WATER SERVICE CONNECTION LINE, REDUCER SHALL BE LOCATED 2' MAX FROM METER VAULT
- ⑤ AIR RELEASE VALVE: APCO MODEL 50 WITH 1/2" THREADED INLET OR APPROVED EQUAL

- 1. PRESSURE RELIEF VALVE SHALL BE SET AT 2 PSI ABOVE SPRINKLER DESIGN PRESSURE.
- 2. DEVELOPER SHALL PROVIDE UTILITY SERVICES TO THE FACILITY AS REQUIRED.
- 3. DEVELOPER MAY USE VARIABLE FREQUENCY DRIVE WITH PUMP IN LIEU OF RETURN LINE.
- 4. DEVELOPER SHALL INTERLOCK MOTORIZED BUTTERFLY VALVE TO OPEN/CLOSE ON PUMP START/STOP.



DETAIL NO.
C-404
PAGE II OF 12



CITY OF
CHANDLER
STANDARD
DETAIL

**6" RECLAIMED WATER
IRRIGATION SERVICE LINE
CAN PUMP TYPE**

APPROVED: *Daniel Wells*
CITY ENGINEER
DATE: 1-9-14

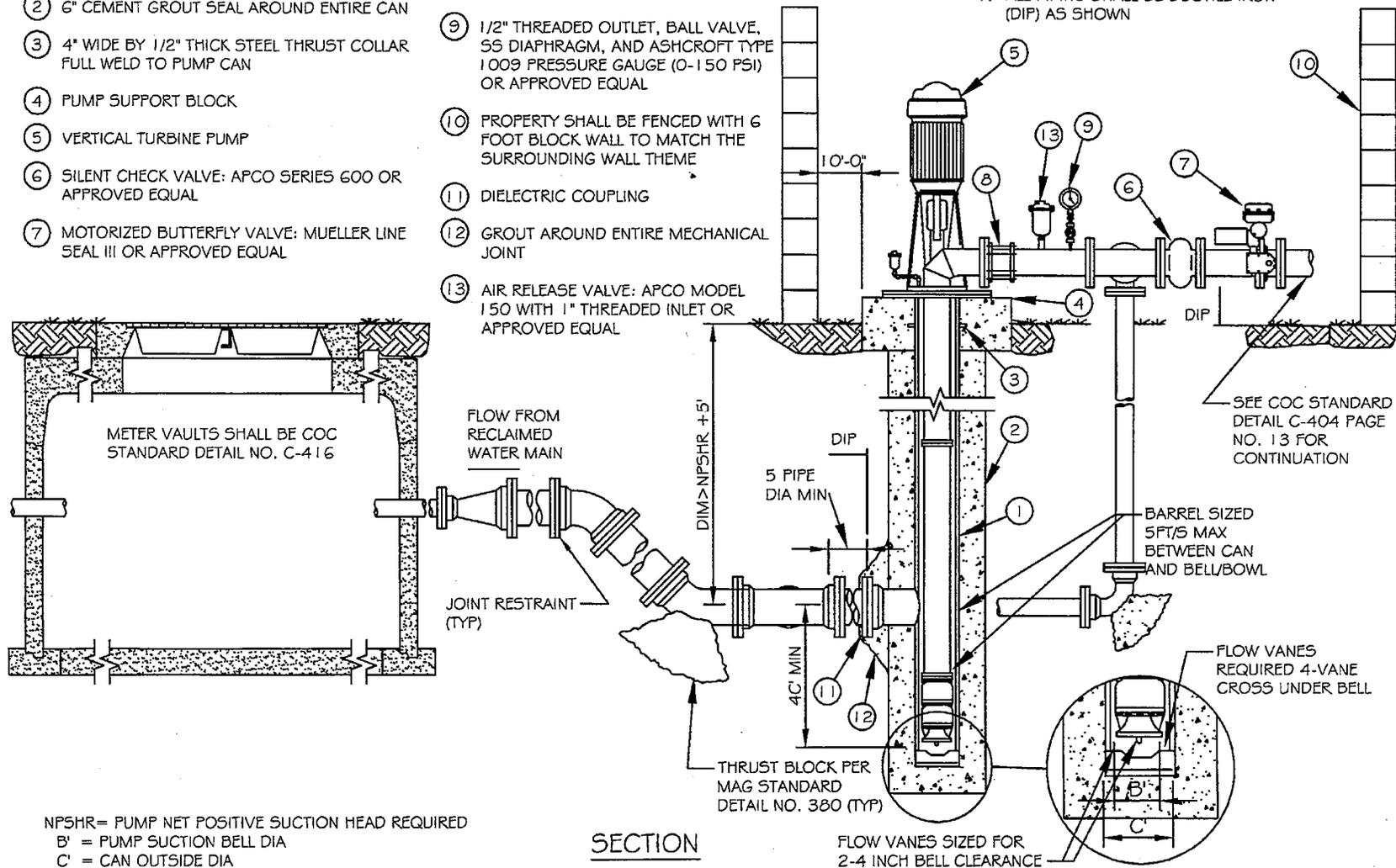
DETAIL NO.
C-404
PAGE II OF 12

- ① EPOXY LINED STEEL PUMP CAN, THICKNESS PER PUMP MANUFACTURER
- ② 6" CEMENT GROUT SEAL AROUND ENTIRE CAN
- ③ 4" WIDE BY 1/2" THICK STEEL THRUST COLLAR FULL WELD TO PUMP CAN
- ④ PUMP SUPPORT BLOCK
- ⑤ VERTICAL TURBINE PUMP
- ⑥ SILENT CHECK VALVE: APCO SERIES 600 OR APPROVED EQUAL
- ⑦ MOTORIZED BUTTERFLY VALVE: MUELLER LINE SEAL III OR APPROVED EQUAL

- ⑧ RESTRAINED EXPANSION COUPLING: DRESSER STYLE 127 OR APPROVED EQUAL
- ⑨ 1/2" THREADED OUTLET, BALL VALVE, SS DIAPHRAGM, AND ASHCROFT TYPE 1009 PRESSURE GAUGE (0-150 PSI) OR APPROVED EQUAL
- ⑩ PROPERTY SHALL BE FENCED WITH 6 FOOT BLOCK WALL TO MATCH THE SURROUNDING WALL THEME
- ⑪ DIELECTRIC COUPLING
- ⑫ GROUT AROUND ENTIRE MECHANICAL JOINT
- ⑬ AIR RELEASE VALVE: APCO MODEL 150 WITH 1" THREADED INLET OR APPROVED EQUAL

NOTE:

- 1. ALL PIPING SHALL BE DUCTILE IRON (DIP) AS SHOWN



DETAIL NO.
C-404
PAGE 12 OF 12

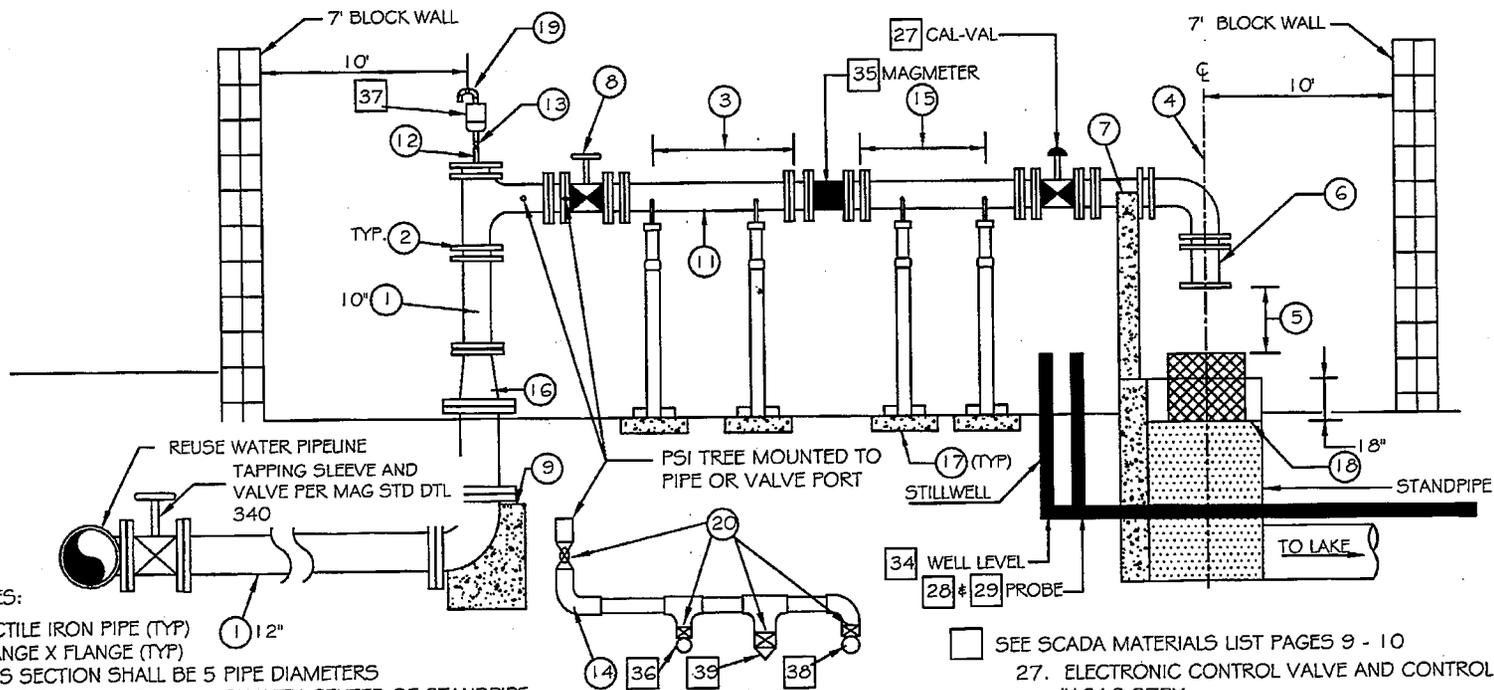


CITY OF
CHANDLER
STANDARD
DETAIL

**6" RECLAIMED WATER
IRRIGATION SERVICE LINE
CAN PUMP TYPE**

APPROVED: *Blair Hill*
CITY ENGINEER
DATE: *June 12/08*

DETAIL NO.
C-404
PAGE 12 OF 12



NOTES:

1. DUCTILE IRON PIPE (TYP) 12"
2. FLANGE X FLANGE (TYP)
3. THIS SECTION SHALL BE 5 PIPE DIAMETERS
4. PIPE DISCHARGE SHALL ALIGN WITH CENTER OF STANDPIPE
5. THIS SPACING SHALL BE GREATER THAN 2 PIPE DIAMETERS FOR AIR GAP
6. 1' SPOOL PIECE
7. PROVIDE CONCRETE SUPPORTS AS SHOWN
8. PROVIDE RESILIENT SEAT GATE VALVE
9. PROVIDE THRUST BLOCK PER MAG STD DTL 380
10. (NOT USED)
11. 10" D.I.P., TYP.
12. ALL 2" & 1" PIPE SHOULD BE BRASS
13. 2" BALL-CORP VALVE BRASS MALE IN/OUT
14. 1" PSI TREE-SEE DETAIL-BRASS
15. THIS SECTION SHALL BE 3 PIPE DIAMETERS
16. REDUCER MAY BE INSTALLED 12" X 10"
17. PIPE SUPPORTS BOLTED TO 6" CONCRETE FOOTING (TYP)
18. METAL GRATE BOX OVER TOP OF STANDPIPE
19. ALL BRASS FITTINGS
20. 1" BALL-CORP VALVE BRASS

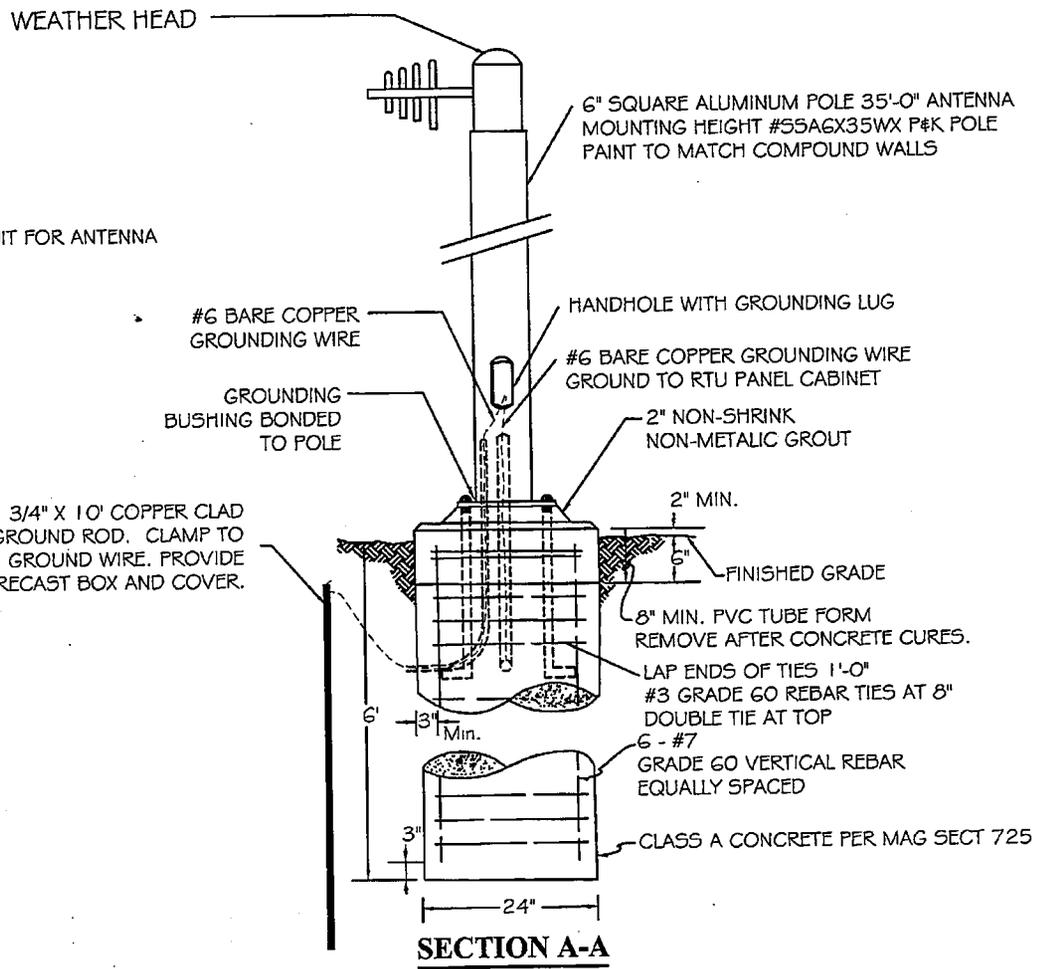
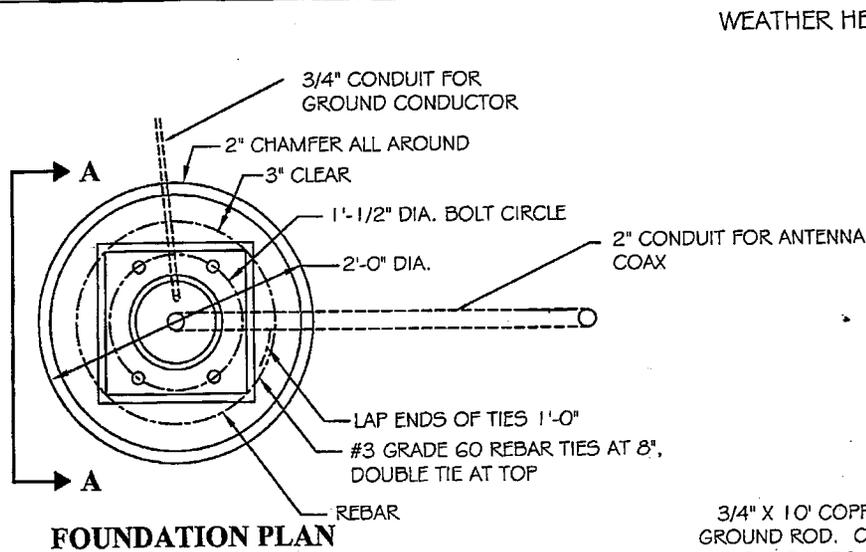
NOTES:

1. PROPERTY SHALL BE DEDICATED TO CITY AND KEYED TO CITY LOCK SYSTEM.
2. PROPERTY SHALL BE FENCED WITH 7' BLOCK WALL TO MATCH THE SURROUNDING WALL THEME.
3. THE TURNOUT STRUCTURE SHALL HAVE THE CAPACITY TO CONVEY 2,000 GPM WITHOUT OVERFLOWING.
4. WIRING TRENCH AND JUNCTION BOXES SHALL BE LOCATED ON FAR SIDE OF PIPE AWAY FROM GATE.

SEE SCADA MATERIALS LIST PAGES 9 - 10

27. ELECTRONIC CONTROL VALVE AND CONTROLLER CLA-VAL #131G-37BY
28. LEVEL PROBE WIRE #3W1
29. PROBE FITTING 3E-3B
34. WELL LEVEL TRANSDUCER CWLTY
35. MAG METER CADILLAC #CMAGxRCF15055FM
36. GAUGE #AX9831741-4
37. AIR RELIEF/VACUUM CHECK 2" #144DAT.1-F2-1G/57
38. PRESSURE TRANSMITTER #CPLVY-0303-2013-Z-RNG
39. CALIBRATION PORT: BRASS

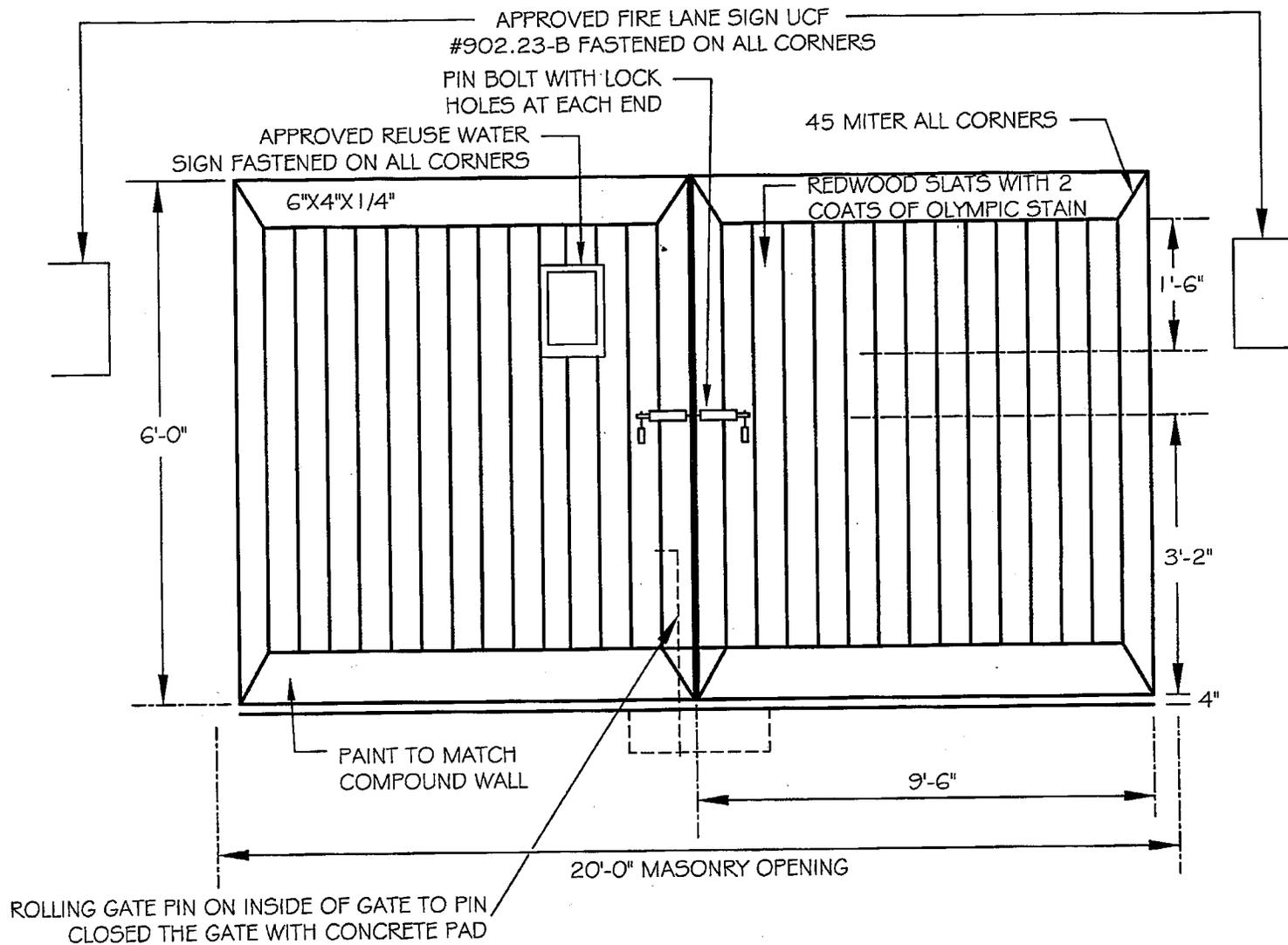
DETAIL NO. C-405 NTS	 CITY OF CHANDLER STANDARD DETAIL	LARGE WATER USER (WITH LAKE) RECLAIMED WATER TURNOUT	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <i>01/08/09</i>	DETAIL NO. C-405 PAGE 1 OF 12
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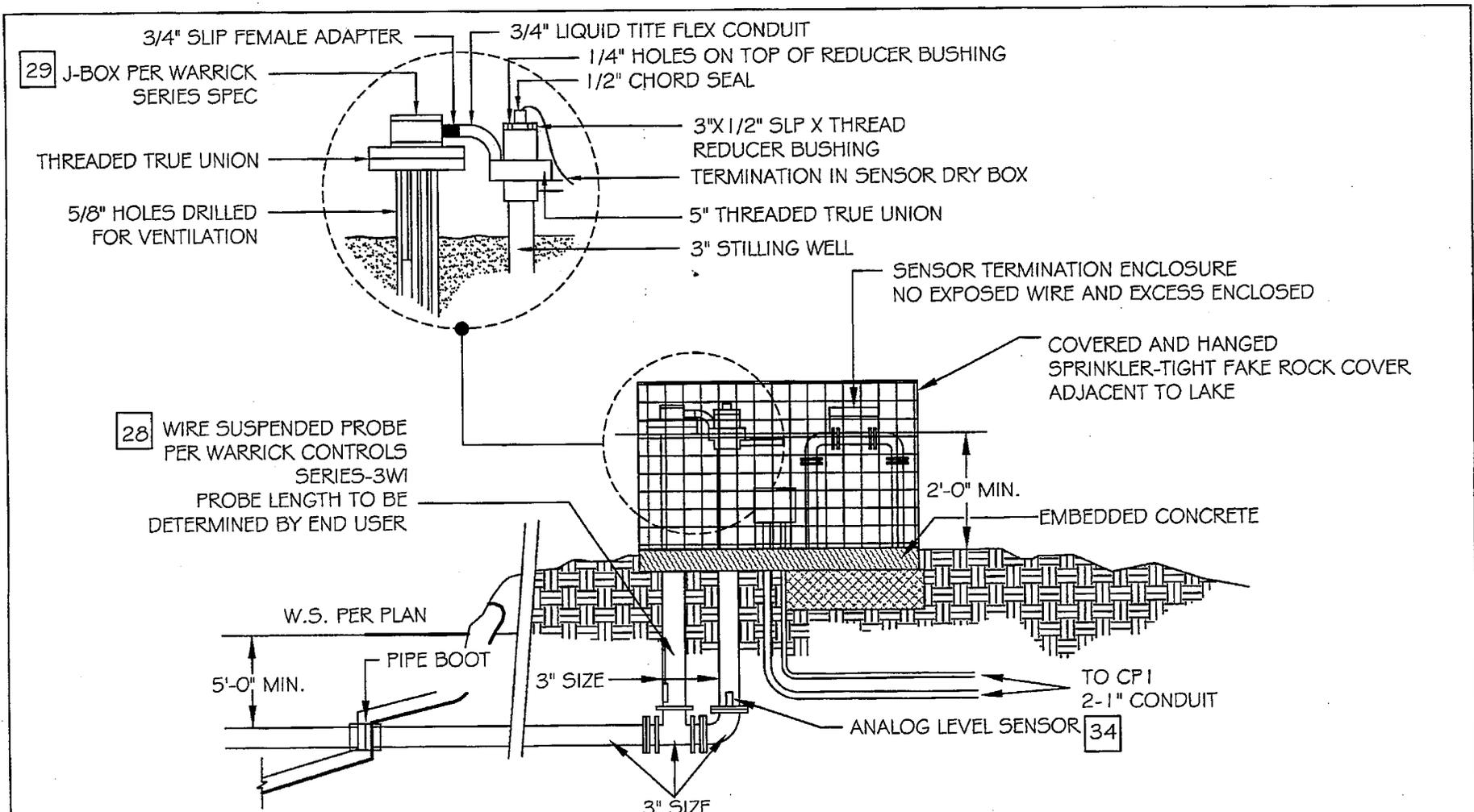
NOTES:

1. THE COMPLETE INSTALLATION SHALL WITHSTAND 110 MHP WINDS.
2. ANCHOR BOLTS, LEVELING NUTS, AND POLE BASE SHALL BE FABRICATED BY POLE MANUFACTURER.

DETAIL NO. C- 405 NTS	 CITY OF CHANDLER STANDARD DETAIL	ANTENNA	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C- 405 PAGE 2 OF 12
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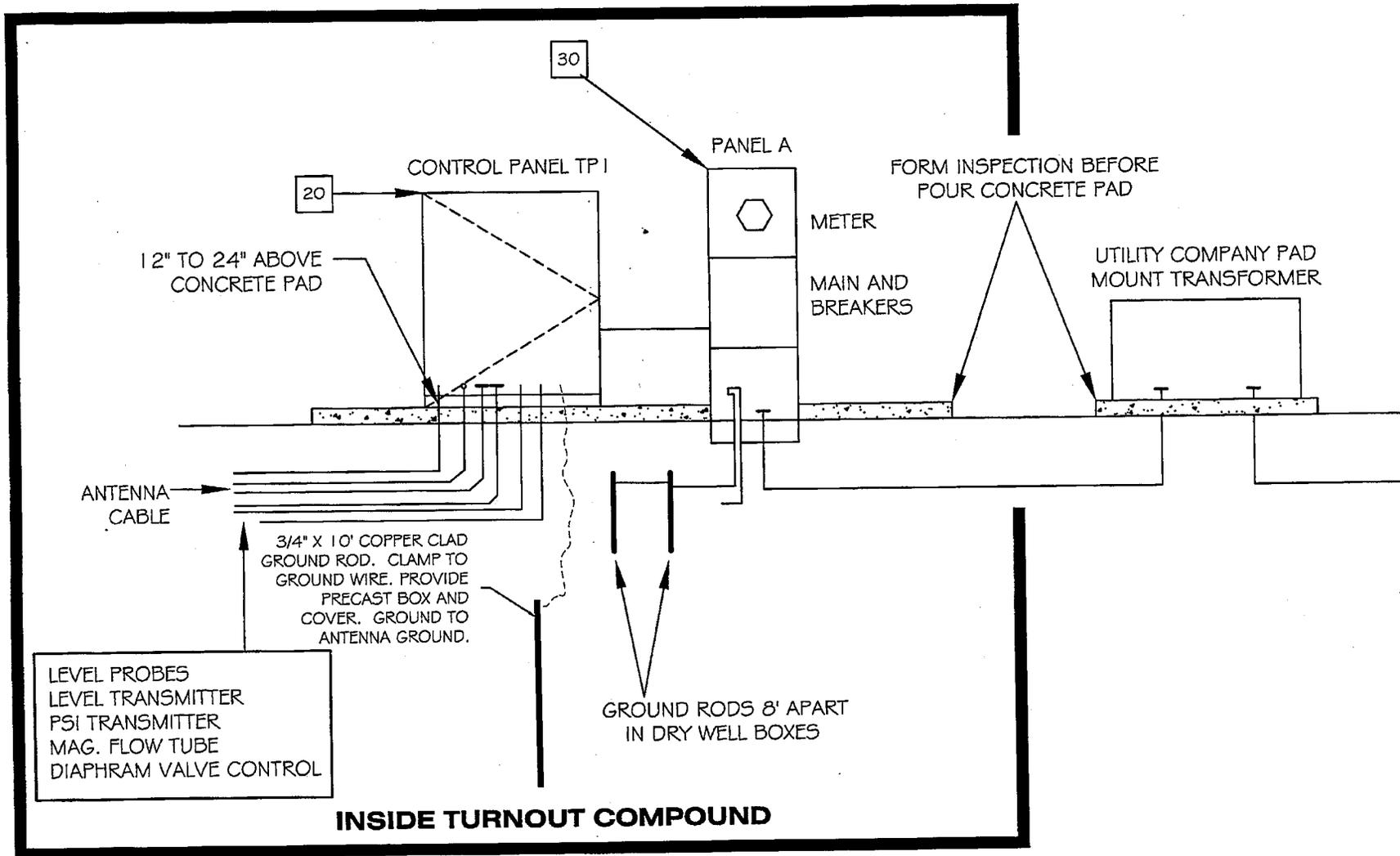
DETAIL NO. C- 405 NTS	 CITY OF CHANDLER STANDARD DETAIL	ROLLING GATE	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C- 405 PAGE 3 OF 12
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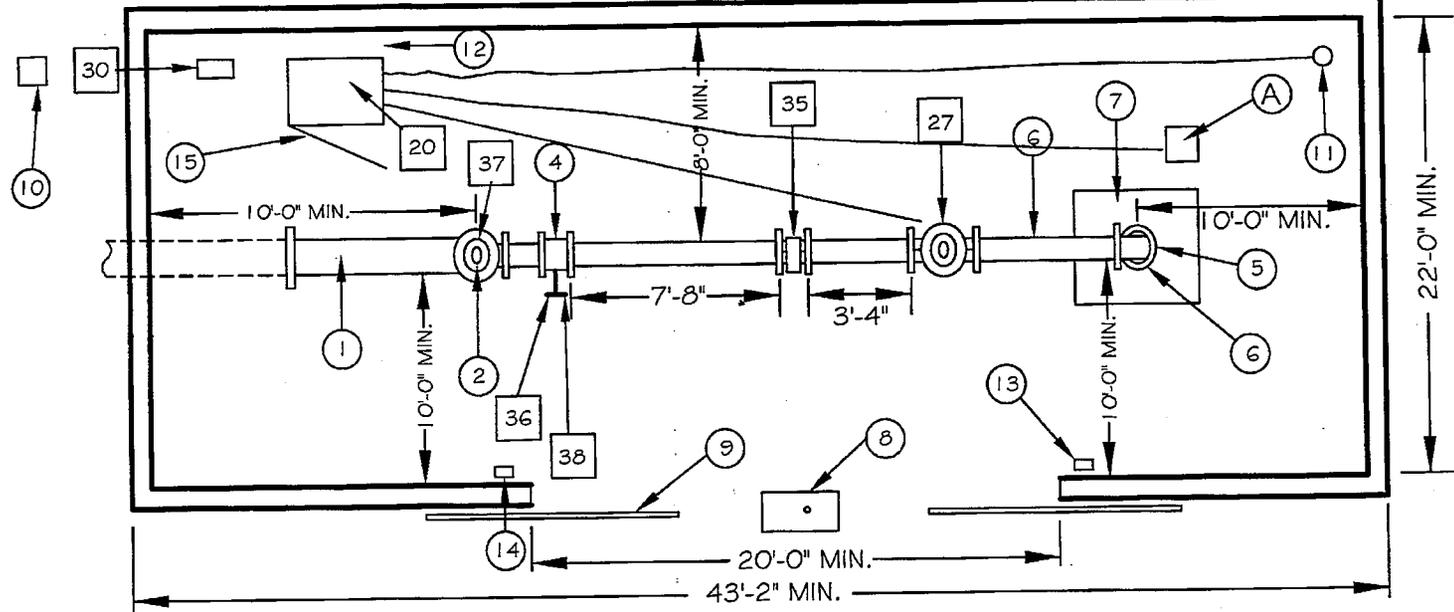
NOTES:

1. LEVEL SENSORS MAY BE LOCATED WITHIN WALLED TURNOUT COMPOUND OR ADJACENT TO LAKE.
2. WHERE ADJACENT TO LAKE, LEVEL SENSORS SHALL BE PROTECTED BY A SCREENED ENCLOSURE COVER BY SIMULATED ROCK.
3. SIMULATED ROCK SHALL BE KRUP.COM INC #AE-CROWN, ORBIT IRRIGATION PRODUCTS INC #35016 GRANITE ROCK BOX, OR ARMORCAST PRODUCTS #P218
4. LEVEL CONTROL LOCATION SHALL BE FIELD LOCATED IN CONSULTATION WITH MR. DAVID CLARK (480) 783-3720

DETAIL NO. C-405 NTS	 CITY OF CHANDLER STANDARD DETAIL	LEVEL SENSORS	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <i>01/08/09</i>	DETAIL NO. C-405 PAGE 4 OF 12
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DETAIL NO. C- 405 NTS	 CITY OF CHANDLER STANDARD DETAIL	METERPED	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C- 405 PAGE 5 OF 12
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NOTES:

- 1 1 1/2" DUCTILE IRON PIPE
- 2 2" BALL-CORP. STOP-MALE BRASS PIPE IN/OUT
- 3 1 1/2"X1 0" CONCENTRIC REDUCER (NOT SHOWN)
- 4 1 0" VALVE PER "KENNEDY VALVE" KENSEAL II WITH FLANGED ENDS
- 5 1 0" DUCTILE IRON 90 DEGREE ELBOW
- 6 1 0" DUCTILE IRON SPOOL PIECE
- 7 SAFETY SCREEN
- 8 ROLLING GATE PIN PAD
- 9 ROLLING GATE PIN ON INSIDE
- 10 UTILITY COMPANY PAD MOUNT TRANSFORMER
- 11 ANTENNA
- 12 MAINTAIN 2' CLEARANCE
- 13 LIGHT & AC OUTLET
- 14 LIGHT AC OUTLET & SWITCH
- 15 DOOR OPENING AS SHOWN
- A LEVEL SENSORS

BOXED NOTES - SEE SCADA MATERIAL LISTS PAGES 9 & 10

- 20 CONTROL PANEL
- 27 CLA-VAL ELECTRIC VALVE
- 30 SRP METER PAD
- 35 1 0" MAG. METER
- 36 4" PRESSURE GAUGE
- 37 2" AIR RELEASE VALVE/VACUUM CHECK
- 38 PRESSURE TRANSMITTER

ALL CONDUIT RUNS SHALL BE LOCATED ON CONTROL PANEL SIDE OF COMPOUND.

DETAIL NO. C-405 NTS	 CITY OF CHANDLER STANDARD DETAIL	TURNOUT COMPOUND	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <i>01/06/09</i>	DETAIL NO. C-405 PAGE 6 OF 12
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NOTES

CONSTRUCTION IN ACCORDANCE WITH MAG SECT 510

CONCRETE SHALL BE IN ACCORDANCE WITH MAG SECT 725

REINFORCING STEEL SHALL CONFORM TO ASTM SPEC A615 GRADE 60

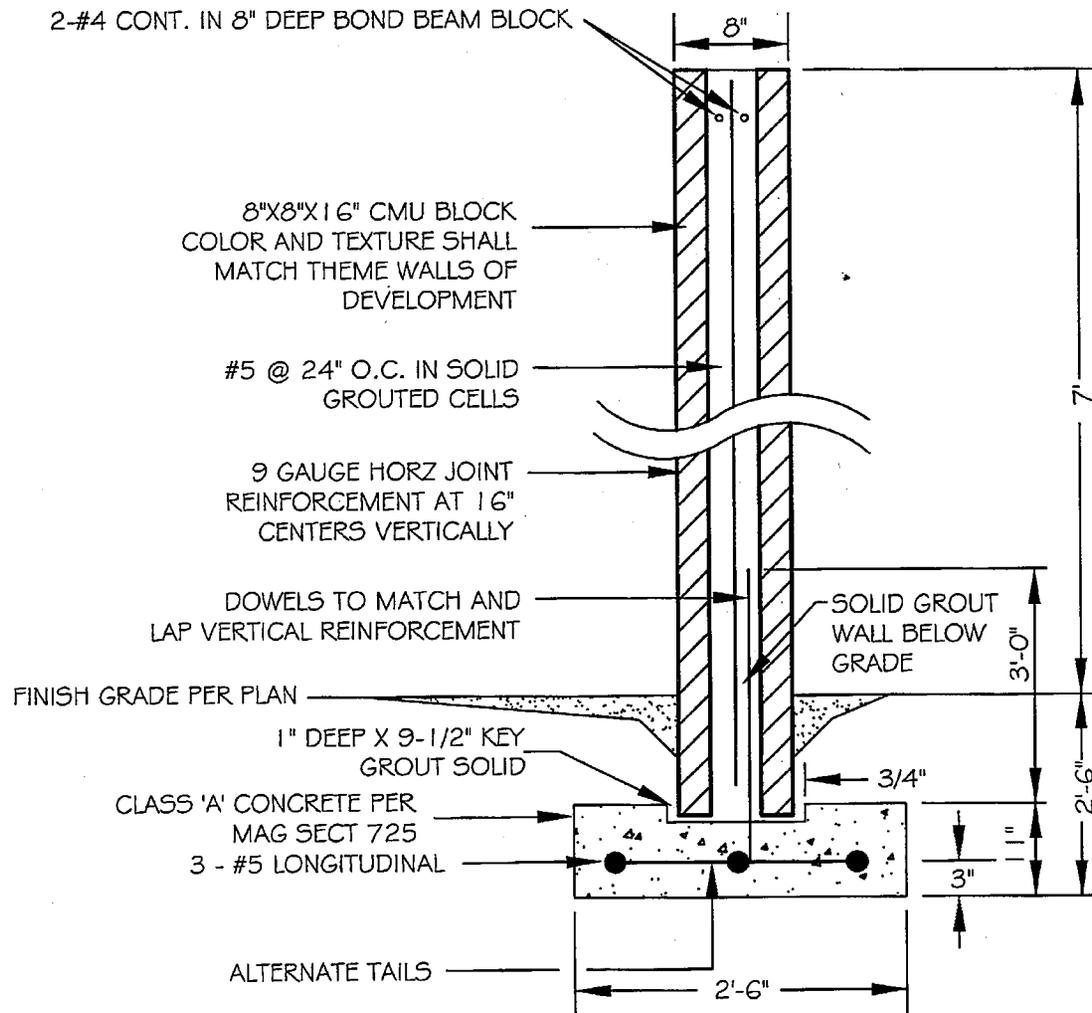
CONTROL JOINTS AT 24' INTERVALS

MASONRY: $f_m = 1500$ psi, ASTM C90, MEDIUM OR NORMAL WEIGHT, RUNNING BOND, SLUMP BLOCK.

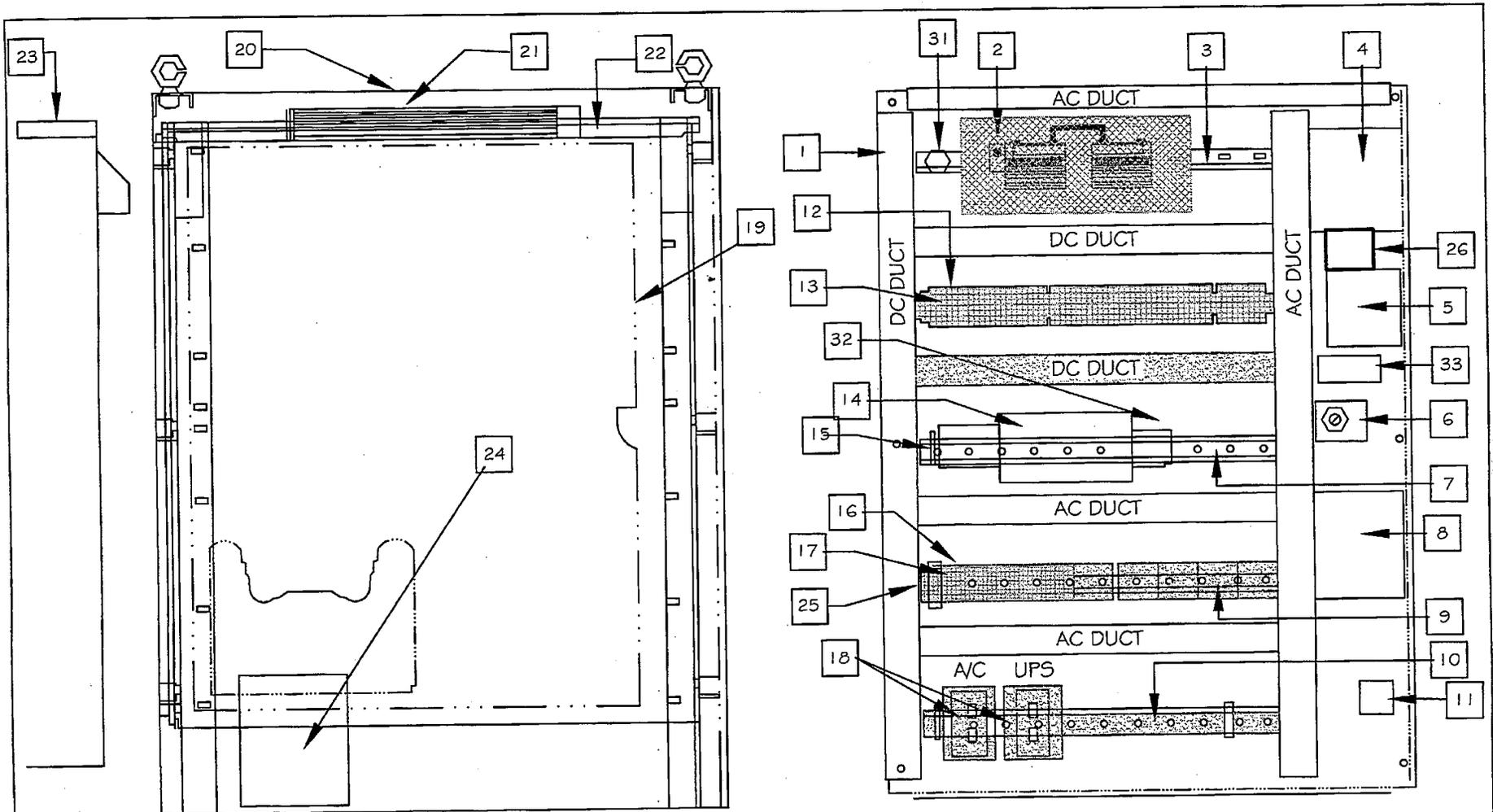
MORTAR: ASTM C270, TYPE 5

GROUT: ASTM C476, TYPE COARSE

JOINT REINFORCEMENT: 9 GAUGE LADDER OR TRUSS TYPE, STANDARD WEIGHT, $f_y = 33,000$ psi, WIRE PER ASTM A82



<p>DETAIL NO. C-405 NTS</p>	 <p>CITY OF CHANDLER STANDARD DETAIL</p>	<p>COMPOUND WALL</p>	<p>APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: 01/09/09</p>	<p>DETAIL NO. C-405 PAGE 7 OF 12</p>
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SEE SCADA MATERIAL LIST
PAGES 9 - 10

AC WIRING - RED COLORING HOT
AC WIRING - GREEN COLORING EARTH GROUND
DC WIRING - BLUE COLORING +
ANALOG WIRING - CABLE SHIELDED

AC WIRING - WHITE COLORING COMMON
DC WIRING - WHITE/BLUE COLORING -
AC & DC NOT IN SAME RACEWAY

DETAIL NO.
C- 405
NTS



CITY OF
CHANDLER
STANDARD
DETAIL

SCADA CABINET

APPROVED: *[Signature]*
CITY ENGINEER
DATE: *01/08/09*

DETAIL NO.
C- 405
PAGE 8 OF 12

ITEM	DESCRIPTION	MFG	CATALOG	QTY
1	PLASTIC WIRE DUCT	PANDUIT		
2	DIGITAL I/G INPUT/I/G OUTPUT BASE	MODICON Summit 602-267-1000	MODEL 170 ADM35010	1
2	I/O BUS ADAPTER	MODICON	MODEL 170 INT 11000	1
2	ANALOG INPUT BASE	MODICON	Model 170AA11400	1
2	PROCESSOR WITH INTERBUS PORT	MODICON	Model 171CC576000	1
2	PROCESSOR OPTION ADATOR (REDUNDANT MB+)CLOCK	MODICON	Model 172PNN26022	1
2	I/O BUS ADAPTER CABLE	MODICON		1
3	STANDARD DIN RAIL 35 MM X 7.5 MM	ALLEN BRADLEY	199-DR1	1
4	MAG FLOWMETER CONVERTER PANEL MOUNT 120 VAC, 4-20 MA, HART, LCD DISPLAY FOR <16 INCH DETECTORMAG FLOW TUBE SEPARATE ELECTRONICS	Cadillac-AXIOM SOUTHWEST 480-814-7706	CMCRUXXTFM 2AS Length in feet 3AE Length in ft	1
5	PROTOCOL CONVERTER HART TO MODBUS RTU W/CONFIGURATION SOFTWARE	ARCOM 1-913-549-1000	HT-D5-1	1
6	SELECTOR SW--3 POS MAINT, NEMA 4/13 30.5 MM, KNOB (NO-INC SCREW TERMINALS	SQUARE D	9001KS43BH13	1
7, 10, 12 & 25	RAISED DIN RAIL 35 MM X 7.5 MM	ALLEN BRADLEY BORDER 602-244-0331	1492-DR6	4
8	RADIO TRANSCEIVER LICENSED 800 TO 960 MHZ, 5 WATTS, -30 DEG C TO + 60 DEG.C	MDS Radio Border States Electric 602-244-0331	9710A	1
9	LEVEL RELAY PLUG-IN DRDT, 10KOHM, 120 VAC, 10 SEC W/ BASE	WARRICK	16DMB1AO-X-10-10	2
9	RELAY--ICE CUBE ICE CUBE 24 VDC COIL DPDT, 10 A CONTACTS W/NR51 BASE	SQUARE D	8591KP12V14	2
9	RELAY--ICE CUBE ICE CUBE 120 VAC COIL DPDT, 10 A CONTACTS W/NR51 BASE	SQUARE D	8501KP12V20	1
11	LIGHTNING PROTECTOR FLANGE MOUNT 1225-1000MHZ, F/F 220 P J	POLYPHASER	IS-50NX-C2	1
13 & 16	TERMINAL BLOCK DOUBLE FEED--THROUGH BLUE, 24-12 AWG 32 A .25 INCH	PHOENIX CONTACT	UDK 4 BU	74
14	POWER SUPPLY TRACK MOUNTED 24VDC, 240W, 10A W/INTERNAL FUSING	IDEC	PSR5-G24	1
15	POWER SUPPLY TRACK MOUNTED 12VDC, 30W, 2.5A W/INTERNAL FUSING	IDEC	PSR5-C12	1
17	TERMINAL BLOCK DOUBLE FEED--THROUGH GRAY, 24-12 AWG 32 A .25 INCH	PHOENIX CONTACT	UDK 4	26
18	DUPLEX RECEPTACLE TRACK MOUNTED 120V, 15A	PHOENIX CONTACT	EM-DUO/120/15	2
19	BACKPANEL, PAINTED STEEL FOR F5 ENCLOSURE	HOFFMAN BrownWholeSale 602-275-8521	AG0P3GF1	1
20	ENCLOSURE, FREE STANDING, NEMA 12, PAINTED STEEL	HOFFMAN	AG03G24F5	1
21	LIGHTING PACKAGE, FLUORESCENT, 115 VAC .63 AMPS PROVIDE BULBS (NOT IN PACKAGE)	HOFFMAN	A-LFM1GD18	1
22	DRIP SHIELD FOR NEMA 12, 4 NEMA 3R, 36 IN WIDE	HOFFMAN	ADK36A	1
23	AIR CONDITIONER SIDE PANEL MOUNT 115 VAC, 4000 BTU	HOFFMAN	M33-0416-G010	1
24	UPS PRO LINE 850 VA FOR 9 MINUTES 26 MINUTES AT HALF POWER	TRIPPLITE	BCPRO850	1
26	ELECTRONIC VALVE CONTROLLER AND SIGNAL RETRANSMISSION MODULES	CLA-VAL ESCO Phone # (602) 264-7946	131VC-1	1
27	10" PIPE DIAMETER WITH HEAVIER SPRING ELECTRIC VALVE	CLA-VAL ESCO Phone # (602) 264-7946	131G-37BY	1
28	LEVEL PROBE WIRE SUSPENDED STAINLESS STEEL W/PVC COATED WIRE	WARRICK	3W1	3

DETAIL NO.

C-405

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

MATERIALS LIST 1 OF 2

APPROVED:

[Signature]

CITY ENGINEER

DATE:

01/08/09

DETAIL NO.

C-405

PAGE 9 OF 12

ITEM	DESCRIPTION	MFG	CATALOG	QTY
29	PROBE FITTING, PIPE MOUNT, 2 IN , 3 PROBE, BRASS	WARRICK	3E-3B	1
30	LOW PROFILE PEDESTALS	TESCO #(916) 395-8800	26-000 typellIAF	1
31	TYPE T THERMOCOUPLE XMTR MINATURE SCALED 0 - 250 DEG F	AXIOM	AXT251-T-O-250F	1
32	1 POLE CIRCUIT BREAKER MINIATURE TRACK MOUNTED 16 A, B (FAST) CURVE MERLIN GERIN	SQUARE D	MG24118	1
33	LCD DISPLAY SCALEABLE FOR ENG UNITS INCHES AND FEET	AXIOM SOUTHWEST 480-814-7706	AXG85	
34	WELL LEVEL TRANSDUCER .1% ACCURACY, HART DIGITAL PROTOCOL, RANGE 16.7' SPAN,CABLE LENGTH 20' WITH REMOTE DISPLAY	AXIOM SOUTHWEST 480-814-7706	CWLTY-0303-26-26 W-05-RNG16.7ft-02- 1907-LEN20ft/CWD50 -0325-2603	1
35	MAGMETER CADILLAC MAG FLOW TUBE 10", ANSI 150LB, 316SS, RUBBER	Cadillac-AXIOM SOUTHWEST 480-814-7706	Model CMAGIRCF150SD5FM	1
36	GAUGE MODEL 30 INWC/O/+100PSI	AXIOM SOUTHWEST 480-814-7706	Ax9831741-4	1
37	AIR RELIEF/VACUUM CHECK 2"	GOBLE SAMPSON 480-969-3667	MODEL# 144DAT.1-F2-1G/57	1
38	PRESSURE TRANSMITTER WITH LOCAL DISPLAY TX -15 TO +285 PSI, CONFIGURATION, HART COMPATIBLE, 1/2" CONNECTION, LOOP POWERED 4 - 20 MA OUTPUT.	AXIOM SOUTHWEST 480-814-7706	CPLVY-0303-0213-Z- RNG(-15to+285psig)- 02-1916-1326-22	1
39	BRASS CALIBRATION PORT, 1/4" WITH CHECK AND CAP	RALSTON INDUSTRIES (800) 347-6575	#QFTT 2MBI	1
	COAXIAL CABLE --HELIAX 7/8 INCH W/CONNECTORS	ANDREW	LDF5-50	2
	MULTI-CONDUCTOR CABLE--BRAID SHIELDED CONTROL CABLE--18AWG--2 CONDUCTOR (19 X 30) 600V. -65 TO 200 DEG C	BELDEN	83321	9
	CABLE ASSEMBLY--CUSTOM--22AWG	GENERIC	RS323C	1
	RESISTOR 250 OHM, 1 WATT	GENERIC	RE5-250	1
	PLUG NEMA 5-15P, 15A, 125 VAC	HUBBEL	HBL5266C	2
	BARE THERMOCOUPLE TYPE T 20 GA. 12" LONG PLUS 3" LEADS	OMEGA	BARE-20-T-12	1
	ANTENNA YAGI 890-960 MHZ W/ MOUNTING HARDWARE	SCALA	TY-900	1
	PANEL SUPPORT, STEEL	HOFFMAN	AG0F5HDPS	1
	END BRACKET UNIVERSAL FOR 2 OR 3 LEVEL GRAY	PHOENIX CONTACT	EUK 1	8
	FUSE TERMINAL BLOCK WITH SCREW CAP TRACK MOUNTED 250 VAC, 20 A FOR BUSSMAN GMC GLASS FUSES	PHOENIX CONTACT	UK 10-DREH5LA 250 (5 X 20)	4
	FUSE, GLASS 5 MM X 20 MM 250 VAC 3.15 AMP MEDIUM TIME DELAY	BUSSMAN	GMC 3.15A	
	END COVER UNIVERSAL GRAY	PHOENIX CONTACT	D-UDK 4	6
	TERMINAL BLOCK DOUBLE FEED--THROUGH GRN-YLW, 24-12 AWG, 32A GROUND TO RAIL .25 INCH	PHOENIX CONTACT	UDK 4-PE	8
	NAMEPLATE ENGRAVED PLASTIC BLACK W/ WHITE LETTERING 1 X 0.25 INCH, TEXT .1 IN TALL	GENERIC	NPGN1X.25OLT	24
	NAMEPLATE ENGRAVED PLASTIC BLACK W/ WHITE LETTERING 3 X 1 INCH, TEXT .1 & .2 IN TALL	GENERIC	NPGN312LT	2
	NAMEPLATE ENGRAVED PLASTIC BLACK W/ WHITE LETTERING 3 X 1 INCH, TEXT .1, .2, & .15 IN TALL	GENERIC	NPGN312L3PT	1
	NAMEPLATE ENGRAVED PLASTIC BLACK W/ WHITE LETTERING 3 X 1 INCH, TEXT .5 IN TALL	GENERIC	NPGN311L	1
	CUSTOM BRACKET PAINTED STEEL 18 GA DIMENSIONS AS SHOWN	GENERIC	BRKT-1	1
	METAL LEGS TO RAISE PANEL A MINIMUM OF 12" --MAXIMUM 24" ABOVE THE PAD	HOFFMAN	SEE OPTION	1 set

DETAIL NO.

C-405

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

MATERIALS LIST 2 OF 2

APPROVED:

John H. ...

CITY ENGINEER

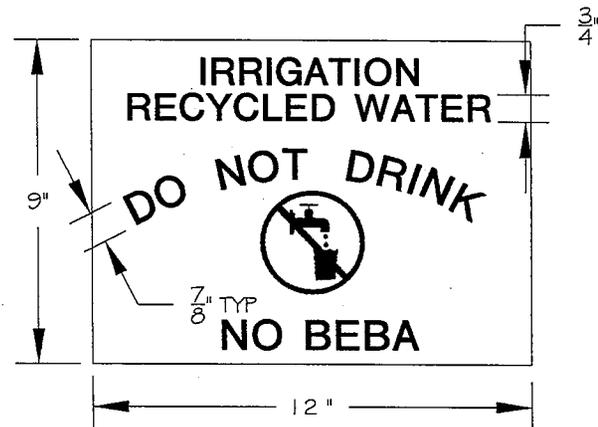
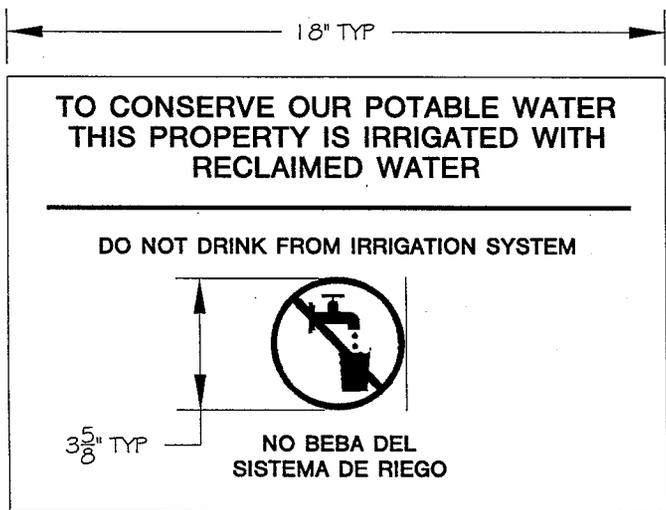
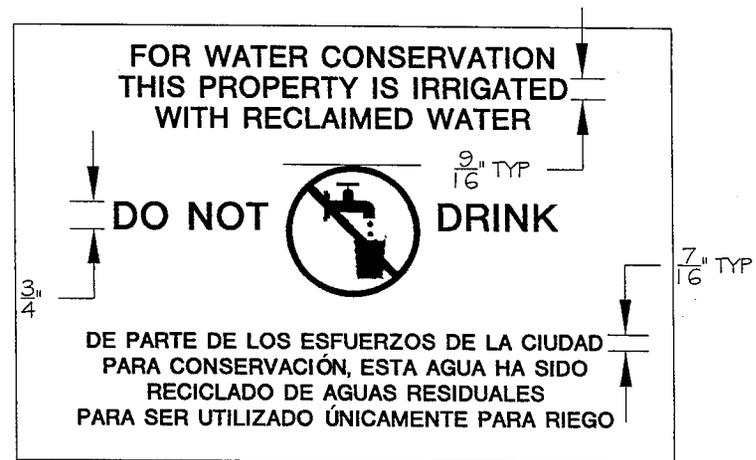
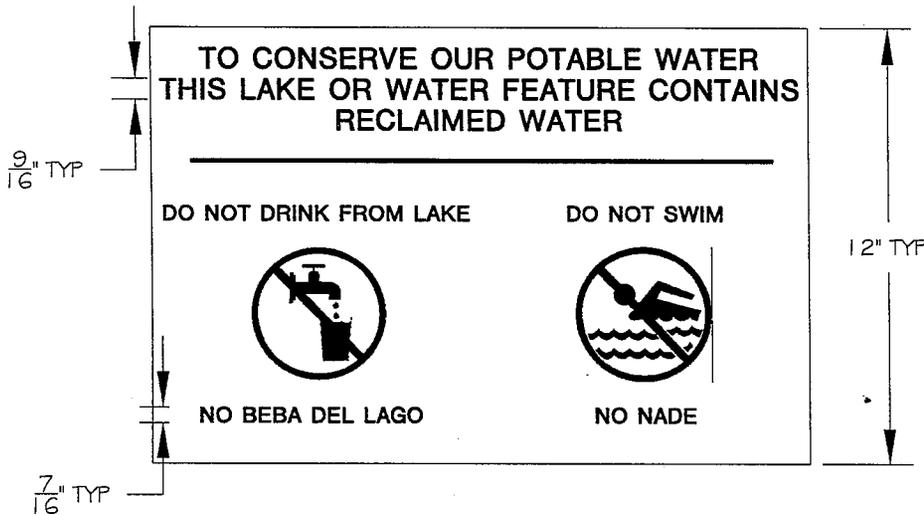
DATE:

01/08/09

DETAIL NO.

C-405

PAGE 10 OF 12



NOTES:
 COLOR: COPY: WHITE
 BACKGROUND: PURPLE (PANTONE 512)
 SIGN PANEL: 1/8" ALUMINUM ALLOY 5052-H38 PER ASTM B 209
 PROVIDE 3/8" BORDER BETWEEN PANEL AND BACKGROUND

DETAIL NO.
C-405
 NTS



CITY OF
 CHANDLER
 STANDARD
 DETAIL

SIGNAGE

APPROVED: *[Signature]* FOR
 CITY ENGINEER
 DATE: 11-30-09

DETAIL NO.
C-405
 PAGE II OF 12

ALL EQUIPMENT FURNISHED SHALL BE NEW AND OF CURRENT DESIGN. LIKE EQUIPMENT SHALL BE OF SAME MANUFACTURER.

THE CONTRACTOR SHALL PURCHASE LABOR, MATERIALS, APPARATUS, APPLIANCES, AND INSTRUMENTATION FROM LOCAL ARIZONA-BASED, AUTHORIZED, FACTORY-TRAINED ENGINEERING REPRESENTATIVES, NOT JUST A STOCKING DISTRIBUTOR. THEY SHALL BE LOCATED WITHIN A 100-MILE RADIUS OF THE PROJECT AND HAVE BEEN IN THE VICINITY FOR A MINIMUM OF 5 YEARS.

DESCRIPTIVE DATA: SUBMIT COPIES OF COMPLETE DESCRIPTIVE LITERATURE, PERFORMANCE DATA, PHYSICAL DIMENSIONS, POWER AND SIGNAL CONNECTIONS FOR EACH COMPONENT AND EQUIPMENT TO BE FURNISHED. PROVIDE NAME OF MANUFACTURER, STYLE, AND COMPLETE MODEL NUMBER. LISTING ITEMS "AS SPECIFIED" WITHOUT BOTH MAKE AND MODEL OR TYPE DESIGNATION IS NOT ACCEPTABLE. SUBSTITUTIONS SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL.

COMPONENT DATA SHEETS: SUBMIT A COMPONENT DATA SHEET FOR EACH PIECE OF INSTRUMENTATION EQUIPMENT SIMILAR TO AN ISA 520 FORM. INCLUDE EQUIPMENT TAG NUMBER, MANUFACTURER'S MODEL NUMBER, LOCATION OF SERVICE, MATERIALS OF CONSTRUCTION, SIZE AND SCALE RANGE, CALIBRATED RANGE, SET POINTS, OPTIONAL ACCESSORIES AND ANY OTHER USEFUL INFORMATION.

CONTROL SYSTEM DRAWINGS: SUBMIT 11" X 17" DETAILED SHOP DRAWINGS INDICATING DIMENSIONS, COMPONENT LAYOUT, MOUNTING DETAILS, WIRING DIAGRAMS, NAMEPLATE LEGENDS AND BILL OF MATERIALS FOR EACH CONTROL PANEL.

WIRING DIAGRAMS SHALL INCLUDE ALL INTERCONNECTIONS, INTER-WIRING AND TERMINALS BETWEEN ALL ELECTRICAL AND/OR INSTRUMENTATION UNITS. WIRE NUMBERS SHALL BE CONTINUOUS FROM START TO FINISH. WIRE NUMBERS SHALL NOT CHANGE WHEN GOING FROM ONE UNIT, CABINET, ENCLOSURE, TERMINAL OR ANY DEVICE TO ANOTHER.

THE SPECIFICATIONS REFERENCE KNOWN STANDARDS AND CODES. EACH SUCH STANDARD REFERENCED SHALL BE CONSIDERED A PART OF THE SPECIFICATIONS TO THE SAME EXTENT AS IF REPRODUCED THEREIN IN FULL. THE FOLLOWING IS A REPRESENTATIVE LIST OF SUCH ASSOCIATIONS, INSTITUTES AND SOCIETIES, TOGETHER WITH THE ACRONYM BY WHICH EACH IS IDENTIFIED:

AIEE	AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS	NEC	NATIONAL ELECTRICAL CODE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NETA	NATIONAL ELECTRICAL TESTING ASSOCIATION
ICEA	INSULATED CABLE ENGINEERS ASSOCIATION	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS	UL	UNDERWRITER'S LABORATORIES, INC.

EVERY REFERENCE IN THE SPECIFICATIONS SHALL MEAN THE LATEST PRINTED EDITION OF EACH IN EFFECT AT THE CONTRACT DATE OR LATEST EDITION AS ADOPTED BY THE LOCAL GOVERNING AUTHORITY.

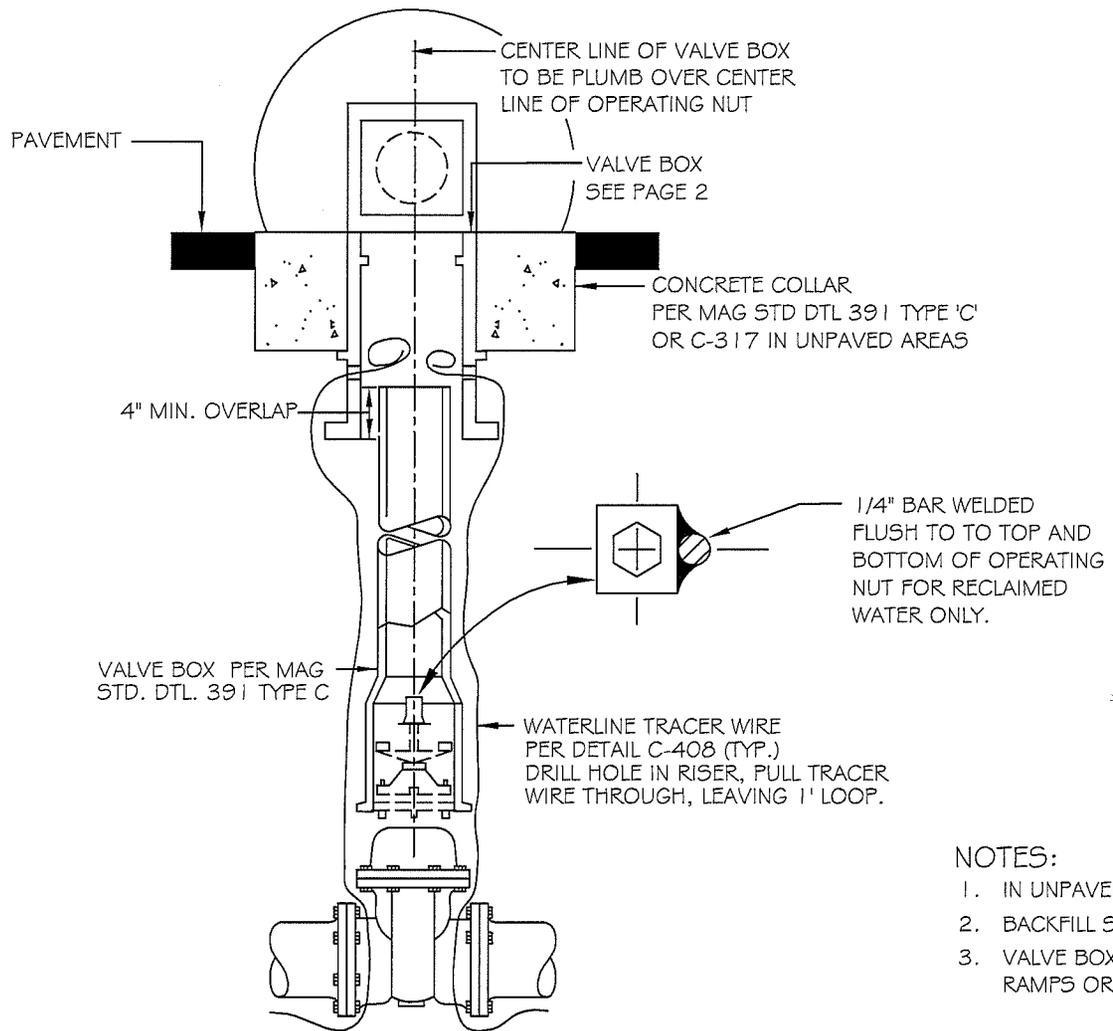
SYSTEM RESPONSIBILITY INCLUDES BUT IS NOT NECESSARILY LIMITED TO FURNISHING SYSTEM COMPONENTS, SYSTEM INTEGRATION AND DESIGN, WIRING DIAGRAMS, INSTALLATION SUPERVISION, FIELD INSTRUMENT CALIBRATION, STARTUP, TESTING AND OPERATOR TRAINING. THE I&C CONTRACTOR SHALL COORDINATE WITH THE CITY AND THE PROGRAMMER FOR IMPLEMENTING AND TESTING THE PLC PROGRAMS PRIOR TO THE RTU DELIVERY TO THE SITE.

THE I&C CONTRACTOR SHALL BE A REPUTABLE SYSTEM INTEGRATOR AND BE AN UNDERWRITERS LABORATORY (UL) 508A RECOGNIZED PANEL FABRICATOR. THE I & C CONTRACTOR AND PROGRAMMER MUST BE SEPARATE SUBCONTRACTORS TO THE ELECTRICAL CONTRACTOR. THE I&C CONTRACTOR AND THE ELECTRICAL CONTRACTOR SHALL BE LOCATED WITHIN A 100-MILE RADIUS OF THE PROJECT AND HAVE BEEN IN THAT VICINITY FOR A MINIMUM OF FIVE (5) YEARS. THE I&C CONTRACTOR AND THE ELECTRICAL CONTRACTOR CANNOT BE ONE AND THE SAME.

PROGRAMMER SHALL PROVIDE FULL DOCUMENTATION--BOTH PAPER DOCUMENT OF PROCESS DESCRIPTIONS WITH PAGE NUMBERS AND INDEX AND IN-SOFTWARE NETWORKS, CONTACTS, COILS, AND REGISTERS WITH DESCRIPTIONS AT ALL POINTS. THE PROGRAMMING LANGUAGE SHALL BE PROWORX NXT.

THE TURNOUT STRUCTURE MUST BE CAPABLE OF RECEIVING A MINIMUM OF 2,000 GPM THROUGH THE RECEIVING BOX BELOW THE AIR GAP WITHOUT OVERFLOWING.

DETAIL NO. C-405 NTS	 CITY OF CHANDLER STANDARD DETAIL	GENERAL NOTES	APPROVED:  CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-405 PAGE 12 OF 12
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- NOTES:
1. IN UNPAVED AREAS, CONCRETE COLLAR SHALL CONFORM TO DETAIL C-317.
 2. BACKFILL SHALL BE 1/2 SACK CLSM. PER MAG. SPECIFICATION 718.
 3. VALVE BOXES SHALL NOT BE INSTALLED WITHIN CONCRETE GUTTER, SIDEWALK, RAMPS OR VALLEY GUTTER.

DETAIL NO.
C- 406
 PAGE 1 OF 2

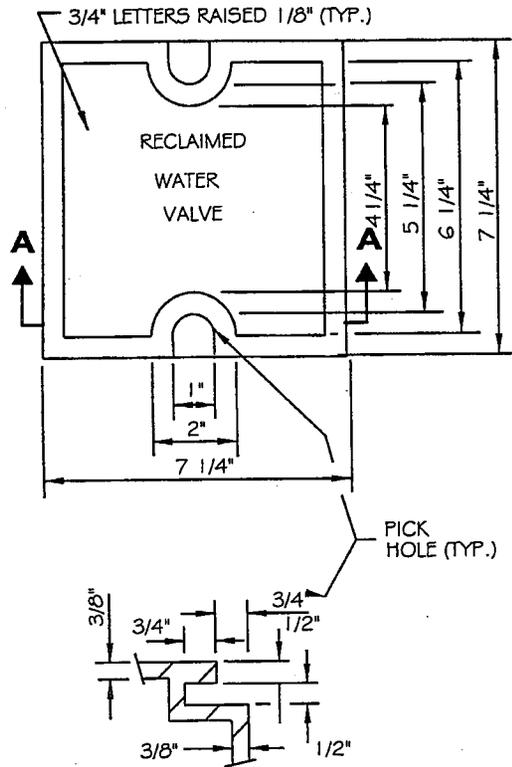


CITY OF
 CHANDLER
 STANDARD
 DETAIL

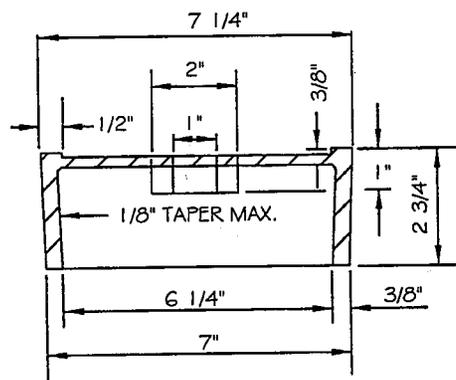
**VALVE BOX INSTALLATION
 (RECLAIMED WATER)**

APPROVED: *[Signature]*
 CITY ENGINEER
 DATE: 07-09-2015

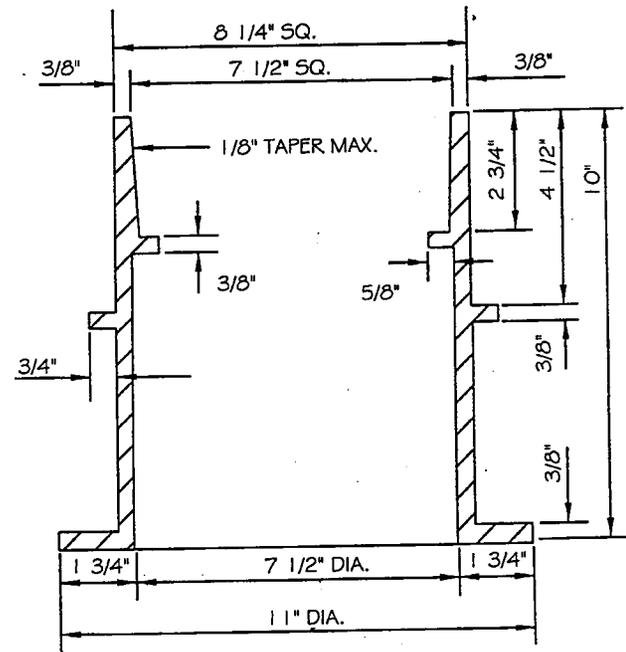
DETAIL NO.
C- 406
 PAGE 1 OF 2



SECTION



**SECTION A - A
COVER**



**SECTION
VALVE BOX**

NOTES:

1. ALL MATERIAL SHALL BE CAST IRON PER ASTM. A-48, CLASS 30 B.
2. THE SURFACES OF THE COVER AND BOX WHICH COME IN CONTACT WITH EACH OTHER MUST BE SMOOTH AND FREE OF ALL CASTING RIDGES AND BURRS TO PROVIDE A SNUG FIT.
3. THE VALVE BOX SHALL HAVE A ROUND BOTTOM TO ACCOMMODATE RISER PIPE. THE TOP OF THE VALVE BOX SHALL BE SQUARE.
4. THE LID AND INSIDE AND OUTSIDE OF THE RISER PIPE SHALL BE COLORED PURPLE. COLOR MAY BE INCORPORATED INTO PIPE DURING MANUFACTURE OR PAINTED ONTO PIPE SURFACE. WHEN PAINTED THE PAINT SHALL BE SEYMOUR SAFETY PURPLE.
5. LETTERING SHALL BE RESTRICTED TO THAT SHOWN ON THE VALVE BOX COVER.

DETAIL NO.
C-406



CITY OF
CHANDLER
STANDARD
DETAIL

**VALVE BOX INSTALLATION
(RECLAIMED WATER)**

APPROVED:

Boyd D. Talley
CITY ENGINEER

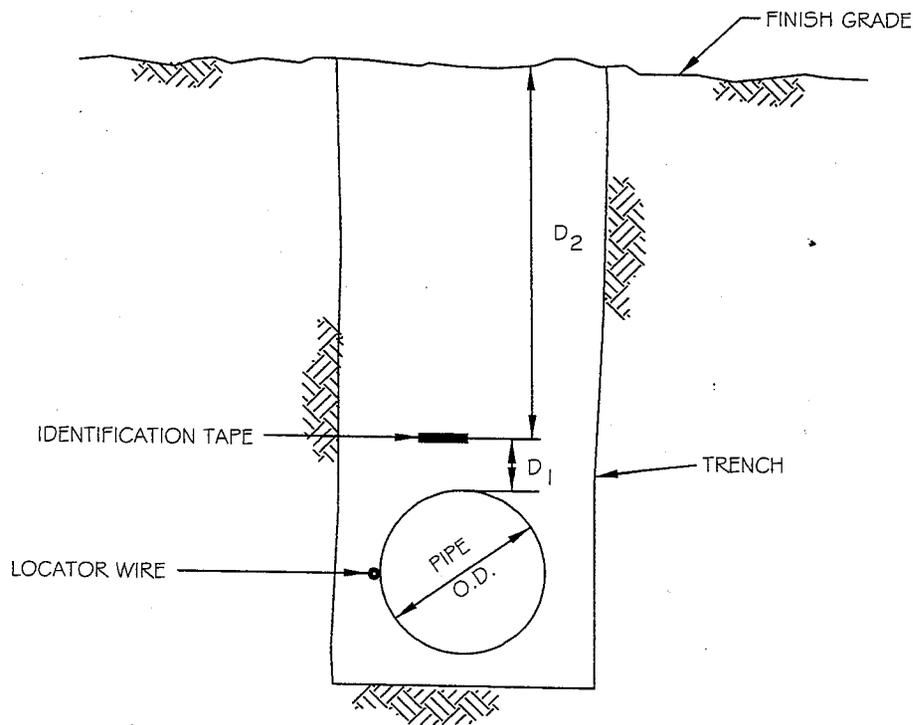
DATE:

11-19-99

DETAIL NO.

C-406

PAGE 2 OF 2



NOTES:

1. I.D. TAPE AND LOCATOR WIRE SHALL BE INSTALLED ON PUBLIC DISTRIBUTION AND COLLECTION MAINS FOR ALL PIPE MATERIALS AND SIZES 4" AND LARGER
2. I.D. TAPE AND MARKINGS SHALL BE PER MAG STD. SPEC. SEC. 616.4, EXCEPT AS MODIFIED HEREON.
3. LOCATOR WIRE SHALL BE 14 GAUGE THWN COPPER WIRE.
4. D_1 SHALL BE 12", HOWEVER, ADJUST D_1 , AS NECESSARY, SO THAT D_1 IS NEVER GREATER THAN 48".
5. LOCATOR WIRE SHALL ORIGINATE/TERMINATE AT VALVE BOXES AND MANHOLES AND BE SECURED TO VALVE BOX OR MANHOLE NO MORE THAN 12" BELOW COVER.
6. LOCATOR WIRE SHALL BE VERIFIED FOR ELECTRICAL CONTINUITY ALONG THE ENTIRE LENGTH.

IDENTIFICATION TAPE COLOR AND MARKING SCHEDULE

PIPELINE USE	COLOR	PRINTED MESSAGE
RECLAIMED WATER	MAG SPEC SEC 616.4	MAG SPEC SEC 616.4
POTABLE WATER	SOLID COLUMBIA BLUE	CAUTION POTABLE WATER LINE
SEWER	GREEN	CAUTION: SANITARY SEWER

C-408



CITY OF
CHANDLER
STANDARD
DETAIL

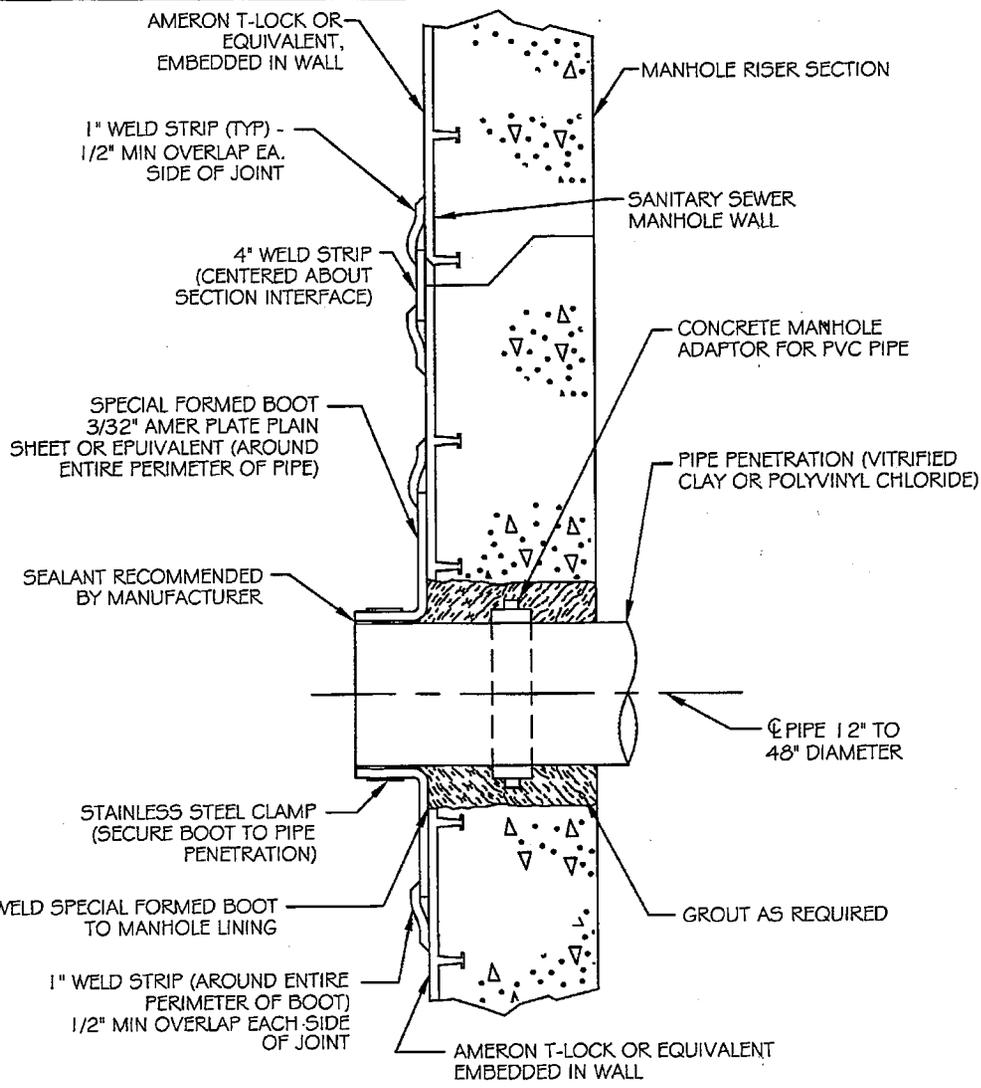
PIPE LOCATOR WIRE & I.D. TAPE

APPROVED: *Kevin Huls*
CITY ENGINEER
DATE: 01-27-11

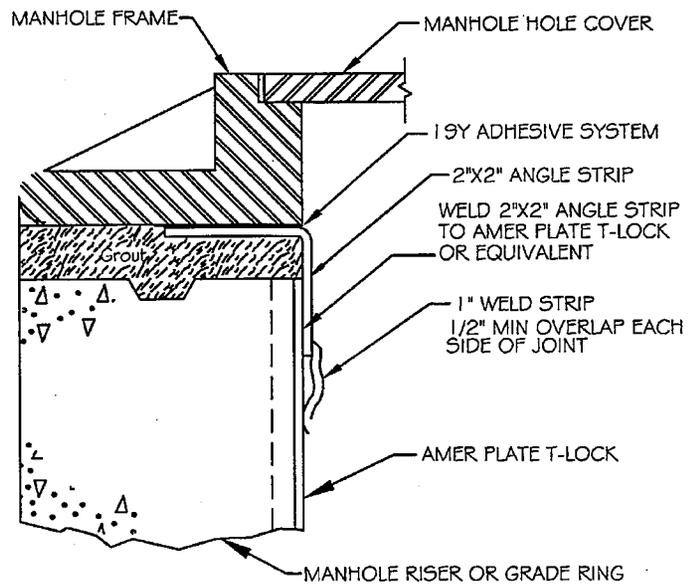
DETAIL NO.

C-408

NTS



PIPE PENETRATION DETAIL

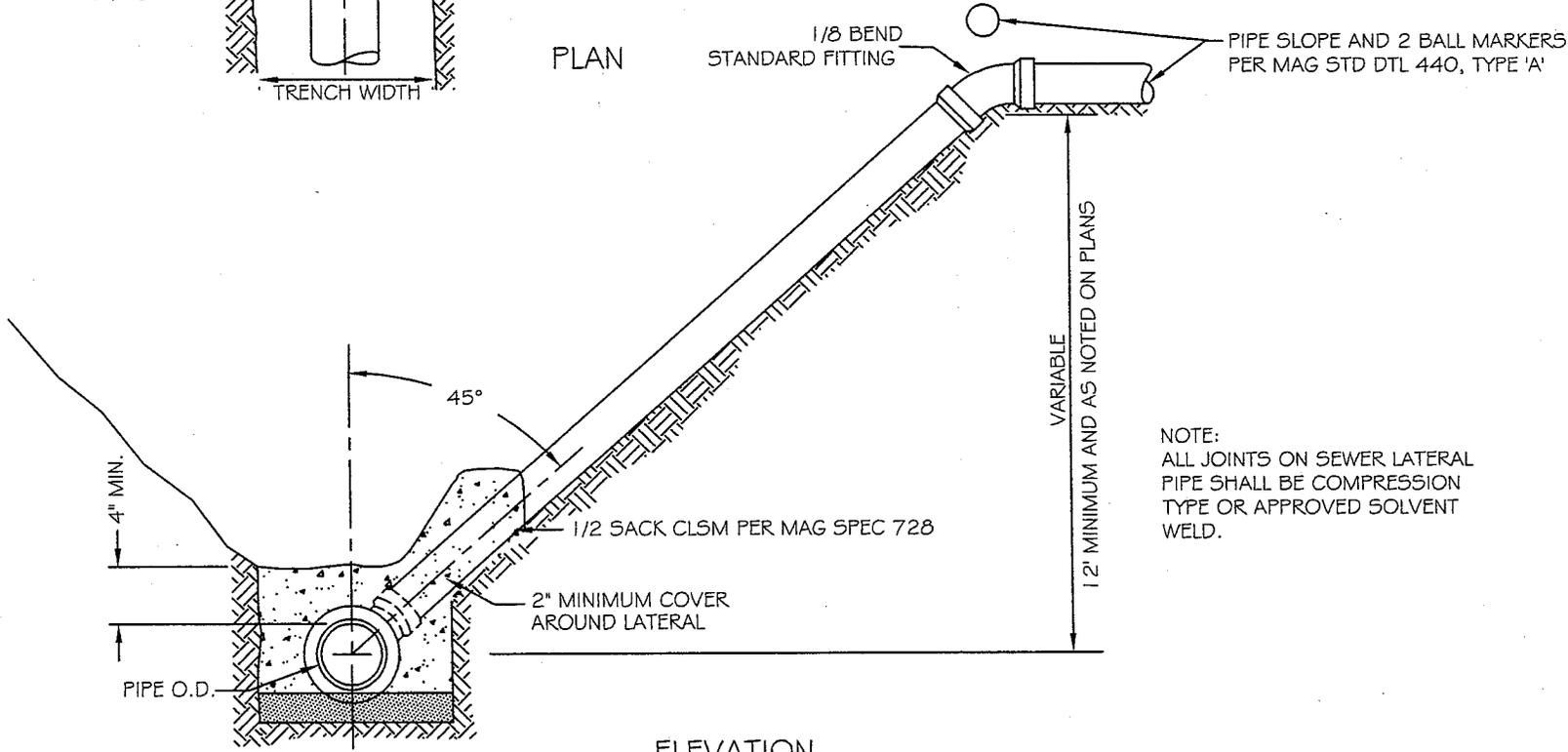
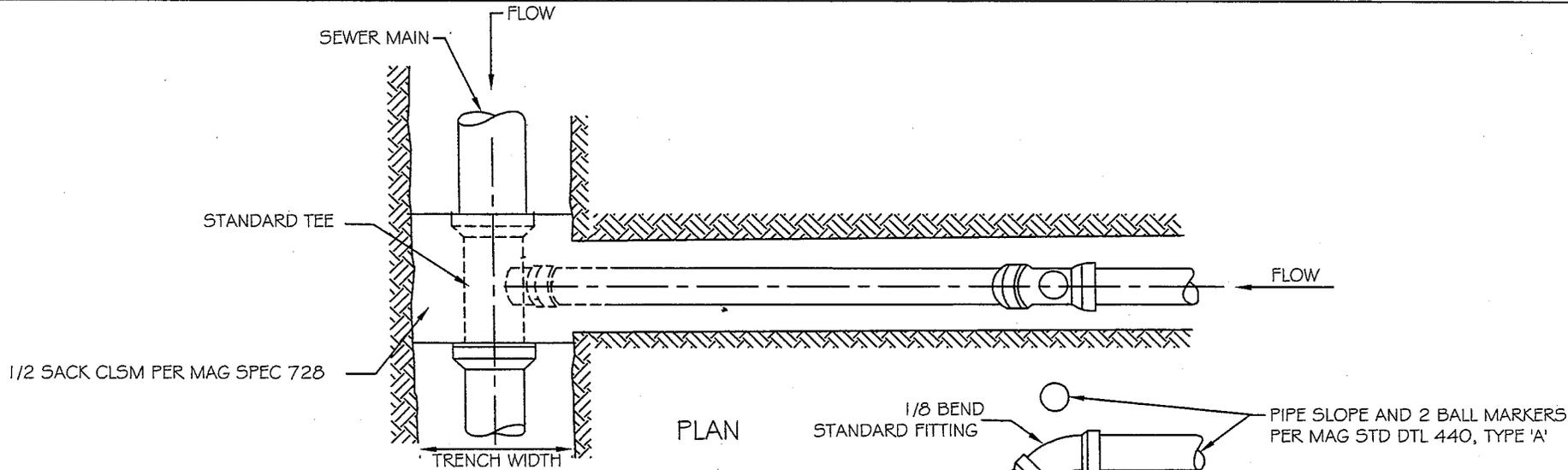


NOTE:
2" X 2" ANGLE STRIP TO BE ATTACHED TO MANHOLE FRAME USING 19Y ADHESIVE PRIOR TO SETTING FRAME.

MANHOLE FRAME TERMINATION DETAIL

NOTE:
ALL FIELD JOINTS FOR T-LOCK LINED MANHOLE SECTIONS SHALL BE TYPE P-1 JOINTS WITH 4" WELD STRIP WITH 2-1" WELD STRIPS SECURING THE JOINT STRIP IN PLACE.

DETAIL NO. C-409 NTS	 CITY OF CHANDLER STANDARD DETAIL	PIPE PENETRATION AND MANHOLE FRAME TERMINATION DETAIL	APPROVED: <i>John H. [Signature]</i> CITY ENGINEER DATE: <i>01/09/09</i>	DETAIL NO. C-409 NTS
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NOTE:
 ALL JOINTS ON SEWER LATERAL
 PIPE SHALL BE COMPRESSION
 TYPE OR APPROVED SOLVENT
 WELD.

DETAIL NO.
C-410
 NTS

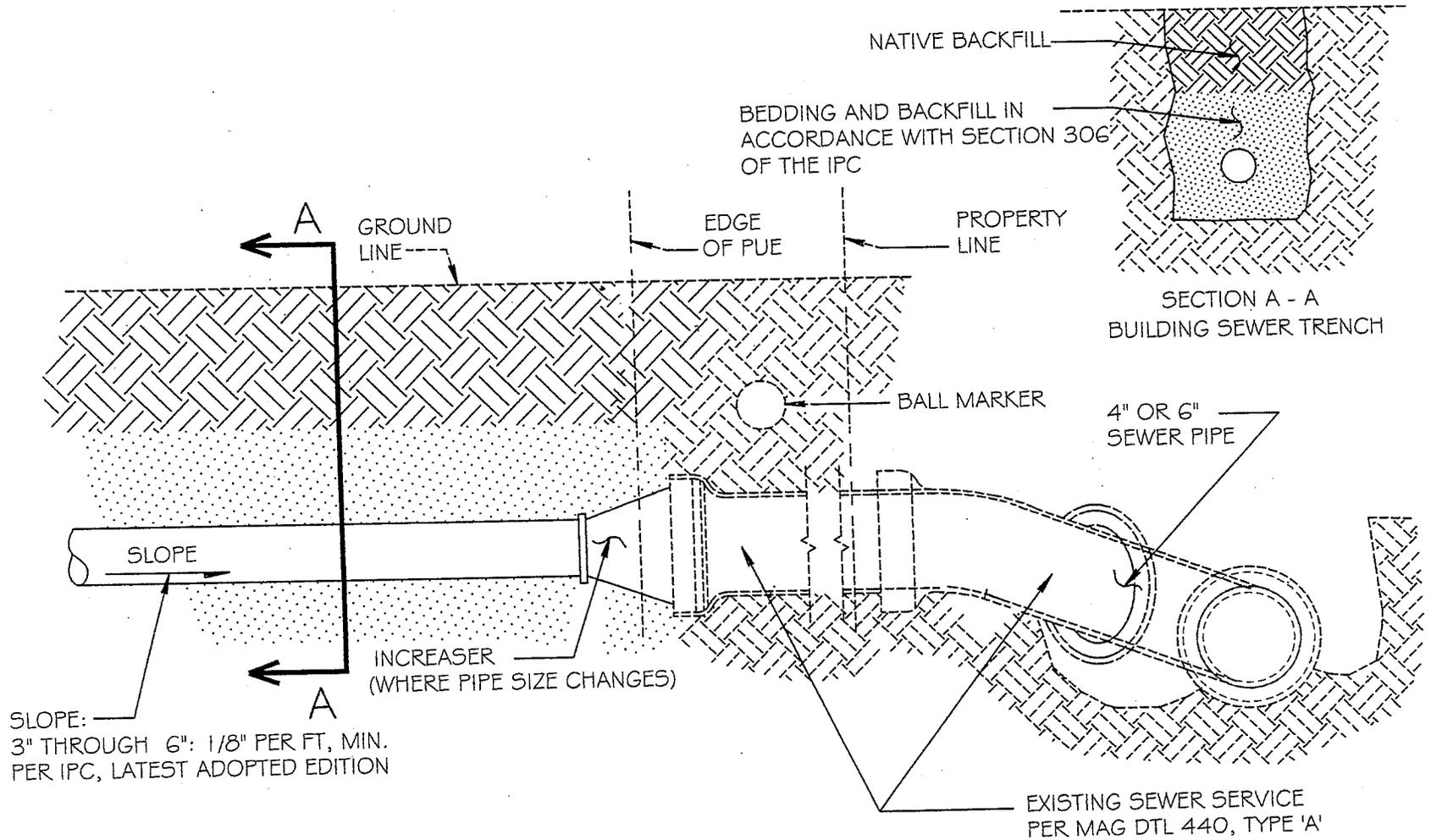


CITY OF
 CHANDLER
 STANDARD
 DETAIL

**DEEP CUT SEWER CONNECTION
 (SEWER LATERAL)**

APPROVED: *[Signature]*
 CITY ENGINEER
 DATE: 01/14/10

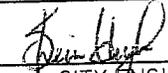
DETAIL NO.
C-410
 NTS

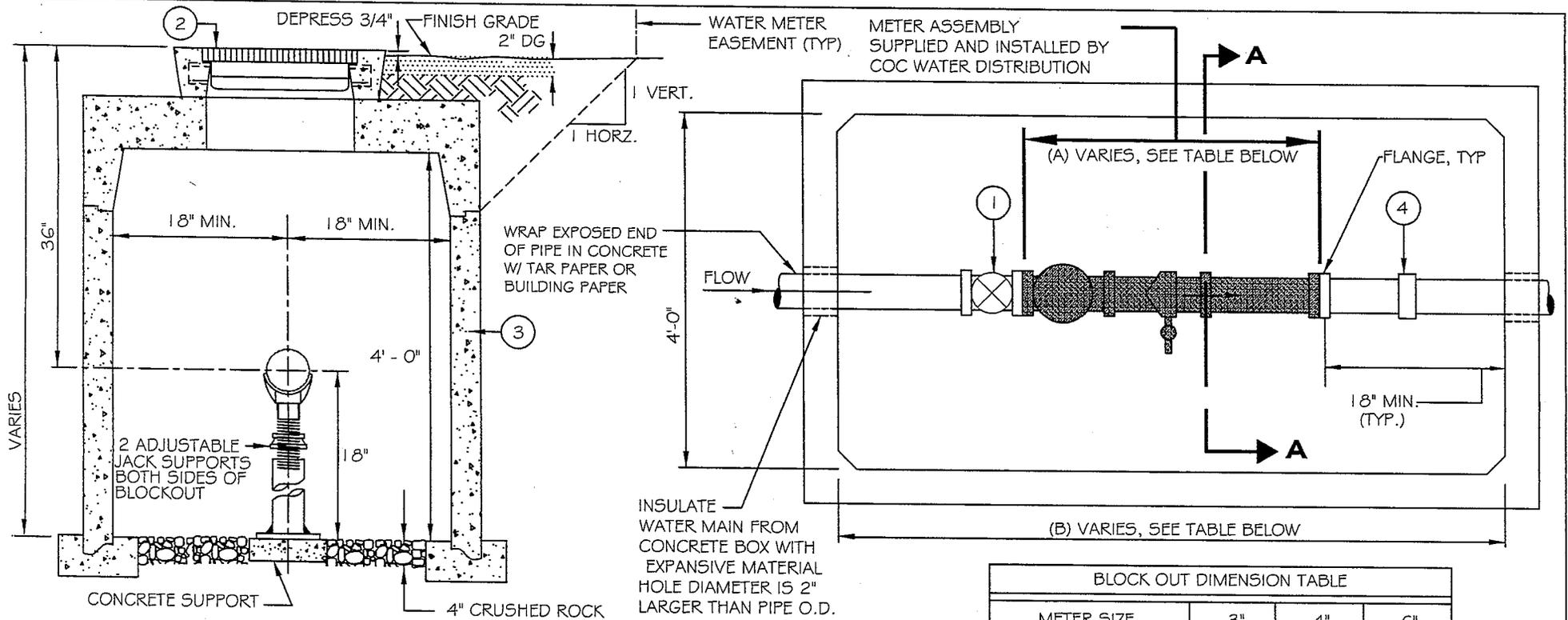


SLOPE:
3" THROUGH 6": 1/8" PER FT, MIN.
PER IPC, LATEST ADOPTED EDITION

NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (IPC), LATEST ADOPTED EDITION.
2. NO PIPE SHALL BE BACKFILLED UNTIL THE LINE HAS BEEN INSPECTED AND APPROVED BY THE DEVELOPMENT INSPECTOR.

DETAIL NO. C-411 NTS	 CITY OF CHANDLER STANDARD DETAIL	BUILDING SEWER CONNECTION	APPROVED:  CITY ENGINEER DATE: 01/14/10	DETAIL NO. C-411 NTS
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SECTION A-A

- NOTES:
1. METER VAULTS MAY BE EITHER CAST-IN-PLACE OR PRE-CAST CONCRETE. SEE MAG STANDARD DETAIL 321 FOR VAULT CONSTRUCTION.
 2. STAINLESS BOLTS AND NUTS REQUIRED FOR ENTIRE ASSEMBLY.
 3. PIPE MAIN SHALL BE FULLY RESTRAINED BEYOND INLET AND OUTLET OF VAULT.
 4. CONTRACTOR SHALL PROVIDE FLANGED SPOOL IN METER ASSEMBLY BLOCK-OUT TO PROVE CORRECT ALIGNMENT. SPOOL MAY BE SALVAGED AFTER METER INSTALLATION.
 5. VAULT LID SHALL NOT BE INSTALLED UNTIL AFTER METER IS INSTALLED BY CITY. CALL (480) 782-3700.
 6. CONTRACTOR SHALL DRILL 1-3/4" DIAMETER HOLE IN CENTER OF HATCH.

○ LEGEND:

1. O.S. # Y. GATE VALVE, FLANGED WITH HAND WHEEL OPEN LEFT, AND RISING STEM.
2. METER HATCH PER SYRACUSE CASTINGS "CH-AL" STYLE PEDESTRIAN RATED ALUMINUM WITH SLAM LOCK OR APPROVED EQUAL. CH-5AL 42" X 42"
3. METER VAULT PER UTILITY VAULT COC STANDARD DETAIL OR APPROVED EQUAL.
4. PROVIDE 1" TO 1-1/2" OF PLAY IN THE FLEX COUPLING - CAULDER OR EQUAL.

BLOCK OUT DIMENSION TABLE			
METER SIZE	3"	4"	6"
METER ASSEMBLY (A) BLOCK OUT	1'- 6-3/4"	1'- 10-1/4"	2'- 3-3/4"
VAULT LENGTH (B)	4' - 8"	5' - 0"	5' - 6"

DETAIL NO.
C-416
NTS

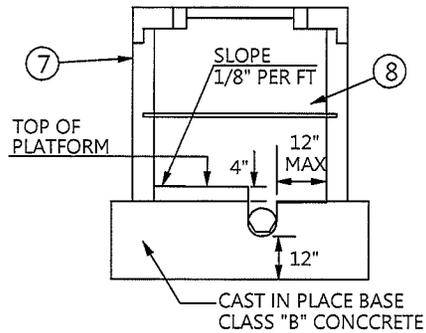


CITY OF
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STANDARD
DETAIL

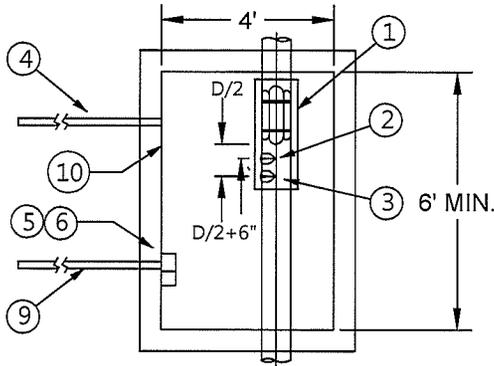
**3" THROUGH 6" RECLAIMED
WATER METER VAULT**

APPROVED: *John Hyles*
CITY ENGINEER
DATE: 01-27-11

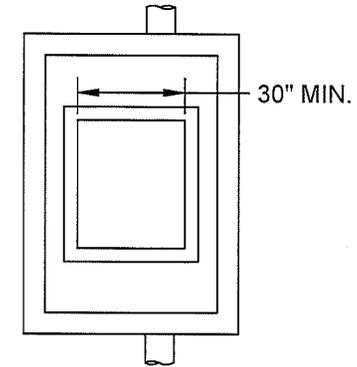
DETAIL NO.
C-416
NTS



SECTION



PLAN VIEW WITH COVER REMOVED



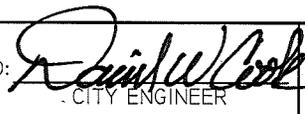
TOP VIEW

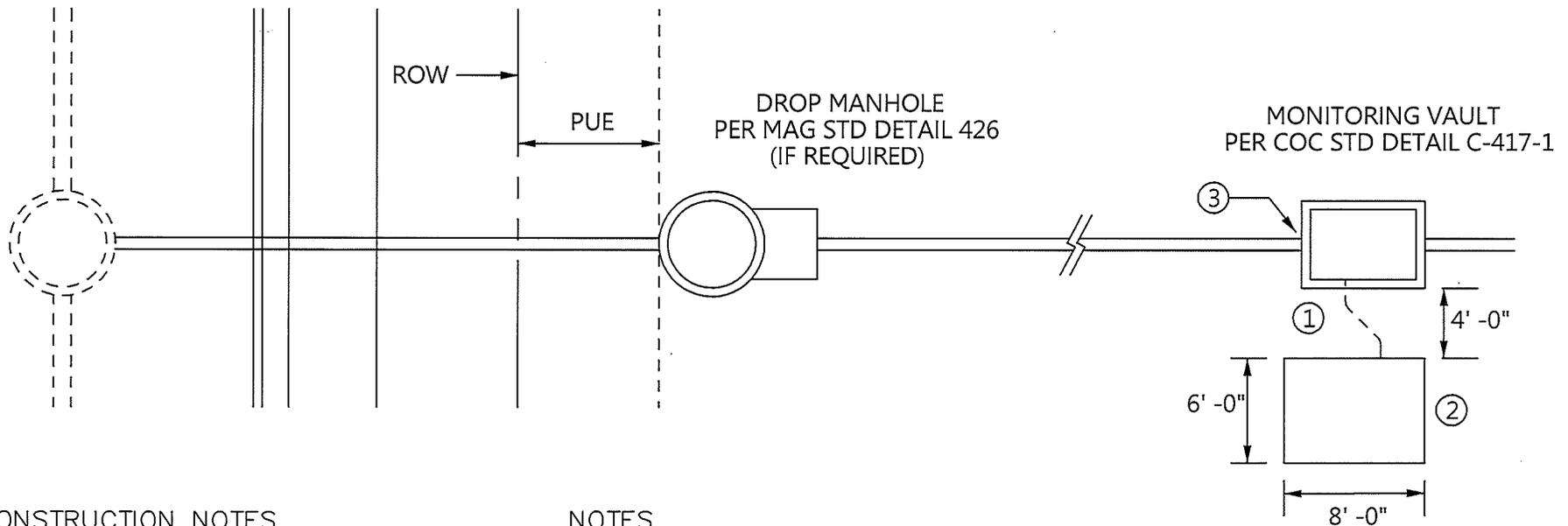
CONSTRUCTION NOTES

1. FLUME INSERT (IF REQUIRED).
2. 1/4" 316 SST BUBBLE PIPE IN RECESS.
3. 3/8" 316 SST SAMPLE PIPE IN RECESS.
4. 2" SCH 40 PVC CONDUIT (FOR SAMPLE AND BUBBLE TUBING) WITH THREADED FITTING AND CAP - SEE DETAIL C-417 (PAGE 2) FOR CONTINUATION
5. 120 VAC JUNCTION BOX (EXPLOSION PROOF)-TO BE INSTALLED WITH FLUME.
6. JUNCTION BOX WITH APHENOL CONNECTOR FOR 4-20 MA OUTPUT OR PULSE OUTPUT - TO BE INSTALLED WITH FLUME.
7. PRECAST CONCRETE VAULT AND COVER. ALL VAULTS EXCEEDING HEIGHT OF 5 FEET SHALL BE DESIGNED BY THE APPROPRIATE DESIGN PROFESSIONAL(S).
8. INSTALL 3/4" DIA. 316 SST BAR 24" ABOVE TOP OF PLATFORM AT LOCATION RECOMMENDED BY MANUFACTURER - TO BE WITH FLUME.
9. PROVIDE CONDUIT AND PULL WIRE FOR FUTURE 120 VAC - 30 AMP SERVICE (SEE DETAIL C-417 (PAGE 2) FOR CONTINUATION.
10. INSIDE OF VAULT AND CONCRETE BASE SHALL BE SPRAYED WITH A CITY APPROVED RESIN.

NOTES

1. MINIMUM INSIDE DIMENSIONS OF VAULT SHALL BE 48 INCHES WIDE BY 72 INCHES LONG WITH A MINIMUM HEIGHT OF 42" FROM THE TOP OF THE PLATFORM. ANY MODIFICATIONS TO THESE REQUIREMENTS WILL NEED TO BE REVIEWED AND APPROVED BY COC.
2. ACCESS TO THE VAULT SHALL BE BY A BILCO-STYLE DOOR WITH AN INSIDE OPENING OF AT LEAST 30 INCHES. LOAD SPECIFICATION WILL DEPEND ON INSTALLATION.
3. THE SEWER UPSTREAM OF THE VAULT SHALL BE STRAIGHT FOR LENGTH UPSTREAM OF THE VAULT EQUAL TO AT LEAST 25 PIPE DIAMETERS AND SLOPE OF UPSTREAM SEWER SHALL NOT EXCEED 1%.
4. THE TOP OF THE VAULT SHALL BE BETWEEN 3 AND 12 INCHES ABOVE FINISHED GRADE.
5. THE HEIGHT OF THE VAULT SHALL NOT EXCEED 18 FEET.
6. THE ELECTRICAL JUNCTION BOX REQUIRES A CITY PERMIT BEFORE CONSTRUCTION BEGINS.

DETAIL NO. C-417 NTS	 CITY OF CHANDLER STANDARD DETAIL	INDUSTRIAL MONITORING VAULT DETAILS	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-417 PAGE 1 OF 2
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CONSTRUCTION NOTES

1. PROVIDE CONDUIT WITH PULL WIRES FOR FUTURE 120 VAC 30 AMP SERVICE FROM VAULT TO SLAB.
2. PROVIDE 4" THK CONCRETE PAD.
3. PROVIDE MINIMUM OF 1 INCH DROP AT THE DOWNSTREAM END OF THE VAULT.

NOTES

1. PROVIDE CONDUIT AND PULL WIRES TO CONCRETE PAD FOR FUTURE 120 VAC 30 AMP SERVICE.
2. DISTANCE FROM TOP OF VAULT TO TOP OF CONCRETE PLATFORM SHALL BE 5 FT. OR LESS UNLESS OTHERWISE APPROVED BY COC STAFF.
3. COORDINATE SITE PLAN WITH COC PRETREATMENT MONITORING STAFF.
4. TERMINATE ALL CONDUIT WITH AIR TIGHT SERVICE CAPS ABOVE FINISHED GRADE.

DETAIL NO.

C-417

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**INDUSTRIAL MONITORING VAULT
SITE PLAN**

APPROVED:

David Webb
CITY ENGINEER

DATE:

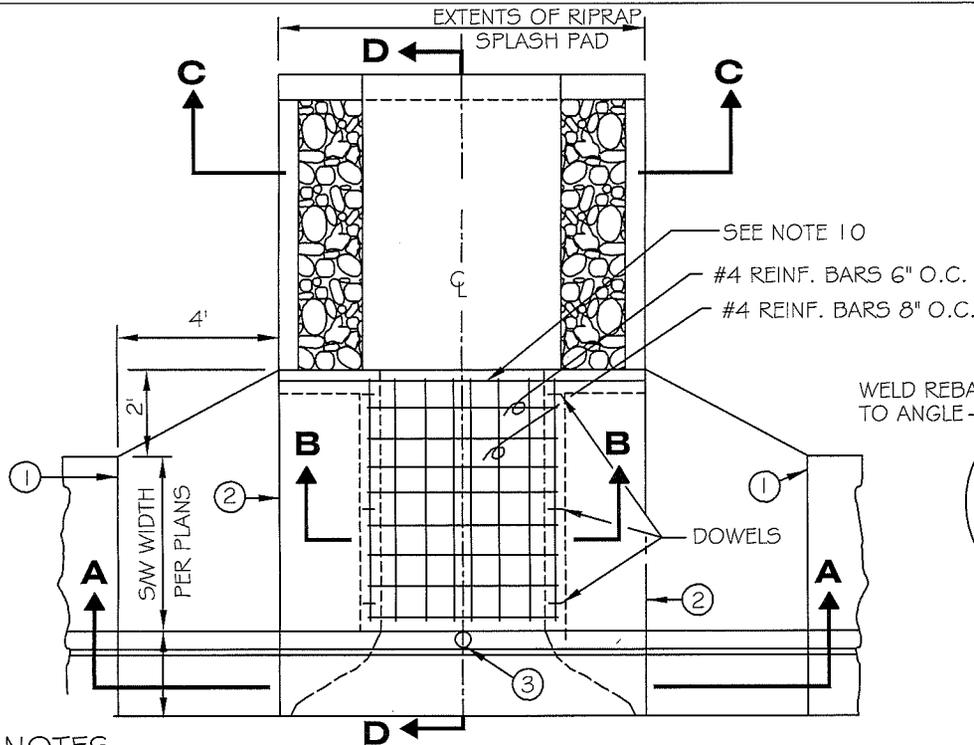
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DETAIL NO.

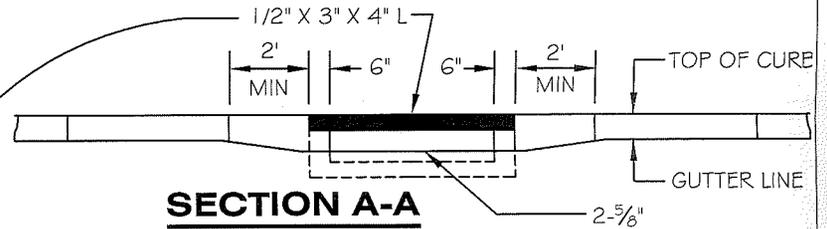
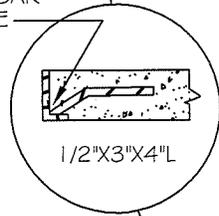
C-417

PAGE 2 OF 2

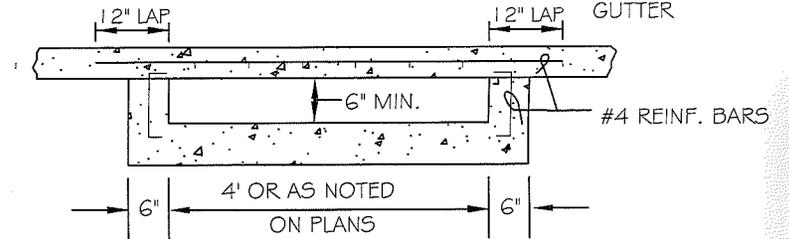
STORM SEWER & DRAINAGE
C-500 TO C-509



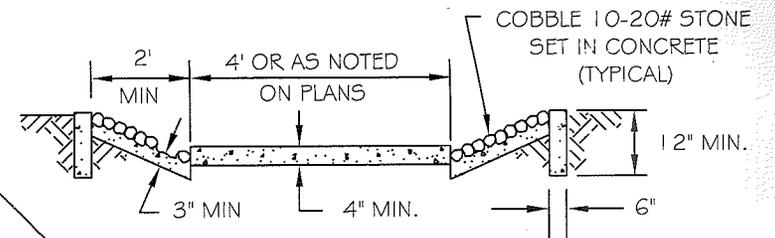
WELD REBAR TO ANGLE



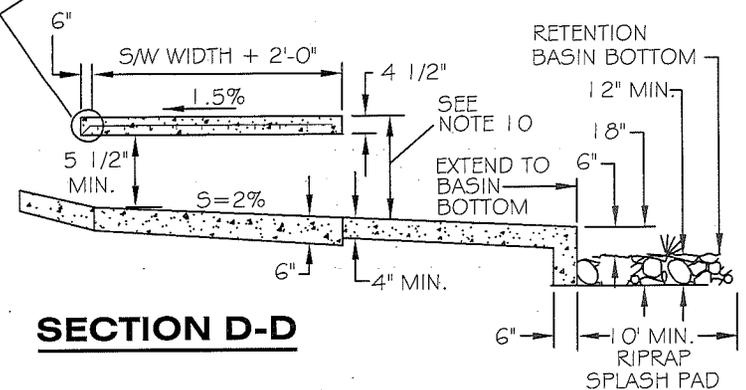
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

NOTES:

1. FULL DEPTH EXPANSION JOINT EXTENDED THROUGH CURB AND GUTTER (TYP.). EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS PRE FORMED EXPANSION JOINT FILLER ASTM D-1751. (FULL DEPTH).
2. CONTRACTION JOINT.
3. STORM DRAIN INLET MARKER PER C-508.
4. FOR OPENINGS GREATER THAN 4 FT., SEPARATE CHAMBERS WILL BE CONSTRUCTED IN 4 FT. INCREMENTS WITH A CONTRACTION JOINT OVER EACH INTERIOR SUPPORT.
5. STEEL MAT TO BE SUPPORTED ON CHAIRS PRIOR TO CONCRETE PLACEMENT. MINIMUM CONCRETE COVER TO BE 1 1/2" OVER REINFORCING BAR.
6. EXPOSED ANGLE IRON TO BE PAINTED WITH ONE SHOP COAT OF NO. 1-D PAINT AND TWO FIELD COATS OF NO. 10 PAINT AS PER MAG SECT. 790.
7. 6" - 12" COBBLE TO BE USED FOR SPLASH PAD.
8. TOP SHALL BE MONOLITHIC INCLUDING 4' WINGS.
9. CONCRETE SHALL BE CLASS 'A' PER MAG SECTION 725
10. A SAFETY RAIL PER MAG STD. DTL. 145 IS REQUIRED WHEN DROP EXCEEDS 30".

DETAIL NO.

C-500

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

SCUPPER

APPROVED: *David W. Cook*
CITY ENGINEER

DATE: 07-09-2015

DETAIL NO.

C-500

NTS

8'x8'x6" MAG CLASS B CONCRETE PAD REQUIRED IN DG-LANDSCAPED AREAS. SEVEN #3 BARS 12" C TO C EACH WAY. SLOPE DOWN FROM GRATE TO DG SURFACE 1/2".

① MODIFIED FLAT-BOTTOM MANHOLE CONE. MORTAR TO C.I. RING

2. MIN. 30" DIA. BOLTED C.I. RING AND GRATE.
3. MIN. 30" DIA. BOLTED C.I. RING AND COVER WITH THE RAISED LETTERS 'STORMWATER ONLY'.

4. GRADED PARKWAY, OR A.C. PAVING.
5. COMPACTED ABC IN PAVED AREAS.

6. DEBRIS SHIELD: ROLLED 16 GA. x 24" LENGTH W/ VENTED ANTI-SIPHON AND INTERNAL 0.265" MAX. SWO FLATTENED EXPANDED STEEL SCREEN x 12" LENGTH, FUSION-BONDED EPOXY.
7. PRECAST CONCRETE LINER, 4000 PSI 48" ID, 54" OD.

8. MIN. 6' DIA. DRILLED SHAFT.

9. SUPPORT BRACKET (TYP), FORMED 12 GA. STEEL FUSION BONDED EPOXY COATED

10. 6" DIA. SCHEDULE 40 PVC OVERFLOW PIPE.

11. 6" DIA. CORRUGATED HDPE PER MAG SECT. 738 INJECTION PIPE. NO PERFORATIONS BELOW SETTLING CHAMBER.

12. 4" THICK PERVIOUS CONCRETE SLAB CONFORMING TO MAG SECT. 725 MODIFIED: 6 SACK/CY PORTLAND CEMENT; MAX. WATER/CEMENT RATIO 0.3; COARSE AGGREGATE ONLY ASTM C-33 SIZE #8, WASHED; NO FINES; CONSOLIDATE BY STRIKING, NOT VIBRATION.

13. 3/8" TO 1-1/2" WASHED ROCK

14. DRAINAGE SCREEN: SCH. 40 PVC 0.12" SLOTTED WELL SCREEN 32 SLOTS PER ROW/FT.

15. MIN. 4' DRILLED SHAFT.

16. FABRIC SEAL, UV RESISTANT GEOTEXTILE. COVER GRATE UNTIL PAVING AND/OR LANDSCAPING IS COMPLETE.

17. 4" DIA. SCH. 40 PVC CONNECTOR PIPE W/ VENTED ANTI-SIPHON INTAKE & FLOW REGULATOR.

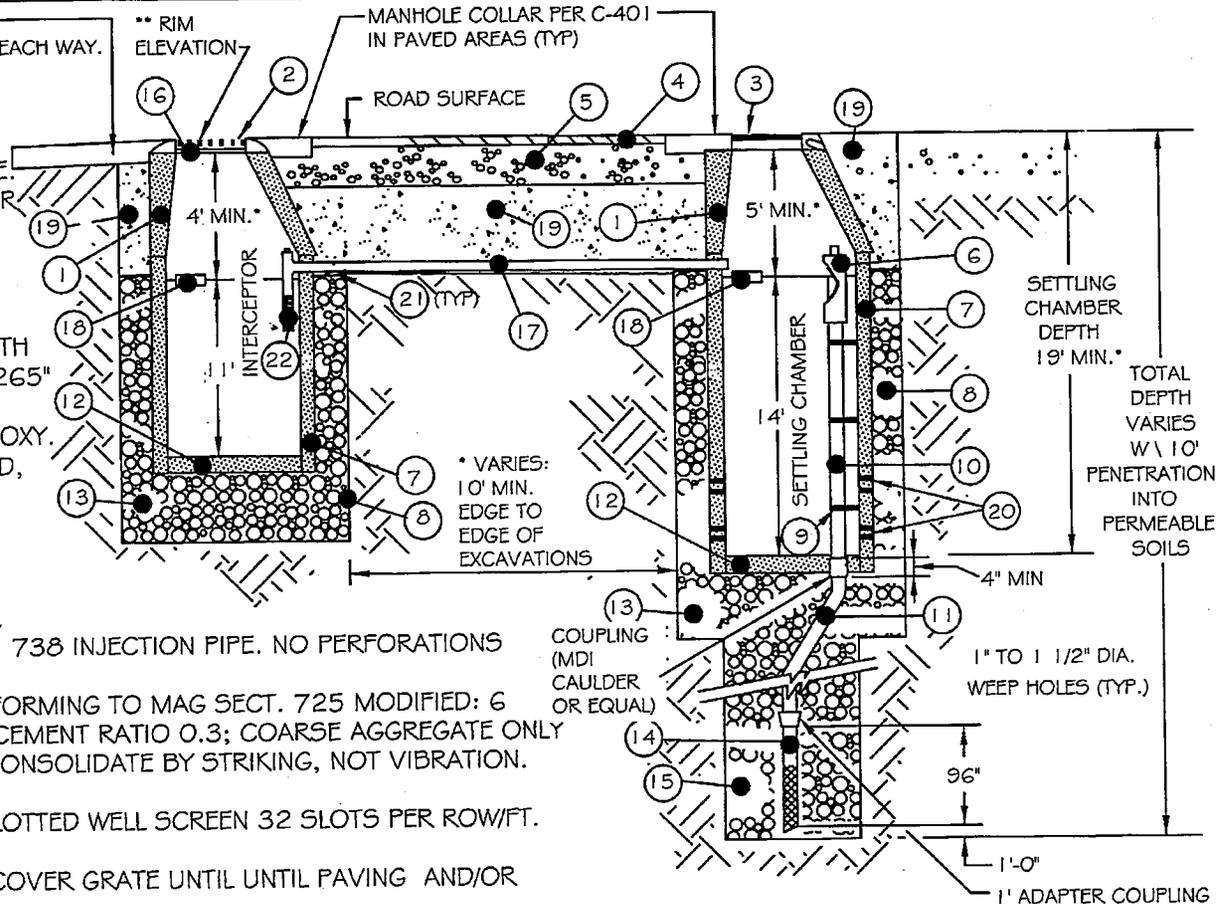
18. MIN. 4 QUART CAPACITY ABSORBENT.

19. 1 SACK ABC SLURRY EXCEPT IN LANDSCAPED INSTALLATIONS WITH NO PIPE CONNECTIONS.

20. 8 PERFORATIONS PER LINEAR FOOT FOR BOTTOM 3 FEET OF INJECTION CHAMBER.

21. 6 MIL PLASTIC LINER WATER STOP

22. INTAKE SCREEN, SCH 40 PVC 0.12" MODIFIED SLOTTED WELL SCREEN WITH 32 SLOTS PER ROW/FT. 48" OVERALL LENGTH WITH TRI-C END CAP



* NOTE - OVERFLOW DEPTHS AND INVERT OF CONNECTOR PIPE MUST BE BELOW THE INVERTS OF ALL UPSTREAM STORM DRAIN PIPE.

** NOTE - RIM ELEVATION SHALL BE FLUSH TO ROAD SURFACE OR TURF. RIM ELEVATION SHALL BE 1/2' ABOVE DECOMPOSED GRANITE (DG) LANDSCAPED AREAS.

BASED UPON 'MAXWELL PLUS' BY TORRENT RESOURCES

DETAIL NO.

C-501

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**DRY WELL SYSTEM DETAIL
AND SPECIFICATIONS**

APPROVED:

[Signature]
CITY ENGINEER

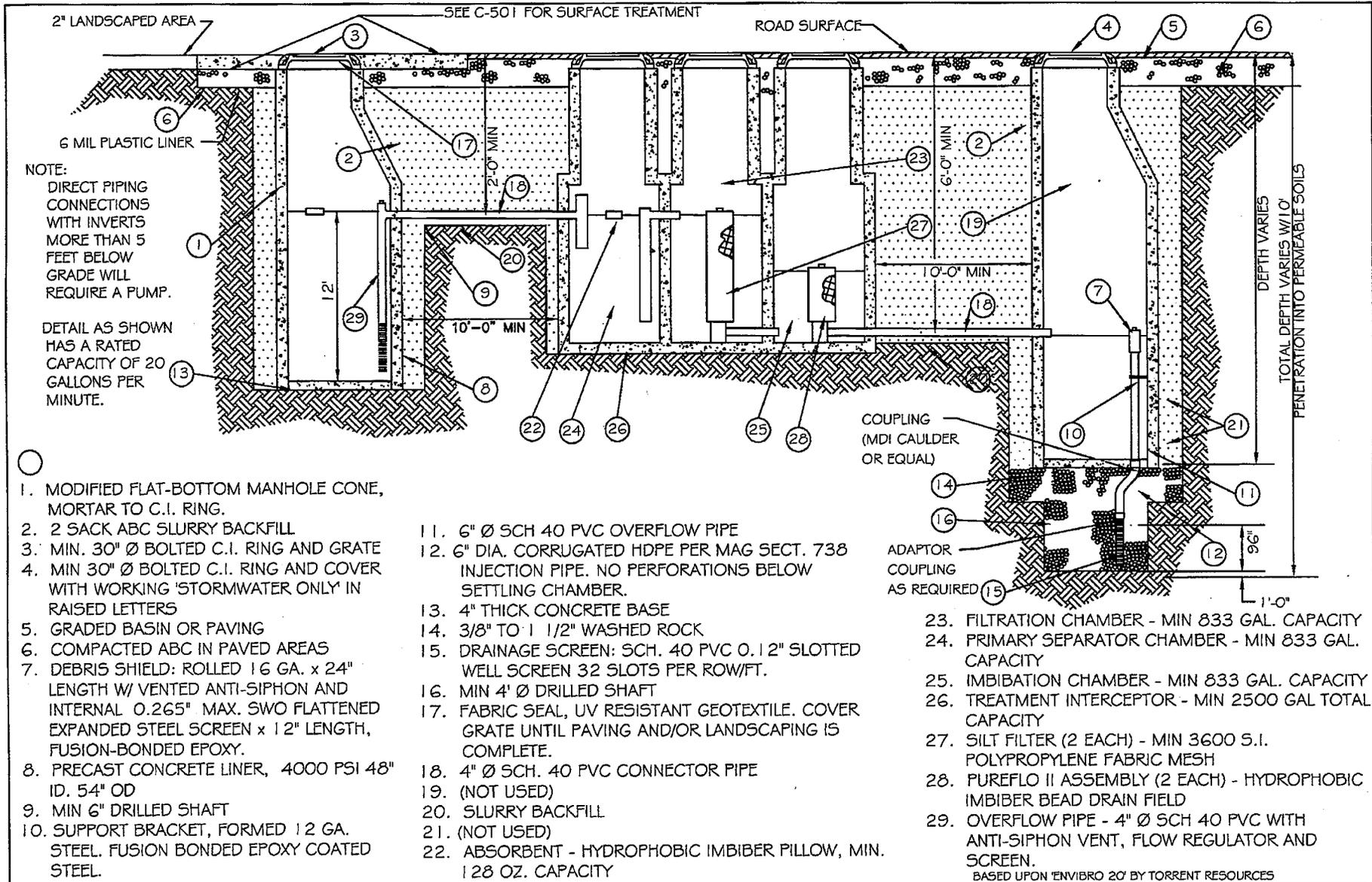
DATE:

01/08/09

DETAIL NO.

C-501

NTS



NOTE:
DIRECT PIPING CONNECTIONS WITH INVERTS MORE THAN 5 FEET BELOW GRADE WILL REQUIRE A PUMP.

DETAIL AS SHOWN HAS A RATED CAPACITY OF 20 GALLONS PER MINUTE.

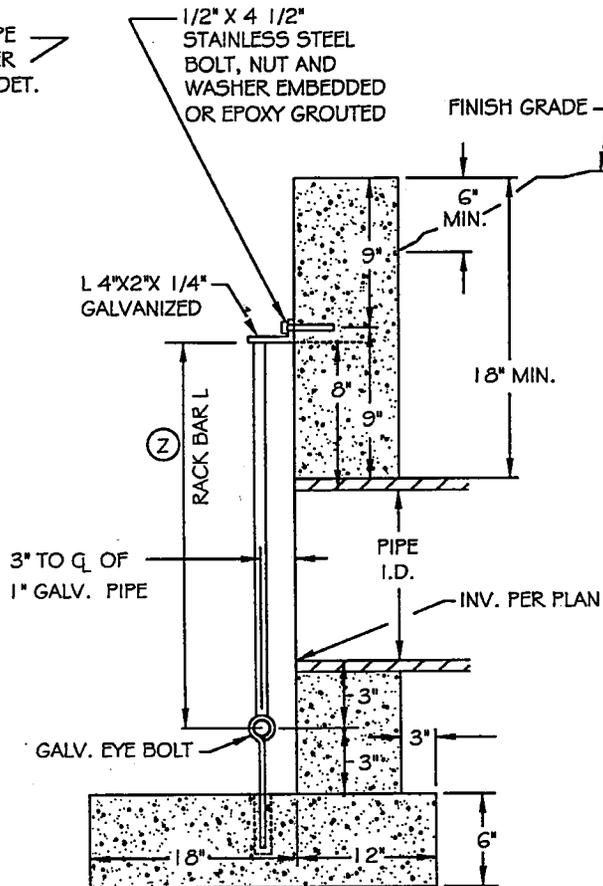
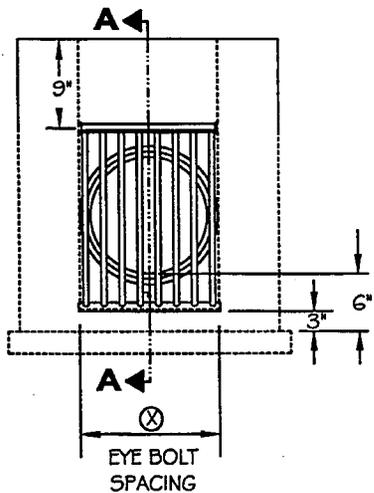
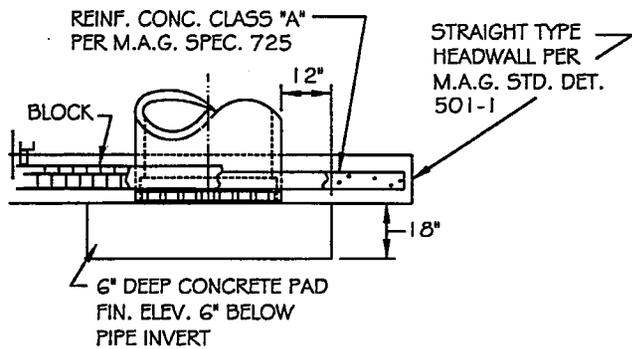
- 1. MODIFIED FLAT-BOTTOM MANHOLE CONE, MORTAR TO C.I. RING.
- 2. 2 SACK ABC SLURRY BACKFILL
- 3. MIN. 30" Ø BOLTED C.I. RING AND GRATE
- 4. MIN 30" Ø BOLTED C.I. RING AND COVER WITH WORKING 'STORMWATER ONLY' IN RAISED LETTERS
- 5. GRADED BASIN OR PAVING
- 6. COMPACTED ABC IN PAVED AREAS
- 7. DEBRIS SHIELD: ROLLED 16 GA. x 24" LENGTH W/ VENTED ANTI-SIPHON AND INTERNAL 0.265" MAX. SWO FLATTENED EXPANDED STEEL SCREEN x 12" LENGTH, FUSION-BONDED EPOXY.
- 8. PRECAST CONCRETE LINER, 4000 PSI 48" ID. 54" OD
- 9. MIN 6" DRILLED SHAFT
- 10. SUPPORT BRACKET, FORMED 12 GA. STEEL. FUSION BONDED EPOXY COATED STEEL.

- 11. 6" Ø SCH 40 PVC OVERFLOW PIPE
- 12. 6" DIA. CORRUGATED HDPE PER MAG SECT. 738 INJECTION PIPE. NO PERFORATIONS BELOW SETTLING CHAMBER.
- 13. 4" THICK CONCRETE BASE
- 14. 3/8" TO 1 1/2" WASHED ROCK
- 15. DRAINAGE SCREEN: SCH. 40 PVC 0.12" SLOTTED WELL SCREEN 32 SLOTS PER ROW/FT.
- 16. MIN 4' Ø DRILLED SHAFT
- 17. FABRIC SEAL, UV RESISTANT GEOTEXTILE. COVER GRATE UNTIL PAVING AND/OR LANDSCAPING IS COMPLETE.
- 18. 4" Ø SCH. 40 PVC CONNECTOR PIPE
- 19. (NOT USED)
- 20. SLURRY BACKFILL
- 21. (NOT USED)
- 22. ABSORBENT - HYDROPHOBIC IMBIBER PILLOW, MIN. 128 OZ. CAPACITY

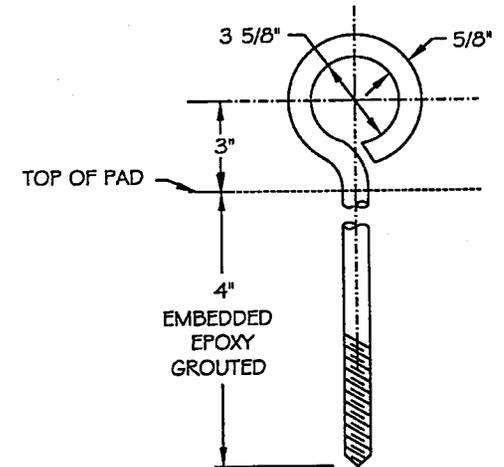
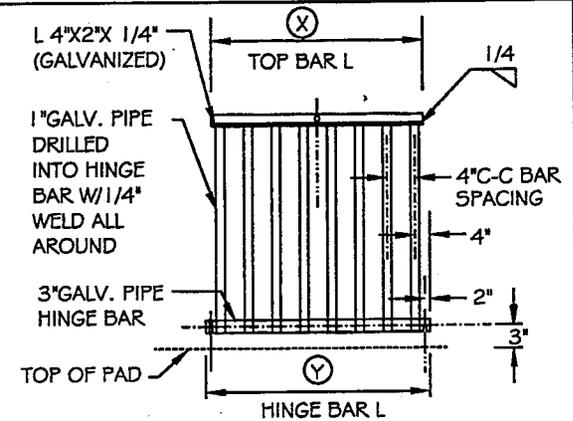
- 23. FILTRATION CHAMBER - MIN 833 GAL. CAPACITY
- 24. PRIMARY SEPARATOR CHAMBER - MIN 833 GAL. CAPACITY
- 25. IMBIBATION CHAMBER - MIN 833 GAL. CAPACITY
- 26. TREATMENT INTERCEPTOR - MIN 2500 GAL TOTAL CAPACITY
- 27. SILT FILTER (2 EACH) - MIN 3600 S.I. POLYPROPYLENE FABRIC MESH
- 28. PUREFLO II ASSEMBLY (2 EACH) - HYDROPHOBIC IMBIBER BEAD DRAIN FIELD
- 29. OVERFLOW PIPE - 4" Ø SCH 40 PVC WITH ANTI-SIPHON VENT, FLOW REGULATOR AND SCREEN.

BASED UPON 'ENVIBRO 20' BY TORRENT RESOURCES

DETAIL NO. C-502 NTS	CITY OF CHANDLER STANDARD DETAIL	PRETREATMENT DRYWELL SYSTEM	APPROVED: CITY ENGINEER DATE: 02/08/09	DETAIL NO. C-502 NTS
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SECTION A-A



EYE BOLT

TYPICAL DIMENSIONS					
TYPE	PIPE DIA.	NO. OF BARS (I.D./4" + 1")	DIMENSIONS		
			X	Y	Z
A	15"	5	21"	25"	26"
	18"	6	25"	29"	29"

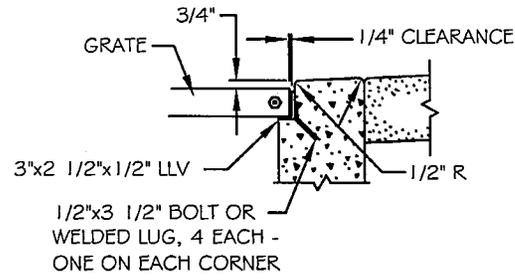
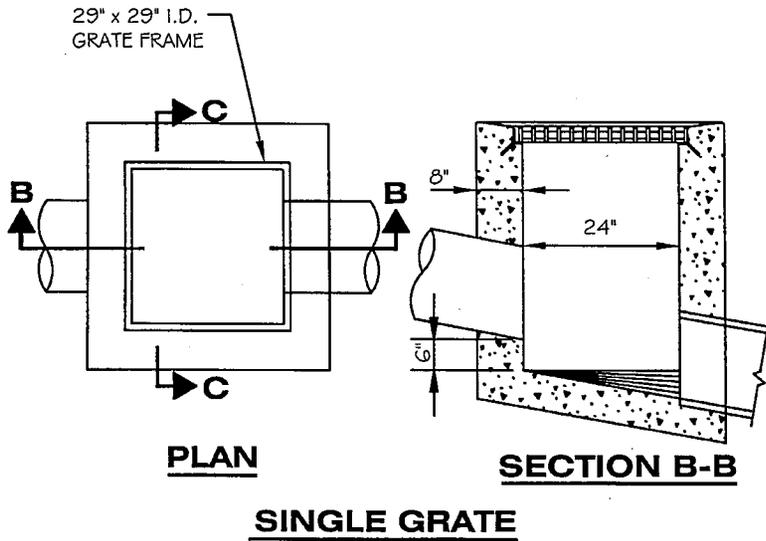
* ROUND UP TO NEXT FULL NUMBER

OTHER BAR SIZES	
DIMENSIONS	
X =	(# BARS X 4") + 1"
Y =	X + 4"
Z =	I.D. + 3" + 8" (UP TO 4' 0")

NOTES:

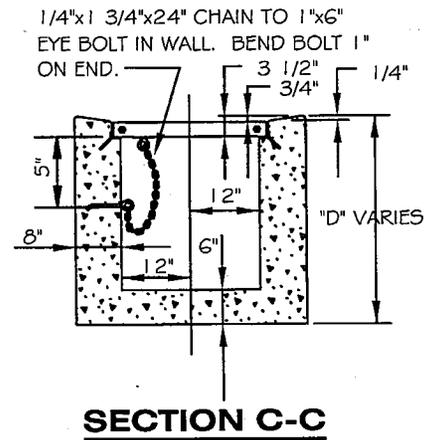
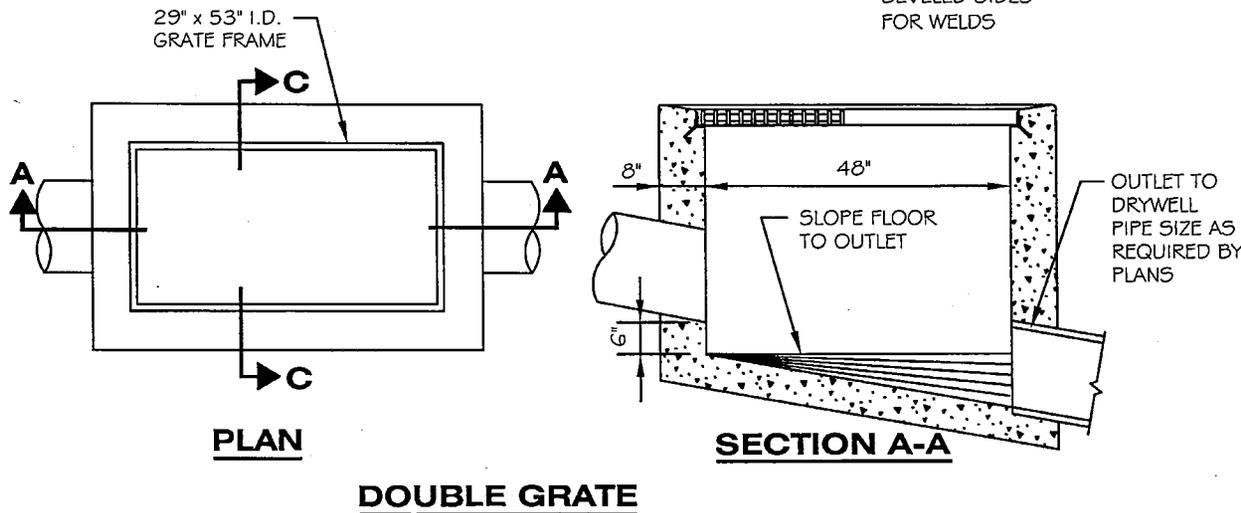
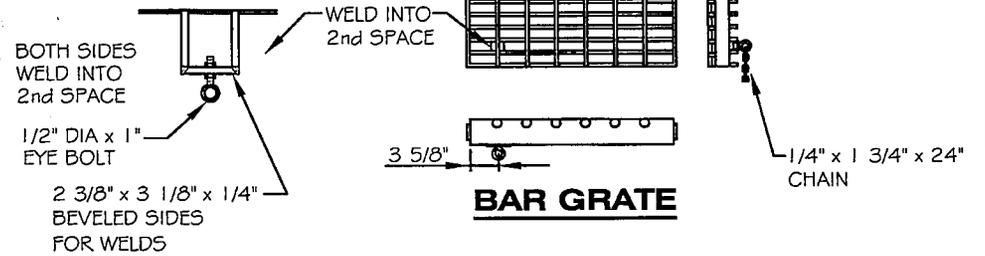
1. THIS DETAIL IS APPLICABLE AT ALL OPEN ENDS OF PIPE 12" OR MORE IN DIAMETER.
2. COAT ALL WELD AREAS WITH ZINC RICH PAINT.
3. DESIGN ENGINEER TO PROVIDE DETAILS FOR PIPE I.D.'S GREATER THAN 4' IN DIAMETER.

DETAIL NO. C-503 NTS	 CITY OF CHANDLER STANDARD DETAIL	TRASH RACK/ACCESS BARRIER	APPROVED: <i>Raymond D. Patton</i> CITY ENGINEER DATE: <u>11-19-99</u>	DETAIL NO. C-503 NTS
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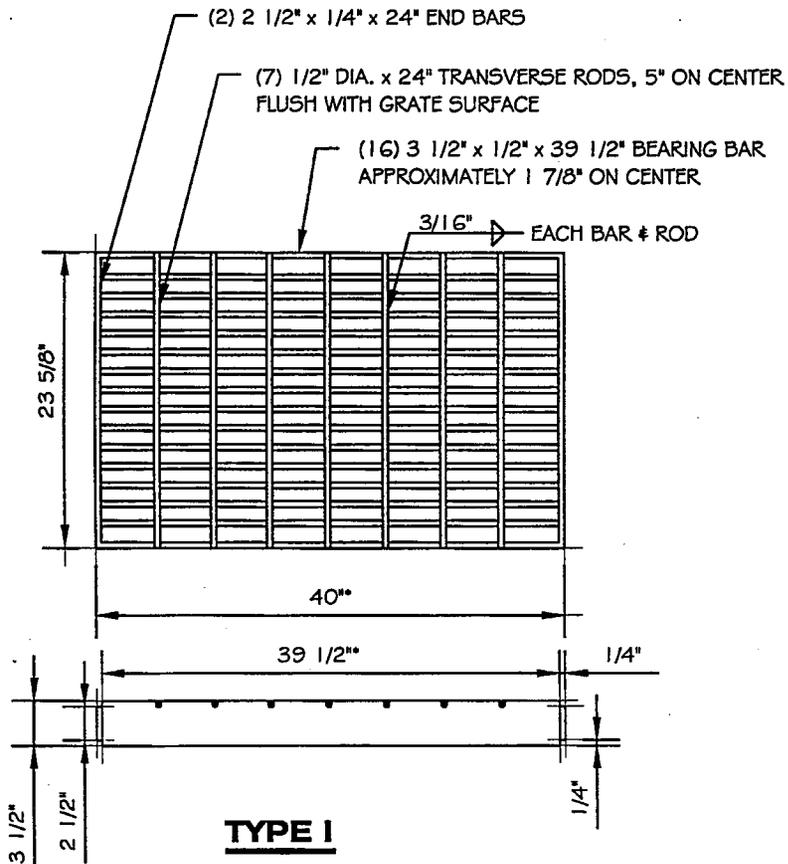


DETAIL OF ANGLE FRAME GRATE SUPPORT

ALL CONCRETE SHALL BE CLASS 'A' PER MAG SECT. 725. EXPOSED EDGES SHALL BE FINISHED WITH A 1/2" RADIUS. REINFORCE WITH #4 AT 8" EACH WAY, CENTERED.



DETAIL NO. C-504 NTS	 CITY OF CHANDLER STANDARD DETAIL	RETENTION BASIN INLET	APPROVED: <i>Elizabeth W. [Signature]</i> CITY ENGINEER DATE: <i>January 11, 2002</i>	DETAIL NO. C-504 NTS
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* DIMENSION WILL VARY DEPENDING UPON
CATCH BASIN PIPE SIZE.

NOTES:

1. ALL STEEL SHALL BE IN ACCORDANCE WITH ASTM A-36.
2. WELDING SHALL BE IN ACCORDANCE WITH AWS SPECIFICATIONS.
3. FRAME AND GRATE SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY.
4. THE COMPLETED ASSEMBLY SHALL BE GIVEN ONE SHOP COAT OF NO. 1 PAINT AND TWO FIELD COATS OF NO. 10 PAINT AS PER MAG SECTION 790.
5. THE GRATE SHALL BE FABRICATED TO WITHIN 1/8" OF SPECIFIED DIMENSIONS.

DETAIL NO.
C-506
NTS

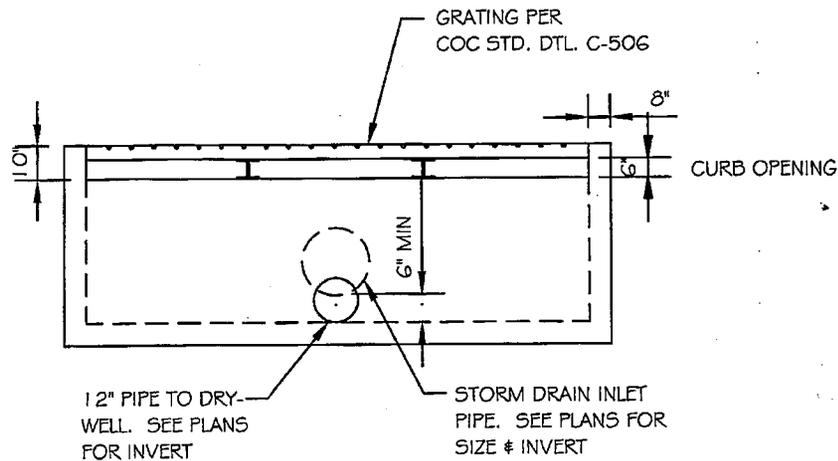


CITY OF
CHANDLER
STANDARD
DETAIL

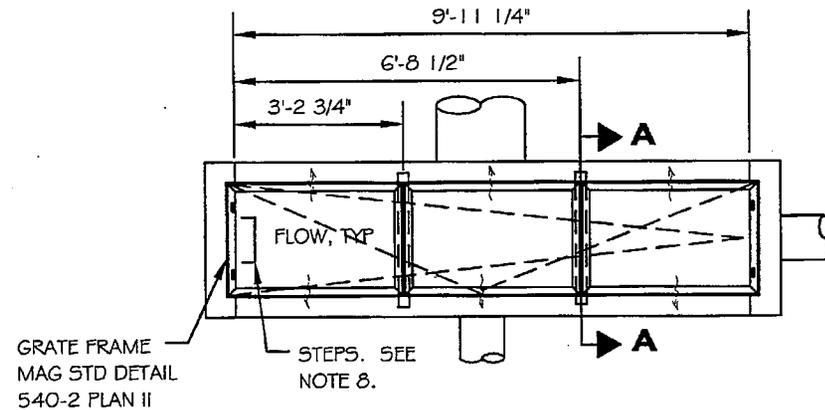
CATCH BASIN GRATES

APPROVED: *Don D. Feltner*
CITY ENGINEER
DATE: 11-19-99

DETAIL NO.
C-506
NTS



FRONT ELEVATION

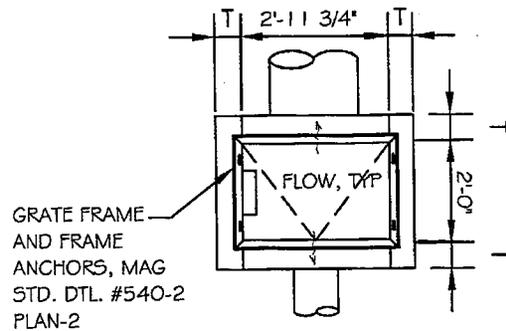


TRIPLE CATCH BASIN

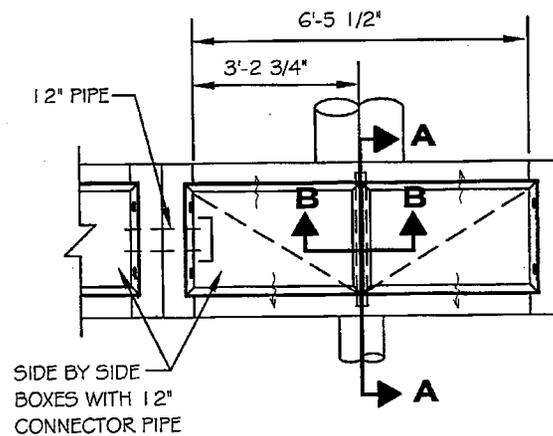
NOTES:

1. ALL CONCRETE SHALL BE M.A.G. CLASS 'A'.
2. CONNECTOR PIPES MAY BE PLACED IN ANY WALL AS PER PLAN.
3. FLOOR BASIN SHALL BE TROWELLED TO A HARD, SMOOTH SURFACE AND SHALL SLOPE FROM ALL DIRECTIONS TO OUTLET.
4. CONNECTOR PIPE SHALL BE TRIMMED TO THE FINAL SHAPE AND LENGTH BEFORE CONCRETE IS POURED.
5. PLANS SHOULD SPECIFY GRATE ELEVATION AND INVERT ELEVATION.
6. RETENTION BASIN INLET MAY BE PREFABRICATED PROVIDING A SHOP DRAWING IS APPROVED BY THE ENGINEER PRIOR TO FABRICATION.
7. THE FRAME SHALL BE MAG STD DETAIL 540-2, PLAN II, GRATE PER CHANDLER DET. #C-506.

DETAIL NO. C-507 NTS	 CITY OF CHANDLER STANDARD DETAIL	BELOW GRADE RETENTION BASIN INLET (BUBBLER BOX)	APPROVED:  CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-507 PAGE 1 OF 3
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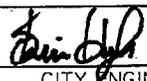
SINGLE CATCH BASIN



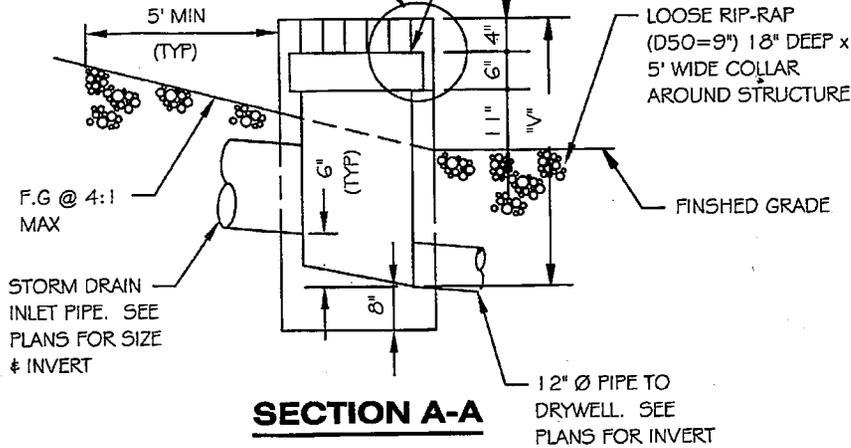
DOUBLE CATCH BASIN

NOTES: (CONT)

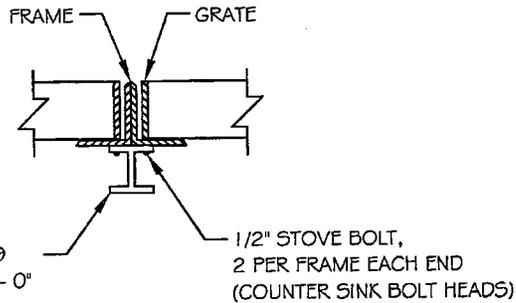
8. STEPS (MAG DET. 428 POLYPROPYLENE) V = 3' (INCL) PLACE ONE STEP 12" ABOVE THE FLOOR OF THE BASIN. V OVER 3', PLACE STEPS AT 12" INTERVALS FROM THE FLOOR OF THE BASIN WITH THE TOP STEP AT 12" (MIN) BELOW THE TOP OF GRATE.
9. ALL EXPOSED METAL HARDWARE SHALL BE GIVEN ONE SHOP COAT OF NO. 1 PAINT AND 2 FIELD COATS OF NO. 10 PAINT AS PER M.A.G. SECTION 790.
10. ALL METAL UNITS SHALL BE FABRICATED FROM STRUCTURAL STEEL EXCEPT AS NOTED. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM A-36.
11. WELDING SHALL BE IN ACCORDANCE WITH MAG WELDING SPECIFICATIONS.

DETAIL NO. C-507 NTS	 CITY OF CHANDLER STANDARD DETAIL	BELOW GRADE RETENTION BASIN INLET (BUBBLER BOX)	APPROVED:  CITY ENGINEER DATE: 01/09/09	DETAIL NO. C-507 PAGE 2 OF 3
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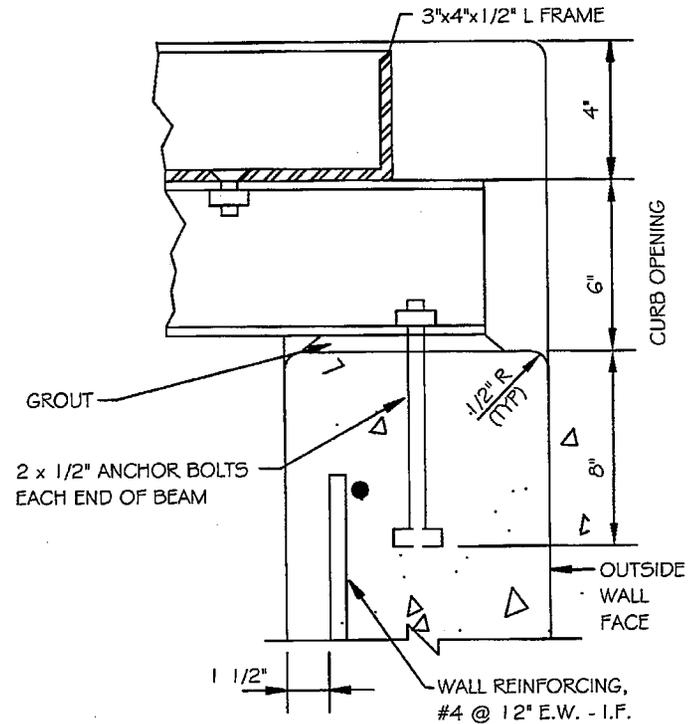
CONTINUOUS CURB OPENING
FRONT AND BACK. SEE
DETAIL THIS SHEET



SECTION A-A



SECTION B-B

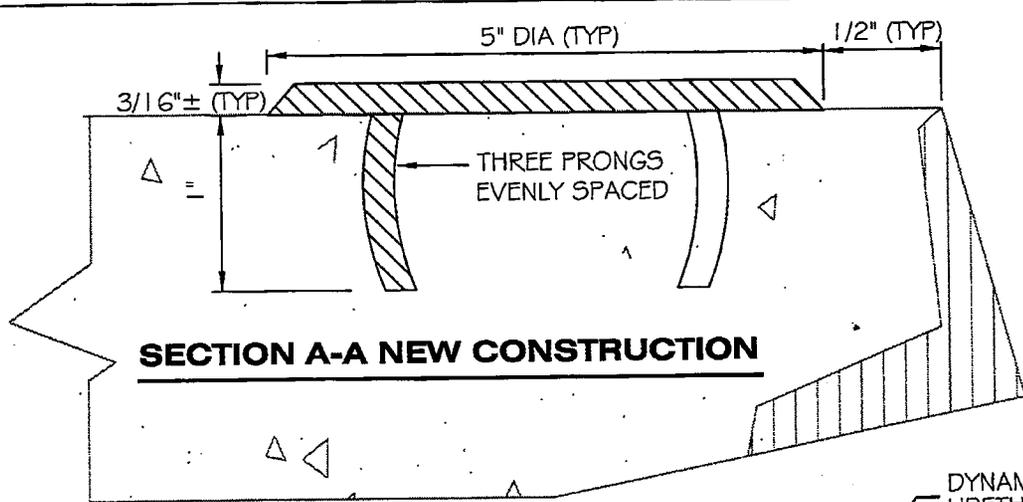


INLET CURB OPENING

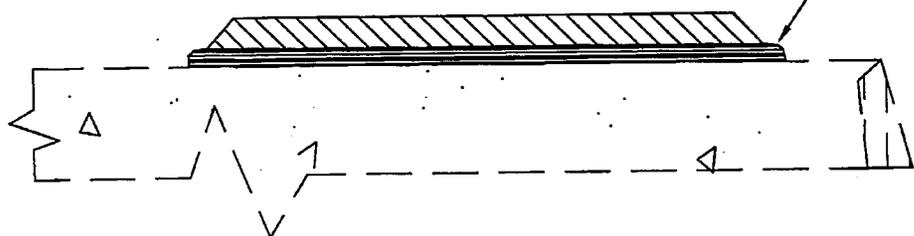
CATCH BASIN WALL THICKNESS

T = 8" IF V IS UP TO 8'
(IF V EXCEEDS 8', SPECIAL DESIGN IS REQUIRED)
V = 3'-0" UNLESS OTHERWISE NOTED

<p>DETAIL NO. C-507 NTS</p>	 <p>CITY OF CHANDLER STANDARD DETAIL</p>	<p>BELOW GRADE RETENTION BASIN INLET (BUBBLER BOX)</p>	<p>APPROVED: <i>John G. [Signature]</i> CITY ENGINEER DATE: <u>01/08/09</u></p>	<p>DETAIL NO. C-507 PAGE 3 OF 3</p>
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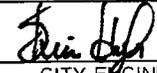
DYNAMIX #6125-1
URETHANE UNIVERSAL
ADHESIVE

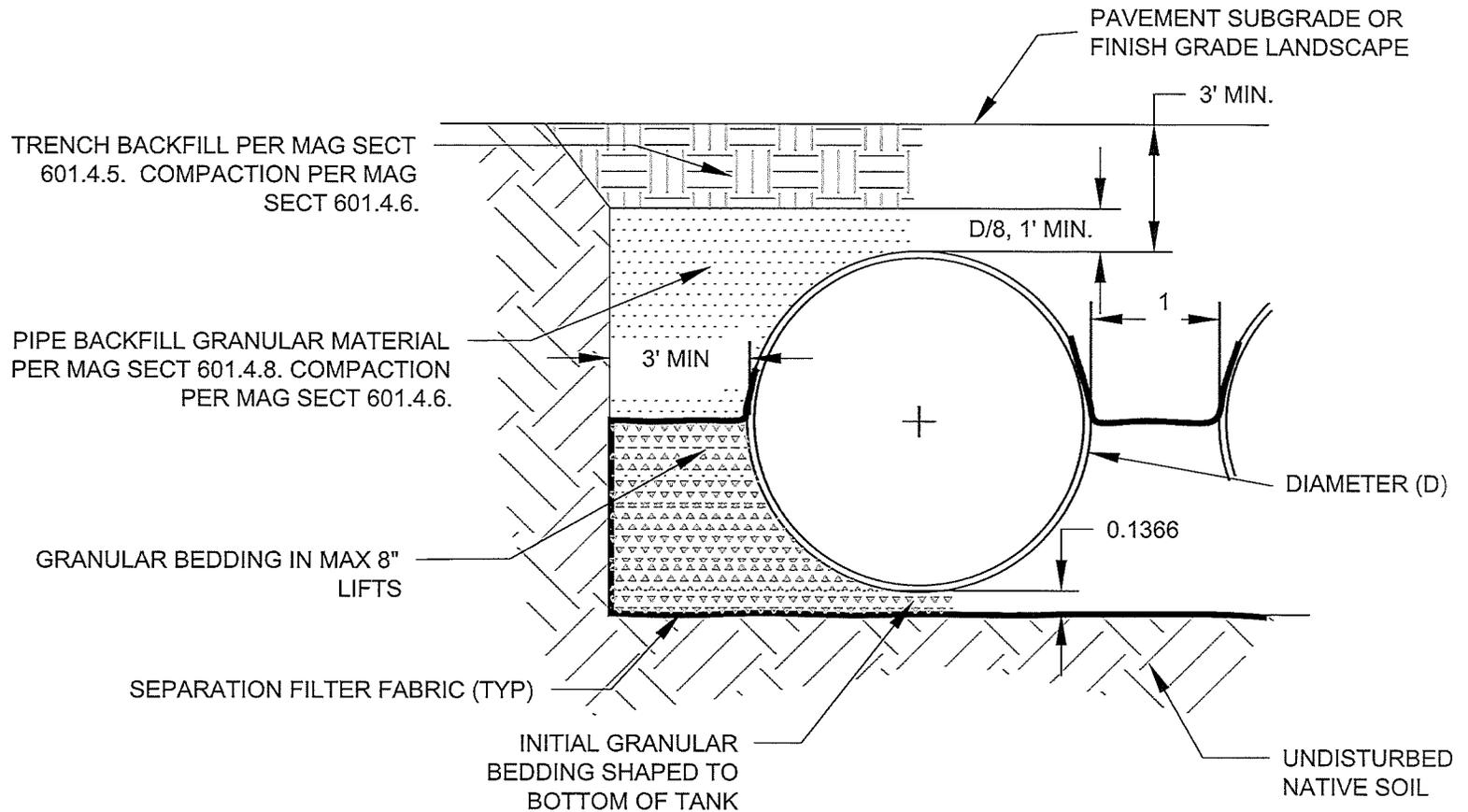


SECTION A-A EXISTING STRUCTURES

NOTES

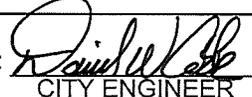
1. MATERIAL: CAST ALUMINUM
2. THE WIDTH OF INDIVIDUAL LETTERS SHALL BE SELECTED SO THAT LETTERS AND WORDS ARE EQUALLY SPACED AND BALANCED.
3. LETTERS SHALL BE 1/2" IN HEIGHT. MARKER LAYOUT SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.
4. MARKERS SHALL BE ALIGNED WITH THE CENTER OF DRAINAGE INLETS AT THE TOP OF CURB.

DETAIL NO. C-508 NTS	 CITY OF CHANDLER STANDARD DETAIL	STORM DRAIN INLET MARKER	APPROVED:  CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-508 NTS
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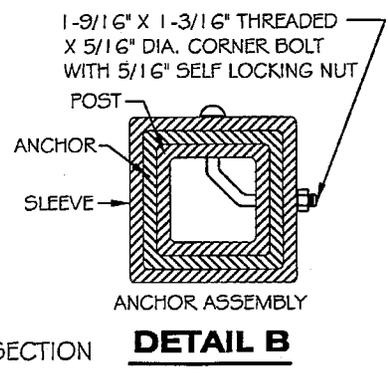
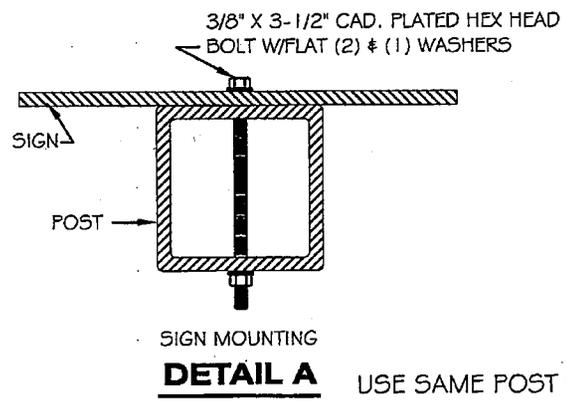
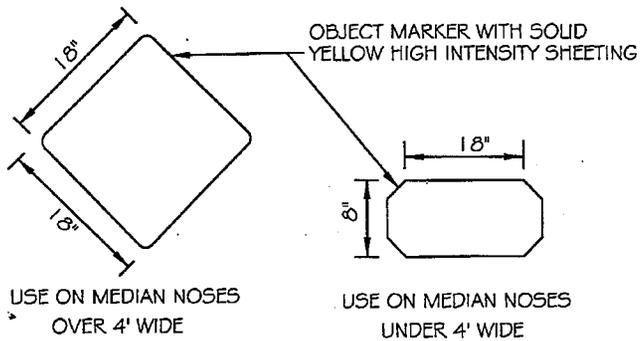
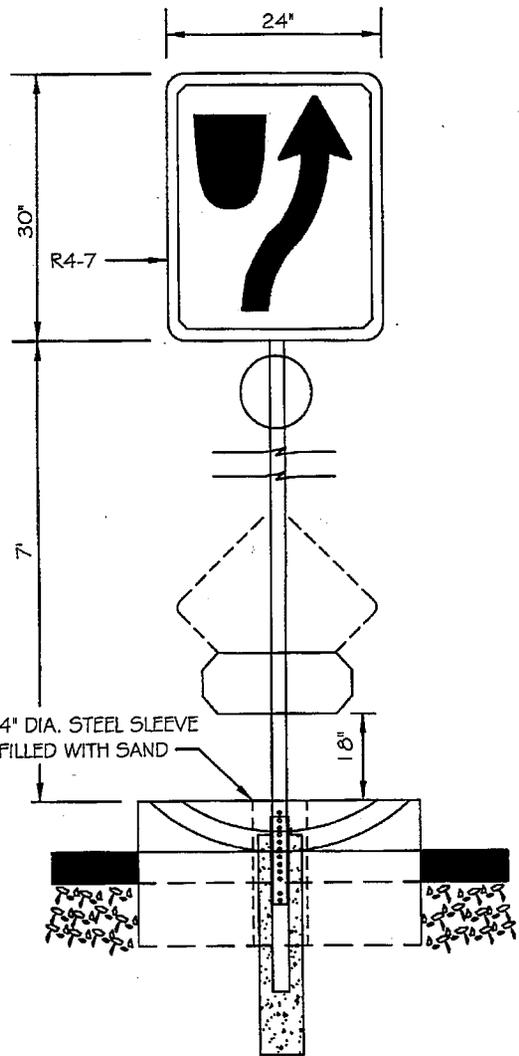


NOTES:

1. GRANULAR BEDDING SHALL BE $\frac{3}{8}$ " MINUS OPEN-GRADED CRUSHED ROCK COMPACTED IN 8" LIFTS USING VIBRATING COMPACTOR.
2. PLACEMENT AND COMPACTION OF THE GRANULAR BEDDING SHALL BE MONITORED AND CERTIFIED BY A GEOTECHNICAL ENGINEERING FIRM RETAINED BY THE OWNER OR CONTRACTOR.
3. ABC CONFORMING TO MAG SECT 702 MAY BE SUBSTITUTED FOR THE $\frac{3}{8}$ " CRUSHED ROCK. IN THAT CASE, COMPACTION SHALL BE AT LEAST 95% OF AASHTO T99 STANDARD PROCTOR DENSITY, AND THE SEPARATION FABRIC MAY BE OMITTED.
4. SEPARATION FILTER FABRIC SHALL BE NON-WOVEN, MODERATE SURVIVABILITY SUCH AS MIRAFI 160N, US FABRICS US 160NW, CARTHAGE MILLS FX-60HS, OR APPROVED EQUAL..

DETAIL NO. C-509 NTS	 CITY OF CHANDLER STANDARD DETAIL	BACKFILL DETAIL CMP UNDERGROUND RETENTION STORAGE TANK	APPROVED:  CITY ENGINEER DATE: <u>1-14-16</u>	DETAIL NO. C-509 NTS
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SIGNAGE
C-600 TO C-623



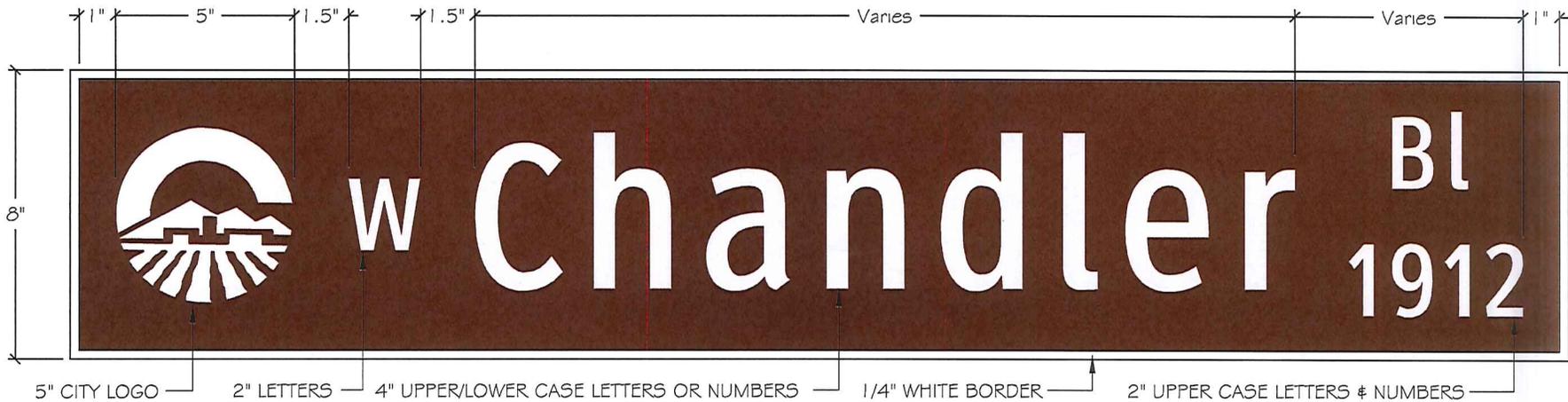
USE SAME POST SECTION SHOWN C-613 (SQUARE CHANNELS). DETAIL A & B AND BASE DETAIL

NOTES:

1. SIGNS SHALL BE INSTALLED 5' BACK OF FACE OF BULLNOSE ON MEDIANS 4' IN WIDTH OR LESS AND 10' BACK ON MEDIAN WIDTHS GREATER THAN 4'.
2. MUTCD R4-7 AND OBJECT MARKER SIGNS SHALL BE INSTALLED AT ALL ARTERIAL / ARTERIAL INTERSECTIONS AND AT THE POINT WHERE THE MEDIAN BEGINS.
3. SEE COC STANDARD DETAIL C-225 FOR BULLNOSE REQUIREMENTS.

ARTERIAL INTERSECTIONS

DETAIL NO. C-600 NTS	CITY OF CHANDLER STANDARD DETAIL	MEDIAN SIGNAGE	APPROVED: CITY ENGINEER DATE: <u>01/08/09</u>	DETAIL NO. C-600 NTS
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BLANKS - 8" FLAT 0.125" THICK ALUMINUM BLADES
 8" x 27" to 8" x 48" AS REQUIRED.
 CUT LENGTH TO FIT.

4" LETTERS - ClearviewHwy® 2-W Font*
 2" LETTERS - ClearviewHwy® 2-W Font*

BACKGROUND - 3M WHITE HIGH INTENSITY PRISMATIC
 SHEETING SERIES 3930 COVERED WITH 3M BROWN
 ELECTRO CUT FILM SERIES 1179C

* WHERE LENGTH EXCEEDS 48", USE 1-W FONT. WHERE LENGTH STILL
 EXCEEDS 48", CONTACT CITY FOR PROPER ABBREVIATIONS.

DETAIL NO. C-601 PAGE 1 OF 2	 CITY OF CHANDLER STANDARD DETAIL	STREET NAME SIGNS (FOR PUBLIC STREETS)	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-601 PAGE 1 OF 2
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BLANKS - 8" FLAT 0.125" THICK ALUMINUM BLADES
 8" x 27" to 8" x 48" AS REQUIRED.
 CUT LENGTH TO FIT.

4" LETTERS - ClearviewHwy® 2-W Font*
 2" LETTERS - ClearviewHwy® 2-W Font*
 1 1/2" LETTERS - ClearviewHwy® 2-W Font

BACKGROUND - 3M WHITE HIGH INTENSITY PRISMATIC
 SHEETING SERIES 3930 COVERED WITH 3M BROWN
 ELECTRO CUT FILM SERIES 1179C

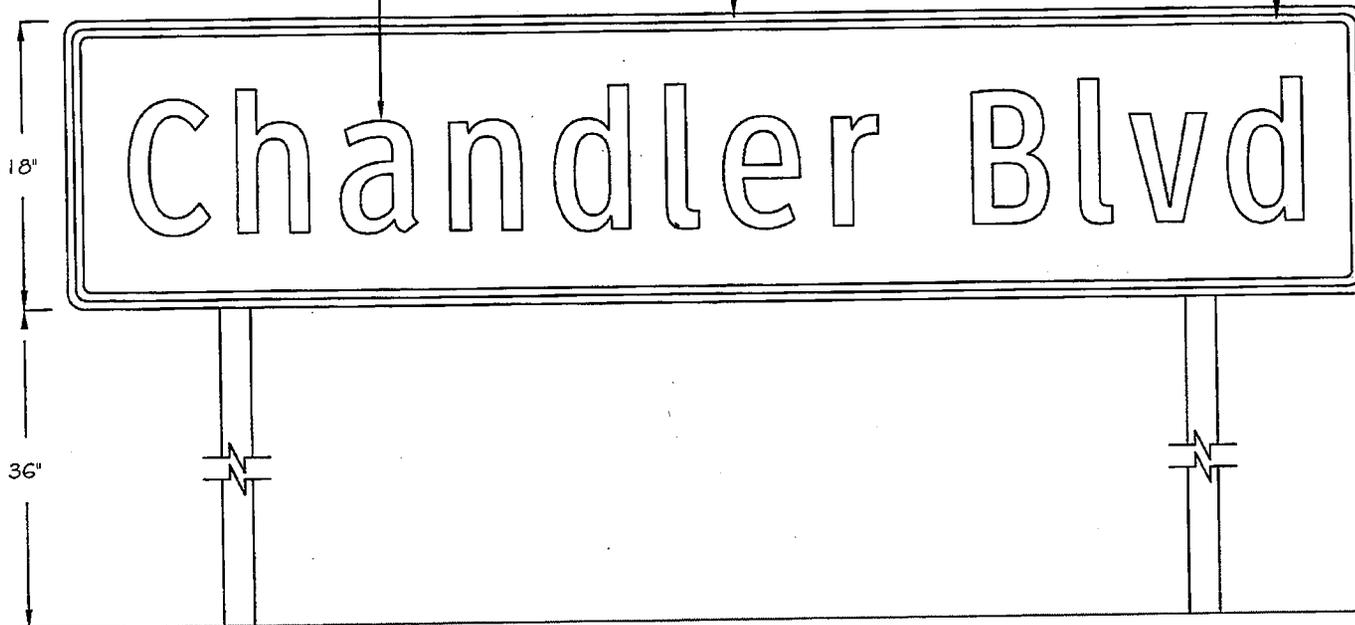
* WHERE LENGTH EXCEEDS 48", USE 1-W FONT. WHERE LENGTH STILL
 EXCEEDS 48", CONTACT CITY FOR PROPER ABBREVIATIONS.



9" UPPER AND LOWER CASE LETTERS

1/2" BORDER

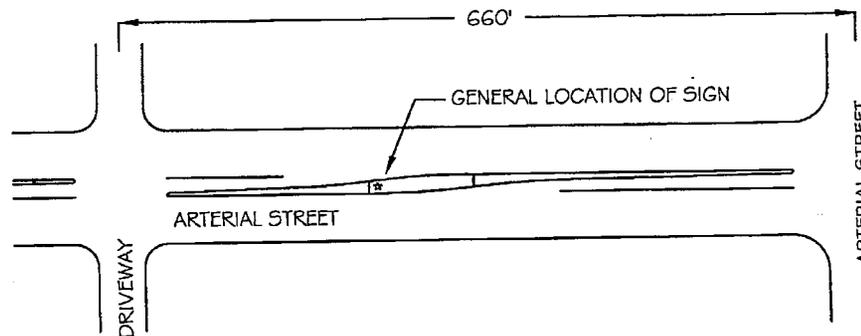
1/2" TRIM



BLANKS - 18" ALUMINUM BLADES
18" x 48" to 18" x 120" AS REQUIRED

9" LETTERS/NUMBERS - ClearviewHwy® 2-W Font

BACKGROUND - 3M WHITE HIGH INTENSITY PRISMATIC
SHEETING SERIES 3930 COVERED WITH 3M BROWN
ELECTRO CUT FILM SERIES 1179C



DETAIL NO.

C-603

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

ADVANCED STREET NAME SIGNS

APPROVED:

Dun HP
CITY ENGINEER

DATE:

01/08/09

DETAIL NO.

C-603

NTS

1000 - 1010

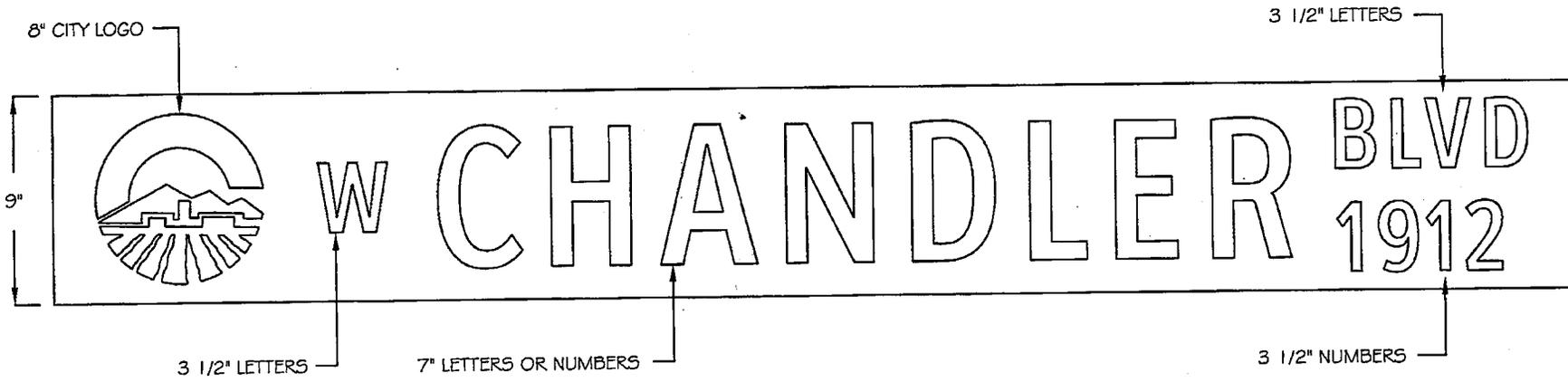
4" NUMBERS

BLANKS - EXTRUDED ALUMINUM BLADES
MIN. 6" x 18" MAX. 6" x 48" AS REQUIRED
HS-1 OR VSS-1 EXTRUSION

4" NUMBERS - 3M (PARKWAY WHITE) SERIES 'C'
HIGH INTENSITY GRADE

BACKGROUND - 3M BROWN REFLECTIVE SHEETING,
HIGH INTENSITY GRADE, CODE NO. 2279 S/L

<p>C-604 REPLACES 113B</p>	 <p>CITY OF CHANDLER STANDARD DETAIL</p>	<p>ADDRESS IDENTIFICATION FOR CLUSTER DEVELOPMENTS</p>	<p>APPROVED: <i>Raymond D. Peterson</i> CITY ENGINEER DATE: <i>11-19-99</i></p>	<p>DETAIL NO. C-604 NTS</p>
--	---	---	---	--



BLANKS - 9" EXTRUDED ALUMINUM BLADES
 9" x 18" to 9" x 72" AS REQUIRED

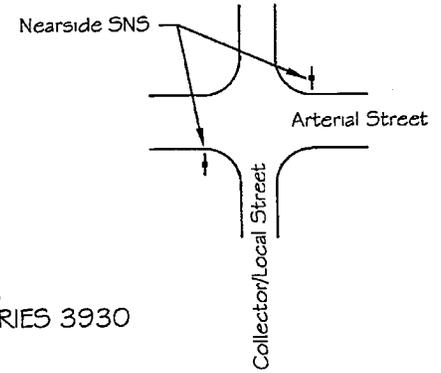
HS-1 OR VSS-1 EXTRUSION

BACKGROUND - 3M WHITE HIGH INTENSITY PRISMATIC SHEETING SERIES 3930 COVERED WITH 3M BROWN ELECTRO CUT FILM SERIES 1179C

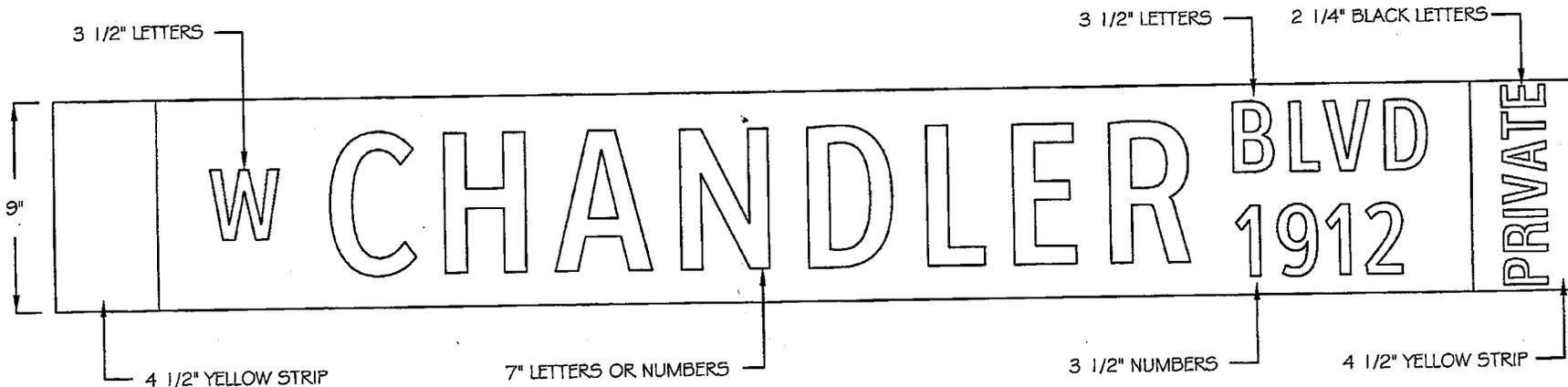
7" LETTERS - ClearviewHwy® 2-W Font
 3 1/2" LETTERS - ClearviewHwy® 2-W Font

7" NUMBERS - ClearviewHwy® 2-W Font
 3 1/2" NUMBERS - ClearviewHwy® 2-W Font

CITY LOGO - 8" WHITE, PRESSURE SENSITIVE,
 3M HIGH INTENSITY PRISMATIC SHEETING SERIES 3930



DETAIL NO. C-605 NTS	 CITY OF CHANDLER STANDARD DETAIL	NEARSIDE STREET NAME SIGNS (FOR PUBLIC STREETS)	APPROVED: <i>Devin [Signature]</i> CITY ENGINEER DATE: <u>01/06/09</u>	DETAIL NO. C-605 PAGE 1 OF 2
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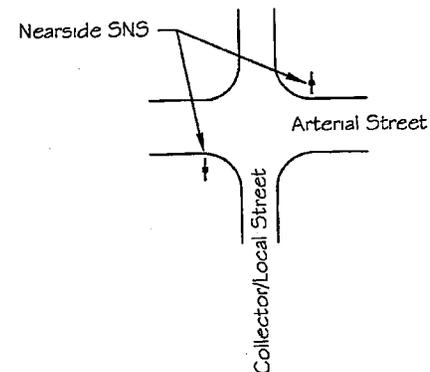
BLANKS - 9" EXTRUDED ALUMINUM BLADES
9" x 18" to 9" x 72" AS REQUIRED

HS-1 OR VSS-1 EXTRUSION

BACKGROUND - 3M WHITE HIGH INTENSITY PRISMATIC SHEETING SERIES 3930 COVERED WITH 3M BROWN ELECTRO CUT FILM SERIES 1179C

4.5" END STRIPS - 3M YELLOW HIGH INTENSITY PRISMATIC SHEETING SERIES 3931

7" LETTERS - ClearviewHwy® 2-W Font
3 1/2" LETTERS - ClearviewHwy® 2-W Font
2 1/4" LETTERS - ClearviewHwy® 2-W Font
7" NUMBERS - ClearviewHwy® 2-W Font
3 1/2" NUMBERS - ClearviewHwy® 2-W Font



DETAIL NO. C-605 NTS	 CITY OF CHANDLER STANDARD DETAIL	NEARSIDE STREET NAME SIGNS (FOR PRIVATE STREETS)	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: <i>01/06/09</i>	DETAIL NO. C-605 PAGE 2 OF 2
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OPPOSITE FACE

MOUNTING BRACKET IS ON THIS SIDE OF SIGN CABINET

F96T 12CW/HO LAMPS
5 1-792R SIGN BALLAST
BI-PIN LAMP SOCKETS OPERATED BY PHOTOCELL
ON POWER METER PEDESTAL:
SAME CIRCUIT AS STREETLIGHTS ON SIGNAL POLES

1/2 SPACE SEPARATION BETWEEN NUMBER AND LETTER (TYP)

6" ARROWS (TYP) ALL SIGNS (TIP TO TIP)



STANDARD SPACING FOR ADDRESS NUMERALS

MOUNTING BRACKET IS ON THIS SIDE OF SIGN CABINET

COPY TO BE CENTERED WITHIN THIS AREA EXCEPT WHEN THE AMOUNT OF CHARACTERS EXCEEDS THE ALLOWABLE SPACE. SPACING HAS BEEN INCREASED BY 70% WHEN ALLOWABLE.

CABINET: EXTRUDED ALUMINUM 1 1/2" DEEP PRIMED AND PAINTED M.A.P. #4 1-342 BRUSHED ALUMINUM, SATIN FINISH. INCLUDE HINGED FACE WITH PROP ROD FOR SERVICE. RETAINERS PRIMED AND PAINTED SIMILARLY.

FACES: 3/16" THICK FLAT WHITE POLYCARBONATE SHEET WITH 1ST SURFACE APPLIED VINYL AS FOLLOWS:

- ENTIRE BACKGROUND: #230-59 DARK BROWN
- SKY SEMI-CIRCLE SHAPE: #230-35 DARK BLUE
- MOUNTAINS: #230-61 SLATE GREY
- FURROWS: #230-49 BURGUNDY

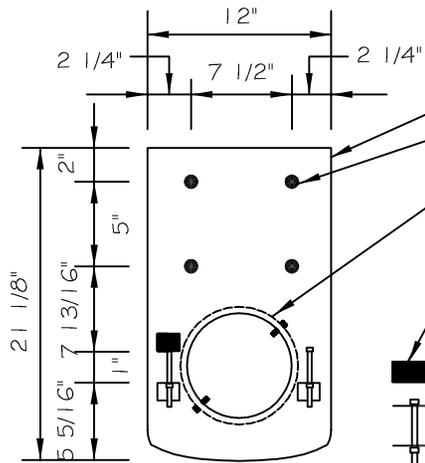
POLYCARBONATE

ALL COPY AND CIRCULAR BACKGROUND FOR THE LOGO ARE WHITE ~~ACRYLIC~~ FACES SHOWING THROUGH.

TYPESTYLE: CLEARVIEW FONT & LOWERCASE STD. SPACING FOR THE ADDRESS NUMERALS AND OPENED-UP SPACING FOR THE ST. NAMES IF ALLOWABLE

ILLUMINATION: FLUORESCENT INTERNAL 800 M.A. AS REQUIRED.

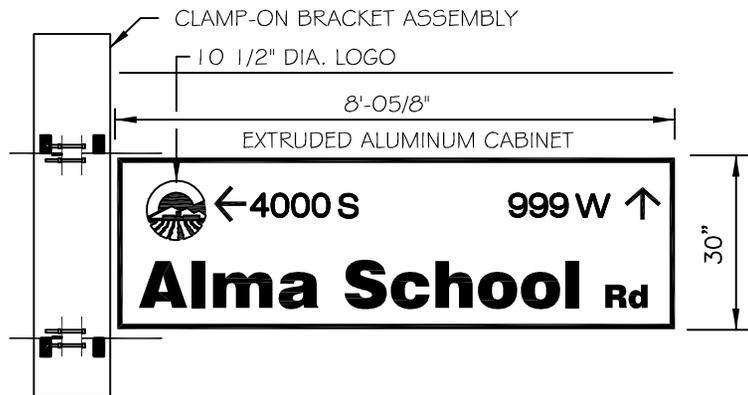
DETAIL NO. C-606 NTS	 CITY OF CHANDLER STANDARD DETAIL	INTERNALLY ILLUMINATED STREET NAME SIGN	APPROVED:  CITY ENGINEER DATE: 07-09-2015	DETAIL NO. C-606 NTS
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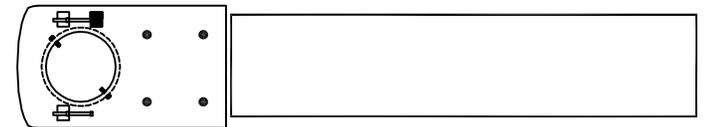
TOP VIEW

- 3/8" THICK STEEL PLATE, PAINTED BRUSHED ALUMINUM
- 3/4" DIA. X 1" SLOTTED HOLES (4 REQD.)
- EXISTING SIGNAL STRUCTURE PIPE, 8 5/8" DIA.
- 1/4" THICK TAB, 1 1/2"X2" DRILLED AND TAPPED TO RECEIVE A 3/8" X 1-1/2" LONG BOLT. TAB TO BE WELDED TO PLATE (2 TYP)
- 1/2" PLATED BOLT 4" LONG WITH STEEL NUT WELDED TO FLANGE OF PLATE
- ANGLE CLIPS 2"X2", 1 1/2" WIDE WELDED TO PLATE TOP AND BOTTOM

CHANDLER EXTENSION POLE



FRONT AND FACE DETAIL



TOP VIEW

DETAIL NO.
C-607
NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**INTERNALLY ILLUMINATED STREET
NAME SIGN - BRACKET ASSEMBLY**

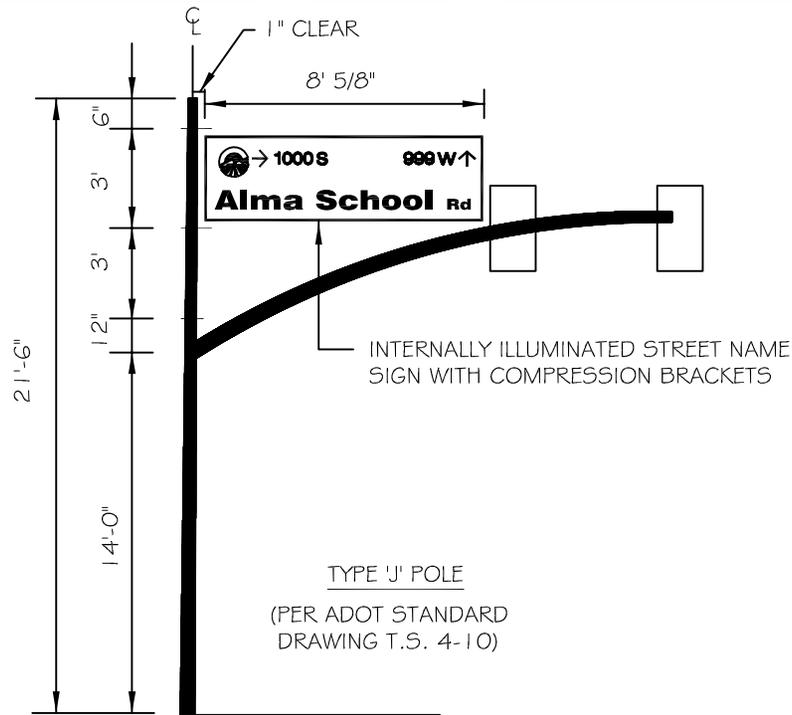
APPROVED:

Kevin Kelly
CITY ENGINEER

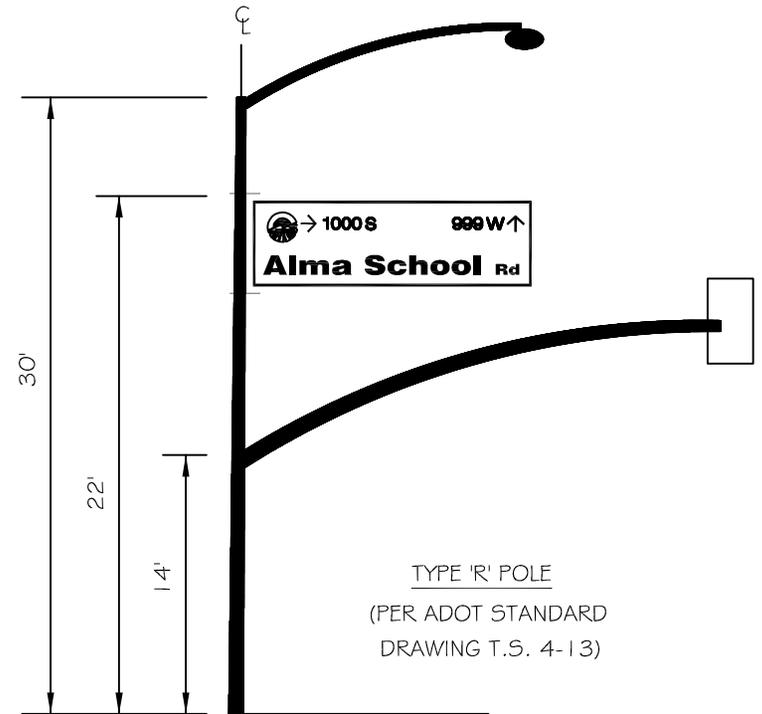
DATE:

3/14/2013

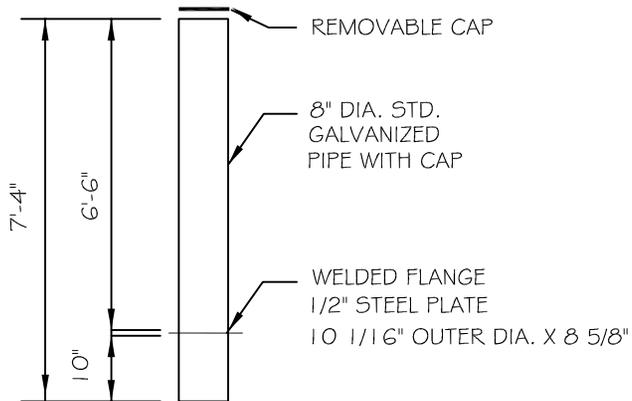
DETAIL NO.
C-607
NTS



ELEVATION



ELEVATION



EXTENSION BRACKET DETAIL

**C-608
REPLACES
110B**



CITY OF
CHANDLER
STANDARD
DETAIL

**INTERNALLY ILLUMINATED STREET
NAME SIGN - J/R POLE MOUNTING**

APPROVED: _____

Kevin Goff
CITY ENGINEER

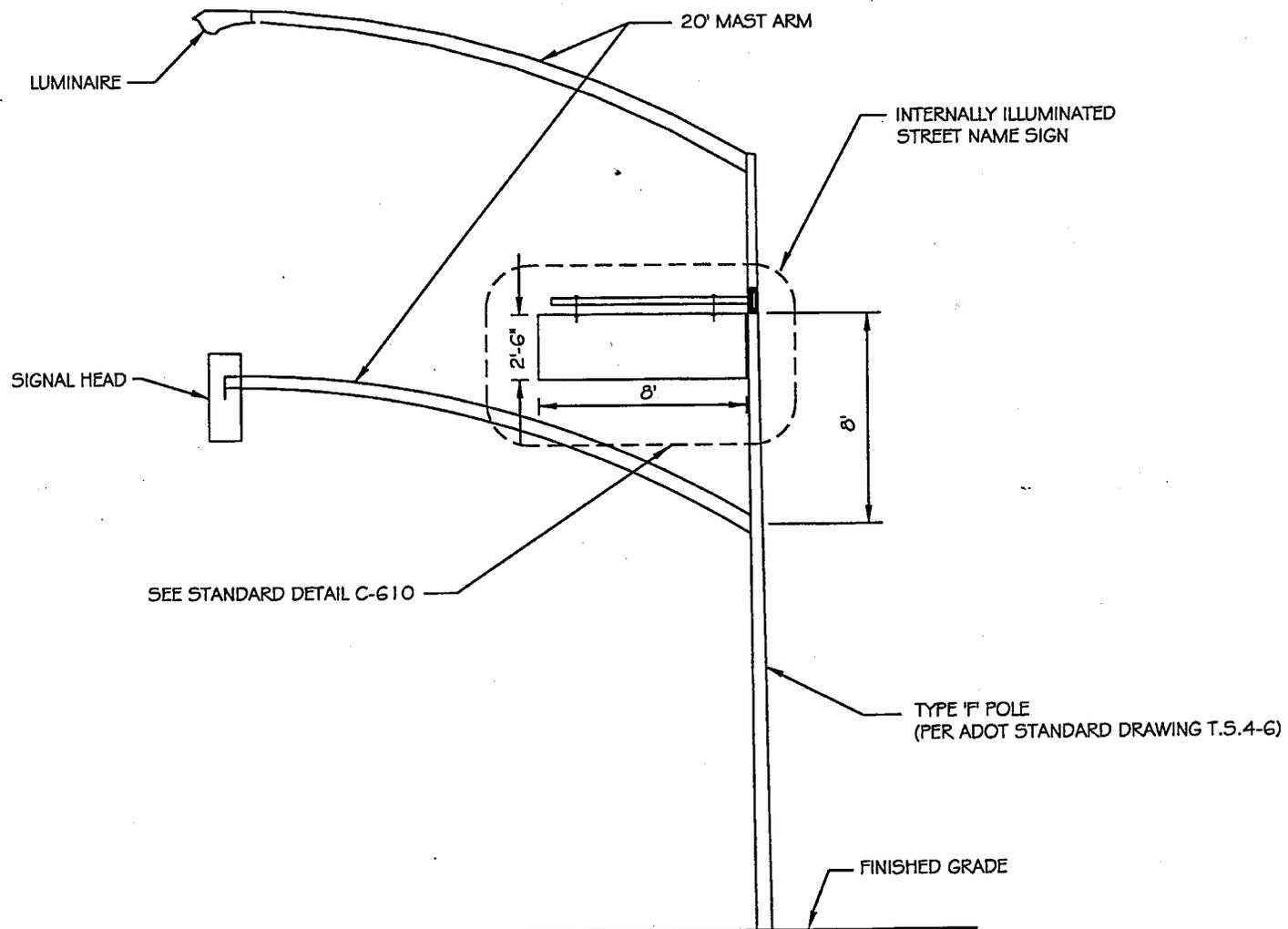
DATE: _____

3/14/2013

DETAIL NO.

C-608

NTS



C-609
REPLACES
110C



CITY OF
CHANDLER
STANDARD
DETAIL

**INTERNALLY ILLUMINATED STREET
NAME SIGN - F POLE MOUNTING**

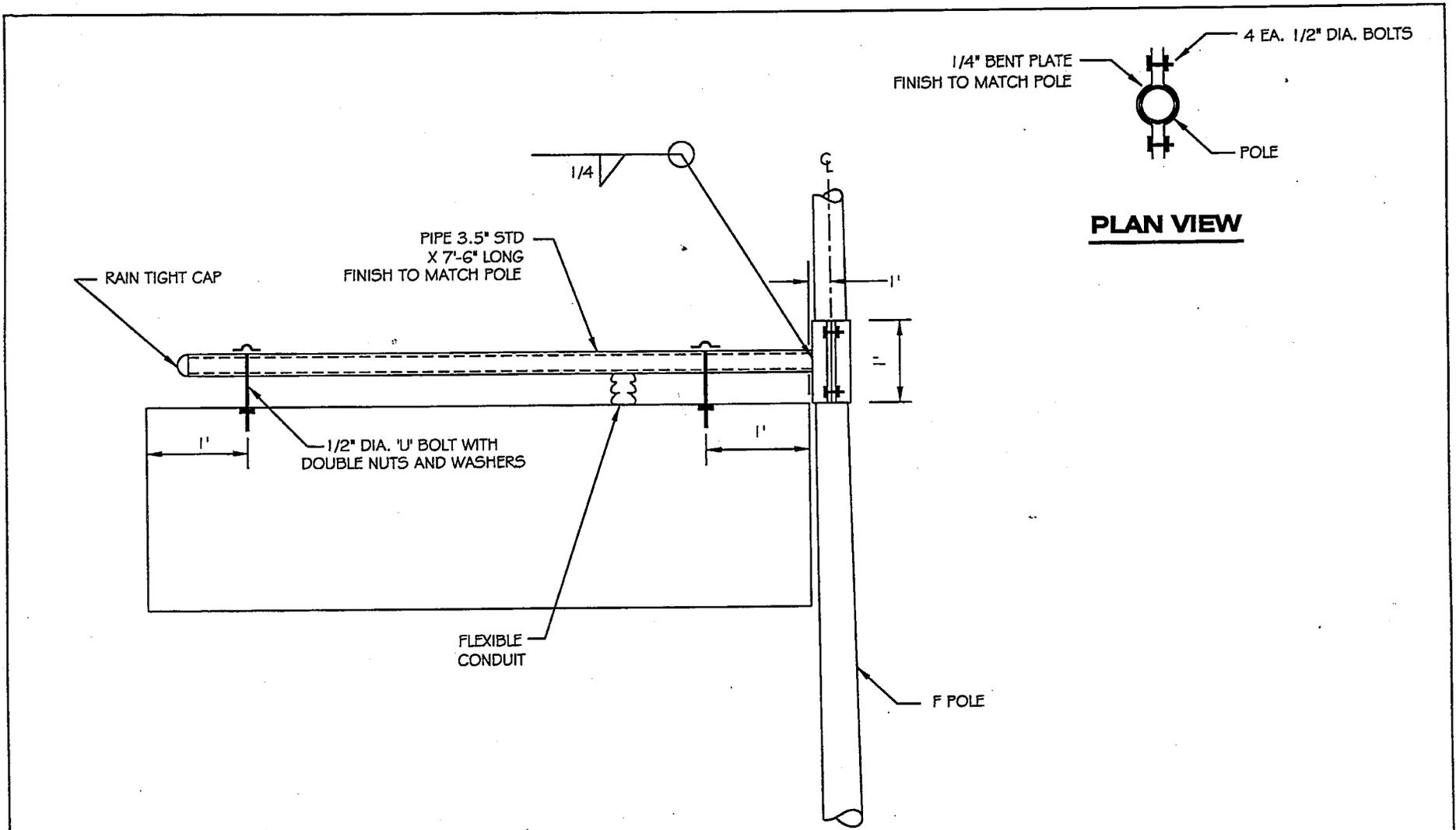
APPROVED: *Bryan A. Anderson*
CITY ENGINEER

DATE: 11-19-99

DETAIL NO.

C-609

NTS



NOTE:

FINISHED SIGN SHALL BE ABLE TO SWING ABOUT MAST.

C-610
REPLACES
110D



CITY OF
CHANDLER
STANDARD
DETAIL

**INTERNALLY ILLUMINATED
STREET NAME SIGN
F POLE MOUNTING DETAIL**

APPROVED:

Dwight D. Peterson
CITY ENGINEER

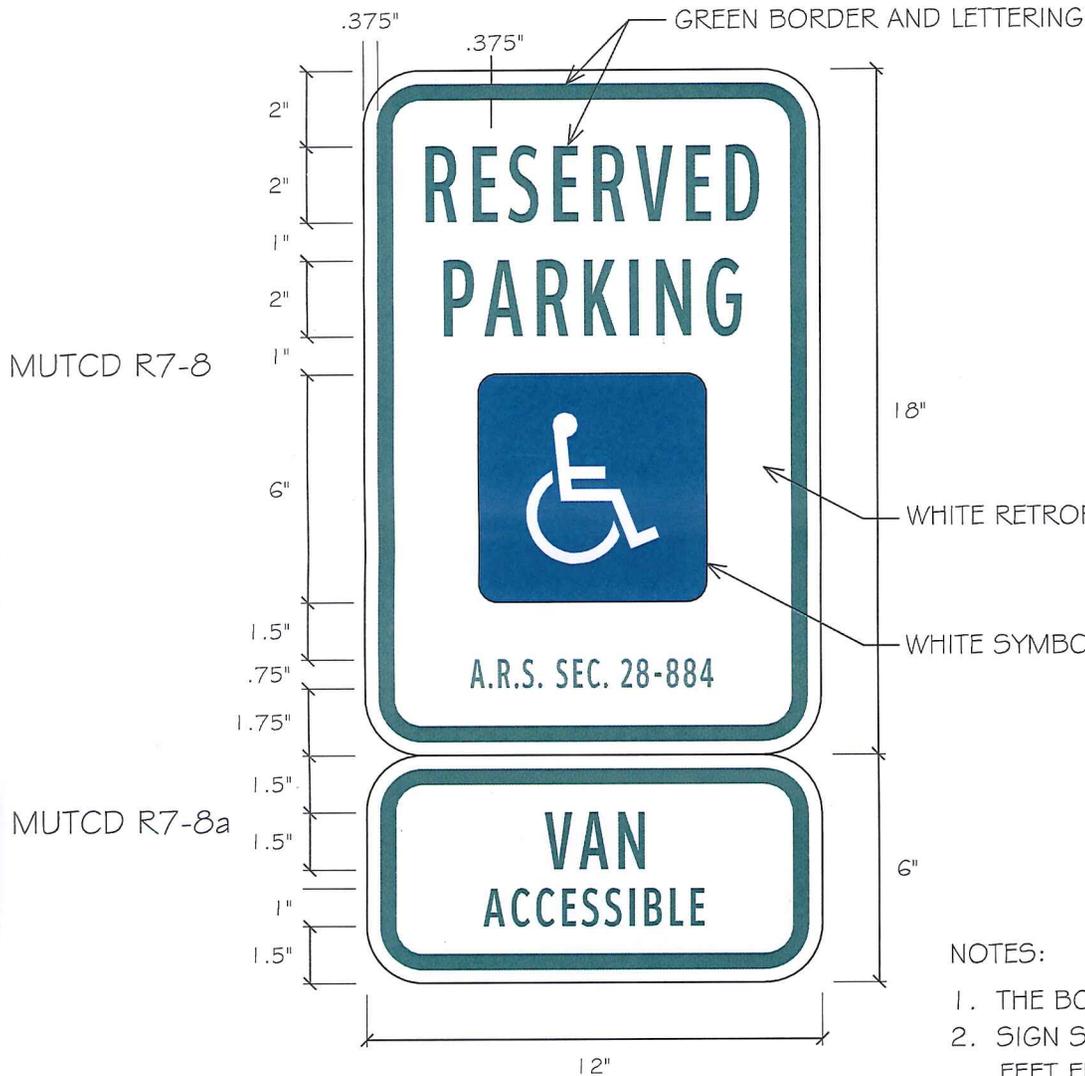
DATE:

11-19-99

DETAIL NO.

C-610

NTS



MUTCD R7-8

MUTCD R7-8a

WHITE RETROREFLECTIVE BACKGROUND SHEETING.

WHITE SYMBOL ON 6" X 6" BLUE SQUARE.

NOTES:

1. THE BOTTOM OF THE SIGN SHALL BE 5 FEET ABOVE FINISHED GRADE.
2. SIGN SHALL BE CENTERED ON THE PARKING SPACE AND PLACED 2.5 FEET FROM FACE OF CURB. IN PARKING LOT SITUATIONS WITHOUT CURBING, SIGN MAY BE PLACED AT THE END OF THE STALL.
3. VAN ACCESSIBLE TAB TO BE USED, IF APPLICABLE.

DETAIL NO.

C-611

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

HANDICAP PARKING SIGN

APPROVED:

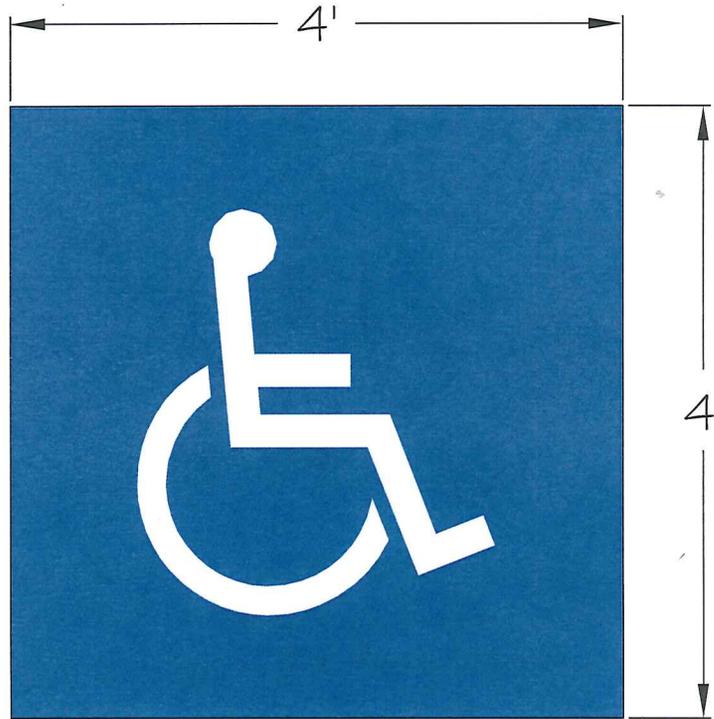
Paul W. Cook
CITY ENGINEER

DATE: 07-09-2015

DETAIL NO.

C-611

NTS



NOTES:

1. THERMOPLASTIC PAVEMENT MARKINGS SHALL BE WHITE SYMBOL ON 4' X 4' BLUE SQUARE.

DETAIL NO.
C-612
NTS

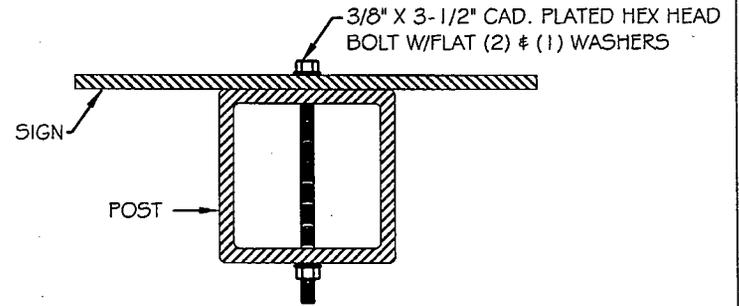
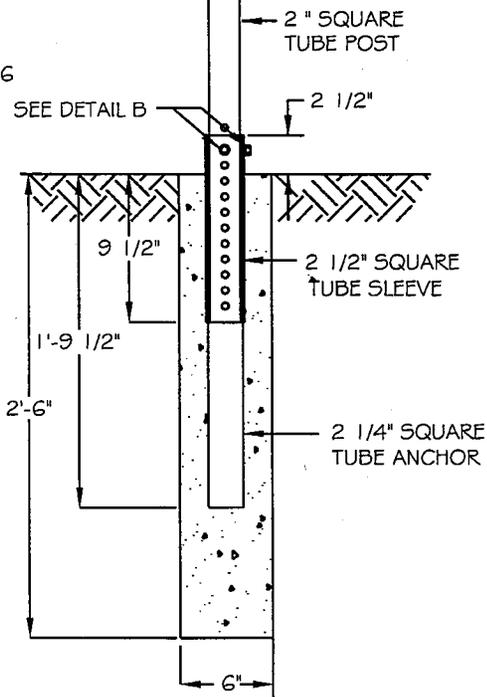
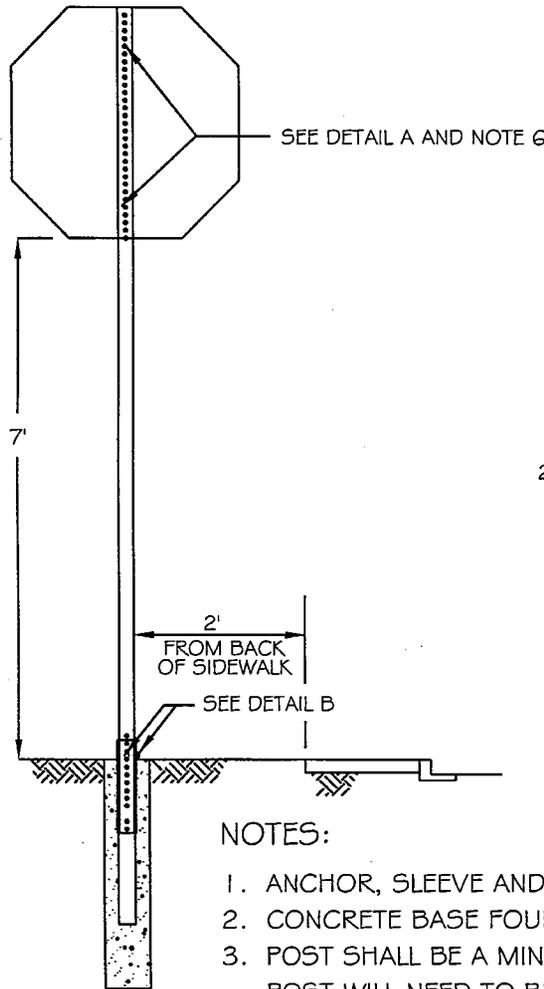


CITY OF
CHANDLER
STANDARD
DETAIL

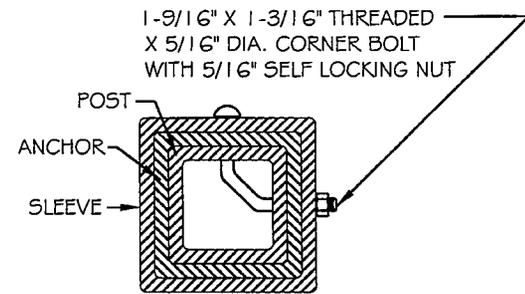
**HANDICAP PAVEMENT
MARKING SYMBOL**

APPROVED: 
CITY ENGINEER
DATE: 07-09-2015

DETAIL NO.
C-612
NTS



SIGN MOUNTING
DETAIL A



ANCHOR ASSEMBLY
DETAIL B

NOTES:

1. ANCHOR, SLEEVE AND POST ALL TO BE 12 GAUGE, .105 INCH GALVANIZED STEEL.
2. CONCRETE BASE FOUNDATION SHALL BE CLASS 'C' CONCRETE AS PER MAG STANDARD SPECIFICATIONS SEC. 505 + 725.
3. POST SHALL BE A MINIMUM LENGTH OF 11' AND SHALL BE INSERTED NOT LESS THAN 12" INTO THE ANCHOR. POST WILL NEED TO BE 12' IN LENGTH FOR ALL 'WARNING' SIGN INSTALLATIONS.
4. THE FRONT AND BACK SIDES OF POST SHALL HAVE 7/16" HOLES PUNCHED ON 1" CENTERS FOR THE TOP 30" AND THE BOTTOM 12" ONLY.
5. ANCHOR SHALL HAVE HOLES PUNCHED FOR THE TOP 3" ONLY AND BOTTOM TAPED TO PREVENT CONCRETE FROM SEEPING IN DURING INSTALLATION.
6. THE POST SHALL HAVE NO HOLES AT THE TOP 30" WHEN INSTALLING STREET NAME SIGNS ONLY.

C-613
REPLACES
40



CITY OF
CHANDLER
STANDARD
DETAIL

SIGN POST AND BASE

APPROVED:

DATE:

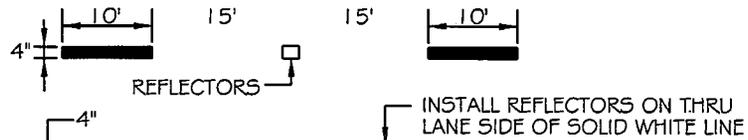
Eliza Dettling
CITY ENGINEER
2/26/07

DETAIL NO.

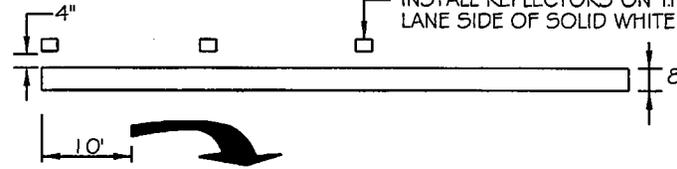
C-613

NTS

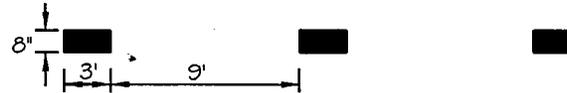
LANE LINE



TURN LANE



LANE DROP



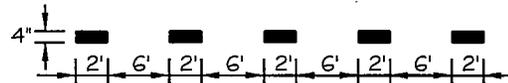
EDGE LINES



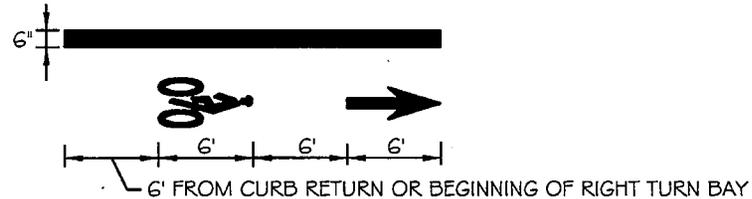
DOUBLE YELLOW



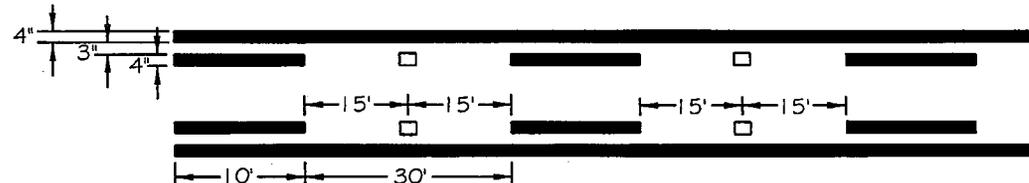
GUIDE LINES
THRU INTERSECTIONS



BIKE LANE



TWO-WAY LEFT TURN LANE



NOTE: ALL CROSS WALKS, STOP BARS, MINI-SKIPS, AND TURN LANE MARKINGS SHALL BE THERMOPLASTIC.

DETAIL NO.

C-614

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

PAVEMENT MARKING DETAILS

APPROVED:

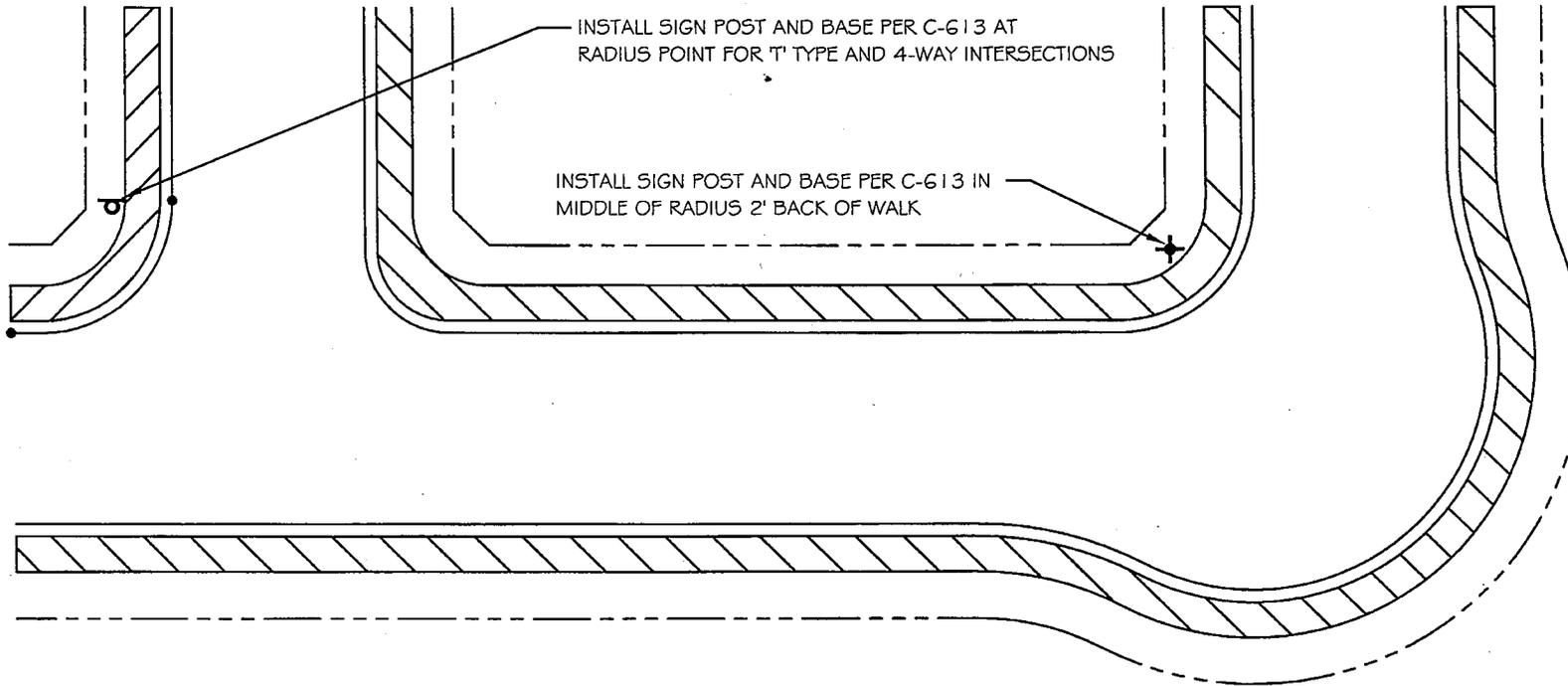
DATE:

[Signature]
CITY ENGINEER
2/29/07

DETAIL NO.

C-614

NTS



C-615



CITY OF
CHANDLER
STANDARD
DETAIL

**SIGN POST AND BASE LOCATIONS
FOR RESIDENTIAL STREETS**

APPROVED:

Elizabeth W. Smith
CITY ENGINEER

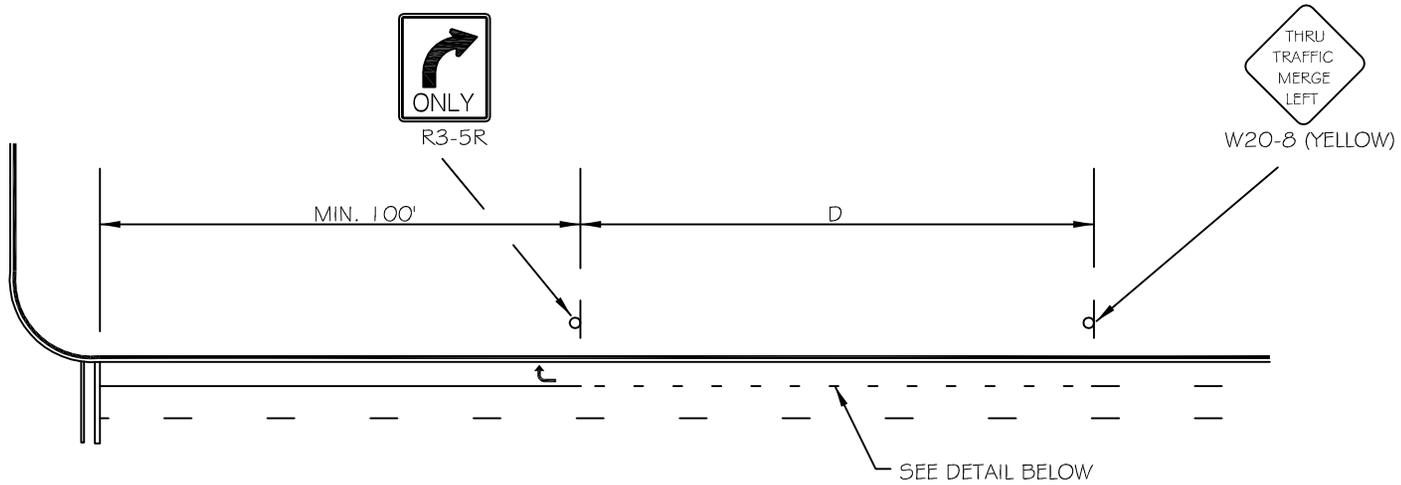
DATE:

January 11, 2002

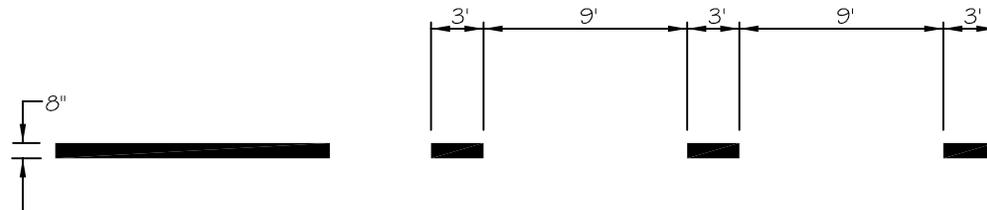
DETAIL NO.

C-615

NTS



SPEED LIMIT	D* (FT)
20	175
25	250
30	325
35	400
40	475
45	550
50	625
55	700
60	775



DETAIL A: FROM MUTCD FIGURE 3B-10

* FROM MUTCD TABLE 2C-4

DETAIL NO.

C-616

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

RIGHT TURN LANE DROP

APPROVED: _____

[Signature]
CITY ENGINEER

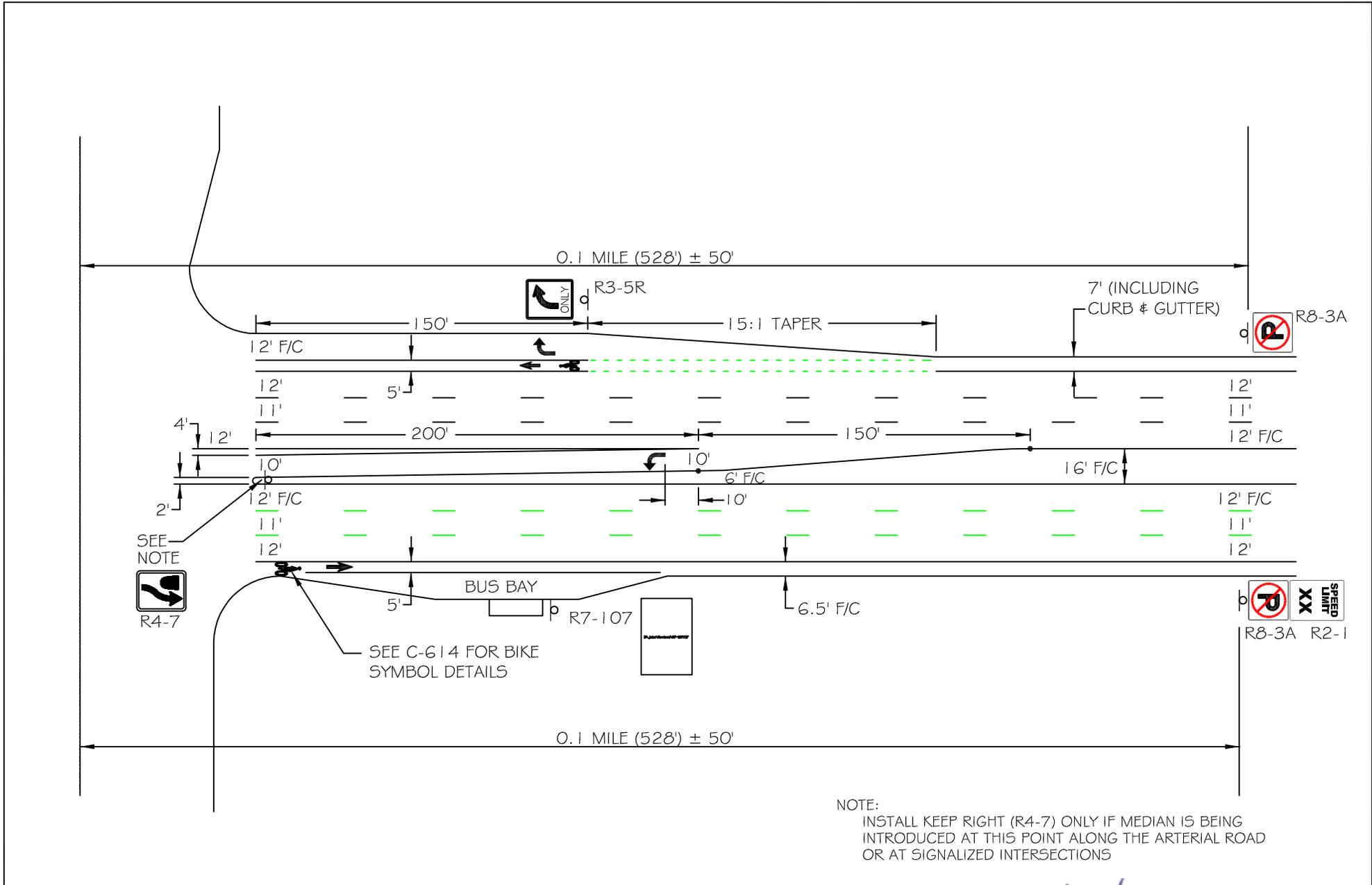
DATE: _____

3/14/2013

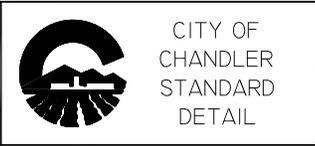
DETAIL NO.

C-616

NTS



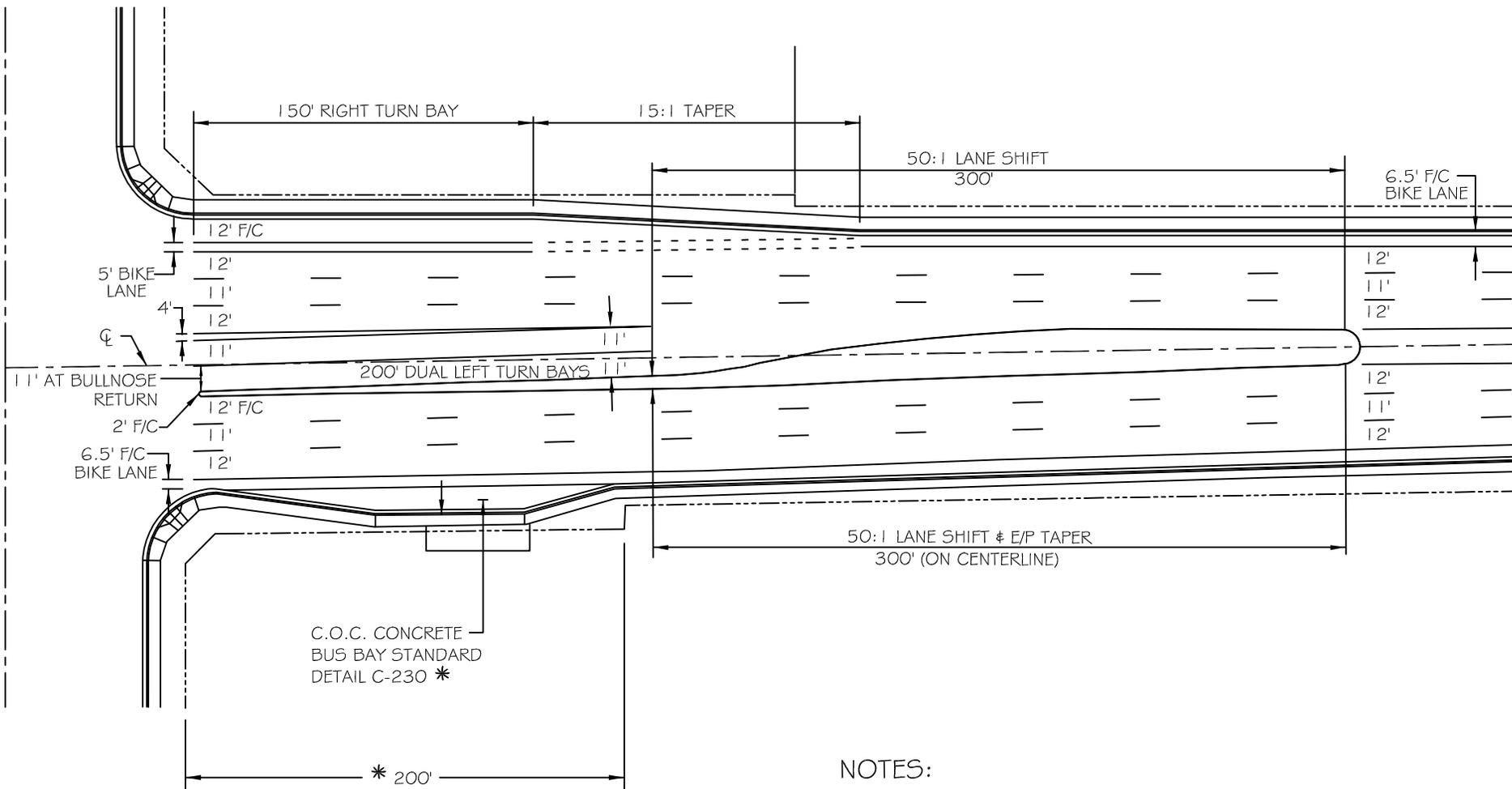
DETAIL NO.
C-618
 NTS



TYPICAL SIGNS AND MARKINGS
ARTERIAL ROAD

APPROVED: *[Signature]*
 CITY ENGINEER
 DATE: 3/14/2013

DETAIL NO.
C-618
 NTS



NOTES:
 50 : 1 TAPERS FOR REDIRECTION OF THROUGH LANES
 15 : 1 TAPERS FOR RIGHT TURN BAY APPROACHES
 ALL DIMENSIONS TO CENTER OF LANE LINE UNLESS OTHERWISE NOTED

DETAIL NO.
C-619
 NTS

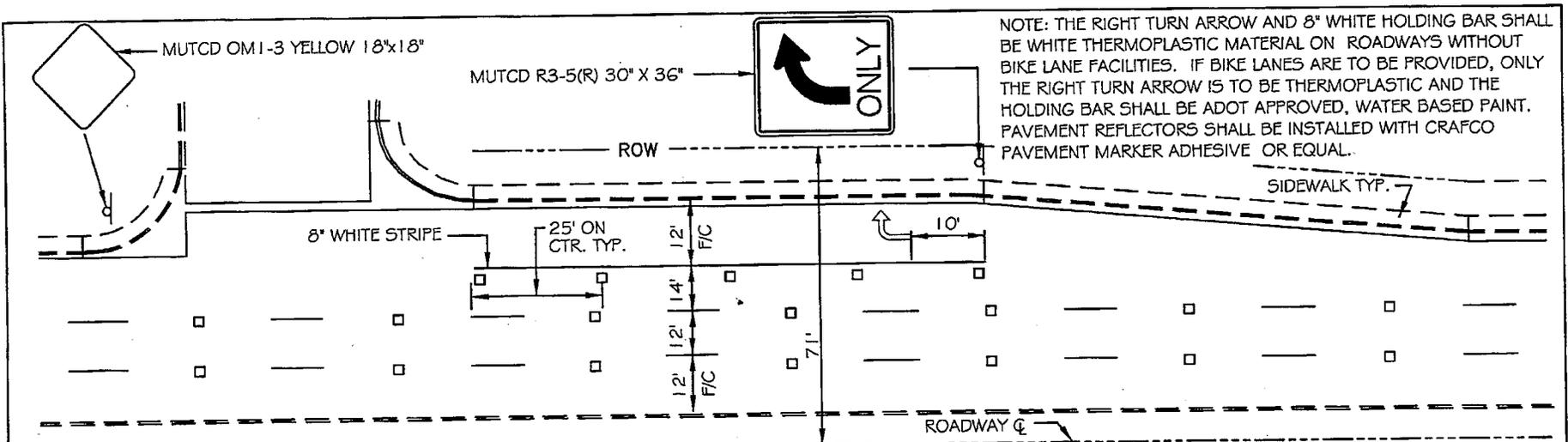


CITY OF
 CHANDLER
 STANDARD
 DETAIL

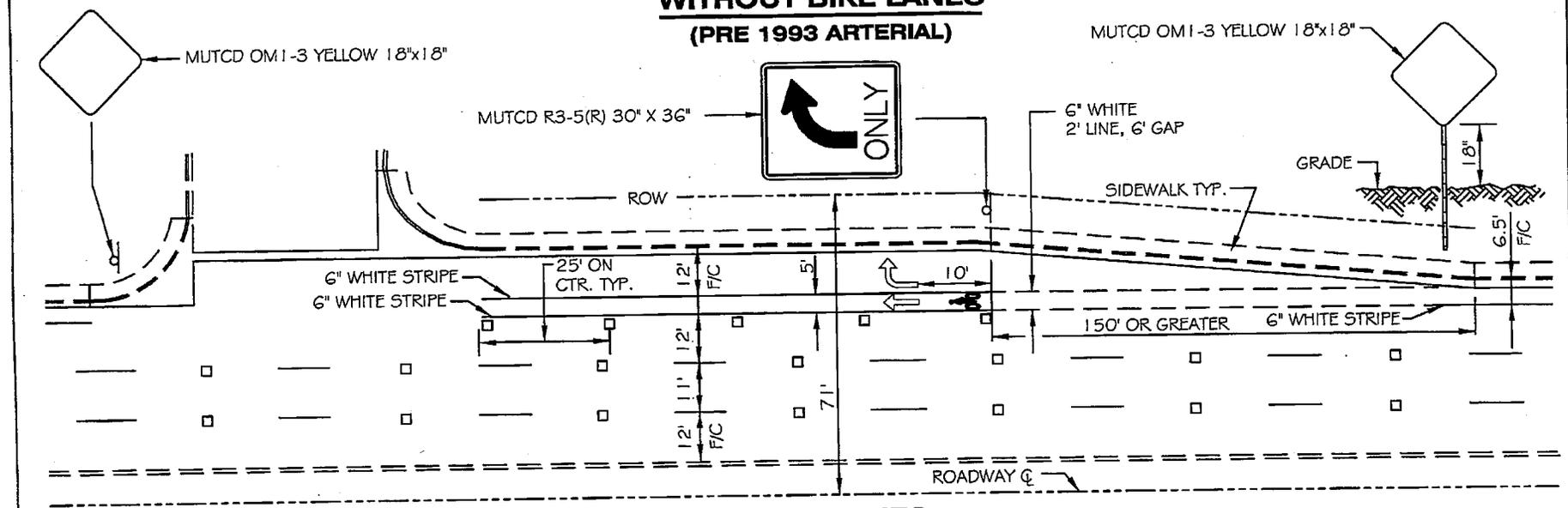
**TYPICAL LANE WIDTHS - ARTERIAL
 ROAD WITH DOUBLE LEFT TURNS**

APPROVED: 
 CITY ENGINEER
 DATE: 3/14/2013

DETAIL NO.
C-619
 NTS

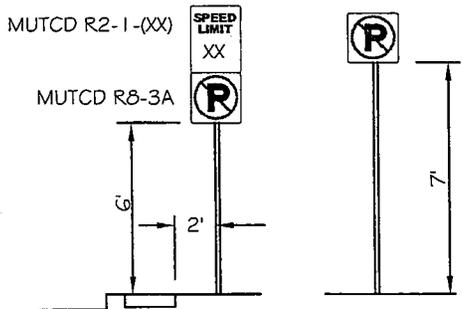
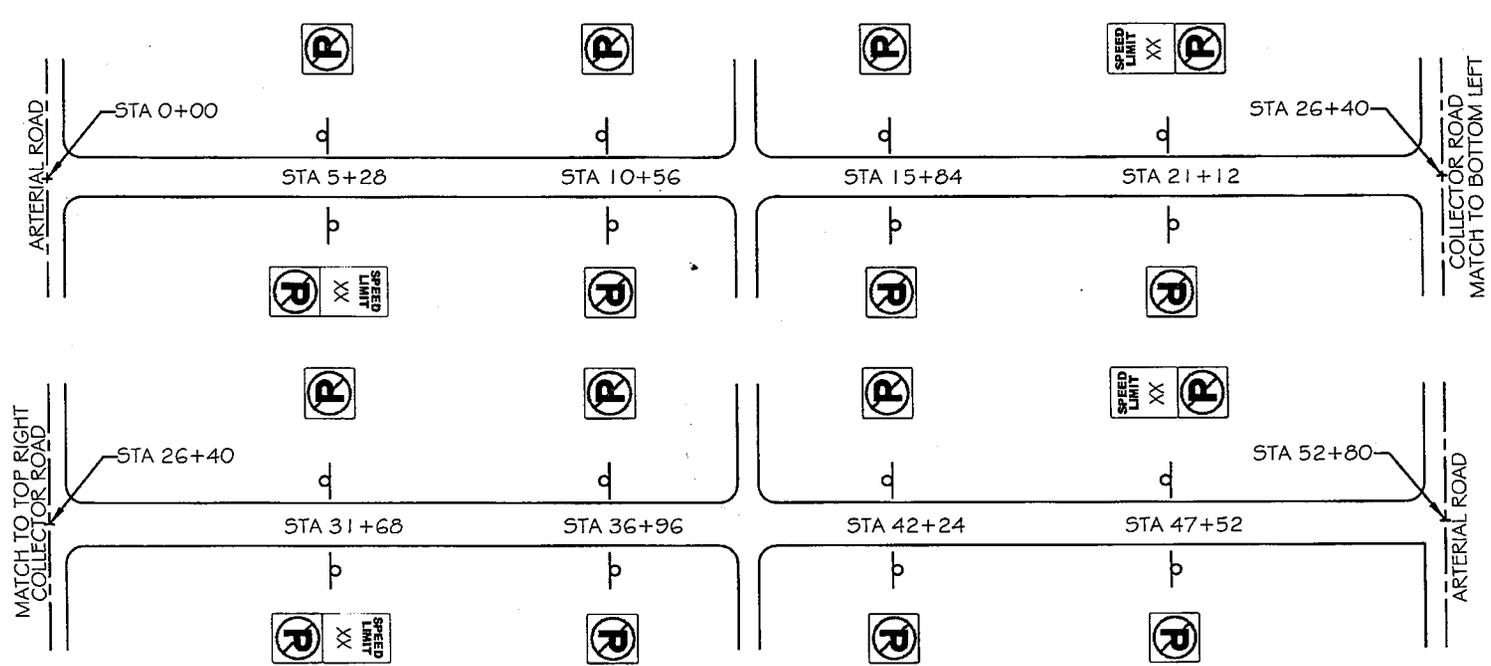


**WITHOUT BIKE LANES
(PRE 1993 ARTERIAL)**



WITH BIKE LANES

DETAIL NO. C-620 NTS	 CITY OF CHANDLER STANDARD DETAIL	MAJOR ARTERIAL DECELERATION LANE SIGNING AND STRIPING	APPROVED: <i>[Signature]</i> CITY ENGINEER DATE: 01/08/09	DETAIL NO. C-620 NTS
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NOTE: SIGNING SHOWN ONLY REPRESENTS THE PLACEMENT OF THE NO-PARKING AND SPEED LIMIT SIGNS. ADDITIONAL SIGNING MAY BE REQUIRED DEPENDING ON EACH INDIVIDUAL SITUATION.

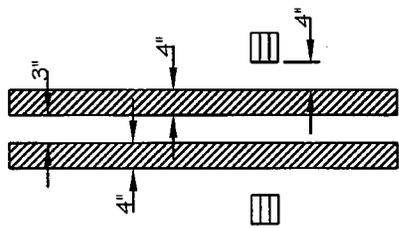
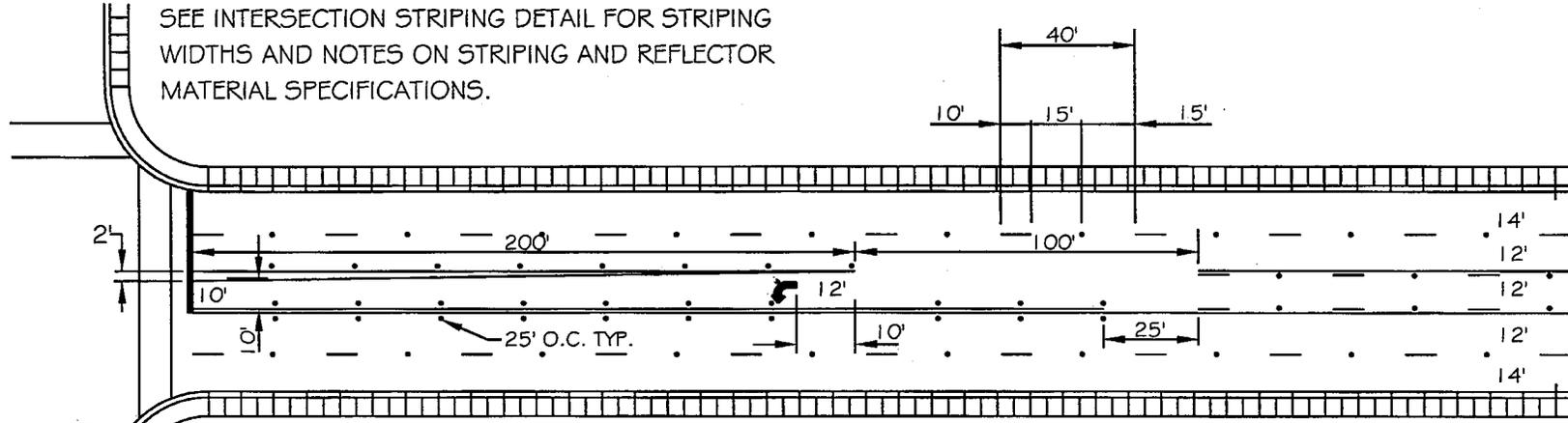
THE SPACING OF THE NO-PARKING SIGNS SHOULD BE 528' (1/10 MILE) APART, BUT MAY VARY UP TO 50' IF SIGN CAN BE MOUNTED ONTO A EXISTING POLE OR A STREET LIGHT POLE.

NO-PARKING SIGNS SHALL BE 24"x24" UNLESS OTHERWISE NOTED.

SPEED LIMIT SHALL BE DETERMINED BY THE CITY ENGINEER AND THE SIGN SHALL BE 24"x30" IN SIZE. THERE SHALL BE 4 SPEED LIMIT SIGNS PER MILE AS SHOWN ABOVE.

DETAIL NO. C-621 NTS	 CITY OF CHANDLER STANDARD DETAIL	ARTERIAL SIGNAGE	APPROVED:  CITY ENGINEER DATE: <u>January 11, 2002</u>	DETAIL NO. C-621 NTS
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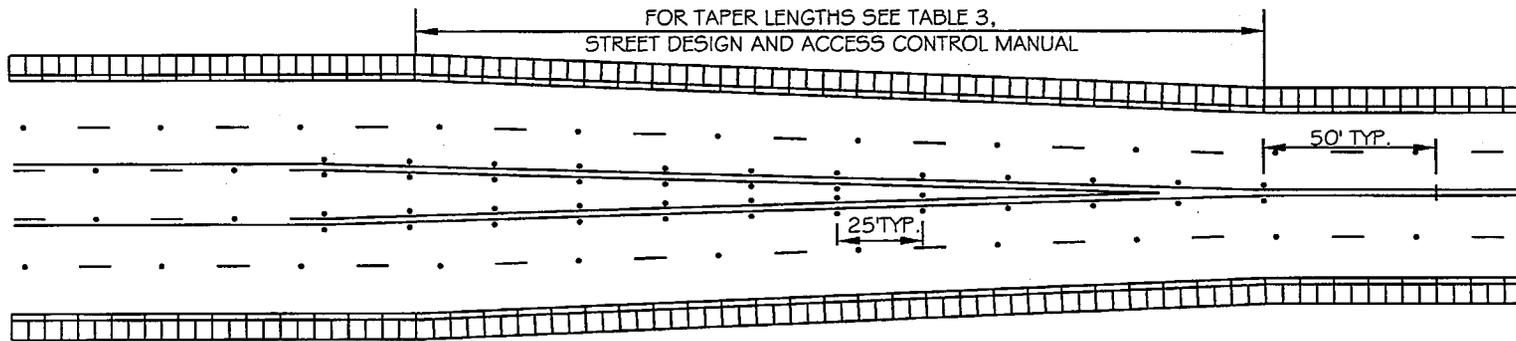
SEE INTERSECTION STRIPING DETAIL FOR STRIPING WIDTHS AND NOTES ON STRIPING AND REFLECTOR MATERIAL SPECIFICATIONS.



PAVEMENT REFLECTORS
(PRISMATIC REFLECTORS ONLY)
YELLOW WHITE



INSTALL WITH
CRAFCO BITUMINOUS
MATERIAL OR EQUAL

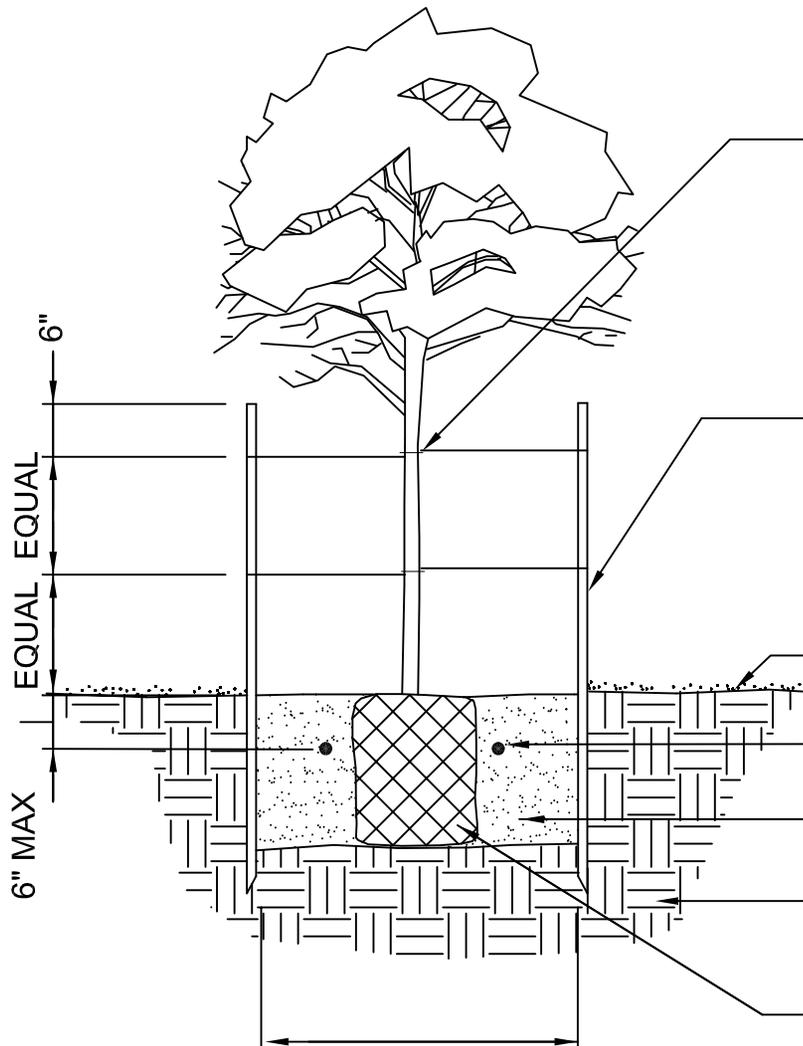


FOR TAPER LENGTHS SEE TABLE 3,
STREET DESIGN AND ACCESS CONTROL MANUAL

DETAIL NO. C-622 NTS	 CITY OF CHANDLER STANDARD DETAIL	ARTERIAL ROADWAY MARKINGS (W/O MEDIANS)	APPROVED:  CITY ENGINEER DATE: <u>2/26/07</u>	DETAIL NO. C-622 NTS
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LANDSCAPE SERIES

C-801 TO C-817



1/2" I.D. REINFORCED RUBBER HOSE, MAINTAIN 8" - 12" LOOP. TIE WIRE TO BE 12 AWG DOUBLE STRAND WIRE. WRAP AROUND TREE STAKE AND STAPLE TO HOLD IN PLACE.

2-2" DIA. X 8' LODGEPOLE PINE TREE STAKES

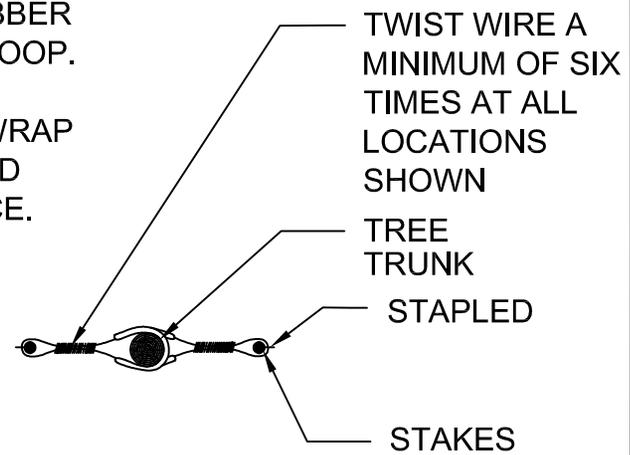
FINISH GRADE
2" DEPTH DG

PLANT TABLET
(SEE SCHEDULE)
BACKFILL MIX
(SEE SCHEDULE)

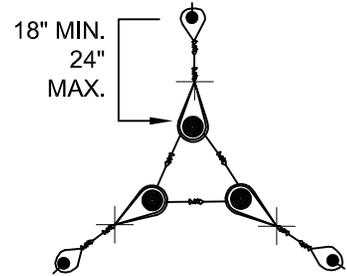
NATIVE SOIL

ROOTBALL

SEE PLANT PIT SCHEDULE



SINGLE-TRUNK



MULTI-TRUNK

PLAN VIEW

- TREE STAKING NOTES-
1. STAKE TREES ONLY IF REQUIRED.
 2. SET STAKES 6" MINIMUM IN UNDISTURBED SOIL.

* Latest Revision February 2012

DETAIL NO.
C- 801
NTS

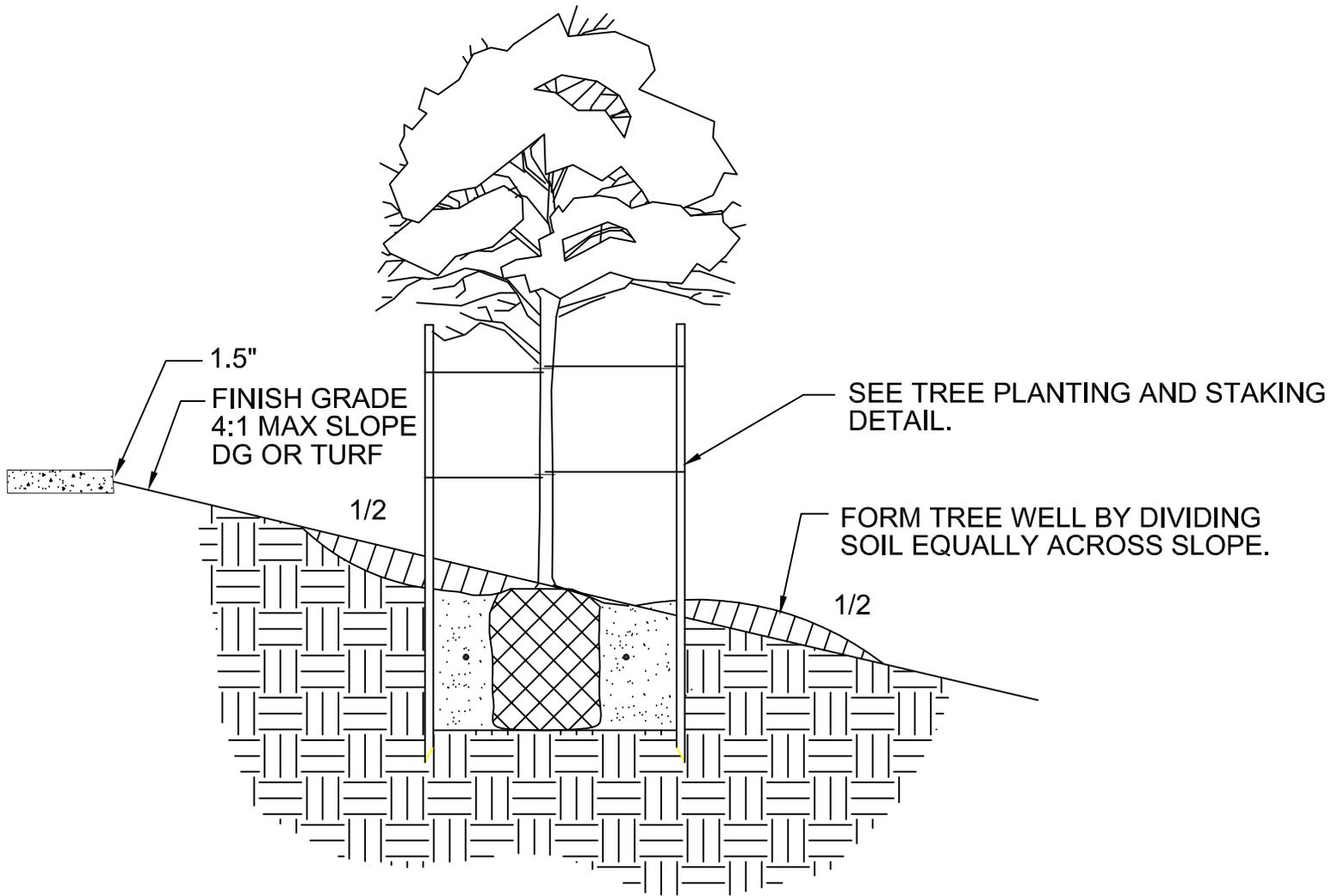


CITY OF
CHANDLER
STANDARD
DETAIL

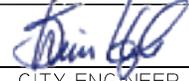
**TREE PLANTING
AND STAKING**

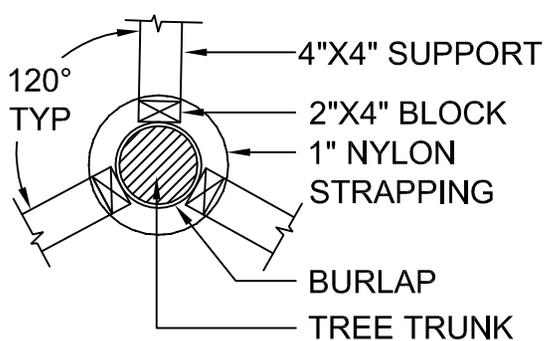
APPROVED: *[Signature]*
CITY ENGINEER
DATE: 02/09/12

DETAIL NO.
C-801



* Latest Revision February 2012

DETAIL NO. C- 802 NTS	 CITY OF CHANDLER STANDARD DETAIL	TREE PLANTING SLOPE	APPROVED:  CITY ENGINEER DATE: <u>02/09/12</u>	DETAIL NO. C-802
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PLAN VIEW

PREPARED BACKFILL,
SEE SCHEDULE

4" TYP

45°

SEE
SCHEDULE

NOTE:
1. DO NOT BURY TRUNK - MAX 6" DEPTH
LOWER THAN ORIGINAL PLANT DEPTH.

TRIM HEADS TO NOT LESS THAN
10 HEALTHY FRONDS. TIE
REMAINING FRONDS TOGETHER
WITH BIODEGRADABLE TWINE.
UNTIE IN 45 TO 60 DAYS OR UPON
EVIDENCE OF NEW GROWTH.

3-2"x4" WOOD BLOCKS

2-1" NYLON STRAPPING TO
SECURE BLOCKS TO TREE

4"x4" SUPPORT NAILED TO
BLOCK AND STAKE
(3 SUPPORTS PER TREE)

2"x4"x24" WOOD STAKE

2" DECOMPOSED GRANITE
WHERE CALLED FOR

FERTILIZER TABLET
SEE SCHEDULE

2-4" DIA. PERFORATED ABS
PIPES FILLED WITH 1/2"
SIZED PEA GRAVEL AND 1
BUBBLER EACH, SEE
BUBBLER DETAIL.

* Latest Revision February 2012

DETAIL NO.

C- 803

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**PALM PLANTING
AND BRACING**

APPROVED:

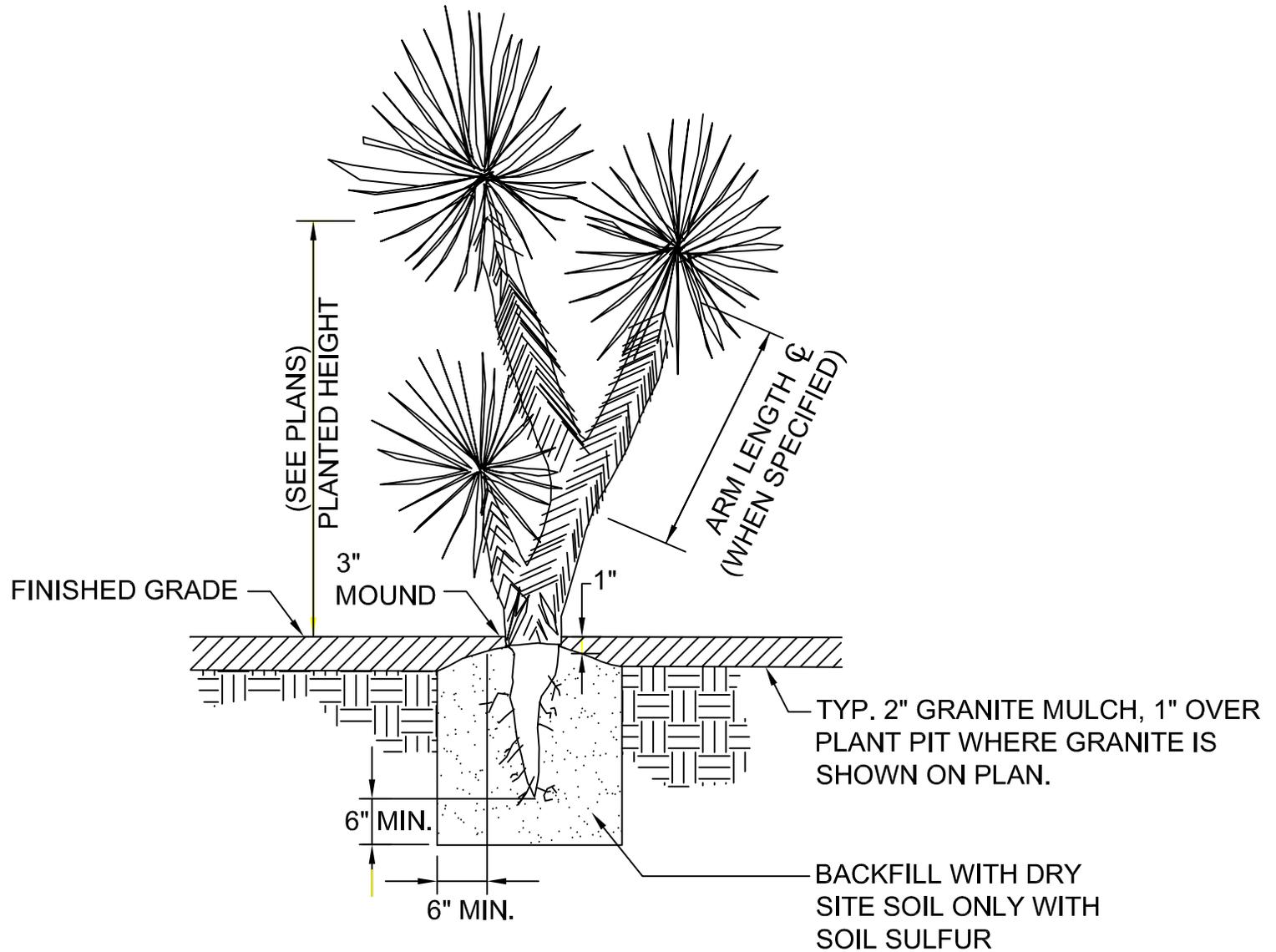
CITY ENGINEER

DATE:

02/09/12

DETAIL NO.

C-803



* Latest Revision February 2012

DETAIL NO.

C- 804

NTS



CITY OF
CHANDLER
STANDARD
DETAIL

**CACTUS AND ACCENT
PLANTING**

APPROVED: _____

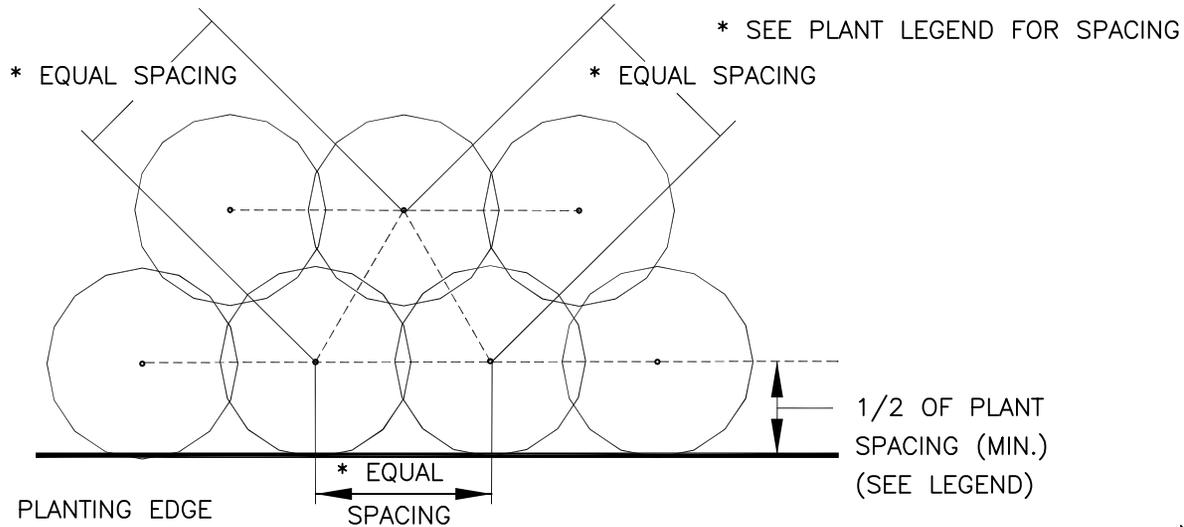
[Signature]
CITY ENGINEER

DATE: _____

02/09/12

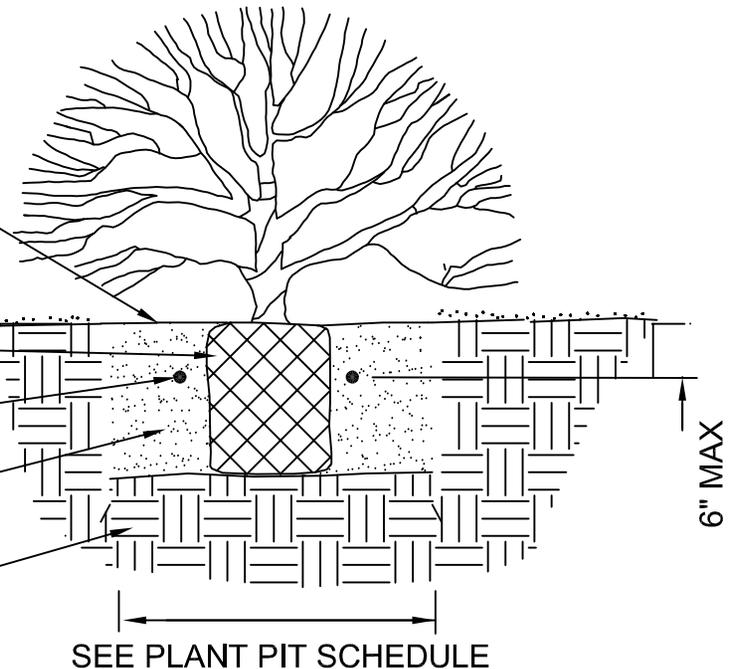
DETAIL NO.

C-804



2" DEEP WATERING BASIN SHALL BE GENTLE AND UNIFORM THROUGHOUT WITH NO OBTRUSIVE EDGES (BASIN TO BE SAME DIA. AS PLANT PIT)
 FINISH GRADE, 2" DEPTH DG

ROOTBALL ON UNDISTURBED SOIL
 PLANT TABLET (SEE SCHEDULE)
 BACKFILL MIX (SEE SCHEDULE)
 NATIVE SOIL



* Latest Revision February 2012

DETAIL NO.
C- 805
 NTS



**SHRUB AND GROUND COVER
 PLANTING**

APPROVED: *Devin J. [Signature]*
 CITY ENGINEER
 DATE: 02/09/12

DETAIL NO.
C-805

**A - PLANTING PIT DIMENSIONS FOR TREES, SHRUBS,
GROUNDCOVERS, CACTUS AND ACCENTS**

<u>PLANT SIZE</u>	<u>WIDTH</u>	<u>DEPTH</u>
1 GALLON	2X's the width of the Root Ball	Same Depth as Root Ball
5 GALLON	2X's the width of the Root Ball	Same Depth as Root Ball
15 GALLON	3X's the width of the Root Ball	Same Depth as Root Ball
24" BOX	3X's the width of the Root Ball	Same Depth as Root Ball
30" BOX	3X's the width of the Root Ball	Same Depth as Root Ball
36" BOX	3X's the width of the Root Ball	Same Depth as Root Ball
48" BOX	3X's the width of the Root Ball	Same Depth as Root Ball

B - PLANT PIT DIMENSIONS FOR PALMS

<u>TRUNK DIAMETER AT GRADE</u>	<u>MINIMUM DIAMETER PLANTING PIT</u>	<u>MINIMUM DEPTH PLANTING PIT</u>
12 - 24"	48"	42"
25 - 32"	56"	44"
33 - 36"	60"	48"

**C - PLANT TABLET SCHEDULE FOR TREES, SHRUBS,
CACTUS, ACCENTS AND PALMS**

TREES, SHRUBS, CACTUS AND ACCENTS

1 GALLON	1 TABLET
5 GALLON	2 TABLETS
15 GALLON	4 TABLETS
24" BOX	6 TABLETS
36" BOX	8 TABLETS
48" BOX	10 TABLETS

PALMS

1 TABLET PER 2 FEET OF TRUNK HEIGHT

D - BACKFILL MIX

TREES AND SHRUBS

3 PARTS EXCAVATED TOPSOIL
1 PART SAND
PLANT TABLETS PER SCHEDULE C

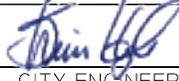
CACTUS AND ACCENTS

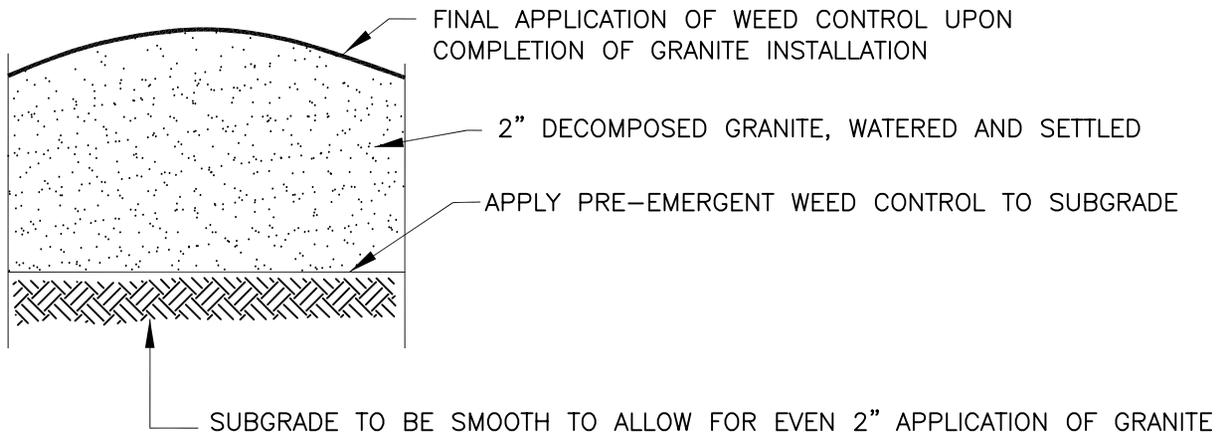
1 PART EXCAVATED TOPSOIL
1 PART SAND
PLANT TABLETS PER SCHEDULE C

PALMS

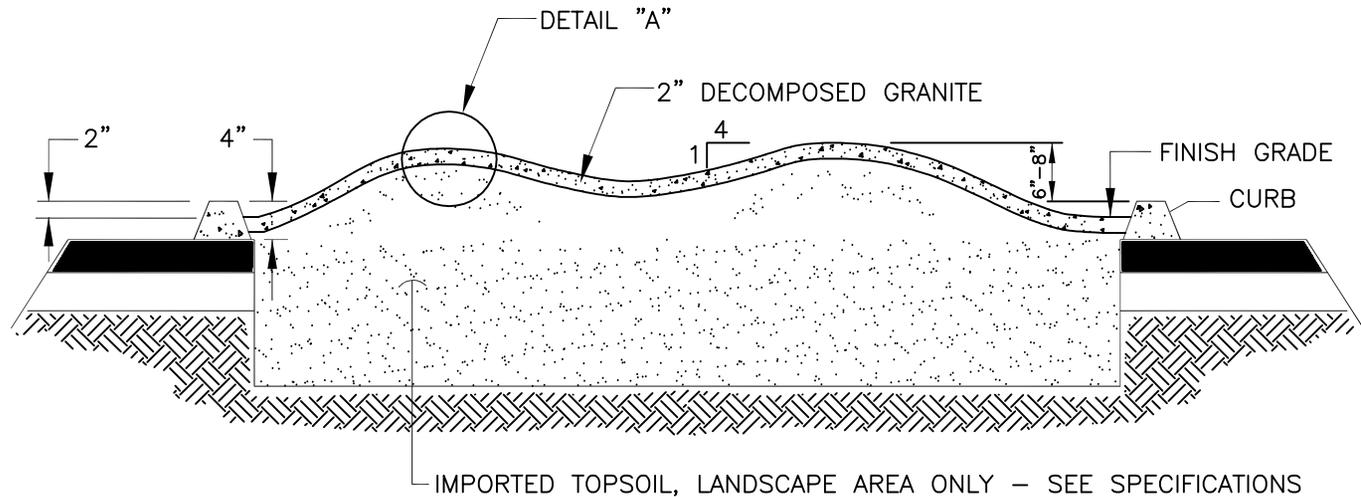
PALM TREE BACKFILL SHALL BE 100% SAND.
PLANT TABLETS PER SCHEDULE C

* Latest Revision February 2012

DETAIL NO. C- 806 NTS	 CITY OF CHANDLER STANDARD DETAIL	PLANT PIT SCHEDULE	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-806
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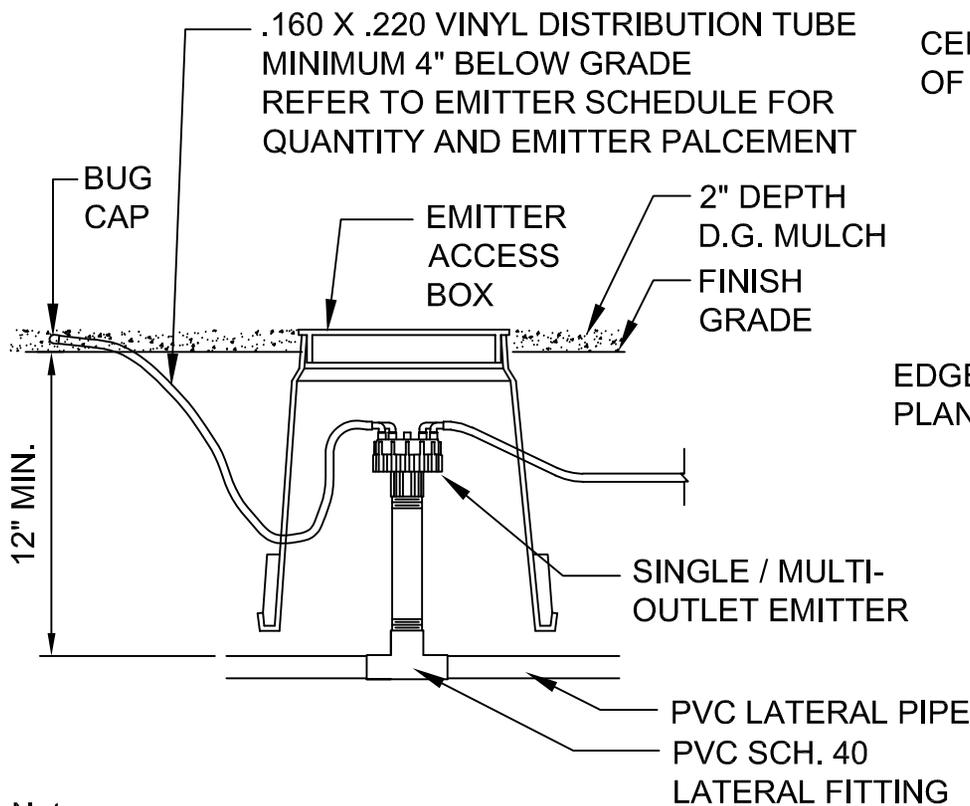


A GRANITE DETAIL



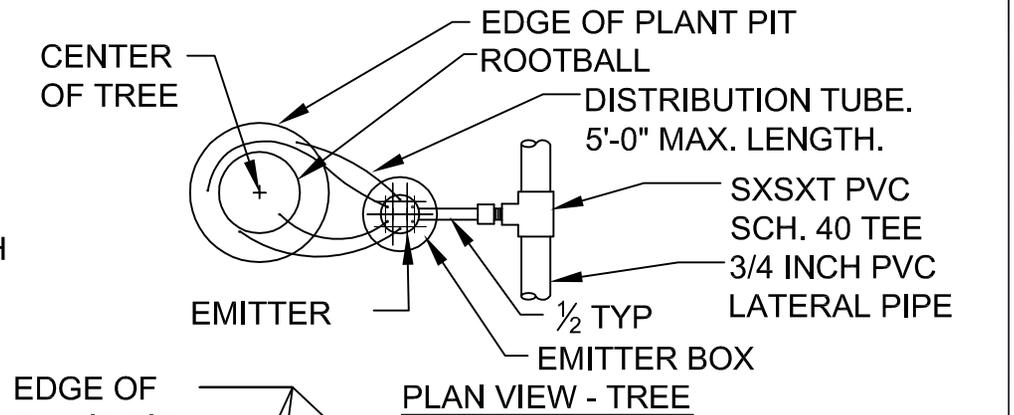
* Latest Revision February 2012

DETAIL NO. C- 807 NTS	 CITY OF CHANDLER STANDARD DETAIL	MEDIAN	APPROVED: <u><i>Devin Ely</i></u> CITY ENGINEER DATE: <u>02/09/12</u>	DETAIL NO. C-807
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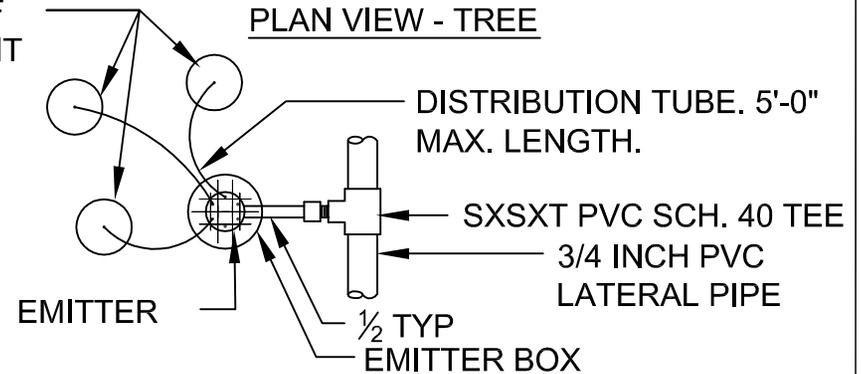
Notes:

1. Emission points shall be located uphill of plant centerline and shall deliver water directly to root ball (typ.)
2. At least one emitter tube outlet shall be located within 4" of plant centerline.
3. All basins 2" deep. Basins to be same level as plant pit.
4. Place emitter so that top edge of emitter is visible above finished grade
5. Number of openings and emitter tubes required per plant is based on plant size. See Emitter Schedule.

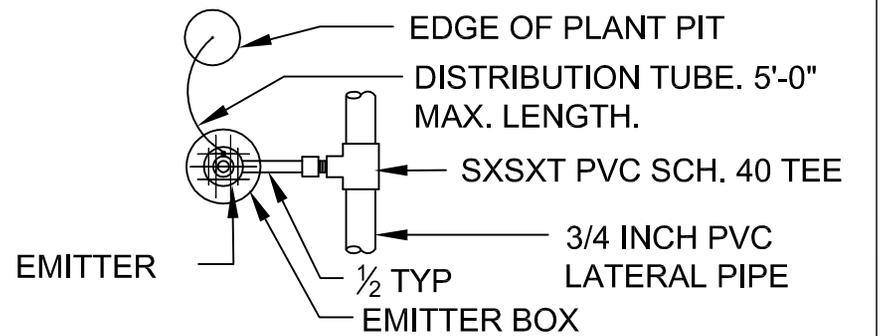


EDGE OF PLANT PIT

PLAN VIEW - TREE



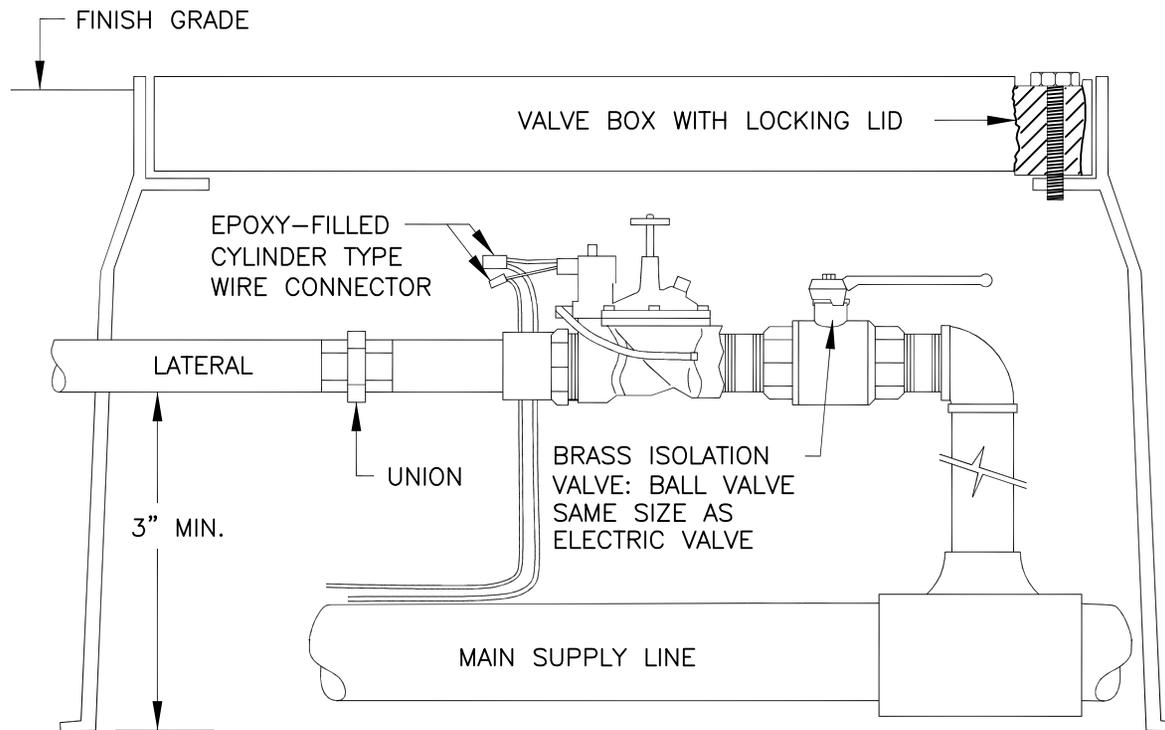
PLAN VIEW - SHRUB



PLAN VIEW - SINGLE OUTLET

* Latest Revision February 2012

DETAIL NO. C- 808 NTS	 CITY OF CHANDLER STANDARD DETAIL	EMITTER ACCESS BOX AND EMITTER LAYOUT	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-808
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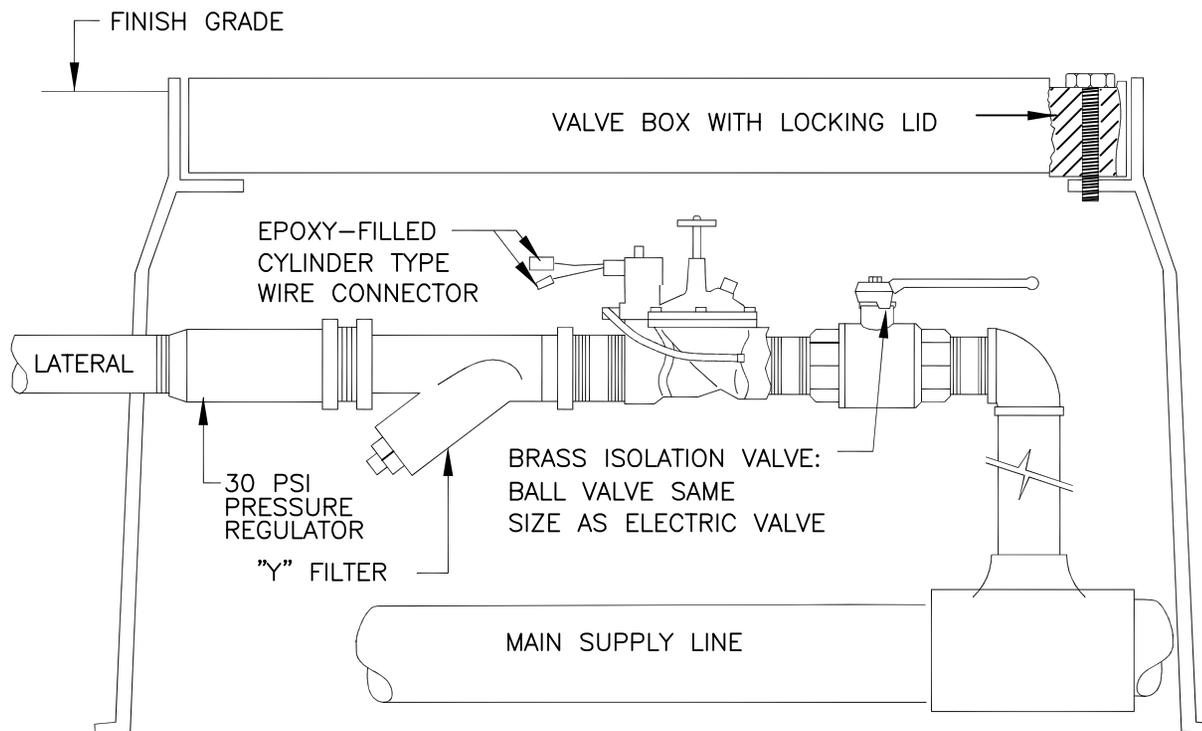


NOTES:

1. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION.
2. QUICK COUPLERS SHALL BE IN SEPERATE VALVE BOXES.
3. PEA GRAVEL SHALL BE 4" TO 6" IN DEPTH UNDER VALVE BOX.
4. ALL PVC THREADED FITTINGS SHALL BE SCHEDULE 80.

* Latest Revision February 2012

DETAIL NO. C- 809 NTS	 CITY OF CHANDLER STANDARD DETAIL	REMOTE CONTROL ELECTRIC VALVE TURF	APPROVED: <u><i>Devin Lyle</i></u> CITY ENGINEER DATE: <u>02/09/12</u>	DETAIL NO. C-809
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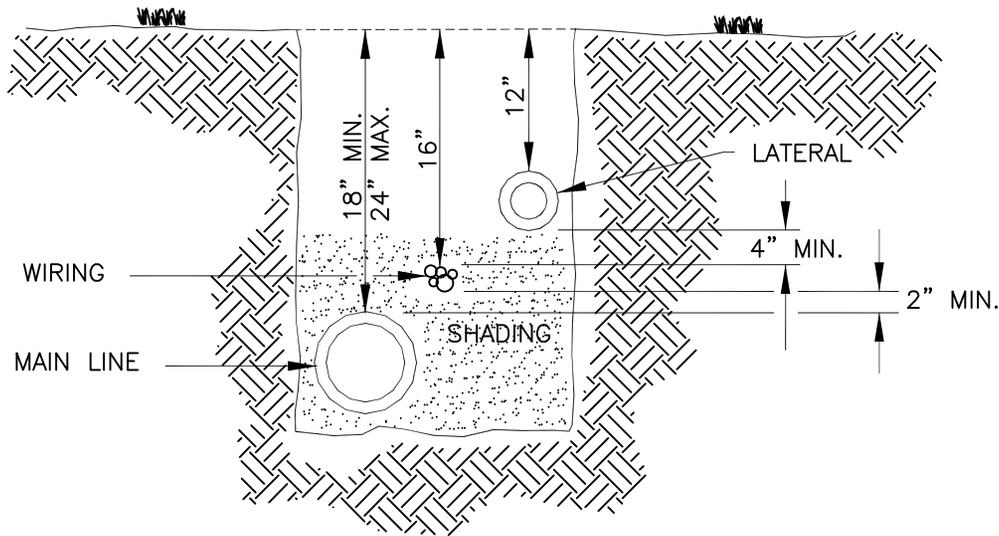


NOTES:

1. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION.
2. QUICK COUPLERS SHALL BE IN SEPERATE VALVE BOXES.
3. PEA GRAVEL SHALL BE 4" TO 6" IN DEPTH UNDER VALVE BOX.

* Latest Revision February 2012

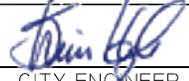
DETAIL NO. C- 810 NTS	 CITY OF CHANDLER STANDARD DETAIL	REMOTE CONTROL ELECTRIC VALVE DRIP	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-810
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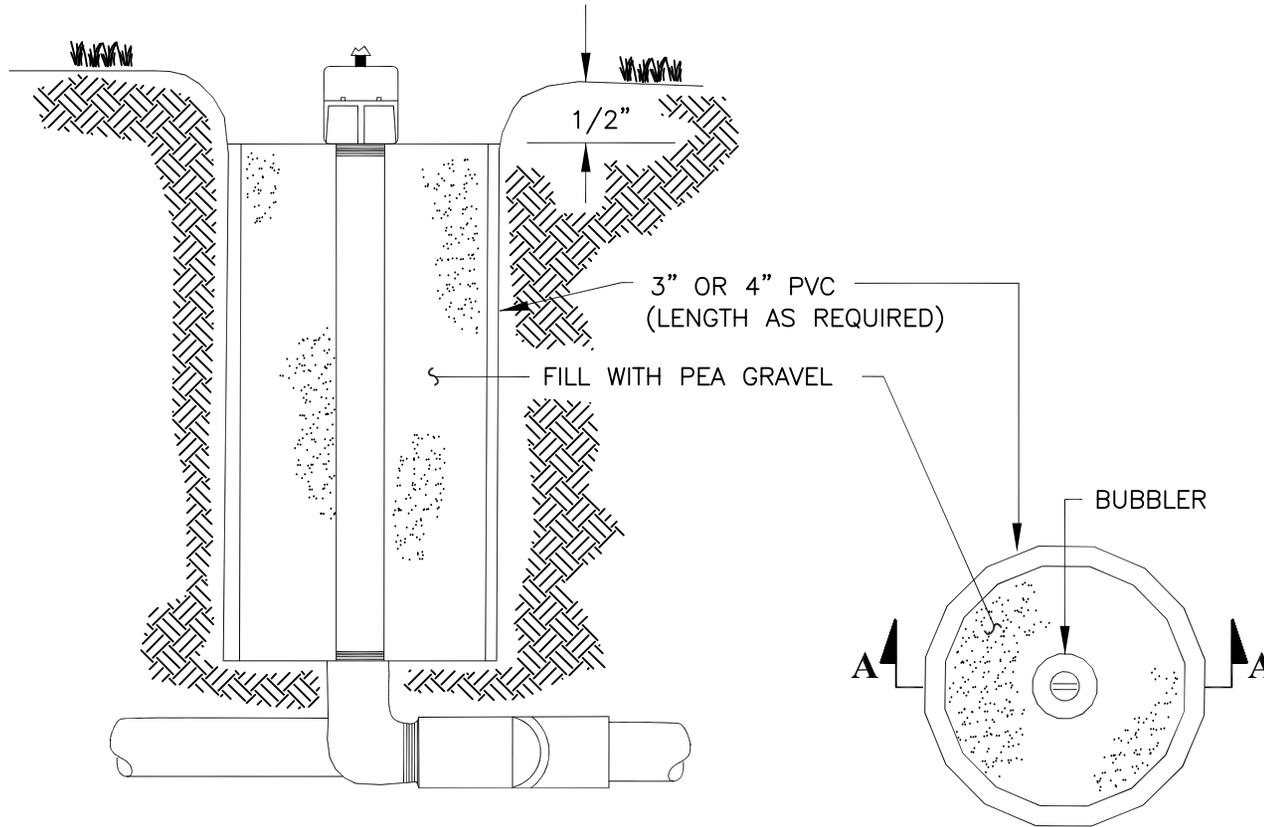


NOTES:

1. ALL PIPE INSTALLATION, TRENCH EXCAVATION, BACKFILLING AND COMPACTION SHALL CONFORM WITH MAG SEC. 440 AND 601.
 2. TAPE AND BUNDLE WIRING AT 10 FEET INTERVALS.
 3. SHADING SHALL BE DONE WITH NATIVE SOIL.
 4. DEPTH DIMENSION MAY VARY WHERE INDICATED ON IRRIGATION PLAN.
 5. ALL PIPE INSTALLED UNDER PAVED SURFACES SHALL BE PLACED IN PVC SLEEVING, 2 TIMES THE NOMINAL SIZE OF THE PIPE*.
- *ALL IRRIGATION WORK WITHIN THE PUBLIC R.O.W. REQUIRES A SEPARATE PERMIT.

* Latest Revision February 2012

DETAIL NO. C- 811 NTS	 CITY OF CHANDLER STANDARD DETAIL	IRRIGATION TRENCH	APPROVED:  CITY ENGINEER DATE: <u>02/09/12</u>	DETAIL NO. C-811
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SECTION A - A

PLAN

* Latest Revision February 2012

DETAIL NO.
C- 812
NTS

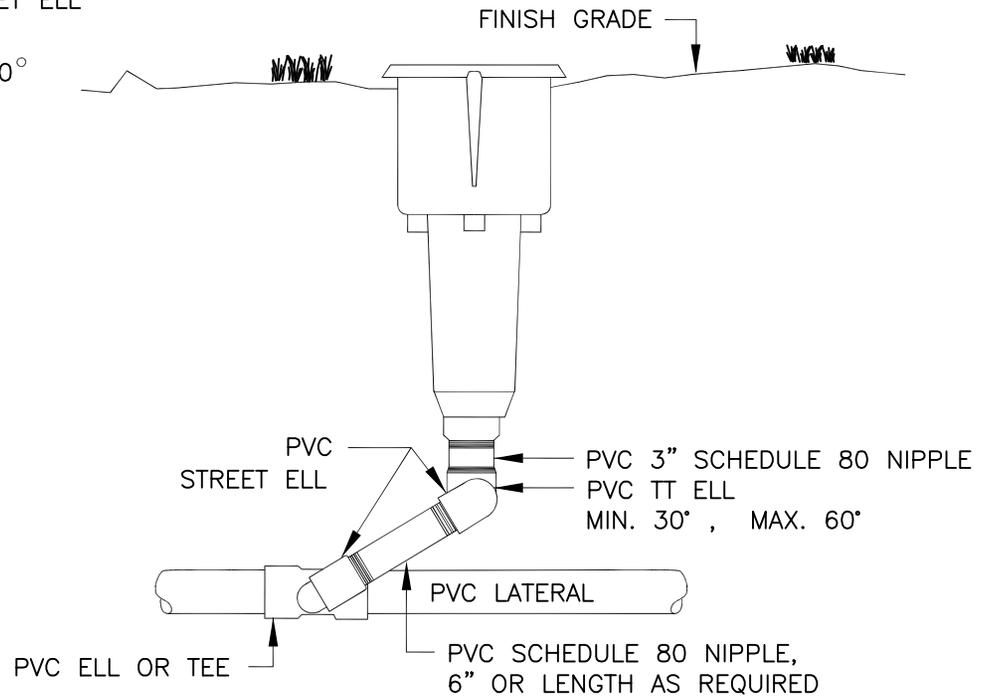
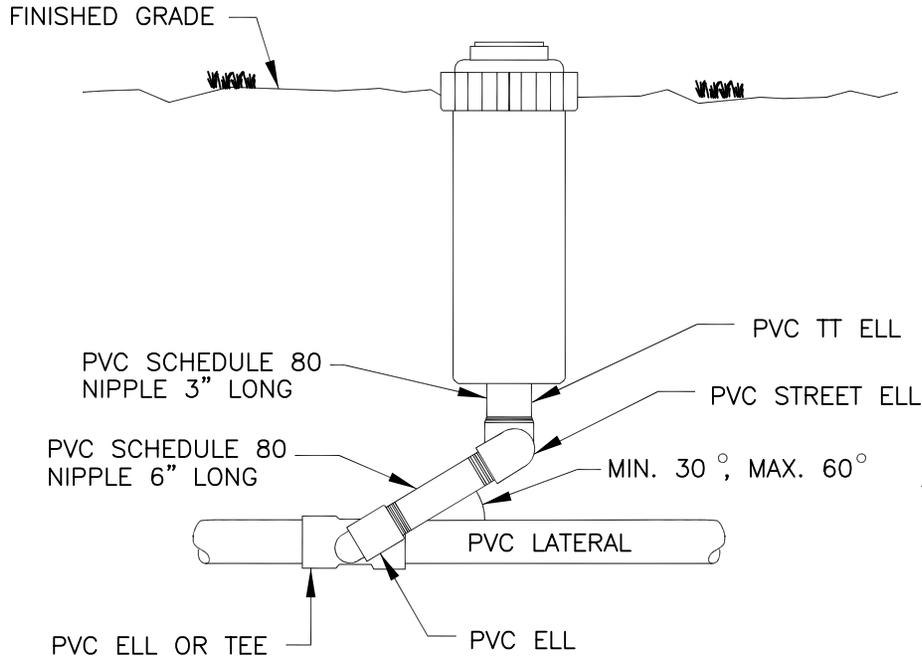


CITY OF
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STANDARD
DETAIL

BUBBLER

APPROVED: *Devin Liff*
CITY ENGINEER
DATE: 02/09/12

DETAIL NO.
C-812

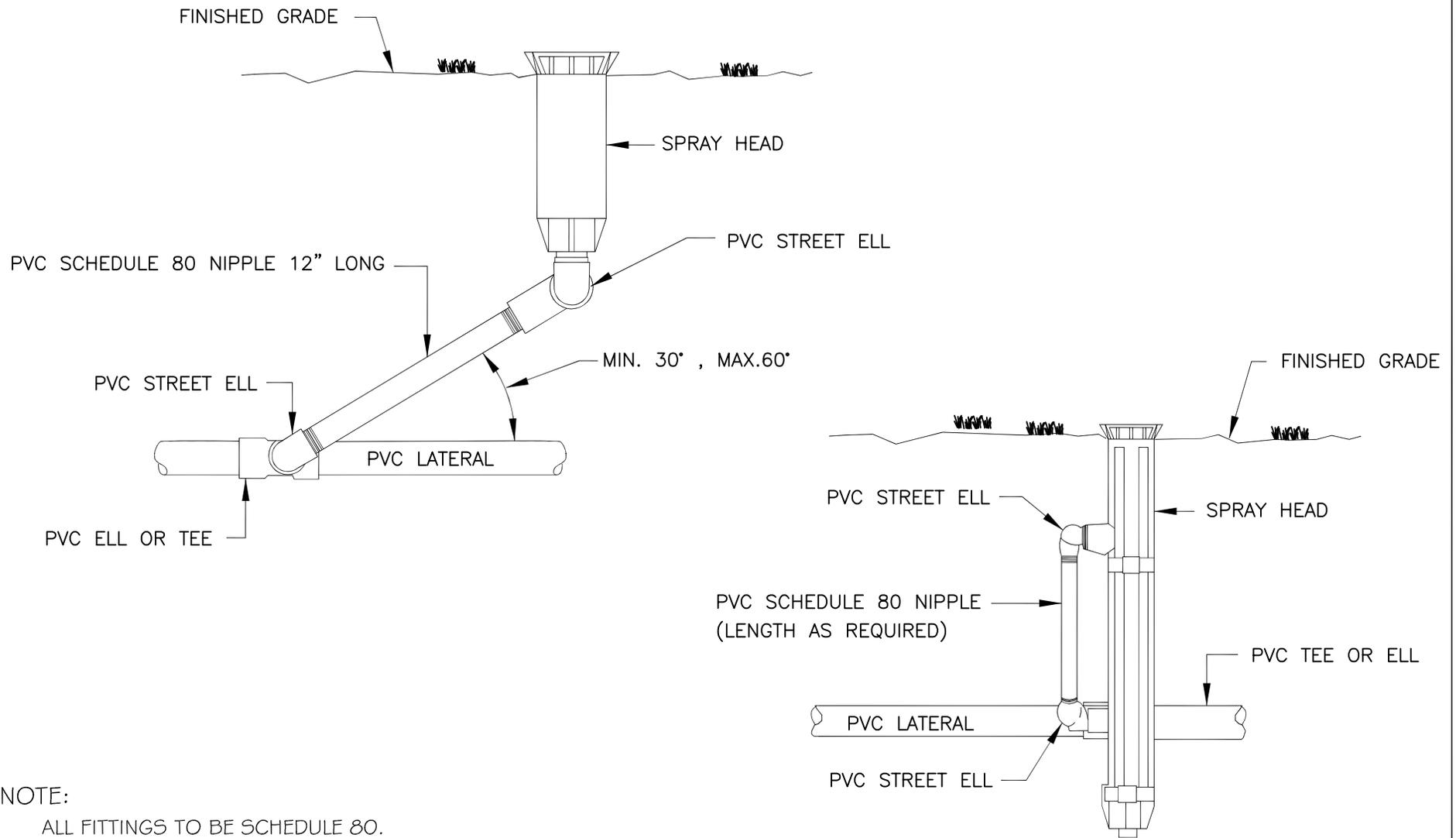


NOTES:

1. INSTALL SPRINKLER 1" ABOVE GRADE UNTIL TURF IS ESTABLISHED THEN ADJUST FLUSH TO GRADE.
2. ALL FITTINGS TO BE SCHEDULE 80.

* Latest Revision February 2012

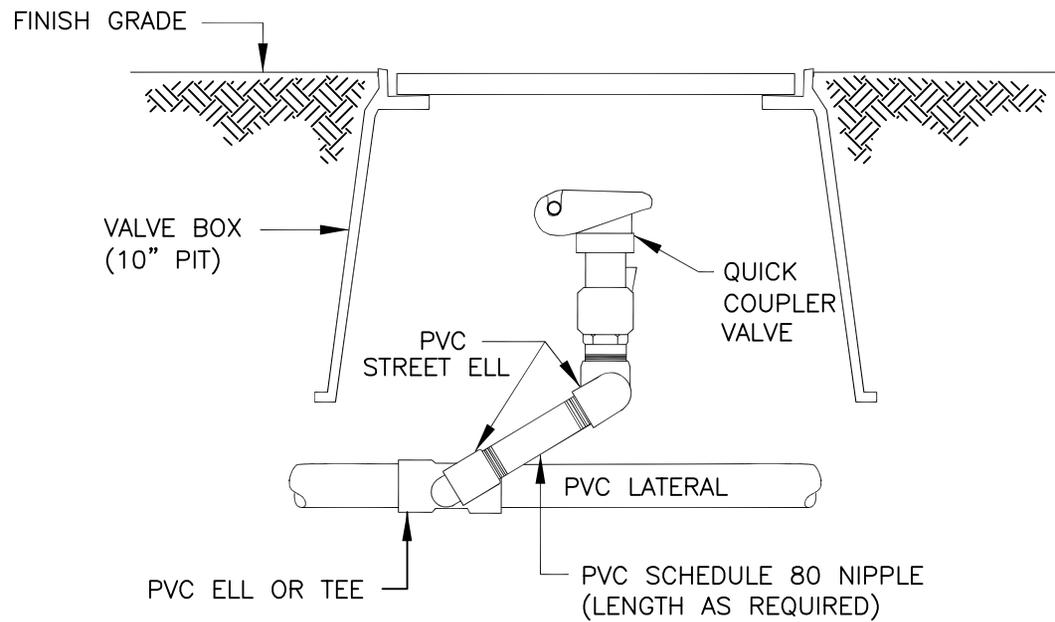
DETAIL NO. C- 813 NTS	 CITY OF CHANDLER STANDARD DETAIL	GEAR-DRIVEN POP-UP ROTOR	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-813
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NOTE:
ALL FITTINGS TO BE SCHEDULE 80.

* Latest Revision February 2012

DETAIL NO. C- 814 NTS	 CITY OF CHANDLER STANDARD DETAIL	POP-UP SPRAY HEAD	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-814
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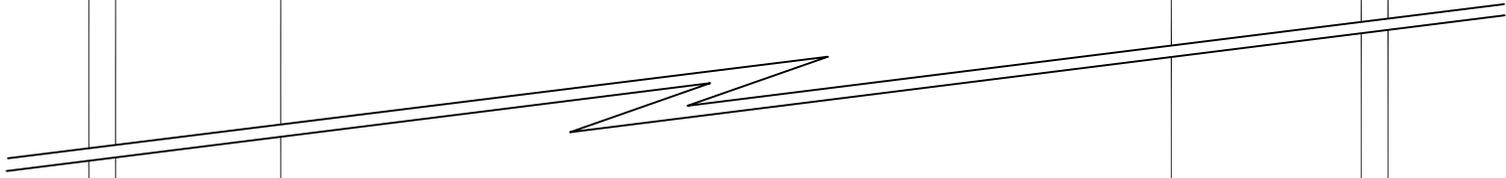
NOTES:

1. EACH QUICK COUPLER SHALL BE IN A SEPERATE VALVE BOX.
2. PROVIDE ONE (1) QUICK COUPLER KEY FOR EACH QUICK COUPLER VALVE.
3. PLACE 4" TO 6" DEPTH PEA GRAVEL UNDER VALVE BOX.
4. QUICK COUPLER SHALL HAVE LOCKING RUBBER COVER.

* Latest Revision February 2012

DETAIL NO. C- 815 NTS	 CITY OF CHANDLER STANDARD DETAIL	QUICK COUPLER	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-815
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IRRIGATION LEGEND

SYMBOL	MFG. AND DESCRIPTION	QUANTITY
		

FRICTION LOSS

PRESSURE AT SOURCE _____ P.S.I.

PRESSURE VERIFIED WITH CITY _____ P.S.I.

FRICTION LOSS THROUGH: (TO FARTHEST HEAD)

WATER METER _____ P.S.I.

VACUUM BREAKER _____ P.S.I.

MAIN LINE PIPE _____ P.S.I.

VALVE _____ P.S.I.

LATERAL LINE PIPE _____ P.S.I.

TOTAL FRICTION LOSS _____ P.S.I.

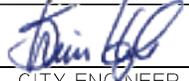
REQUIRED PRESSURE AT HEAD _____ P.S.I.

(TOTAL FRICTION LOSS)+(REQUIRED P.S.I. AT HEAD) = PRESSURE REQUIRED AT SOURCE _____ P.S.I.

CALCULATIONS PERFORMED BY _____

SIGNED _____ DATE _____

* Latest Revision February 2012

DETAIL NO. C- 816 NTS	 CITY OF CHANDLER STANDARD DETAIL	TYPICAL IRRIGATION LEGEND AND INFORMATION	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-816
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A - EMITTER SCHEDULE FOR TREES, SHRUBS, GROWDCOVERS AND ACCENTS

<u>PLANT SIZE</u>	<u>TYPE OF EMITTER</u>	<u>NUMBER OF EMITTERS</u>	<u>GALLONS PER HOUR PER PLANT</u>
1 GALLON	SINGLE OR MULTI	1	.6 or 1
5 GALLON	SINGLE OR MULTI	1	.6 or 1
15 GALLON	MULTI	4	4
24" BOX	MULTI	4	4
30" BOX	MULTI	6	6
36" BOX	MULTI	6	6
48" BOX	MULTI	6	6

B - BUBBLER SCHEDULE FOR PALMS

<u>TRUNK DIAMETER AT GRADE</u>	<u>NUMBER OF BUBBLERS</u>
12 - 24"	2
25 - 32"	2
33 - 36"	2

C - CACTUS

DO NOT PROVIDE IRRIGATION TO CACTUS

NOTES:

1. REFER TO EMITTER AND BUBBLER DETAILS FOR SPECIFICATIONS AND LAYOUT INFORMATION.
2. ADJUST IRRIGATION OPERATING TIMES TO ACCOMMODATE PLANT MATURITY, SOIL TYPE, PLANT EXPOSURE AND SEASONAL REQUIREMENTS.

* Latest Revision February 2012

DETAIL NO. C- 817 NTS	 CITY OF CHANDLER STANDARD DETAIL	EMITTER-BUBBLER SCHEDULE	APPROVED:  CITY ENGINEER DATE: 02/09/12	DETAIL NO. C-817
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