

**2010**

# **City of Scottsdale**

**SUPPLEMENT TO  
MAG UNIFORM STANDARD  
DETAILS**

**for**

**PUBLIC WORKS CONSTRUCTION**



**EFFECTIVE JUNE 3, 2010**



REVISED 3/31/10

**2100 Series**  
**General Information**

- 2120\* Survey Marker
- 2124 Accessible Signage
- 2131 Sign Post Installation
- 2132 Raised Pavement Marker Layout
- 2133-1\* Median Nose Signing – Type A & B
- 2133-2 Median Or Shoulder Signing
- 2134-1 Street Name Signs – Type A
- 2134-2 Street Name Signs – Type B
- 2134-3 Street Name Signs – 18” Metro
- 2134-4 Street Name Signs – 24” Metro
- 2134-5 Directional Street Name Sign
- 2135 Street Name Sign w/Stop Installation
- 2136 Advance Street Name Signs
- 2137 Loop Detectors
- 2138 Signal Pole Drilling Detail
- 2139 Traffic Signal Controller Cabinet Extender
  
- 2140 Model 330 Input Rack Wiring Instructions
- 2141 Tape Color Codes for Traffic Signal Wiring
  
- 2146-1 Refuse Enclosure
- 2146-2 Refuse Enclosure With Grease Containment Area
  
- 2147-1 Double Refuse Enclosure
- 2147-2 Double Refuse Enclosure With Grease Containment Area
  
- 2165-1 16’ Sliding Gate & Hinged Door
- 2165-2 16’ Sliding Gate

**2200 Series**  
**Street Information**

- 2200 Pavement Replacement
- 2201 Trench Bedding & Backfill
- 2202 Trench Plating
- 2207 Residential Unpaved Road
- 2210 Grading Behind The Curb
- 2220 Curb And Gutter – Types "A" & "B"
- 2221 Curb And Gutter – Types "M" & "W"

**2200 Series**  
**Street Information (cont'd)**

- 2225 Median Nose & Reverse Curve Details
- 2226 Median Nose Details
- 2228 Cut-Off Wall
- 2230 Sidewalk Cutout For Utility Poles
- 2231\* Detectable Warning Surface
- 2232 Directional Sidewalk Ramps
- 2233-1 Directional Sidewalk Ramps Retrofit – Type A
- 2233-2 Directional Sidewalk Ramps Retrofit – Type B
- 2234 Shared Curb Sidewalk Ramp
- 2235-1 Mid-Block Sidewalk Ramp – Type A
- 2235-2 Mid-Block Sidewalk Ramp – Type B
- 2237 Sidewalk Pavers (Non-Traffic Bearing)
- 2239 Median Concrete Pavers
- 2240 6’ Valley Gutter & Apron
- 2250 Driveway Entrances
- 2255\* Residential Driveways
- 2256 Commercial/Industrial Driveways-Type CL
- 2257\* Commercial/Industrial Driveways-Type CH
- 2258\* Commercial/Industrial Driveways-Type CI
- 2265-1 Bus Shelter – Foundation Plan
- 2265-2 Bus Shelter – Framing Plan
- 2265-3 Bus Shelter – Sections
- 2265-4 Bus Shelter – Details
- 2265-5 Bus Shelter – Details
- 2265-6 Bus Shelter – Notes
- 2265-7 Bus Shelter – Abbreviations
- 2266-1 Closed End Bus Bay – Type "A"
- 2266-2 Closed End Bus Bay – Type "B"
- 2267 Far Side Bus Bay
- 2268 Base Slab And Foundations For Bus Stop Bench And Receptacles
  
- 2270 Frame & Cover Grade Adjustment
- 2282 Multi-Use Path Striping And Signing
- 2283 Multi-Use Path Details
- 2284 Multi-Use Path Wet Crossing Sign

**2200 Series**  
**Street Information (cont'd)**

- 2285 Double Bicycle Rack
- 2290-1\* Median Island Details
- 2290-2 Bulb Out/Choker Detail
- 2292-1 Speed Table Details
- 2292-2 Speed Table Details
- 2293 Mid-Block Pedestrian Table
- 2294 Intersection Pedestrian Table
- 2295\* Pedestrian Refuge

**2300 Series**  
**Water Information**

- 2305-1 Butterfly Valve Operator Manhole
- 2305-2 Butterfly Valve Operator Manhole
- 2315 Nonpotable Water Valve Box & Cover
- 2330 Water Service Line Connection
- 2332 Chlorine Injection Tap
- 2333 Tap For Future Chlorine Injection
- 2342-1 Pressure Reducing Valve
- 2342-2 Pressure Reducing Valve
- 2345-1 3”, 4”, 6” Water Meter
- 2345-2 3”, 4”, 6” Water Meter
- 2346 Temporary Construction Meter
- 2348 Air / Vacuum Release Valve
- 2349 Water Quality Sampling Station
- 2351 Double Check Valve Backflow Prevention Assembly For Assemblies 3” Thru 10”
- 2352 Double Check Valve Backflow Prevention Assembly For Assemblies 3/4” Thru 2 1/2”
- 2353 Reduced Pressure Principle Backflow Prevention Assembly For Assemblies 3” Thru 10”
- 2354 Reduced Pressure Principle Backflow Prevention Assembly For Assemblies 3/4” Thru 2 1/2”
- 2355 Pressure Vacuum Breaker Assembly For Assemblies 1/2” Thru 2”

NOTE: \* – New Or Revised Detail For 2010 Supplement

DETAIL NO.  
**2100-1**

**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**INDEX**

DETAIL NO.  
**2100-1**

REVISED 3/31/10

**2300 Series**  
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- 2356 Guard Posts For Backflow Prevention Assemblies
- 2357 Fill Pipe Details For Portable Tanks With Air Gap Separation
- 2358 Backflow Prevention Method For Portable Tanks With No Air Gap Separation
- 2359 "N" Shaped Double Check Valve Backflow Prevention Assembly For Assemblies 3" Thru 10"
- 2360 "N" Shaped Reduced Pressure Principle Backflow Prevention Assembly For Assemblies 3" Thru 10"
- 2361 Fire Hydrant Bypass Assembly
- 2362-1 1-1/2" - 2" Fire Line Connection
- 2362-2 3" And Larger Fire Line Connection
- 2363 Pavement Markers For Fire Hydrants
- 2364 Fire And Emergency Access And Delineation
- 2365 Fire Lane Sign
- 2366 Concrete Collar For Fire Hydrants
- 2367 Remote Fire Department Connection
- 2368 Fire Sprinkler Riser Detail With Remote FD Connection
- 2369 Fire Sprinkler Riser Detail With Wallmount FD Connection
- 2370 Vertical Realignment Of Water Mains
- 2372 Minimum Utility Separation Requirements
- 2380 Temporary Water Supply Hydrant Meter Assembly
- 2381 Temporary Blow-Off For Water Supply
- 2382 Temporary Water Service
- 2383 Water Line Flushing Assembly
- 2397 Electronic Ballmarker Placement
- 2398 Antenna Mast Detail
- 2399 Temporary Tap For Chlorine Injection

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- 2402 Force Main Discharge Manhole
- 2403 Two-Way Force Main Cleanout, 3" & Above
- 2404 Force Main Cleanout With Sewage Air Release Valve
- 2405 Sewer Air Release Valve
- 2420 Water Tight Concrete Sewer Manhole
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- 2508 Handrail Detail
- 2515-1\* Wall Opening & Erosion Protection - Type 1
- 2515-2\* Drainage Grate At Block Wall
- 2515-3 Erosion Protection - Type 2
- 2520 Storm Drain Manhole Cover
- 2535\* Catch Basin Grates
- 2554 Concrete Invert Paving For Corrugated Metal Pipe And Pipe Arch
- 2560-1 Storm Drain Inlet Marker
- 2560-2 Storm Drain Inlet Marker On Headwall
- 2560-3 Storm Drain Inlet Marker On Catch Basin/Scupper
- 2562-1 Storm Sewer Outfall Access Barrier
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**2600 Series**  
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- 2600-1 Minimum Tree Size Requirements
- 2600-2 Minimum Tree Size Requirements
- 2620-1 Landscape Details
- 2620-2 Landscape Details
- 2620-3 Landscape Details
- 2620-4 Landscape Details
- 2631 Irrinet Pedestal Mounted Controller
- 2632 Scorpio Pedestal Mounted Controller
- 2633 Scorpio Wall Mounted Controller
- 2634 Irrinet Wall Mounted Controller
- 2635-1 Solar Controller
- 2635-2 Solar Controller And Backflow Preventer Enclosure
- 2636 Irrigation Push Button Control
- 2641-1 Single & Multi-Outlet Emitters
- 2641-2 Irrigation Emitter Layout
- 2642 Irrigation Trenching
- 2643 Irrigation Thrust Block
- 2644 Rotor Sprinkler Assembly
- 2645 Pop-Up Sprinkler Assembly
- 2646 Shrub Pop-Up Sprinkler Assembly
- 2647 Drip Filter & Pressure Regulator
- 2648 Emitter Flush Cap Assembly
- 2649 Quick Coupler Assembly
- 2650 1-1/2" & Smaller Mainline Ball Valve
- 2651 2" & Larger Mainline Isolation Gate Valve
- 2653 1-1/2" & Larger Master Valve/Flow Meter
- 2654\* Remote Control Valve & Solar Controller Master Valve Assembly
- 2655 Typical Irrigation Wire Connection
- 2656 Irrigation Wire Sleeving Chart
- 2680-1 Trail Access Gates
- 2680-2 Trail Access Gates
- 2681 Trail Water Bars
- 2682 Trail Safety Barriers
- 2683\* Trail Signs
- 2684\* Trail Marker Sign

NOTE: \* - New Or Revised Detail For 2010 Supplement

DETAIL NO.  
**2100-2**

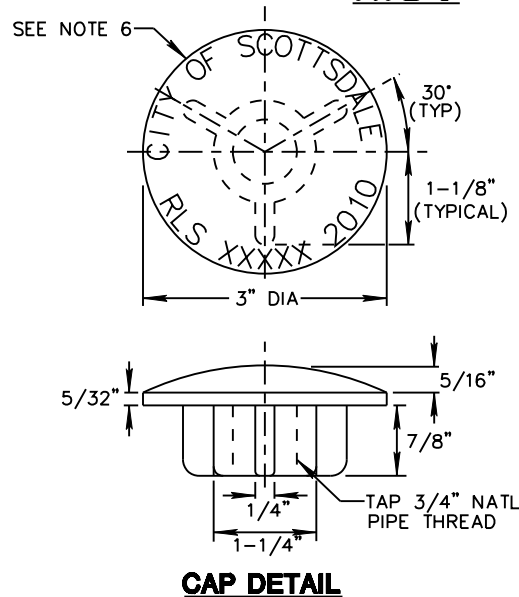
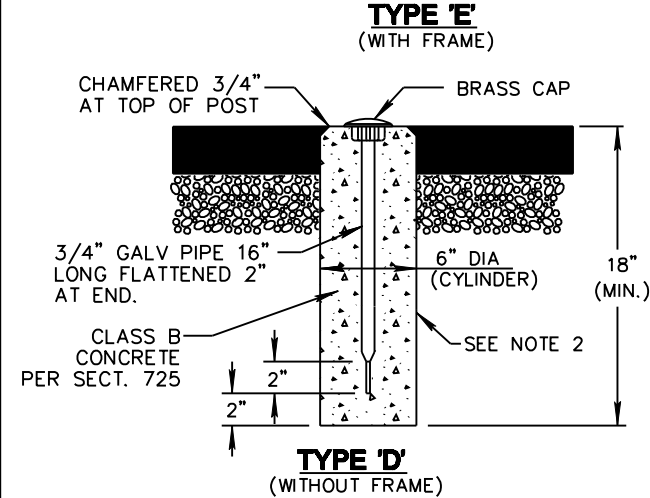
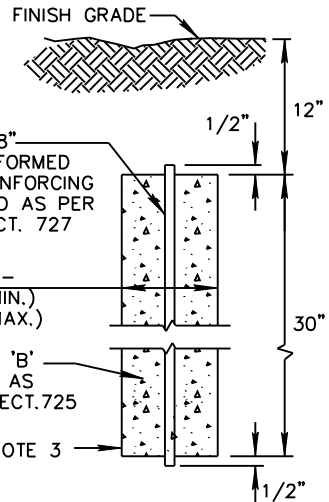
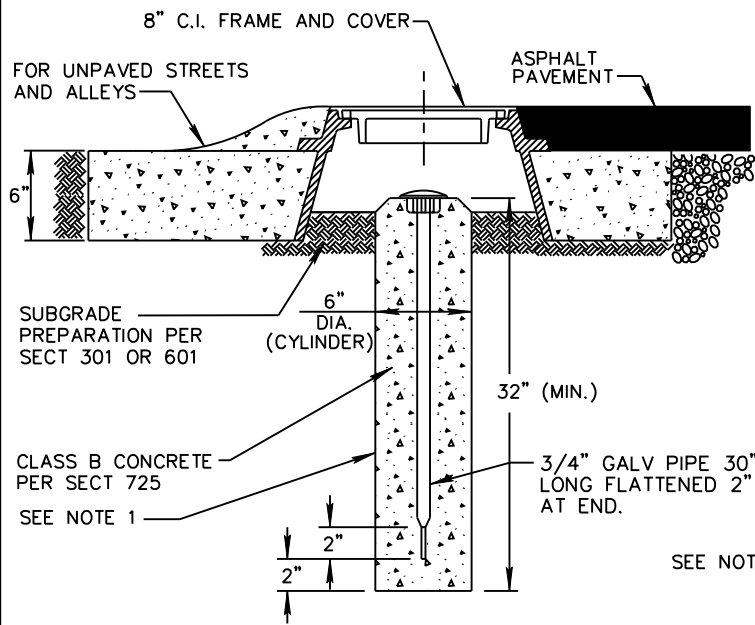
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

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DETAIL NO.  
**2100-2**

NEW 3/31/10



**NOTES:**

1. TYPE "E" TO BE USED AT INTERSECTIONS OF MAJOR STREETS, COLLECTOR STREETS, SECTION AND QUARTER SECTION CORNERS PER ARS 33-103. CONCRETE POST IS CHAMFERED 3/4" AT TOP.
2. TYPE "D" TO BE USED AT 1/6TH CORNERS, INTERSECTIONS OF STREET CENTERLINES (EXCEPT WHERE TYPE "E" IS SPECIFIED), CORNERS OR CHANGES IN ALIGNMENT OF SUBDIVISION BOUNDARIES WITHIN THE ASPHALT SECTION, PC'S & PT'S OF ALL CURVES, AND PI'S WHEN WITHIN THE PAVED SECTION.
3. TYPE "C" TO BE USED AT CORNERS OF, AND CHANGE IN ALIGNMENT OF, SUBDIVISION BOUNDARIES WHERE CORNERS OR CHANGE POINTS FALL OUTSIDE OF PAVED AREAS OR IN ALLEYS.
4. WHEN MONUMENTS (BRASS CAP, HAND HOLE AND SECTION CORNERS, ETC.) DESCRIBED IN NOTES #1, #2 & #3 WILL BE DISTURBED DURING CONSTRUCTION, A "RESULTS OF SURVEY" WILL BE PREPARED BY A REGISTERED LAND SURVEYOR TO PRESERVE THE LOCATION. SEE MAG SECTION 405 FOR GUIDANCE. IN ALL CASES WHEN MONUMENTS ARE "SET", A RESULTS OF SURVEY SHALL BE RECORDED.
5. SECTION CORNERS, 1/4 CORNERS AND WHEN APPLICABLE, STAMP THE APPROPRIATE PUBLIC LAND MARKINGS PER CURRENT MANUAL OF INSTRUCTIONS FOR THE SURVEY OF THE PUBLIC LANDS OF THE UNITED STATES, PREPARED BY THE BUREAU OF LAND MANAGEMENT.
6. IN ALL CASES, THE POINT SURVEYED SHALL BE IDENTIFIED BY A PUNCH MARK AND IN ADDITION THE CAP SHALL BE STAMPED WITH THE REGISTERED LAND SURVEYOR (RLS) REGISTRATION NUMBER AND YEAR.
7. CAP TO BE CONSTRUCTED OF RED BRASS OR BRONZE. LETTERS TO BE 1/4" HIGH, APPROX. 1/32" WIDE, 1/32" DEEP AND 1/16" BORDER FROM EDGE OF CAP TO TOP OF LETTERING.
8. ALL COVERS INSTALLED, ADJUSTED OR REPLACED DURING CONSTRUCTION SHALL READ "SURVEY" PER MAG 270 AND ADJUSTED PER COS STANDARD DETAIL 2270.

DETAIL NO.  
**2120**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**SURVEY MARKER**

DETAIL NO.  
**2120**

REVISED 4/24/07

NOTE:

Lettering shall be  
Clearview 1-W font

- 2" Letters
- 6" Symbol  
Royal Blue  
Solid With  
White Symbol
- 0.875" Letters
- 0.5" Letters



MOUNTING OPTIONS (SEE PLANS)

- A) Flexible P.E. Post With Surface Mount Base – Epoxy To Pavement Surface
- B) Perforated Galvanized Tubing Per COS Detail 2131. Install In Landscape Areas Only.
- C) Surface Mount To Structure
- D) Mount As Detailed On Plans

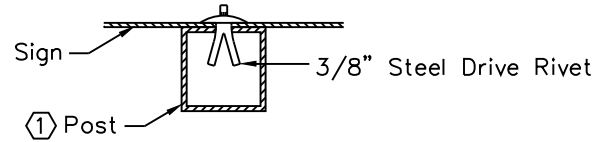
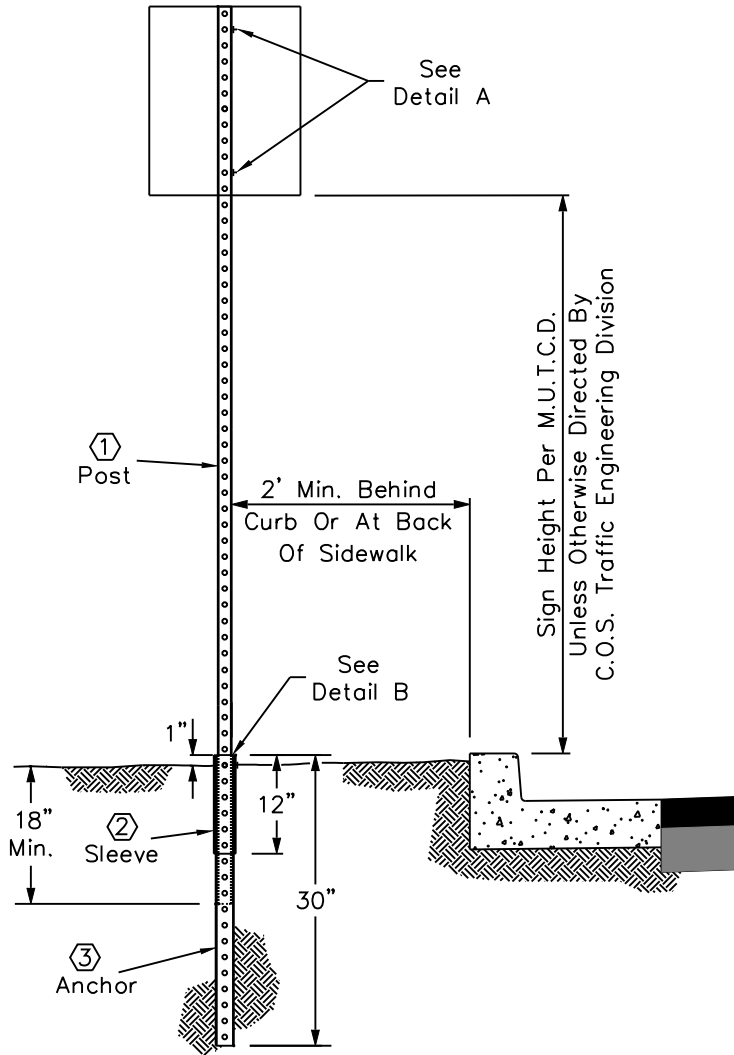
Green Borders and Text,  
and Blue Symbol on White  
Retroreflective Background (Typ.)  
Background: ASTM Type IV Sheeting  
Copy: Same As Above  
Substrate: 0.080 Gauge  
Treated Aluminum

ACCESSIBLE SIGNAGE

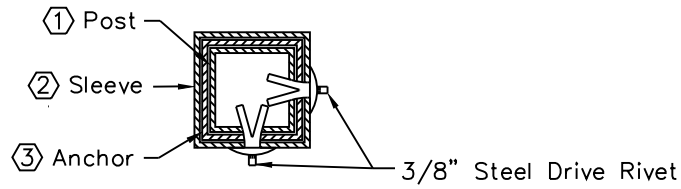
One Sign At Each  
Accessible Parking Stall

Bottom of Sign Shall Be  
Five Feet Above Finish Surface

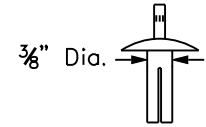
REVISED 3/19/09



**Detail A  
Sign Mounting**



**Detail B  
Anchor Assembly**



**3/8" Steel Drive Rivet**

Note: Aluminum rivets are not acceptable.

**Legend**

- ① Post - 1-3/4" x 1-3/4" Square Perforated 0.105" Galvanized Steel Tubing (Green Finish)
- ② Sleeve - 2-1/4" x 2-1/4" x 12", Square Perforated 0.105 Galvanized Steel Tubing
- ③ Anchor - 2" x 2" x 30", Square Perforated 0.105" Galvanized Steel Tubing

**NOTE:**

- 1. Sign Post, Sleeve And Anchor Shall Be As Per COS Specification Section 402.3

DETAIL NO.  
**2131**

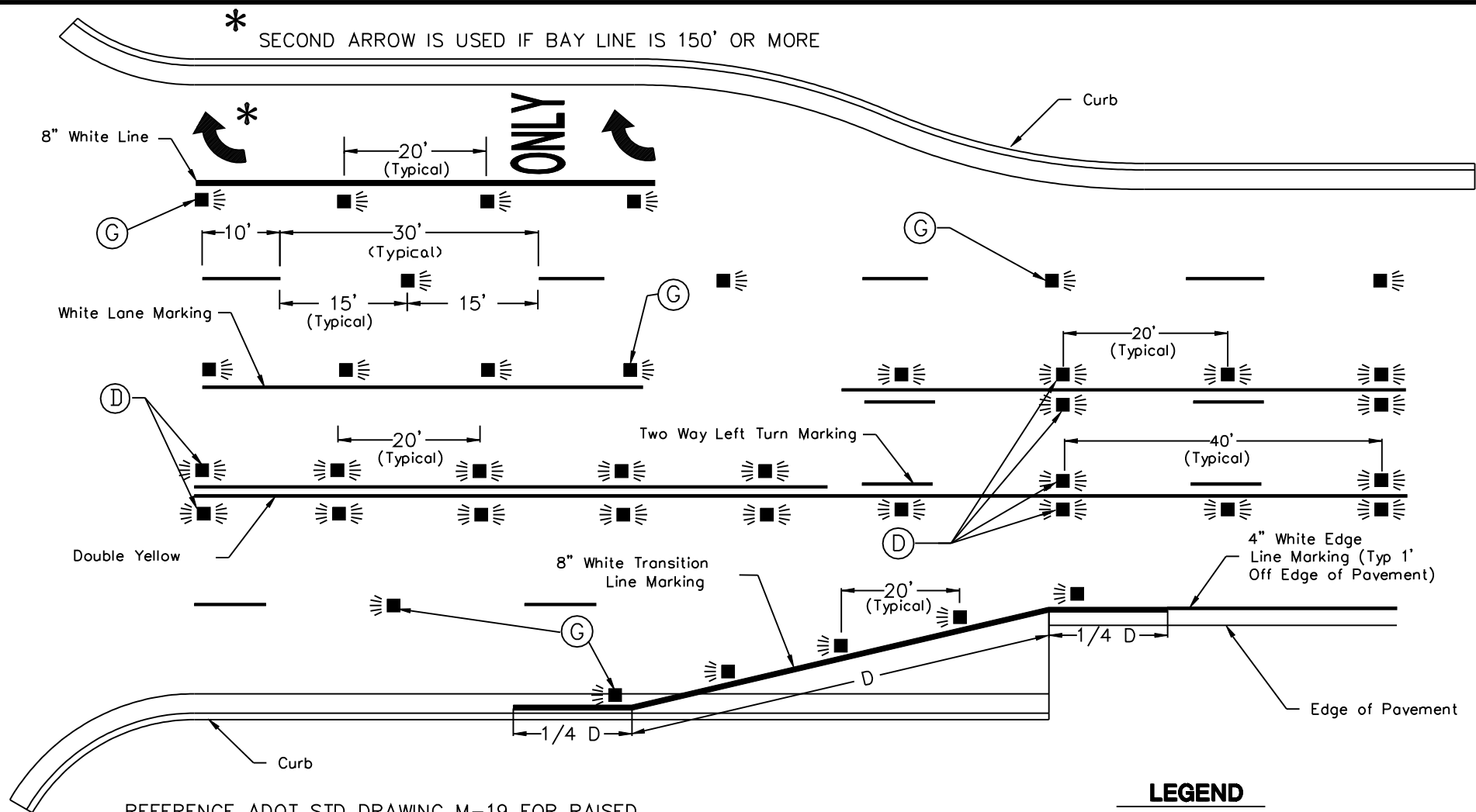
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**SIGN POST INSTALLATION**

DETAIL NO.  
**2131**

REVISED 5/25/05



REFERENCE ADOT STD DRAWING M-19 FOR RAISED PAVEMENT MARKERS.

SEE STANDARD DETAIL 2363 FOR FIRE HYDRANT MARKERS

**LEGEND**

- ⓐ - TYPE "G" WHITE, ONE WAY REFLECTIVE
- ⓓ - TYPE "D" YELLOW, TWO WAY REFLECTIVE

DETAIL NO. **2132**  
**City of Scottsdale**  
**Standard Details**

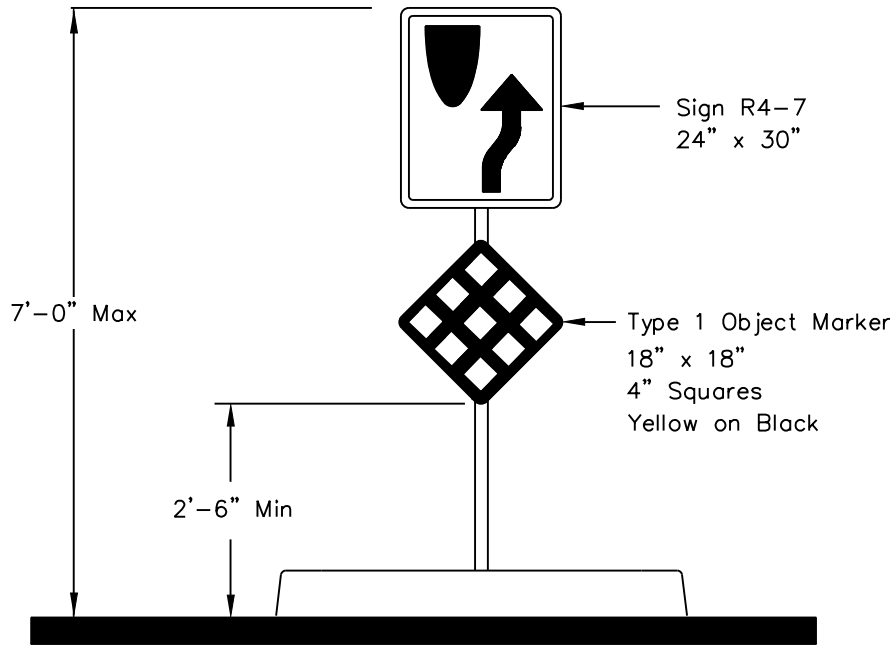
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**RAISED PAVEMENT MARKER LAYOUT**

DETAIL NO. **2132**

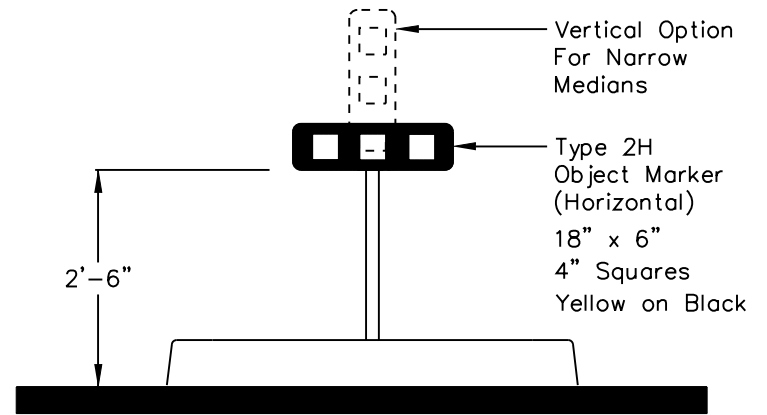


REVISED 2/3/10



### TYPE "A"

(AT SIGNALIZED INTERSECTIONS  
OR AS SHOWN ON PLANS AND FIRST &  
LAST NOSE ON A STRING OF MEDIANS)



### TYPE "B"

(ALL OTHER MEDIANS)

#### NOTES:

1. See COS Std Det 2225 Or 2226 For Typical Location.
2. Sign Posts Per COS Std Det 2131.

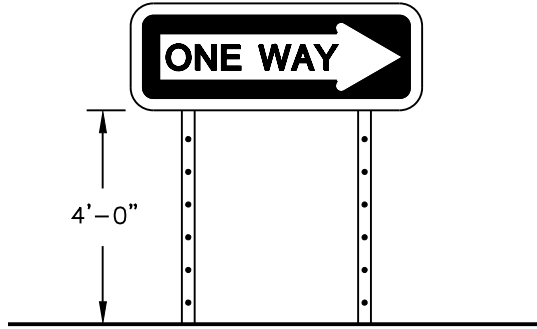
DETAIL NO.  
**2133-1**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

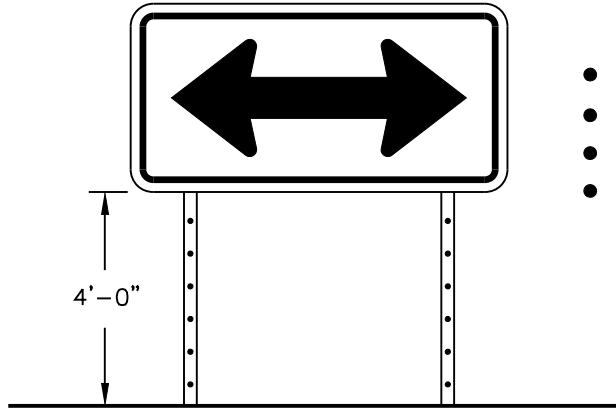
# MEDIAN NOSE SIGNING - TYPE A&B

DETAIL NO.  
**2133-1**



**TYPE "A"**

- R6-1R or R6-1L
- 12" x 36" blank size
- 0.125 blank type
- Black legend and background, white arrow

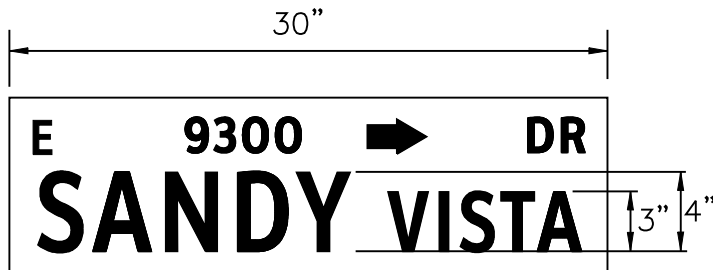
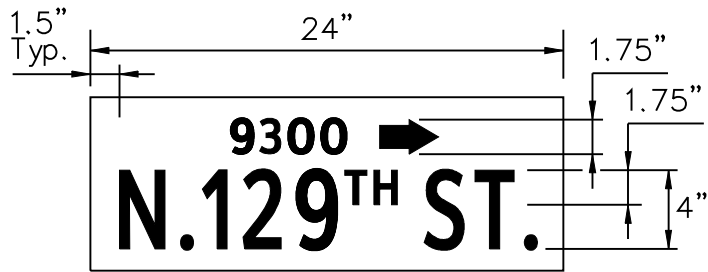


**TYPE "B"**

- W1-6R or W1-6L, or W1-7 (double arrow)
- 24" x 48" or 30" x 60" blank sizes
- 0.125 blank type
- Black arrow and border, yellow background

NOTES:

1. Sign posts per COS Std. Detail 2131
2. Sign sheeting per COS Supplemental Specs. Section 402.3.



**TYPE A SIGNS**

ASTM Type IV Sheeting  
Green/White (2 Sides)

Typeface: Clearview 2-W

Blank Sizes: 9"x 24", 9"x 30"  
9"x 36", 9"x 42"

Blank Type: .091 extruded aluminum

Sign imaging: must meet FHWA standards and must be acrylic based electronic cuttable film (1170 series or equivalent) or silk screen ink. All inks and films shall be graffiti resistant.

Intended Usage: Type "A" Street Name Signs shall be used in residential areas where Residential Streets intersect with Local Collector Streets. See the COS General Plan for Street Designations.

Arrows on sign panels typically point north or east in the direction of increasing address number.

REVISED 5/06/08



**TYPE B SIGNS**

ASTM Type IV Reflective Sheeting

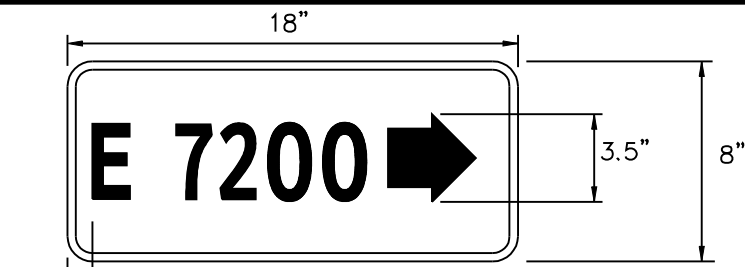
Green/White (2 Sides)

Typeface: Clearview 2-W

Blank Sizes: 10"x 36", 10"x 42"

Blank Type: 0.125 treated aluminum

Intended Usage: Type "B" Street Name Signs shall be used where a Residential Street or a Local Collector Street intersects with a street with a classification of Major Collector or larger. See the COS General Plan for Street Designations.



**TYPE B BLOCK NUMBERS**

ASTM Type IV Reflective Sheeting

Green/White (2 Sides)

Typeface: Clearview 2-W

Blank Sizes: 8"x 18", 8"x 24"

Blank Type: 0.125 treated aluminum

Type "B" Block Numbers to be mounted with Type "B" Street Name Signs. They shall be mechanically attached to the top of the Type B Street Name Sign using FHWA approved aluminum sign mounting brackets.

Sign imaging: Must meet FHWA standards. Must be acrylic based electronic cuttable film (1170 series or equivalent) or silk screen ink. All inks and films shall be graffiti resistant.

Arrows on sign panels typically point north or east in the direction of increasing address number.

DETAIL NO.  
2134-2

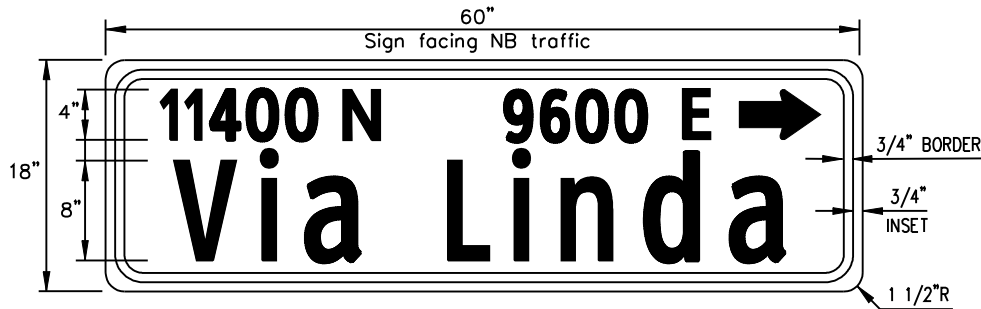
City of Scottsdale  
Standard Details

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Scottsdale Standards &  
Specifications Committee

**STREET NAME SIGNS - TYPE B**

DETAIL NO.  
2134-2

REVISED 5/08/08



**SIGN FORMAT EXAMPLE  
FOR OPPOSING TRAFFIC**



Sign facing  
SB traffic

**18" METRO SIGNS**

Proposed ASTM Type XI Reflective Sheeting

Green/White (1 Side)

Typestyle: Clearview 2-W or 3-W

Blank Sizes: 18" x 48", 18" x 60", 18" x 72"

Blank Type: 0.080 Treated Aluminum

Intended Usage: 18" Metro Street Name Signs shall be used on signalized minor roads with a speed limit of 35MPH or lower. See the COS General Plan for Street Designations.

Arrows on sign panels typically point north or east in the direction of increasing address number.

DETAIL NO.  
2134-3

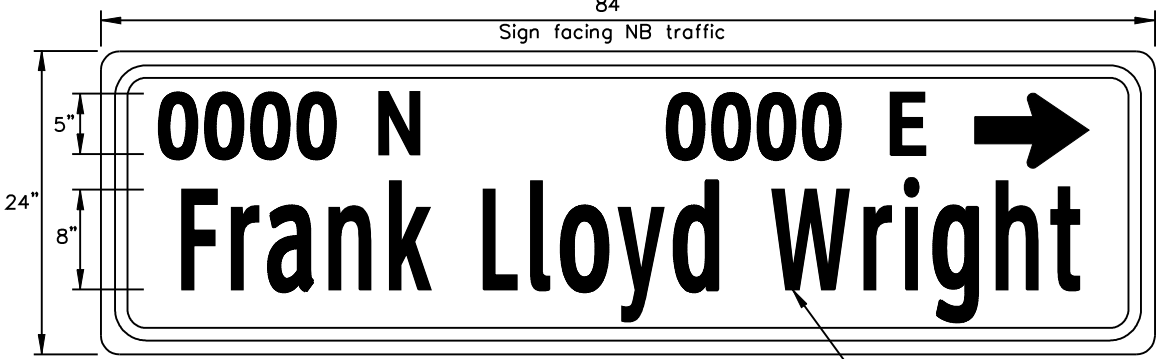
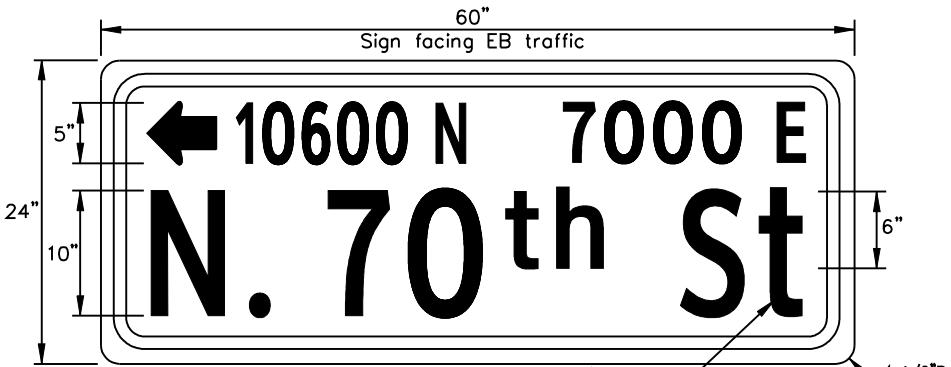
City of Scottsdale  
Standard Details

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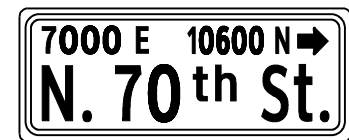
**STREET NAME SIGNS - 18" METRO**

DETAIL NO.  
2134-3

REVISED 5/08/08



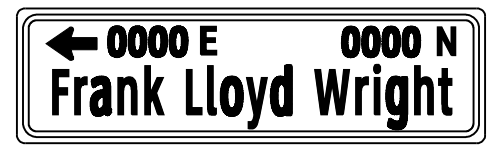
**SIGN FORMAT EXAMPLE FOR OPPOSING TRAFFIC**



Sign facing WB traffic



Sign facing NB traffic



Sign facing SB traffic

**24" METRO SIGNS**

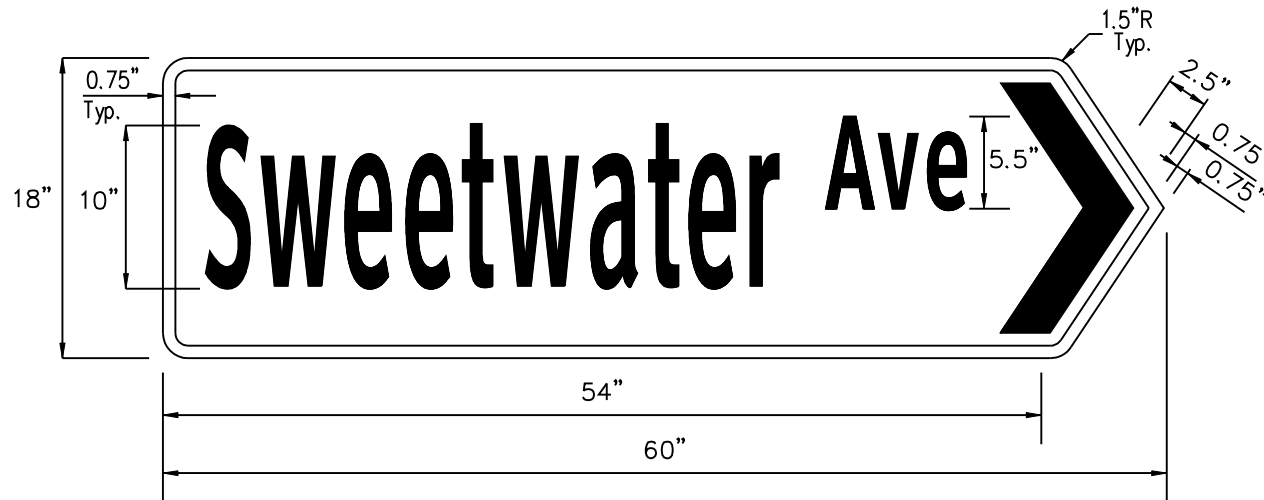
Proposed ASTM Type XI Reflective Sheeting  
 Green/White (1 Side)  
 Typestyle: Clearview 2-W or 3-W  
 Blank Sizes: 24" x 60", 24" x 72", 24" x 84"  
 Blank Type: 0.125 Treated Aluminum

For street names that would exceed maximum length sign blank use 8" upper and lower case letters

Intended Usage: 24" Metro Street Name Signs shall be used on signalized major roads with a speed limit of 35MPH or higher. See the COS General Plan for Street Designations.  
 Sign imaging: Must meet FHWA standards. Must be acrylic based electronic cuttable film (1170 series or equivalent) or silk screen ink. All inks and films shall be graffiti resistant.

Arrows on sign panels typically point north or east in the direction of increasing address number.

REVISED 5/08/08



Blank Type: 0.100 gauge treated aluminum  
Sheeting: ASTM Type IV – green background  
Typestyle: Clearview 2–W upper and lower case  
Legend and Border: White

DETAIL NO.  
2134-5

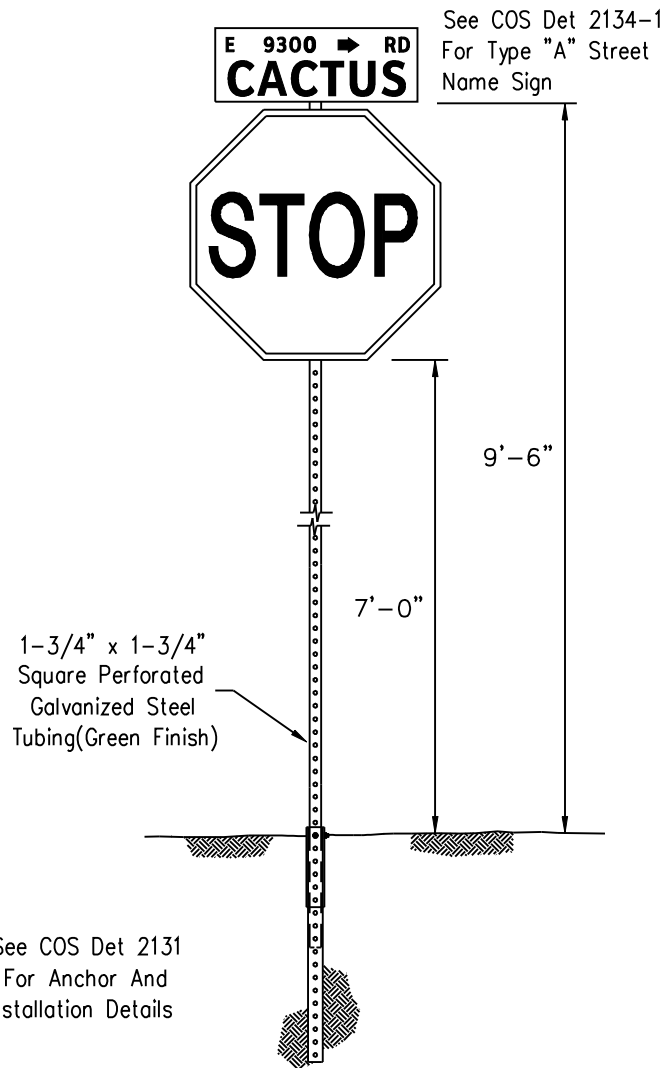
City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

**DIRECTIONAL STREET NAME SIGN**

DETAIL NO.  
2134-5

REVISED 5/08/08



NOTES:

Street name sign and stop sign mounting height shall be measured from adjacent grade of sidewalk, top of curb or top of nearest pavement.

When no stop sign is required, the street name sign is mounted at 9 feet 6 inches.

When two street name signs are mounted one on top of the other, the height is measured to the bottom sign.

DETAIL NO.  
**2135**

**City of Scottsdale  
Standard Details**

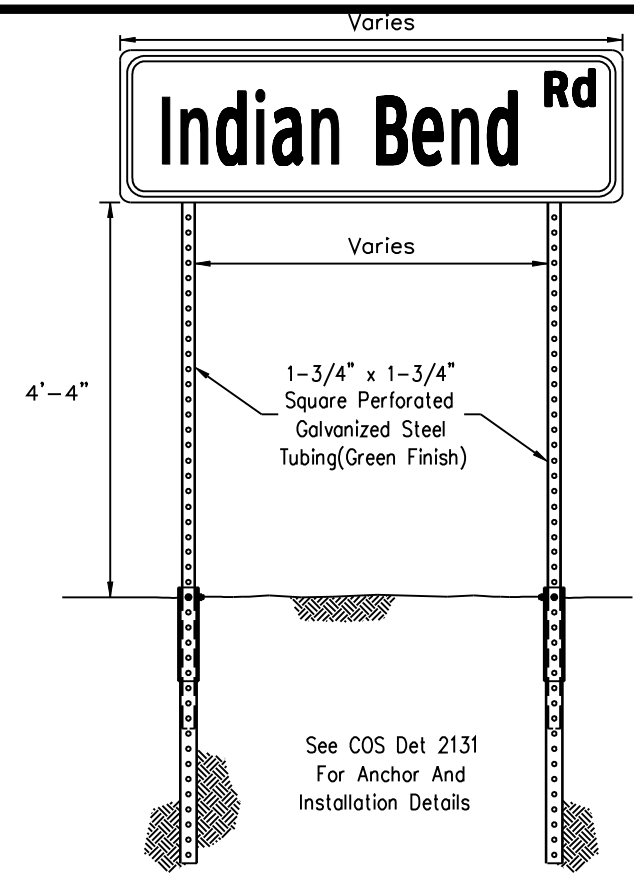
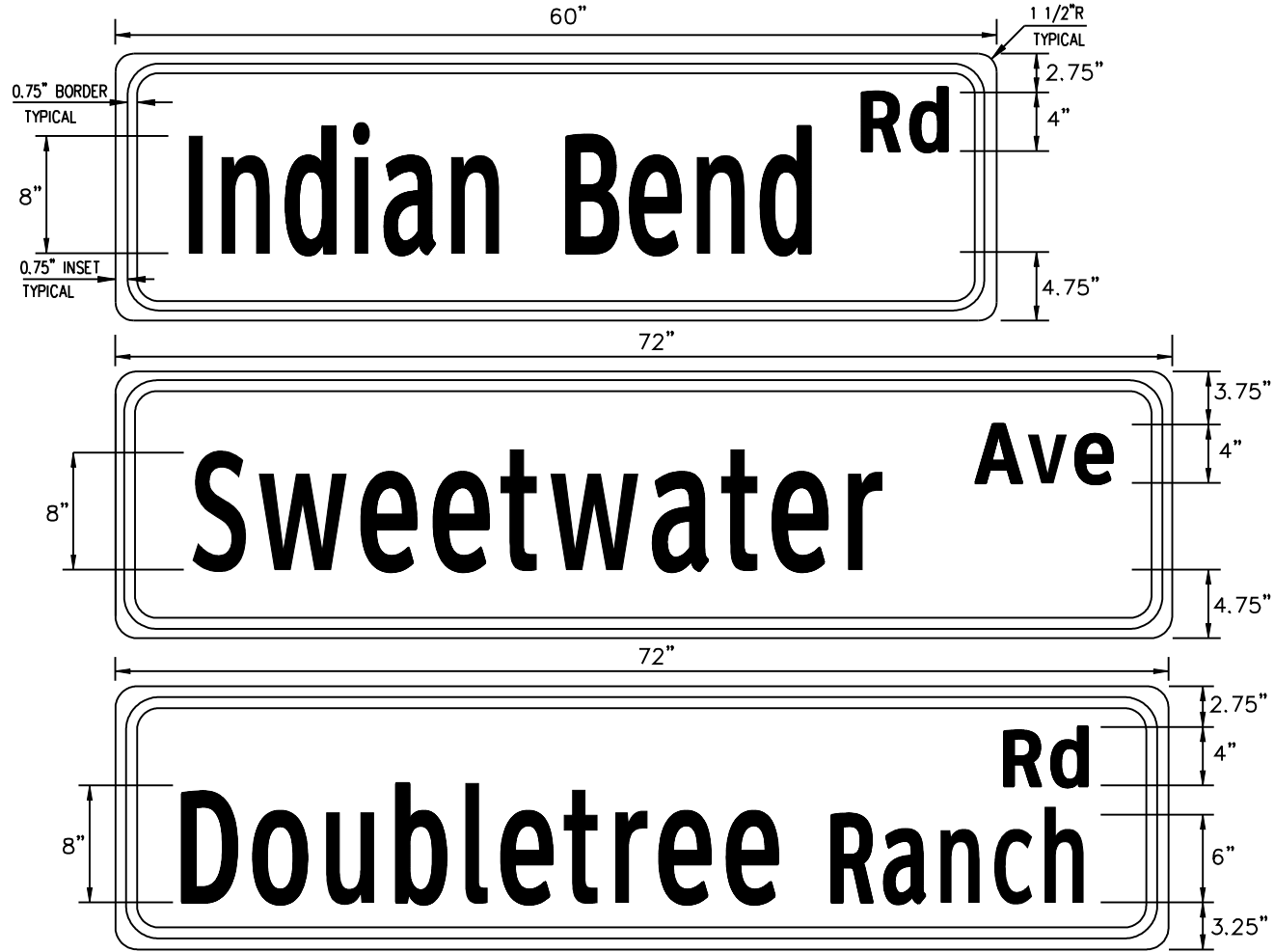
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Specifications Committee**

**STREET NAME SIGN WITH STOP SIGN INSTALLATION**

DETAIL NO.  
**2135**



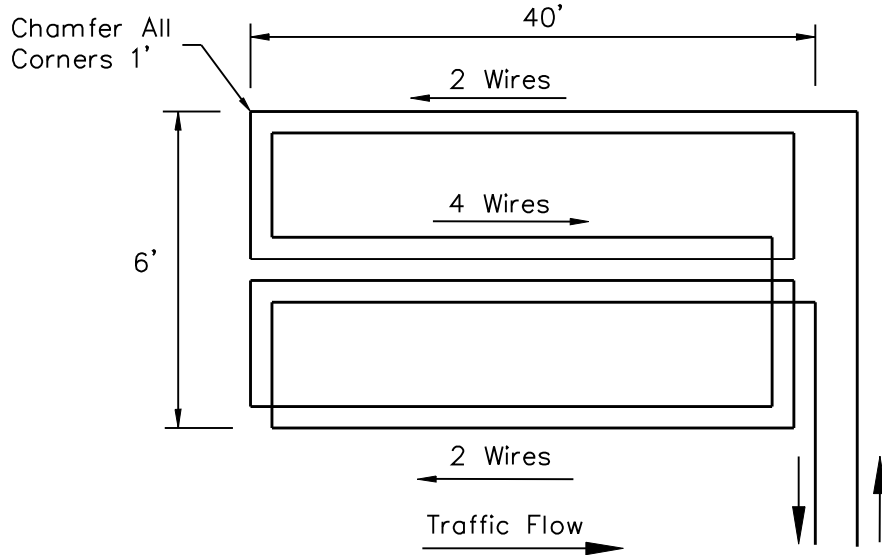
REVISED 5/12/08



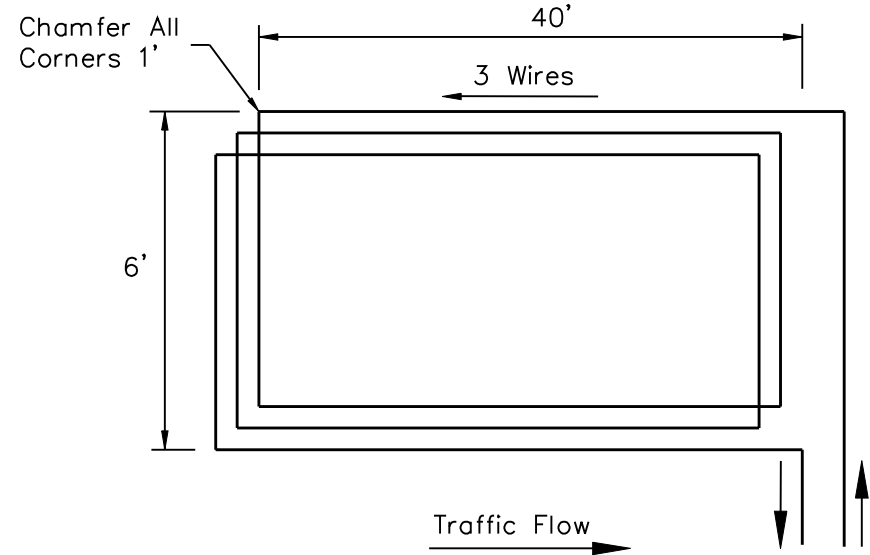
Proposed ASTM Type XI (1 Side)      Blank Sizes: 18" x 48", 18" x 60", 18" x 72"  
 Typestyle: Clearview 2-W or 3-W      Blank Type: 0.080 Treated Aluminum  
 Sign imaging: Must meet FHWA standards and must be acrylic based electronic cutting film  
 (1170 series or equivalent) or silk screen ink. All inks and films shall be graffiti resistant.

Intended Usage: In advance of the specified street where a collector street intersects a minor/major arterial or expressway. Location determined by multiplying the posted speed limit by 10. Sign is typically placed in a center median when available, otherwise on the right hand side of the road.

DETAIL NO. <b>2136</b>	<b>City of Scottsdale</b> Standard Details	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>ADVANCE STREET NAME SIGNS</b>	DETAIL NO. <b>2136</b>
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**QUADRUPOLE LOOP DETECTOR  
For Left Turn Lanes Only**



**STANDARD LOOP DETECTOR**

**NOTES:**

1. All loop detectors shall be wire-in-duct type wire. (Detect-a-Duct or approved equivalent, #14 stranded inside a 1/4" PVC tubing (IMSA 51-5).
2. All loop detectors shall be centered in the middle of the applicable traffic lane. Loop shall be sufficiently dimensioned on the plans. Loop detectors shall extend five feet into the crosswalk unless directed otherwise by the Traffic Engineering Department.
3. A rectangular loop with 3 turns (6 feet x 40 feet) shall be used for all through lanes.
4. A quadrupole loop with 2 outside turns and 4 inside turns (6 feet x 40 feet) shall be used in all exclusive left-turn lanes. (Wire in middle cut shall run the same direction).
5. Loop detectors shall not be installed in exclusive right turn lanes.
6. The location of permanent count detector loops shall be specified by the Traffic Engineering Department. Count detector loops shall consist of a minimum of 4 turns (6 feet x 6 feet).

7. Pre-formed loop detectors conforming to the latest ADOT specifications shall be used under decorative pavement, "pavers", concrete, or other "special" roadway surfaces, or as directed by the Traffic Engineering Department.
8. Lead-in cable between loop wire and controller shall be latest ADOT specification or approved equivalent (IMSA 50-2).
9. Loop lead-in and splices in pull box shall be twisted and soldered. Griggs Loop Detector Sealant, 3-M Loop Sealant, or approved equivalent shall be used.
10. Loops shall be installed prior to the installation of the final pavement lift (if part of a paving project).
11. Loops shall be inspected and tested prior to acceptance by the City.
12. See ADOT TS 7-1 for installation details.

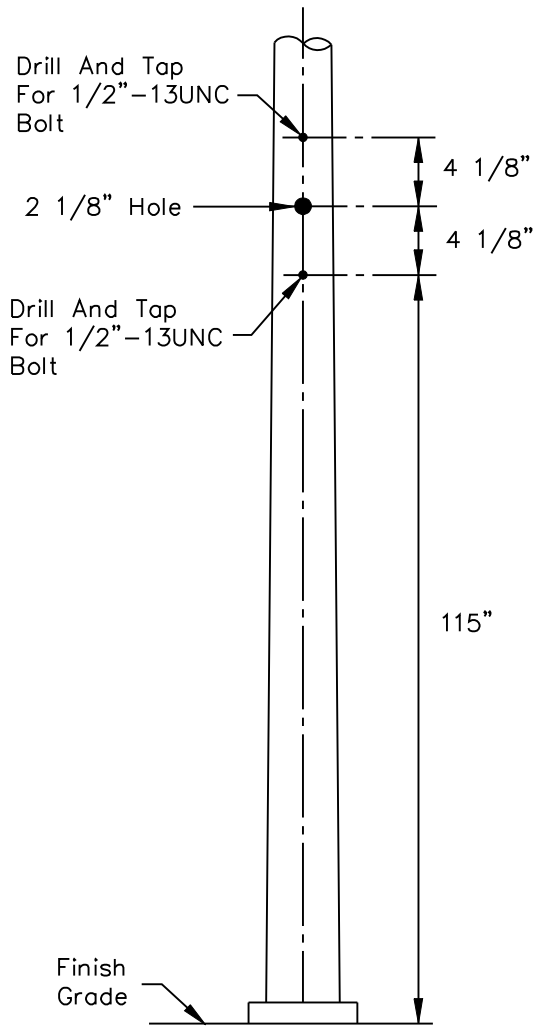
DETAIL NO.  
**2137**

**City of Scottsdale  
Standard Details**

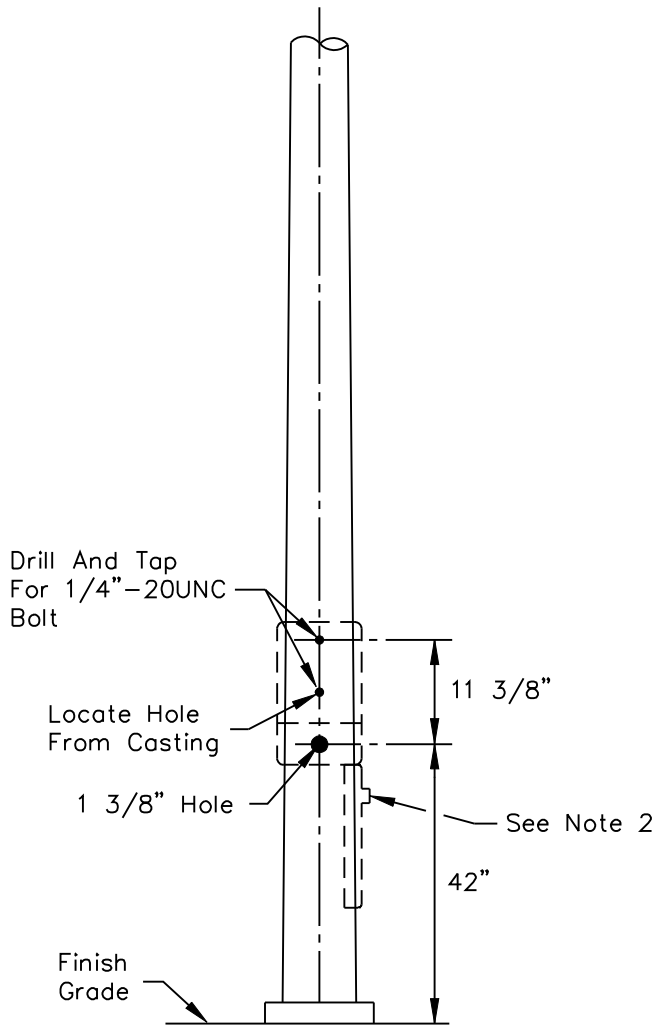
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**LOOP DETECTORS**

DETAIL NO.  
**2137**



**SIDE MOUNT DRILLING DETAIL**



**PUSH BUTTON DRILLING DETAIL**

NOTES:

1. Drilling of pole to be oriented according to pole layout, or as directed by C.O.S. Engineer in the field.
2. When two pedestrian push button assemblies are mounted on a small diameter pole the lower assembly shall be positioned upside down so that the push button is at the top and the sign is below.
3. Top mounting holes to be field drilled in order to allow for manufacturing variations.
4. Push button shall be A.D.A large target style (ADOT Type I).

DETAIL NO.  
**2138**

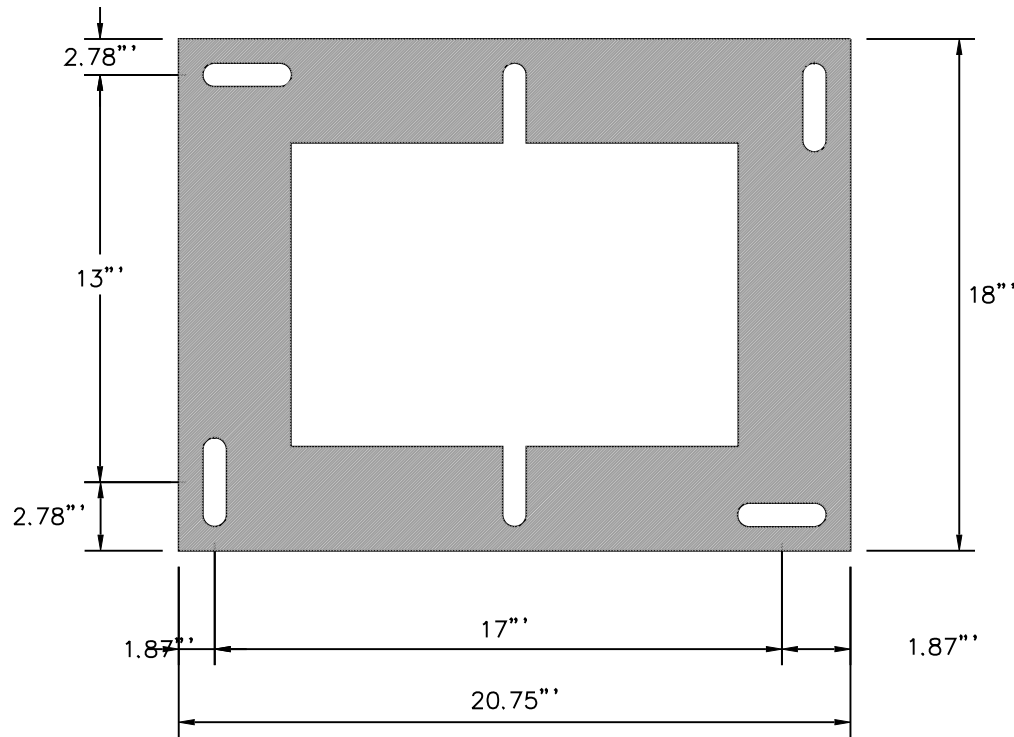
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**SIGNAL POLE DRILLING DETAIL**

DETAIL NO.  
**2138**

REVISED 4/24/07



**INSIDE VIEW OF BOTH  
SIDES OF BASE EXTENDER**

Notes:

1. Model 330 cabinet base extenders will include cutouts that will accommodate replacement with all other Scottsdale 330 cabinets and model 336S. These base extenders are available from the cabinet manufacturer. All Scottsdale cabinets are foundation mounted.
2. Foundation must include a 4"x30"x30" concrete pad in front of the cabinet door.
3. The cabinet shall be mounted in such a way that when the technician has the door open and is facing the cabinet, he is also facing the intersection.
4. Cabinet base extender shall have a 12" x 12" removable access panel. Base extender shall be installed so that access panel is on door side of cabinet.

DETAIL NO.  
**2139**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TRAFFIC SIGNAL CONTROLLER CABINET  
BASE EXTENDER**

DETAIL NO.  
**2139**

## LOOP AND PEDESTRIAN PUSH BUTTON INPUTS

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8	Slot 9	Slot 10	Slot 11	Slot 12	Slot 13	Slot 14
1 AB Ph 1	3 AB Ph 2	5 AB Ph 3	7 AB Ph 4	9 AB Ph 5	11 AB Ph 6	13 AB Ph 7	15 AB Ph 8	17 AB 1 PPB	19 AB 3 PPB	21 AB RRPre	23 AB AdvEn	25 AB EV A	27 AB Stop Time
2 AB Ph 1	4 AB Ph 2	6 AB Ph 3	8 AB Ph 4	10 AB Ph 5	12 AB Ph 6	14 AB Ph 7	16 AB Ph 8	18 AB 5 PPB	20 AB 7 PPB	22AB Flash	24 AB Adv	26 AB EV B	28 AB 6 Call
Det Loops	Det Loops	Det Loops	Det Loops	Det Loops	Det Loops	Det Loops	Det Loops	Ped Push Buttons	Ped Push Buttons	-----	-----	Pre- Empt	Slot 14 ----- Slot 14

1. All Scottsdale model 330 cabinet input racks have 14 slots.
2. Slots 1–8 are for vehicle detector loops.
3. Phase 4 loops are terminated on slot 4 (7A&B and/or 8A&B).
4. Phase 4 pedestrian push button is terminated on 19A and ppb neutral on 19B.
5. 19B shall have a jumper to the neutral bar.
6. All two phase intersections are to be wired to phases 2 and 4.
7. Field output wiring for 2 phase signals shall be wired to 2R, 2Y, 2G and 4R, 4Y, 4G.
8. Ped field wiring shall be wired to 9R, 9G (Phase 2 Ped) and 10R, 10G (Phase 4 Ped).
9. Call COS Traffic Signals (480)312–5635 prior to wiring cabinet for instructions for intersections with more than 2 phases.

REVISED 4/24/07

 DETAIL NO.  
**2140**
**City of Scottsdale  
Standard Details**

 APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**
**MODEL 330 INPUT RACK WIRING INSTRUCTIONS**

 DETAIL NO.  
**2140**

**MAIN DIRECTIONS**

Direction	Color
WB	Blue
EB	Green
NB	Red
SB	Yellow

**LEFT TURN DIRECTIONS  
(Main Color + White)**

Direction	Color
WBLT	Blue + White
EBLT	Green + White
NBLT	Red + White
SBLT	Yellow + White

**RIGHT TURN DIRECTIONS  
(Main Color + Black)**

Direction	Color
WBRT	Blue + Black
EBRT	Green + Black
NBRT	Red + Black
SBRT	Yellow + Black

**Color Of Wire For  
Power/Neutrals/Pushbuttons**

Wire	Color
AC+ Power	Black
AC- (Neutral)	White
24V Pushbutton	Orange, Stranded

WBLT = West Bound Left Turn and shall be the phase for vehicles facing west and turning to south

EBLT = East Bound Left Turn and shall be the phase for vehicles facing east and turning to north

NBLT = North Bound Left Turn and shall be the phase for vehicles facing north and turning to west

SBLT = South Bound Left Turn and shall be the phase for vehicles facing south and turning to east

WBRT = West Bound Right Turn and shall be the phase for vehicles facing west and turning to north

EBRT = East Bound Right Turn and shall be the phase for vehicles facing east and turning to south

NBRT = North Bound Right Turn and shall be the phase for vehicles facing north and turning to east

SBRT = South Bound Right Turn and shall be the phase for vehicles facing south and turning to west

DETAIL NO.  
**2141**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TAPE COLOR CODES FOR TRAFFIC SIGNAL WIRING**

DETAIL NO.  
**2141**

**NOTE:**

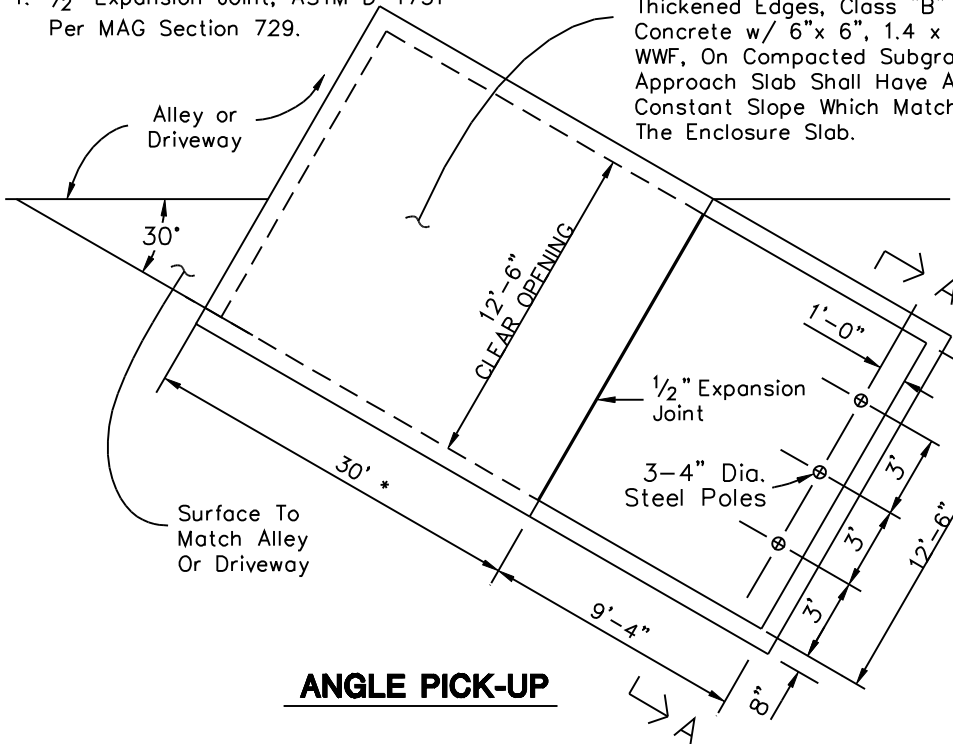
1. 1/2" Expansion Joint, ASTM D-1751 Per MAG Section 729.

30' x 14' x 6" Thick Concrete Approach Slab With Thickened Edges, Class "B" Concrete w/ 6"x 6", 1.4 x 1.4 WWF, On Compacted Subgrade. Approach Slab Shall Have A Constant Slope Which Matches The Enclosure Slab.

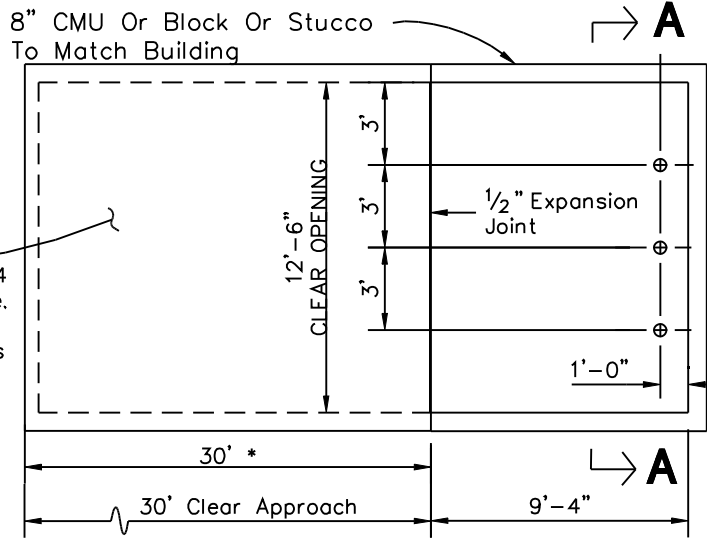
30' x 14' x 6" Thick Concrete Approach Slab With Thickened Edges, Class "B" Concrete w/ 6"x 6", 1.4 x 1.4 WWF, On Compacted Subgrade. Approach Slab Shall Have A Constant Slope Which Matches The Enclosure Slab.

\* In locations where a 30' approach slab is not possible, approval from the City of Scottsdale Quality Compliance Division is required.

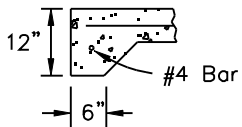
8" CMU Or Block Or Stucco To Match Building



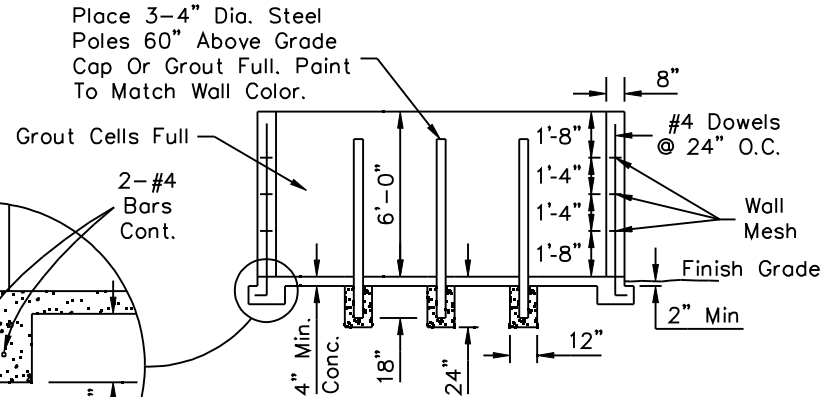
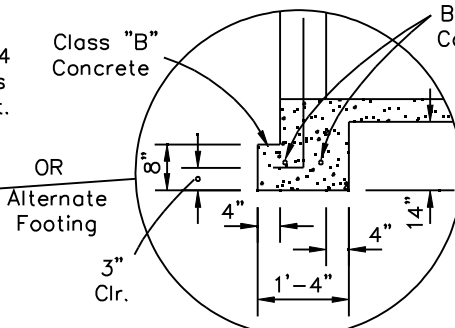
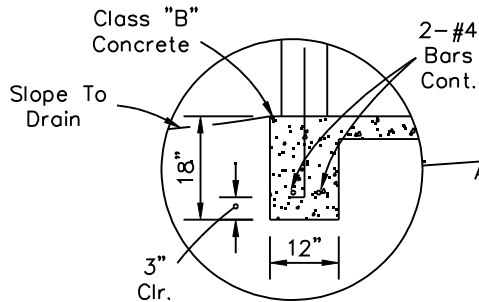
**ANGLE PICK-UP**



**HEAD ON PICK-UP**



**APPROACH SLAB THICKENED EDGE DETAIL**



**SECTION A-A**

DETAIL NO.  
**2146-1**

**City of Scottsdale  
Standard Details**

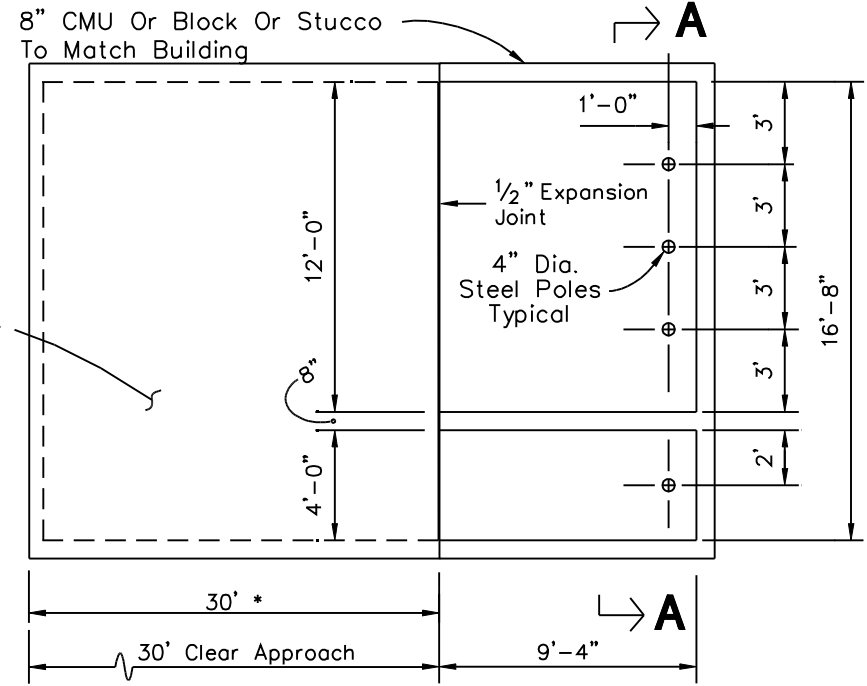
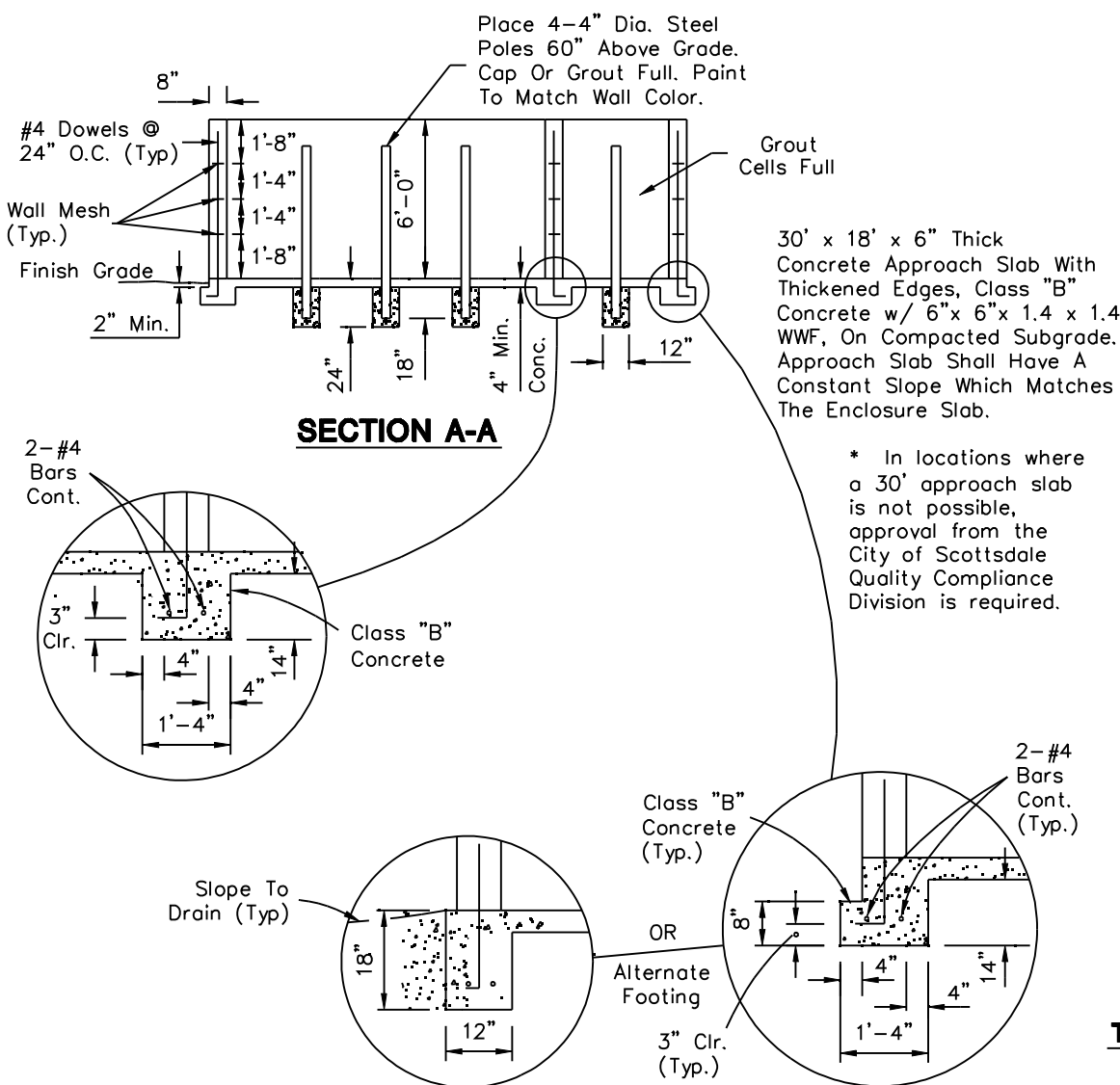
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**REFUSE ENCLOSURE**

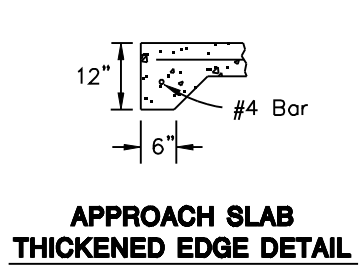
DETAIL NO.  
**2146-1**

REVISED 5/9/02

REVISED 5/9/02



**PLAN**

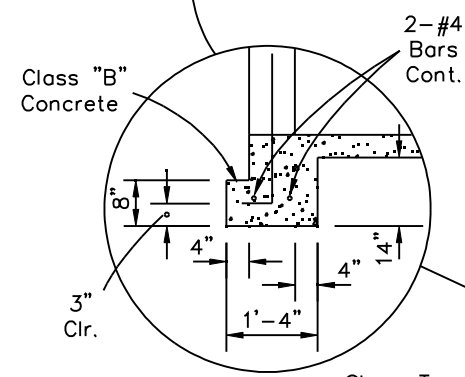
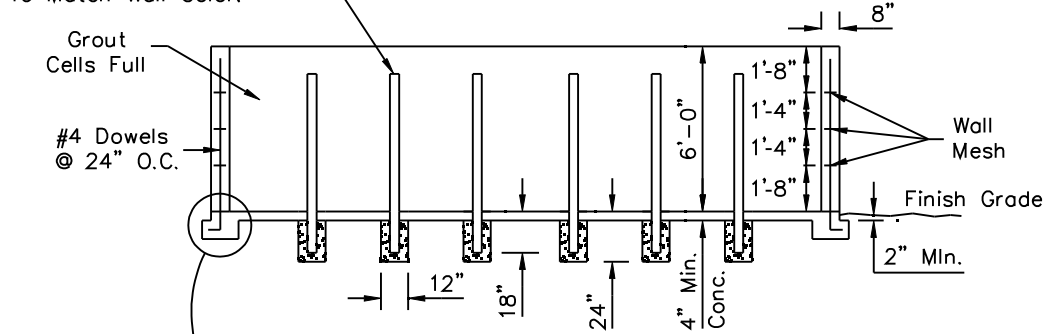


- NOTES:**
1. Enclosure For Angle Pick-up Similar To COS Detail 2146-1
  2. 1/2" Expansion Joint, ASTM D-1751 Per MAG Section 729.

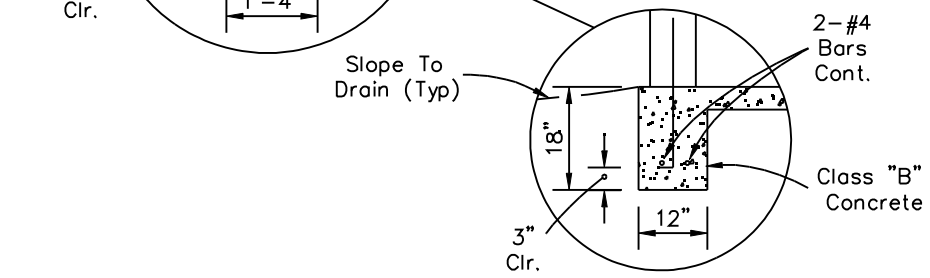
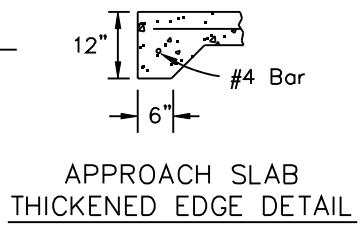


REVISED 5/9/02

Place 6-4" Dia. Steel Poles 60" Above Grade Cap Or Grout Full. Paint To Match Wall Color.



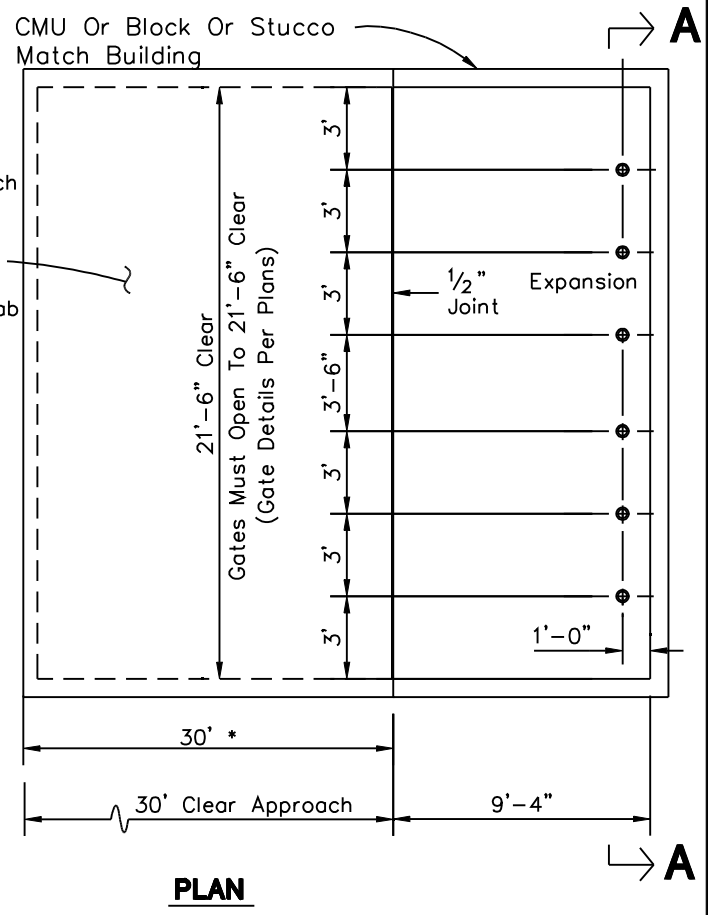
**SECTION A-A**



8" CMU Or Block Or Stucco To Match Building

30' x 23' x 6" Thick Concrete Approach Slab With Thickened Edges, Class "B" Conc. w/ 6"x 6", 1.4 x 1.4 WWF, On Compacted Subgrade. Approach Slab Shall Have A Constant Slope Which Matches The Enclosure Slab.

\* In locations where a 30' approach slab is not possible, approval from the City of Scottsdale Quality Compliance Division is required.



**PLAN**

- NOTE:
1. Double Enclosure For Angle Pick-Up Similar To COS Det. 2146-1
  2. 1/2" Expansion Joint, ASTM D-1751 Per MAG Section 729.

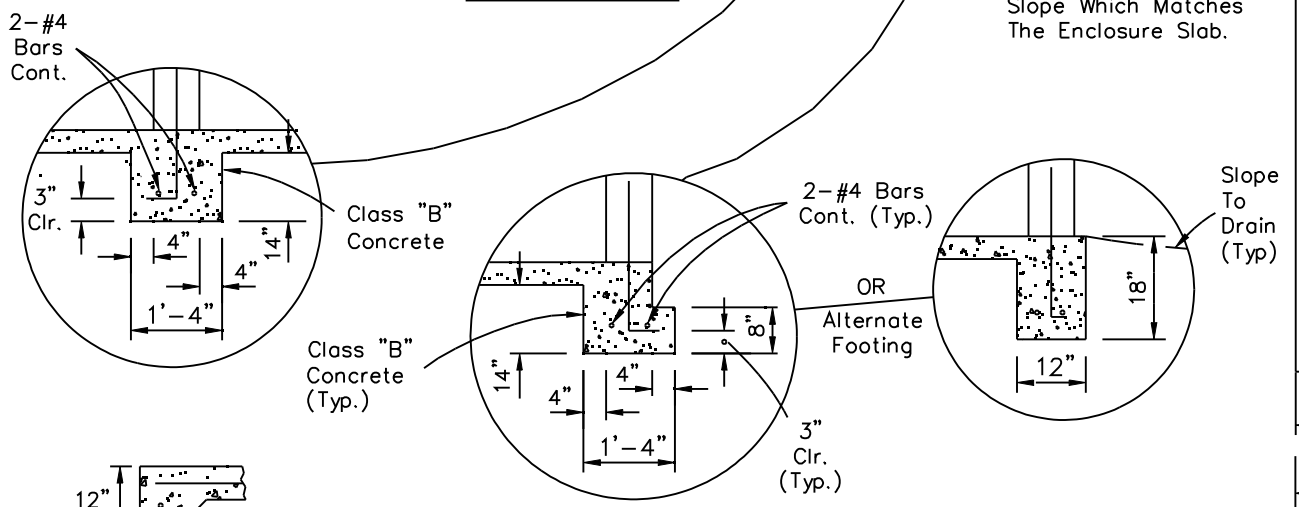
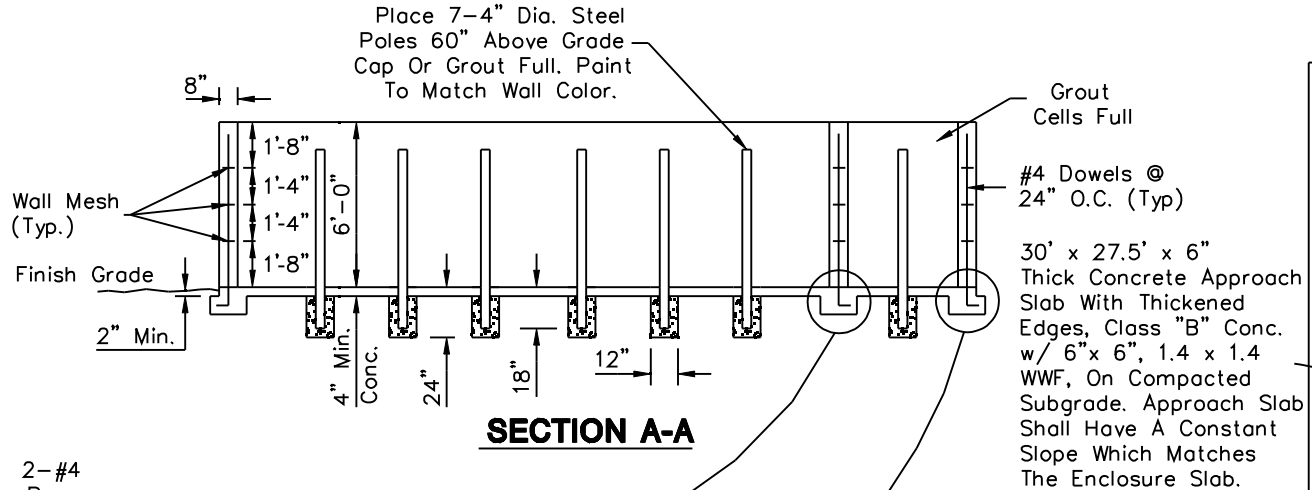
DETAIL NO. **2147-1** City of Scottsdale Standard Details

APPROVED BY: **Scottsdale Standards & Specifications Committee**

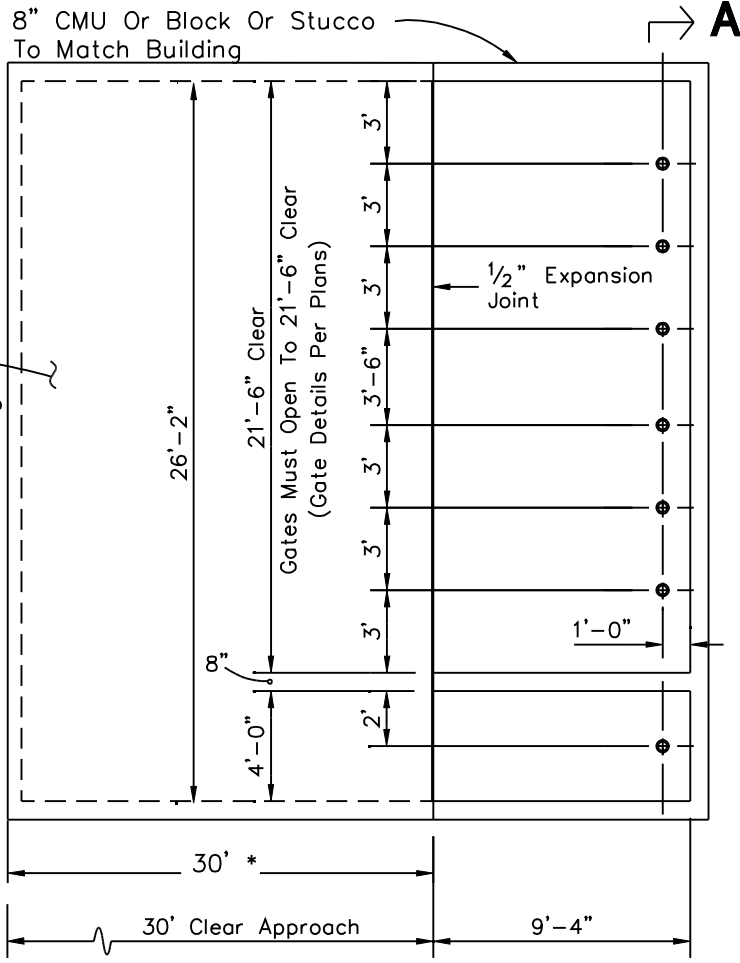
**DOUBLE REFUSE ENCLOSURE**

DETAIL NO. **2147-1**

REVISED 5/9/02



- NOTES:
1. Double Enclosure For Angle Pick-Up Similar To COS Det. 2146-1
  2. 1/2" Expansion Joint, ASTM D-1751 Per MAG Section 729.



\* In locations where a 30' approach slab is not possible, approval from the City of Scottsdale Quality Compliance Division is required.

**APPROACH SLAB THICKENED EDGE DETAIL**

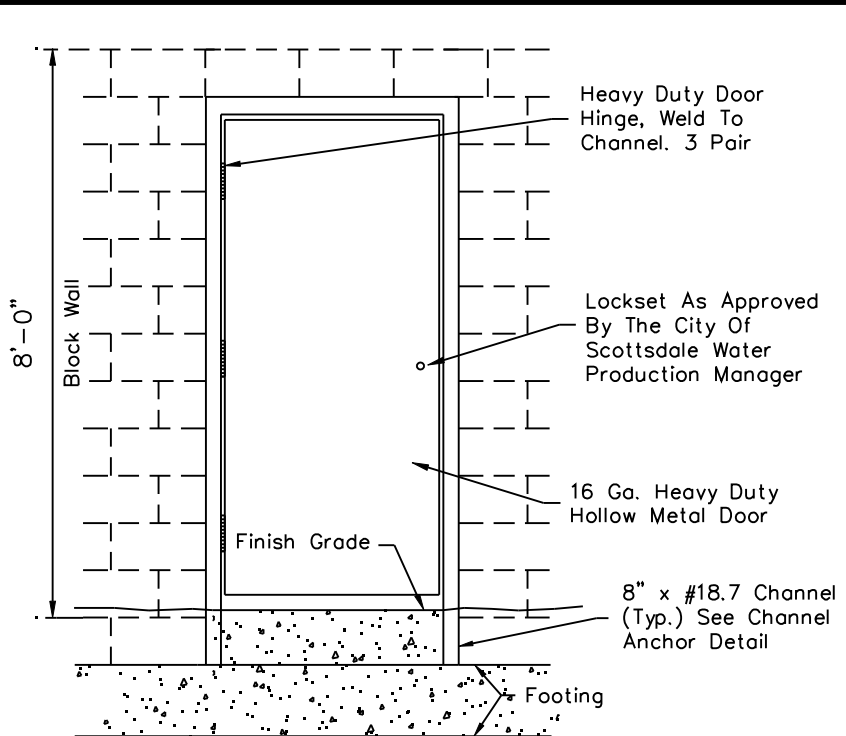
DETAIL NO. **City of Scottsdale**  
**2147-2 Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

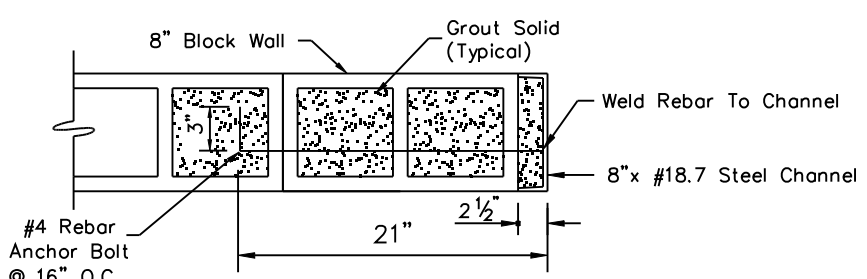
**DOUBLE REFUSE ENCLOSURE W/ GREASE CONTAINMENT AREA**

DETAIL NO. **2147-2**

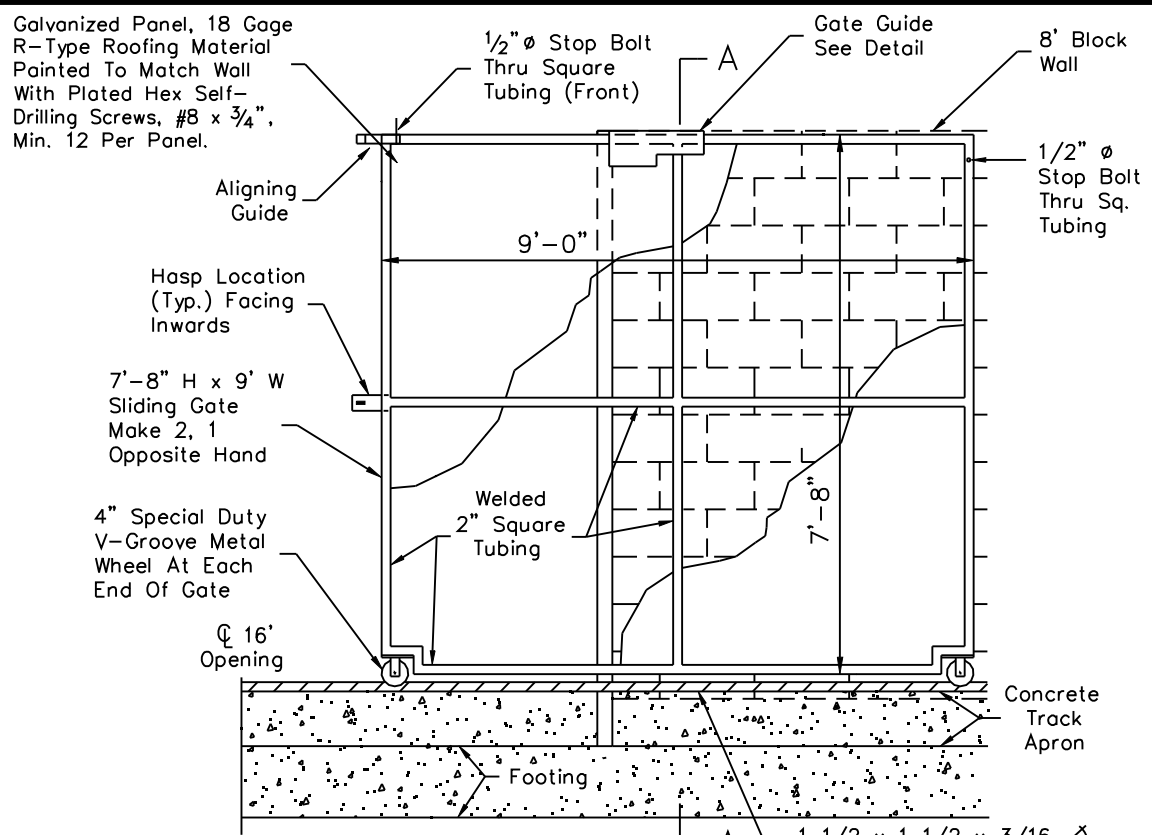
REVISED 4/12/05



**HINGED DOOR**

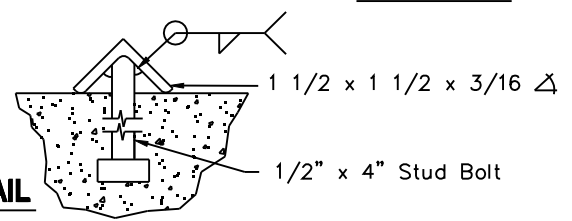


**CHANNEL ANCHOR DETAIL**



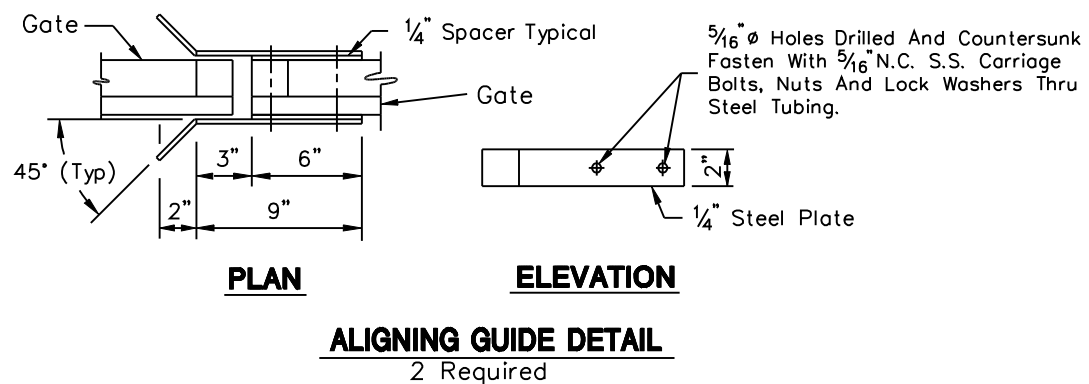
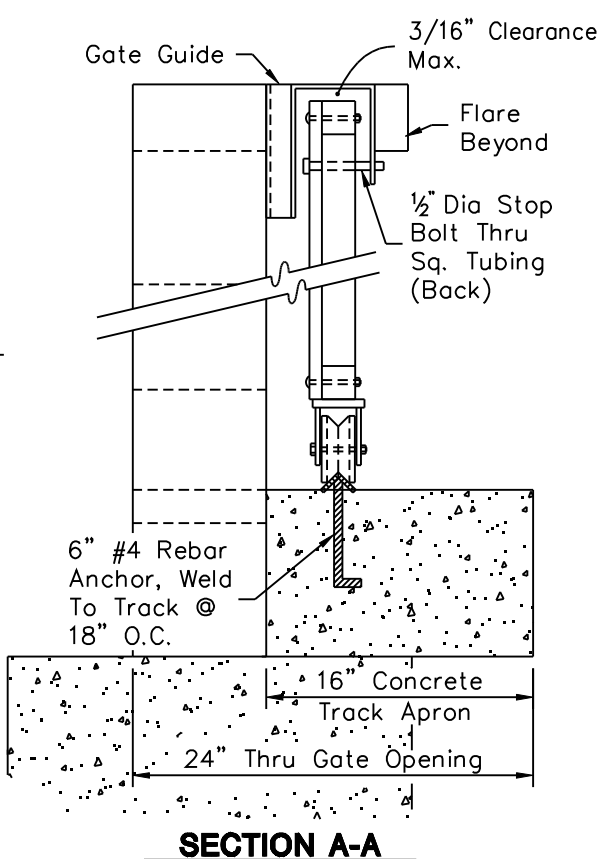
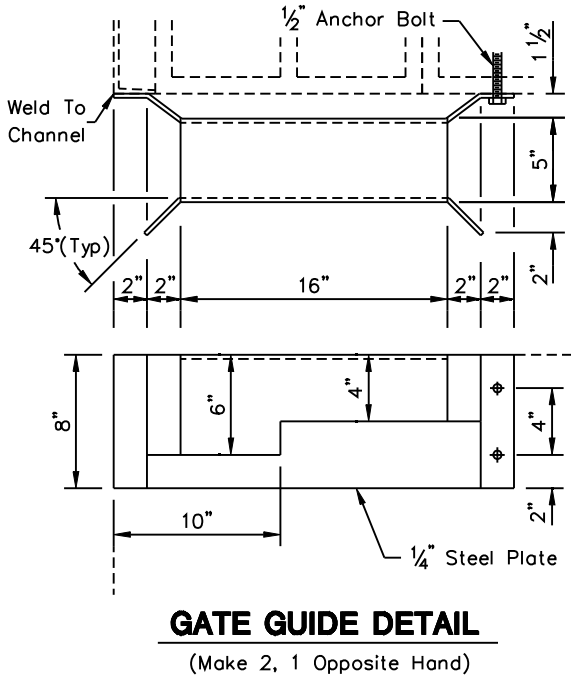
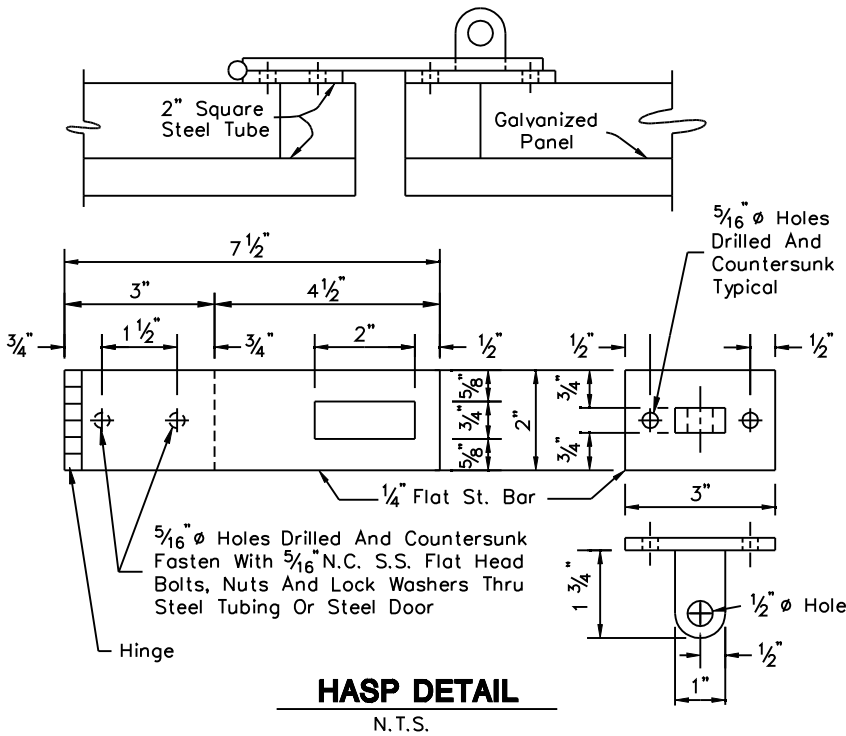
**ELEVATION**

1 1/2 x 1 1/2 x 3/16 Δ Track, 18' Long Each Side Of Opening @ And 4" From Wall Face. Anchor Per Section A-A.



**TRACK DETAIL**

REVISED 4/12/05

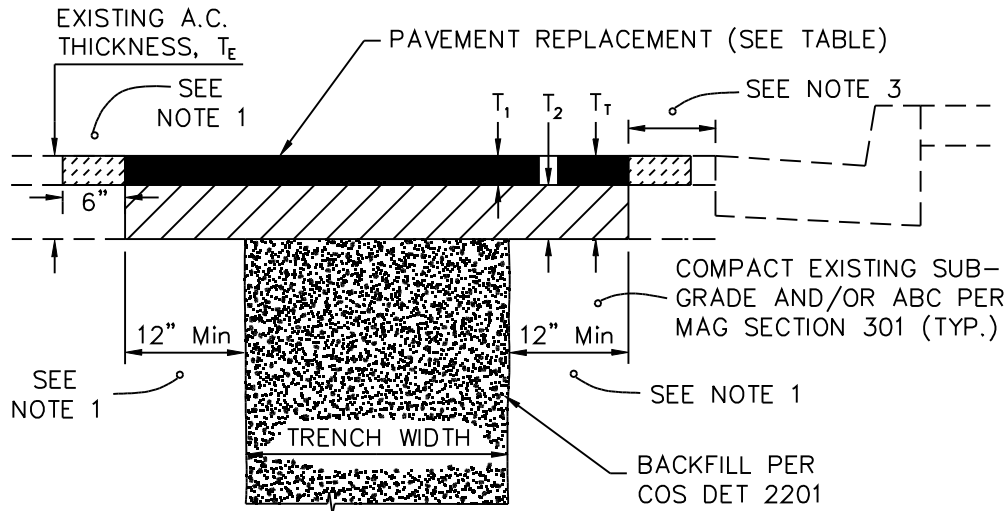


**NOTES:**

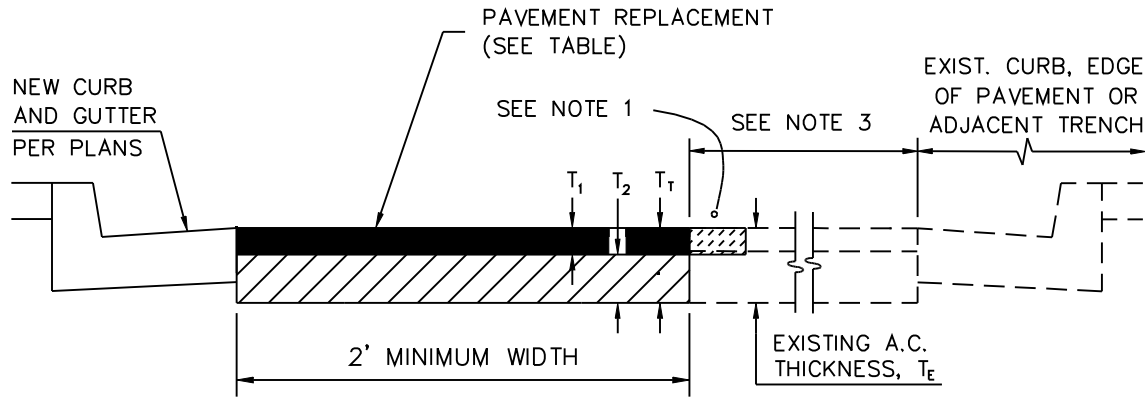
1. Contractor shall prime and paint all metal surfaces. Before application, the color and manufacturer of the paint shall be approved by the City.
2. Prior to painting, all surfaces shall be cleaned free of concrete, mortar, rust, dirt and any other objectionable materials.
3. Apply one (1) primer coat and two (2) exterior alkyd gloss enamel coats to metal.

DETAIL NO. <b>2165-2</b>	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>16' SLIDING GATE</b>	DETAIL NO. <b>2165-2</b>
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REVISED 7/15/03



**PAVEMENT REPLACEMENT FOR TRENCHES (T-TOP)**



**PAVEMENT REPLACEMENT**

EXISTING PAVEMENT THICKNESS, $T_E$	AC PAVEMENT REPLACEMENT TABLE		
	AC SINGLE COURSE OR SURFACE COURSE, $T_1$	AC BASE COURSE, $T_2$	TOTAL THICKNESS, $T_T$
$T_E \leq 3"$	3" MINIMUM	NONE	3" MINIMUM
$T_E > 3"$	2" MINIMUM	2" MINIMUM	$T_E$ (MATCH EXIST)

**PAVEMENT REPLACEMENT NOTES**

1. "T"-TOP REQUIRED FOR ALL TRENCHES. A.C. SURFACE COURSE REPLACEMENT TO BE MILLED DOUBLE "T" CONFIGURATION AS SPECIFIED BELOW FOR PAVEMENTS 4" AND THICKER.
  - a. FOR PAVEMENT 4 YEARS AND OLDER: INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTION. SAWCUT & REMOVE 12" OF A.C. MINIMUM ON EACH SIDE OF THE TRENCH FOR THE "T"-TOP AFTER THE BACKFILL MATERIAL IS PLACED. PAVEMENTS 4" AND THICKER, MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE A MINIMUM OF 6" ON EACH SIDE OF THE T-TOP PRIOR TO PLACEMENT OF THE FINAL SURFACE COURSE LIFT.
  - b. FOR NEW AND OVERLAYED PAVEMENT LESS THAN 4 YEARS OLD AND WHEN ALLOWED UNDER THE PROVISIONS OF SCOTTSDALE REVISED CODE SECTIONS 47-79 AND ALL PAVEMENTS WITH RUBBERIZED SURFACE COURSES: INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTION. SAWCUT & REMOVE 12" OF A.C. MINIMUM ON EACH SIDE OF THE TRENCH FOR THE "T"-TOP AFTER THE BACKFILL MATERIAL IS PLACED. PAVEMENTS 4" AND THICKER, MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE EQUALLY ON BOTH SIDES OF THE TRENCH TO A MINIMUM TOTAL WIDTH OF 10 FEET. FOR PAVEMENTS LESS THAN 4" THICK SAWCUT, REMOVE AND REPLACE THE ENTIRE PAVEMENT SURFACE TO A MINIMUM TOTAL WIDTH OF 10 FEET, AS DIRECTED BY THE ENGINEER.
  - c. FOR DEEP PAVEMENT STRUCTURES REQUIRING TWO OR MORE PAVEMENT BASE LIFTS: INITIAL A.C. REMOVAL TO BE THE MINIMUM WIDTH REQUIRED FOR PROPER TRENCH COMPACTION. SAWCUT, REMOVE AND REPLACE A.C. ON BOTH SIDES OF THE TRENCH AS NECESSARY TO ACCOMMODATE A RIDE ON TYPE VIBRATORY ROLLER COMPACTOR FOR PLACEMENT OF THE A.C. BASE COURSE LIFTS, MATCH EXISTING A.C. DEPTH. MILL AND REMOVE THE TOP 2" OF THE SURFACE COURSE EQUALLY ON BOTH SIDES OF THE TRENCH TO A MINIMUM TOTAL WIDTH OF 10 FEET.
2. ASPHALT CONCRETE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF MAG SECTION 321.
3. IF PAVEMENT REMNANT IS LESS THAN 36", REMOVE AND REPLACE PAVEMENT AS PER THIS DETAIL.
4. AGGREGATE BASE COURSE PER MAG SECTION 702 SHALL BE PROVIDED TO MATCH EXISTING ABC THICKNESS IN ADJACENT ROADWAY.
5. REFER TO COS SUPPLEMENTAL SPECIFICATIONS, SECTION 336.2.4 FOR PAVEMENT SMOOTHNESS REQUIREMENTS.

DETAIL NO.  
**2200**

**City of Scottsdale**  
Standard Details

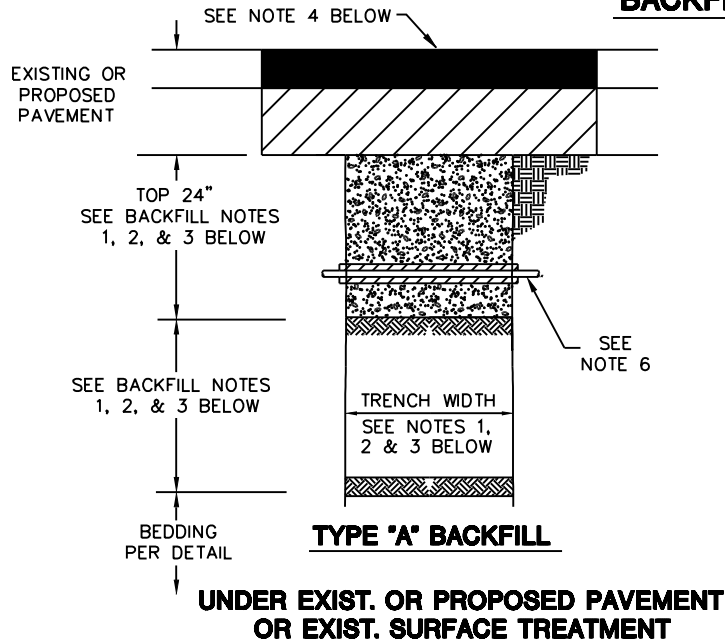
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**PAVEMENT REPLACEMENT**

DETAIL NO.  
**2200**

REVISED 4/15/09

### BACKFILL DETAILS

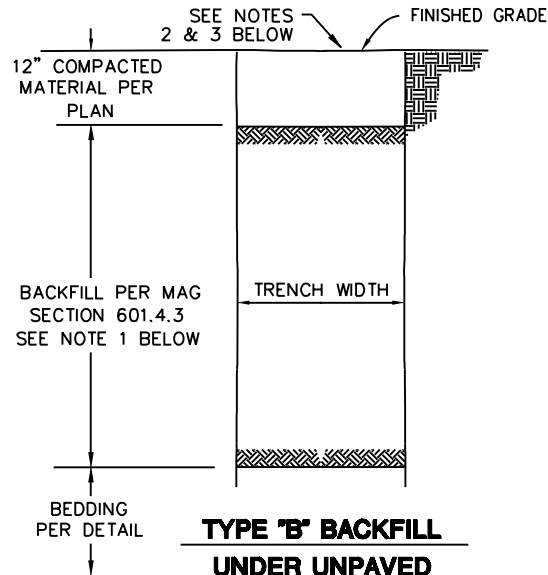


**TYPE 'A' BACKFILL**

**UNDER EXIST. OR PROPOSED PAVEMENT  
OR EXIST. SURFACE TREATMENT**

BACKFILL NOTES

1. TRENCHES LESS THAN 24" IN WIDTH - 1/2 SACK CLSM, MAG 728, FULL DEPTH OF BACKFILL BOTTOM OF ABC LAYER IN PAVEMENT STRUCTURE OR 6" BELOW PAVEMENT IN FULL DEPTH PAVEMENT STRUCTURES. CONSTRUCT PAVEMENT STRUCTURE TO MATCH EXISTING AND IN ACCORDANCE WITH COS DETAIL 2200.
2. TRENCHES 24" TO 6' IN WIDTH - 1/2 SACK CLSM AS DESCRIBED IN NOTE 1 ABOVE WITHIN THE TOP 24" OF THE TRENCH; MAG 601.4.3 FOR BALANCE OF BACKFILL.
3. TRENCHES OVER 6' IN WIDTH - MAG 601.4.3 FULL DEPTH OF BACKFILL.
4. TREAT ENTIRE DISTURBED SURFACE OF UNPAVED ALLEYS WITH LIGNIN-BASED DUST PALLATIVE, MAG 792, 1:1 DILUTION RATIO, 0.50 GAL/SY APPLICATION RATE.
5. CLSM SHALL NOT BE USED FOR WATER OR SEWER PIPE BEDDING. SEE BEDDING DETAIL.
6. EXPOSED COPPER OR POLYETHYLENE WATER PIPES IN SIZES 3/4" TO 2" SHALL BE WRAPPED WITH 3/4" WIDE BLACK INSULATION BEFORE PLACING CLSM.
7. RECYCLED ASPHALT SHALL NOT BE USED FOR BACKFILL.



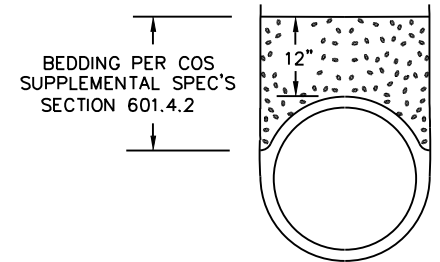
**TYPE 'B' BACKFILL**

**UNDER UNPAVED  
ROADWAY, PARKING LOT  
AND VACANT LAND**

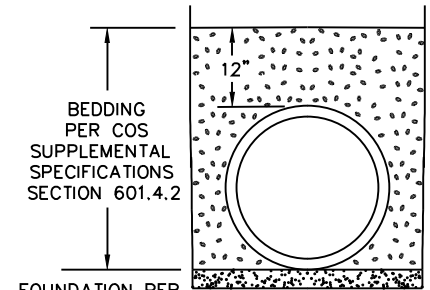
BACKFILL NOTES

1. MAG 601.4.3 FULL DEPTH OF BACKFILL.
2. ENTIRE DISTURBED EXISTING SURFACE TO BE RESTORED WITH A LIKE MATERIAL.
3. TREAT ENTIRE DISTURBED SURFACE WITH LIGNIN-BASED DUST PALLATIVE, MAG 792, 1:1 DILUTION RATIO, 0.50 GAL/SY APPLICATION RATE.
4. RECYCLED ASPHALT SHALL NOT BE USED FOR BACKFILL.

### BEDDING DETAILS



**BEDDING DETAIL  
CAST-IN-PLACE PIPE**



**BEDDING DETAIL  
ALL OTHER PIPE**

NOTES:

1. FOR HDPE PIPE - SEE COS SUPPLEMENTAL SPECIFICATIONS SECTION 603.4.2.
2. RECYCLED ASPHALT SHALL NOT BE USED FOR BEDDING OR FOUNDATION MATERIAL.

DETAIL NO.  
**2201**

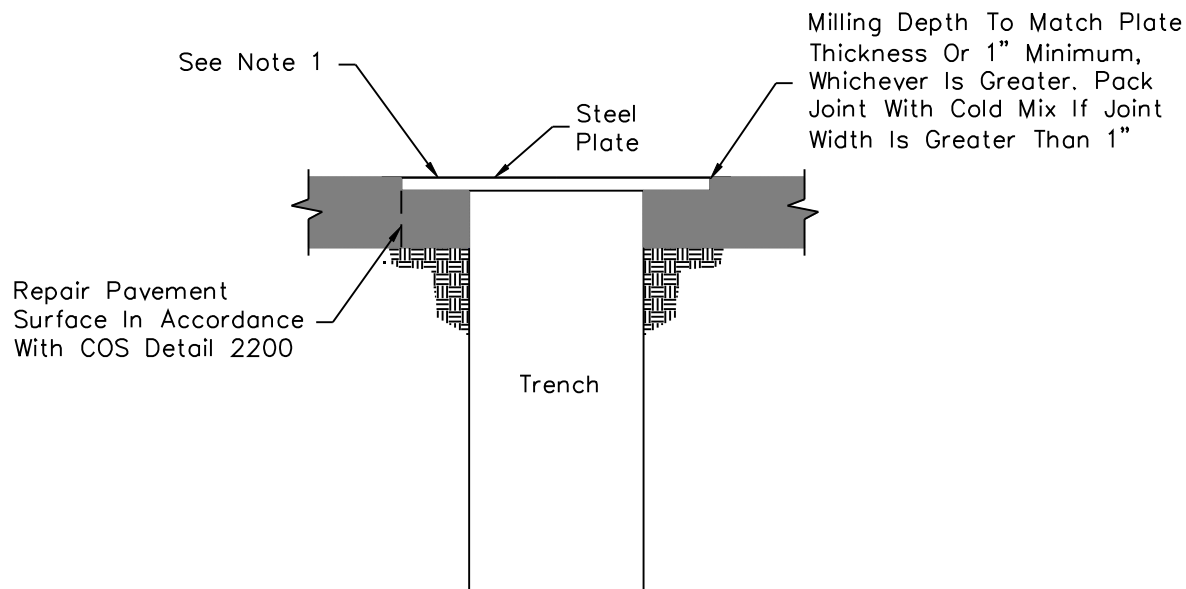
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

# TRENCH BEDDING & BACKFILL

DETAIL NO.  
**2201**

REVISED: 4/25/02

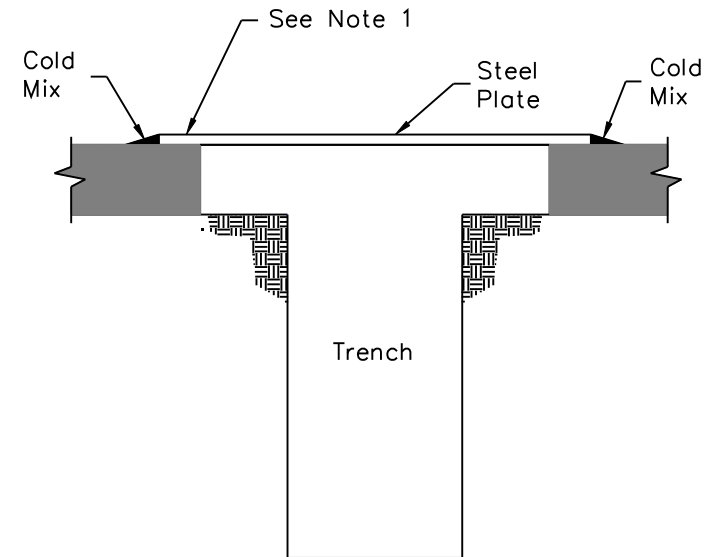


**TYPE 'A' PLATING**

CITY POSTED SPEEDS OF  
35 MPH AND GREATER  
OR BUS & TRUCK ROUTE

**NOTES:**

1. The contractor shall provide adequate overlap of plate on asphalt to assure no slippage of plate and no collapsing of trench.
2. "Posted Speed" does not include temporary construction signing.



**TYPE 'B' PLATING**

CITY POSTED SPEEDS  
UNDER 35 MPH

DETAIL NO.  
**2202**

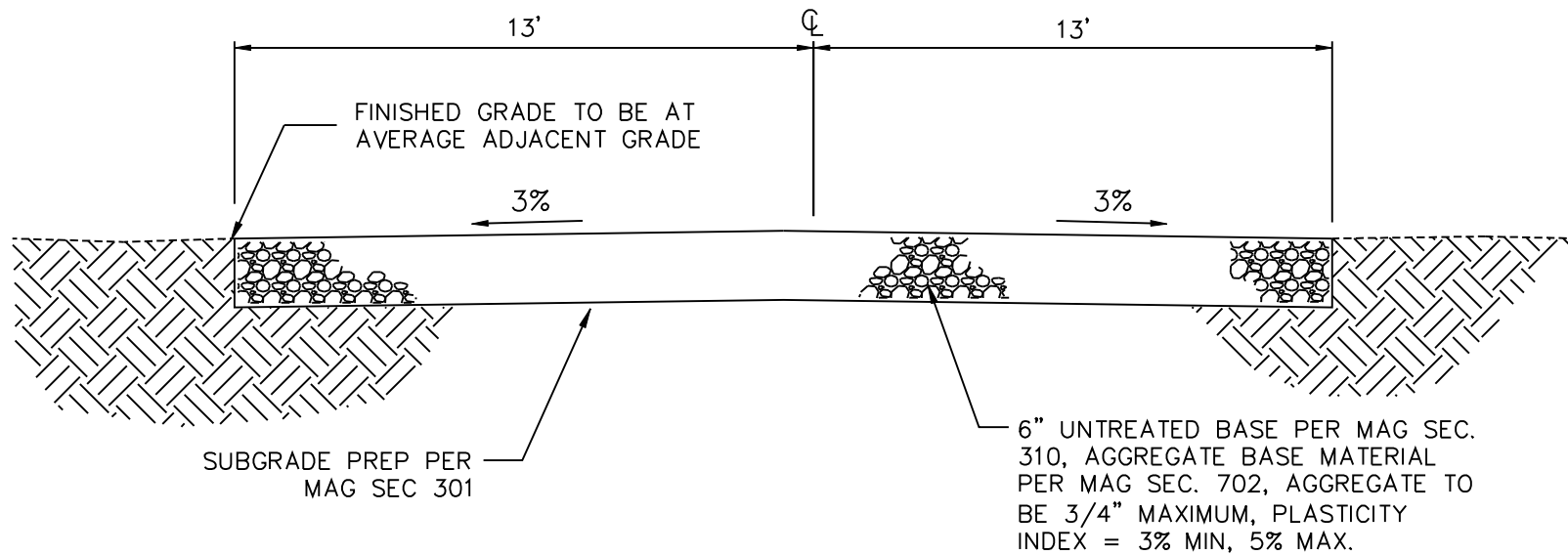
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TRENCH PLATING**

DETAIL NO.  
**2202**

REVISED: 3/28/02



### UNPAVED ROAD DETAIL

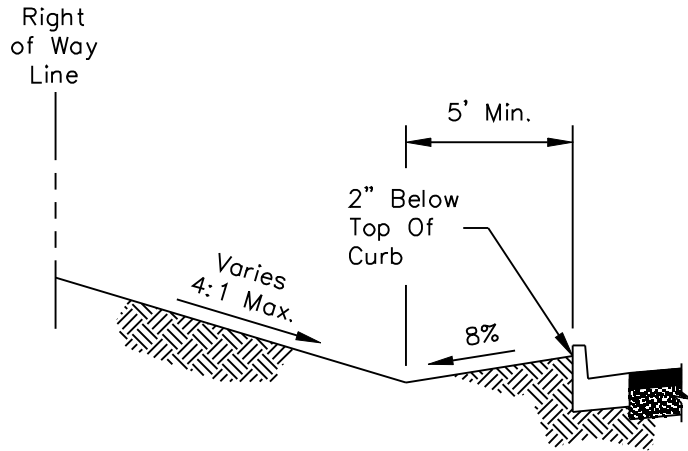
DETAIL NO. **2207** City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

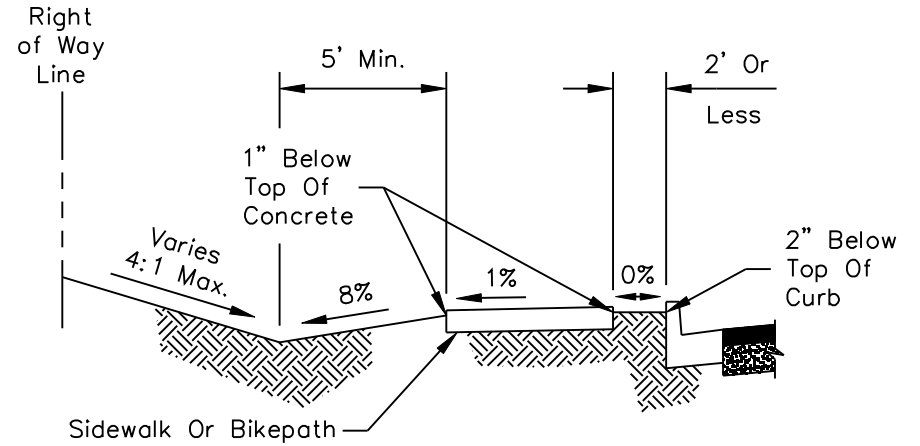
# RESIDENTIAL UNPAVED ROAD

DETAIL NO. **2207**



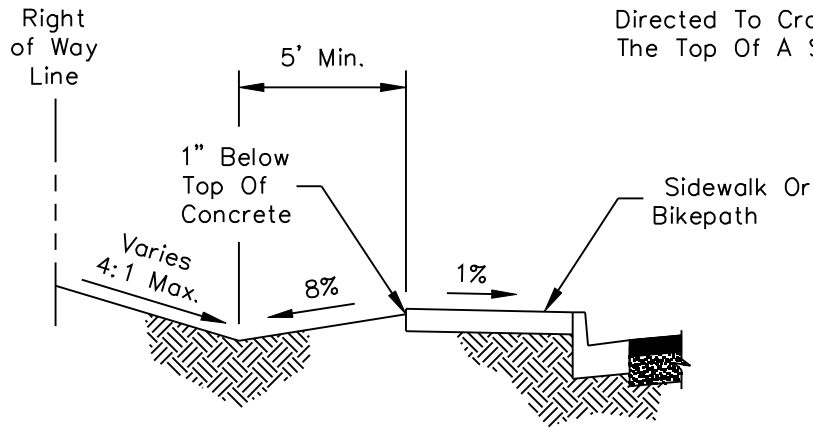


**NO SIDEWALK**

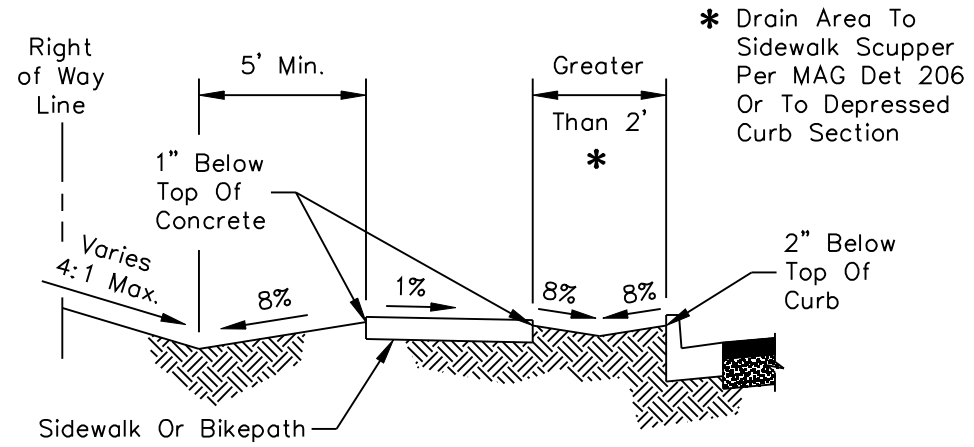


**SIDEWALK LESS THAN 2' BEHIND CURB**

**NOTE:**  
Runoff Shall Not Be Directed To Cross Over The Top Of A Sidewalk.



**SIDEWALK AT BACK OF CURB**



**SIDEWALK MORE THAN 2' BEHIND CURB**

\* Drain Area To Sidewalk Scupper Per MAG Det 206 Or To Depressed Curb Section

DETAIL NO.  
**2210**

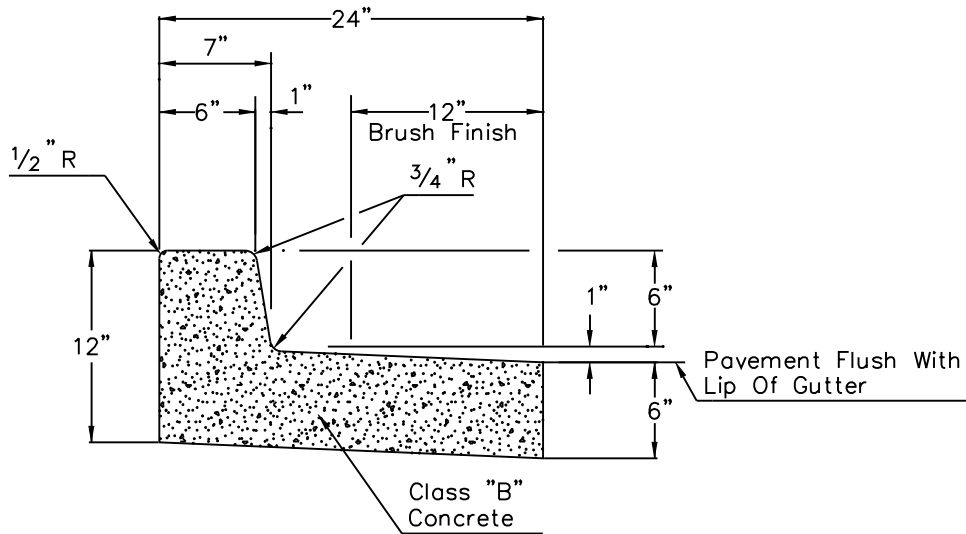
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**GRADING BEHIND THE CURB**

DETAIL NO.  
**2210**

REVISED 4/15/09

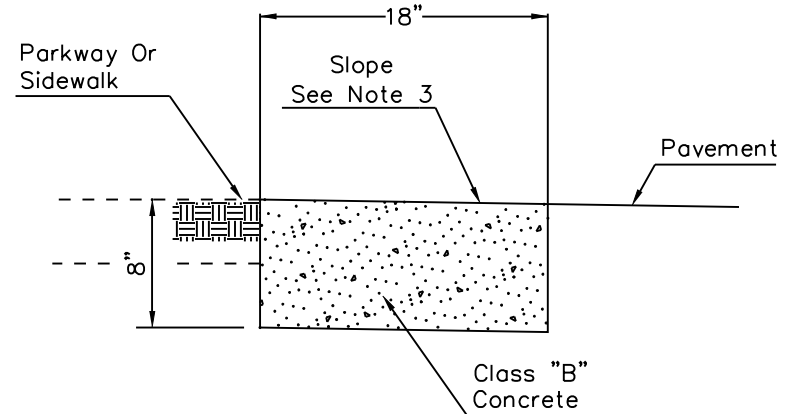


**VERTICAL CURB & GUTTER  
WITH DEPRESSED LIP**

**TYPE 'A'**

**NOTES**

1. All exposed surfaces to be trowel finished except as shown. See M.A.G. Section 340.
2. Contraction joint spacing shall be 10' maximum or as directed by the Inspector.
3. Construct curb and install 1/2" mastic expansion joints, A.S.T.M. D-1751, per M.A.G. Sec. 340 & 729 and COS Sec. 340.
4. Colored concrete shall be colored integrally.



**RIBBON CURB  
TYPE 'B'**

**NOTES**

1. Construct curb and install 1/2" mastic expansion joints, A.S.T.M. D-1751, per M.A.G. Sec. 340 & 729 and COS Sec 340.
2. Broom finish all surfaces.
3. Ribbon curb may slope towards pavement or parkway. Match cross slope of road unless indicated otherwise on plans.
4. Contraction joint spacing shall be 10' maximum or as directed by the Inspector.
5. Colored concrete shall be colored integrally.

DETAIL NO.  
**2220**

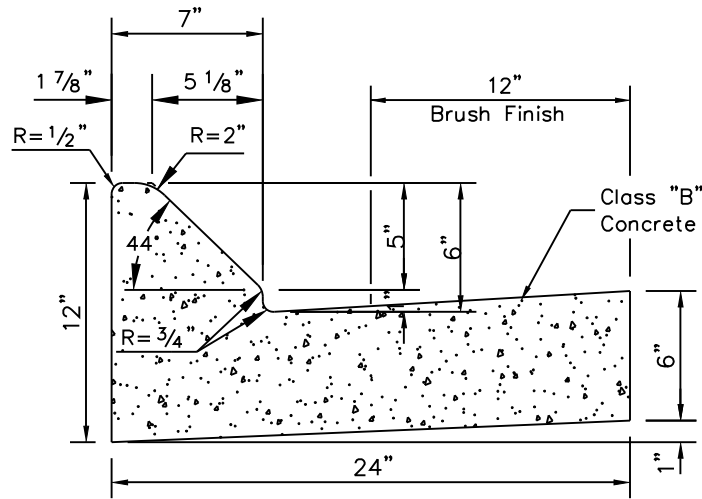
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

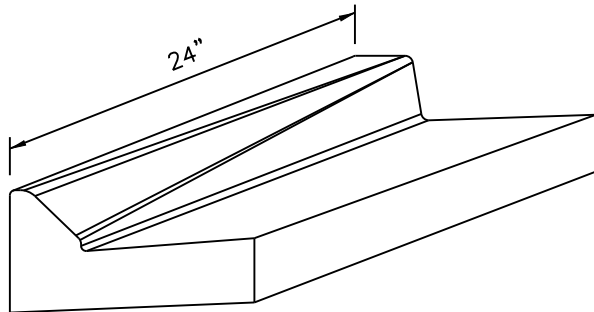
**CURB AND GUTTER - TYPES A & B**

DETAIL NO.  
**2220**

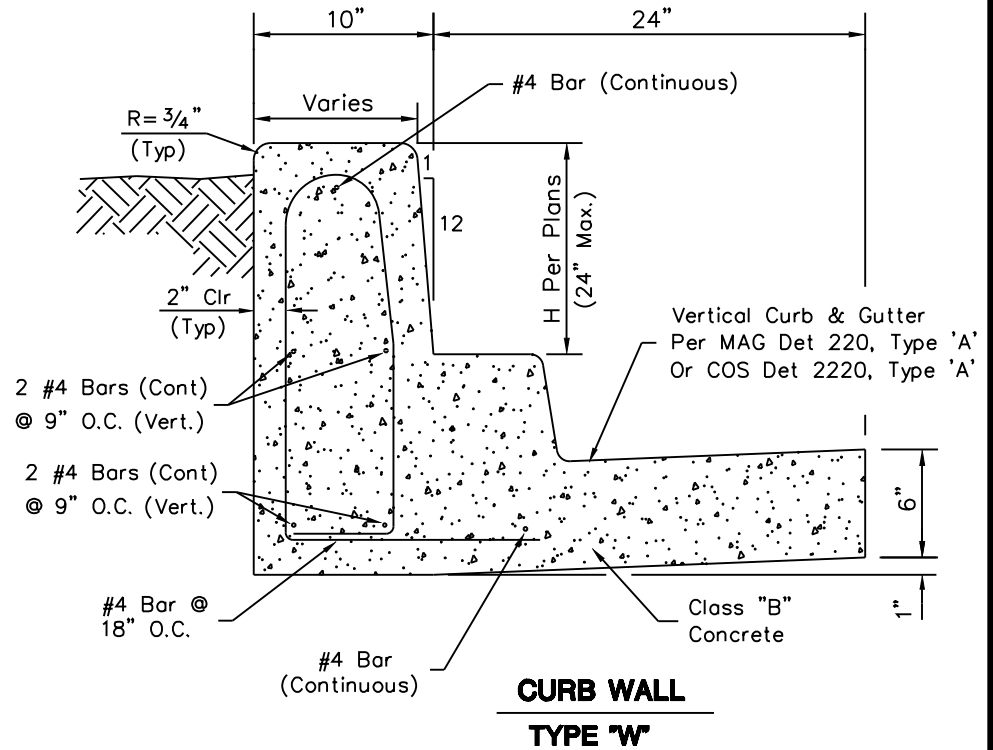
REVISED 4/15/09



**MOUNTABLE/MEDIAN CURB & GUTTER  
TYPE "M"**



**MOUNTABLE CURB TO VERTICAL CURB TRANSITION**



**CURB WALL  
TYPE "W"**

**NOTES**

1. All exposed surfaces to be trowel finished except as shown. See M.A.G. Section 340.
2. Contraction joint spacing shall be 10' maximum or as directed by the Inspector.
3. Construct curb and install 1/2" mastic expansion joints, A.S.T.M. D-1751, per M.A.G. Sec. 340 & 729 and C.O.S. Sec. 340.
4. Gutter lip may be depressed where indicated on plans and constructed as shown on COS Detail 2220, Type "A".
5. Colored concrete, if called for on the plans, shall be colored integrally.
6. Steel reinforcement shall be per M.A.G. Section 727.

DETAIL NO.  
**2221**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**CURB & GUTTER - TYPES M & W**

DETAIL NO.  
**2221**

MEDIAN NOSE CURVE DATA

CURVE	RADIUS*	LENGTH	TANGENT	CHORD	DELTA
C1	59.5'	19.06'	9.61'	18.97'	18°20'59"
C2	0.50'	1.41'	3.10'	0.99'	161°39'01"

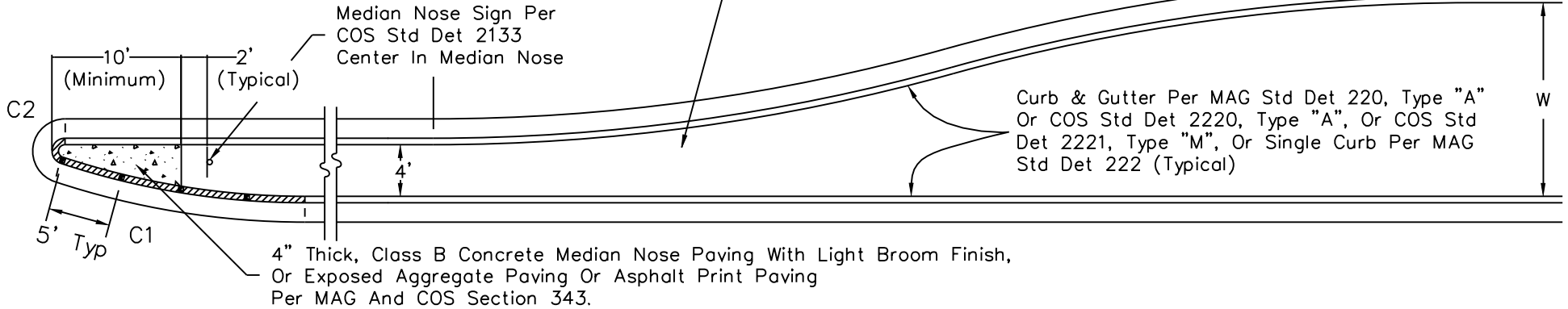


Paint Top And Front Of Curb With Reflectorized Yellow Traffic Paint And Add Type "D" Yellow Two Way Reflective Raised Pavement Markers To Median Nose, Spaced At 5-feet.

Note: Extend Median Treatment To A Width Of 6 Feet Or As Shown On The Plans.

140' RC for 55-65 mph  
 90' RC for 40-50 mph  
 60' RC for 25-35 mph

REVISED 3/11/09



Median Nose Sign Per COS Std Det 2133 Center In Median Nose

Curb & Gutter Per MAG Std Det 220, Type "A" Or COS Std Det 2220, Type "A", Or COS Std Det 2221, Type "M", Or Single Curb Per MAG Std Det 222 (Typical)

4" Thick, Class B Concrete Median Nose Paving With Light Broom Finish, Or Exposed Aggregate Paving Or Asphalt Print Paving Per MAG And COS Section 343.

\* ALL RADII AND DIMENSIONS TO BACK OF CURB

NOTE: Curve Data Shown Is For Streets On Linear Alignments Only.

DETAIL NO.  
**2225**

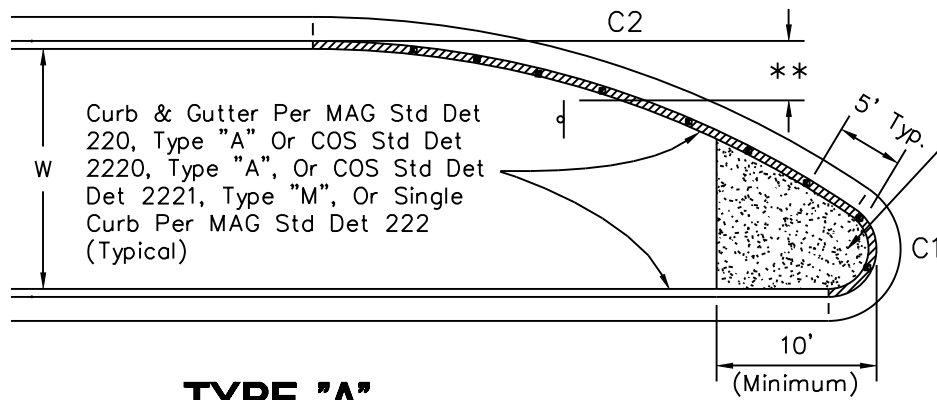
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**MEDIAN NOSE & REVERSE CURVE DETAILS**

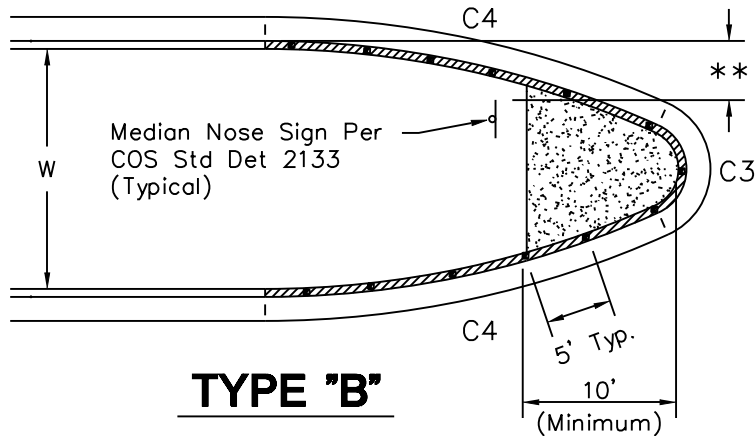
DETAIL NO.  
**2225**

REVISED 3/11/09



**TYPE "A"**

Paint Top And Front Of Curb With ReflectORIZED Yellow Traffic Paint And Add Type "D" Yellow Reflective Raised Pavement Markers to Median Nose, Spaced at 5-feet.



**TYPE "B"**

4" Thick, Class B Concrete Median Nose Paving With Light Broom Finish, Or Exposed Aggregate Paving or Asphalt Print Paving per MAG and COS Section 343 (Typical)

\* ALL RADII AND DIMENSIONS TO BACK OF CURB

\*\* OFFSET TO BE NO MORE THAN 3' FROM FACE OF CURB TANGENT TO EDGE OF SIGN

\* CURVE DATA - W=15'

CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	2.50'	6.35'	8.06'	4.78'	145°32'39"
C2	59.50'	35.78'	18.45'	35.24'	34°27'21"
C3	2.50'	5.74'	5.57'	4.56'	131°38'42"
C4	59.50'	25.11'	12.74'	24.92'	24°10'39"

\* CURVE DATA - W=16'

CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	2.50'	6.27'	7.65'	4.75'	143°48'20"
C2	59.50'	37.59'	19.44'	36.97'	36°11'40"
C3	2.50'	5.64'	5.27'	4.52'	129°14'46"
C4	59.50'	26.35'	13.40'	26.14'	25°22'37"

\* CURVE DATA - W=24'

CURVE	RADIUS	LENGTH	TANGENT	CHORD	DELTA
C1	2.50'	5.75'	5.59'	4.56'	131°48'37"
C2	59.50'	50.04'	26.61'	48.58'	48°11'23"
C3	2.50'	4.93'	3.77'	4.17'	112°53'08"
C4	59.50'	34.85'	17.94'	34.35'	33°33'26"

DETAIL NO.  
**2226**

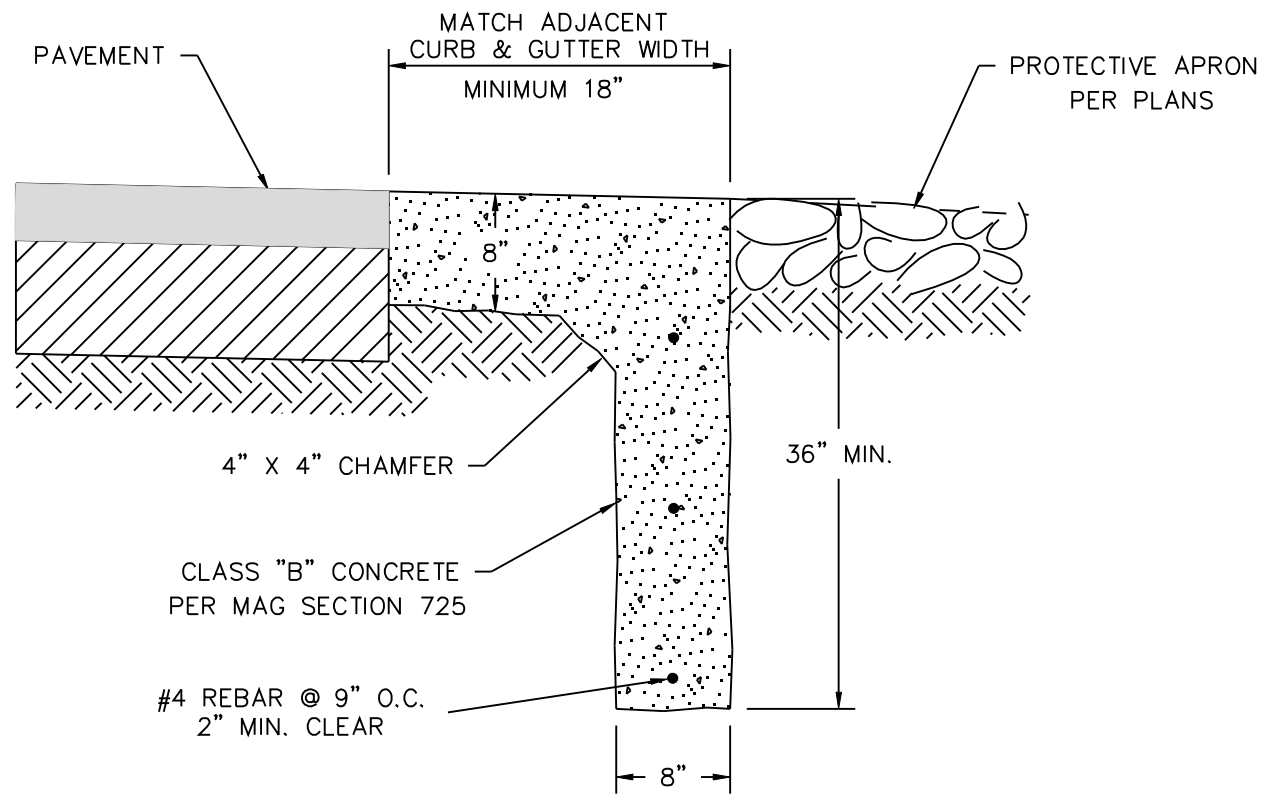
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**MEDIAN NOSE DETAILS**

DETAIL NO.  
**2226**

REVISED 2/22/99



NOTE: Form The Top 8" Of Cut-Off Wall

DETAIL NO.  
**2228**

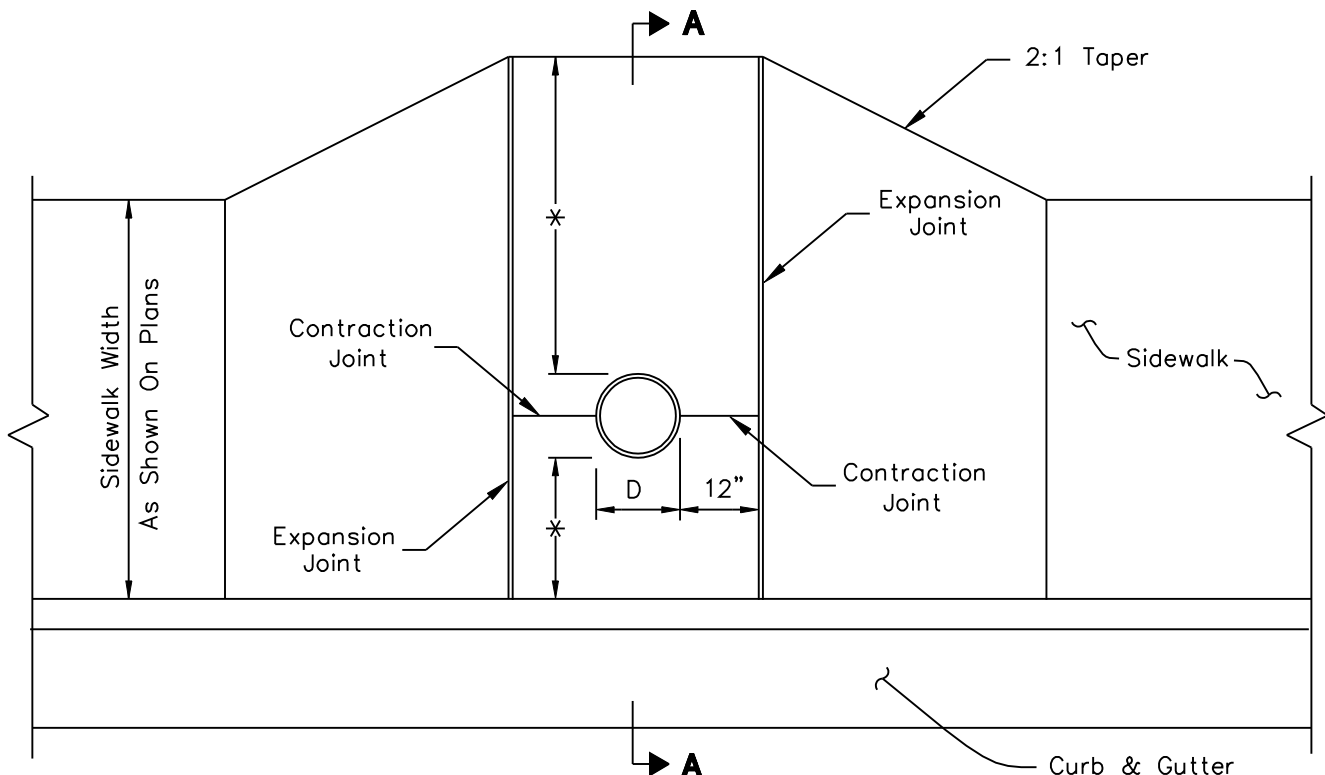
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# CUT-OFF WALL

DETAIL NO.  
**2228**

REVISED 4/18/05



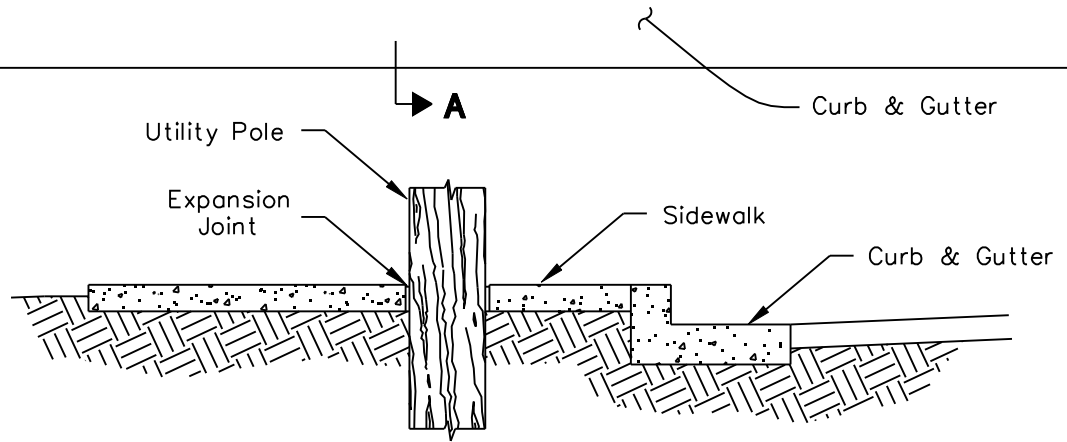
**NOTES**

Install expansion joint around wood pole.

Install expansion joint at sidewalk 1/4" lower than sidewalk

\* Maintain 48" clear on one side of utility pole unless otherwise approved by City staff.

D = Pole Diameter  
Range: 12"-17"



**SECTION A-A**

DETAIL NO.  
**2230**

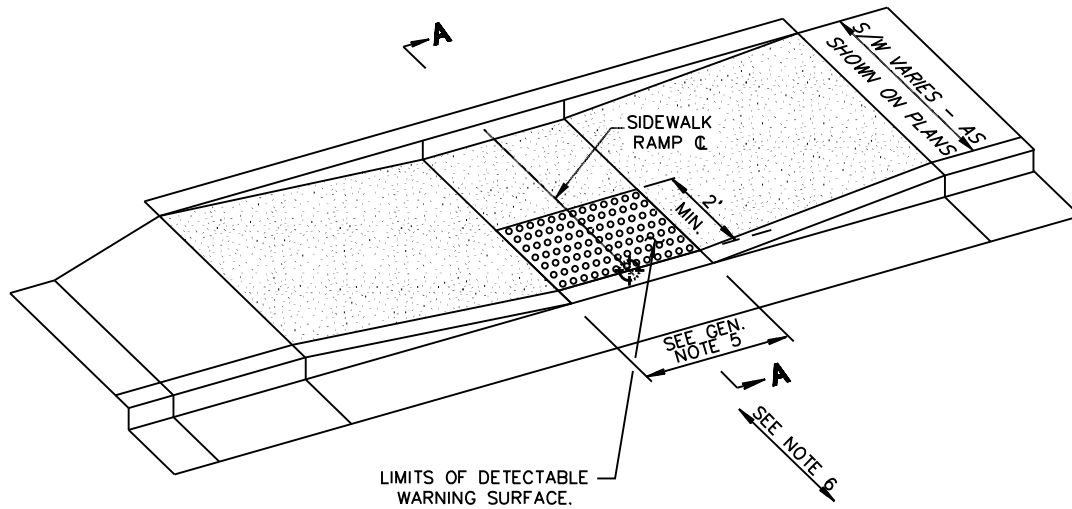
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**SIDEWALK CUTOUT FOR UTILITY POLES**

DETAIL NO.  
**2230**

REVISED 3/31/10



**INSTALLATION EXAMPLE**

NTS

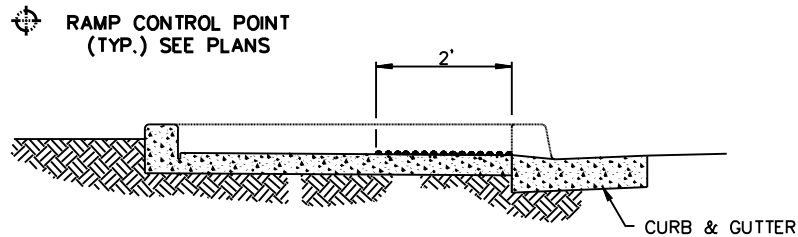
GENERAL NOTES

1. DETECTABLE WARNING SURFACE SHALL CONSIST OF RAISED TRUNCATED DOMES, AND SHALL CONFORM TO THE DETAILS IN THE PLANS AND IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
2. ALL DETECTABLE WARNING SURFACES SHALL START AT BACK OF CURB, MEASURE 24 INCHES IN DEPTH AND COVER THE COMPLETE WIDTH OF THE RAMP AREA 48 INCHES MIN..
3. 70% VISUAL CONTRAST IS REQUIRED. THE COLOR SHALL BE AN INTEGRAL PART OF THE DETECTABLE WARNING MATERIAL. COLOR WILL BE SUBJECT TO APPROVAL BY CITY STAFF.
4. THE CONCRETE WORK REQUIRED TO FORM A BLOCK OUT FOR CAST IN PLACE APPLICATIONS, OR TO CREATE A SMOOTH AND CLEAN CONCRETE SURFACE FOR SURFACE APPLICATIONS, SHALL BE INCLUDED IN THE COST OF THE CONCRETE CURB RAMP. THE COST OF FURNISHING AND INSTALLING THE DETECTABLE WARNING DEVICE SHALL BE INCLUDED SEPARATELY AS "DETECTABLE WARNING DEVICE" PER SQUARE FOOT OR AS OUTLINED IN THE SPECIFICATIONS.
5. WIDTH PER RAMP DETAIL OR AS CALLED OUT ON PLANS (4 FEET MINIMUM).
6. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED PERPENDICULAR TO THE CURB AT THE RAMP CONTROL POINT. SEE PLANS FOR RAMP CONTROL POINT.

APPROVED DETECTABLE WARNING SURFACES

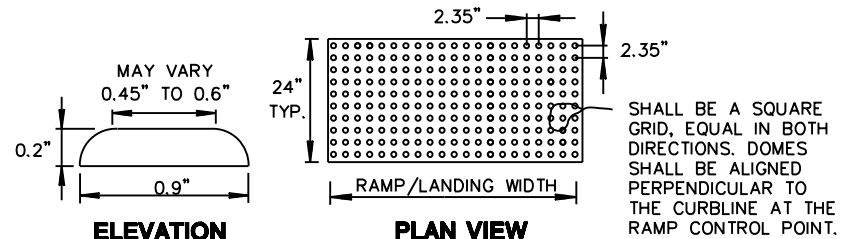
1. ONLY DETECTABLE WARNING SYSTEMS WHICH APPEAR ON THE CITY OF SCOTTSDALE QUALIFIED PRODUCTS LIST ARE APPROVED FOR INSTALLATION. THE QUALIFIED PRODUCT LIST IS LOCATED AT THE FOLLOWING WEBSITE:

[WWW.SCOTTSDALEAZ.GOV/STREETS/PRODUCTS/](http://WWW.SCOTTSDALEAZ.GOV/STREETS/PRODUCTS/)



**SECTION A-A**

NTS



**ELEVATION**

**PLAN VIEW**

**TRUNCATED DOME DETECTABLE WARNING**

NTS

SHALL BE A SQUARE GRID, EQUAL IN BOTH DIRECTIONS. DOMES SHALL BE ALIGNED PERPENDICULAR TO THE CURBLINE AT THE RAMP CONTROL POINT.

DETAIL NO.  
**2231**

**City of Scottsdale  
Standard Details**

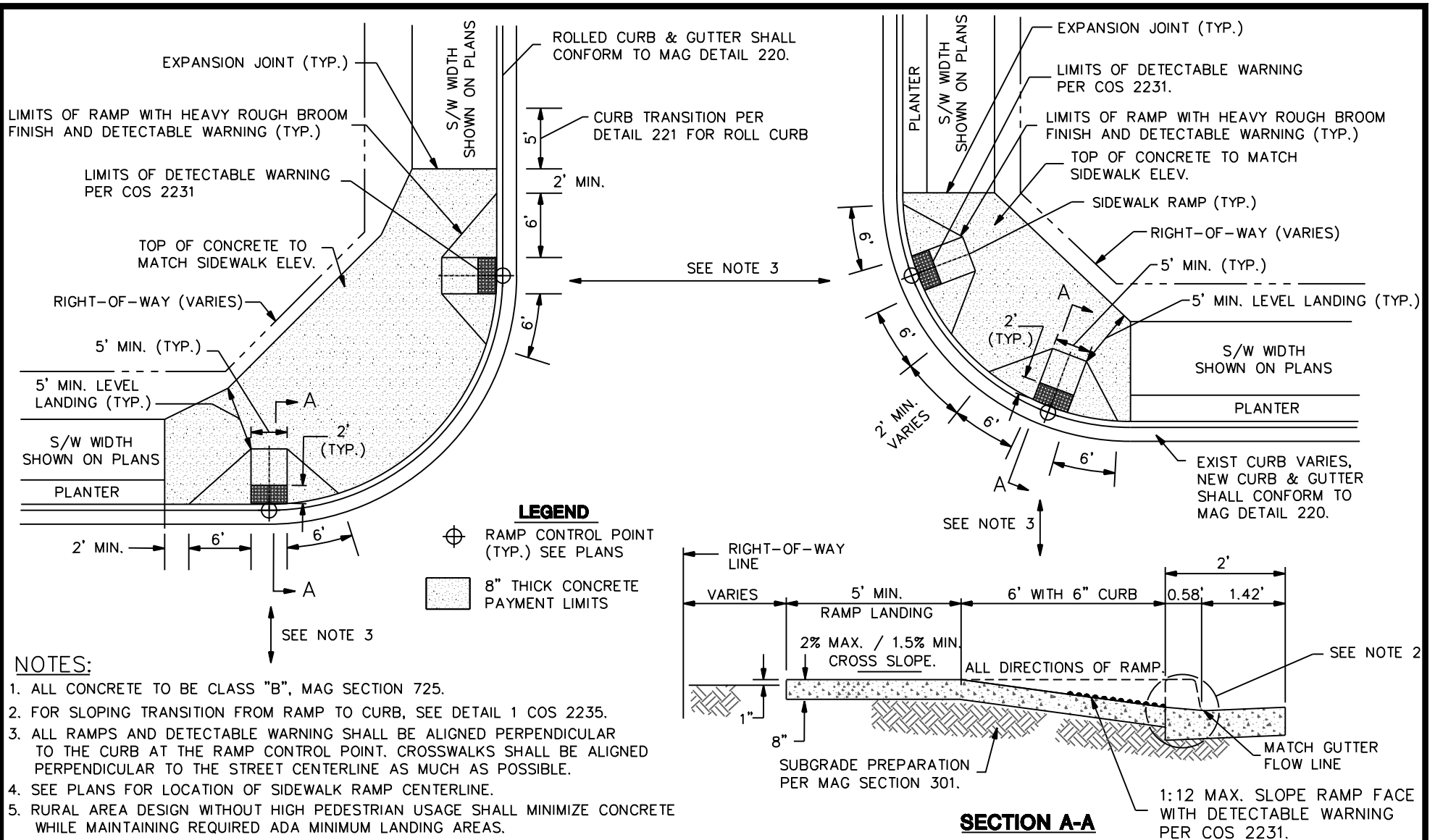
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**DETECTABLE WARNING SURFACE**

DETAIL NO.  
**2231**



REVISED 4/15/09



DETAIL NO.  
**2232**

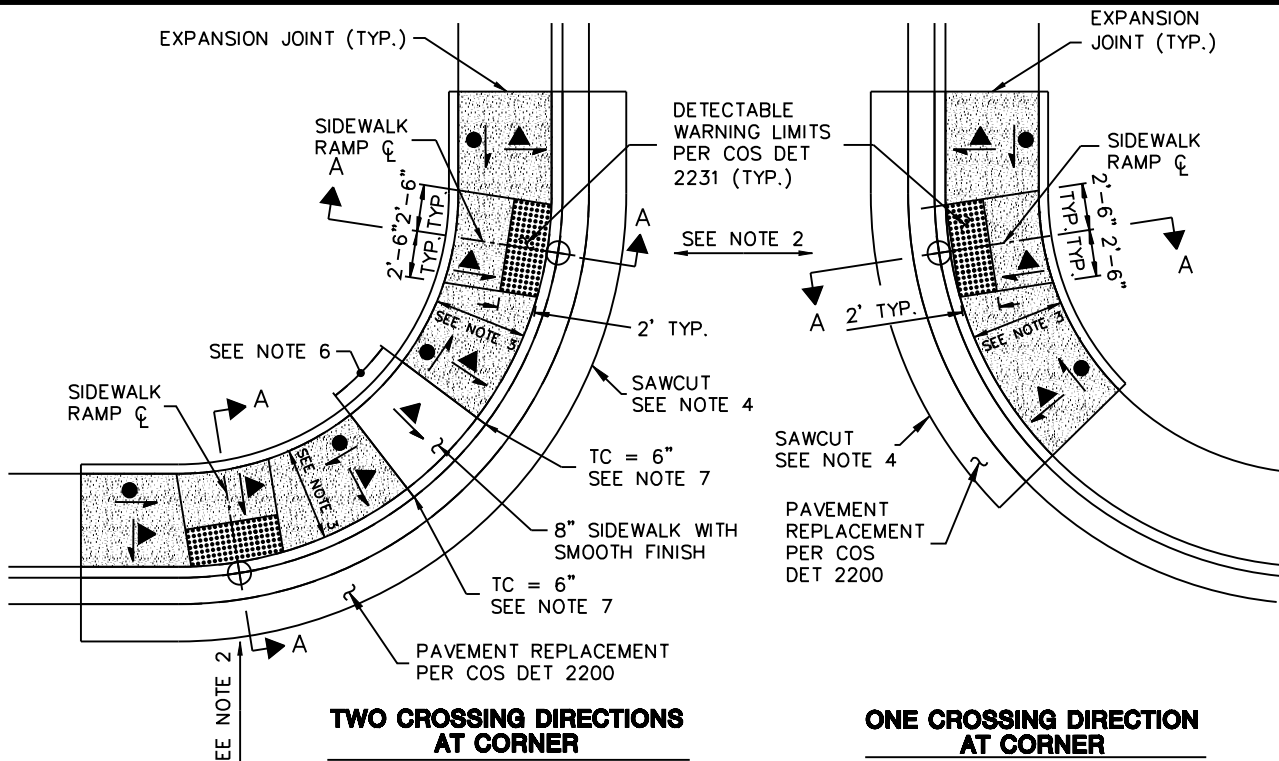
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**DIRECTIONAL SIDEWALK RAMPS**

DETAIL NO.  
**2232**





REVISED 4/08/09

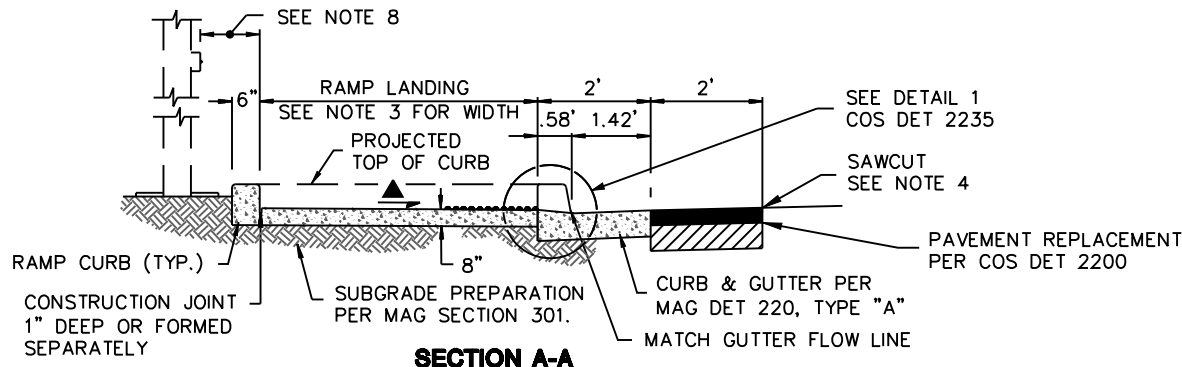


**NOTES:**

1. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
2. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED PERPENDICULAR TO THE CURBLINE AT THE RAMP CONTROL POINT. CROSSWALKS SHALL BE ALIGNED PERPENDICULAR TO THE STREET CENTERLINE AS MUCH AS POSSIBLE.
3. RAMP LANDING WIDTH SHALL BE 5' PREFERRED, OR ELSE SHALL MATCH EXISTING WIDTH WITH A 4' MINIMUM, AS MEASURED RADIALLY FROM BACK OF CURB TO THE FACE OF RAMP CURB.
4. WHEN A CONCRETE APRON EXISTS THE SAWCUT MAY BE MADE IN THE APRON 2' FROM BACK OF EXISTING CURB.
5. SEE PLANS FOR LOCATION OF SIDEWALK RAMP CENTERLINE.
6. MINIMUM 4' LONG LEVEL AREA REQUIRED BETWEEN RAMPS, 8" THICK.
7. CURB HEIGHT MAY BE DECREASED TO 4" FOR SPACE LIMITED AREAS PROVIDED THE RAMP SLOPE IS A MAXIMUM 12:1 AND THE MINIMUM 4' LONG LEVEL AREA BETWEEN RAMPS IS MAINTAINED.
8. PROVIDE 10" MAXIMUM TO FACE OF ANY EXISTING PEDESTRIAN PUSH BUTTON. RAMP CURB AND LANDING MAY NEED TO BE EXTENDED AROUND POLE TO PROVIDE ACCESS TO PUSH BUTTON, OR MOVE BUTTON AS NEEDED.
9. EACH RAMP RETROFIT REQUIRES A SITE SPECIFIC ASSESSMENT AND FIELD REVIEW BY THE DESIGN ENGINEER TO ENSURE FUNCTIONAL DESIGN.

**LEGEND**

-  RAMP CONTROL POINT (TYP.) SEE PLANS
-  12:1 MAXIMUM SLOPE, 15:1 DESIRED SLOPE
-  2% MAXIMUM SLOPE, 1.5% MINIMUM SLOPE
-  8" SIDEWALK RAMP PAYMENT LIMITS AND HEAVY ROUGH BROOM FINISH LIMITS



DETAIL NO.  
**2233-1**

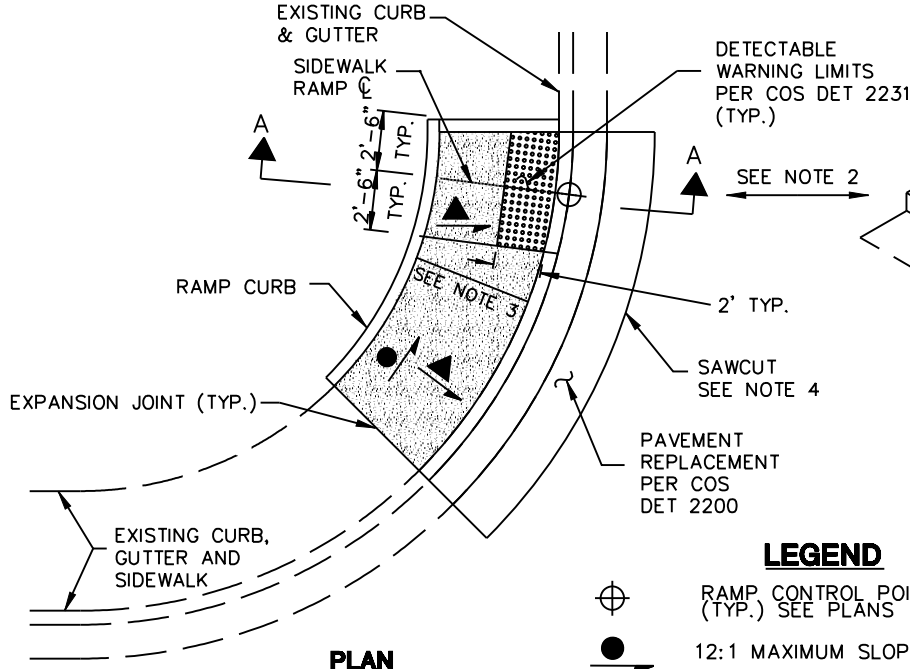
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**DIRECTIONAL SIDEWALK RAMP RETROFIT - TYPE A**

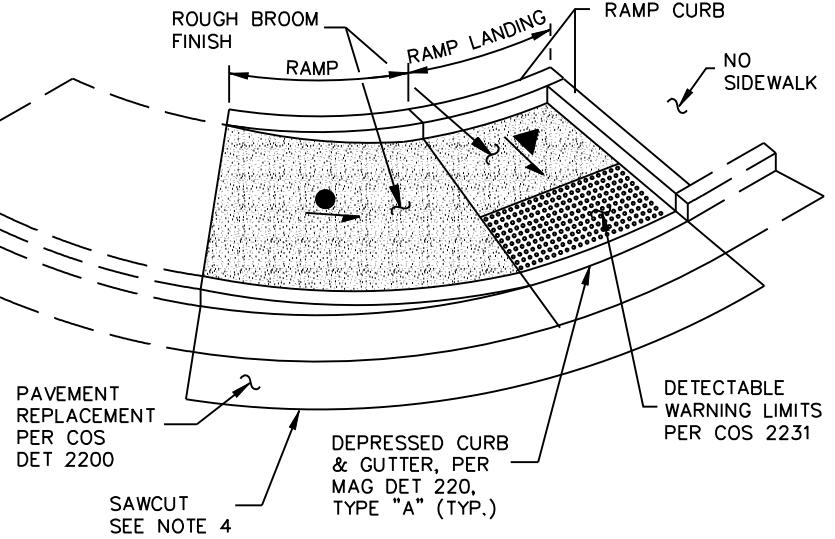
DETAIL NO.  
**2233-1**

REVISED 4/10/09

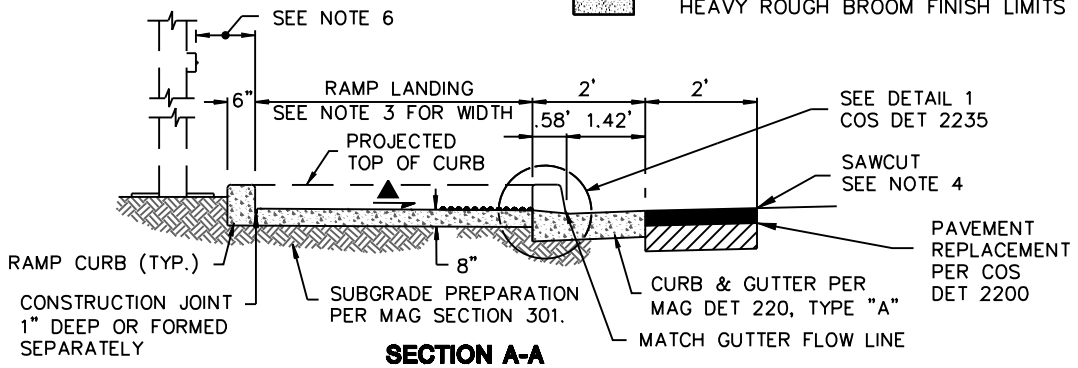


**LEGEND**

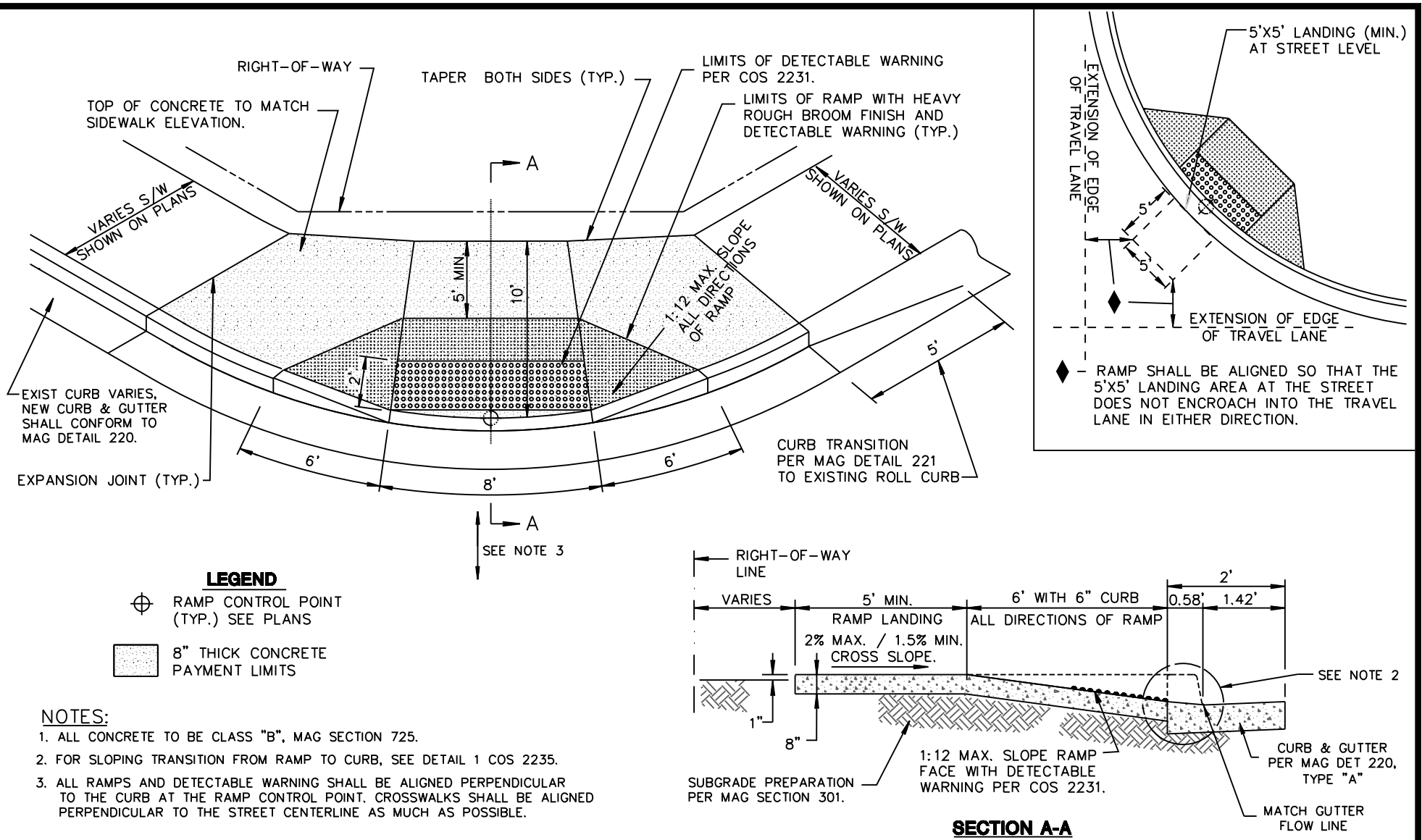
- RAMP CONTROL POINT (TYP.) SEE PLANS
- 12:1 MAXIMUM SLOPE, 15:1 DESIRED SLOPE
- 2% MAXIMUM SLOPE, 1.5% MINIMUM SLOPE
- 8" SIDEWALK RAMP PAYMENT LIMITS AND HEAVY ROUGH BROOM FINISH LIMITS



- NOTES:
1. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
  2. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED PERPENDICULAR TO THE CURB AT THE RAMP CONTROL POINT. CROSSWALKS SHALL BE ALIGNED PERPENDICULAR TO THE STREET CENTERLINE AS MUCH AS POSSIBLE.
  3. RAMP LANDING WIDTH SHALL BE 5' PREFERRED, OR ELSE SHALL MATCH EXISTING WIDTH WITH A 4' MINIMUM, AS MEASURED RADIALLY FROM BACK OF CURB TO FACE OF RAMP CURB.
  4. WHEN A CONCRETE APRON EXISTS THE SAWCUT MAY BE MADE IN THE APRON 2' FROM BACK OF EXISTING CURB.
  5. SEE PLANS FOR LOCATION OF SIDEWALK RAMP CENTERLINE.
  6. PROVIDE 10" MAXIMUM TO FACE OF ANY EXISTING PEDESTRIAN PUSH BUTTON. RAMP CURB AND LANDING MAY NEED TO BE EXTENDED AROUND POLE TO PROVIDE ACCESS TO PUSH BUTTON, OR MOVE BUTTON AS NEEDED.
  7. THIS SIDEWALK RAMP DETAIL IS FOR RETROFITTING ONLY AND IS NOT TO BE USED FOR NEW CONSTRUCTION.
  8. EACH RAMP RETROFIT REQUIRES A SITE SPECIFIC ASSESSMENT AND FIELD REVIEW BY THE DESIGN ENGINEER TO ENSURE A FUNCTIONAL DESIGN.



REVISED 4/15/09



**LEGEND**

- ⊕ RAMP CONTROL POINT (TYP.) SEE PLANS
- ▨ 8" THICK CONCRETE PAYMENT LIMITS

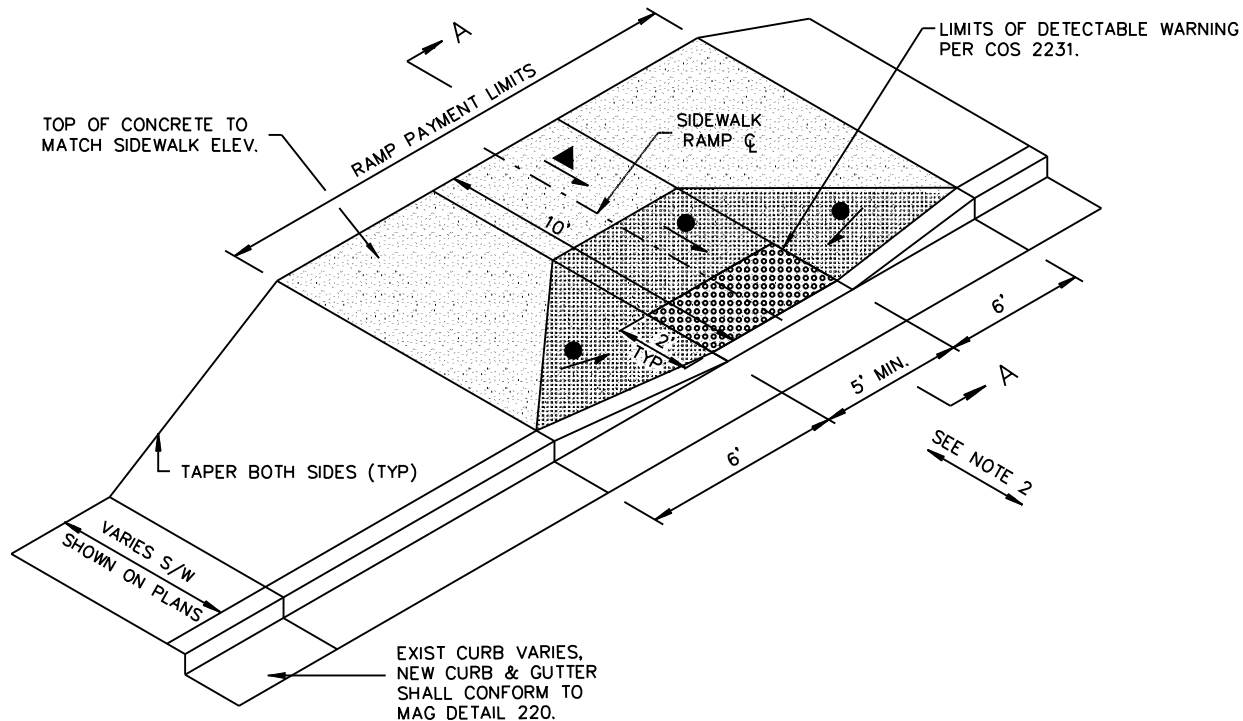
**NOTES:**

1. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
2. FOR SLOPING TRANSITION FROM RAMP TO CURB, SEE DETAIL 1 COS 2235.
3. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED PERPENDICULAR TO THE CURB AT THE RAMP CONTROL POINT. CROSSWALKS SHALL BE ALIGNED PERPENDICULAR TO THE STREET CENTERLINE AS MUCH AS POSSIBLE.

**SECTION A-A**




DETAIL NO. <b>2234</b>	<b>City of Scottsdale</b> Standard Details	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<h1 style="margin: 0;">SHARED CURB SIDEWALK RAMP</h1>	DETAIL NO. <b>2234</b>
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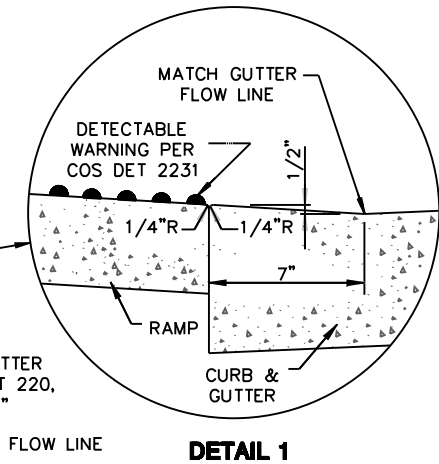
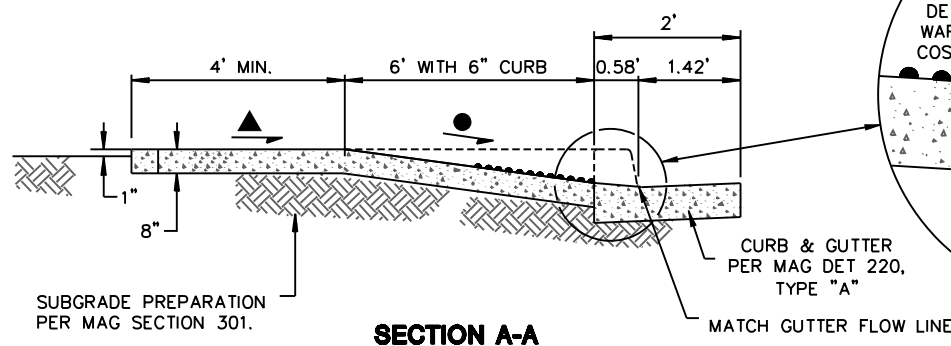
REVISED 4/15/09



- NOTES:
1. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
  2. ALL RAMPS AND DETECTABLE WARNING SHALL BE ALIGNED PERPENDICULAR TO THE CURB. CROSSWALKS SHALL BE ALIGNED PERPENDICULAR TO THE STREET CENTERLINE AS MUCH AS POSSIBLE.
  3. SEE PLANS FOR LOCATION OF SIDEWALK RAMP CENTERLINE.

**LEGEND**

-  12:1 MAXIMUM SLOPE, 15:1 DESIRED SLOPE
-  2% MAXIMUM SLOPE, 1.5% MINIMUM SLOPE
-  8" THICK CONCRETE PAYMENT LIMITS



**SECTION A-A**

**DETAIL 1**

DETAIL NO.  
**2235-1**

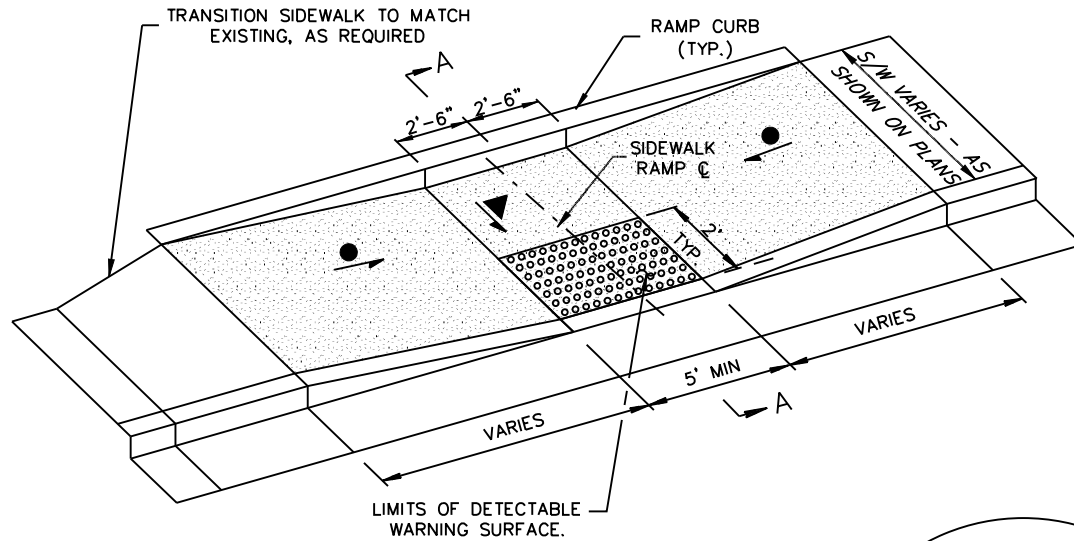
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**MID-BLOCK SIDEWALK RAMP - TYPE A**

DETAIL NO.  
**2235-1**




REVISED 4/15/09

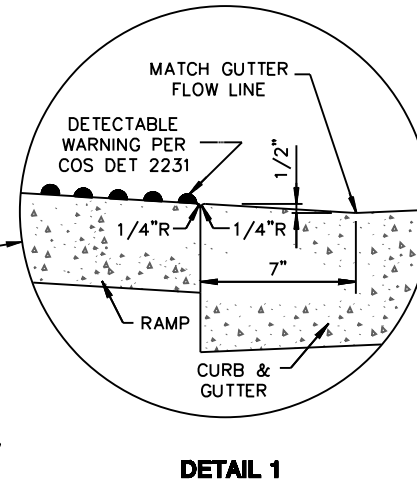
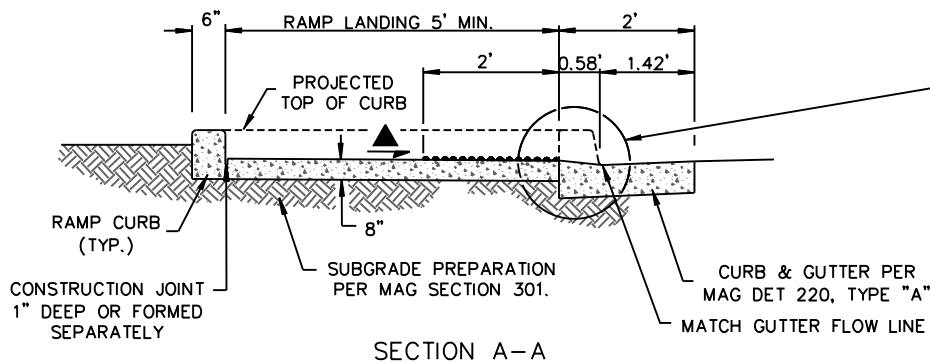


**NOTES:**

1. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
2. ALL RAMP AND DETECTABLE WARNING SHALL BE ALIGNED PERPENDICULAR TO THE CURB. CROSSWALKS SHALL BE ALIGNED PERPENDICULAR TO THE STREET CENTERLINE AS MUCH AS POSSIBLE.
3. SEE PLANS FOR LOCATION OF SIDEWALK RAMP CENTERLINE.

**LEGEND**

-  12:1 MAXIMUM SLOPE,  
15:1 DESIRED SLOPE
-  2% MAXIMUM SLOPE,  
1.5% MINIMUM SLOPE
-  8" SIDEWALK RAMP PAYMENT  
LIMITS AND HEAVY ROUGH  
BROOM FINISH LIMITS



DETAIL NO.  
**2235-2**

**City of Scottsdale  
Standard Details**

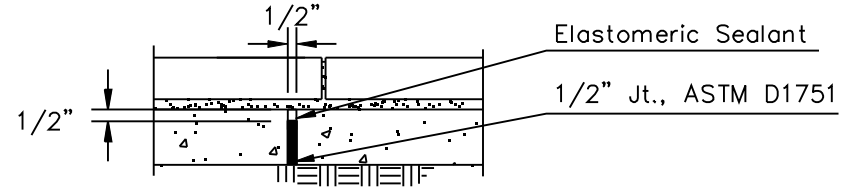
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**MID-BLOCK SIDEWALK RAMP - TYPE B**

DETAIL NO.  
**2235-2**

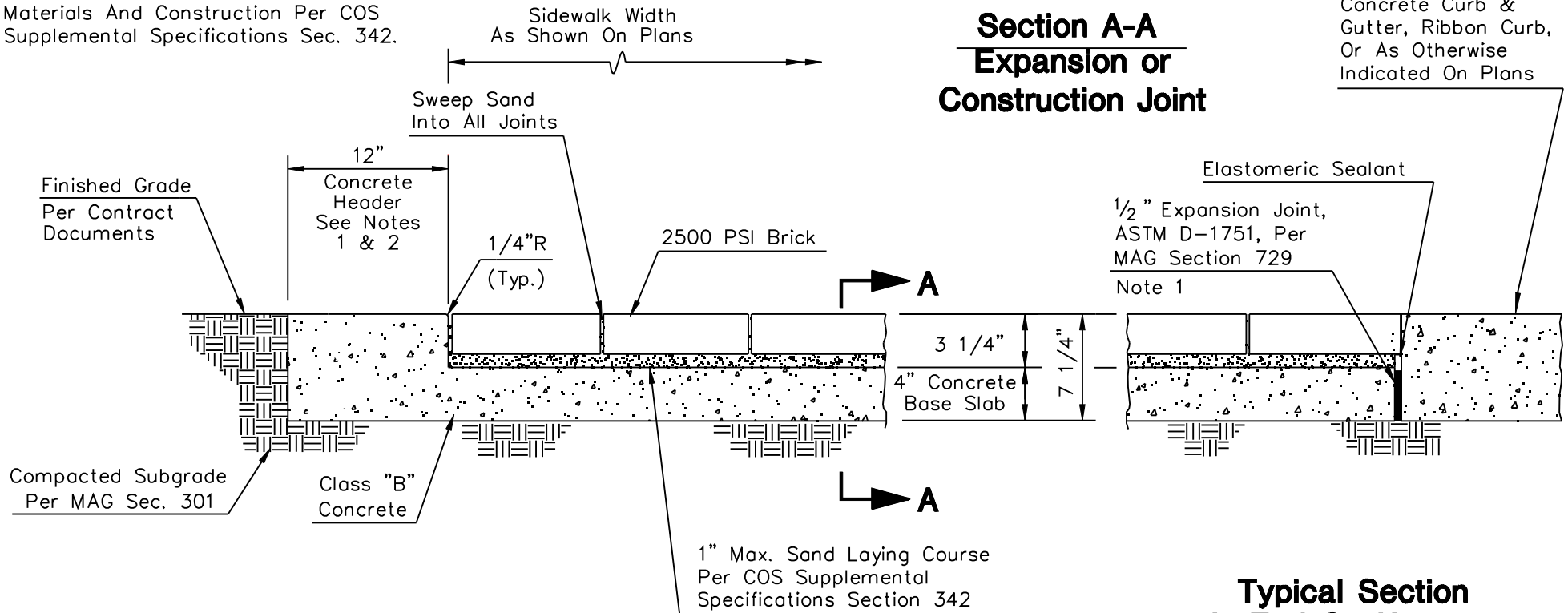
**NOTES:**

1. 1/2" Expansion Joint, ASTM D-1751  
Per MAG Sec. 729, and Elastomeric Sealant  
Per COS Sec. 342.3.4.
2. Contraction Joints Per COS Supplemental  
Specifications Sec. 342.
3. Materials And Construction Per COS  
Supplemental Specifications Sec. 342.



**Section A-A  
Expansion or  
Construction Joint**

Concrete Curb &  
Gutter, Ribbon Curb,  
Or As Otherwise  
Indicated On Plans



**Typical Half Section  
(Against Earth)**

**Typical Section  
At End Or Alternate  
Half Section  
(Against Concrete)**

DETAIL NO.

**2237**

**City of Scottsdale  
Standard Details**

APPROVED BY:

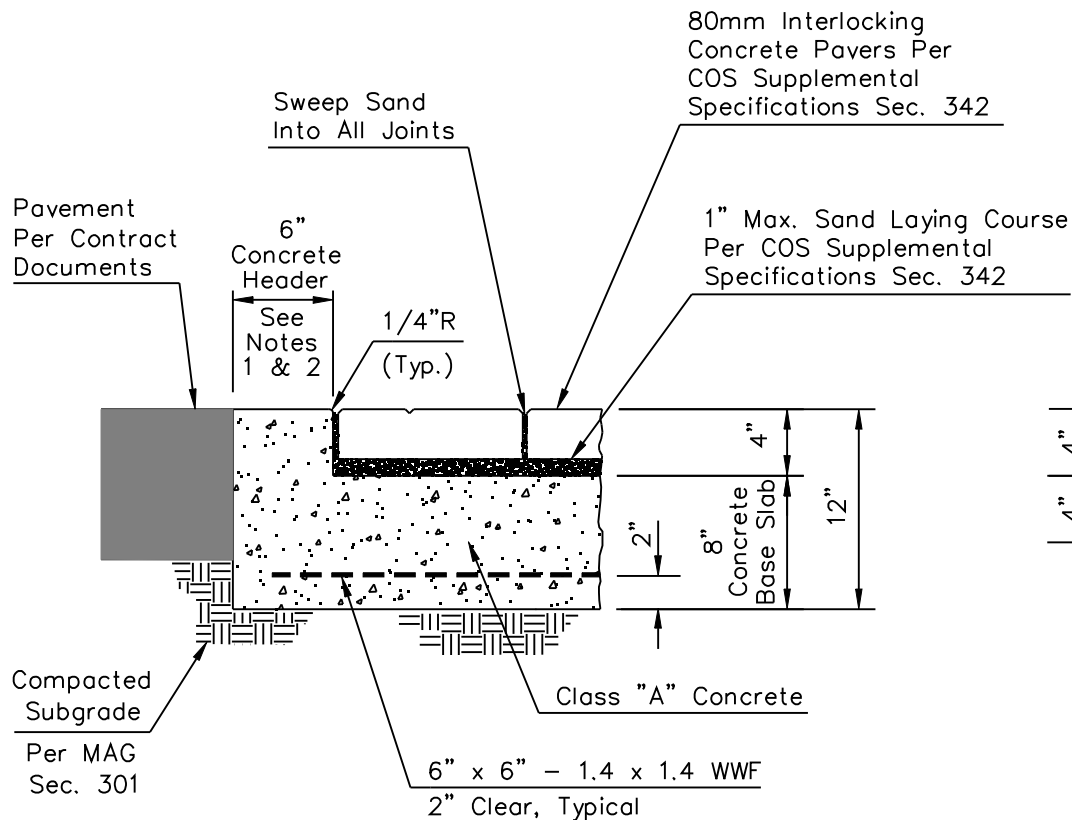
**Scottsdale Standards &  
Specifications Committee**

**SIDEWALK PAVERS (NON-TRAFFIC BEARING)**

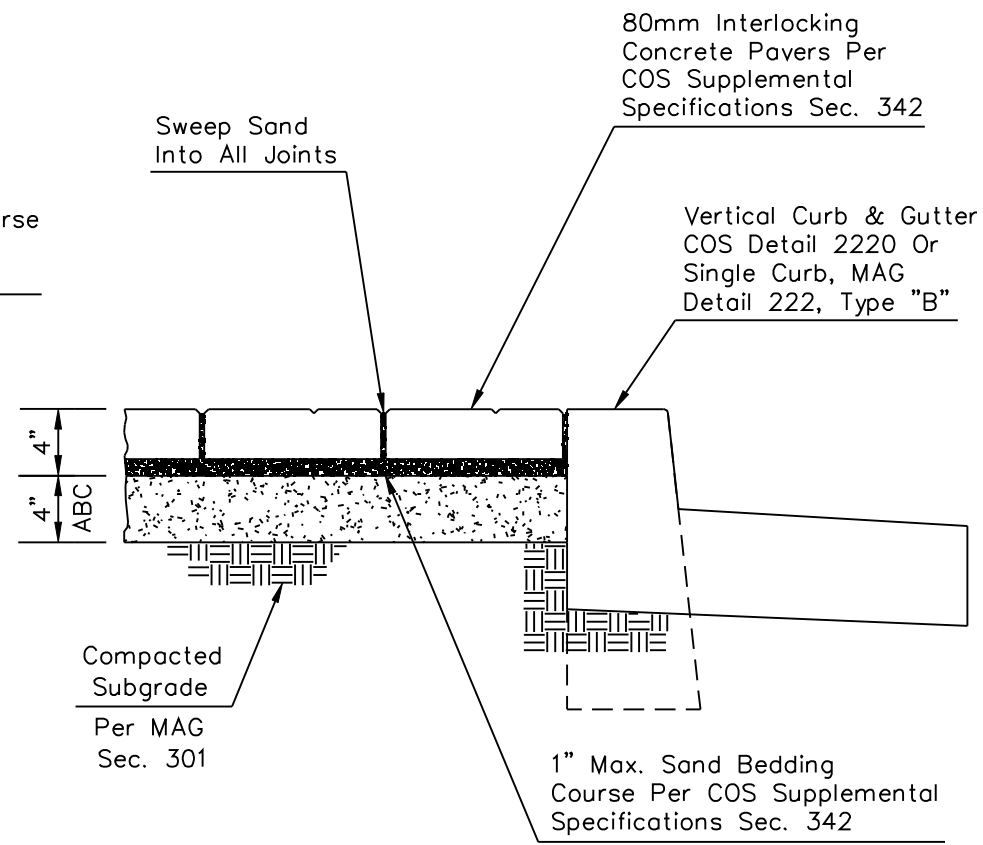
DETAIL NO.

**2237**

REVISED 4/09/08



**Type "B"**  
**Flush Median**



**Type "A"**  
**Raised Median**

**NOTES:**

1. 1/2" Expansion Joint, ASTM D-1751 Per MAG Sec. 729, Every 50'.
2. Contraction Joints Per COS Supplemental Specifications Sec. 342, Every 10'.
3. Materials And Construction Per COS Supplemental Specifications Sec. 342.

DETAIL NO.  
**2239**

**City of Scottsdale**  
**Standard Details**

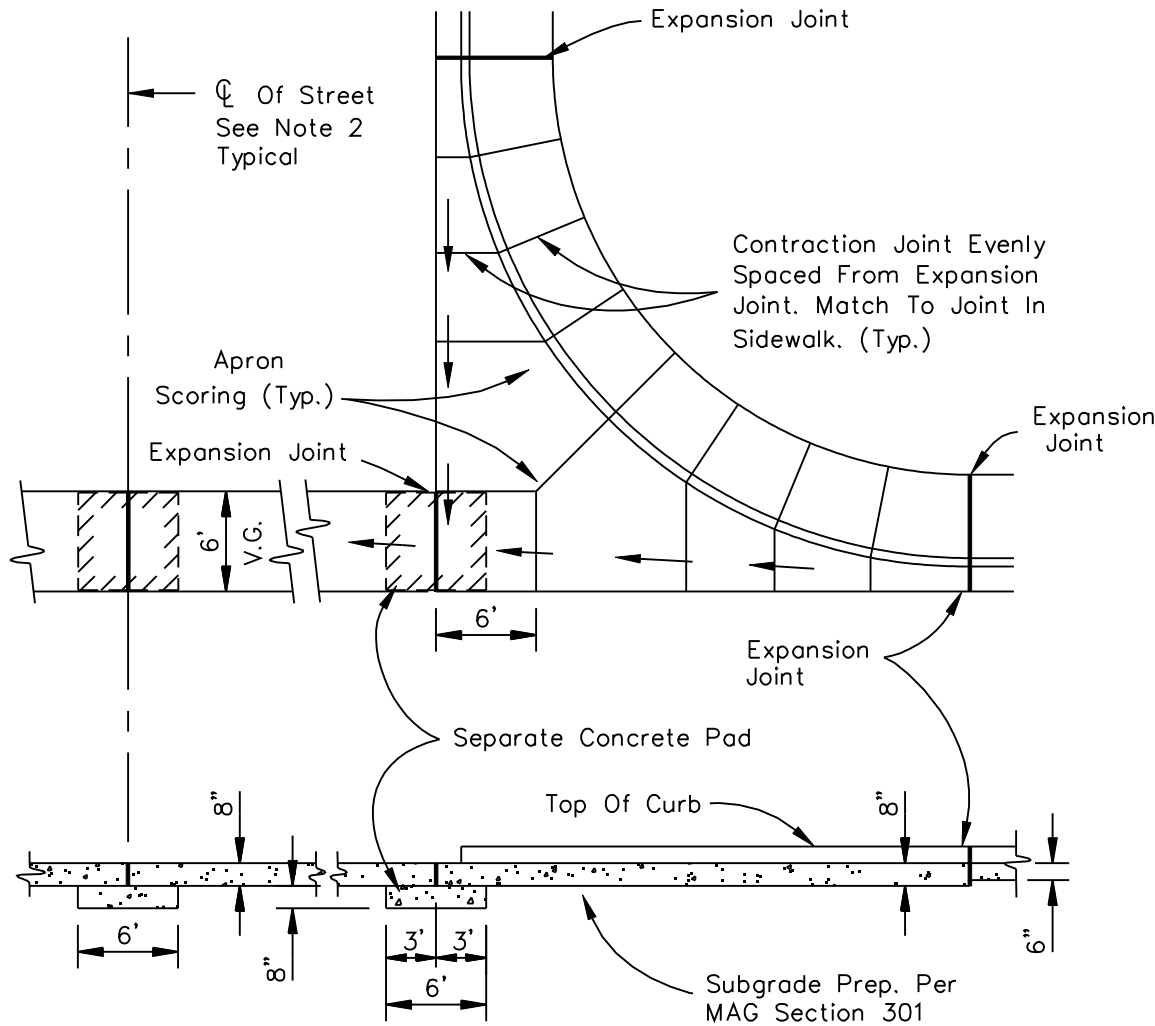
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**MEDIAN CONCRETE PAVERS**

DETAIL NO.  
**2239**



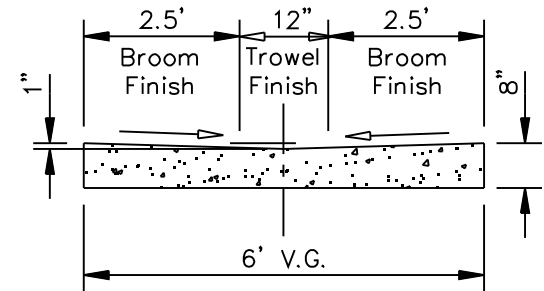
REVISED 5/10/05



SECTION THRU APRON FLOW-LINE

NOTES

1. All Concrete To Be Class "A", MAG Section 725.
2. Use A Construction Joint Or Contraction Joint At The Cl Of Street. A Separate Concrete Pad Is Required With A Construction Joint.
3. 1/2" Expansion Joint, ASTM D-1751 Per MAG Section 729.
4. Return Curb and Sidewalk to be Monolithically Poured.



SECTION THRU VALLEY GUTTER

DETAIL NO.  
2240

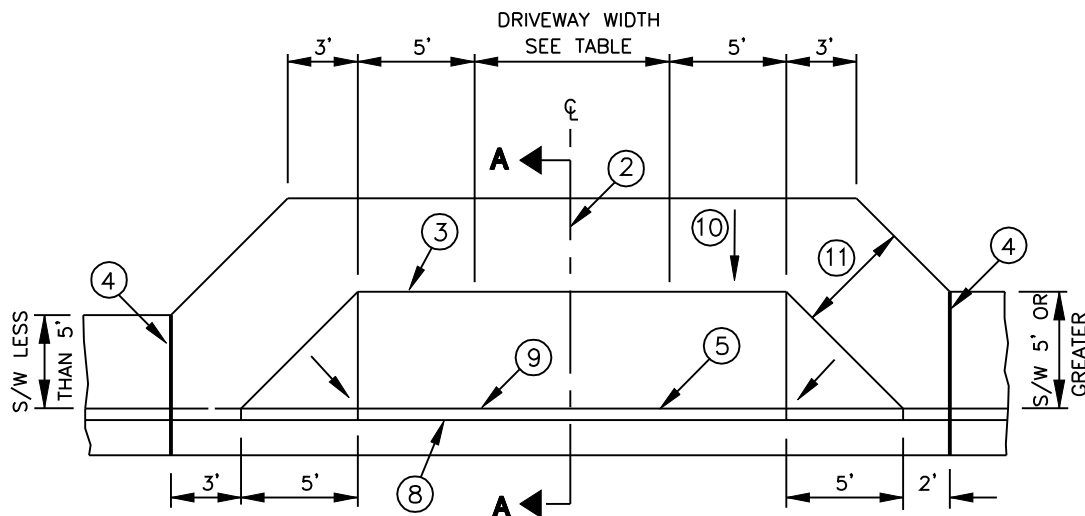
City of Scottsdale  
Standard Details

APPROVED BY:  
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Specifications Committee

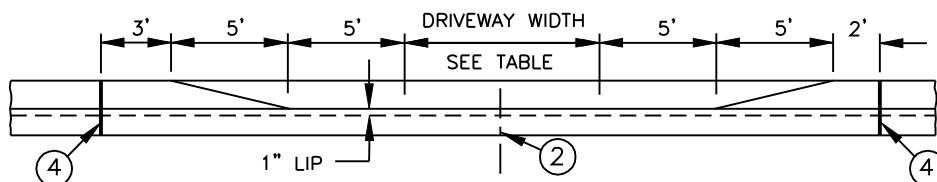
6' VALLEY GUTTER & APRON

DETAIL NO.  
2240

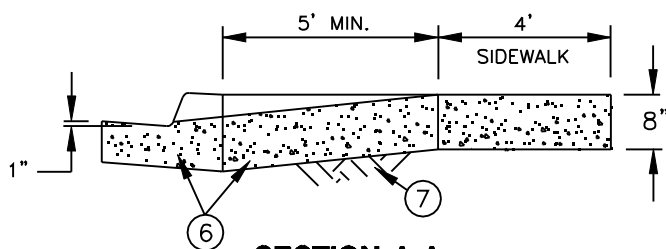
REVISED 5/10/05



**PLAN**



**ELEVATION**



**SECTION A-A**

**NOTES**

- 1 DEPRESSED CURB SHALL BE PAID FOR AT THE UNIT PRICE BID FOR THE TYPE OF CURB USED AT THAT LOCATION.
- 2 CONTRACTION JOINT ON DRIVEWAY CENTERLINE.
- 3 BACK OF DRIVEWAY ENTRANCE – CONSTRUCTION JOINT OR SCORE MARK.
- 4 MASTIC EXPANSION JOINT THROUGH CURB AND GUTTER. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER A.S.T.M. D-1751.
- 5 BACK OF CURB – CONSTRUCTION JOINT OR SCORE MARK.
- 6 CLASS 'B' CONCRETE, MAG SECTION 725.
- 7 SUBGRADE PREPARATION, MAG SECTION 301.
- 8 FLOW LINE OF GUTTER.
- 9 DEPRESSED CURB.
- 10 2% MAXIMUM CROSS SLOPE. 1.5% MINIMUM CROSS SLOPE
- 11 CONCRETE SIDEWALK PER MAG DETAIL 230, MODIFIED. THICKNESS = 8"

COMMERCIAL & INDUSTRIAL			
DRIVEWAY WIDTH	MIN.	MAX.	CLASS
COMMERCIAL ZONING	+ 16'	40'	B
INDUSTRIAL ZONING	+ 16'	40'	B
+ 24' MIN. FOR TWO WAY TRAFFIC			
RESIDENTIAL			
DRIVEWAY WIDTH	MIN.	MAX.	CLASS
MAJOR STREET	16'	30'	B
COLLECTOR STREET	*12'	30'	B
LOCAL STREET	12'	30'	B
* 16' DESIRABLE			

DETAIL NO.  
**2250**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

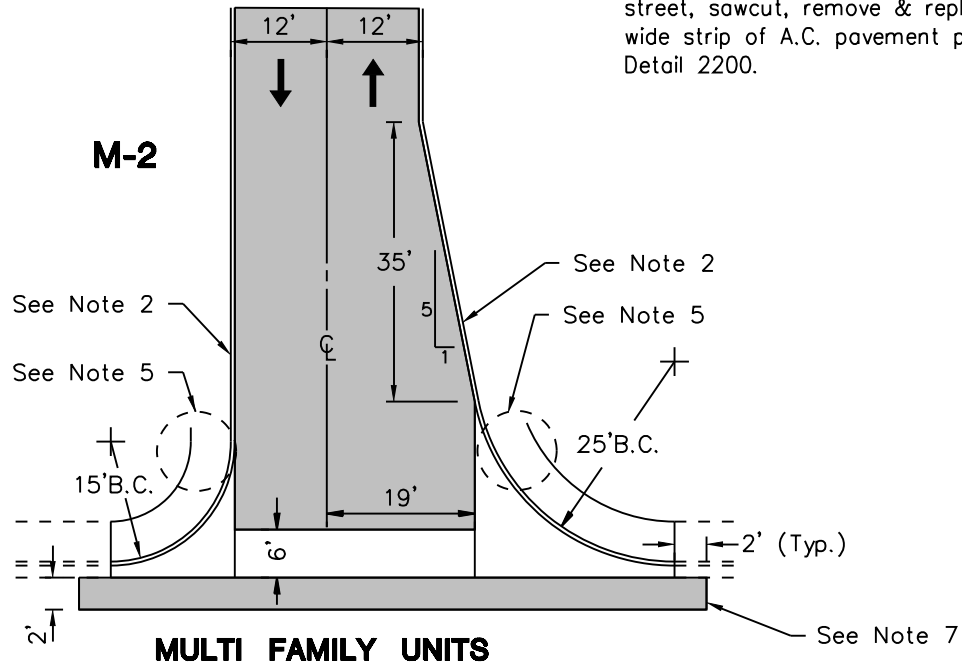
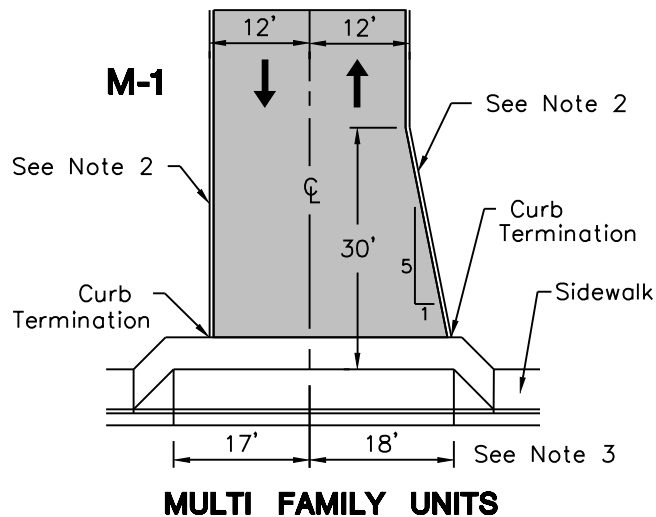
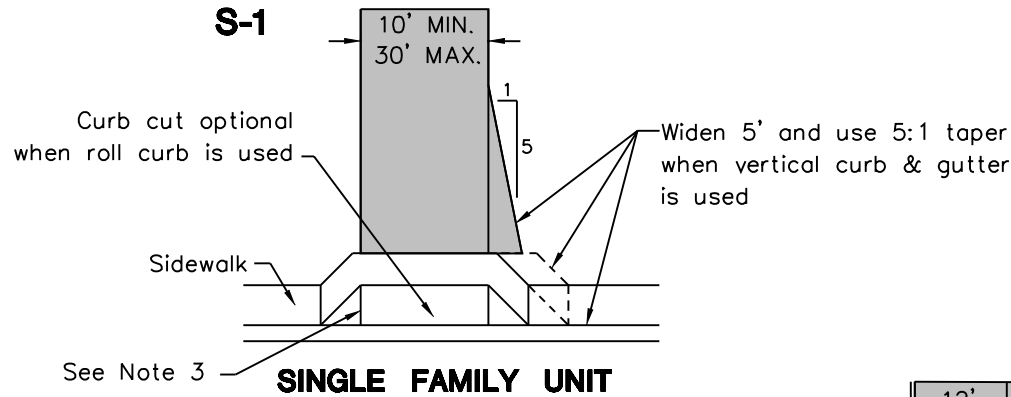
**DRIVEWAY ENTRANCES**

DETAIL NO.  
**2250**

REVISED 3/31/10

### CONSTRUCTION NOTES

1. Sidewalk shall conform to MAG Std. Detail 230 and C.O.S. Sect. 340.
2. Curb as called for on plans.
3. Driveway entrances shall conform to COS Std. Detail 2250. Driveways shall be 3" of R-3/4" asphalt on 6" A.B.C. unless otherwise noted. See plans for driveway limits.
4. Valley gutter shall conform to COS Standard Detail 2240.
5. Sidewalk width, sidewalk ramp configuration and detectable warning surface as called for on plans.
6. Curb termination similar to MAG Std. Det 222.
7. When installing new driveways along an existing street, sawcut, remove & replace a minimum 2' wide strip of A.C. pavement per COS Standard Detail 2200.



DETAIL NO.  
**2255**

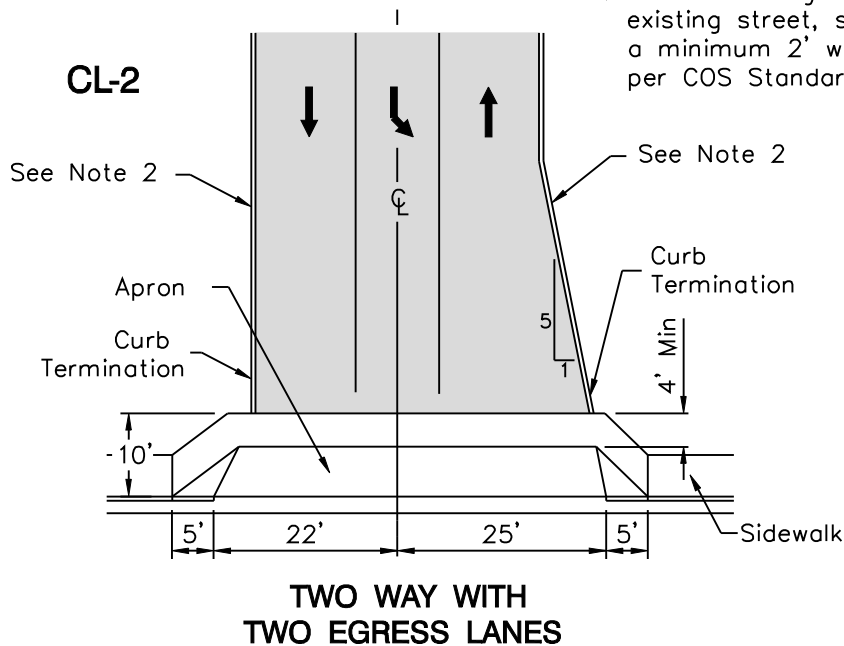
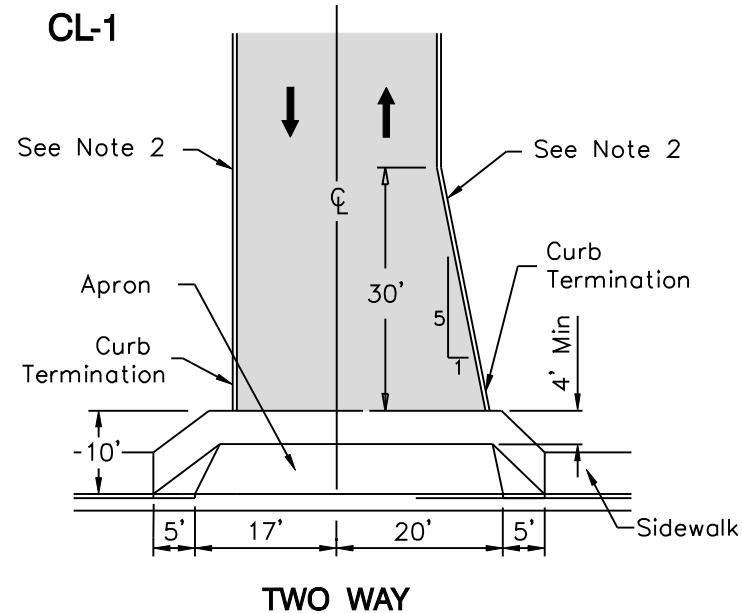
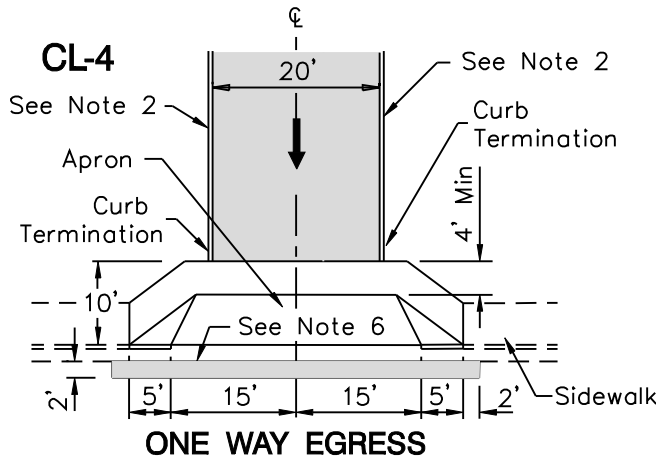
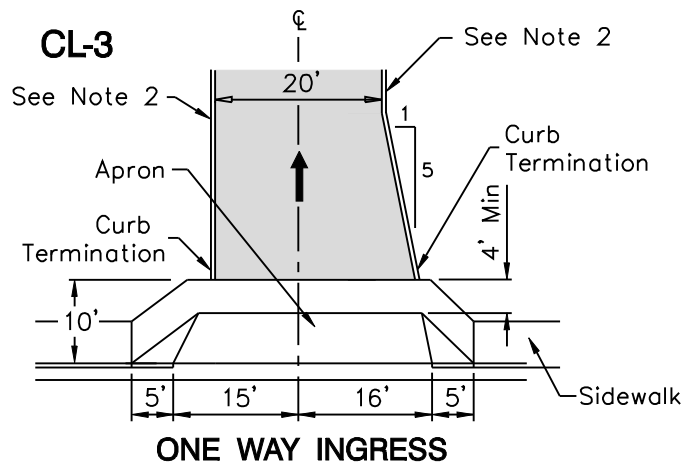
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

## RESIDENTIAL DRIVEWAYS

DETAIL NO.  
**2255**

REVISED 5/17/06



**CONSTRUCTION NOTES**

1. Sidewalk shall conform to MAG Standard Detail 230 and C.O.S. Sec. 340.
2. Curb as called for on plans.
3. Curb & Gutter shall conform to MAG Standard Detail 220. Single Curb shall conform to MAG Standard Detail 222.
4. Driveway Entrances shall conform to COS Standard Detail 2250 except for modifications as noted. Driveways shall be 2-1/2" A.C. A-19 on 6" A.B.C. unless otherwise noted. See plans for driveway limits.
5. Curb termination similar to MAG Std. Det. 222.
6. When installing new driveways along an existing street, sawcut, remove & replace a minimum 2' wide strip of A.C. pavement per COS Standard Detail 2200.

DETAIL NO.  
**2256**

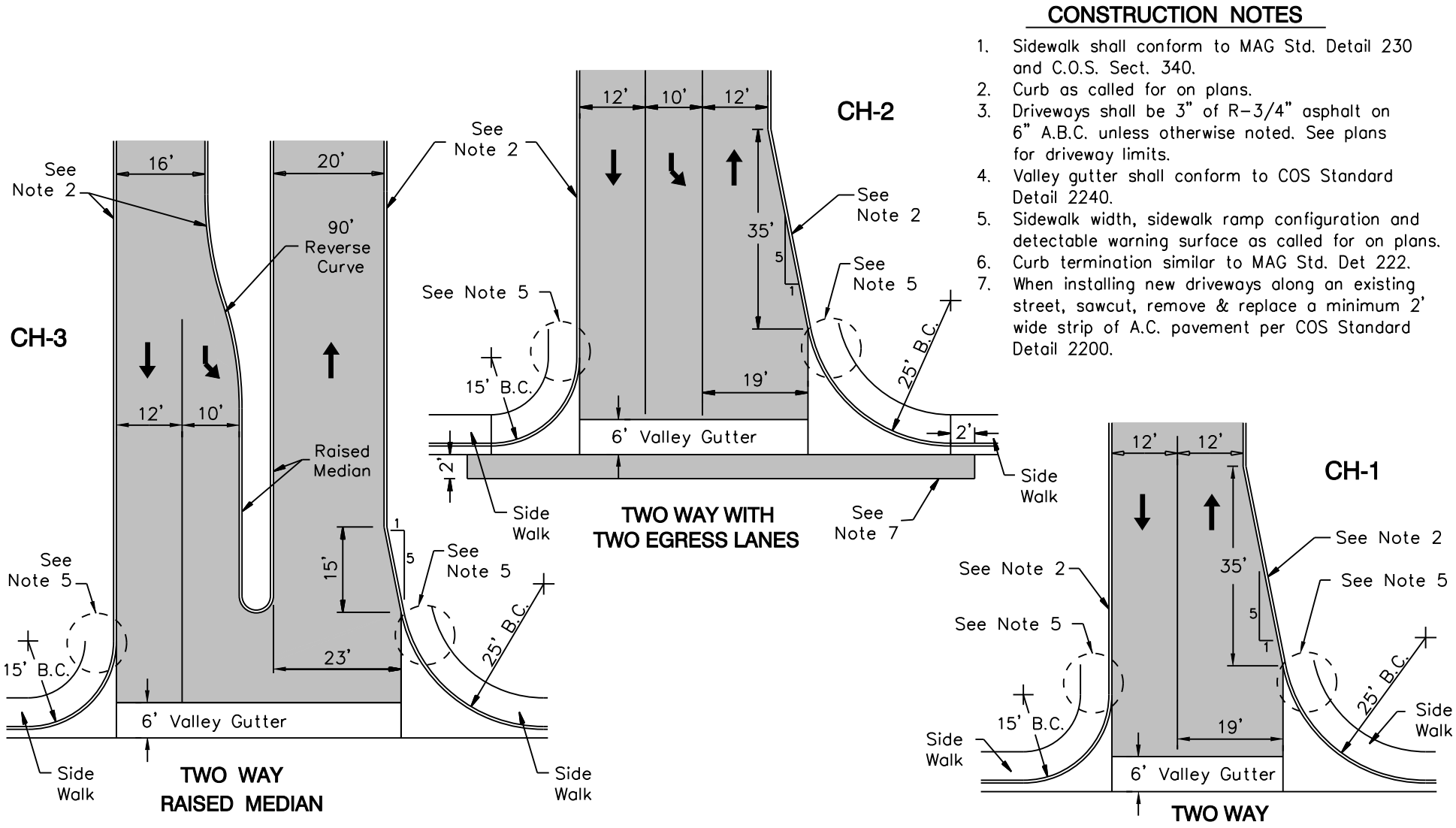
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**COMMERCIAL/INDUSTRIAL DRIVEWAYS-TYPE CL**

DETAIL NO.  
**2256**

REVISED 3/31/10



**CONSTRUCTION NOTES**

1. Sidewalk shall conform to MAG Std. Detail 230 and C.O.S. Sect. 340.
2. Curb as called for on plans.
3. Driveways shall be 3" of R-3/4" asphalt on 6" A.B.C. unless otherwise noted. See plans for driveway limits.
4. Valley gutter shall conform to COS Standard Detail 2240.
5. Sidewalk width, sidewalk ramp configuration and detectable warning surface as called for on plans.
6. Curb termination similar to MAG Std. Det 222.
7. When installing new driveways along an existing street, sawcut, remove & replace a minimum 2' wide strip of A.C. pavement per COS Standard Detail 2200.

DETAIL NO.  
**2257**

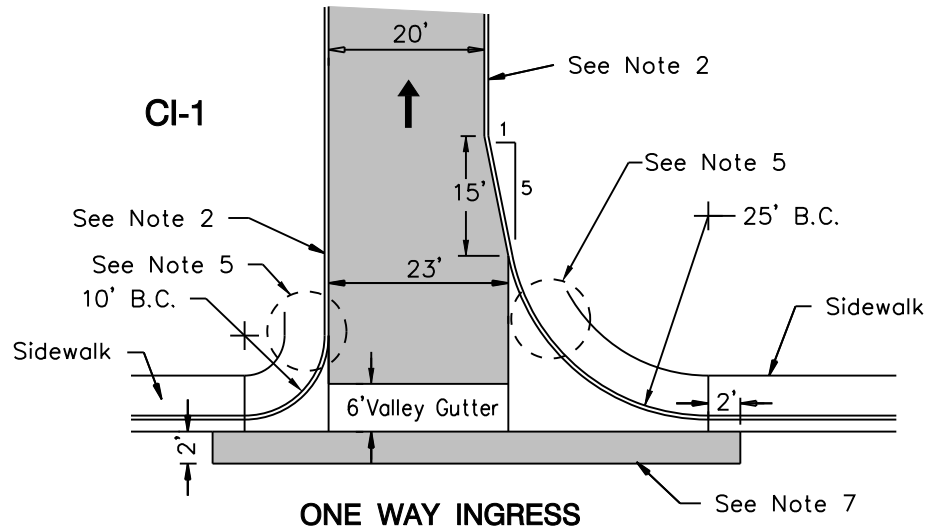
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**COMMERCIAL/INDUSTRIAL DRIVEWAYS-TYPE CH**

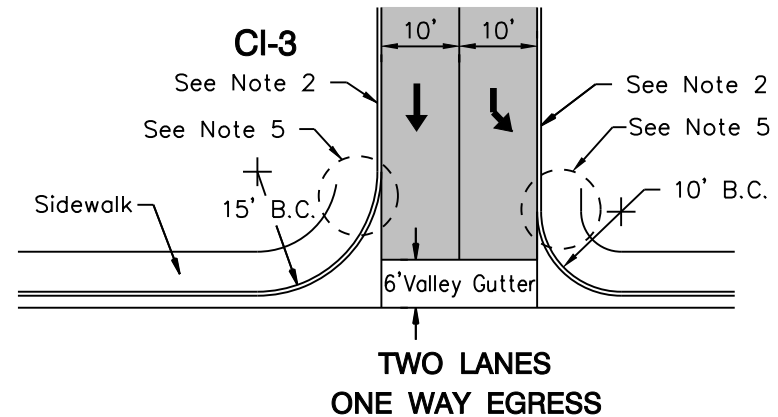
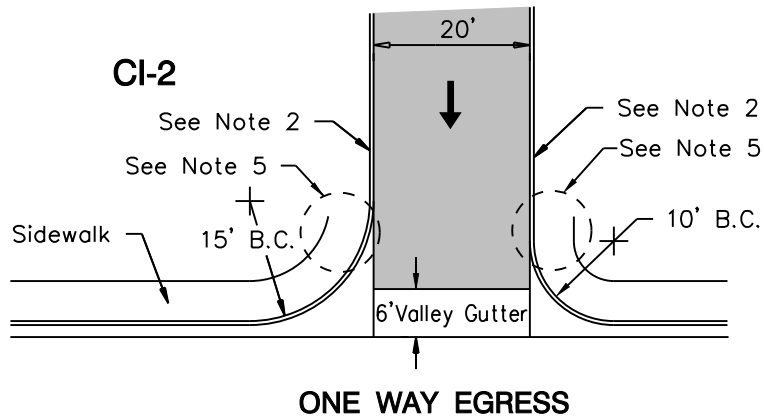
DETAIL NO.  
**2257**

REVISED 3/31/10



**CONSTRUCTION NOTES**

1. Sidewalk shall conform to MAG Std. Detail 230 and C.O.S. Sect. 340.
2. Curb as called for on plans.
3. Driveways shall be 3" of R-3/4" asphalt on 6" A.B.C. unless otherwise noted. See plans for driveway limits.
4. Valley gutter shall conform to COS Standard Detail 2240.
5. Sidewalk width, sidewalk ramp configuration and detectable warning surface as called for on plans.
6. Curb termination similar to MAG Std. Det 222.
7. When installing new driveways along an existing street, sawcut, remove & replace a minimum 2' wide strip of A.C. pavement per COS Standard Detail 2200.



DETAIL NO.  
**2258**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**COMMERCIAL/INDUSTRIAL DRIVEWAYS-TYPE CI**

DETAIL NO.  
**2258**

BENCH CONFIRM MFR & MODEL NO. W/ C.O.S. TRANSPORTATION DIVISION EXPANSION BOLT TO CONCRETE SLAB PER MANUFACTURERS SPECIFICATION. LOCATION SHALL CONFORM TO ADA REQUIREMENTS. APPROVAL BY C.O.S. REQUIRED.

1/2"x4" EXPANSION FELT BOTH SIDES OF BOTTOM PANELS (TYP OF 4).

4" CONC SLAB ON 4" A.B.C.

EXPANSION JOINT.

T.S. FRAME.

TURNDOWN - TYPICAL PAVEMENT EDGE TO LANDSCAPE AREA.

DOUBLE BICYCLE RACK PER C.O.S. DETAIL 2285.

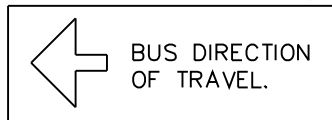
(2) 2" DIA. PVC SCHED. 40 CONDUCT Jto -BOXES - TO FUTURE ELEC. CONNECTIONS - SEE "RIGHT ELEVATION". STUD UP INTO BASE OF PANEL.

TRASH RECEPT W/ LID - CONFIRM LOCATION, MFR & MODEL NO. W/ C.O.S. TRANSPORTATION DIVISION. (MIN. 32 GAL CAPACITY). EXPANSION BOLT TO CONC. SLAB PER MANUFACTURERS SPECIFICATION.

EXPANSION JOINT.

EDGE OF EXISTING SIDEWALK.

4" CONC SLAB ON 4" A.B.C.



NOTES:

1. SEE SPECIAL REQUIREMENTS (SEE SHEET S1)
2. DEVELOPER OR DEVELOPER'S CONTRACTOR TO DETERMINE SOURCE OF FEED FOR ELECTRICAL SUPPLY, USE 2" SCHEDULE 40 PVC CONDUIT TO EXTEND FROM THE UPRIGHT TO THE SERVICE SOURCE WITH MIN. 3' COVER. IF NO ELECTRICAL SUPPLY EXISTS, STUB CONDUIT 3' BEYOND SHELTER PAD AND CAP BOTH ENDS. CONTACT CITY STAFF TO COORDINATE DIRECTION OF STUB OUT.

**BUS SHELTER FOUNDATION PLAN**

N.T.S.

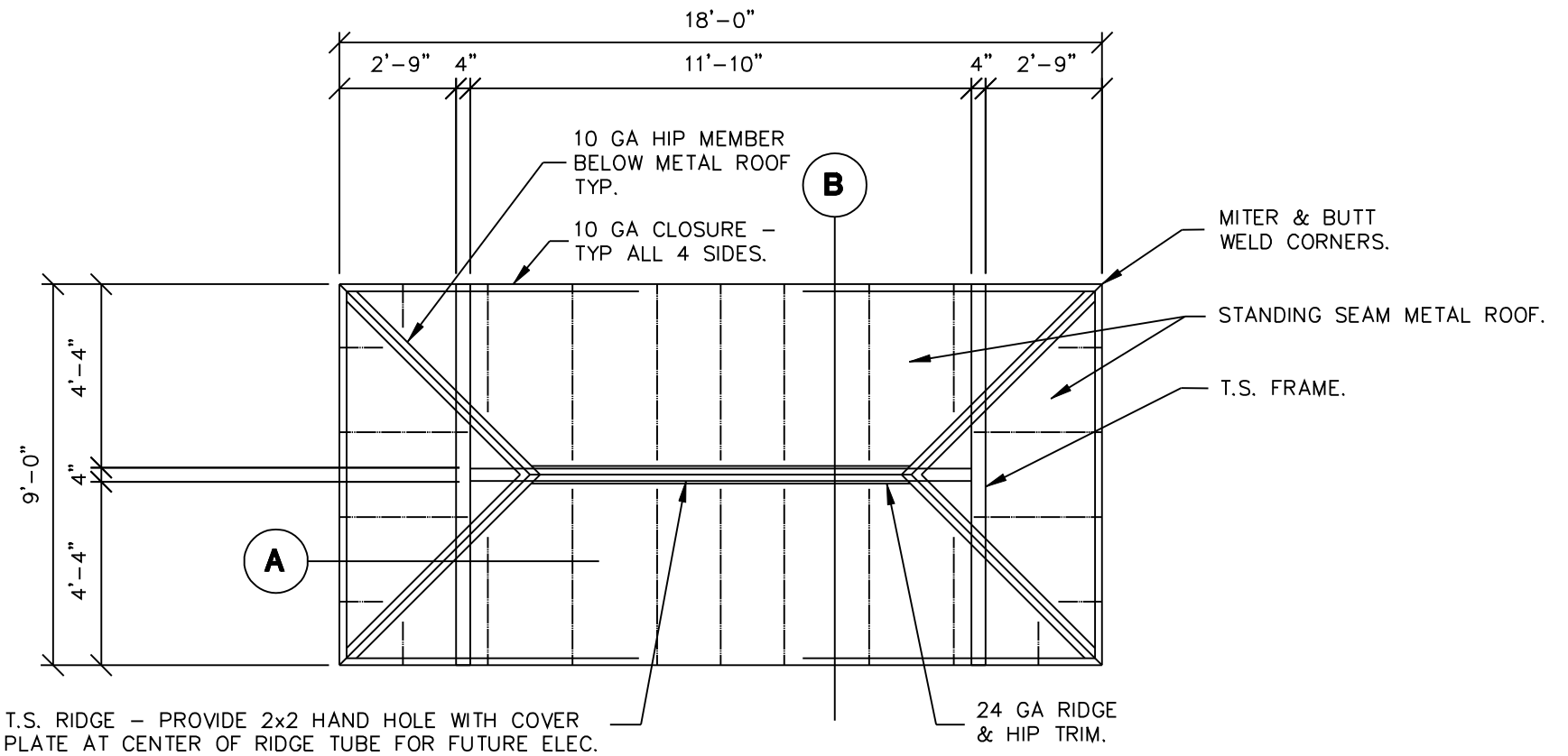
DETAIL NO.  
**2265-1**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**BUS SHELTER**

DETAIL NO.  
**2265-1**



## BUS SHELTER FRAMING PLAN

NTS.

DETAIL NO.  
**2265-2**

**City of Scottsdale**  
Standard Details

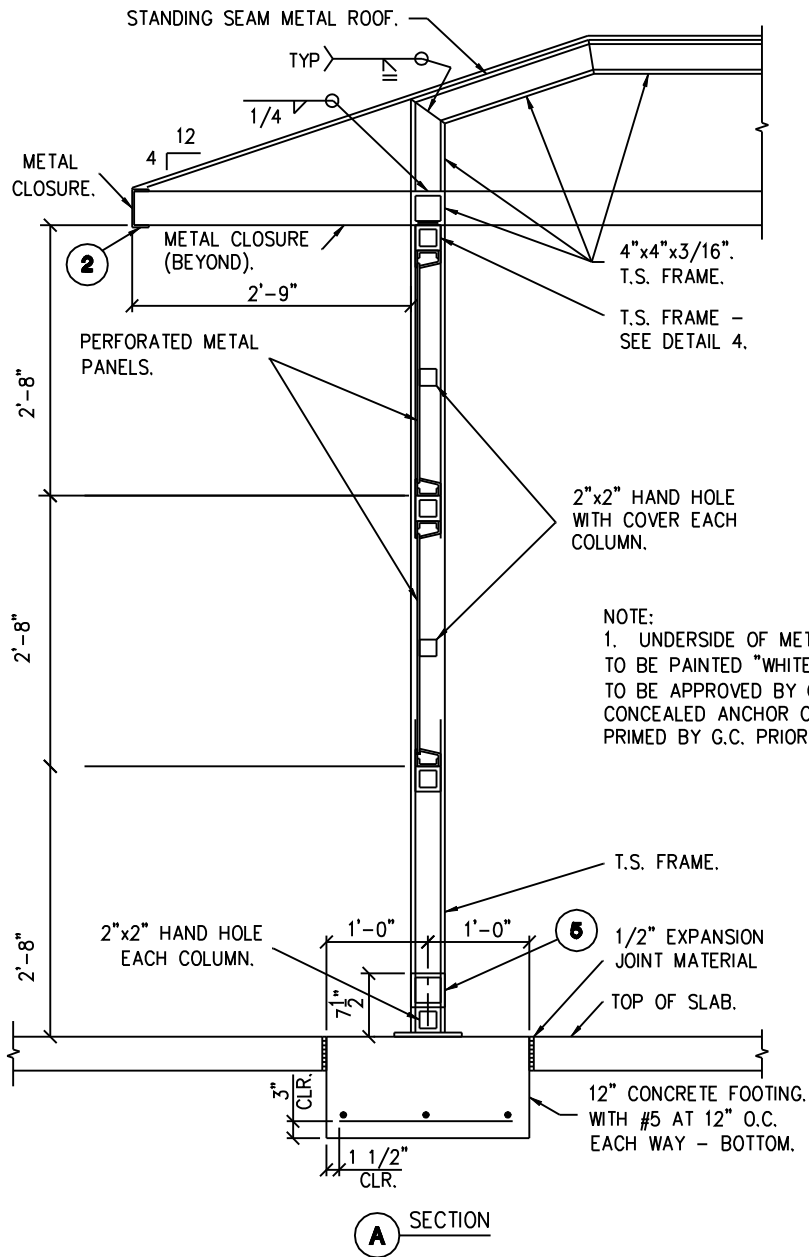
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**Scottsdale Standards & Specifications Committee**

**BUS SHELTER**

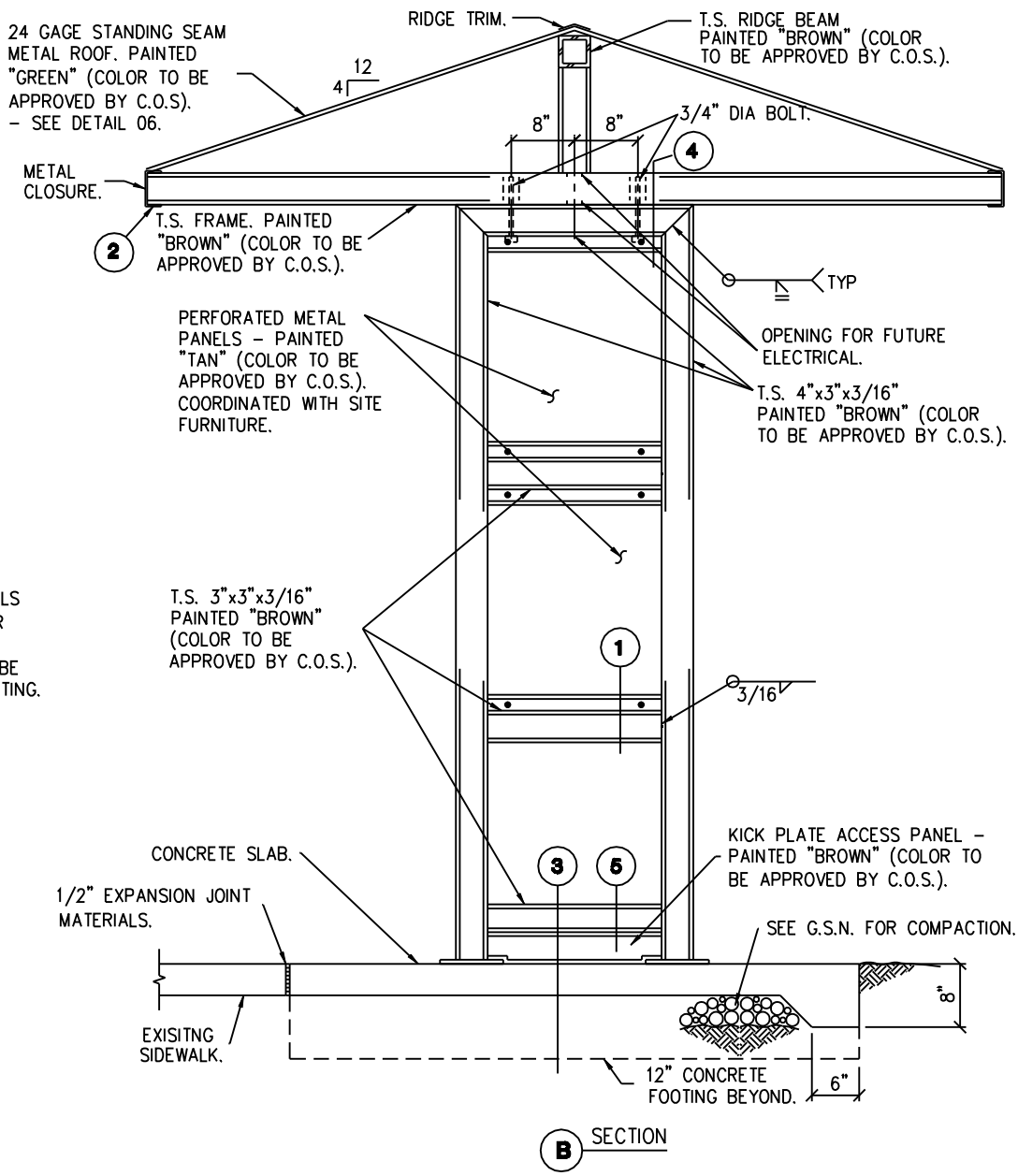
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REVISED 5/17/06

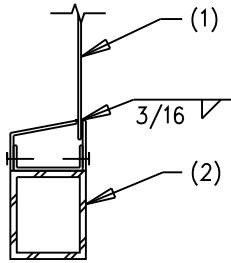


**A** SECTION



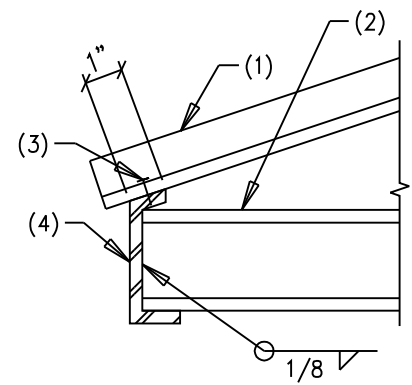
**B** SECTION

NOTE:  
 1. UNDERSIDE OF METAL PANELS TO BE PAINTED "WHITE" (COLOR TO BE APPROVED BY C.O.S.) CONCEALED ANCHOR CUPS TO BE PRIMED BY G.C. PRIOR TO PAINTING.



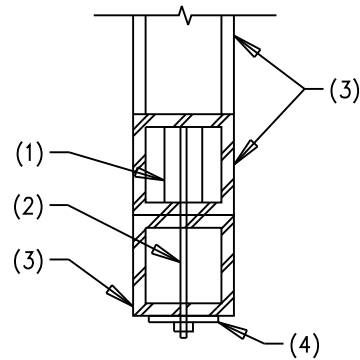
- NOTES:**
1. PREFORATED PANEL. COORDINATE WITH SITE FURNITURE.
  2. STEEL TUBE.

**01** PANEL TO FRAME CONNECTION  
03-520 NO SCALE



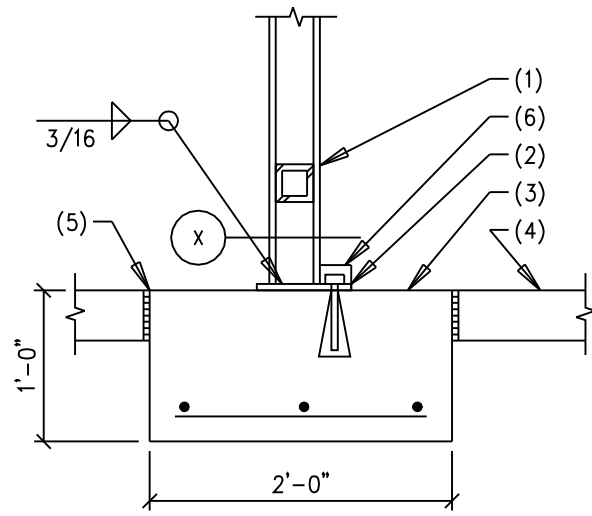
- NOTES:**
1. STANDING SEAM METAL DECK.
  2. STEEL TUBE.
  3. BLACK OXIDE SCREW FASTENER AT 6" O.C. (MIN 4" AT EACH END).
  4. CLOSURE PANEL.

**02** TYPICAL CLOSURE  
03-520 NO SCALE



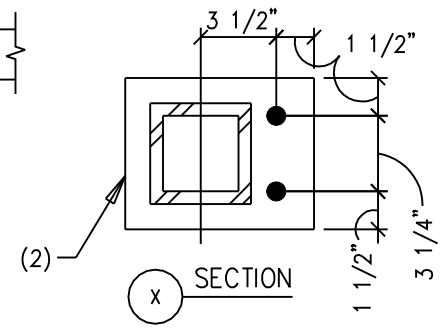
- NOTES:**
1. 3/4" THREAD INSERT.
  2. 3/4" DIA. BOLT.
  3. STEEL TUBE.
  4. 3"x2"x1/4" PLATE WASHER.

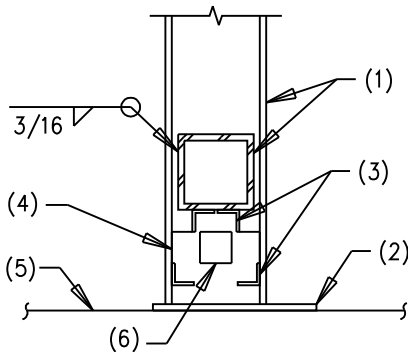
**04** CONNECTION AT ROOF STRUCTURE  
03-520 NO SCALE



- NOTES:**
1. STEEL TUBE.
  2. BASE PLATE 1/2"x6 1/4"x7 1/2" WITH 2 - 3/4" DIA. x 7" EXPANSION BOLT.
  3. CONCRETE FOOTING.
  4. CONCRETE SLAB.
  5. EXPANSION JOINT MATERIAL.
  6. BOLT COVER SEE DETAIL 08.

**03** FOOTING AT T.S. FRAME  
03-520 NO SCALE



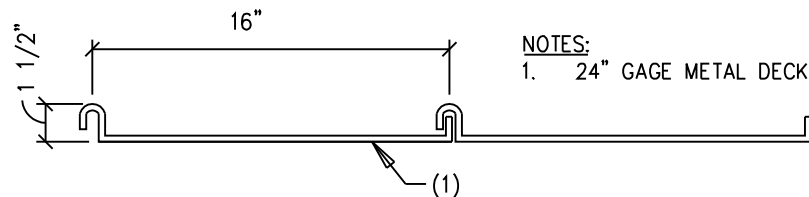


**NOTES:**

1. STEEL TUBE.
2. BASE PLATE - SEE DETAIL 03.
3. 1"x1" ANGLE.
4. 16 GAGE PANEL.
5. TOP OF SLAB.
6. 2"x2" HAND HOLE AT TUBE FRAME BEYOND - SEE SECTION A FOR LOCATIONS.

**05** KICK PLATE ACCESS PANEL

03-520 NO SCALE

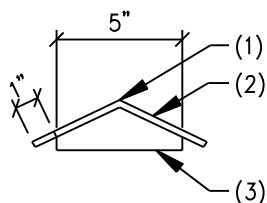


**NOTES:**

1. 24" GAGE METAL DECK.

**06** STANDING SEAM METAL DECK

03-520 NO SCALE

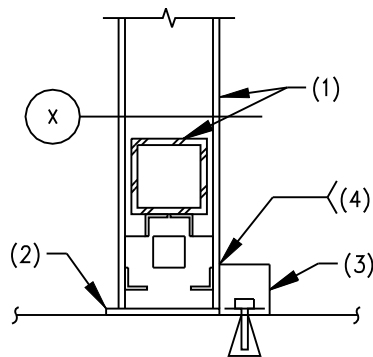


**NOTES:**

1.  $S_y = .058$   
 $I_x = .0219$   
 $F_y = 50$  KSI.
2. 10 GAGE HIP MEMBER BELOW METAL ROOF - TYP.
3. 22 GAGE METAL SNAP COVER PLATE - CREASE MIDDLE; TRIM EDGES TO FIT END CONDITIONS.

**07** METAL COVER PLATE

03-520 NO SCALE



**NOTES:**

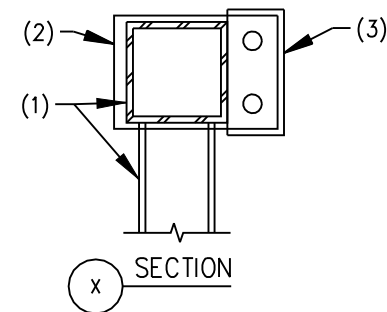
1. STEEL TUBE.
2. BASE PLATE.
3. 16 GAGE METAL COVER.
4. TACK WELD.

**NOTE:**

FOR INFORMATION SHOWN BUT NOT NOTED SEE DET 05.

**08** BOLT COVER

03-520 NO SCALE



SECTION

**GENERAL STRUCTURAL NOTES**

BUILDING CODE:

2003 EDITION OF THE UNIFORM BUILDING CODE, WITH CITY OF SCOTTSDALE AMENDMENTS.

LOADS:

LATERAL:

WIND LOAD = 90 MPH WIND SPEED, EXPOSURE C. SEISMIC ZONE 2B (Z = 0.075)

FOUNDATIONS:

COMPACT SUB GRADE AND BASE MATERIAL TO 95% OF THE ASTM D698 MAXIMUM DRY DENSITY.

CONCRETE:

MINIMUM 28 DAY STRENGTH 3,000 PSI

ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE ACI. FOR CONCRETE WITHOUT PLASTICIZER, MAXIMUM SLUMP 4 1/2" AT POINT OF PLACEMENT U.N.O. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL.

REINFORCING:

ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy = 60 KSI/GRADE 60) DEFORMED BARS FOR ALL BARS.

ALL REINFORCING SHALL BE CHAIRED TO ENSURE PROPER CLEARANCES. SUPPORT OF FOUNDATION REINFORCING MUST PROVIDE ISOLATION FROM MOISTURE CORROSION BY USE OF A PLASTIC OR CONCRETE CHAIR. DUCT-TAPE COVERED REINFORCING IS NOT AN ACCEPTABLE CHAIR.

ALL DIMENSIONS REFERENCED IN DRAWINGS AS "CLEAR" SHALL BE FROM FACE OF STRUCTURE TO EDGE OF REINFORCING, AND SHALL NOT BE LESS THAN STATED, NOR GREATER THAN "CLEAR" DIMENSION PLUS 3/8". ALL OTHERS SHALL BE PLUS OR MINUS 1/4" TYPICAL UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL:

ALL CONSTRUCTION PER LATEST AISC HANDBOOK. ALL TUBE STEEL SHALL BE ASTM A500(Fy=46 KSI). ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE SHALL BE ASTM A36 (Fy = 36 KSI).

UNLESS NOTED OTHERWISE, ALL WELDS PER LATEST EDITION OF THE AWS STANDARDS. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED

STRUCTURAL STEEL: CONT'D

TESTING AGENCY. ALL WELDING DONE BY E70 SERIES LOW HYDROGEN RODS UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW.

STEEL DECKING:

ALL STANDING SEAM DECK SHALL CARRY A U.L. 90 UPLIFT RATING. INSTALLATION SHALL CONFORM TO STANDARDS SET FORTH IN THE ARCHITECTURAL SHEET METAL MANUAL PUBLISHED BY SMACNA.

WELDERS EXPERIENCED IN LIGHT GAGE STEEL DECK WORK SHALL PERFORM ALL WELDING. DECK WELDING MAY BE ACHIEVED WITH E60 SERIES NON LOW HYDROGEN RODS OR E70 SERIES LOW HYDROGEN RODS.

SCREWS WHERE INDICATED SHALL BE #12-24 TRAXX PER ICBO 3056 OR APPROVED EQUIVALENT.

SHOP DRAWINGS:

SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL STRUCTURAL ITEMS.

THE CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL. ITEMS NOT IN ACCORDANCE WITH CONTRACT DOCUMENTS SHALL BE FLAGGED UPON CONTRACTOR'S REVIEW.

MANUFACTURER OR FABRICATOR SHALL CLOUD ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS FROM CONTRACT DOCUMENTS. ANY OF THE FOREMENTIONED WHICH ARE NOT CLOUDED OR FLAGGED BY SUBMITTING PARTIES, SHALL NOT BE CONSIDERED APPROVED AFTER ENGINEER'S REVIEW, UNLESS NOTED ACCORDINGLY.

THE ENGINEER HAS THE RIGHT TO APPROVE OR DISAPPROVE ANY CHANGES TO CONTRACT DOCUMENTS AT ANYTIME BEFORE OR AFTER SHOP DRAWING REVIEW.

THE SHOP DRAWINGS DO NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED OR SHOWN INCORRECTLY AND ARE NOT FLAGGED BY THE STRUCTURAL ENGINEER OR ARCHITECT SHALL NOT BE CONSIDERED CHANGES TO CONTRACT DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ITEMS ARE CONSTRUCTED TO CONTRACT DOCUMENTS. THE ADEQUACY OF ENGINEERING DESIGNS AND LAYOUT PERFORMED BY OTHERS RESTS WITH THE DESIGNING OR SUBMITTING AUTHORITY.

SHOP DRAWINGS: CONT'D

REVIEWING IS INTENDED ONLY AS AN AID TO THE CONTRACTOR IN OBTAINING CORRECT SHOP DRAWINGS. RESPONSIBILITY FOR CORRECTNESS SHALL REST WITH THE CONTRACTOR.

SPECIAL REQUIREMENTS

1. AN ARTIST-DESIGNED SHELTER MAY BE SUBSTITUTED FOR STANDARD SHELTER BY APPROVAL OF THE CITY OF SCOTTSDALE TRANSIT SECTION. HOWEVER, IT MUST INCORPORATE ALL THE FUNCTIONAL ELEMENTS INCLUDED IN THE STANDARD SHELTER. SEE TRANSIT & DESIGN REVIEW STAFF FOR DETAILS.

2. STANDARD BUS STOP SIGN LOCATION, NEW OR RELOCATED SIGNS SHALL BE APPROVED BY THE TRAFFIC/TRANSIT STAFF.

3. ADDITIONAL REQUIREMENTS MAY INCLUDE:

- A) LEANING RAIL.
- B) LED REAL TIME BUS INFORMATION SIGN.
- C) BUS ROUTE/TRAFFIC INFORMATION KIOSKS.

D) PEDESTRIAN RAILING AROUND THE BACK OF SHELTER ADJACENT TO STEEP SLOPES OR DROP-OFFS.

4. CITY OF SCOTTSDALE TRANSIT BUS SHELTERS SHALL BE PROVIDED WITH A GROUNDING SYSTEM THAT MAY CONSIST OF ONE OF THE FOLLOWING METHODS:

A) 25 FEET OF #4 STANDARD COPPER (UNINSULATED) INSTALLED IN THE BASE OF ONE OF THE UPRIGHT FOUNDATIONS. THE GROUNDING CONDUCTOR WILL EXTEND OUT OF THE POURED CONCRETE FOUNDATION WITH A LENGTH NOT TO EXCEED 3 FEET. THE GROUNDING CONDUCTOR WILL BE WRAPPED IN A CLOCKWISE ROTATION, ONE WRAP, AROUND ON THE THE UPRIGHT ANCHOR BOLTS. A FLAT FENDER WASHER WILL BE INSTALLED ON TOP OF THE CONDUCTOR WITH THE ANCHOR BOLT NUT ON TOP OF THE FLAT WASHER AND SECURED.

B) A SECOND METHOD WILL CONSIST OF A 5/8"x 8'-0" GROUND ROD DRIVEN IN THE ELECTRICAL PULLBOX ADJACENT TO THE BUS SHELTER. A GROUND ROD TERMINAL NUT (ACORN NUT) WILL BE INSTALLED ON TOP OF THE GROUND ROD SECURING A #8 AWG BARE SOLID COPPER WIRE. THE GROUND WIRE WILL BE INSTALLED FROM THE JUNCTION BOX, UNBROKEN AND UNSPLICED, TO THE BUS SHELTER UPRIGHT WHERE IT WILL BE TERMINATED. A SET-SCREW TERMINAL LUG WILL BE FASTENED TO THE STRUCTURE UPRIGHT UNDER THE BOTTOM KICKPANEL. THE AREA UNDER THE TERMINAL LUG WILL BE CLEANED OF ALL RUST, SCALE AND PAINT. THE #8 BARE BOND CONDUCTOR WILL BE TERMINATED IN THE SET-SCREW TERMINAL LUG.

BOTH GROUNDING METHODS WILL BE DONE IN ACCORDANCE WITH ARTICLE 250 OF NATIONAL ELECTRICAL CODE.

DETAIL NO.	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>BUS SHELTER</b>	DETAIL NO.
<b>2265-6</b>				<b>2265-6</b>

# ABBREVIATIONS

NOTE: ABBREVIATIONS MAY OR MAY NOT HAVE PERIODS, BUT SHALL BE READ AS SAME.

A.B. \_\_\_\_\_ ANCHOR BOLT  
 A.B.C. \_\_\_\_\_ AGGREGATE BASE COURSE  
 ACI \_\_\_\_\_ AMERICAN CONCRETE INSTITUTE  
 A/C \_\_\_\_\_ AIR CONDITIONER  
 A.F.F. \_\_\_\_\_ ABOVE FINISHED FLOOR  
 AISC \_\_\_\_\_ AMERICAN INSTITUTE OF STEEL  
 CONSTRUCTION  
 AISI \_\_\_\_\_ AMERICAN IRON AND STEEL  
 INSTITUTE  
 AITC \_\_\_\_\_ AMERICAN INSTITUTE OF TIMBER  
 CONSTRUCTION  
 ALT. \_\_\_\_\_ ALTERNATE  
 ANSI \_\_\_\_\_ AMERICAN NATIONAL STANDARDS  
 INSTITUTE  
 APA \_\_\_\_\_ AMERICAN PLYWOOD ASSOCIATION  
 ARCH'L \_\_\_\_\_ ARCHITECTURAL  
 ASTM \_\_\_\_\_ AMERICAN SOCIETY FOR TESTING  
 AND MATERIALS  
 AWS \_\_\_\_\_ AMERICAN WELDING SOCIETY  
 @ \_\_\_\_\_ AT (MEASUREMENT)  
 BM \_\_\_\_\_ BEAM  
 B.F.F. \_\_\_\_\_ BELOW FINISHED FLOOR  
 BLK \_\_\_\_\_ BLOCK  
 B.O.B. \_\_\_\_\_ BOTTOM OF BEAM  
 B.O.D. \_\_\_\_\_ BOTTOM OF DECK  
 B.O.F. \_\_\_\_\_ BOTTOM OF FOOTING  
 BRG \_\_\_\_\_ BEARING  
 C \_\_\_\_\_ CAMBER  
 C.C. \_\_\_\_\_ CENTERLINE TO CENTERLINE  
 C.G. \_\_\_\_\_ CENTER OF GRAVITY  
 C.I.P. \_\_\_\_\_ CAST IN PLACE  
 C.L. \_\_\_\_\_ CENTERLINE  
 C.L.B. \_\_\_\_\_ CENTERLINE OF BEAM  
 C.L.C. \_\_\_\_\_ CENTERLINE OF COLUMN  
 C.L.F. \_\_\_\_\_ CENTERLINE OF FOOTING  
 C.L.W. \_\_\_\_\_ CENTERLINE OF WALL  
 CLR \_\_\_\_\_ CLEAR  
 CONC \_\_\_\_\_ CONCRETE  
 CONC C.J. \_\_\_\_\_ CONCRETE CONTROL JOINT  
 CONC S.J. \_\_\_\_\_ CONCRETE SAWCUT JOINT  
 C.M.U. \_\_\_\_\_ CONCRETE MASONRY UNIT  
 CONN \_\_\_\_\_ CONNECTION  
 CONT \_\_\_\_\_ CONTINUOUS  
 C.O.S. \_\_\_\_\_ CITY OF SCOTTSDALE  
 CRSI \_\_\_\_\_ CONCRETE REINFORCING STEEL  
 INSTITUTE  
 DL \_\_\_\_\_ DEAD LOAD  
 ø OR DIA \_\_\_\_\_ DIAMETER

DN \_\_\_\_\_ DOWN  
 DWG(S) \_\_\_\_\_ DRAWING(S)  
 E.C. \_\_\_\_\_ END TO CENTERLINE  
 E.E. \_\_\_\_\_ END TO END  
 E.O.S. \_\_\_\_\_ EDGE OF SLAB  
 EQ \_\_\_\_\_ EQUAL  
 EQUIP \_\_\_\_\_ EQUIPMENT  
 EXP. BOLT (E.B.) \_\_\_\_\_ EXPANSION BOLT  
 EXP. JT (E.J.) \_\_\_\_\_ EXPANSION JOINT  
 E.W. \_\_\_\_\_ EACH WAY  
 F.F. \_\_\_\_\_ FINISHED FLOOR  
 F.O.M. \_\_\_\_\_ FACE OF MEMBER  
 F.O.S. \_\_\_\_\_ FACE OF STEEL  
 F.O.W. \_\_\_\_\_ FACE OF WALL  
 GA \_\_\_\_\_ GAGE (UNIT OF MEASUREMENT)  
 GALV \_\_\_\_\_ GALVANIZED  
 G.S.N. \_\_\_\_\_ GENERAL STRUCTURAL NOTES  
 GLB (GLULAM) \_\_\_\_\_ GLUED-LAMINATED BEAM  
 HORIZ \_\_\_\_\_ HORIZONTAL REINFORCING  
 IBC \_\_\_\_\_ INTERNATIONAL BUILDING CODE  
 ICBO \_\_\_\_\_ INTERNATIONAL CONFERENCE OF  
 BUILDING OFFICIALS  
 I.F.W. \_\_\_\_\_ INSIDE FACE OF WALL  
 I.O.D. \_\_\_\_\_ INTERPRETATION OF DRAWINGS  
 K(KIP) \_\_\_\_\_ 1000 POUNDS  
 KLF \_\_\_\_\_ KIPS PER LINEAR FOOT  
 LBS (#) \_\_\_\_\_ POUNDS  
 LGS \_\_\_\_\_ LIGHT GAGE STEEL  
 LGSEA \_\_\_\_\_ LIGHT GAGE STEEL ENGINEERS  
 ASSOCIATION  
 L.O.D. \_\_\_\_\_ LOCATION OF DETAILS  
 LL \_\_\_\_\_ LIVE LOAD  
 LLH \_\_\_\_\_ LONG LEG HORIZONTAL  
 LLV \_\_\_\_\_ LONG LEG VERTICAL  
 MAS \_\_\_\_\_ MASONRY  
 MAS C.J. \_\_\_\_\_ MASONRY CONTROL JOINT  
 MAX \_\_\_\_\_ MAXIMUM  
 MBMA \_\_\_\_\_ METAL BUILDING MANUFACTURERS  
 ASSOCIATION  
 MECH'L \_\_\_\_\_ MECHANICAL  
 MFR('S) \_\_\_\_\_ MANUFACTURER('S)  
 MIN \_\_\_\_\_ MINIMUM  
 N/A \_\_\_\_\_ NOT APPLICABLE  
 N.T.S. \_\_\_\_\_ NOT TO SCALE  
 O.C. \_\_\_\_\_ ON CENTER  
 O.F.W. \_\_\_\_\_ OUTSIDE FACE OF WALL  
 OPP \_\_\_\_\_ OPPOSITE  
 OSHA \_\_\_\_\_ OCCUPATIONAL SAFETY AND  
 HEALTH ADMINISTRATION

PCI \_\_\_\_\_ PRECAST/PRESTRESSED CONCRETE  
 INSTITUTE  
 P.C. \_\_\_\_\_ PRECAST CONCRETE  
 PLF \_\_\_\_\_ POUNDS PER LINEAR FOOT  
 ± \_\_\_\_\_ PLUS OR MINUS  
 PREFAB \_\_\_\_\_ PREFABRICATED  
 PSF \_\_\_\_\_ POUNDS PER SQUARE FOOT  
 PSI \_\_\_\_\_ POUNDS PER SQUARE INCH  
 PTI \_\_\_\_\_ POST-TENSIONING INSTITUTE  
 REINF \_\_\_\_\_ REINFORCING  
 SDI \_\_\_\_\_ STEEL DECK INSTITUTE  
 SLH \_\_\_\_\_ SHORT LEG HORIZONTAL  
 SLV \_\_\_\_\_ SHORT LEG VERTICAL  
 SJI \_\_\_\_\_ STEEL JOIST INSTITUTE  
 SIM \_\_\_\_\_ SIMILAR  
 SQ. \_\_\_\_\_ SQUARE  
 SSMA \_\_\_\_\_ STEEL STUD MANUFACTURERS  
 ASSOCIATION  
 STD \_\_\_\_\_ STANDARD  
 STL \_\_\_\_\_ STEEL  
 TL \_\_\_\_\_ TOTAL LOAD  
 T.O.B. \_\_\_\_\_ TOP OF BEAM  
 T.O.C.T. \_\_\_\_\_ TOP OF CONCRETE TOPPING  
 T.O.D. \_\_\_\_\_ TOP OF DECK  
 T.O.F. \_\_\_\_\_ TOP OF FOOTING  
 T.O.L. \_\_\_\_\_ TOP OF LEDGER  
 T.O.M. \_\_\_\_\_ TOP OF MASONRY  
 T.O.P. \_\_\_\_\_ TOP OF PLATE  
 T.O.P.C. \_\_\_\_\_ TOP OF PRECAST CONCRETE  
 T.O.S. \_\_\_\_\_ TOP OF STEEL  
 T.O.W. \_\_\_\_\_ TOP OF WALL  
 TPI \_\_\_\_\_ TRUSS PLATE INSTITUTE  
 TYP \_\_\_\_\_ TYPICAL  
 T&G \_\_\_\_\_ TONGUE AND GROOVE  
 UBC \_\_\_\_\_ UNIFORM BUILDING CODE  
 U.N.O. \_\_\_\_\_ UNLESS NOTED OTHERWISE  
 VERT \_\_\_\_\_ VERTICAL REINFORCING  
 WCLA \_\_\_\_\_ WEST COAST LUMBER ASSOCIATION  
 WCLIB \_\_\_\_\_ WEST COAST LUMBER INSPECTION  
 BUREAU  
 W.W.F. \_\_\_\_\_ WELDED WIRE FABRIC  
 WWPA \_\_\_\_\_ WESTERN WOOD PRODUCTS  
 ASSOCIATION  
 W/ \_\_\_\_\_ WITH  
 W/C \_\_\_\_\_ WATER TO CEMENT RATIO  
 W/O \_\_\_\_\_ WITHOUT

DETAIL NO.

**2265-7 City of Scottsdale  
 Standard Details**

APPROVED BY:

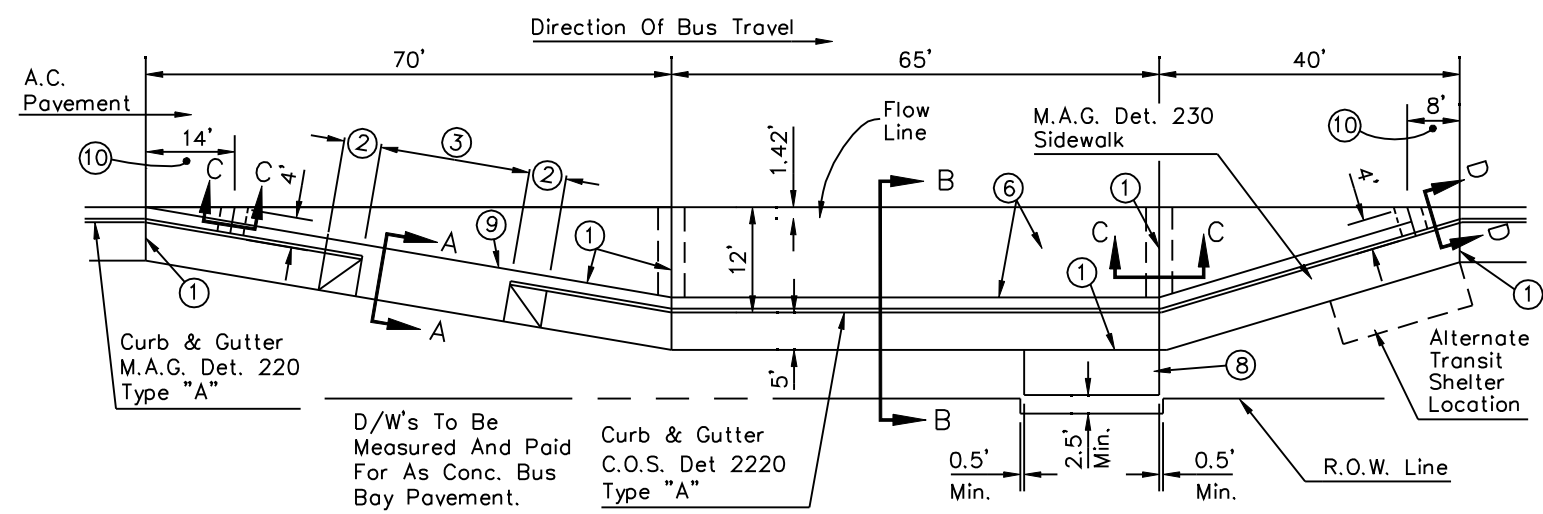
**Scottsdale Standards &  
 Specifications Committee**

**BUS SHELTER**

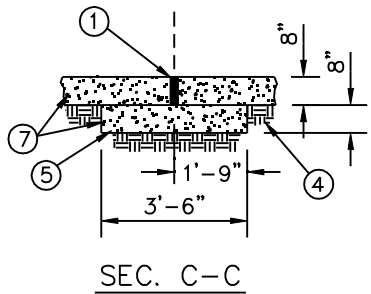
DETAIL NO.

**2265-7**

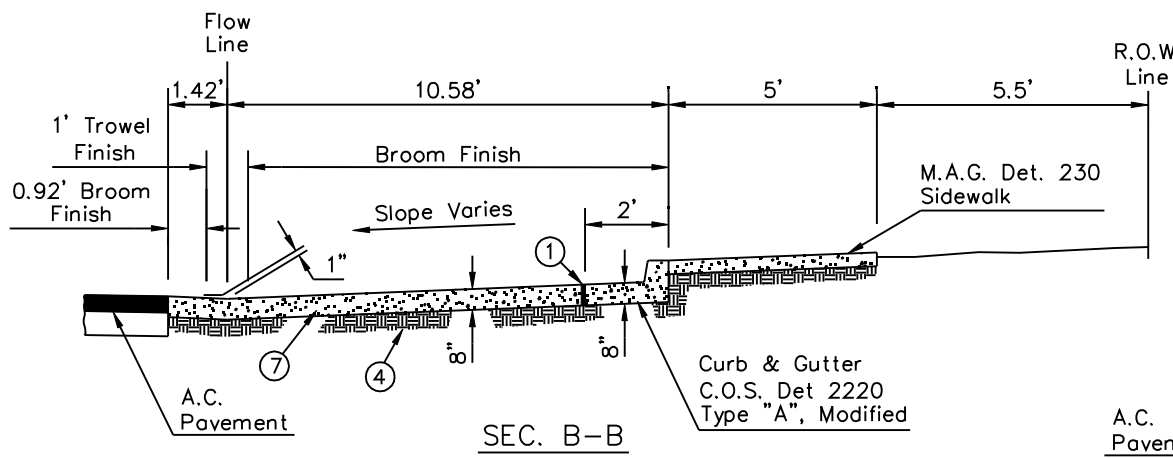
REVISED 5/17/06



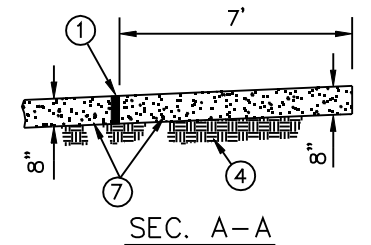
PLAN VIEW



SEC. C-C

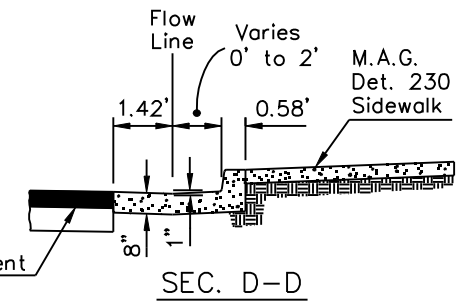


SEC. B-B



SEC. A-A

- ① 1/2" BITUMINOUS PREFORMED EXPANSION JOINT FILLER, A.S.T.M. D-1751 PER MAG SEC. 729, INSTALL PER COS SEC. 340.3.
- ② TRANSITION CURB FACE FROM 6" TO 0" HEIGHT IN 5'
- ③ D/W WIDTHS & LOCATIONS VARY, SEE PLANS. MAINTAIN 10' MIN. CLEARANCE BETWEEN DRIVEWAYS AND SHELTER PAD. WHEN DRIVEWAY WIDTH EXCEEDS 22', PROVIDE A CONTRACTION JOINT ON D/W C.
- ④ SUBGRADE PREPARATION PER MAG SECTION 301.
- ⑤ CONCRETE PAD TO BE POURED SEPARATELY FROM CONCRETE BUS BAY PAVEMENT.
- ⑥ CONTRACTION JOINTS IN THE BUS BAY PAVEMENT SHALL MATCH THOSE IN THE CURB.
- ⑦ CONCRETE SHALL BE CLASS "A" PER MAG SECTION 725
- ⑧ TRANSIT SHELTER PAD, PER COS STD DETAIL 2265.
- ⑨ NEW CONCRETE D/W TO BE POURED WITH BUS BAY PAVEMENT.
- ⑩ CURB & GUTTER TO BUS BAY PAVEMENT TRANSITION.



SEC. D-D

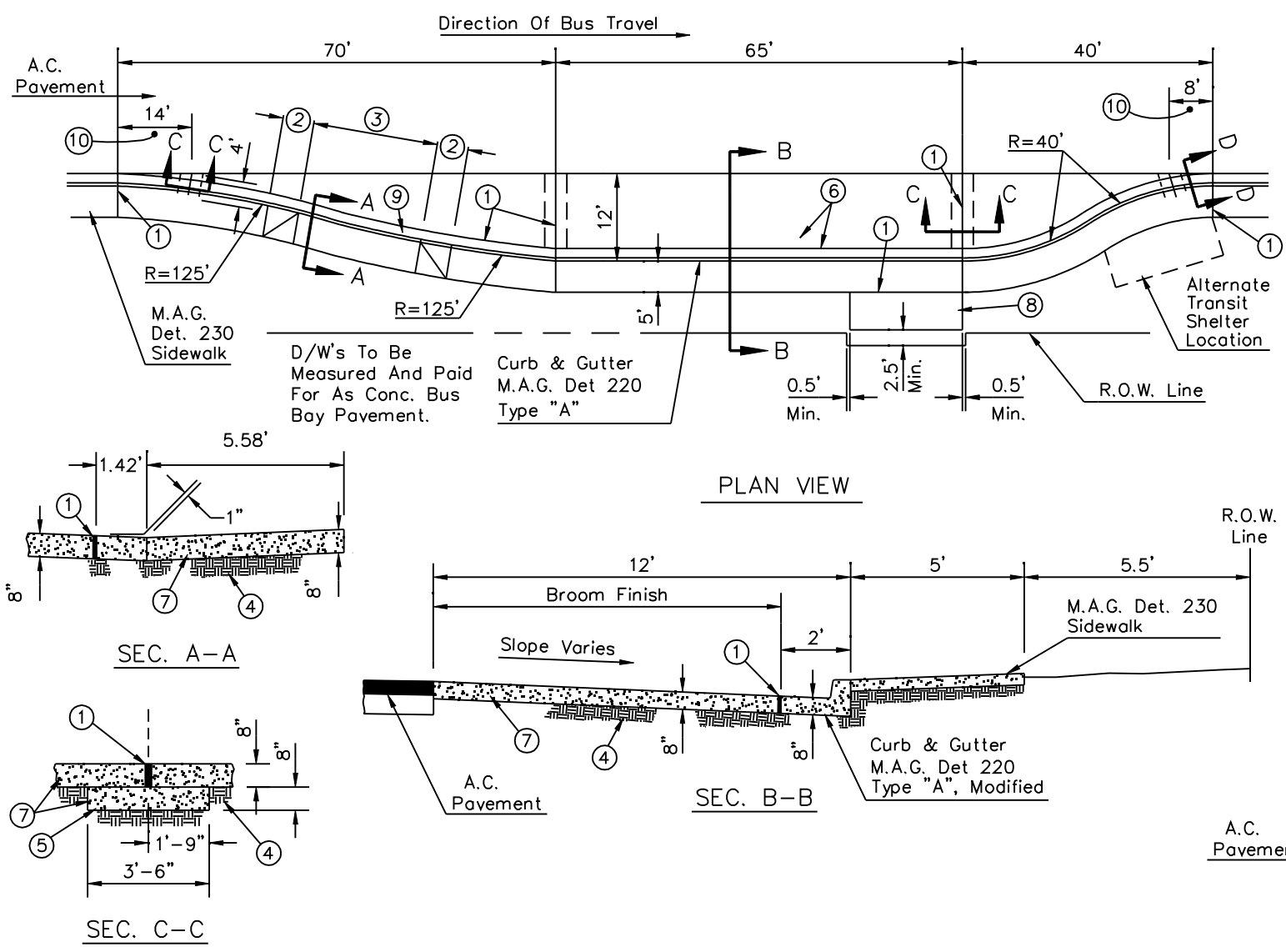
DETAIL NO. **2266-1** City of Scottsdale Standard Details

APPROVED BY: **Scottsdale Standards & Specifications Committee**

**CLOSED END BUS BAY - TYPE "A"**

DETAIL NO. **2266-1**

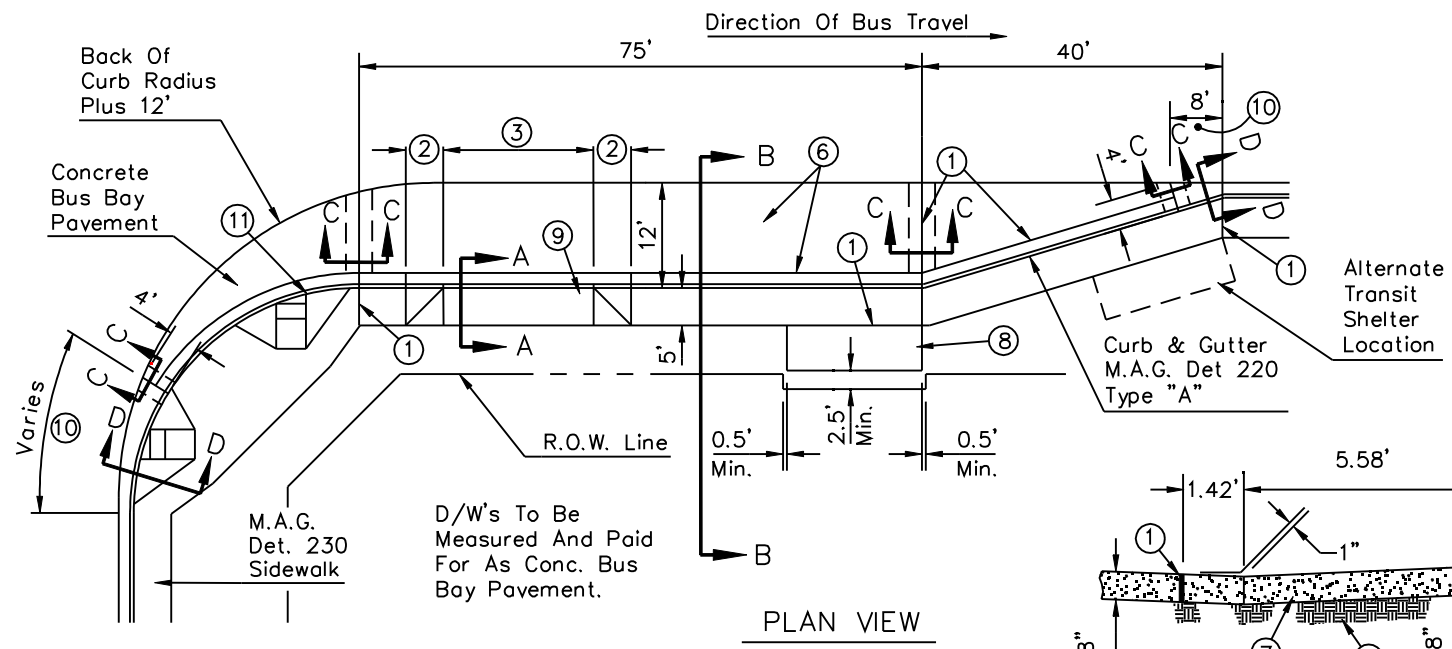
REVISED 5/17/06



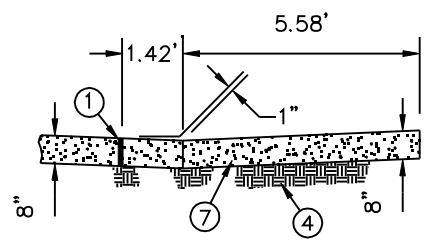
- ① 1/2" BITUMINOUS PREFORMED EXPANSION JOINT FILLER, A.S.T.M. D-1751 PER MAG SECTION 729.
- ② TRANSITION CURB FACE FROM 6" TO 0" HEIGHT IN 5'
- ③ D/W WIDTHS & LOCATIONS VARY, SEE PLANS. MAINTAIN 10' MIN. CLEARANCE BETWEEN DRIVEWAYS AND SHELTER PAD. WHEN DRIVEWAY WIDTH EXCEEDS 22', PROVIDE A CONTRACTION JOINT ON D/W C.
- ④ SUBGRADE PREPARATION PER MAG SECTION 301.
- ⑤ CONCRETE PAD TO BE POURED SEPARATELY FROM CONCRETE BUS BAY PAVEMENT.
- ⑥ CONTRACTION JOINTS IN THE BUS BAY PAVEMENT SHALL MATCH THOSE IN THE CURB.
- ⑦ CONCRETE SHALL BE CLASS "A" PER MAG SECTION 725
- ⑧ TRANSIT SHELTER PAD, PER COS STD DETAIL 2265.
- ⑨ NEW CONCRETE D/W TO BE POURED WITH BUS BAY PAVEMENT.
- ⑩ CURB & GUTTER TO BUS BAY PAVEMENT TRANSITION.

DETAIL NO. <b>2266-2</b>	<b>City of Scottsdale</b> Standard Details	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<h2 style="margin: 0;">CLOSED END BUS BAY - TYPE "B"</h2>	DETAIL NO. <b>2266-2</b>
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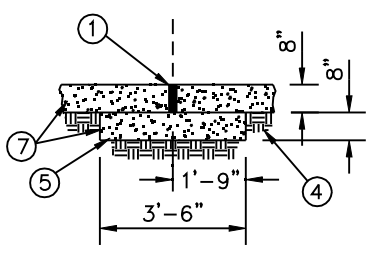
REVISED 5/17/06



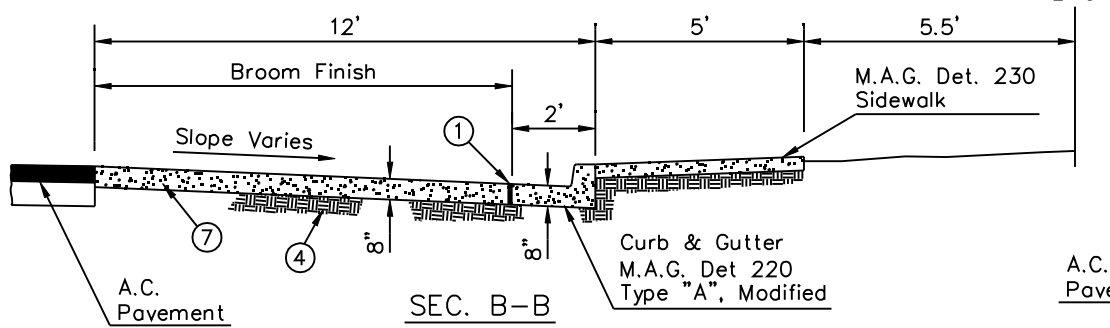
PLAN VIEW



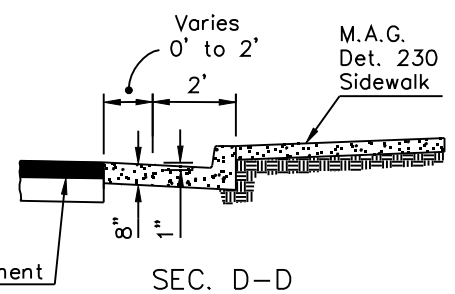
SEC. A-A



SEC. C-C



SEC. B-B



SEC. D-D

- ① 1/2" BITUMINOUS PREFORMED EXPANSION JOINT FILLER, A.S.T.M. D-1751 PER MAG SECTION 729.
- ② TRANSITION CURB FACE FROM 6" TO 0" HEIGHT IN 5'
- ③ D/W WIDTHS & LOCATIONS VARY, SEE PLANS. MAINTAIN 10' MIN. CLEARANCE BETWEEN DRIVEWAYS AND SHELTER PAD. WHEN DRIVEWAY WIDTH EXCEEDS 22', PROVIDE A CONTRACTION JOINT ON D/W CL.
- ④ SUBGRADE PREPARATION PER MAG SECTION 301.
- ⑤ CONCRETE PAD TO BE POURED SEPARATELY FROM CONCRETE BUS BAY PAVEMENT.
- ⑥ CONTRACTION JOINTS IN THE BUS BAY PAVEMENT SHALL MATCH THOSE IN THE CURB.
- ⑦ CONCRETE SHALL BE CLASS "A" PER MAG SECTION 725
- ⑧ TRANSIT SHELTER PAD, PER COS STD DETAIL 2265.
- ⑨ NEW CONCRETE D/W TO BE POURED WITH BUS BAY PAVEMENT.
- ⑩ CURB & GUTTER TO BUS BAY PAVEMENT TRANSITION.
- ⑪ CURB RADIUS AS SHOWN ON THE PLANS

DETAIL NO. 2267

City of Scottsdale Standard Details

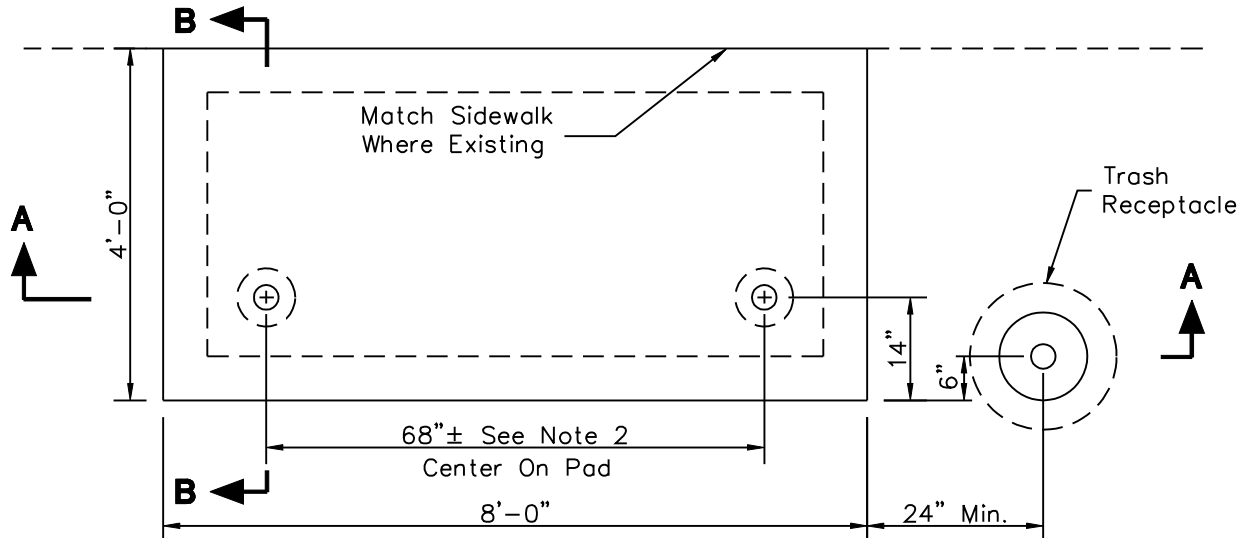
APPROVED BY: Scottsdale Standards & Specifications Committee

FAR - SIDE BUS BAY

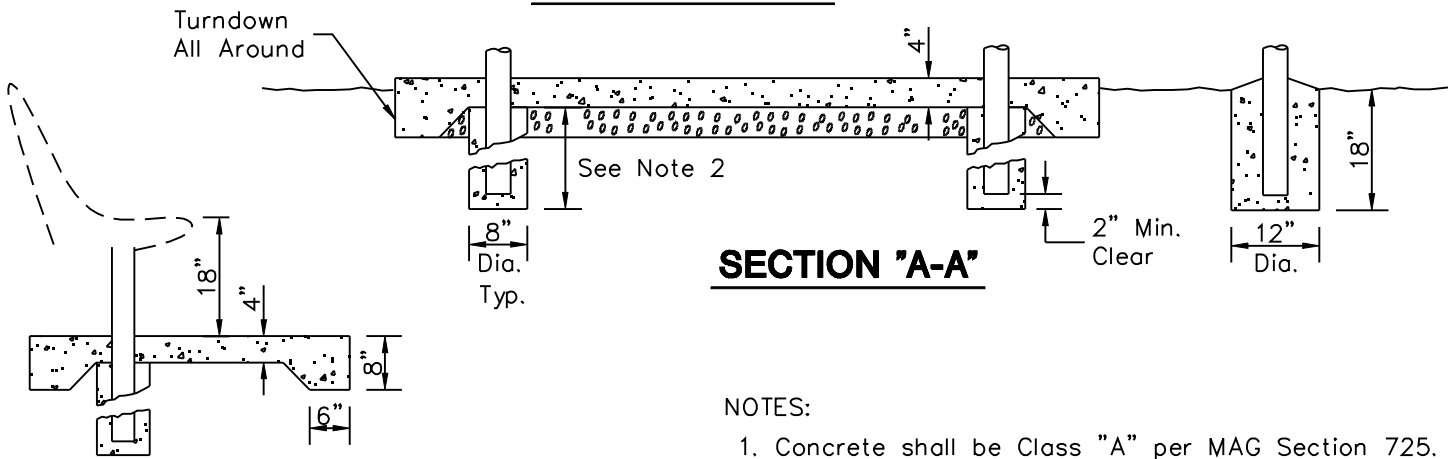
DETAIL NO. 2267



REVISED 7/1/97



**BASE SLAB PLAN**

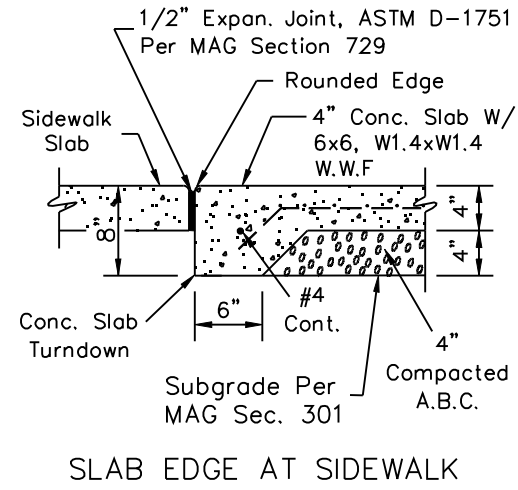


**SECTION "A-A"**

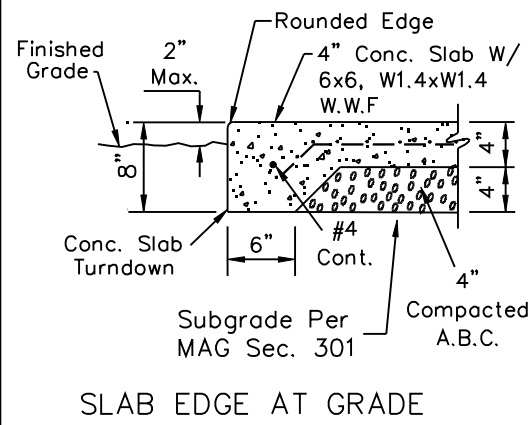
**SECTION "B-B"**

**NOTES:**

1. Concrete shall be Class "A" per MAG Section 725. Slab surface shall be trowel finish with salt pitted appearance and random sweat. Use integral color when specified on the plans.
2. Dimensions may vary with bench style - Verify and adjust to provide clearance and bench height shown.



**SLAB EDGE AT SIDEWALK**



**SLAB EDGE AT GRADE**

DETAIL NO.  
**2268**

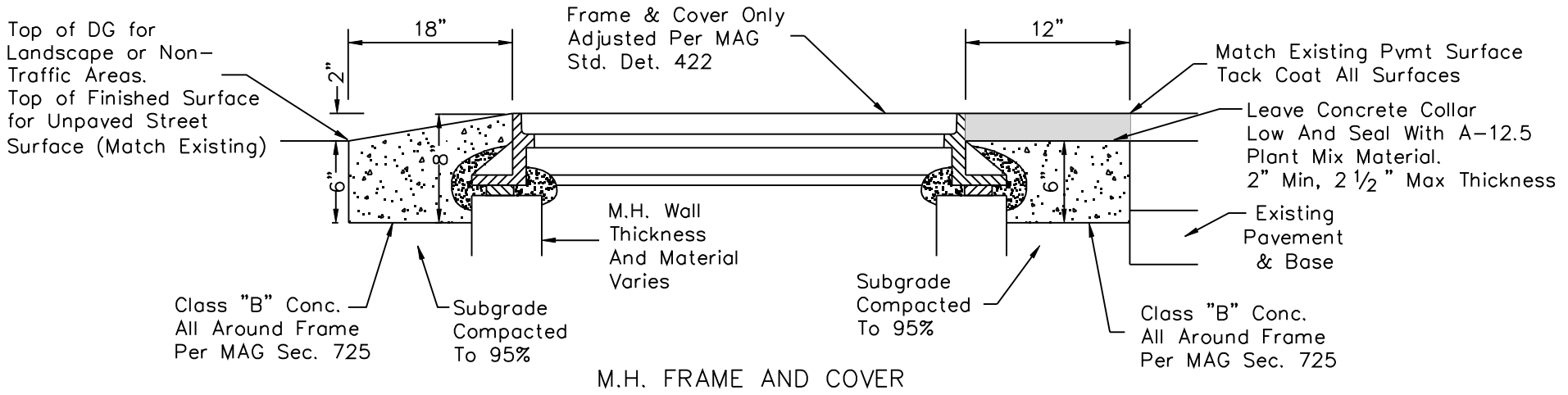
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**BASE SLAB AND FOUNDATIONS FOR  
BUS STOP BENCH AND RECEPTACLES**

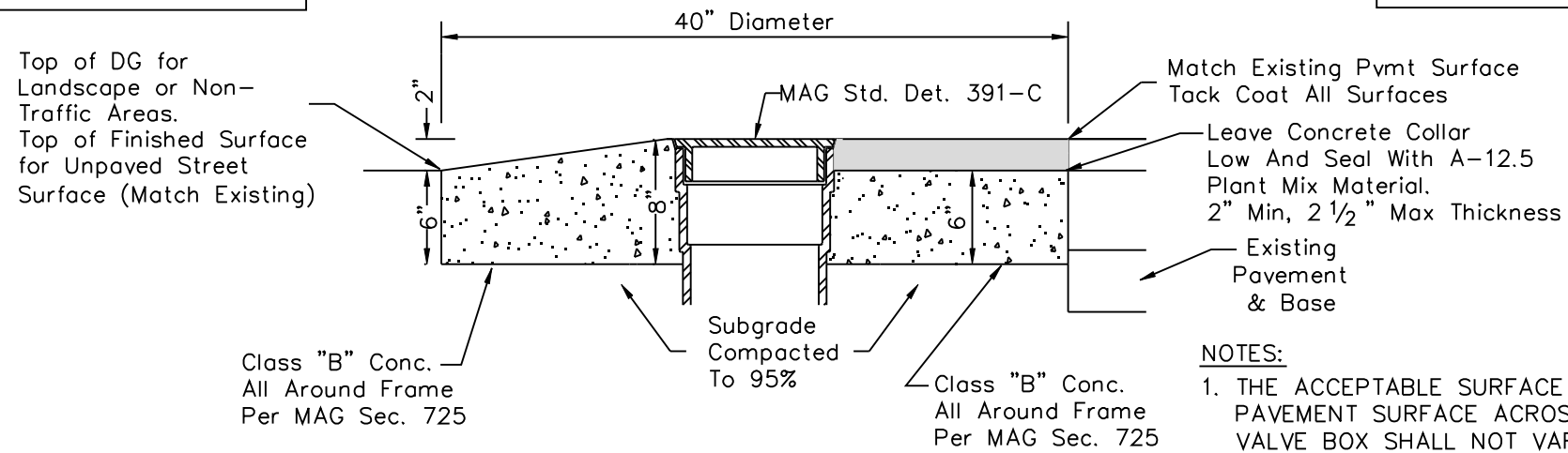
DETAIL NO.  
**2268**

REVISED 4/28/08



UNPAVED LOCATIONS

PAVED LOCATIONS



**NOTES:**

1. THE ACCEPTABLE SURFACE PROFILE FROM THE PAVEMENT SURFACE ACROSS THE MANHOLE OR VALVE BOX SHALL NOT VARY MORE THAN 1/4 INCH FROM THE LOWER EDGE OF A 12 FOOT STRAIGHTEDGE WHEN THE STRAIGHTEDGE IS PLACED PARALLEL AND PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY.

DETAIL NO. 2270

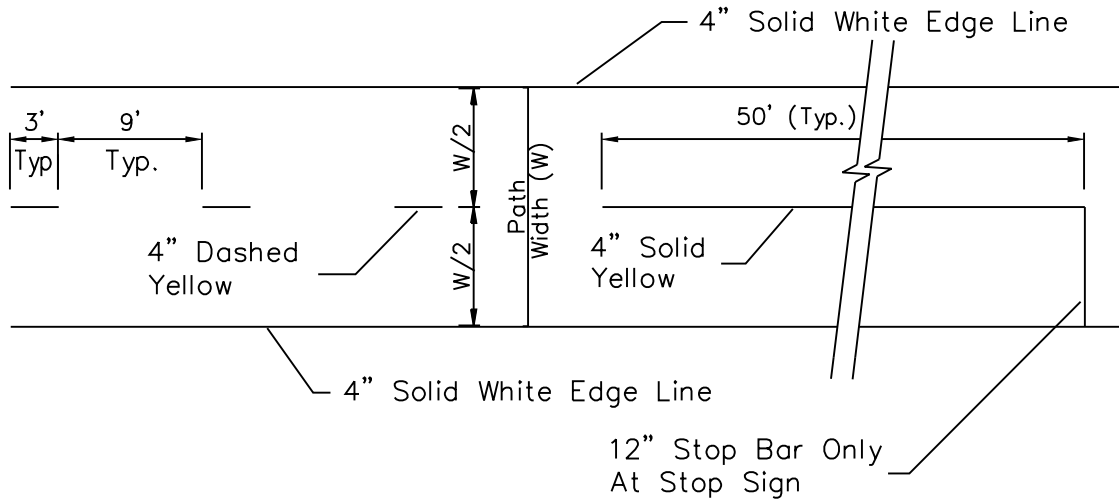
City of Scottsdale Standard Details

APPROVED BY: Scottsdale Standards & Specifications Committee

**FRAME & COVER GRADE ADJUSTMENT**

DETAIL NO. 2270

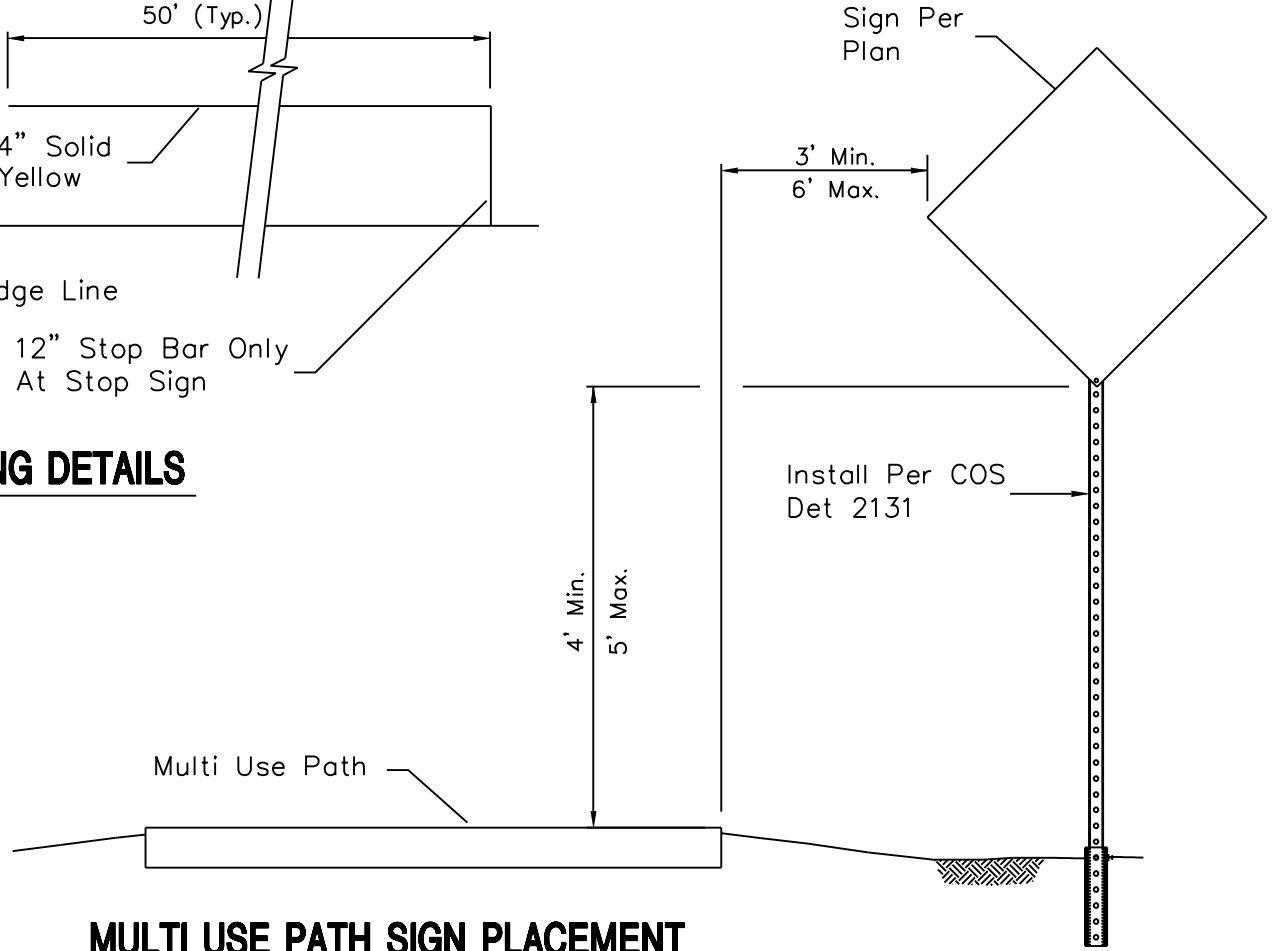
REVISED 3/10/09



### MULTI USE PATH STRIPING DETAILS

NOTE:

Striping shall be reflectorized paint with glass beads per ADOT Standard Specifications Section 708.



### MULTI USE PATH SIGN PLACEMENT

DETAIL NO.  
**2282**

**City of Scottsdale**  
Standard Details

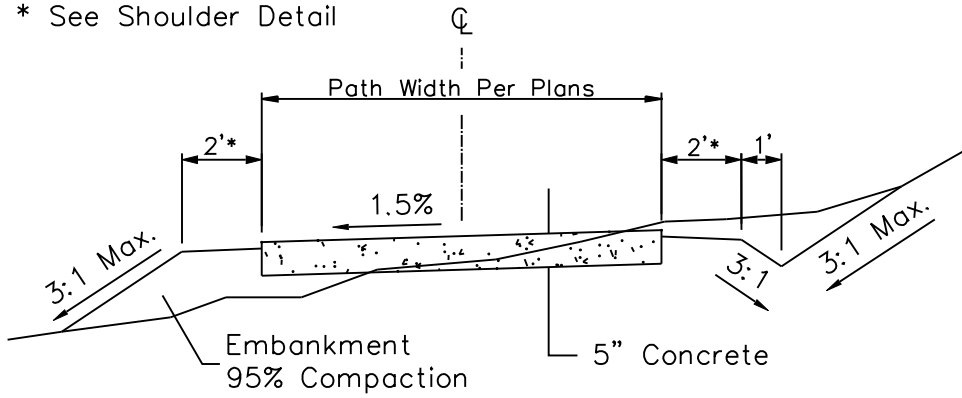
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# **MULTI USE PATH STRIPING AND SIGNING**

DETAIL NO.  
**2282**

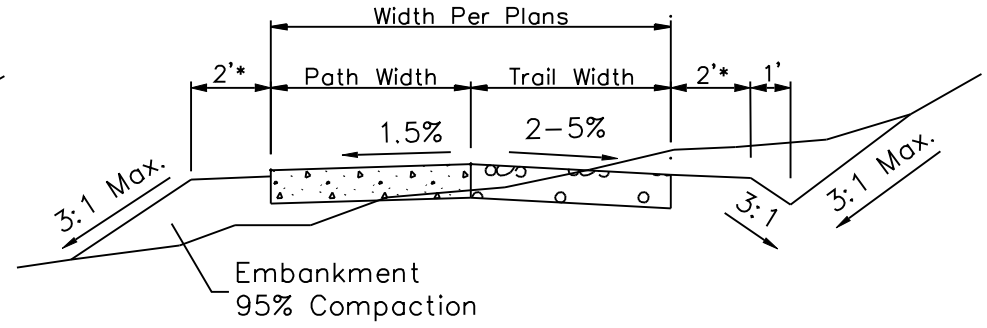
REVISED 3/10/09

\* See Shoulder Detail

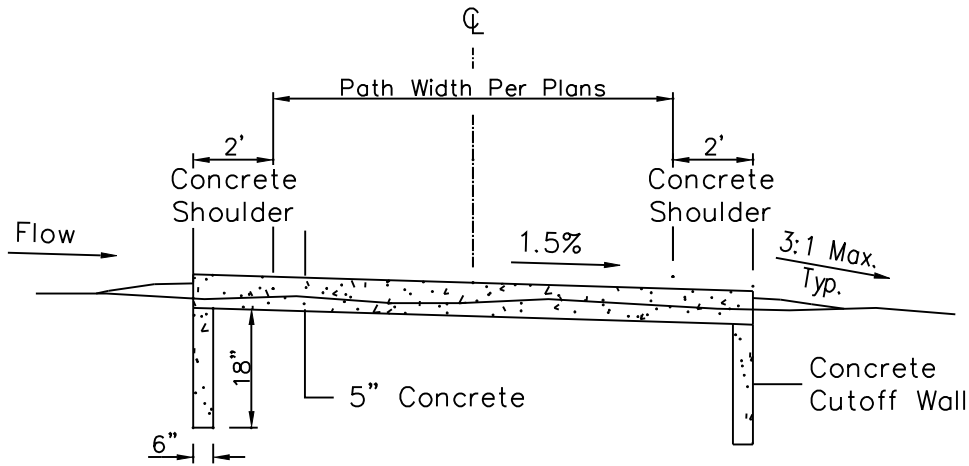


**MULTI USE PATH DETAIL**

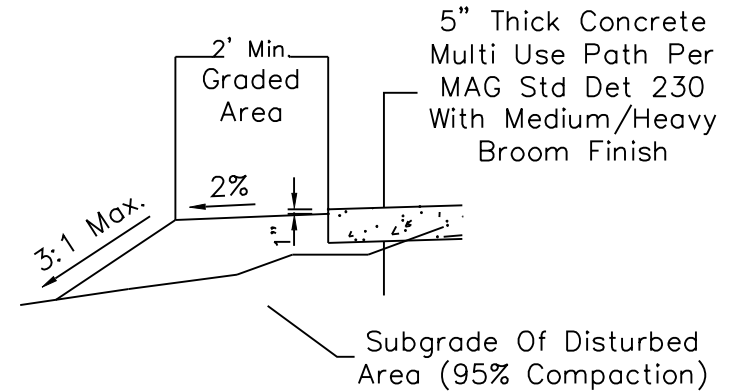
\* See Shoulder Detail



**MULTI USE PATH WITH TRAIL DETAIL**



**MULTI USE PATH WET AREA CROSSING**



**SHOULDER DETAIL**

DETAIL NO.  
**2283**

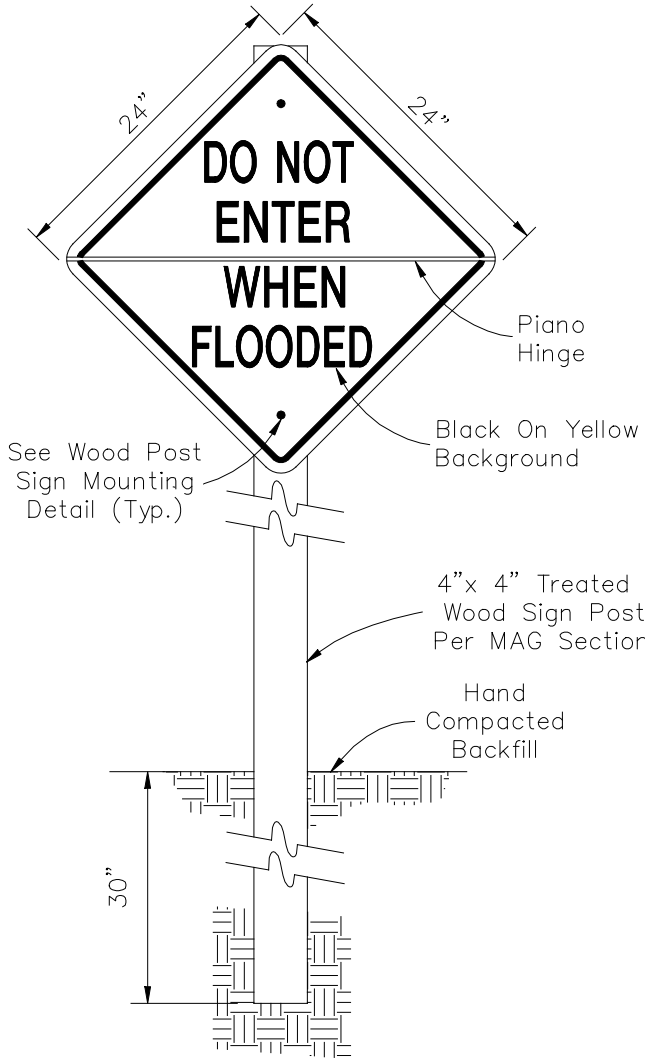
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**MULTI USE PATH DETAILS**

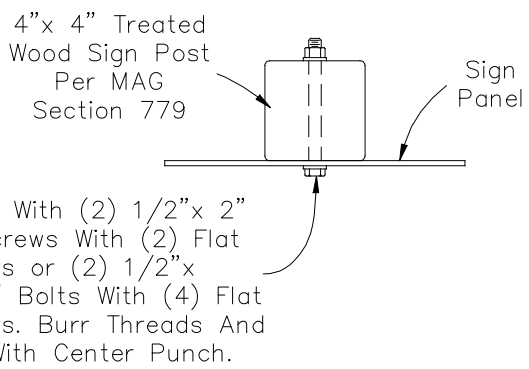
DETAIL NO.  
**2283**

REVISED 4/24/07

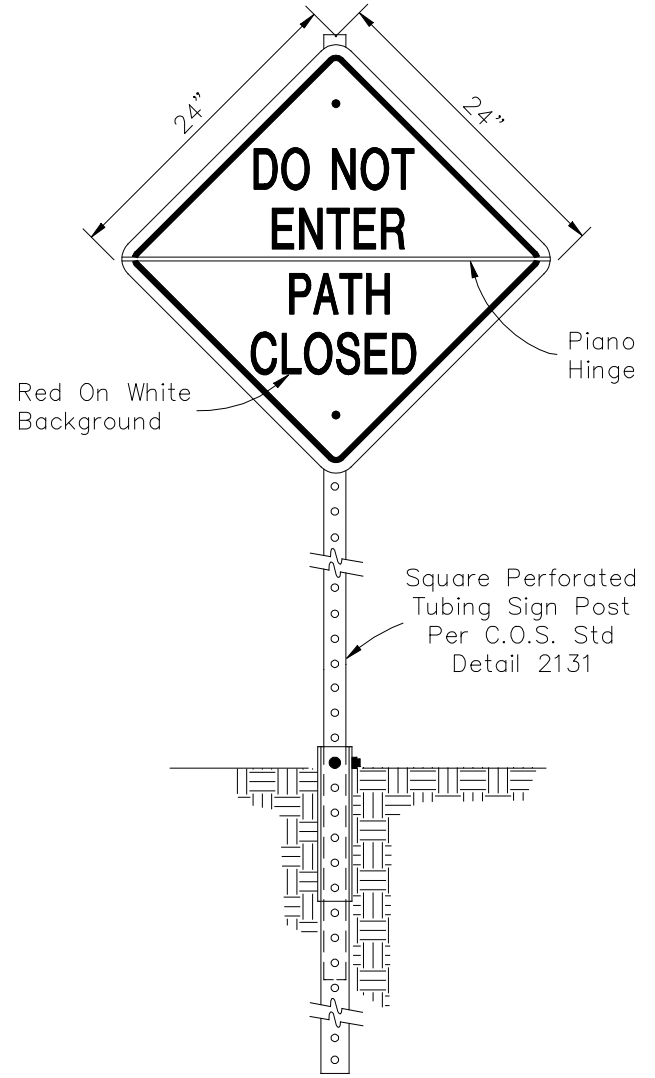


NOTES:

1. Signs shall conform to C.O.S. Supplemental Specifications, Section 402.3.
2. Signs to be mounted on square perforated tubing per C.O.S. Std Det 2131 within C.O.S. Right-of-Way. Treated wood post may be used for trail markers located outside C.O.S. Right-of Way.
3. Background and legends shall be ASTM Type IV reflective sheeting. Black legends shall be opaque (colors as noted) unless otherwise approved by the City of Scottsdale.
4. Sign height and placement shall conform to C.O.S. Std. Det. 2282.
5. For additional information regarding sign fabrication, contact the City of Scottsdale Sign Shop, 480-312-5646.



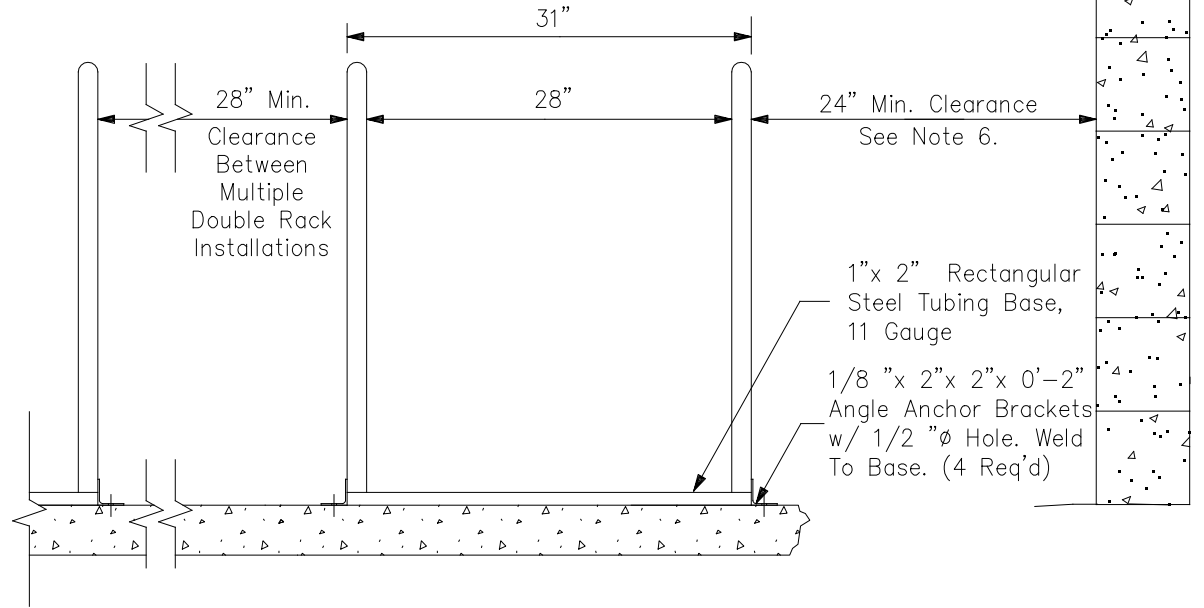
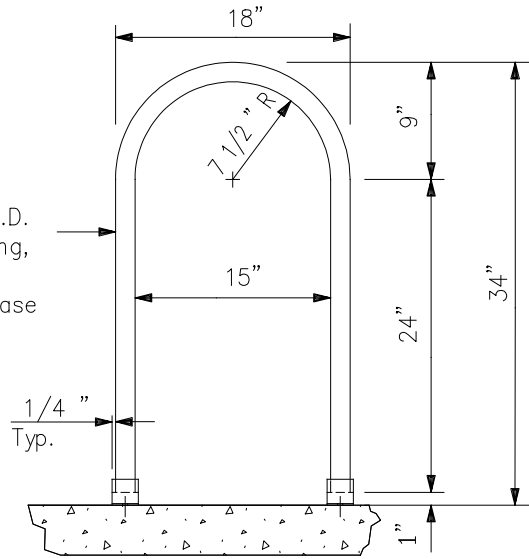
**WOOD POST SIGN MOUNTING DETAIL**



DETAIL NO. <b>2284</b>	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>MULTI-USE PATH WET CROSSING SIGN</b>	DETAIL NO. <b>2284</b>
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REVISED 5/09/07

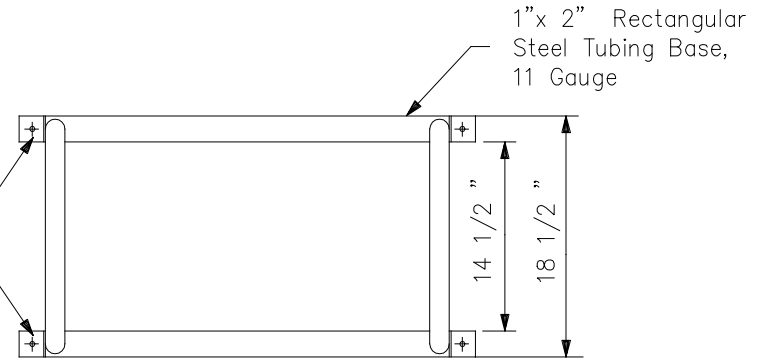
Upright Supports  
1 1/2" O.D.  
Steel Tubing,  
11 Gauge  
Weld To Base



**NOTES:**

1. Double rack holds 4 bicycles.
2. Finish to be weather resistant, baked-on powder polymer coating.
3. Anchor rack to concrete w/ 3/8"  $\phi$  x 2 1/2" wedge anchors and tamper resistant or welded nuts, (4 Req'd) or set tubing 12" below grade in 24" deep x 6" wide concrete footing.
4. Concrete base may be covered with turf or decomposed granite.
5. Placement of bicycle rack shall be convenient to main entrance and in a highly visible area.
6. 24" Min. clearance from walls or obstructions including curbs or edge of roadway on both sides and back of rack. Front of rack shall have a 6' min clear area.

1/8" x 2" x 2" x 0'-2"  
Angle Anchor Brackets  
w/ 1/2"  $\phi$  Hole. Weld  
To Base. (4 Req'd)



DETAIL NO.  
**2285**

**City of Scottsdale  
Standard Details**

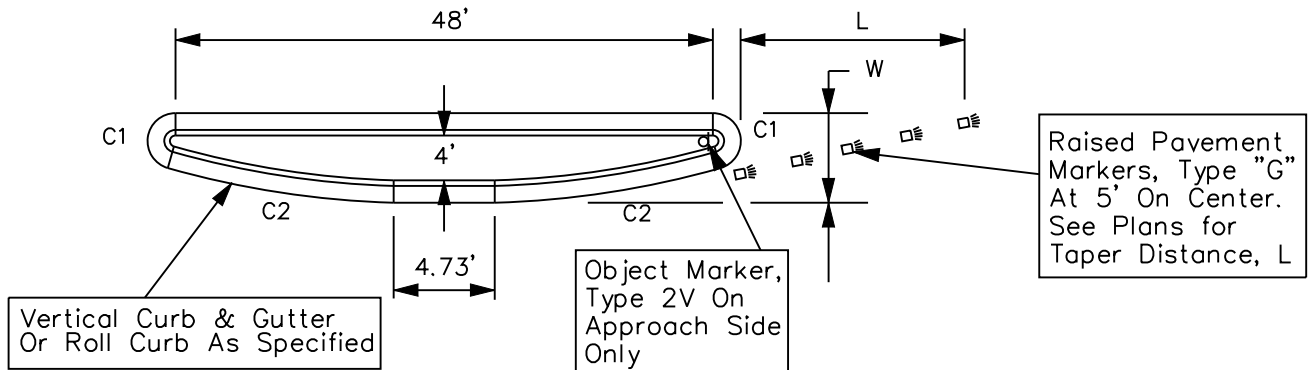
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**DOUBLE BICYCLE RACK**

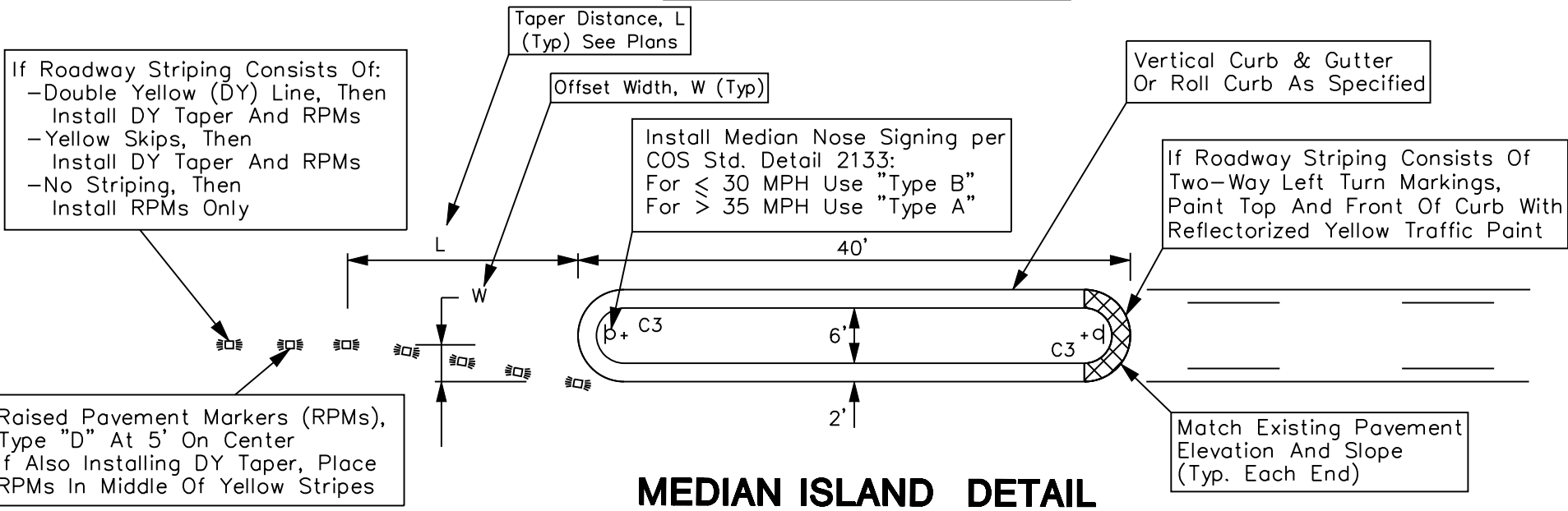
DETAIL NO.  
**2285**

REVISED 3/31/10

CURVE DATA - TO BACK OF CURB			
CURVE	RADIUS	LENGTH	DELTA
C1	0.50'	1.43'	164°12'35"
C2	80.00'	22.05'	15°47'25"
C3	3.00'	9.42'	180°00'00"



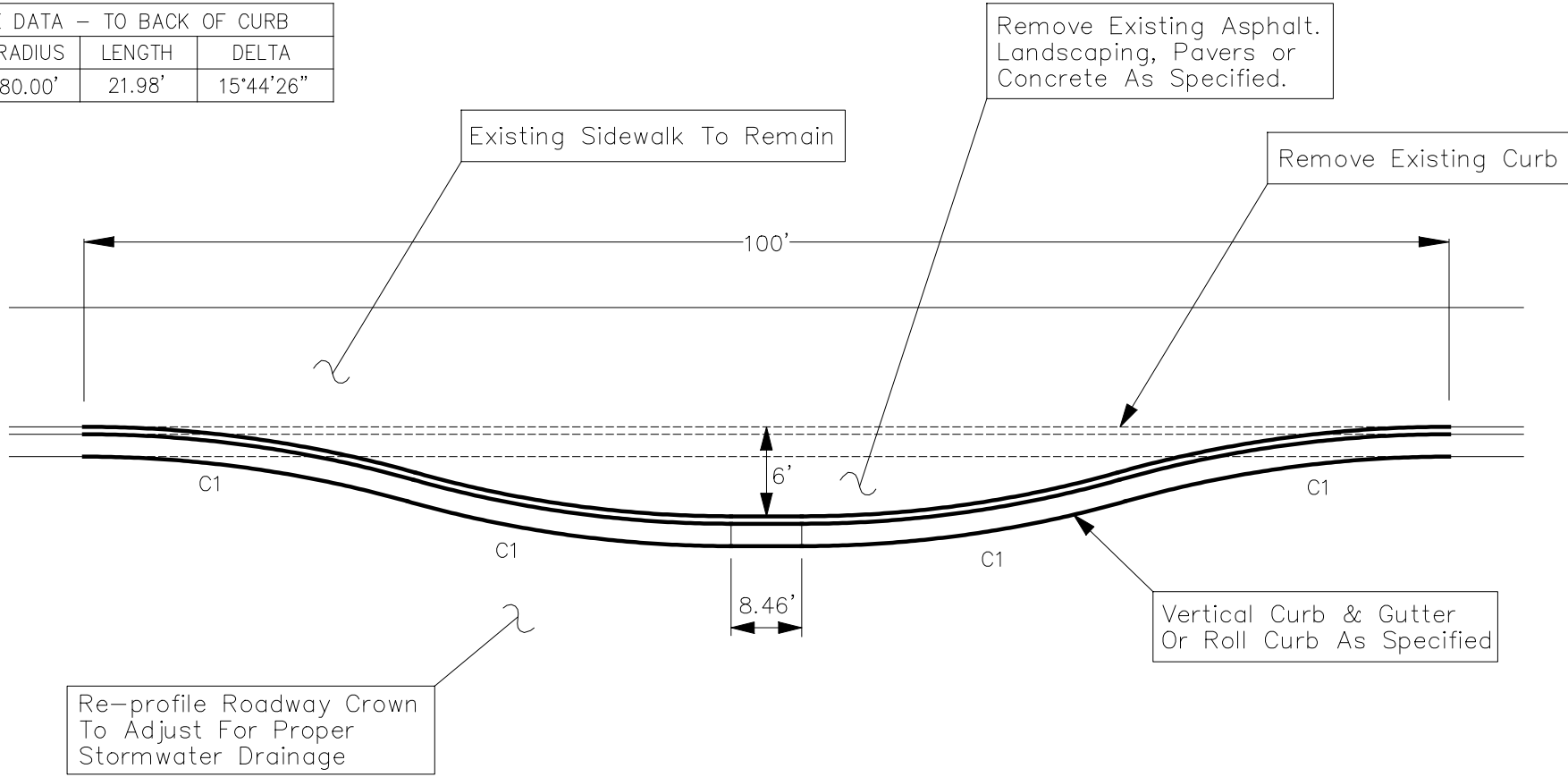
### SIDE ISLAND DETAIL



### MEDIAN ISLAND DETAIL

REVISED 05/01/07

CURVE DATA - TO BACK OF CURB			
CURVE	RADIUS	LENGTH	DELTA
C1	80.00'	21.98'	15°44'26"



### BULB OUT / CHOKER DETAIL

DETAIL NO. **2290-2** **City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

## BULB OUT/CHOKER DETAIL

DETAIL NO. **2290-2**



REVISED 8/25/08

Adjust Manhole Or Valve  
Frame & Cover Per COS  
Det 2270 (Where Required)

New A.C. Pavement (A-12.5)

Rotomill Existing  
AC Pavement

6" Solid White Line  
For Bike Lane And  
"BUMP" Legend In  
Bike Lane Approach  
(Where Required)

6' Solid White  
Chevron Typ.  
See Detail Above

Varies

Varies

W-Series Sign or  
As Specifed, Typical  
Both Directions.

Distance Varies  
As Specified

Install Frame & Cover Over  
Existing Survey Monument  
Per MAG Det 120, Type 'A'  
(Where Required)

NOTE: For Sections A-A And B-B See COS Std. Detail 2292-2.

DETAIL NO.  
**2292-1**

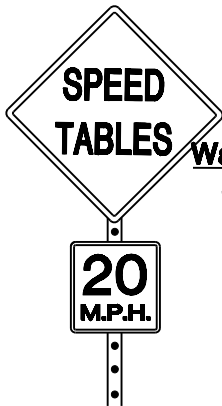
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

# SPEED TABLE DETAILS

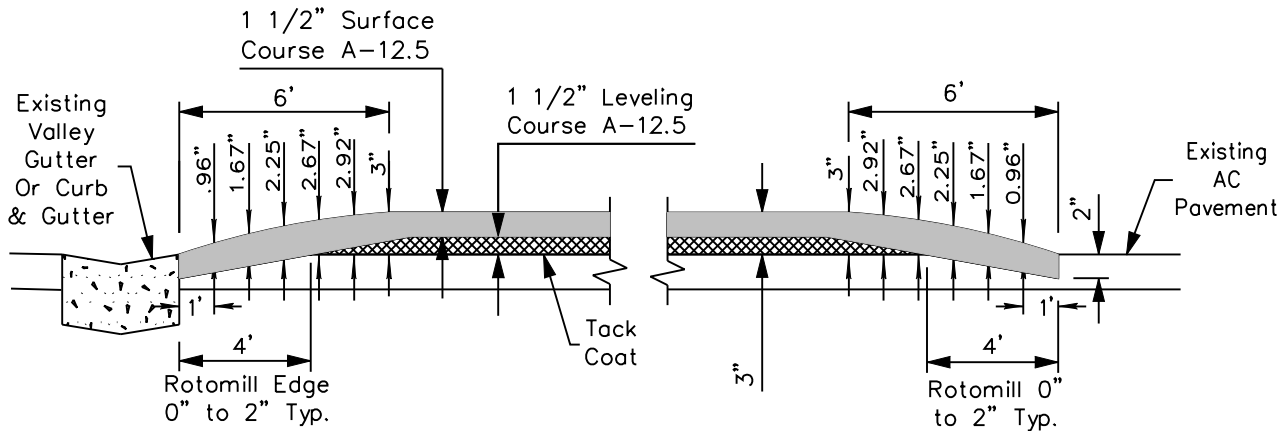
DETAIL NO.  
**2292-1**

REVISED 4/23/09



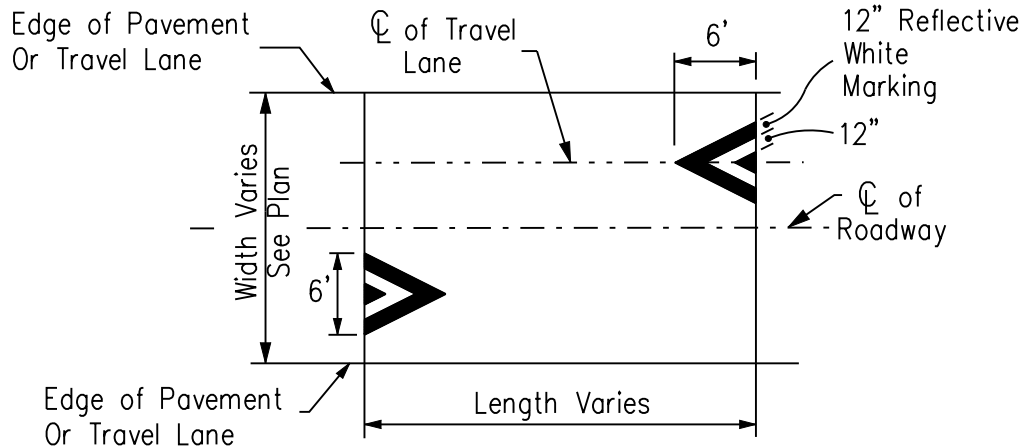
Warning Sign  
30" x 30"

W13-1  
18" x 18"



**SECTION A-A**  
**MATCH EX. CONCRETE**  
**TYPICAL ALL LOCATIONS**

**SECTION B-B**  
**MATCH EX. AC PAVEMENT**  
**TYPICAL ALL LOCATIONS**



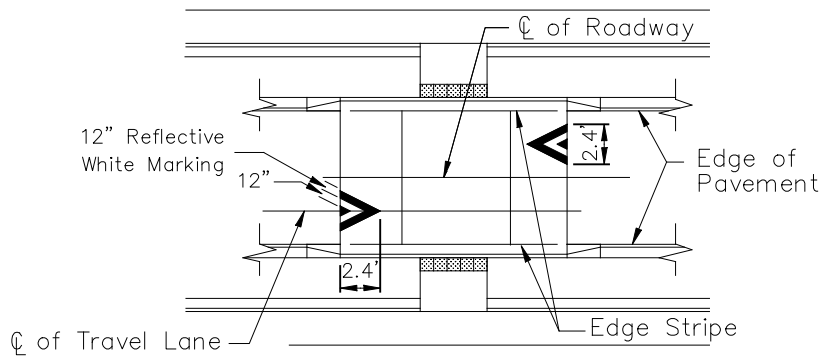
**CHEVRON DETAIL**

DETAIL NO. **2292-2** City of Scottsdale Standard Details APPROVED BY: **Scottsdale Standards & Specifications Committee**

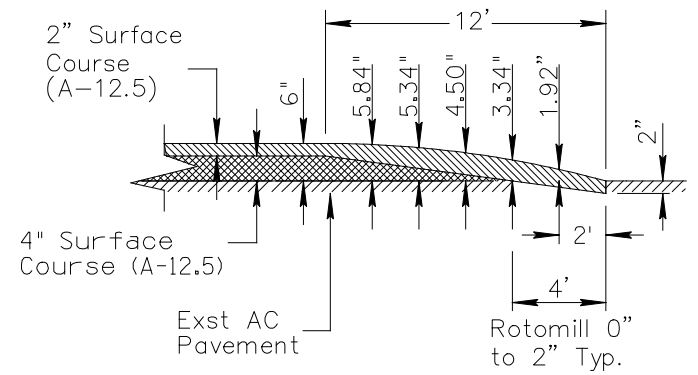
# SPEED TABLE DETAILS

DETAIL NO. **2292-2**

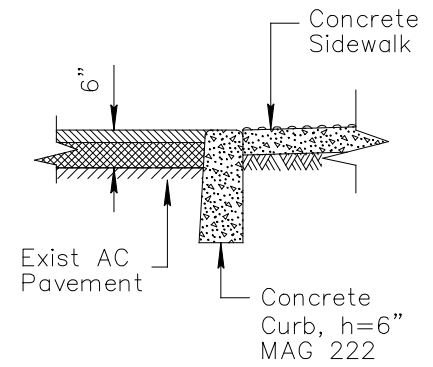
REVISED 5/25/07



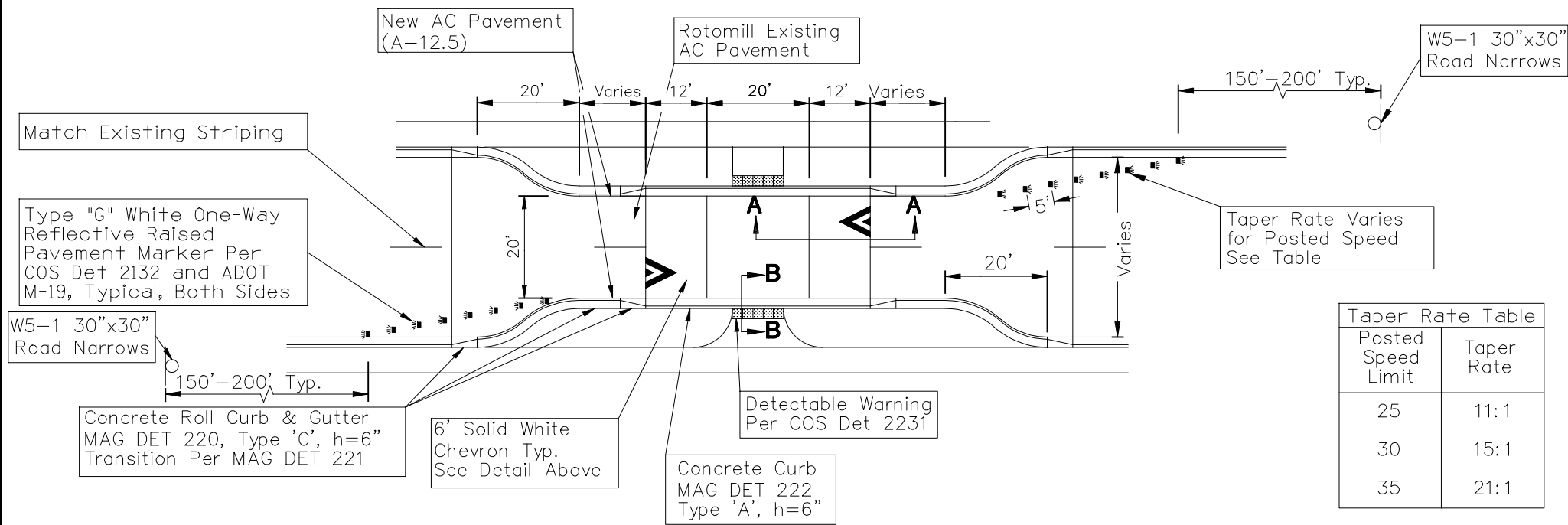
**Chevron Detail**



**Section A-A**

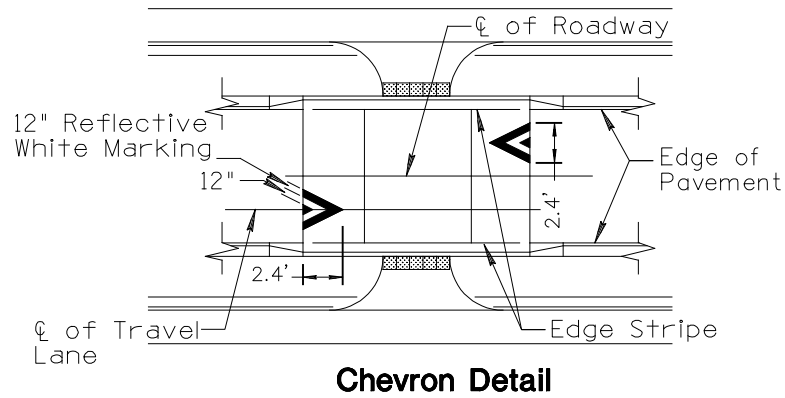


**Section B-B**

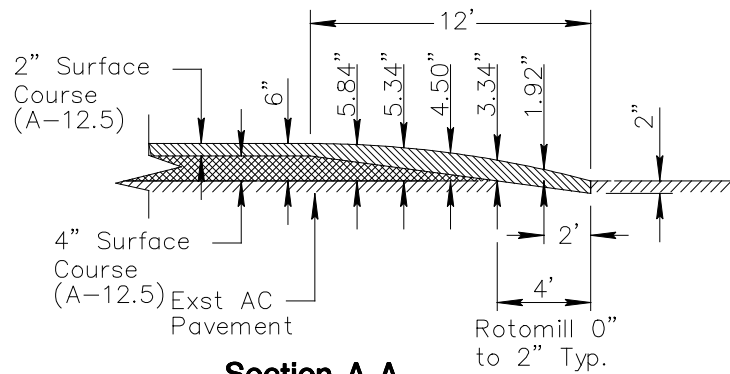


Posted Speed Limit	Taper Rate
25	11:1
30	15:1
35	21:1

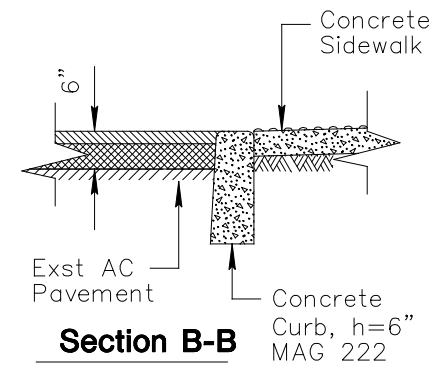
REVISED 5/25/07



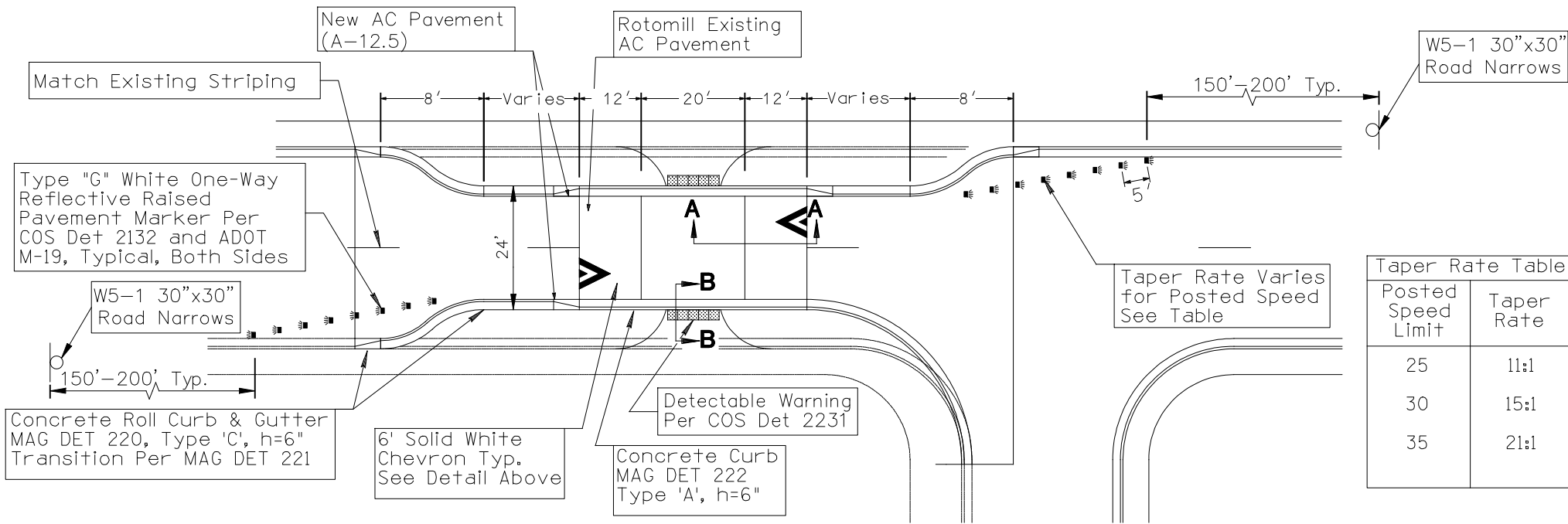
**Chevron Detail**



**Section A-A**



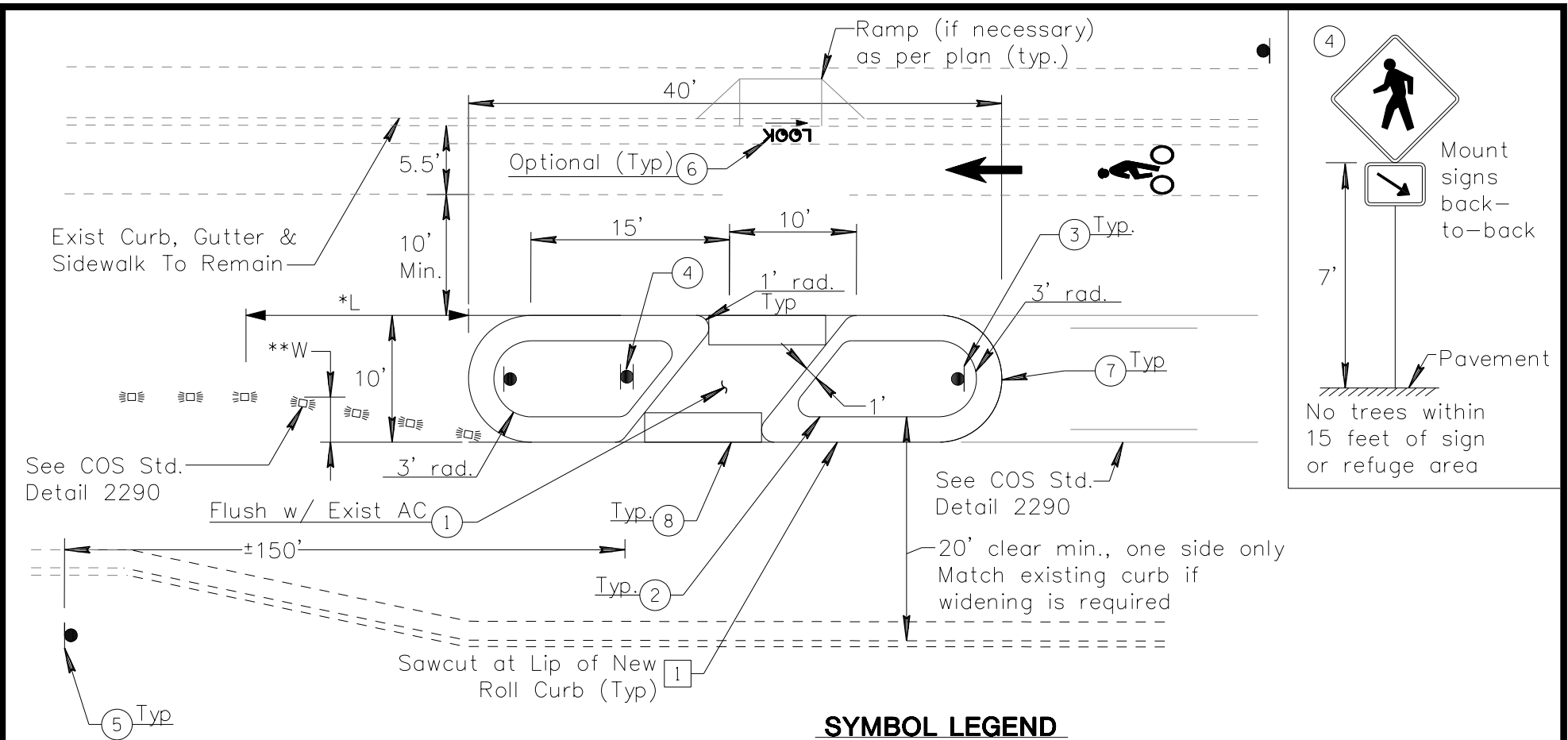
**Section B-B**



Taper Rate Varies for Posted Speed See Table

Posted Speed Limit	Taper Rate
25	11:1
30	15:1
35	21:1

REVISED 3/31/10



**SYMBOL LEGEND**

- 1 Sawcut & Remove AC Pavement
- 2 Roll Curb per MAG Det 220 Type D
- 3 Install Median Nose Signing Per COS Std. Detail 2133
- 4 30" x 30" W11-2 above  
24" x 12" W16-7p-R below
- 5 If posted speed ≥ 40 mph, install advance 30" x 30" W11-2
- 6 9" text w/arrow (optional)
- 7 Match existing pavement elevation and slope
- 8 Detectable Warning Surface per COS Det. 2231

DETAIL NO.  
**2295**

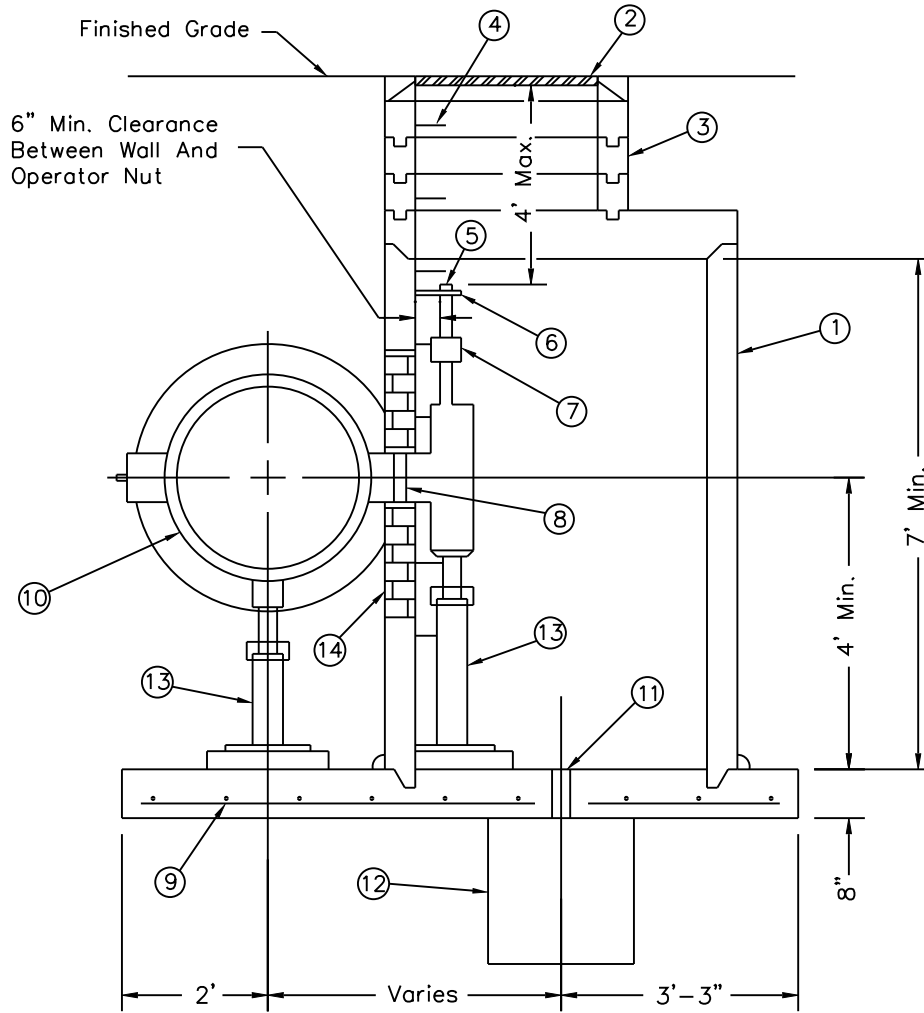
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**PEDESTRIAN REFUGE**

DETAIL NO.  
**2295**

REVISED 4/17/09



**LEGEND**

- ① 48" I.D. Manhole Shaft Per MAG Std. Detail 420, Type "B" Top
- ② 32" Hinged Manhole Frame & Cover Per COS Specifications Section 610.8
- ③ Grouted Adjusting Rings
- ④ Polypropylene Manhole Steps Per MAG Std. Detail 428, 12" Spacing Typical
- ⑤ Operator Nut
- ⑥ Wall Bracket
- ⑦ Packing Gland
- ⑧ 6" Extension
- ⑨ #4 Rebar 12" On Center Each Way 2" Clear Typical
- ⑩ Butterfly Valve
- ⑪ 3" Diameter Drain
- ⑫ 8 Cu. Ft. Gravel Sump
- ⑬ Adjustable Pipe Saddle Support
- ⑭ Rectangular Cut-Out In Manhole Shaft, Fill Space Between Shaft And Pipe With 1" Sheet Foam, Brick And Mortar

**SECTION**

DETAIL NO.  
**2305-1**

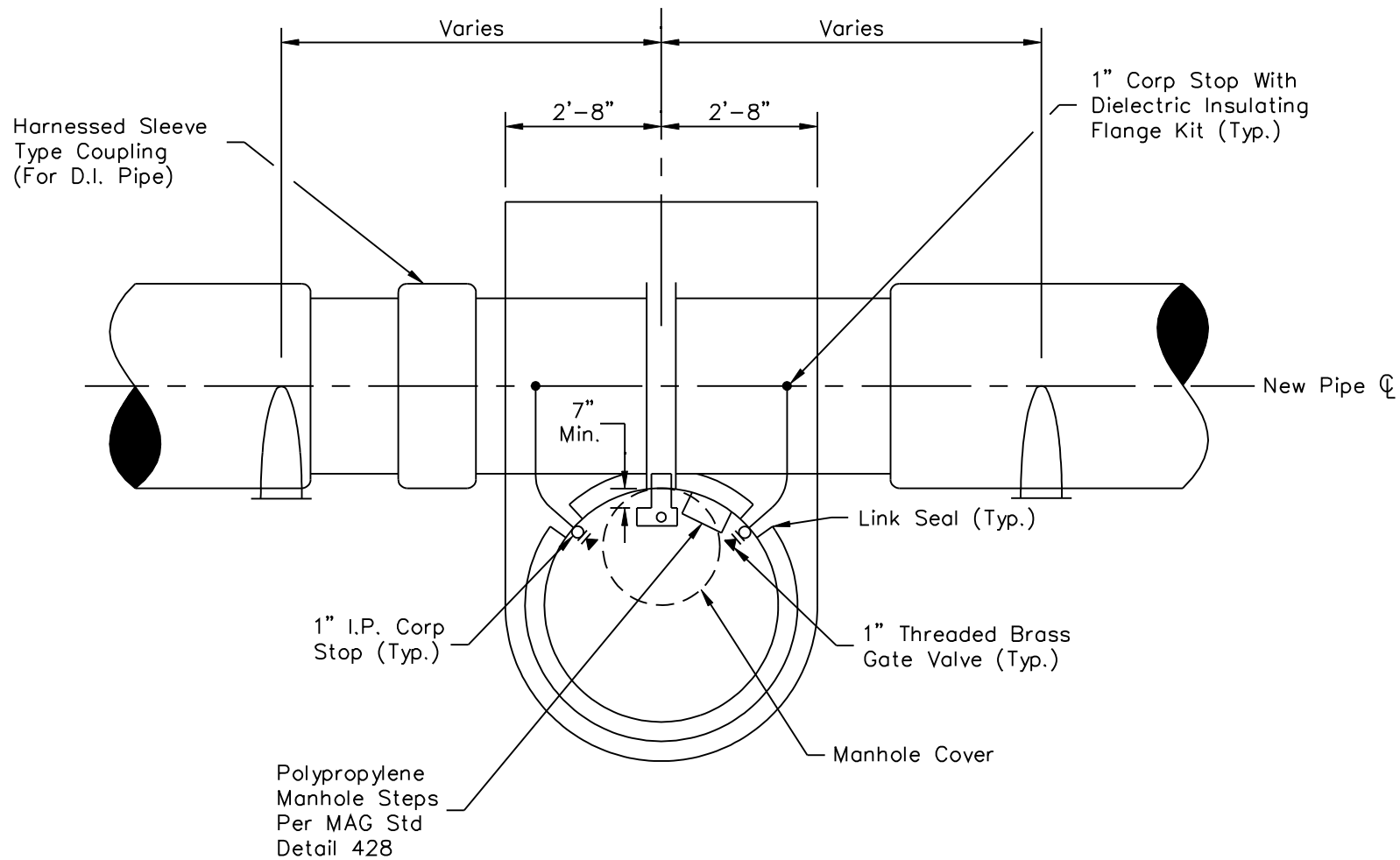
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**BUTTERFLY VALVE OPERATOR MANHOLE**

DETAIL NO.  
**2305-1**

REVISED 1/14/93



PLAN

DETAIL NO.

**2305-2**

**City of Scottsdale  
Standard Details**

APPROVED BY:

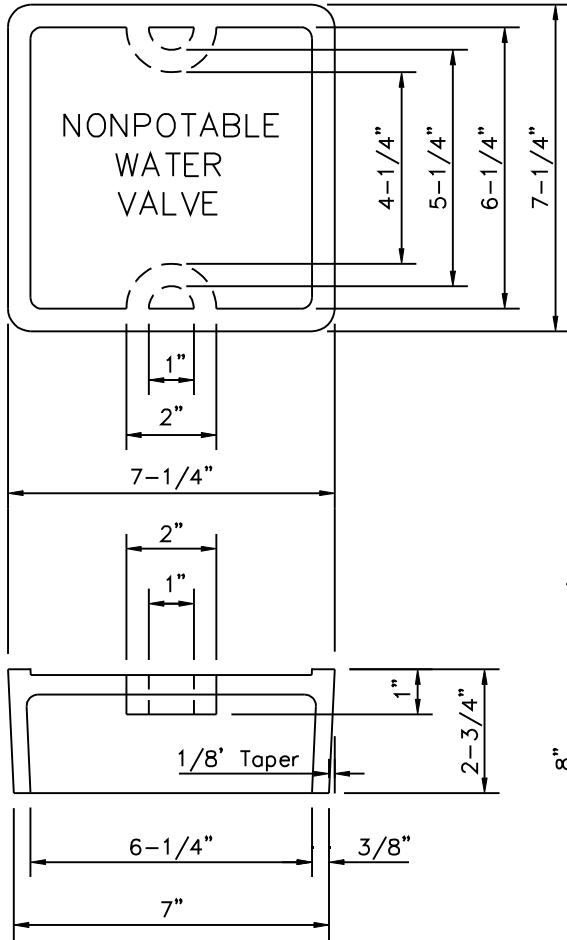
**Scottsdale Standards &  
Specifications Committee**

**BUTTERFLY VALVE OPERATOR MANHOLE**

DETAIL NO.

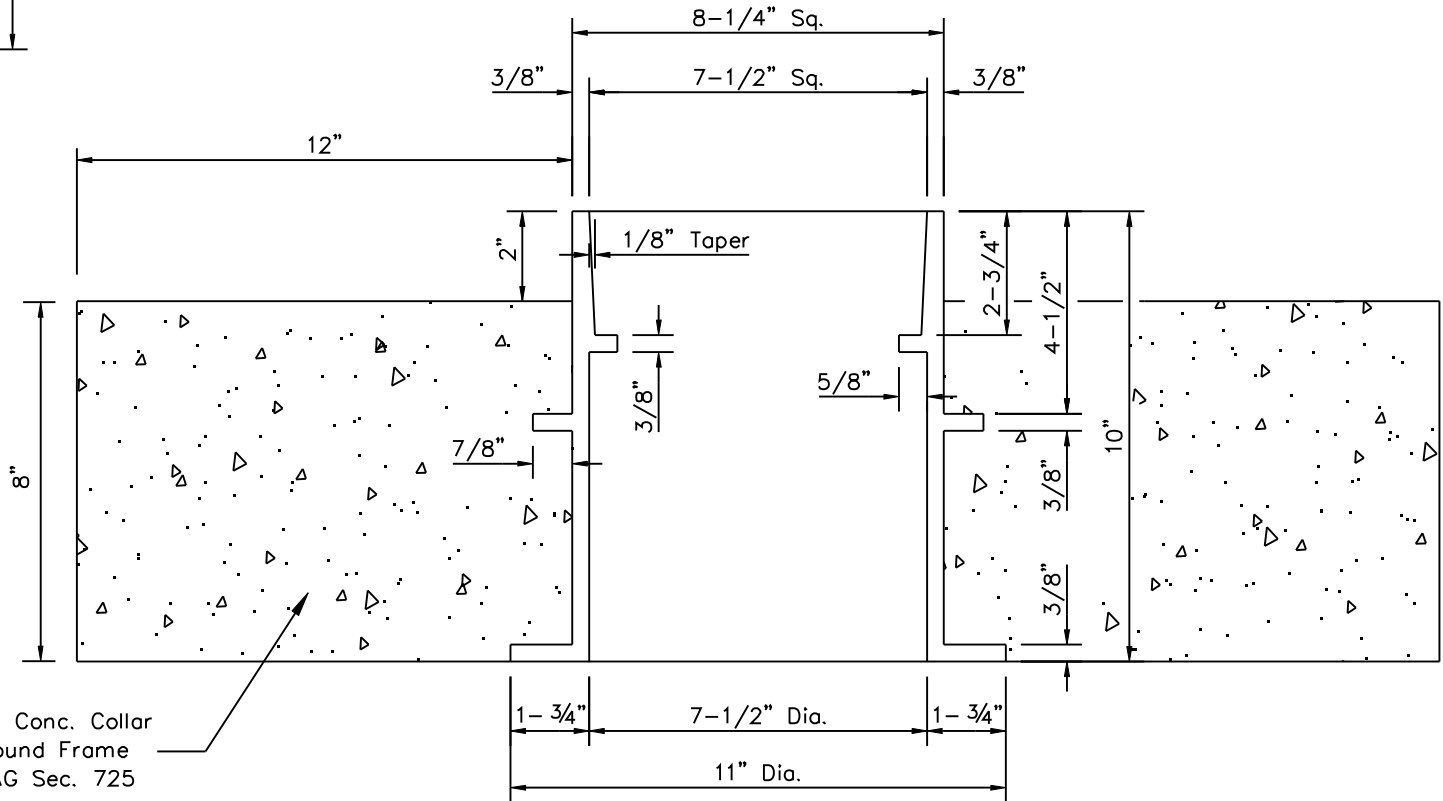
**2305-2**

REVISED 2/22/99



NOTES

1. Round bottom for riser pipe, square top for cover.
2. All materials shall be cast iron per ASTM A48, Class 30B.
3. Nonpotable water valve box to be installed per M.A.G. Std. Detail 391.
4. The cast iron lid shall be marked "Nonpotable Water Valve" on the top side. Letters shall be 1" each and raised 1/8".



Class 'B' Conc. Collar  
All Around Frame  
Per MAG Sec. 725

DETAIL NO. **2315** **City of Scottsdale**  
**Standard Details**

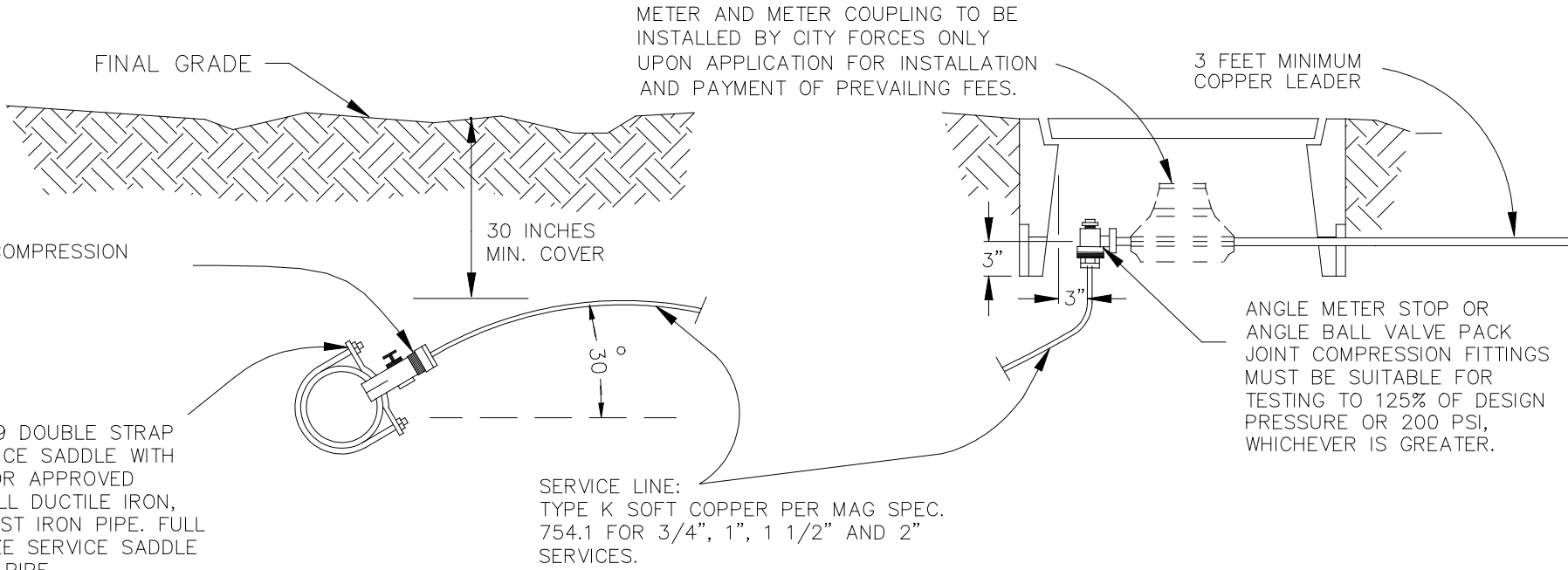
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**NONPOTABLE WATER VALVE BOX & COVER**

DETAIL NO. **2315**



REVISED 4/24/07



- NOTE:
1. All taps must be made using a service saddle.
  2. All service line sizes shall have the pack joint compression fittings for corp. stops and meter stops.
  3. Where a contractor is installing new water lines, all water service connections shall also be installed. The contractor's installation shall include the service saddle, corp. stop, service pipe, appurtenant fittings, meter stop, concrete meter box and box cover per M.A.G. Specifications.
  4. Copper service lines in the 3/4", 1", 1 1/2", and 2" sizes that cross streets will be one continuous piece. Only with written consent of Water & Wastewater Operations will joints be permitted under a road. When this occurs, pack joint fittings will be required; no soldered joints will be permitted.
  5. Authorized City of Scottsdale Water and Wastewater Operations personnel, or a City approved tapping contractor shall install the water service connections on existing mains.
  6. All services shall be set to final/curb grade prior to pressure testing. If meter stop is compromised during construction, or is affected as a result of grade change, it will be required to be replaced. Final landscape grade shall be set flush to top of the meter box.

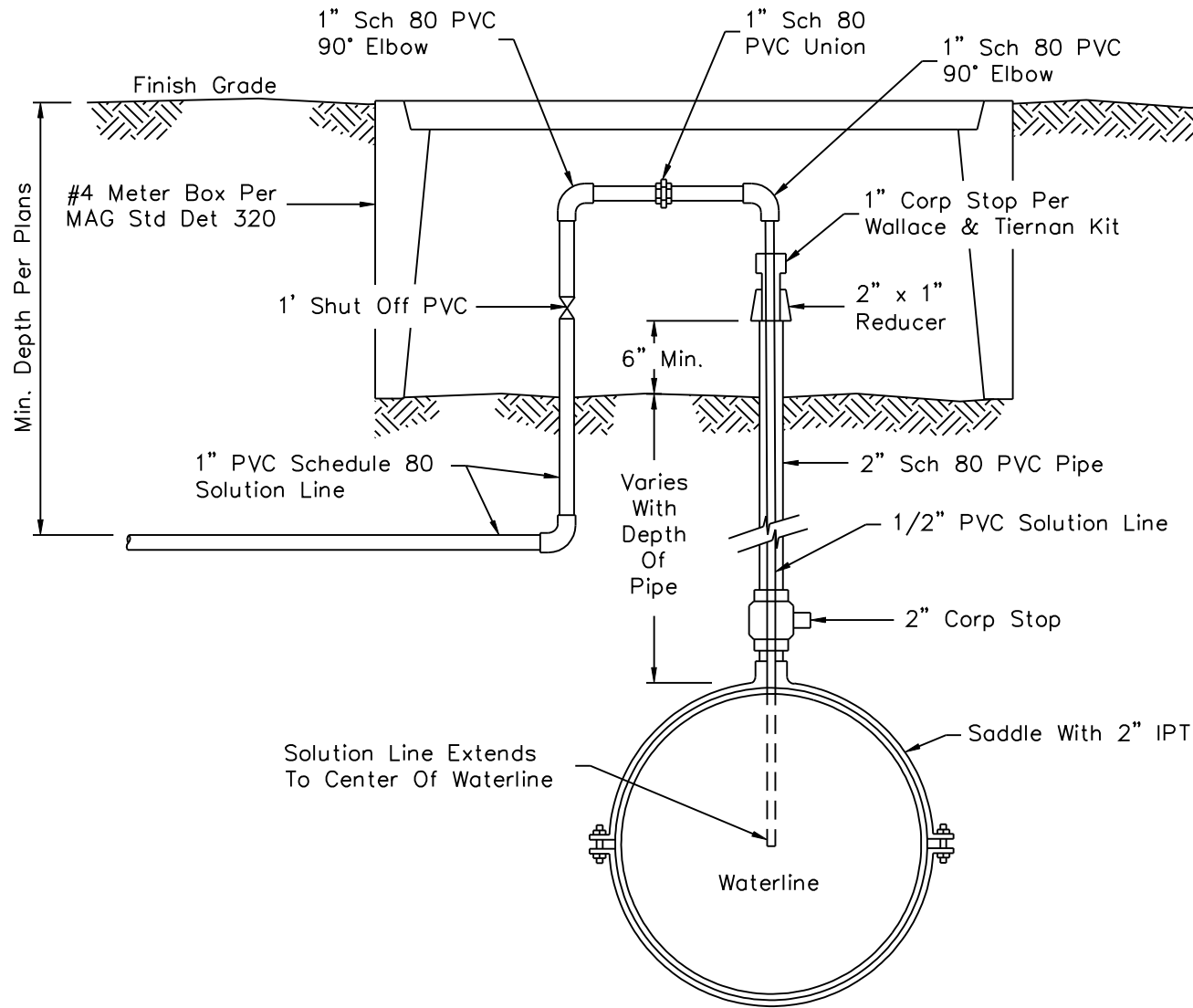
DETAIL NO. **2330** **City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**WATER SERVICE LINE CONNECTION**

DETAIL NO. **2330**

REVISED 3/11/94



**NOTE:**

Specifications on all fittings shall exceed the maximum pressures of the system.

DETAIL NO.  
**2332**

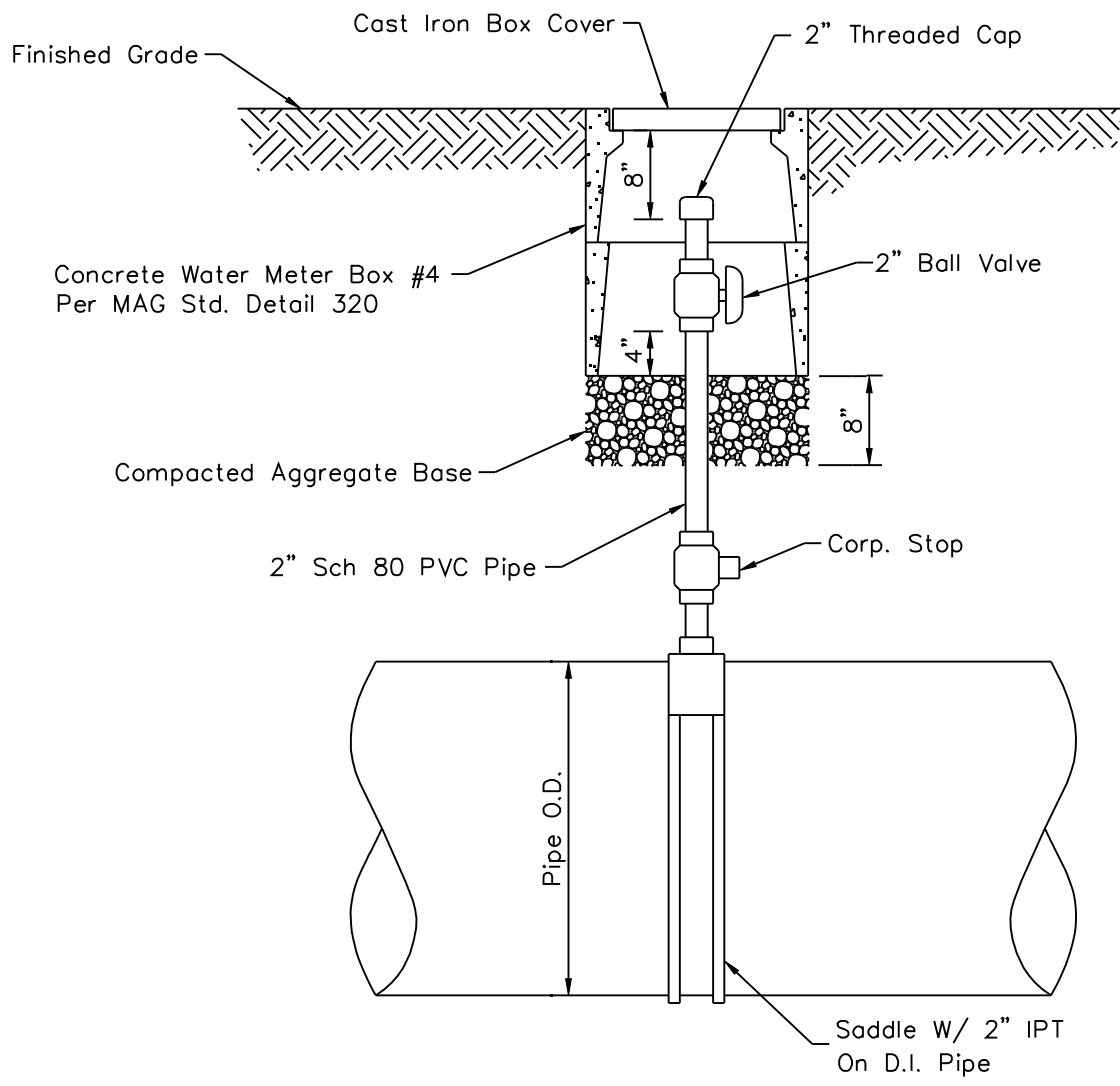
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**CHLORINE INJECTION TAP  
FOR UNDERGROUND WATERLINES**

DETAIL NO.  
**2332**

REVISED 1/4/93



DETAIL NO.  
**2333**

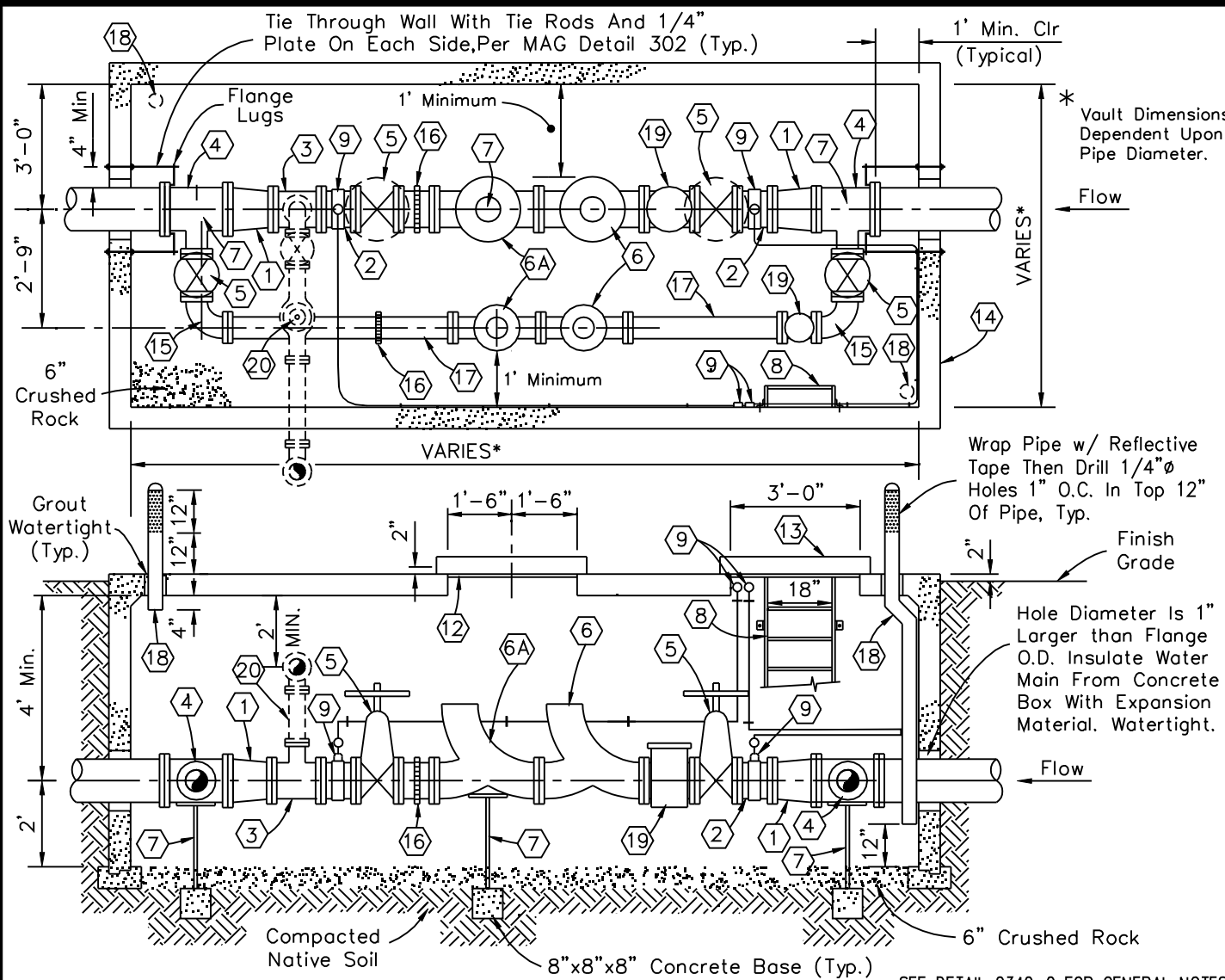
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# TAP FOR FUTURE CHLORINE INJECTION

DETAIL NO.  
**2333**

REVISED 2/27/01



**NOTES**

- ① D.I.P. Flg Concentric Reducer
  - ② D.I.P. Flg x Flg Spool Piece
  - ③ D.I.P. Flg x Flg Tee. Install Only When Detail 2342-2 Is Used.
  - ④ D.I.P. Flg Reducing Tee
  - ⑤ Flg NRS Resilient Wedge Gate Valve, Inside Epoxy Coated, Low Zinc Stem w/ Wheel Handle
  - ⑥ Flg PRV Bermad Model 723-20-V-I-U w/ Valve Position Indicator & Low Flow V-Port Plug And Must Have Stainless Steel Pilot Tubing, Or Approved Equal.
  - ⑥A Flg PRV Bermad Model 723-20-V-I-U w/ Valve Or Approved Equal Will Be Installed When Pressure Differential Is 100 psi Or Greater.
  - ⑦ 4" Dia Galv Adjustable Pipe Supports w/ 1" Adj. Rod And Nut On 8"x 8"x 8" Concrete Base.
  - ⑧ Galv Access Ladder Bolted To Wall, 6" Stand Off.
  - ⑨ Saddle With 1" Corp., 3/8" Brass Reducer, 3/8" 3/8" Brass Tee w/ Oil Filled 0-200 Pressure Gauge. Install 3/8" Stainless Tubing Strapped To Wall As Shown w/ Oil Filled Gauges Mounted At Access Door. Gages To Be Readable From Outside Vault.
  - ⑫ For 8" Valves Or Larger Install Utility Vault Raised/ Adjustable Access Door, Model 3636, Or Approved Equal, Centered Over Main Valves For Removal.
  - ⑬ Utility Vault Raised/Adjustable Steel Access Door For Inspection, Model 3636 Or Approved Equal. Place In Corner With Ladder.
  - ⑭ Precast Concrete Water Utility Vault, Per MAG Std Det 321 & 345-1, Inside Dimensions Vary Depending On Pipe Size.
  - ⑮ D.I.P. Flg 90° Elbow
  - ⑯ Victaulic Coupling Or Approved Equal w/ All Thread Tie Rods.
  - ⑰ D.I.P. Flg Pipe Spool
  - ⑱ 4" Galv. Steel Vent Pipe With Cap. Strap Pipe To Wall. Install Vents In Unpaved Areas Only.
  - ⑳ Basket Type Strainer
  - ⑳ 4" Pressure Relief Bermad Model 730-I-U w/ Valve Position Indicator Or Approved Equal Required When Pressure Differential Meets Or Exceeds 100 PSI. See Detail 2342-2.
- \* Engineer to note direction of flow and pressure setting on the plans.

SEE DETAIL 2342-2 FOR GENERAL NOTES

DETAIL NO.  
**2342-1**

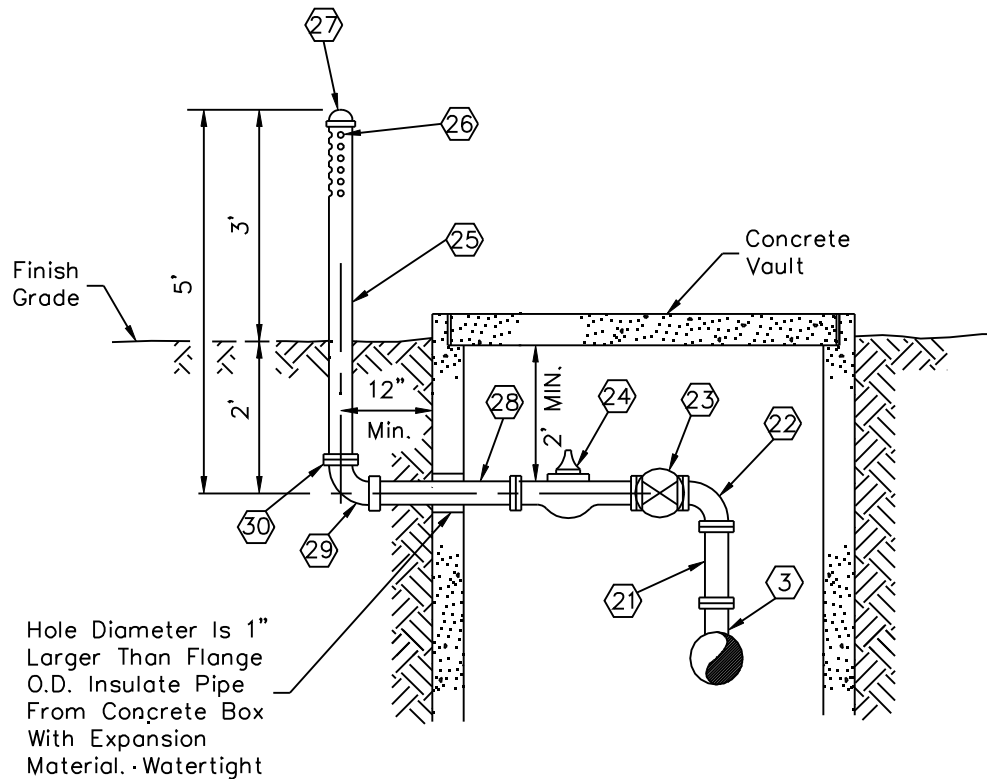
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**PRESSURE REDUCING VALVE**

DETAIL NO.  
**2342-1**












REVISED 2/27/01



## PRESSURE RELIEF OUTLET ASSEMBLY DETAIL

SEE NOTE  DETAIL 2342-1

### NOTES

-  Fig x Flg Tee, See Detail 2342-1
-  4" Flg Connecting Piece
-  4" DIP Flg x Flg 90° Elbow, w/ Restrained Joints (Meg A Lug Or Approved Equal)
-  4" Flg NRS Resilient Wedge Gate Valve, Inside Epoxy Coated, Low Zinc Stem w/ Handwheel
-  4" Flg PRV Bermad Model 730-I-U Or Approved Equal, Epoxy Coated w/ Valve Position Indicator
-  4" SCH. 40 Steel Pipe (Painted Desert Beige)
-  6 Rows 2" O.C. Of 3-1/2"  $\phi$  Holes, 180° Spray Pattern
-  4" SCH 40 Steel Cap (Threaded)
-  4" Ductile Pipe Spool
-  4" DIP MJ x Flg 90° Elbow
-  Flanged Connection w/ Breakaway Bolts

### GENERAL NOTES

1. All pipe and valves are to be rated per system pressure.
2. Pilot lines for all controls will be stainless steel tubing.
3. Stainless tubing bends will be uniform and made with a tubing bender.
4. Bypass line (small PRV) shall be 4" Min. D.I.P.
5. Airvents and relief outlet riser pipe shall not be located within 12 feet of an existing edge of pavement or within 2 feet of a barrier type curb or 2' back of sidewalk.

DETAIL NO.  
**2342-2**

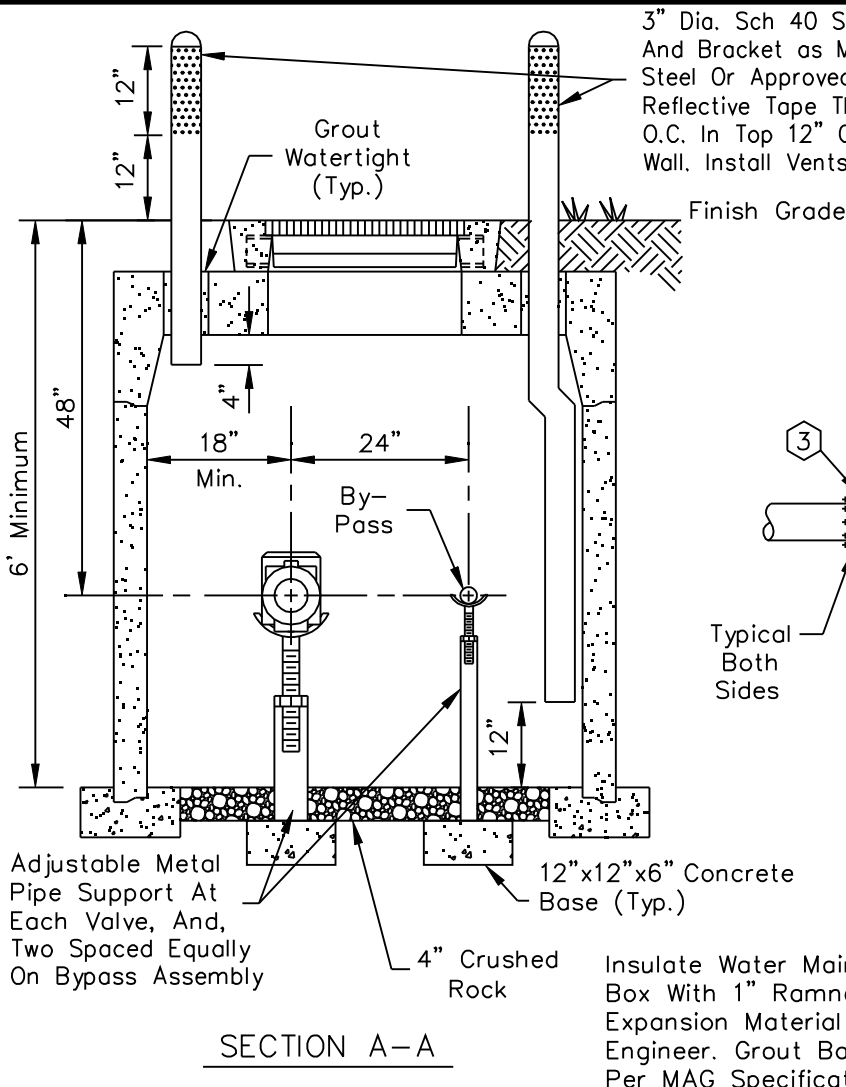
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**PRESSURE REDUCING VALVE**

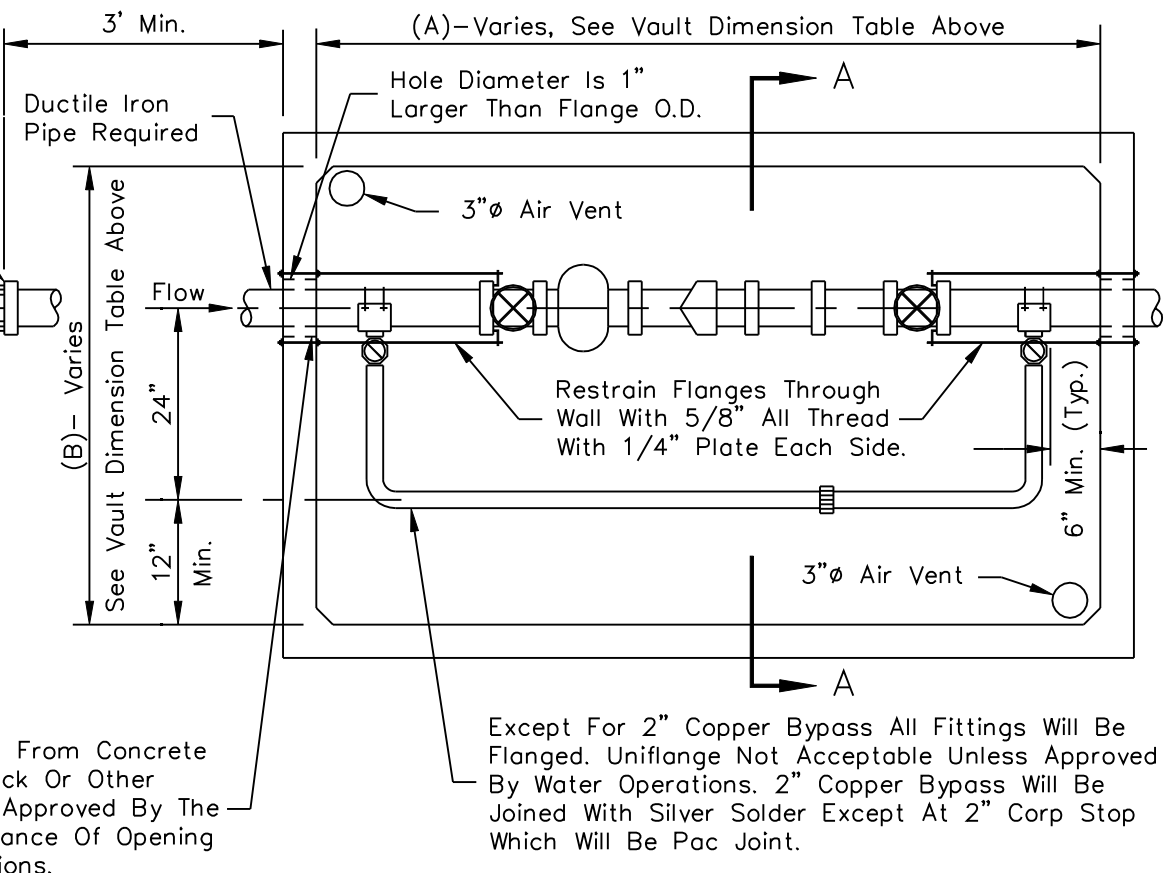
DETAIL NO.  
**2342-2**

REVISED 2/27/01



NOTE: Meter Vaults To Be Pre-Cast Concrete Unless Otherwise Approved By Water Operations. See MAG Std Detail 321 For Vault Construction.

VAULT DIMENSION TABLE			
MAIN SIZE	3"	4"	6"
(A)	8'-4"	10'-6"	12'-0"
(B)	4'-6"	5'-0"	5'-0"



SECTION A-A

PLAN

**VAULT INSTALLATION**

DETAIL NO. **2345-1** **City of Scottsdale Standard Details**

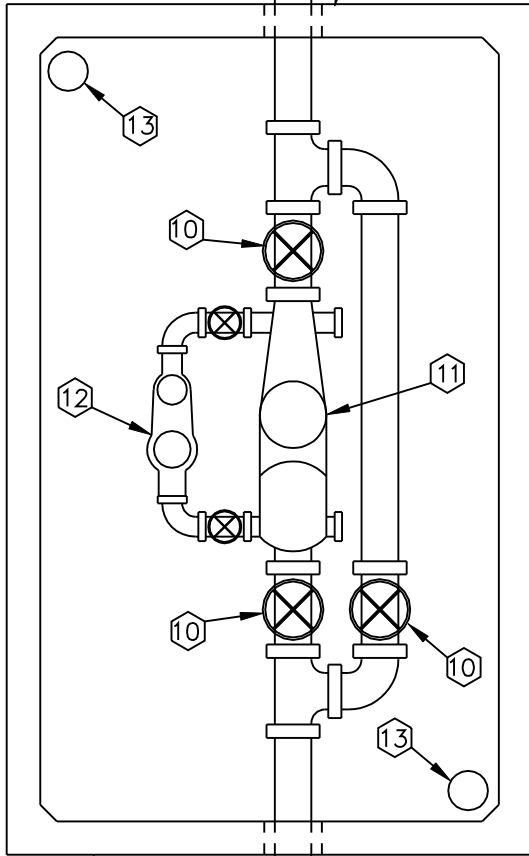
APPROVED BY: **Scottsdale Standards & Specifications Committee**

**3", 4", 6" WATER METER**

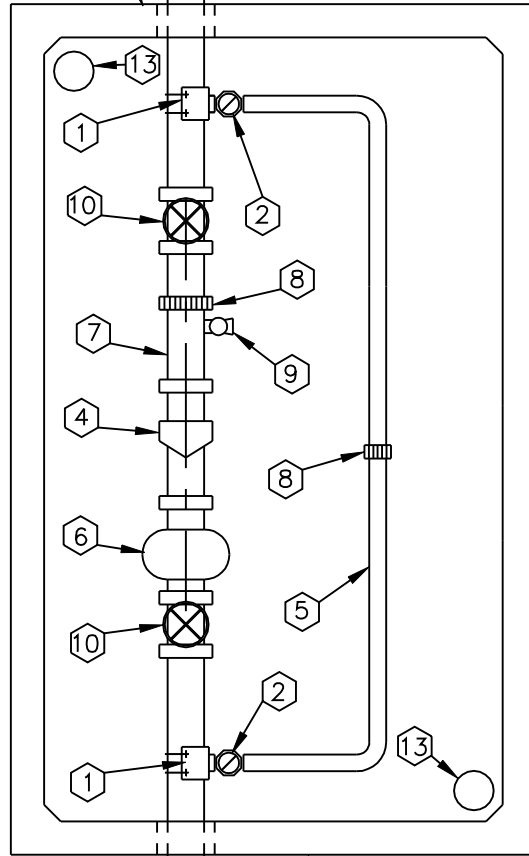
DETAIL NO. **2345-1**

REVISED 2/27/01

For Vault Construction  
See MAG Std Det 321



**COMBINATION DOMESTIC/  
FIRE LINE METER**



**COMPOUND/TURBINE METER**

Typical Both  
Sides

KEY NOTES

- ① Double Strap All Bronze Service Saddle, Or Flanged x Flanged Tee With Flanged X Flanged Valve For Sizes 3" Or Larger.
- ② Corp. Stop, 2"(Ball Type), Or R.W. Gate Valve With Non-Rising Stem Handwheel Operator For 3" Or Larger.
- ③ Adaptor, Flanged To Mech. Joint For A.C.P.
- ④ Turbine (High Flow) Or Compound Meter, See Note 4 Below.
- ⑤ 2" Ridged Type "K" Copper By-Pass Line, 3" Or Larger To Be Ductile Iron. Not Less Than One Pipe Size Smaller Than Meter In Note 4.
- ⑥ Strainer, Supplied with Meter.
- ⑦ Flanged Spool, (3 Pipe Diameters In Length, Min.).
- ⑧ Provide Victaulic Coupling Or Approved Equal For All Lines 3" Or Larger.
- ⑨ 2" Threaded Outlet And Ball Valve. Not Needed If Vertical Test Valve Is Provided On Meter.
- ⑩ Resilient Wedge Gate Valve, Flanged, With Hand Wheel, Open Left, With Non-Rising Stem.
- ⑪ Turbine (High Flow) Or Compound Meter, See Note 4 Below.
- ⑫ 2" Turbine Meter: Sensus "W-160" Or Hersey "MHR" Or Neptune Trident Turbine.
- ⑬ 3"Ø Air Vent, See Sheet 1 Of 2.

NOTES

1. For Larger Meters Special Vault Design Is Required.
2. Use Of Remote Reading Device At Option Of Utility.
3. An Approved Backflow Prevention Assembly Shall Be Required Downstream Of The Water Meter. Contact Water Resources, Backflow Prevention For Specific Information.
4. Meter To Be Provided By City Upon Payment Of Fees.

SHEET 2 OF 2

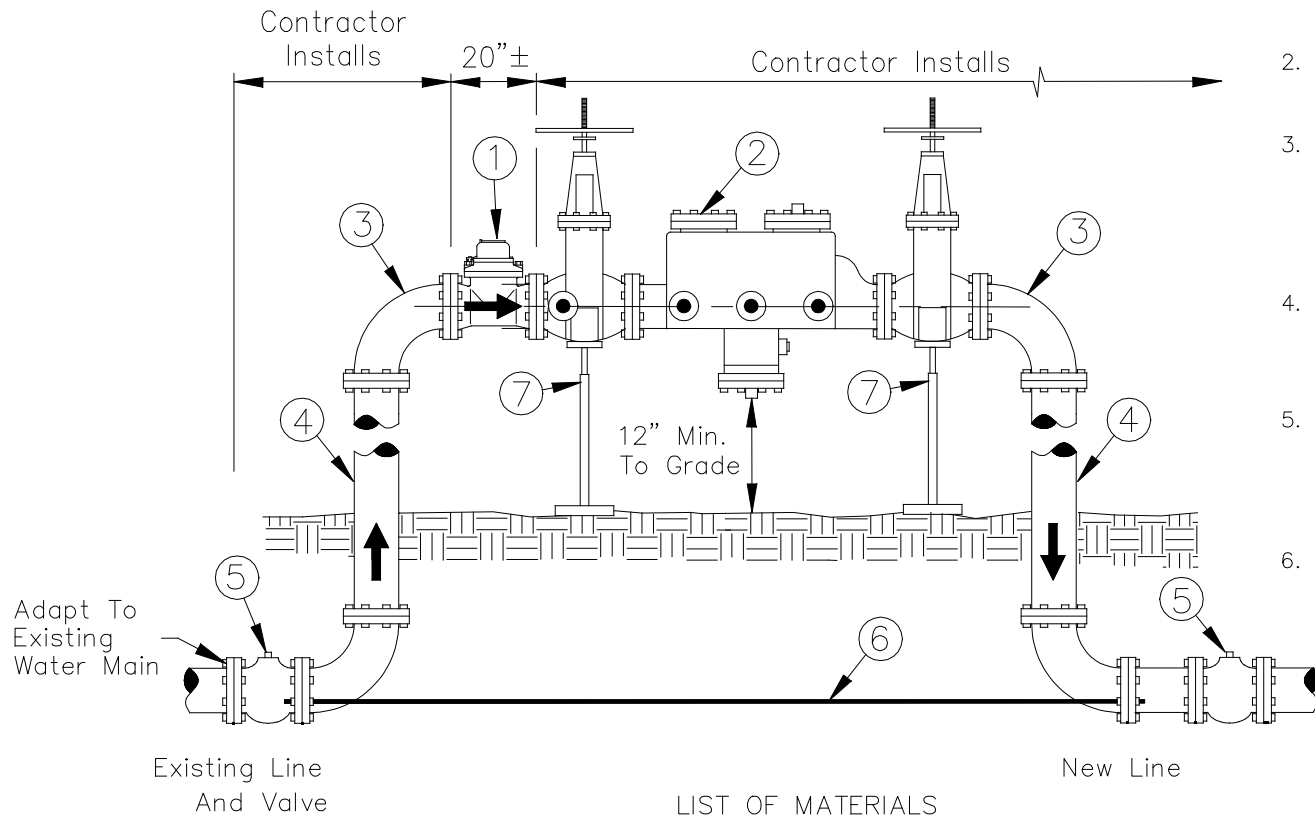
DETAIL NO.  
**2345-2** **City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**3, 4", 6" WATER METER**

DETAIL NO.  
**2345-2**

REVISED 4/25/07



GENERAL NOTES

1. Contractor to supply and install above ground piping and fittings to accommodate 3" meter, backflow preventer and 2 - 90° ells.
2. Contractor to remove piping and fittings after acceptance of new water main and complete connection as per MAG Standards.
3. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.
4. Any water line that is greater than 300 feet will require a temporary construction meter. Water lines less than 300 feet will not require a construction meter but will still be subject to bacterial testing.
5. City Inspector to determine readiness for meter prior to contacting Water Resources for meter setting. Contractor to supply transmittal number to City Inspector. City Inspector to notify the Water Resources Department when meter is ready for installation.
6. Reduced pressure principle backflow assemblies must be tested by a certified tester after installation, that is recognized by the City of Scottsdale.

LIST OF MATERIALS

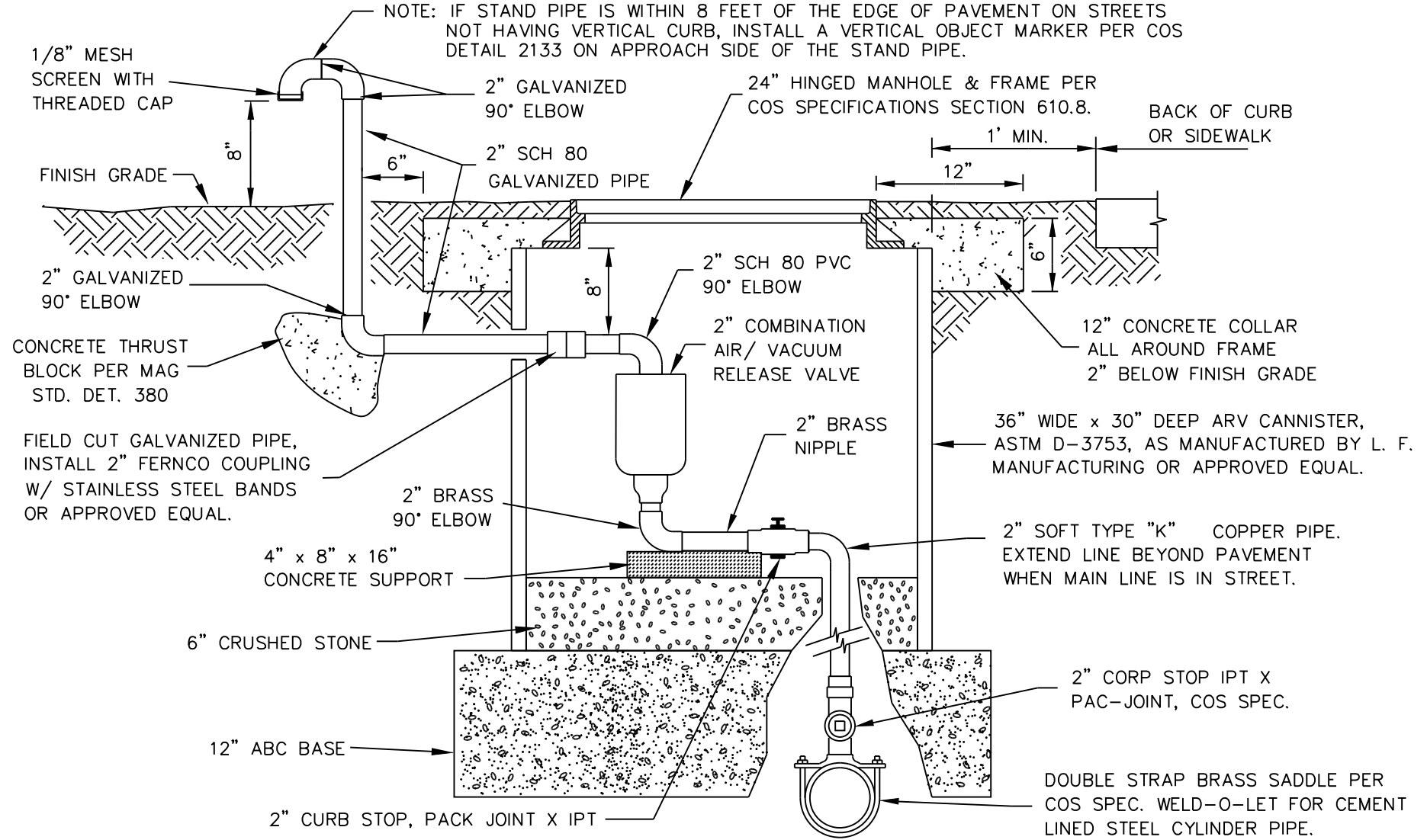
- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>① 3" Turbine Construction Meter With 3" Flanges, Supplied By City.</li> <li>② 3" Approved Reduced Pressure Principle Backflow Prevention Assembly, Supplied By Contractor.</li> <li>③ 3" Flanged Ductile Iron 90° Ell, Supplied By Contractor.</li> <li>④ 3" Ductile Iron Spool.</li> </ul> | <ul style="list-style-type: none"> <li>⑤ Line valves shall be within a 20' maximum distance upstream and downstream of flow meter or as approved by COS, and shall remain in-place after removal of temporary meter.</li> <li>⑥ 3/4"Ø zinc coated threaded rod.</li> <li>⑦ Adjustable Metal Pipe Support (Required).</li> </ul> |
|--|---|

DETAIL NO. <b>2346</b>	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>TEMPORARY CONSTRUCTION METER</b>	DETAIL NO. <b>2346</b>
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REVISED 4/17/09

NOTE: IF STAND PIPE IS WITHIN 8 FEET OF THE EDGE OF PAVEMENT ON STREETS NOT HAVING VERTICAL CURB, INSTALL A VERTICAL OBJECT MARKER PER COS DETAIL 2133 ON APPROACH SIDE OF THE STAND PIPE.



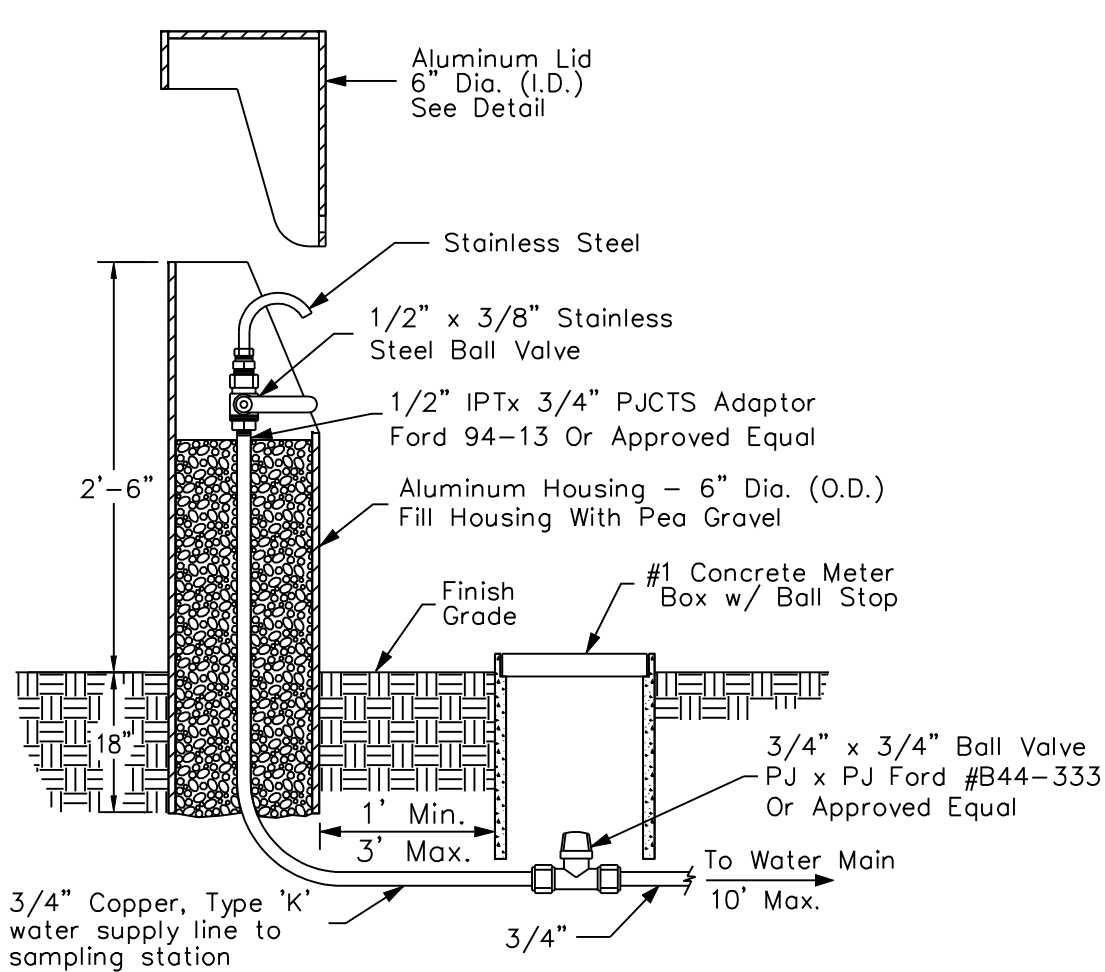
DETAIL NO.  
**2348**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

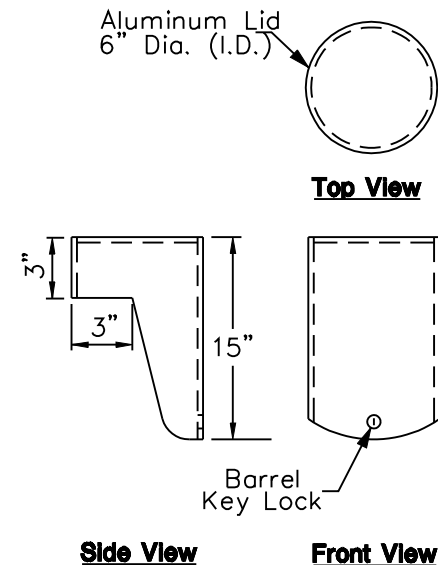
# 2" AIR/VACUUM RELEASE VALVE

DETAIL NO.  
**2348**



**TYPICAL INSTALLATION**

N.T.S.



**LID DETAILS**

N.T.S.

**NOTES:**

1. Water Quality Sampling Station to be Koralean or approved equal.
2. Keys to locks shall be delivered to City of Scottsdale Water Quality Department upon acceptance.

DETAIL NO.  
**2349**

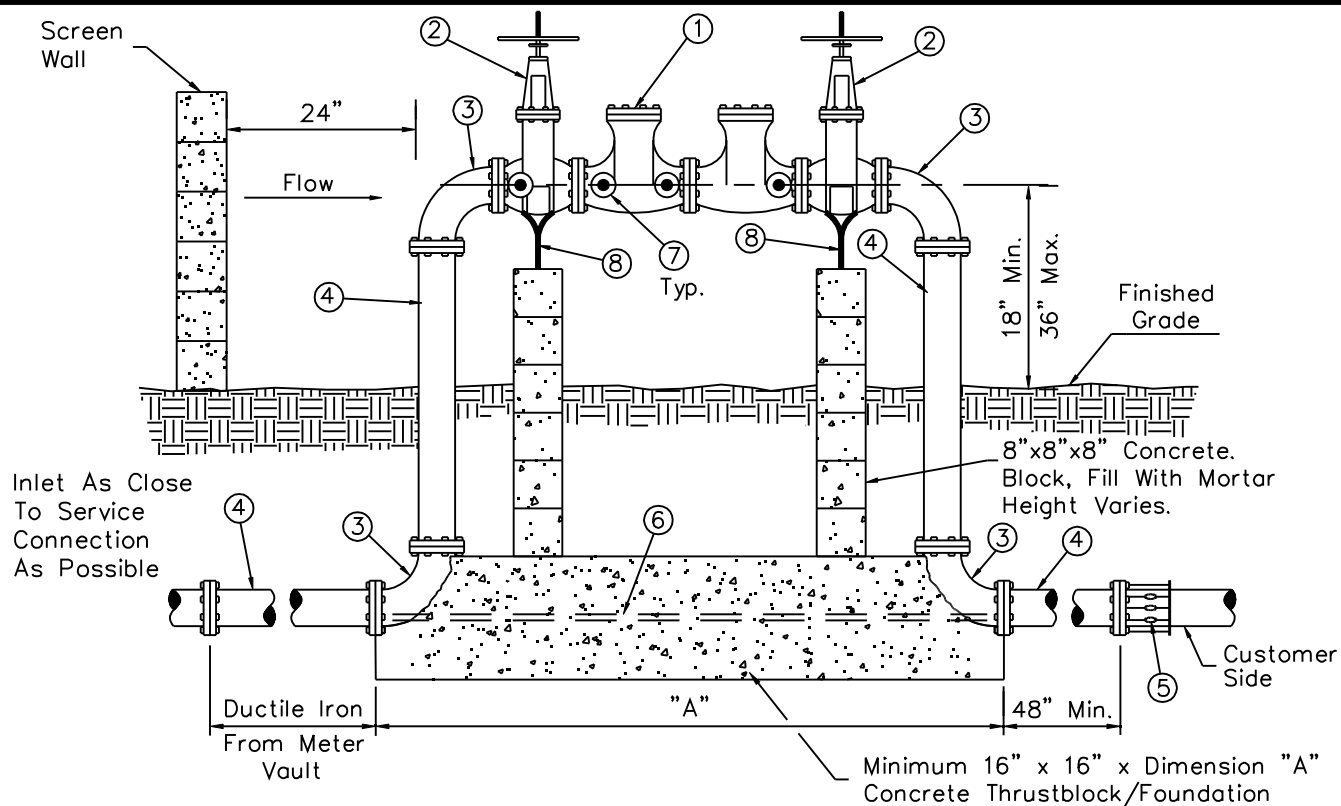
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**WATER QUALITY SAMPLING STATION**

DETAIL NO.  
**2349**

REVISED 5/5/04



GENERAL NOTES

1. Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
2. Backflow preventers shall be painted light tan or a color to match the building. Do not paint the name plate or any brass parts on the assembly.
3. For backflow preventers requiring guard posts see Detail 2356. Backflow preventers enclosed by screening shall maintain a 24 inch clearance around the assembly.
4. Finished grade underneath the backflow preventer shall be at 95% compaction.
5. Backflow preventers on fire lines may require tamper switches on the shut off valves. Contact City Of Scottsdale Plan Review, Fire Dept.
6. Call for underground inspection before backfilling trench.
7. Vertical installations of assemblies on fire sprinkler systems are allowed using assemblies approved for use in the vertical position on fire systems.
8. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.

LIST OF MATERIALS

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>① Approved double check valve backflow prevention assembly.</li> <li>② Resilient seated gate valve.<br/>O.S. &amp; Y. (fire line connection)<br/>N.R.S. (non fire line)</li> <li>③ 90° ell, Flanged D.I.P. 3" thru 10", Mega Lug or approved equal may be used on underground joints.</li> <li>④ Pipe spool, Flanged D.I.P. 3" thru 10", Mega Lug or approved equal may be used on underground joints.</li> <li>⑤ Flanged adapter (when required)</li> </ol> | <ol style="list-style-type: none"> <li>⑥ 3/4" zinc coated threaded rod, (5/8" rod on 3" to 4" sizes), bolt to flanges as shown, typical both sides.</li> <li>⑦ Test cocks with brass plugs or adaptors with caps installed. (4 required)</li> <li>⑧ Adjustable metal pipe supports and concrete block supports with 1" adjusting rod and nut on assemblies 4" and larger. Install above grade.</li> </ol> |
|---|---|

DETAIL NO.  
**2351**

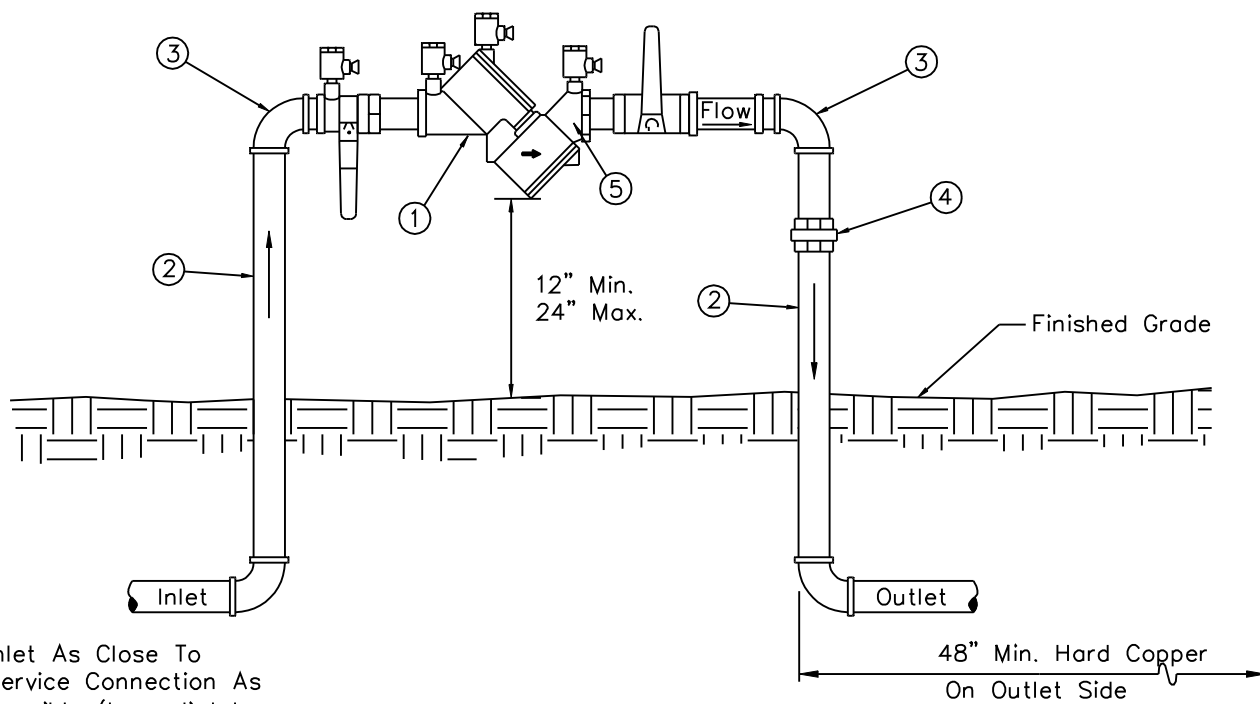
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY  
FOR ASSEMBLIES 3 INCHES THRU 10 INCHES**

DETAIL NO.  
**2351**

REVISED 4/24/08



Inlet As Close To Service Connection As Possible (Immediately After Water Meter).  
Hard Copper On Inlet Side.

LIST OF MATERIALS

- ① Approved double check valve backflow prevention assembly, ball valves included.
- ② Pipe spool, type "L" hard copper, 3/4" thru 2 1/2".
- ③ 90° ell, copper, 3/4" thru 2 1/2".
- ④ Pipe union, brass or copper.
- ⑤ Test cocks with brass plugs or adaptors with caps installed. (4 required)

GENERAL NOTES

- 1. Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
- 2. Copper fittings shall be connected with lead free solder joints.
- 3. Finished grade underneath the backflow preventer shall be at 95% compaction.
- 4. All nipples to be copper or brass.
- 5. Inlet / outlet piping must be type "K" hard copper.
- 6. Call for underground inspection before backfilling trench.
- 7. Vertical installations of assemblies on fire sprinkler systems are allowed using assemblies approved for use in the vertical position on fire systems.
- 8. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.

DETAIL NO.  
**2352**

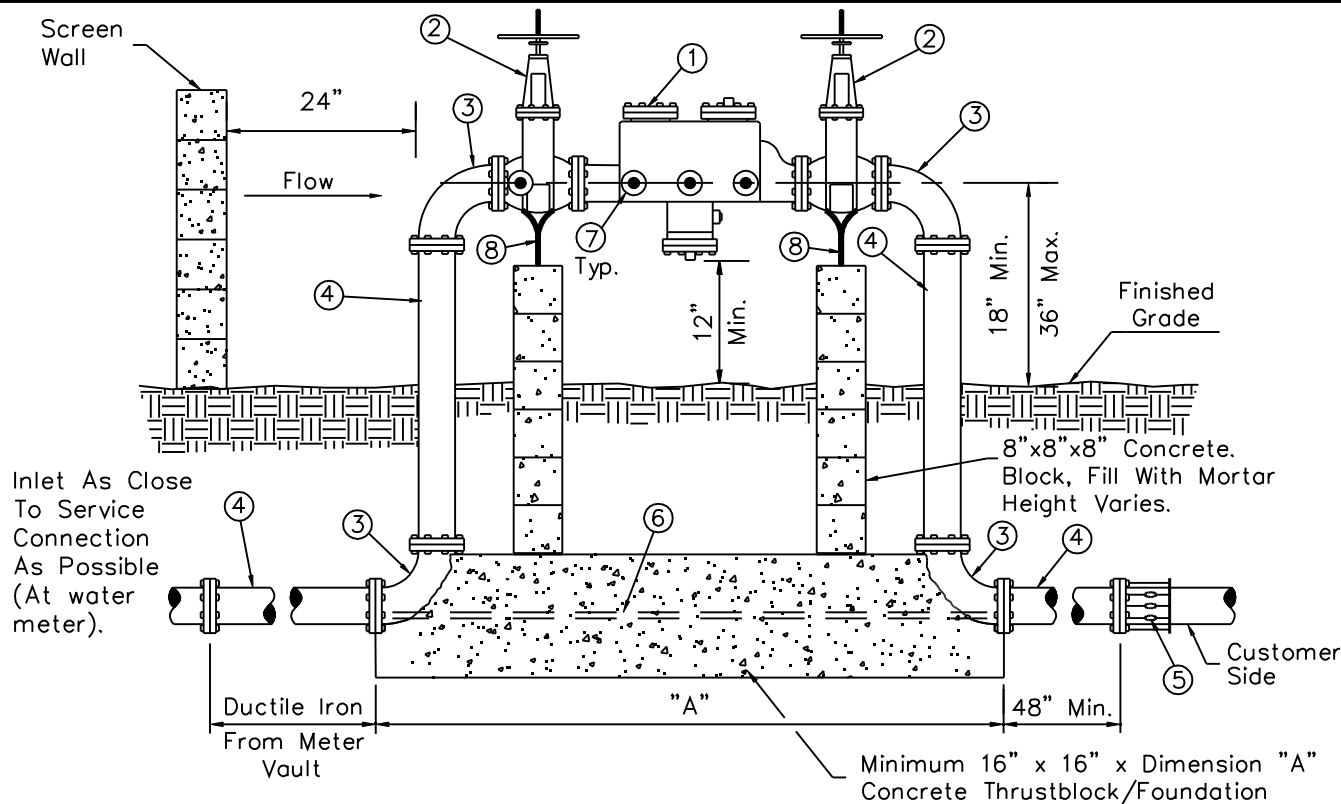
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLY  
FOR ASSEMBLIES 3/4 INCH THRU 2 1/2 INCHES**

DETAIL NO.  
**2352**

REVISED 5/05/04



GENERAL NOTES

1. Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
2. Backflow preventers shall be painted light tan or a color to match the building. Do not paint the name plate or any brass parts on the assembly.
3. For backflow preventers requiring guard posts see Detail 2356. Backflow preventers enclosed by screening shall maintain a 24 inch clearance around the assembly.
4. Finished grade underneath the backflow preventer shall be at 95% compaction.
5. Backflow preventers on fire lines may require tamper switches on the shut off valves. Contact City Of Scottsdale Plan Review, Fire Dept.
6. Call for underground inspection before backfilling trench.
7. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.

LIST OF MATERIALS

- |   |  |
|---|--|
| <p>① Approved reduced pressure principle backflow prevention assembly.</p> <p>② Resilient seated gate valve. O.S. &amp; Y. (fire line connection). N.R.S. (non fire line)</p> <p>③ 90° ell. Flanged D.I.P. 3" thru 10", Mega Lug or approved equal may be used on underground joints.</p> <p>④ Pipe spool. Flanged D.I.P. 3" thru 10", Mega Lug or approved equal may be used on underground joints.</p> <p>⑤ Flanged adapter (when required)</p> | <p>⑥ 3/4" zinc coated threaded rod, (5/8" rod on 3" to 4" sizes), bolt to flanges as shown, typical both sides.</p> <p>⑦ Test cocks with brass plugs or adaptors with caps installed. (4 required)</p> <p>⑧ Adjustable metal pipe supports and concrete block supports with 1" adjusting rod and nut on assemblies 4" and larger. Install above grade.</p> |
|---|--|

DETAIL NO.  
**2353**

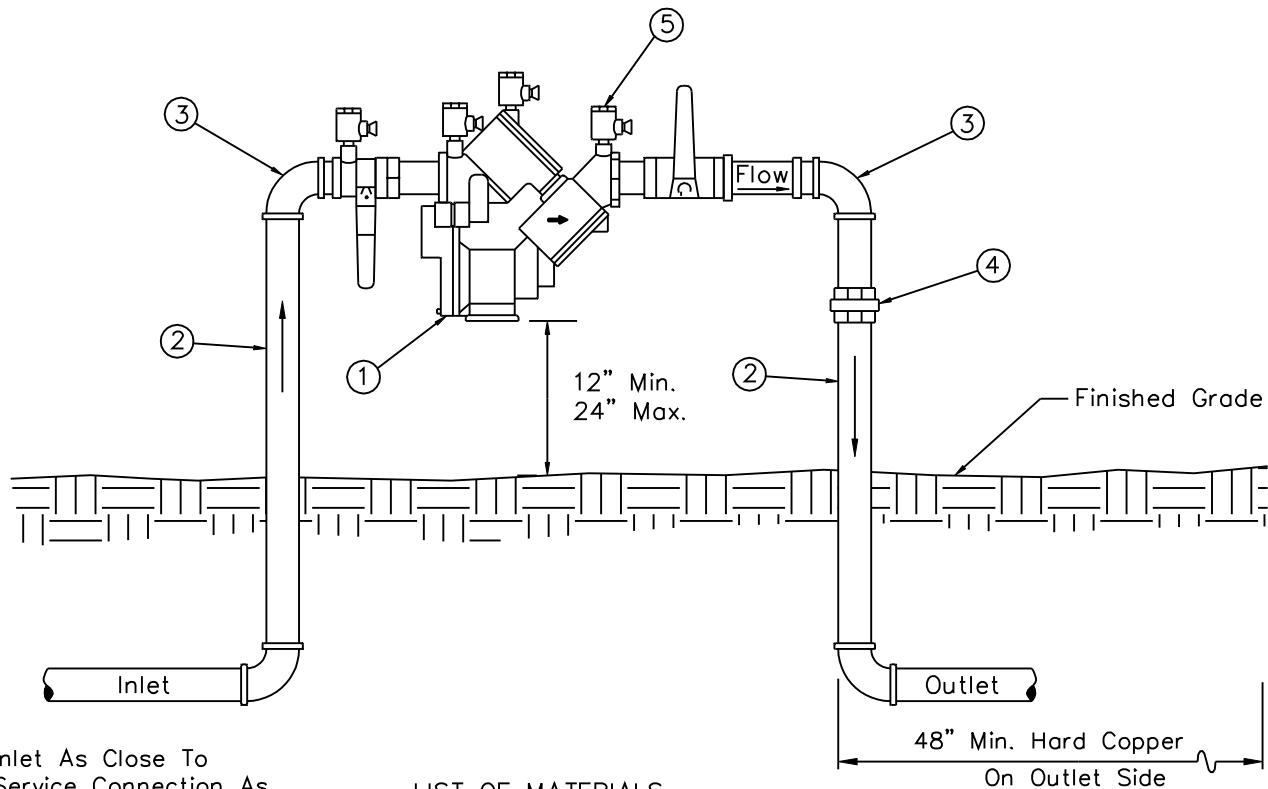
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION  
ASSEMBLY FOR ASSEMBLIES 3 INCHES THRU 10 INCHES**

DETAIL NO.  
**2353**

REVISED 4/24/08



Inlet As Close To Service Connection As Possible (Immediately After Water Meter).  
Hard Copper On Inlet Side.

LIST OF MATERIALS

- ① Approved reduced pressure principle backflow prevention assembly, ball valves included.
- ② Pipe spool, type "L" hard copper, 3/4" thru 2 1/2".
- ③ 90° ell, copper, 3/4" thru 2 1/2".
- ④ Pipe union, brass or copper.
- ⑤ Test cocks with brass plugs or adaptors with caps installed. (4 Required)

GENERAL NOTES

- 1. Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
- 2. Copper fittings shall be connected with lead free solder joints.
- 3. Finished grade underneath the backflow preventer shall be at 95% compaction.
- 4. All nipples to be copper or brass.
- 5. Inlet / outlet piping must be type "k" hard copper.
- 6. Call for underground inspection before backfilling trench.
- 7. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.

DETAIL NO.  
**2354**

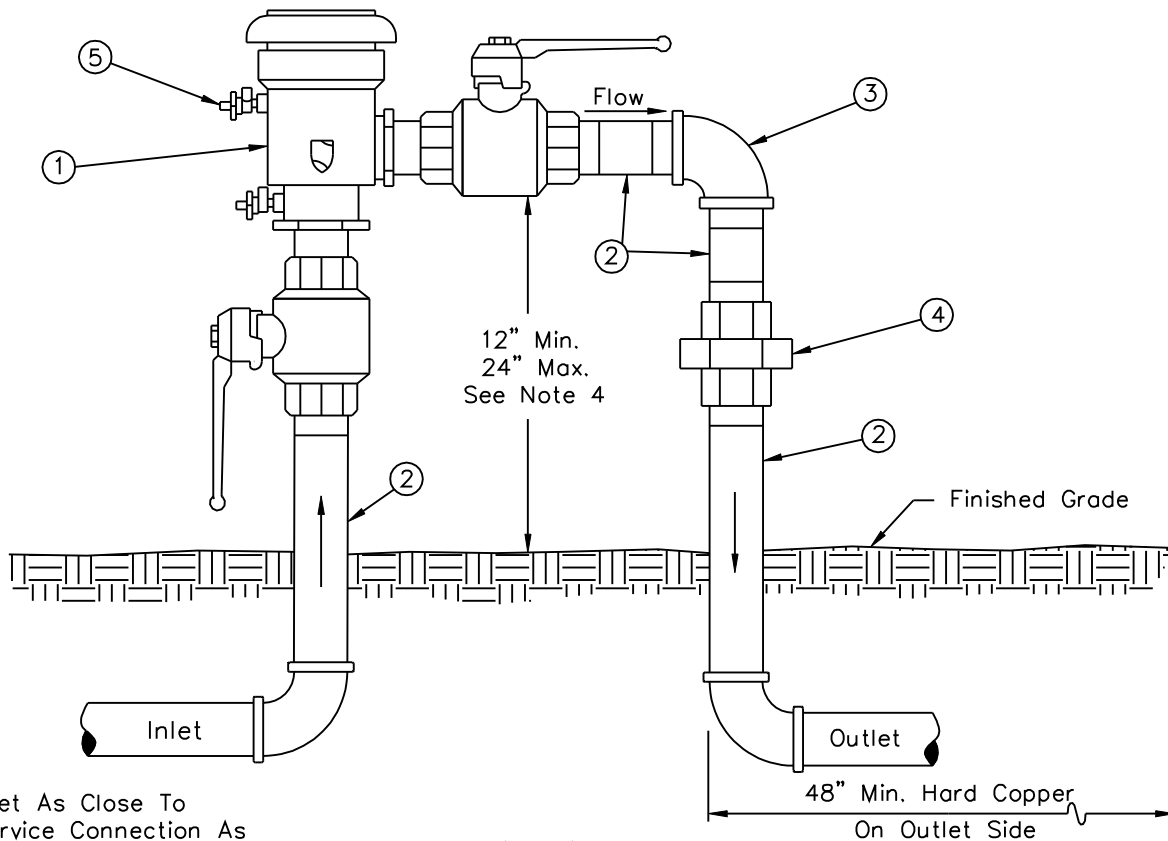
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION  
ASSEMBLY FOR ASSEMBLIES 3/4 INCH THRU 2 1/2 INCHES**

DETAIL NO.  
**2354**

REVISED 4/24/08



Inlet As Close To Service Connection As Possible (Immediately After Water Meter).  
Hard Copper On Inlet Side.

LIST OF MATERIALS

- ① Approved pressure vacuum breaker assembly, ball valves included.
- ② Pipe spool, type "L" hard copper, 1/2" thru 2".
- ③ 90° ell, copper, 1/2" thru 2".
- ④ Pipe union, brass or copper.
- ⑤ Test cocks with brass plugs or adaptors with caps installed. (2 required)

GENERAL NOTES

- 1. Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
- 2. Pressure vacuum breakers must be installed at least 12" above all downstream piping.
- 3. If this distance exceeds 24 inches, a reduced pressure principle backflow prevention assembly must be utilized. See Detail 2354.
- 4. Copper fittings shall be connected with lead free solder joints.
- 5. Finished grade underneath the backflow preventer shall be at 95% compaction.
- 6. All nipples to be copper or brass.
- 7. Inlet / Outlet piping must be type "K" hard copper.
- 8. Call for underground inspection before backfilling trench.
- 9. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers.

DETAIL NO.  
**2355**

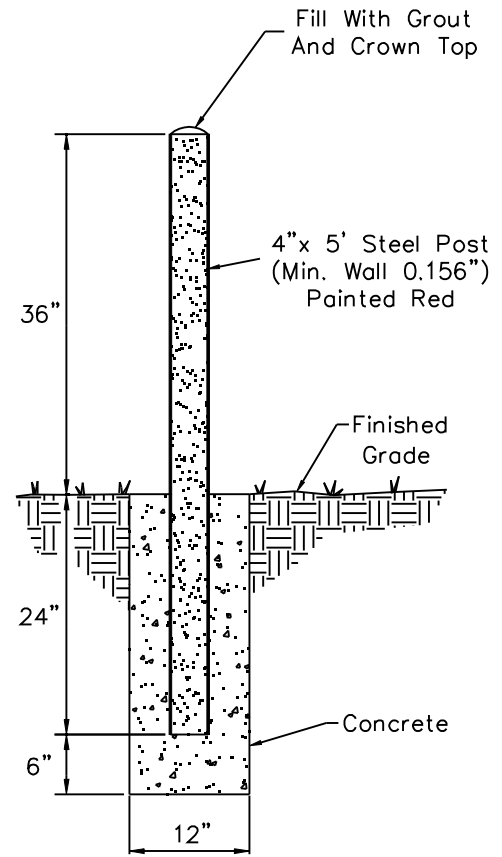
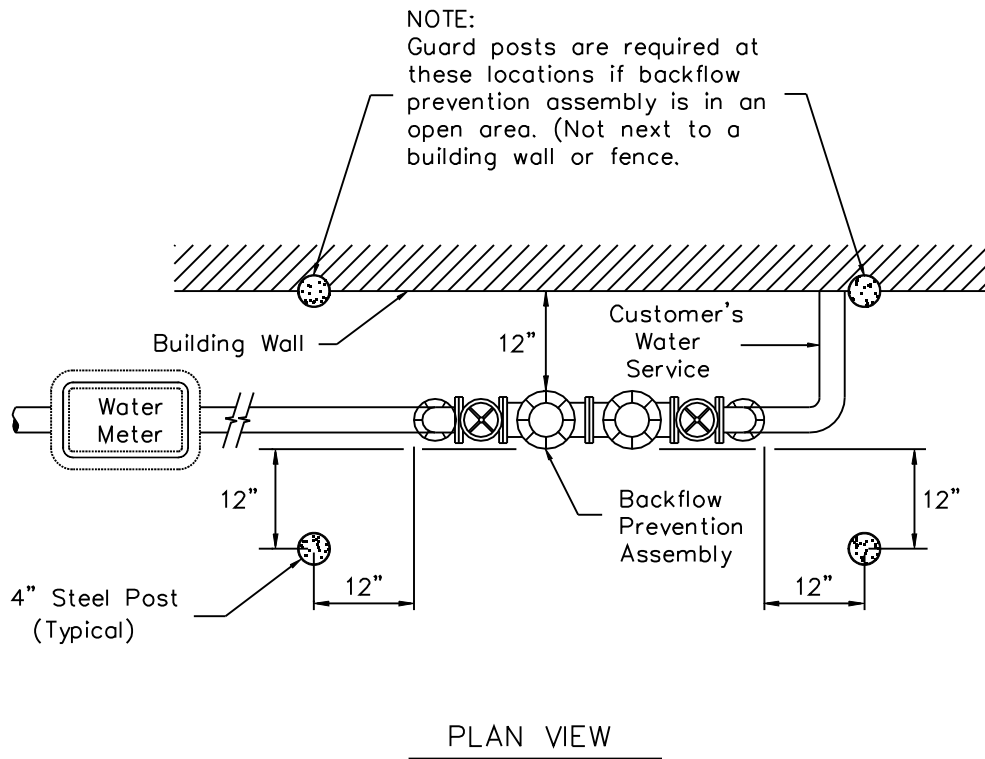
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**PRESSURE VACUUM BREAKER ASSEMBLY  
FOR ASSEMBLIES 1/2 INCH THRU 2 INCHES**

DETAIL NO.  
**2355**

REVISED 2/09/99



DETAIL NO.  
**2356**

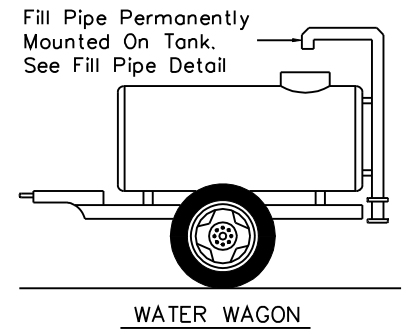
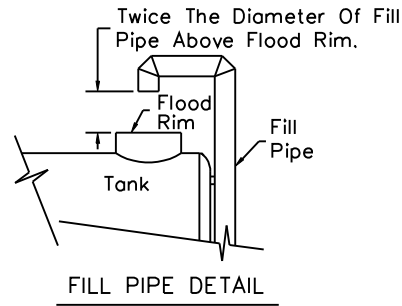
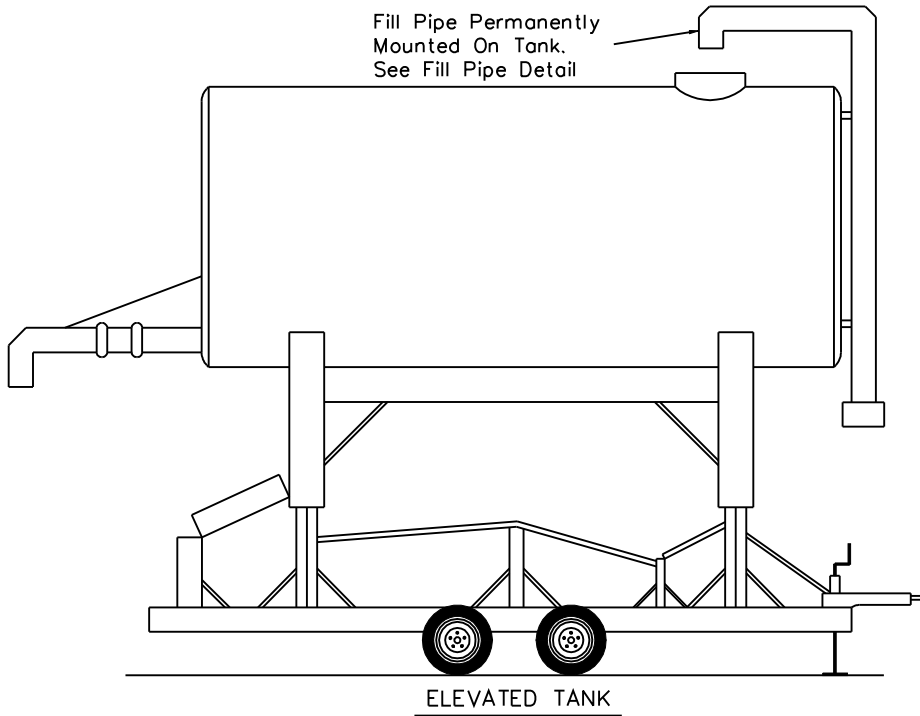
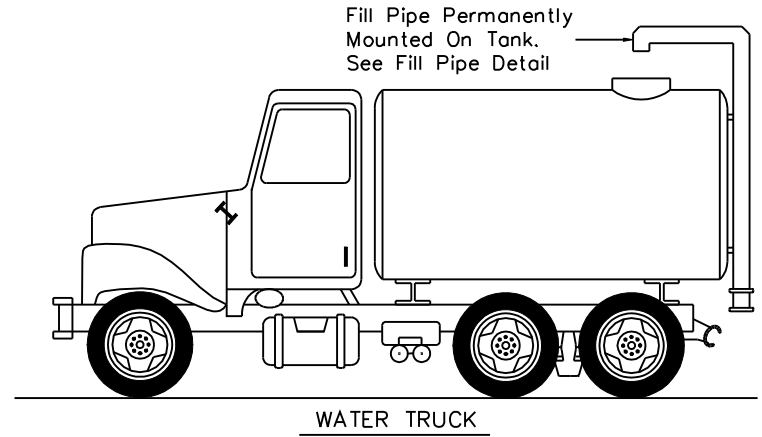
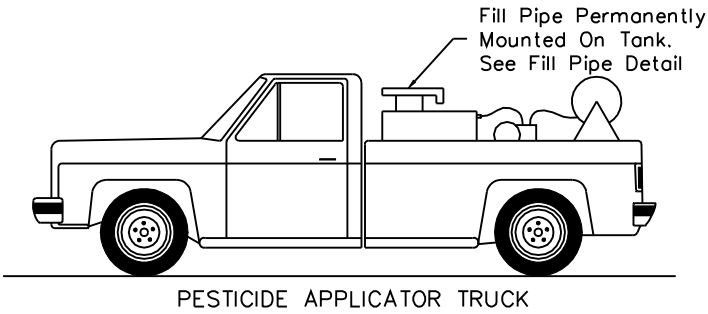
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**GUARD POSTS FOR BACKFLOW PREVENTION ASSEMBLIES**

DETAIL NO.  
**2356**





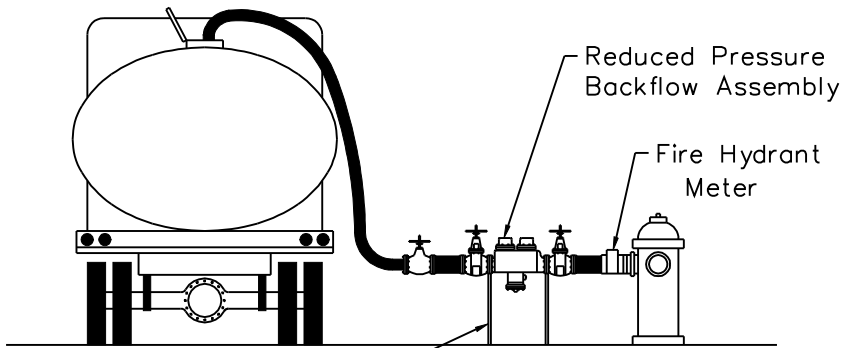
DETAIL NO.  
**2357**

**City of Scottsdale  
Standard Details**

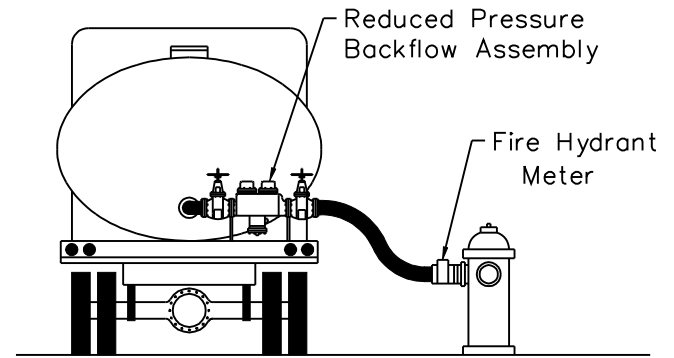
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**FILL PIPE DETAILS FOR PORTABLE TANKS WITH  
AIR GAP SEPARATION**

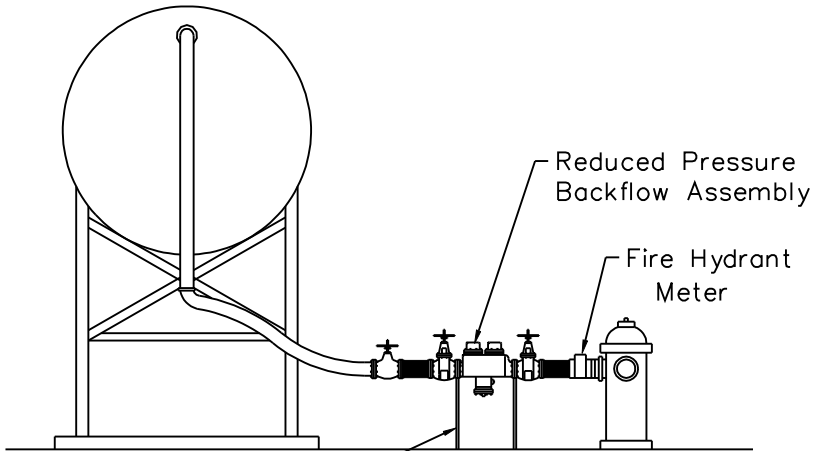
DETAIL NO.  
**2357**



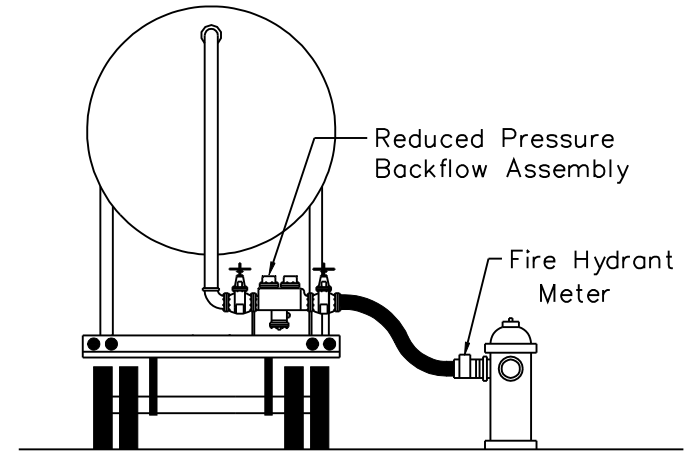
Supports Required



TANK TRUCKS



Supports Required



ELEVATED TANKS

DETAIL NO.  
**2358**

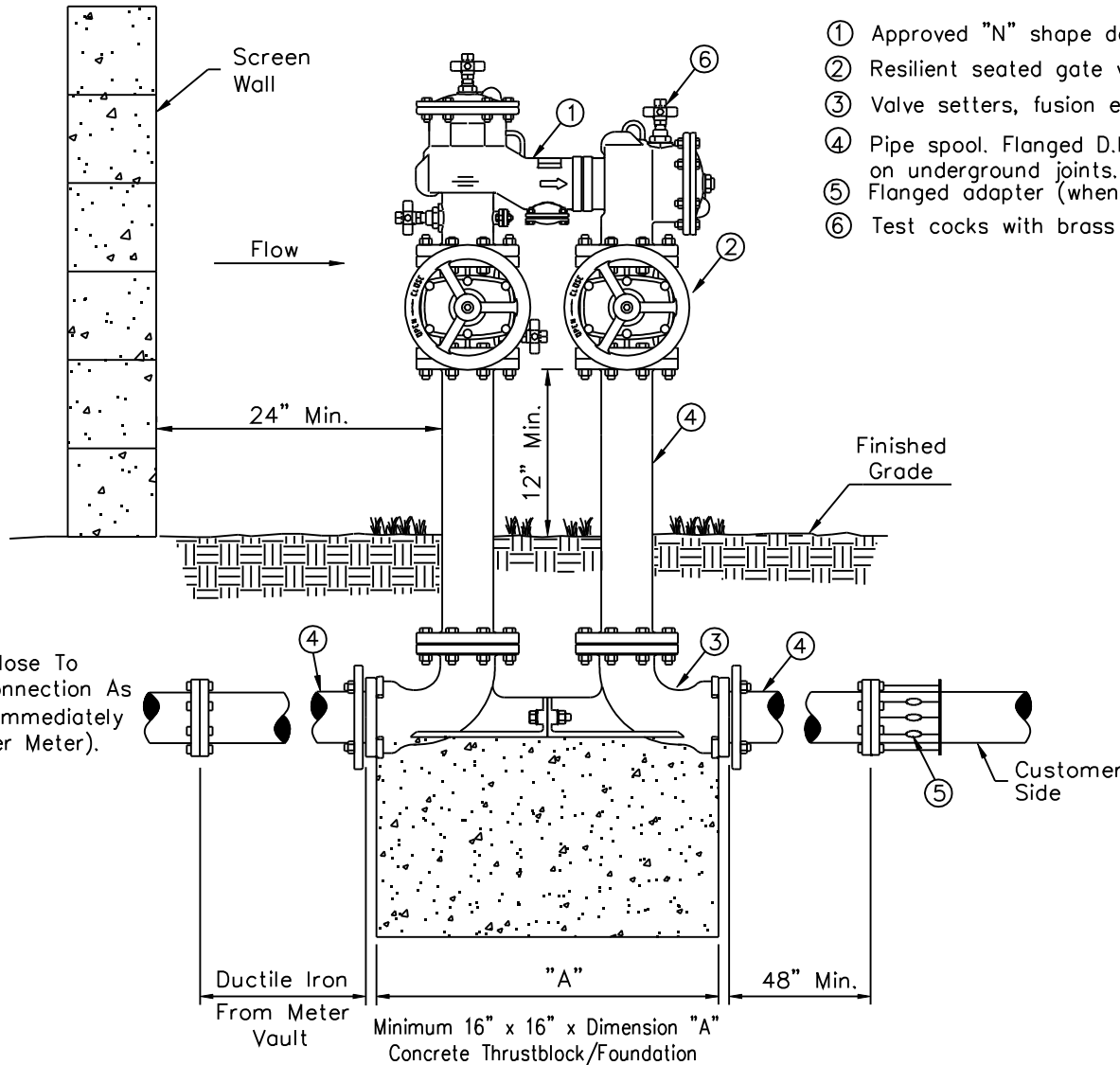
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**BACKFLOW PREVENTION METHOD FOR PORTABLE TANKS  
WITH NO AIR GAP SEPARATION**

DETAIL NO.  
**2358**

REVISED 5/05/04



LIST OF MATERIALS

- ① Approved "N" shape double check valve backflow prevention assembly.
- ② Resilient seated gate valve. O.S. & Y. (fire line connection) N.R.S. (non fire line)
- ③ Valve setters, fusion epoxy coated ductile iron, plated nuts and bolts. (2 required)
- ④ Pipe spool. Flanged D.I.P. 3" thru 10", Mega Lug or approved equal may be used on underground joints.
- ⑤ Flanged adapter (when required)
- ⑥ Test cocks with brass plugs or adaptors with caps installed. (4 required)

GENERAL NOTES

1. Backflow backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
2. Backflow preventers shall be painted light tan or a color to match the building. Do not paint the name plate or any brass parts on the assembly.
3. For backflow preventers requiring guard posts see Detail 2356. Backflow preventers enclosed by screening shall maintain a 24 inch clearance around the assembly.
4. Finished grade underneath the backflow preventer shall be at 95% compaction.
5. Backflow preventers on fire lines may require tamper switches on the shut off valves. Contact City Of Scottsdale Plan Review, Fire Dept.
6. Call for underground inspection before backfilling trench.
7. Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.

DETAIL NO.  
**2359**

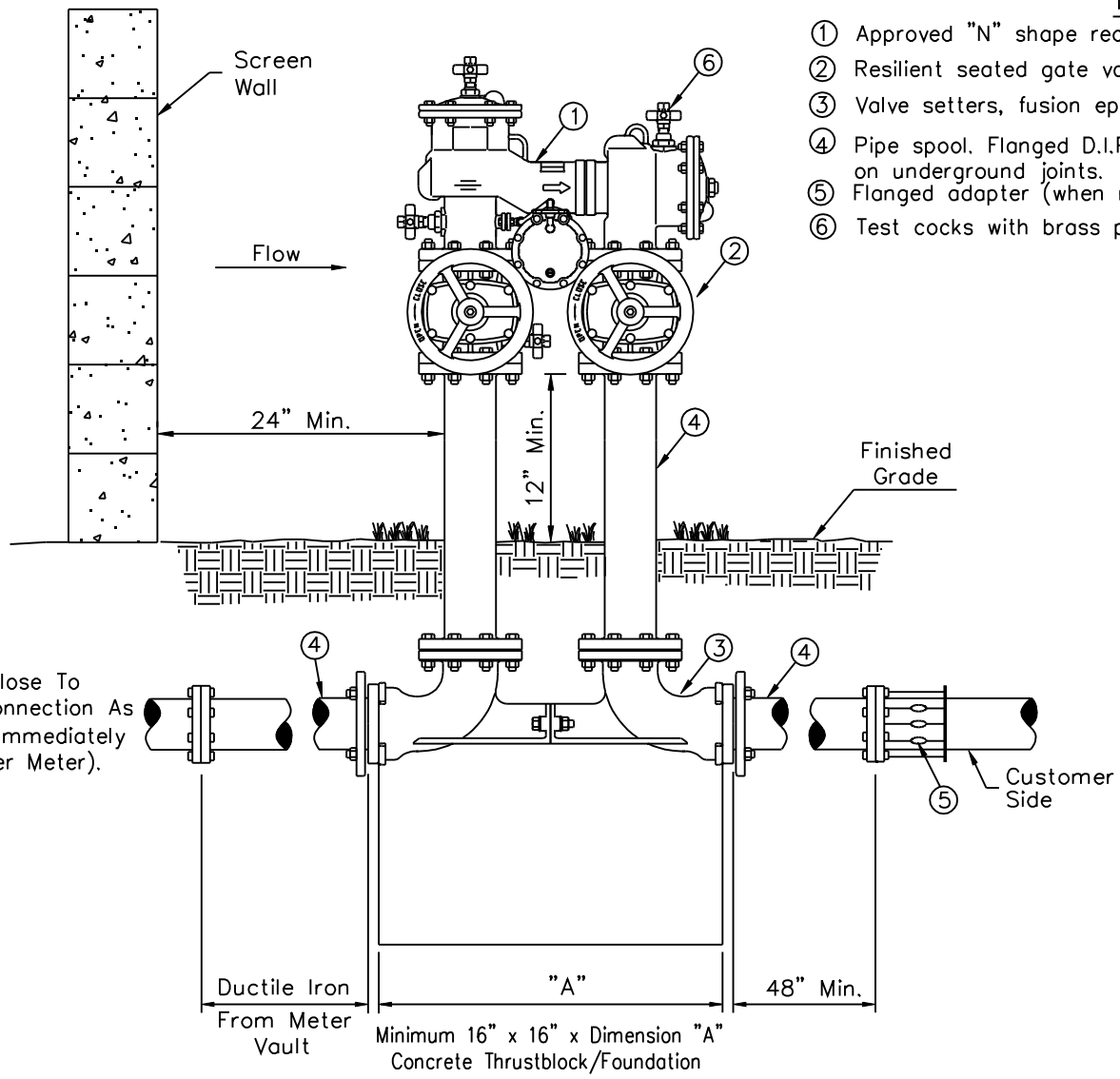
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**"N" SHAPED DOUBLE CHECK VALVE BACKFLOW PREVENTION  
ASSEMBLY FOR ASSEMBLIES 3 INCHES THRU 10 INCHES**

DETAIL NO.  
**2359**

REVISED 5/05/04



**LIST OF MATERIALS**

- ① Approved "N" shape reduced pressure principle backflow prevention assembly.
- ② Resilient seated gate valve. O.S. & Y. (fire line connection) N.R.S. (non fire line)
- ③ Valve setters, fusion epoxy coated ductile iron, plated nuts and bolts. (2 required)
- ④ Pipe spool. Flanged D.I.P. 3" thru 10", Mega Lug or approved equal may be used on underground joints.
- ⑤ Flanged adapter (when required)
- ⑥ Test cocks with brass plugs or adaptors with caps installed. (4 required)

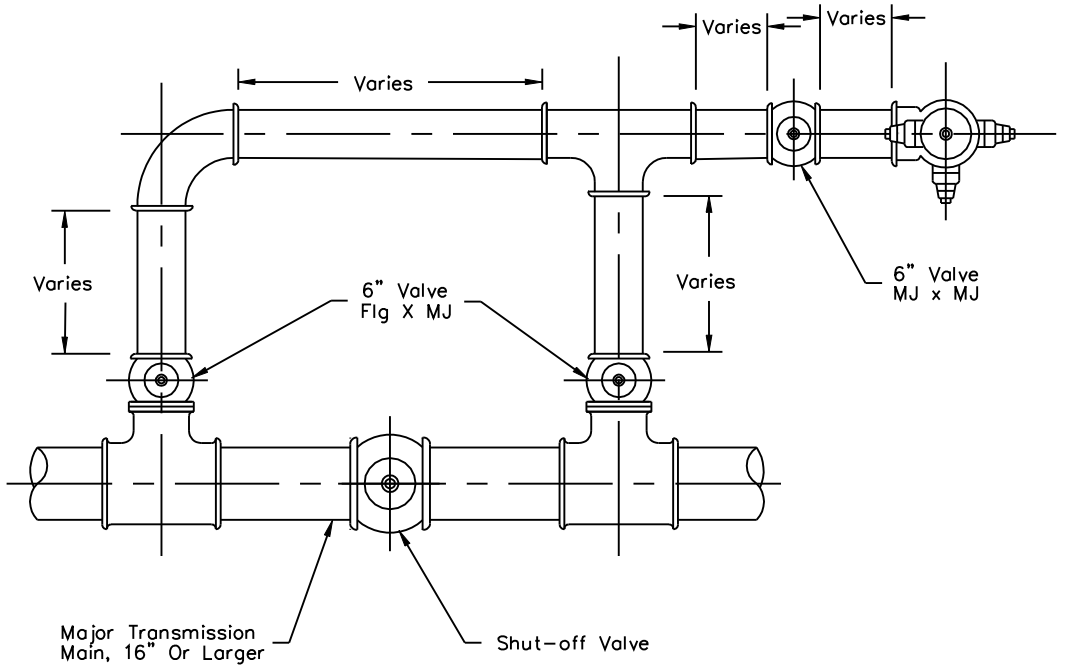
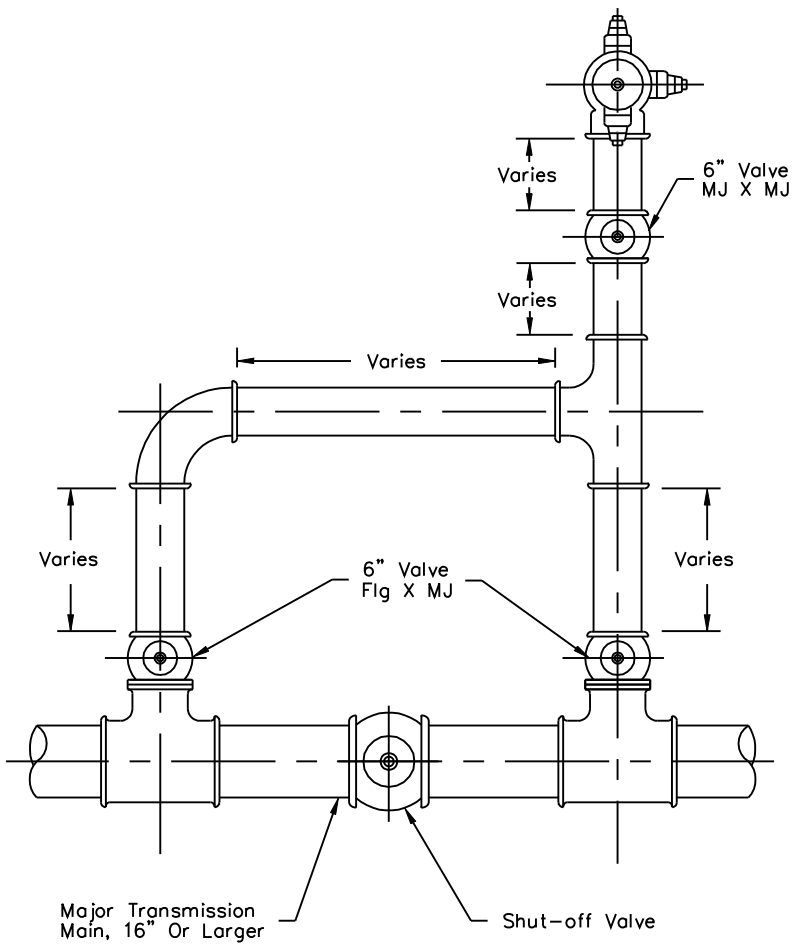
**GENERAL NOTES**

1. Backflow backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
2. Backflow preventers shall be painted light tan or a color to match the building. Do not paint the name plate or any brass parts on the assembly.
3. For backflow preventers requiring guard posts see Detail 2356. Backflow preventers enclosed by screening shall maintain a 24 inch clearance around the assembly.
4. Finished grade underneath the backflow preventer shall be at 95% compaction.
5. Backflow preventers on fire lines may require tamper switches on the shut off valves. Contact City Of Scottsdale Plan Review, Fire Dept.
6. Call for underground inspection before backfilling trench.
7. Approvals for backflow assemblies must have Seal Approval from the American Society of Sanitation Engineers. Backflow assemblies installed on fire suppression systems must also have approval from Underwriters Laboratories and/or Factory Mutual Research Corporation.

REVISED 6/15/06

### NOTES

1. All joints in hydrant run-out to be restrained joints.
2. See MAG Std. Detail 391-C for valve box installation.
3. For water valve blocking see MAG Std. Detail 301.
4. For additional information see MAG Std. Detail 360.



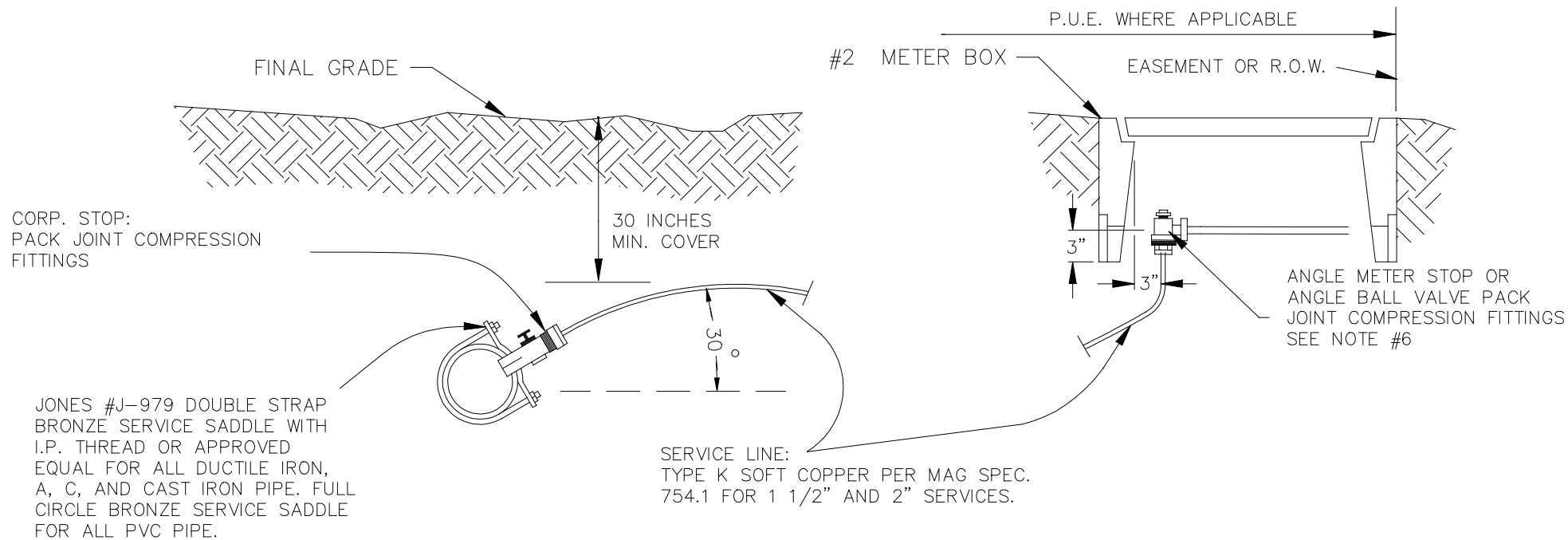
DETAIL NO. **2361** City of Scottsdale  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

## FIRE HYDRANT BYPASS ASSEMBLY

DETAIL NO. **2361**

REVISED 5/22/07



- NOTE:
1. All taps must be made using a service saddle.
  2. All service line sizes shall have the pack joint compression fittings for corp. stops and meter stops.
  3. Where a contractor is installing new water lines, all fire line connections shall also be installed. The contractor's installation shall include the service saddle, corp. stop, service pipe, appurtenant fittings, meter stop, concrete meter box and box cover, per M.A.G. Specifications.
  4. Copper service lines in the 1 1/2", and 2" sizes that cross streets will be one continuous piece. Only with the written consent of Water & Wastewater Operations will joints be permitted under a road. When this occurs, pack joint fittings will be required; no soldered joints will be permitted.
  5. Authorized City of Scottsdale Water and Wastewater Operations personnel or a City approved tapping contractor shall install the water service connections on existing mains.
  6. A fire Department Identification Tag is required. Water resistant tag shall be affixed to valve in meter box and shall state: "DO NOT CLOSE! Fire Sprinkler Supply Line".
  7. Rough grade shall be set to 1 1/2 inches below top of meter box. Final landscape grade shall be set flush to top of meter box

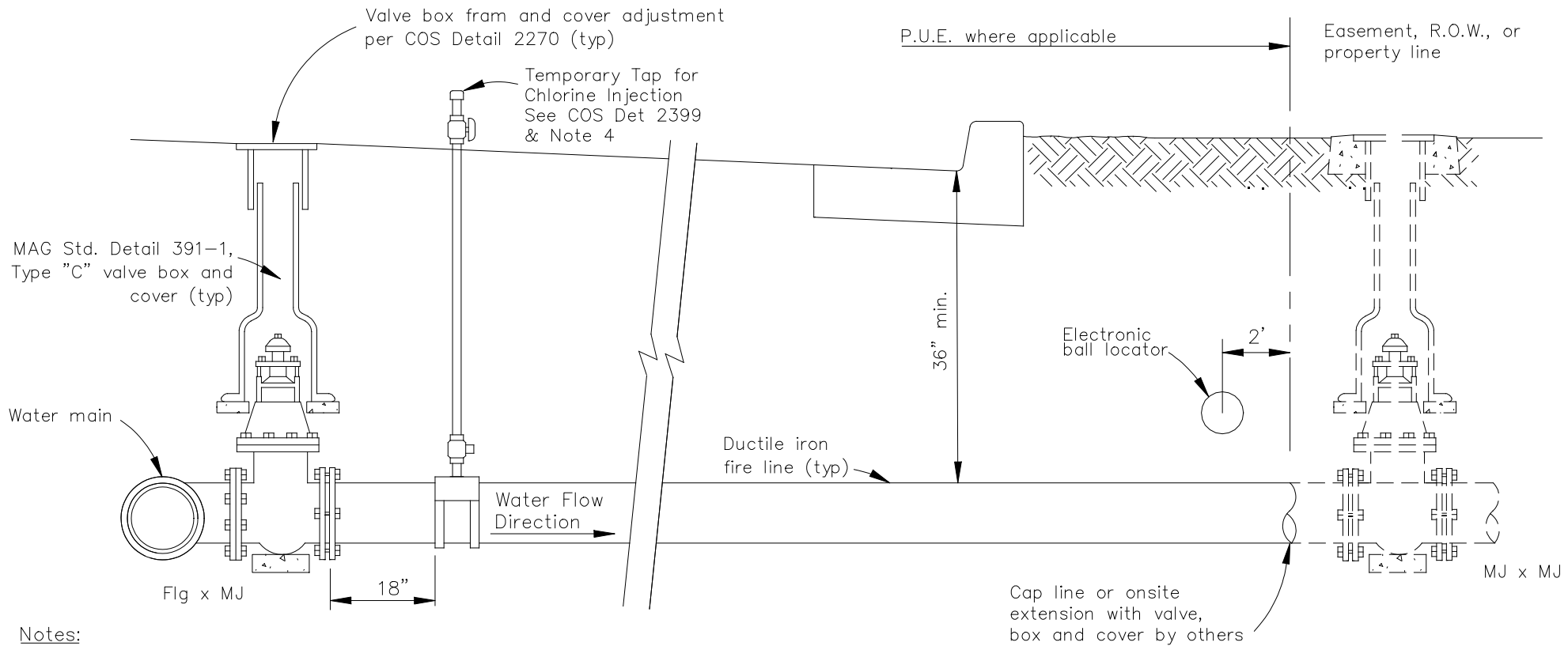
DETAIL NO. **2362-1**  
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# 1 1/2"-2" FIRE LINE CONNECTION

DETAIL NO. **2362-1**

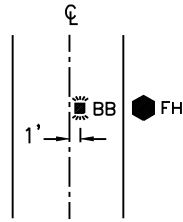
REVISED 4/25/07



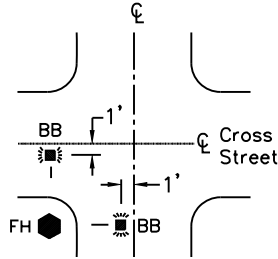
Notes:

1. All water lines within the right-of-way or public utility easement shall be polywrapped ductile iron pipe.
2. Joint restraint shall conform to the requirements of MAG Std. Detail 303.
3. When a water main is located behind the curb at the near side of the street, the gate valve by others is not required when the fire line is extended onto private property.
4. All 3" and larger fire lines are required to be disinfected and tested in accordance with MAG Section 611. A corporation stop shall be inserted in the top of the pipe 18" downstream from the tapping valve and will be used as the chlorine injection point.

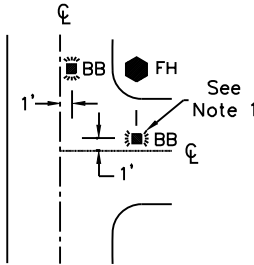
DETAIL NO. <b>2362-2</b>	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>3" AND LARGER FIRE LINE CONNECTION</b>	DETAIL NO. <b>2362-2</b>
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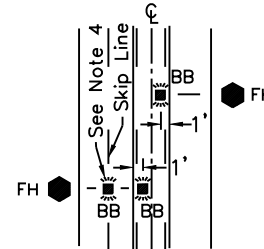
**Midblock Local**



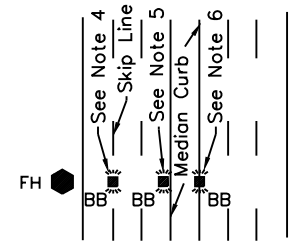
**Local Cross Intersection**



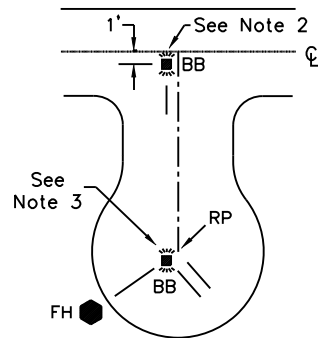
**Local T Intersection**



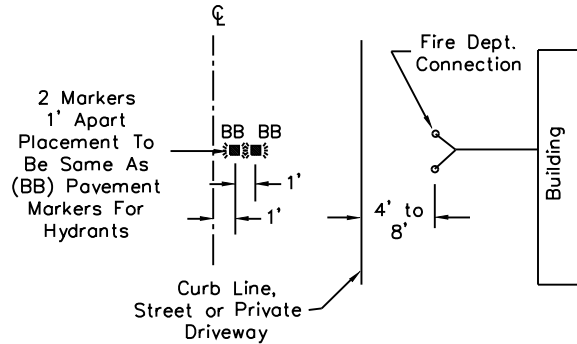
**Midblock WITH CENTER LANE OR SKIP LINES**



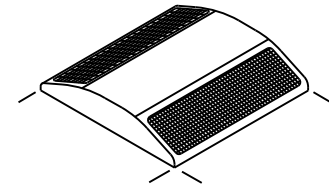
**Midblock WITH RAISED MEDIAN**



**Cul-De-Sac Street**



**Fire Dept. Connection**



**Pavement Marker**  
(2-WAY REFLECTIVE BLUE)  
(ADOT TYPE BB)

**NOTES:**

1. Not Required on Dead End Streets Without Hydrants
2. Place on Hydrant Side of Centerline.
3. Not Required When Cul-De-Sac is Less Than 250'.
4. To Be Placed in Line With Skip Line.
5. Place on Gutter or Adjacent To Curb.
6. Place on Top of Curb. (This Location Optional)
7. Pavement Markers Shall Not Be Placed Within One Foot of A Paint Line (Center to Center).

DETAIL NO.  
**2363**

**City of Scottsdale**  
Standard Details

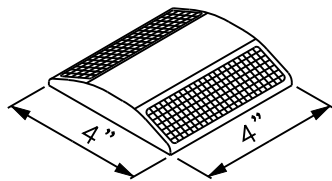
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**PAVEMENT MARKERS FOR FIRE HYDRANTS**

DETAIL NO.  
**2363**

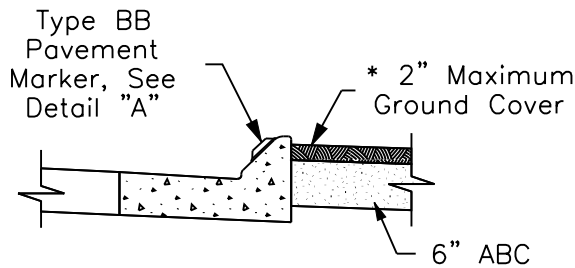


REVISED 4/22/09



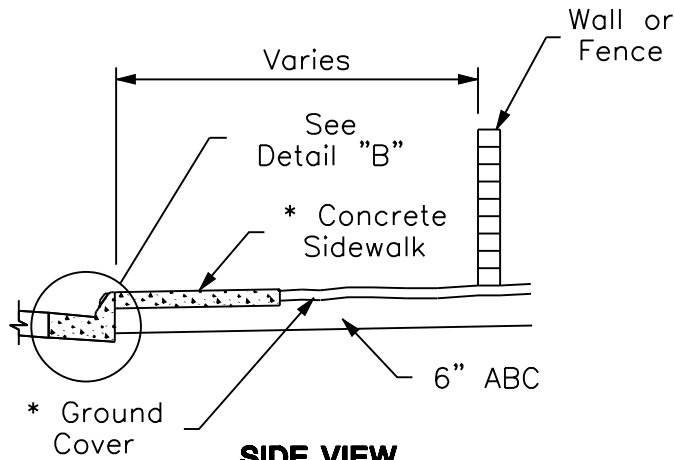
Pavement Marker  
(2-WAY REFLECTIVE BLUE)  
(ADOT TYPE BB)  
**DETAIL "A"**

\* NOTE:  
Sidewalk And/Or 2"  
Max. Ground Cover  
Over Min. 6" ABC

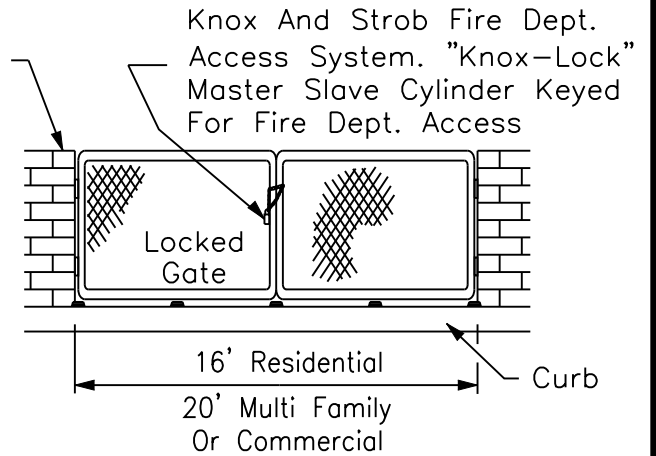


**TYPE "M" MOUNTABLE  
CURB AND GUTTER**

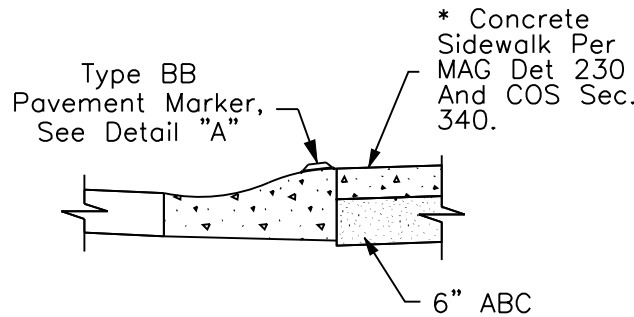
**DETAIL "B"**



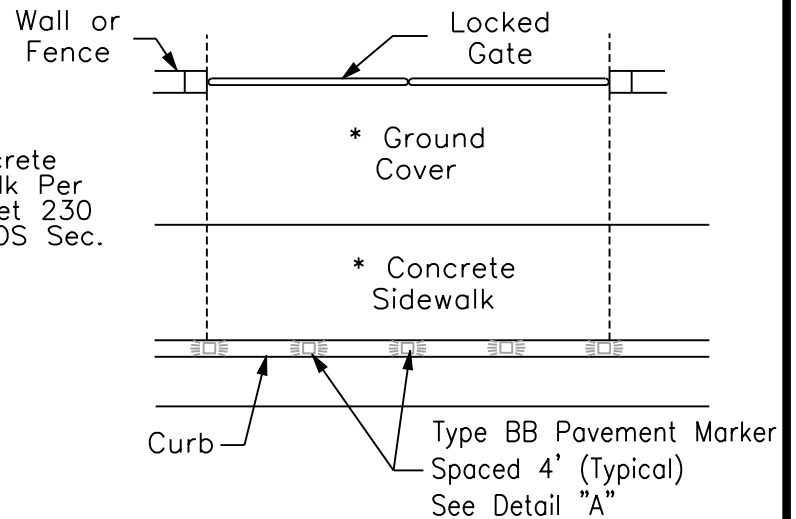
**SIDE VIEW**



**FRONT VIEW**



**ROLL CURB**



**TOP VIEW**

DETAIL NO.  
**2364**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**FIRE AND EMERGENCY ACCESS  
AND DELINEATION**

DETAIL NO.  
**2364**

REVISED 4/15/09



**NOTES:**

1. At the beginning and end of the fire lane, the sign shall have a single headed arrow pointing in the direction the regulation is in effect. The intermediate signs shall have double headed arrows pointing in both directions.
2. The maximum spacing of the signs shall be 100', contingent upon Traffic Engineering's review and approval.
3. The signs shall be set at an angle of not less than 30° nor more than 45° with the curb or line of traffic flow
4. The clearance to the bottom of the sign shall be 7 feet. There shall be no other signs attached to the sign or the sign pole.
5. The sign substrate shall be a minimum of 12" x 18" treated aluminum with a thickness of 0.080".
6. The sign face shall have a white, ASTM Type IV reflective background with a red screen printed or translucent acrylic EC overlay film reflective legend. Use the standard sign face number R7-32 or equivalent incorporating additional information to complete the sign as shown.

DETAIL NO.  
**2365**

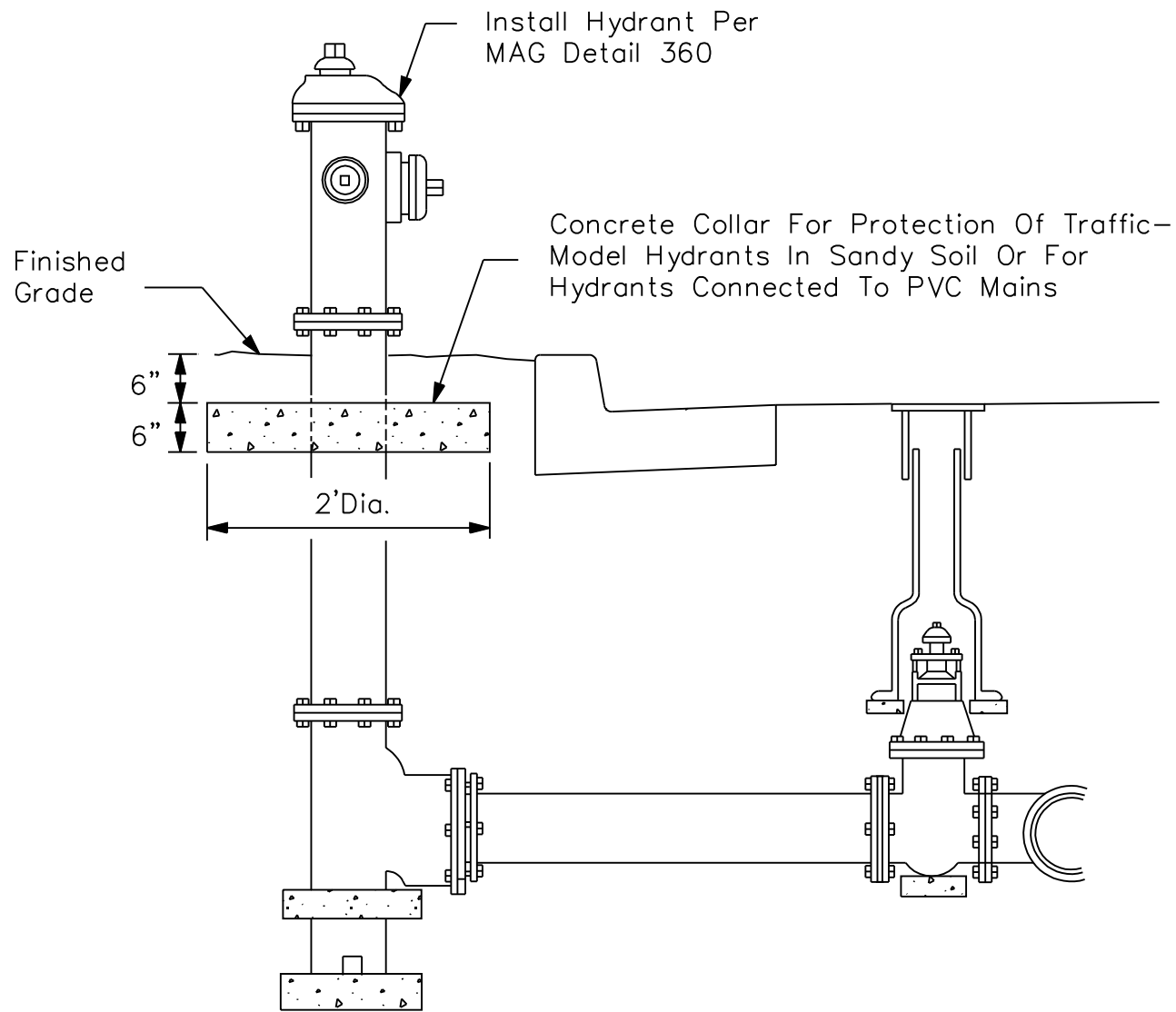
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**FIRE LANE SIGN**

DETAIL NO.  
**2365**

REVISED: 4/30/04



DETAIL NO.  
**2366**

**City of Scottsdale  
Standard Details**

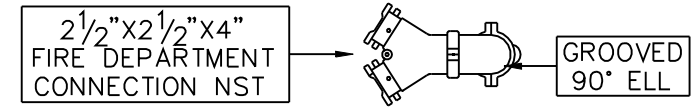
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

# **CONCRETE COLLAR FOR FIRE HYDRANTS**

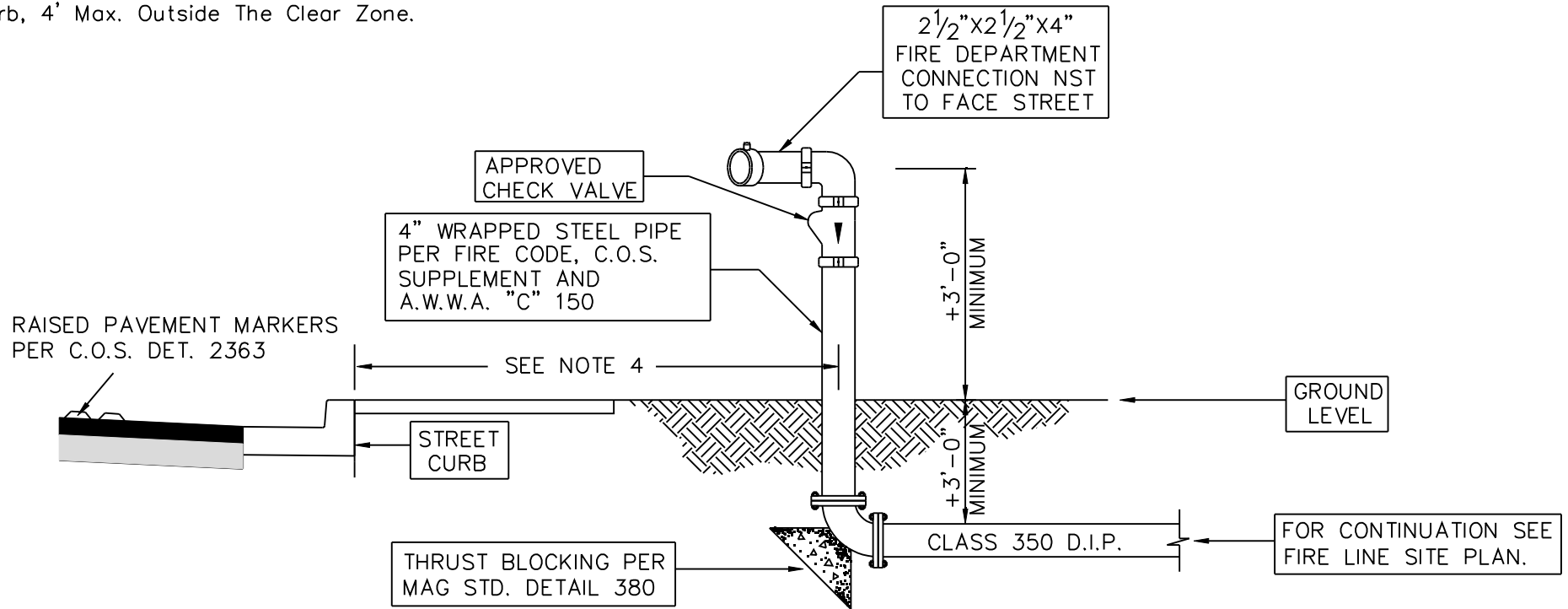
DETAIL NO.  
**2366**

GENERAL NOTES

1. Provide Building I.D. On Remote Fire Dept. Connection.
2. No Trees, Bushes Or Walls Within 5' Radius Of Fire Dept. Connection
3. If Fire Sprinkler Design Indicates Demand Of 1000 GPM Or Greater, The Underground Fire Dept. Connection Line Shall Be Increased To 6" Diameter With A Three Way 2 1/2" Fire Dept. Hose Connection
4. 4' Min. To Back Of Curb, or 2' Min To Back Of Sidewalk, or When No Curb, 4' Max. Outside The Clear Zone.



TOP VIEW



SIDE VIEW

REVISED 4/03/08

DETAIL NO.  
**2367**

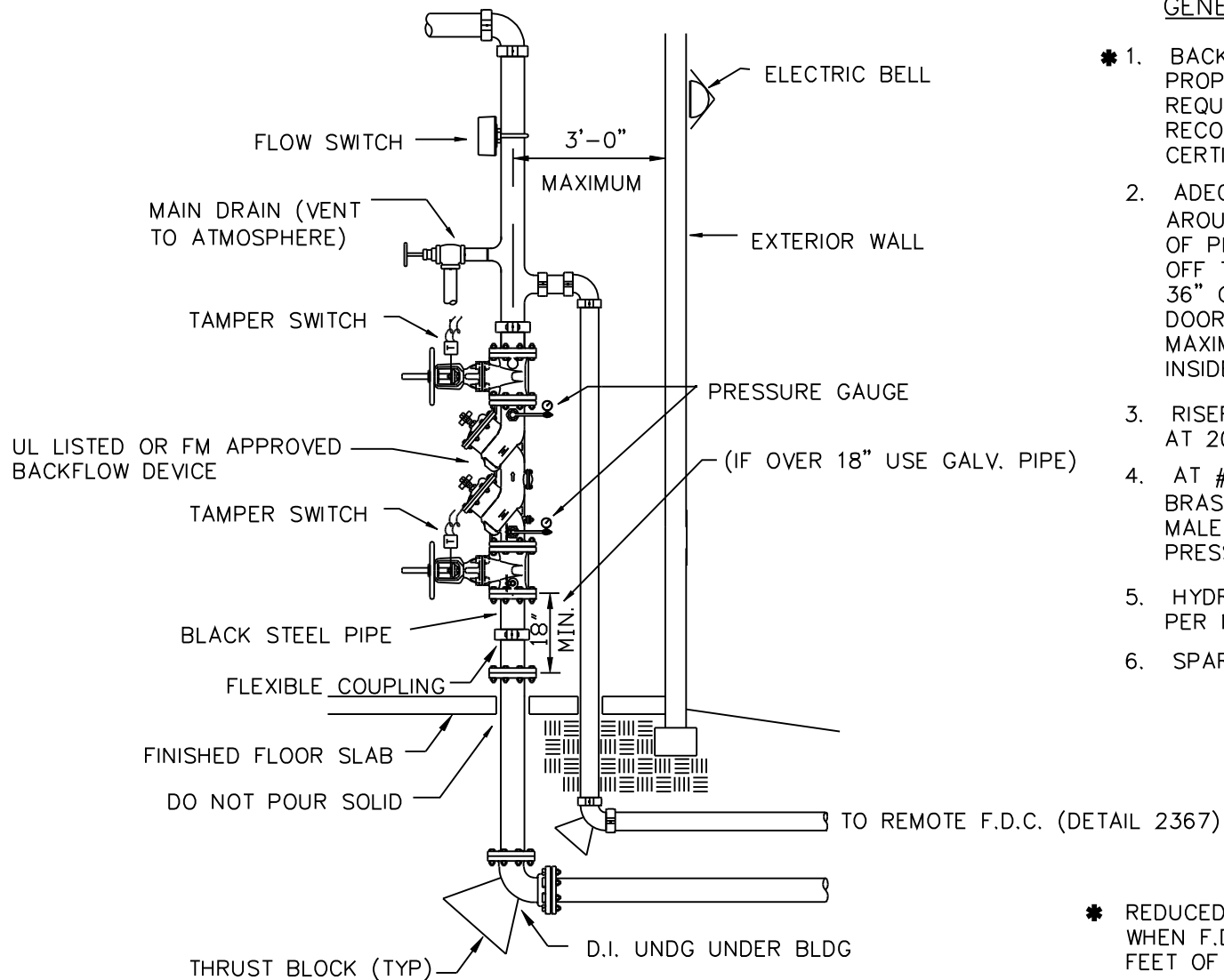
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**REMOTE FIRE DEPARTMENT CONNECTION**

DETAIL NO.  
**2367**

REVISED 4/03/08



GENERAL NOTES

- \* 1. BACKFLOW PREVENTER SHALL BE TESTED FOR PROPER OPERATION PER CITY OF SCOTTSDALE REQUIREMENTS BY A CERTIFIED TESTER RECOGNIZED BY THE CITY, BEFORE A TEMPORARY CERTIFICATE OF OCCUPANCY IS ISSUED.
- 2. ADEQUATE CLEARANCE SHALL BE PROVIDED AROUND FIRE RISER. DIMENSIONS FROM FACE OF PIPE SHALL MEASURE A MINIMUM OF 12" OFF THE BACK WALL, 18" ON EACH SIDE AND 36" CLEAR IN FRONT WITH A FULL HEIGHT DOOR. THE FIRE LINE SHALL EXTEND A MAXIMUM OF 3' INTO THE BUILDING FROM INSIDE FACE OF WALL TO CENTER OF PIPE.
- 3. RISER SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS.
- 4. AT #1 & #4 TEST PORTS INSTALL A 1/2" BRASS NIPPLE, TEE & PLUGS W/1/2" x 1/4" MALE FLARED CONNECTION W/ CAP ( INSTALL PRESSURE GAUGE ON TEE OUTLET)
- 5. HYDRAULIC DESIGN AND SUMMARY INFORMATION PER NFPA SHALL BE ATTACHED TO RISER.
- 6. SPARE HEAD BOX SHALL BE MOUNTED IN AREA.

\* REDUCED-PRESSURE BACKFLOW REQUIRED WHEN F.D. CONNECTION IS WITHIN 1700 FEET OF AN AUXILIARY SUPPLY.

DETAIL NO.  
**2368**

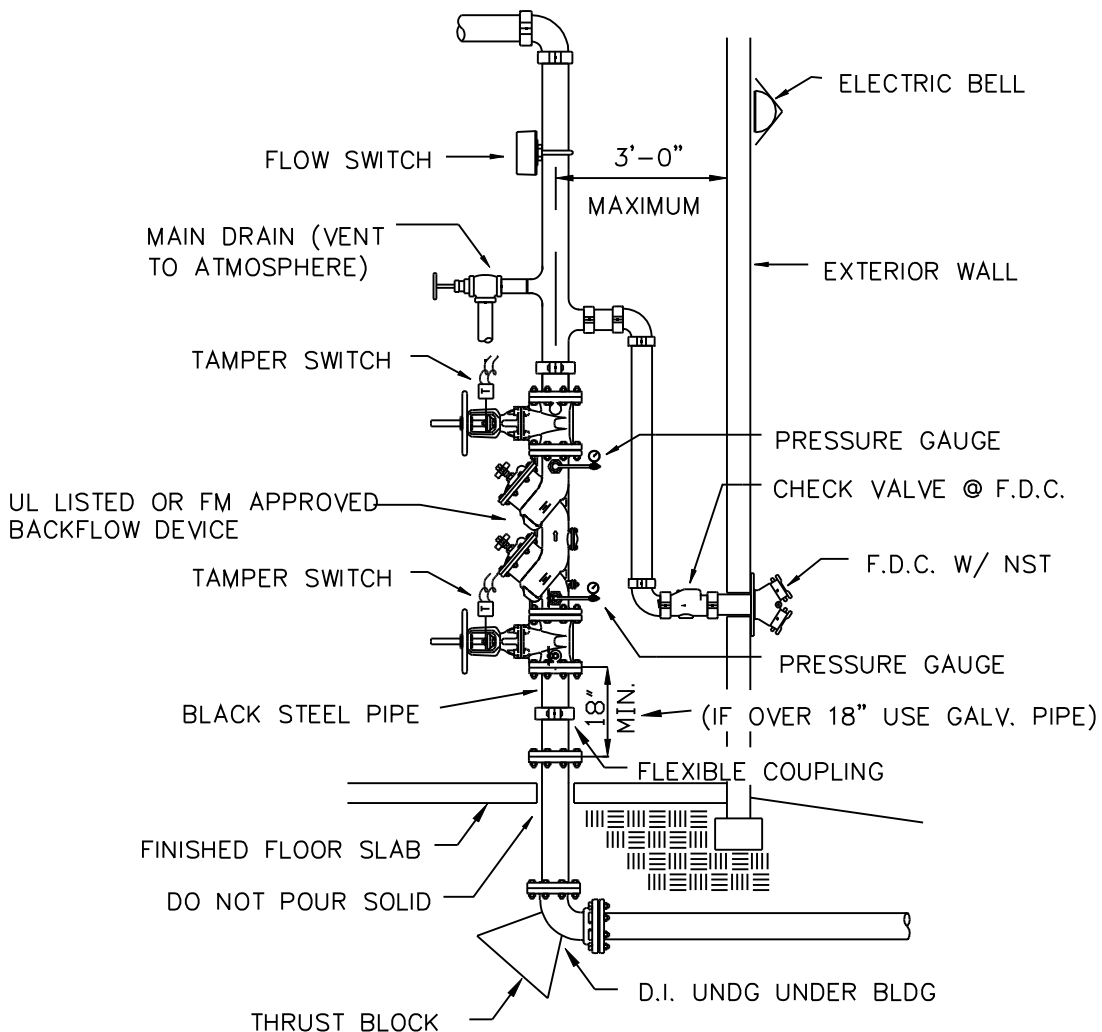
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**FIRE SPRINKLER RISER DETAIL WITH REMOTE FD CONNECTION**

DETAIL NO.  
**2368**

REVISED 4/09/08



GENERAL NOTES

- \* 1. BACKFLOW PREVENTER SHALL BE TESTED FOR PROPER OPERATION PER CITY OF SCOTTSDALE REQUIREMENTS BY A CERTIFIED TESTER RECOGNIZED BY THE CITY, BEFORE A TEMPORARY CERTIFICATE OF OCCUPANCY IS ISSUED.
- 2. ADEQUATE CLEARANCE SHALL BE PROVIDED AROUND FIRE RISER. DIMENSIONS FROM FACE OF PIPE SHALL MEASURE A MINIMUM OF 12" OFF THE BACK WALL, 18" ON EACH SIDE AND 36" CLEAR IN FRONT WITH A FULL HEIGHT DOOR. THE FIRE LINE SHALL EXTEND A MAXIMUM OF 3' INTO THE BUILDING FROM INSIDE FACE OF WALL TO CENTER OF PIPE.
- 3. RISER SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR TWO HOURS.
- 4. AT #1 & #4 TEST PORTS INSTALL A 1/2" BRASS NIPPLE, TEE & PLUGS W/1/2" x 1/4" MALE FLARED CONNECTION W/ CAP ( INSTALL PRESSURE GAUGE ON TEE OUTLET)
- 5. HYDRAULIC DESIGN AND SUMMARY INFORMATION PER NFPA SHALL BE ATTACHED TO RISER.
- 6. SPARE HEAD BOX SHALL BE MOUNTED IN AREA.

\* REDUCED-PRESSURE BACKFLOW REQUIRED WHEN F.D. CONNECTION IS WITHIN 1700 FEET OF AN AUXILIARY SUPPLY.

DETAIL NO.  
**2369**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**FIRE SPRINKLER RISER DETAIL WITH WALLMOUNT FD CONNECTION**

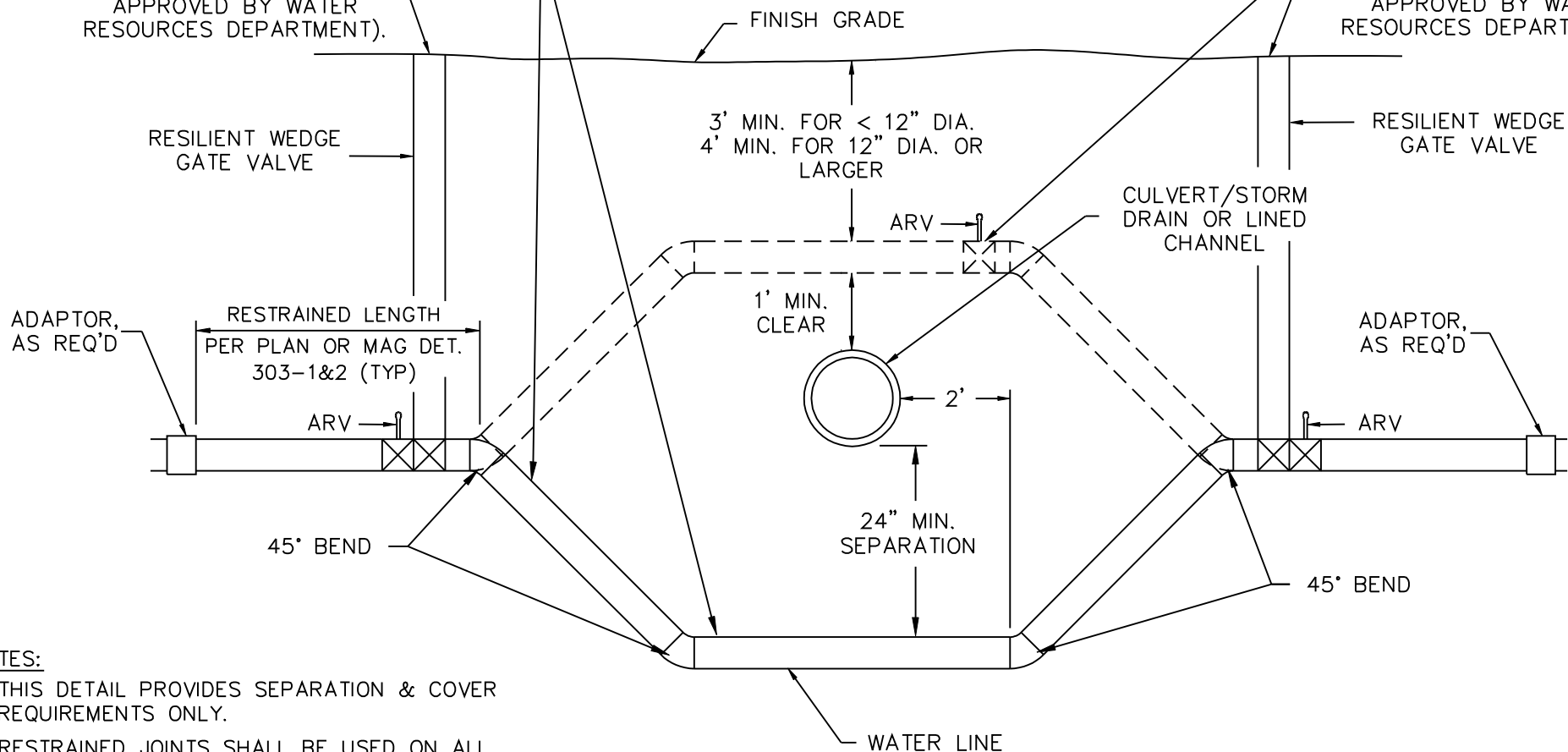
DETAIL NO.  
**2369**

REVISED 2/27/02

AIR RELEASE AND SHUT-OFF VALVE (REQUIRED ON ALL LINES UNLESS OTHERWISE APPROVED BY WATER RESOURCES DEPARTMENT).

DUCTILE IRON PIPE. PIPE SHALL COMPLY WITH MAG SPEC'S, SECTION 750 AND SHALL HAVE POLYETHYLENE WRAP CORROSION PROTECTION PER MAG SECTION 610.5

AIR RELEASE AND SHUT-OFF VALVE (REQUIRED ON ALL LINES UNLESS OTHERWISE APPROVED BY WATER RESOURCES DEPARTMENT).



**NOTES:**

1. THIS DETAIL PROVIDES SEPARATION & COVER REQUIREMENTS ONLY.
2. RESTRAINED JOINTS SHALL BE USED ON ALL BENDS AND FOR THE APPROPRIATE RESTRAINT LENGTH OF PIPE PER THE MANUFACTURERS SPECIFICATION.

DETAIL NO.  
**2370**

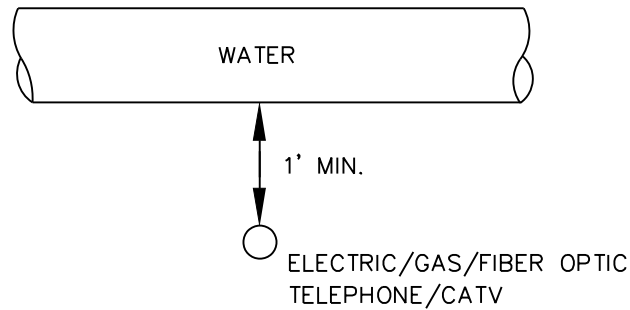
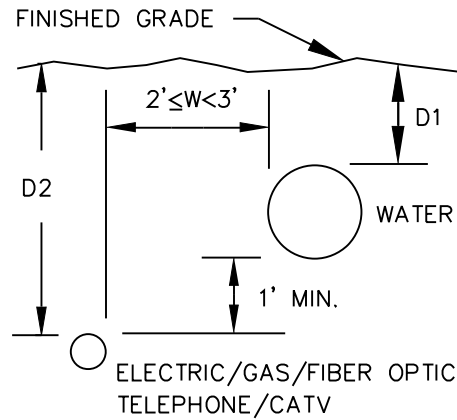
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**VERTICAL REALIGNMENT OF WATER MAINS**

DETAIL NO.  
**2370**

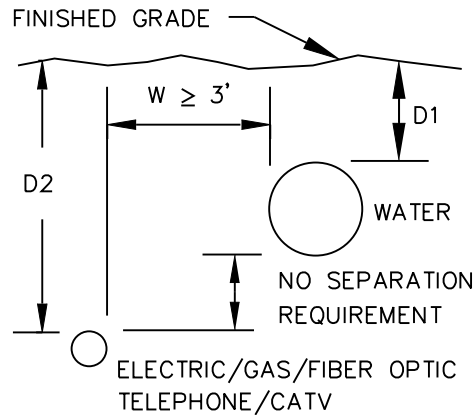
REVISED 3/25/09



CROSSING

LEGEND:

- D1 = { 3' Min. for pipe < 12" dia.  
4' Min. for pipe = 12" dia.  
5' Min. for pipe > 12" dia.
- D2 = Minimum Cover
- W = Horizontal Separation



NOTES:

1. Electric separation requirements are for primary electric conductors only. For service conductors see plans.
2. Primary electric, gas, telephone, cable TV or fiber optic lines shall not cross above a water line without written approval from the City's Water Resources Department. If this approval is obtained, a utility locator strip and ABC slurry conforming to COS Specifications Sec. 601.3.6 are required.

DETAIL NO.  
**2372**

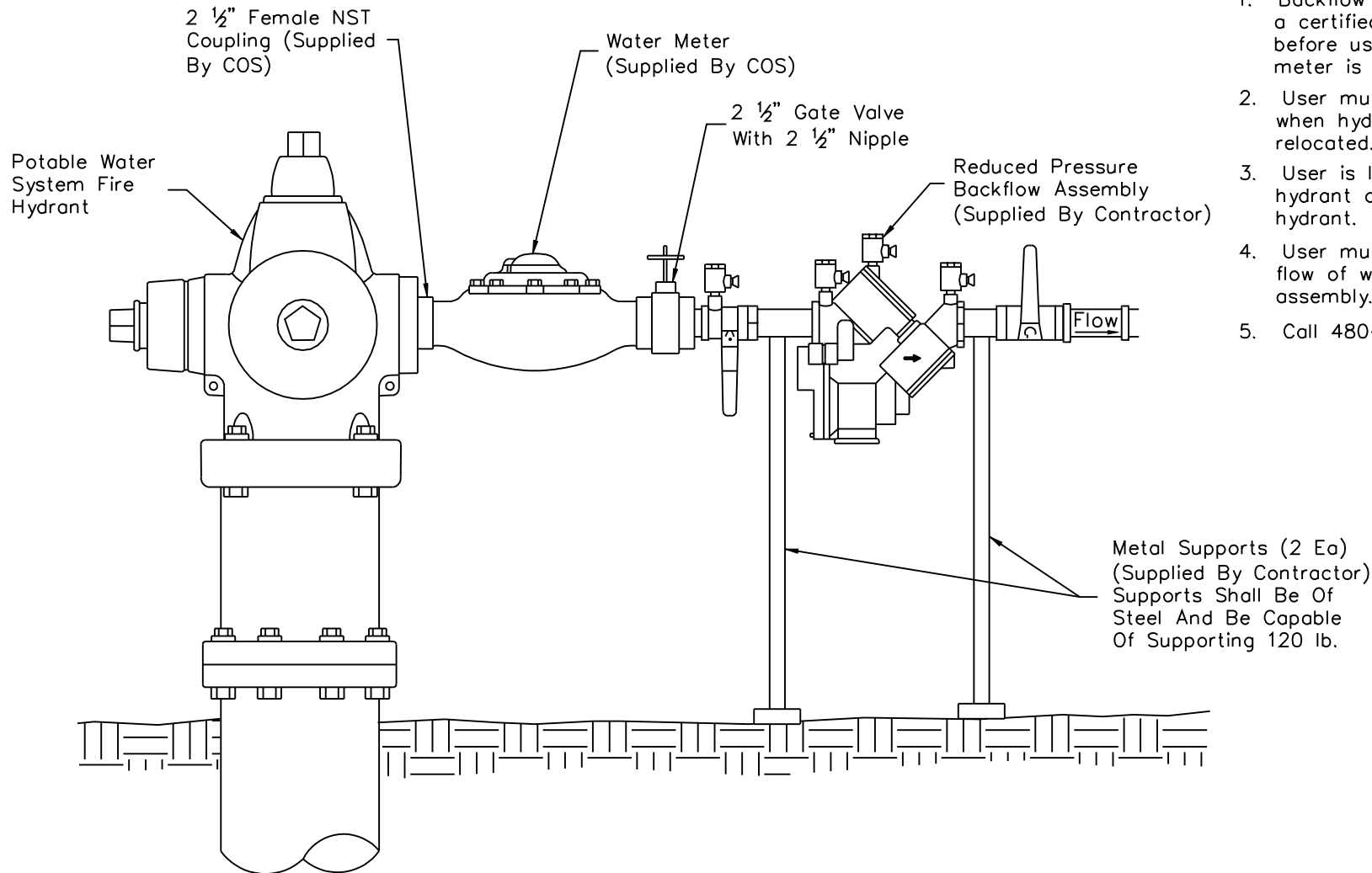
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**MINIMUM UTILITY**  
**SEPARATION REQUIREMENTS**

DETAIL NO.  
**2372**





GENERAL NOTES

1. Backflow assembly shall be tested by a certified backflow assembly tester before using and also each time the meter is moved.
2. User must remove backflow assembly when hydrant meter is removed or relocated.
3. User is liable for any damage to the hydrant and all attachments to the hydrant.
4. User must use gate valve to control flow of water, not the hydrant valve assembly.
5. Call 480-312-5650 for questions.

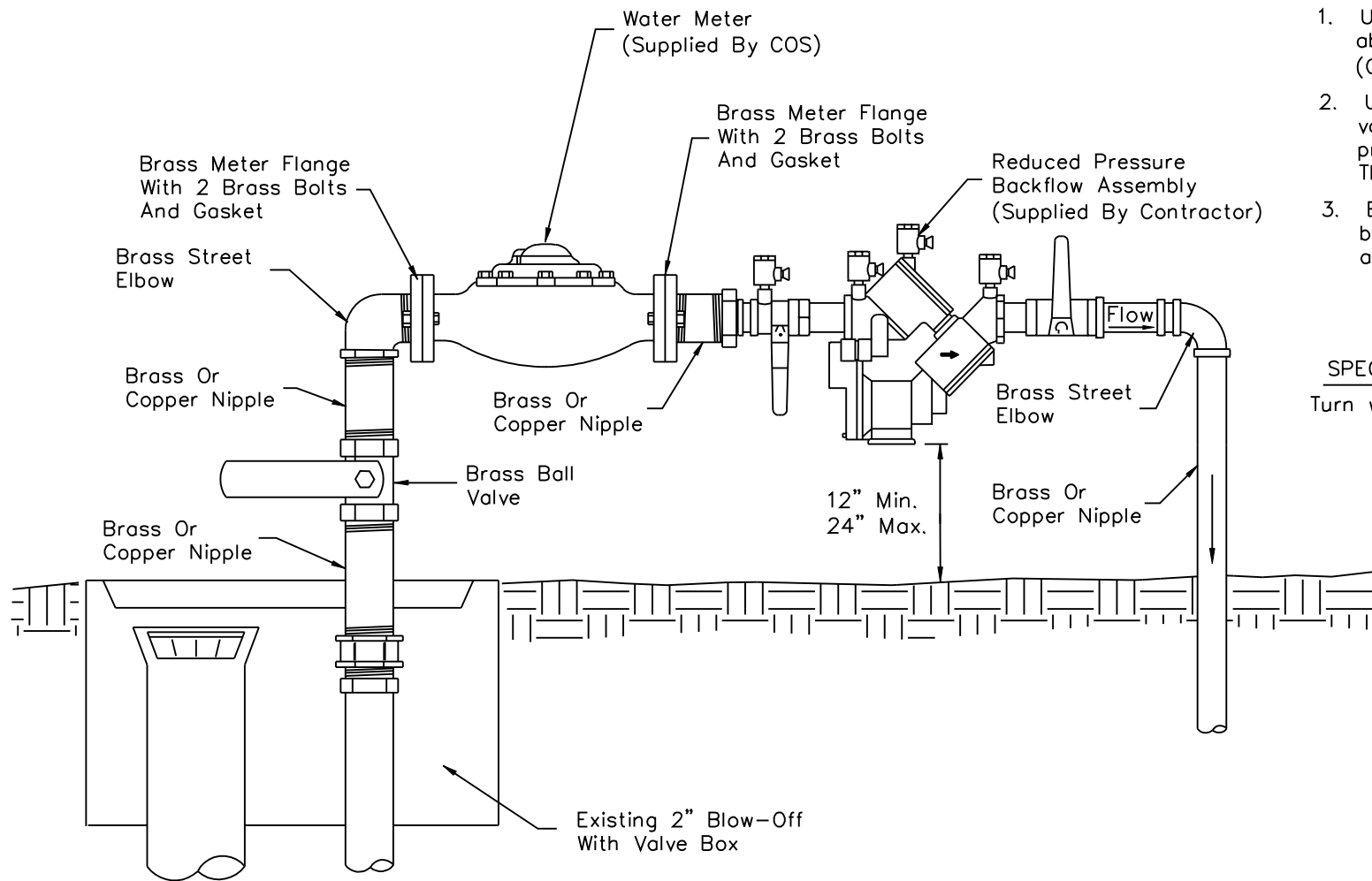
DETAIL NO.  
**2380**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TEMPORARY WATER SUPPLY HYDRANT METER ASSEMBLY**

DETAIL NO.  
**2380**



GENERAL NOTES

1. User must install City water meter above grade for temporary use. (One year maximum)
2. User must supply all fittings, piping, valves and approved reduced pressure principle backflow prevention assembly. The City shall supply the water meter.
3. Backflow assembly must be tested before use by a certified backflow assembly tester.

SPECIAL NOTE

Turn water on and off slowly.

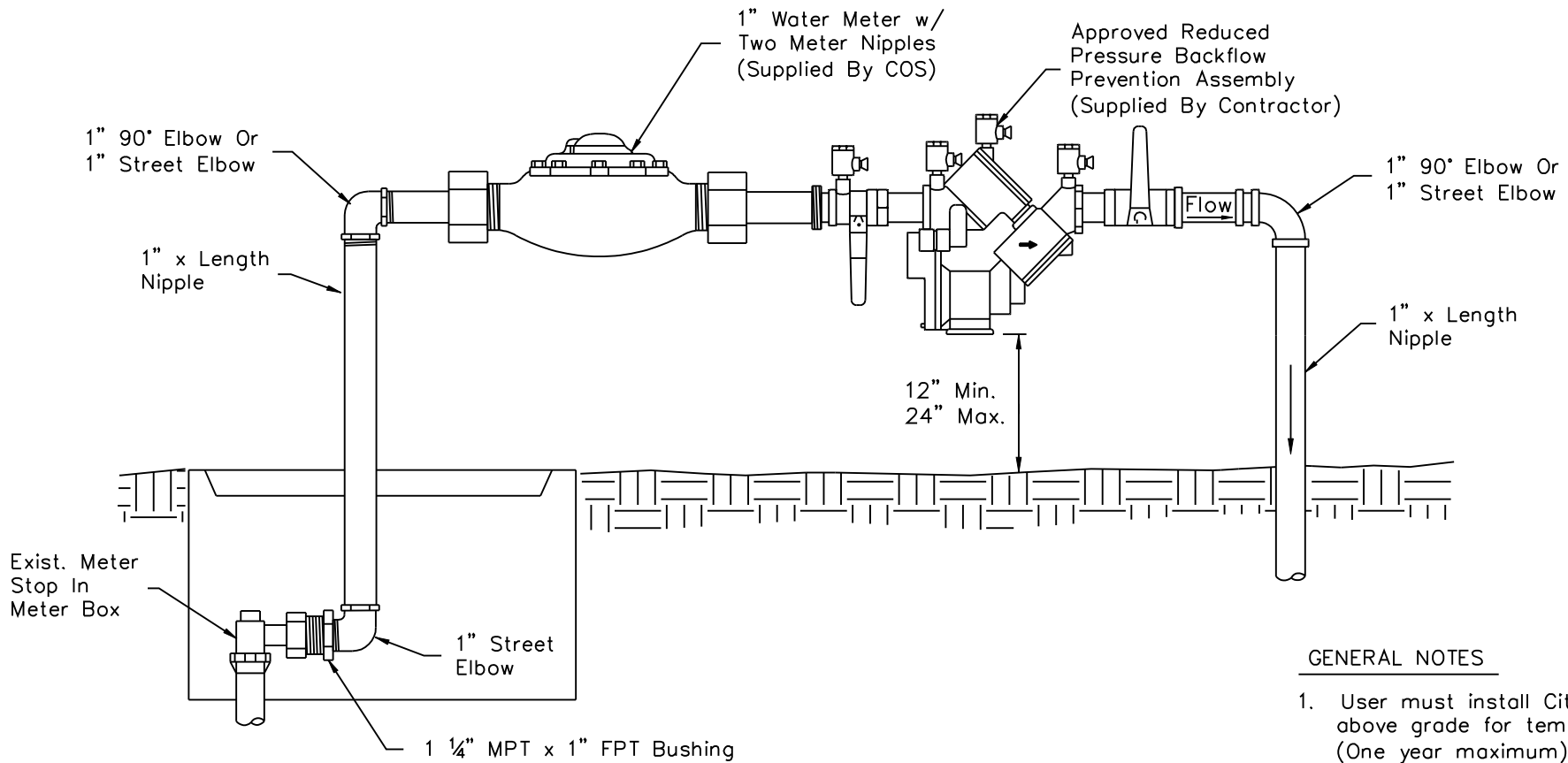
DETAIL NO.  
**2381**

**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**TEMPORARY BLOW-OFF FOR WATER SUPPLY**

DETAIL NO.  
**2381**



**GENERAL NOTES**

1. User must install City water meter above grade for temporary use. (One year maximum)
2. User must supply all fittings, nipples, valves and approved reduced pressure principle backflow prevention assembly. All fittings and nipples must be brass. The City shall supply the water meter.
3. Backflow assembly must be tested before use by a certified backflow assembly tester.

DETAIL NO.  
**2382**

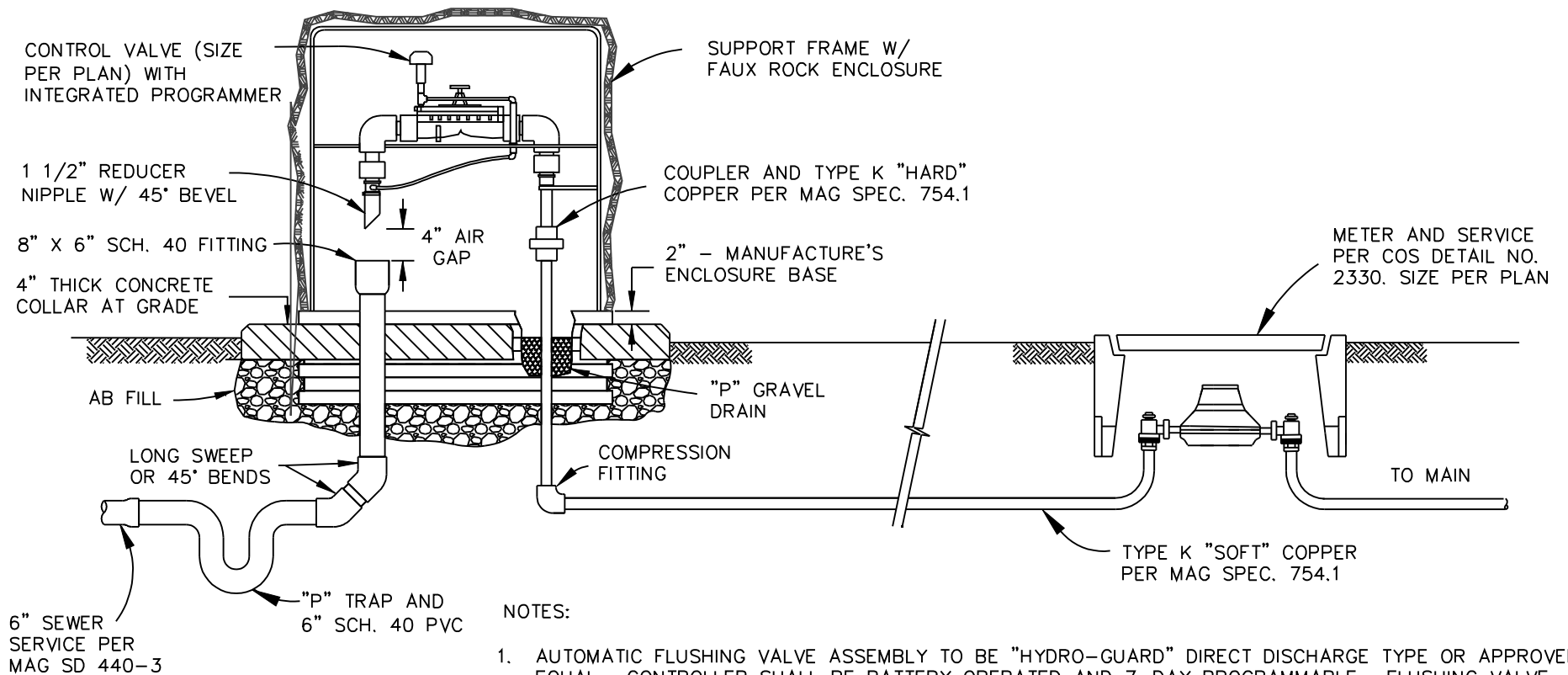
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TEMPORARY WATER SERVICE**

DETAIL NO.  
**2382**

REVISED 4/04/08



NOTES:

1. AUTOMATIC FLUSHING VALVE ASSEMBLY TO BE "HYDRO-GUARD" DIRECT DISCHARGE TYPE OR APPROVED EQUAL. CONTROLLER SHALL BE BATTERY OPERATED AND 7-DAY PROGRAMMABLE. FLUSHING VALVE SHALL BE CORROSION RESISTANT AND RATED BETWEEN 20 AND 150-PSI OPERATING PRESSURE. VALVE, CONTROLLER, AND BATTERY PACK SHALL REMAIN DRY AT ALL TIMES.
2. ALL MOUNTING BRACKETS AND HARDWARE SHALL BE STAINLESS STEEL.
3. FAUX ROCK ENCLOSURE SHALL BE MANUFACTURED BY CHANNEL, OR AN APPROVED EQUAL, COLORED TO BE CONSISTENT WITH ONSITE NATIVE MATERIAL, AND SECURED BY AN INTEGRATED LOCKING DEVICE.
4. DRAINAGE SHALL BE DIRECTED AWAY FROM THE ASSEMBLY.

DETAIL NO.  
**2383**

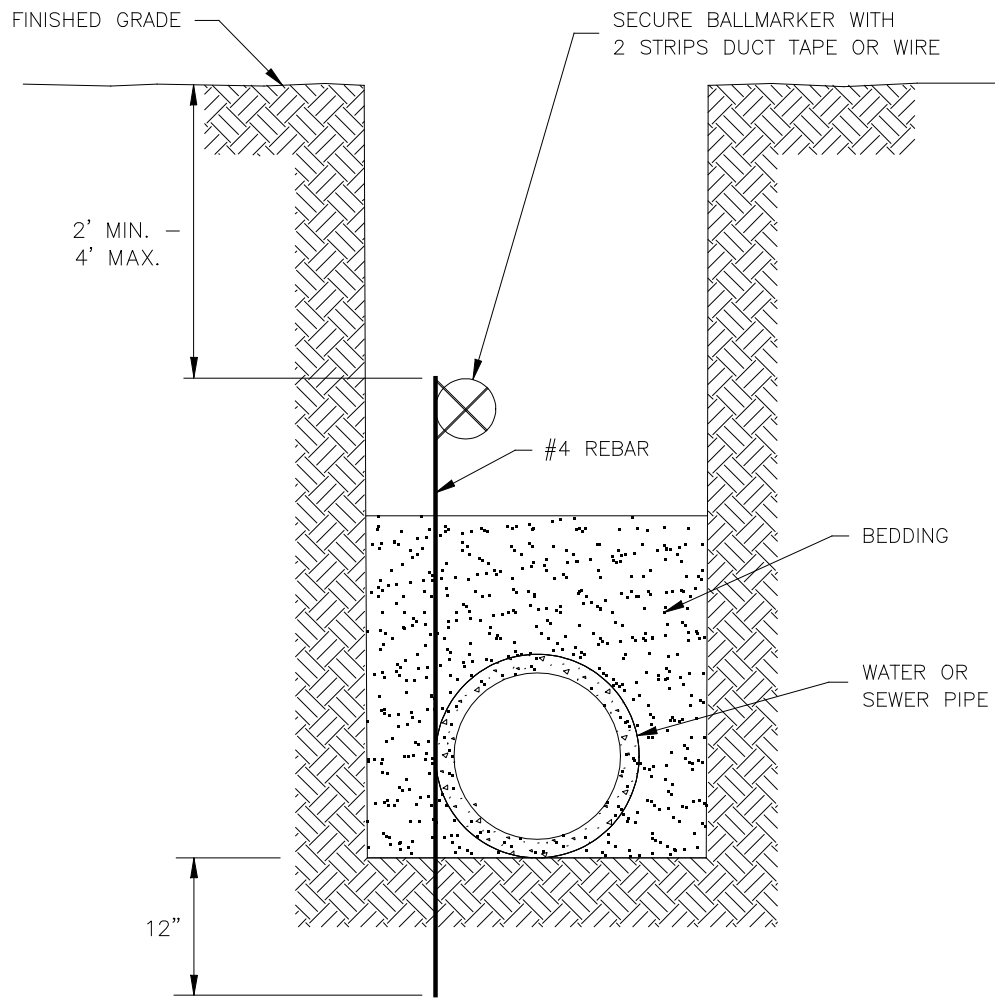
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

# WATER LINE FLUSHING ASSEMBLY

DETAIL NO.  
**2383**

REVISED 5/07/07



DETAIL NO.  
**2397**

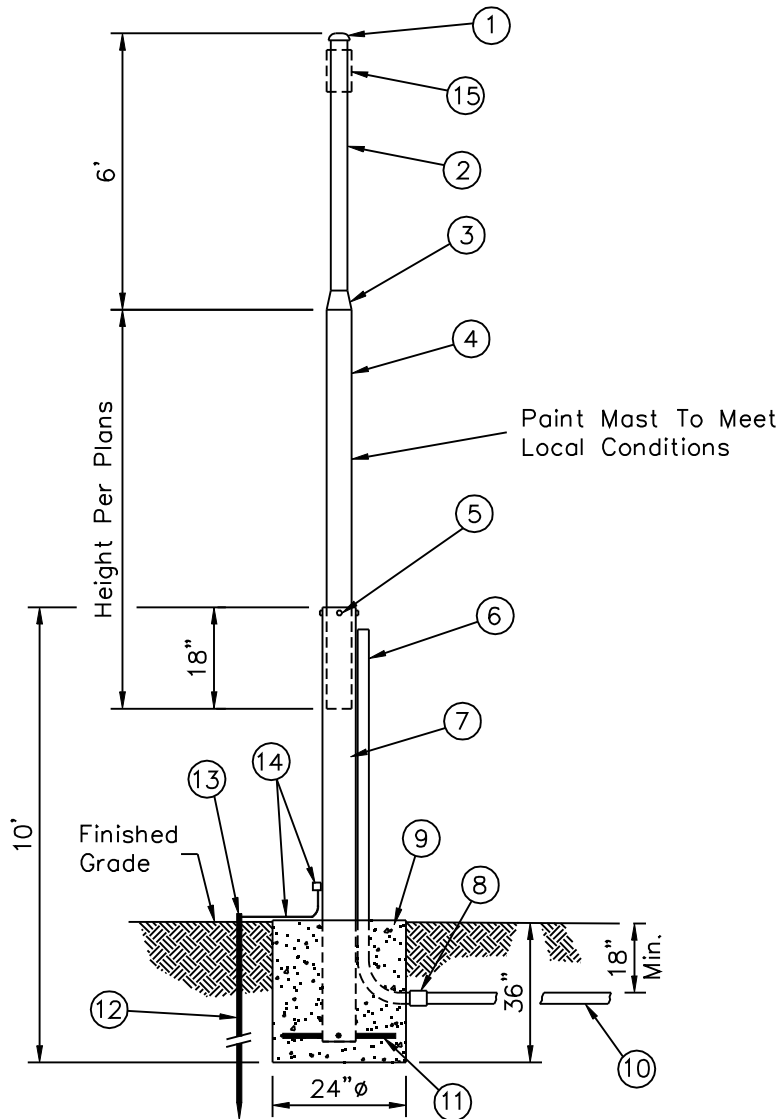
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# ELECTRONIC BALLMARKER PLACEMENT

DETAIL NO.  
**2397**

REVISED 4/30/04



LIST OF MATERIALS

- ① Raintight Cap
- ② 2" Galvanized Rigid Steel Conduit
- ③ 2 1/2" To 2" Galvanized Steel Reducer
- ④ 2 1/2" Galvanized Rigid Steel Conduit
- ⑤ 1/2" Set Screw (Typ. - 4 Each)
- ⑥ 1" Rigid Steel Conduit, Strap To Mast  
Install Bushing On Top Of Conduit
- ⑦ 3" Galvanized Rigid Steel Conduit
- ⑧ PVC To Rigid Steel Conduit Fitting
- ⑨ Concrete Foundation, Class "B"
- ⑩ 1" PVC Conduit To Radio Transceiving Unit
- ⑪ #5 Rebar (8" Length) Welded To  
3" Conduit (Typ. - 4 Each)
- ⑫ 5/8"Ø x 8' Long Grounding Rod
- ⑬ Acorn Nut Connection
- ⑭ Ground Attached To 3" Conduit  
Using Lug And Self Tapping Screw
- ⑮ Install YAGI Or Omnidirectional Antenna  
Per Contract Documents

DETAIL NO.  
**2398**

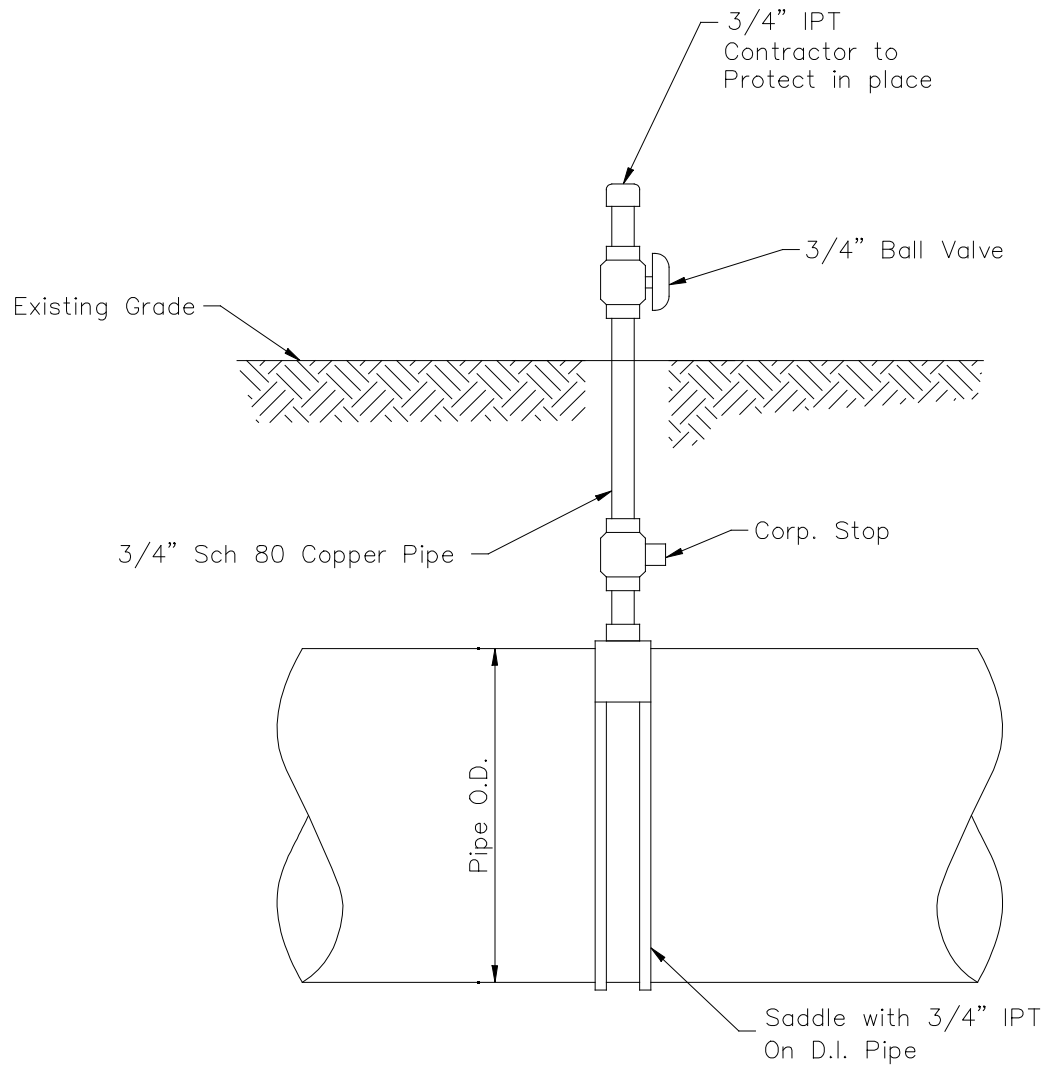
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# ANTENNA MAST DETAIL

DETAIL NO.  
**2398**

REVISED 4/25/07



GENERAL NOTES:

1. Upon completion and acceptance of bacterial testing, the corp stop shall be shut off. The copper riser shall be disconnected and removed. The corp stop shall remain closed in place.

DETAIL NO.  
**2399**

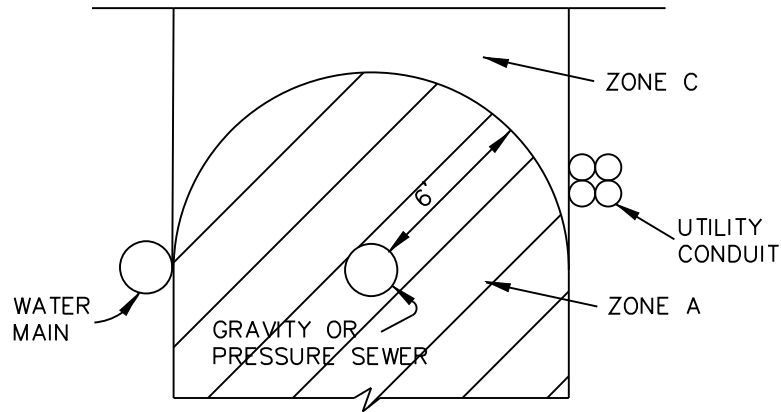
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

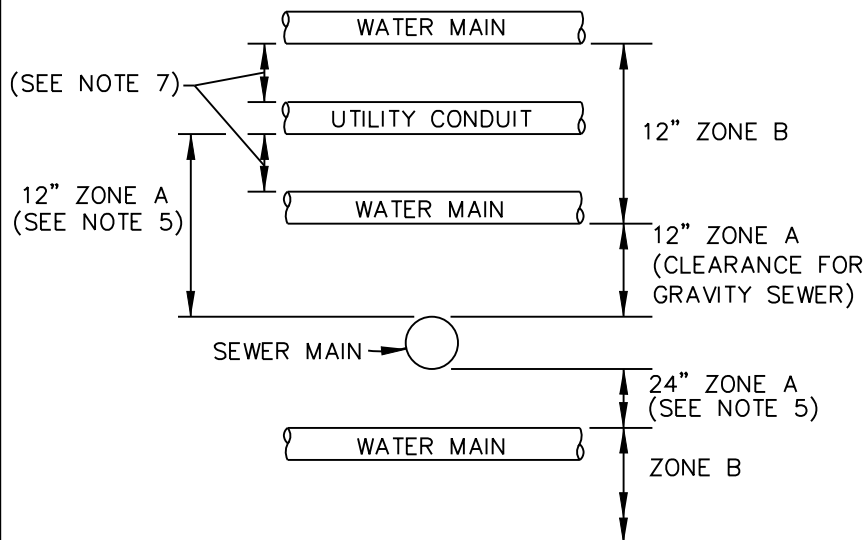
**TEMPORARY TAP FOR CHLORINE INJECTION**

DETAIL NO.  
**2399**

REVISED 3/25/09



**PARALLEL INSTALLATION GRAVITY OR PRESSURE SEWER**



**CROSSING INSTALLATION**

**NOTES:**

1. SEPARATION DISTANCES AND/OR EXTRA PROTECTION SHALL BE REQUIRED TO PROTECT WATER MAINS FROM CONTAMINATION BY SANITARY SEWER MAINS.
2. SEE CROSS INSTALLATION DETAIL ON THIS SHEET FOR LIMITS OF SEPARATION/EXTRA PROTECTION. ALL DISTANCES ARE MEASURED PERPENDICULARLY FROM THE OUTSIDE OF THE PIPES.
  - A. NO WATER MAINS OR UTILITY CONDUITS SHALL FALL WITHIN ZONE A.
  - B. EXTRA PROTECTION WILL BE REQUIRED WHEN THE WATER MAIN FALLS WITHIN ZONE B. EXTRA PROTECTION SHALL CONSIST OF CONSTRUCTING SANITARY SEWER MAINS WITH MECHANICAL JOINT OR RESTRAINED JOINT DUCTILE IRON PIPE. DUCTILE IRON PIPE SHALL COMPLY WITH THE REQUIREMENTS FOR SEWER INSTALLATION. IN A CROSSING, THE NUMBER OF JOINTS SHALL BE HELD TO A MINIMUM WITH ONE FULL JOINT OF PIPE CENTERED OVER/UNDER THE OTHER. AN ALTERNATIVE PROTECTION MAY CONSIST OF ENCASING SEWER MAINS IN REINFORCED CONCRETE PER MAG STD. DETAIL 404-3.
  - C. NO ADDITIONAL PROTECTION WILL BE REQUIRED OUTSIDE OF ZONES A AND B.
  - D. WATER MAINS PERMITTED IN ZONE C ONLY WITH WRITTEN PERMISSION FROM THE WATER RESOURCES DEPARTMENT.
3. SEPARATION REQUIREMENTS FOR 4" OR 6" INDIVIDUAL HOUSE SERVICE CONNECTIONS SHALL COMPLY WITH THE PLUMBING CODES ADOPTED BY THE CITY.
4. RECLAIMED WATER SHALL BE CONSIDERED AS POTABLE WATER WHEN PLACED NEXT TO A SANITARY SEWER AND CONSIDERED A PRESSURE OR FORCED SANITARY SEWER MAIN, WHEN PLACED NEXT TO A POTABLE WATER MAIN.
5. ZONE A IS 24" WHERE WATER MAINS AND UTILITY CONDUITS CROSS PRESSURE SEWER MAINS.
6. THIS DRAWING REVISES MAG STD. DETAIL 401-1 ONLY. MAG STD. DETAILS 404-2 & 404-3 REMAIN INTACT.
7. REFERENCE COS STANDARD DETAIL 2370 AND 2372.

DETAIL NO.  
**2401**

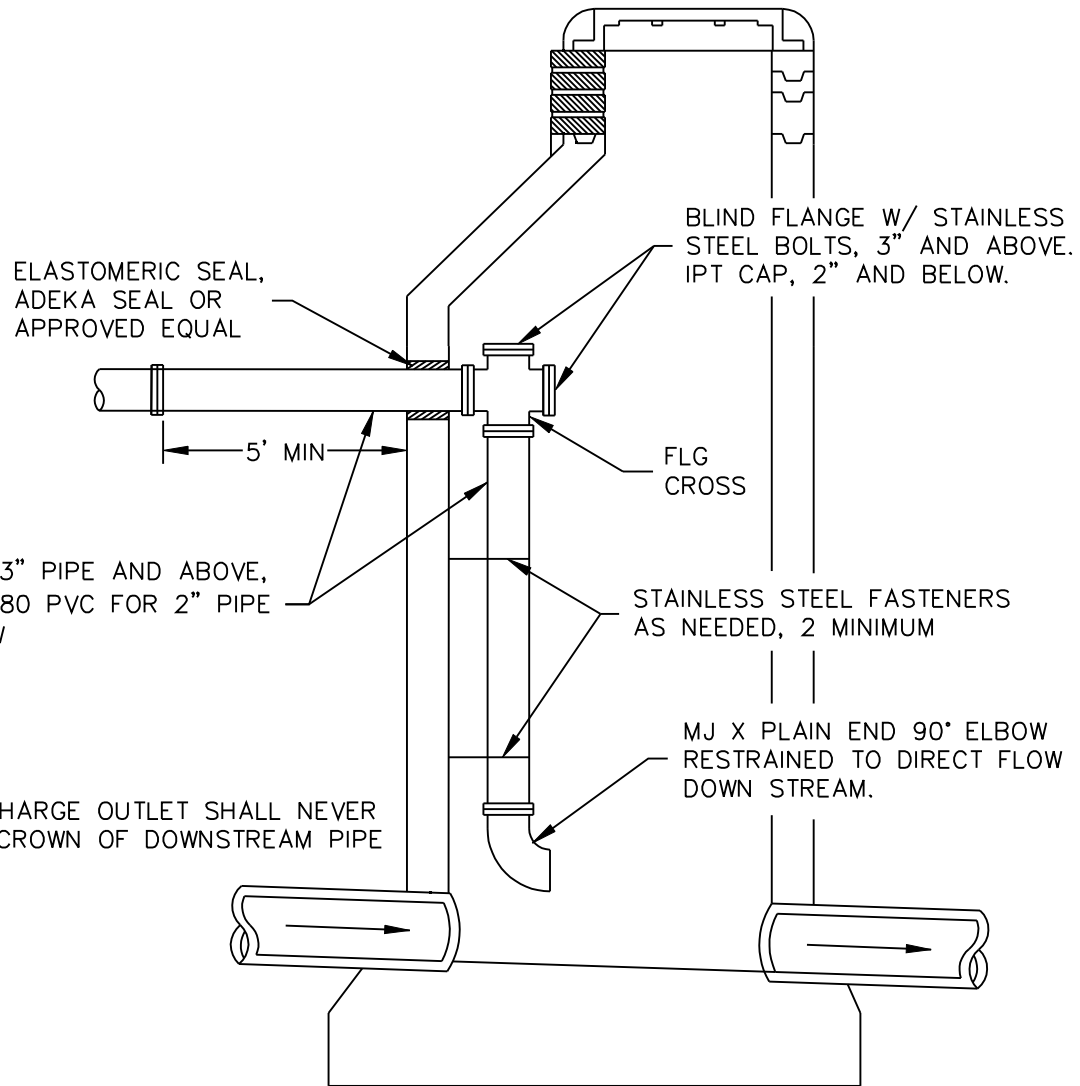
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**SANITARY SEWER SEPARATION / PROTECTION  
FROM WATER & UTILITIES**

DETAIL NO.  
**2401**





D.I.P. FOR 3" PIPE AND ABOVE,  
SCHEDULE 80 PVC FOR 2" PIPE  
AND BELOW

NOTE: DISCHARGE OUTLET SHALL NEVER  
BE BELOW CROWN OF DOWNSTREAM PIPE

DETAIL NO.  
**2402**

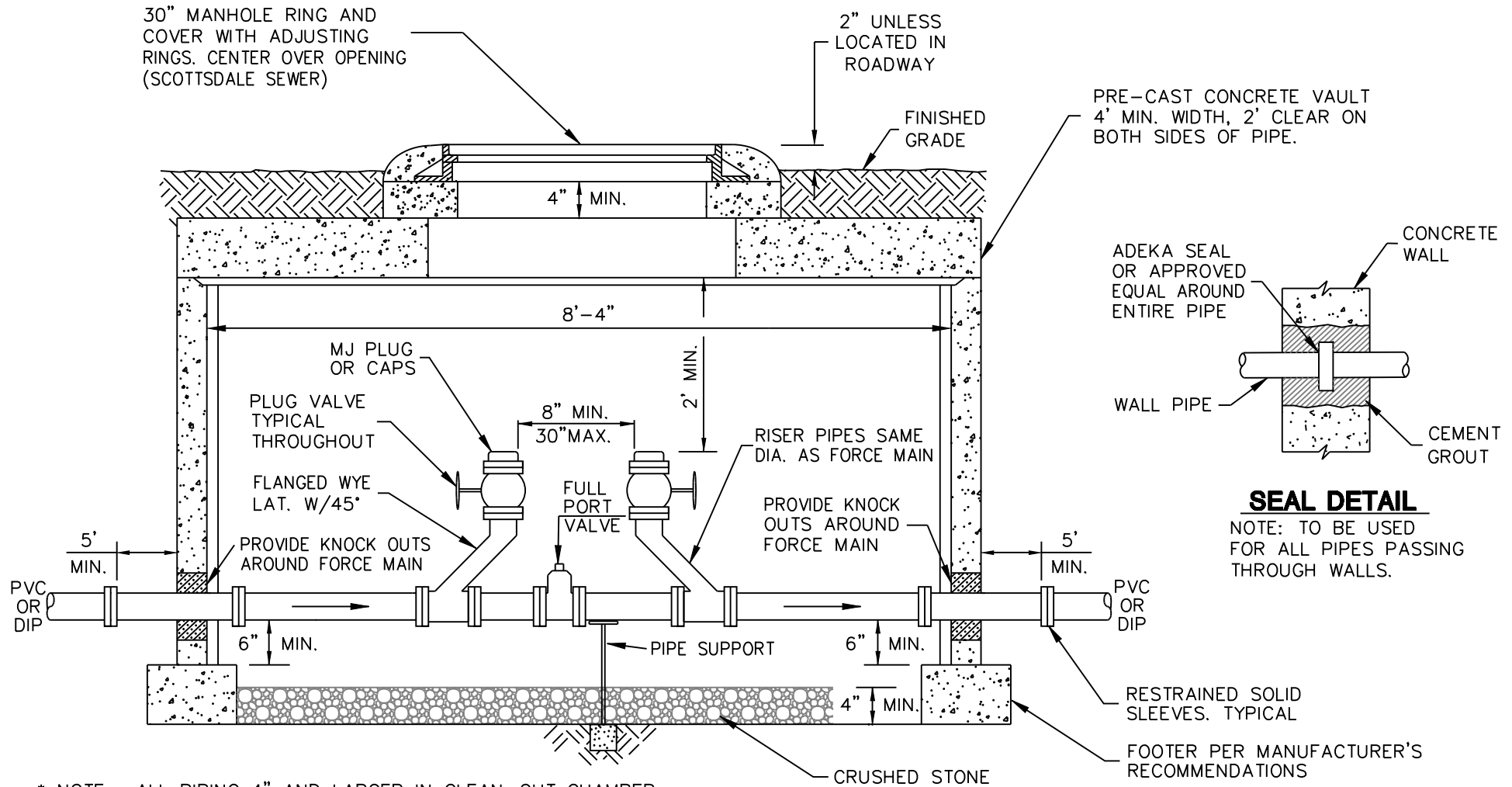
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**FORCE MAIN DISCHARGE MANHOLE**

DETAIL NO.  
**2402**

REVISED 4/06/09



\* NOTE: ALL PIPING 4" AND LARGER IN CLEAN-OUT CHAMBER, EXCEPT AS NOTED, TO BE DUCTILE IRON CONNECTED WITH FLANGED JOINTS AND STAINLESS STEEL BOLTS.

DETAIL NO.  
**2403**

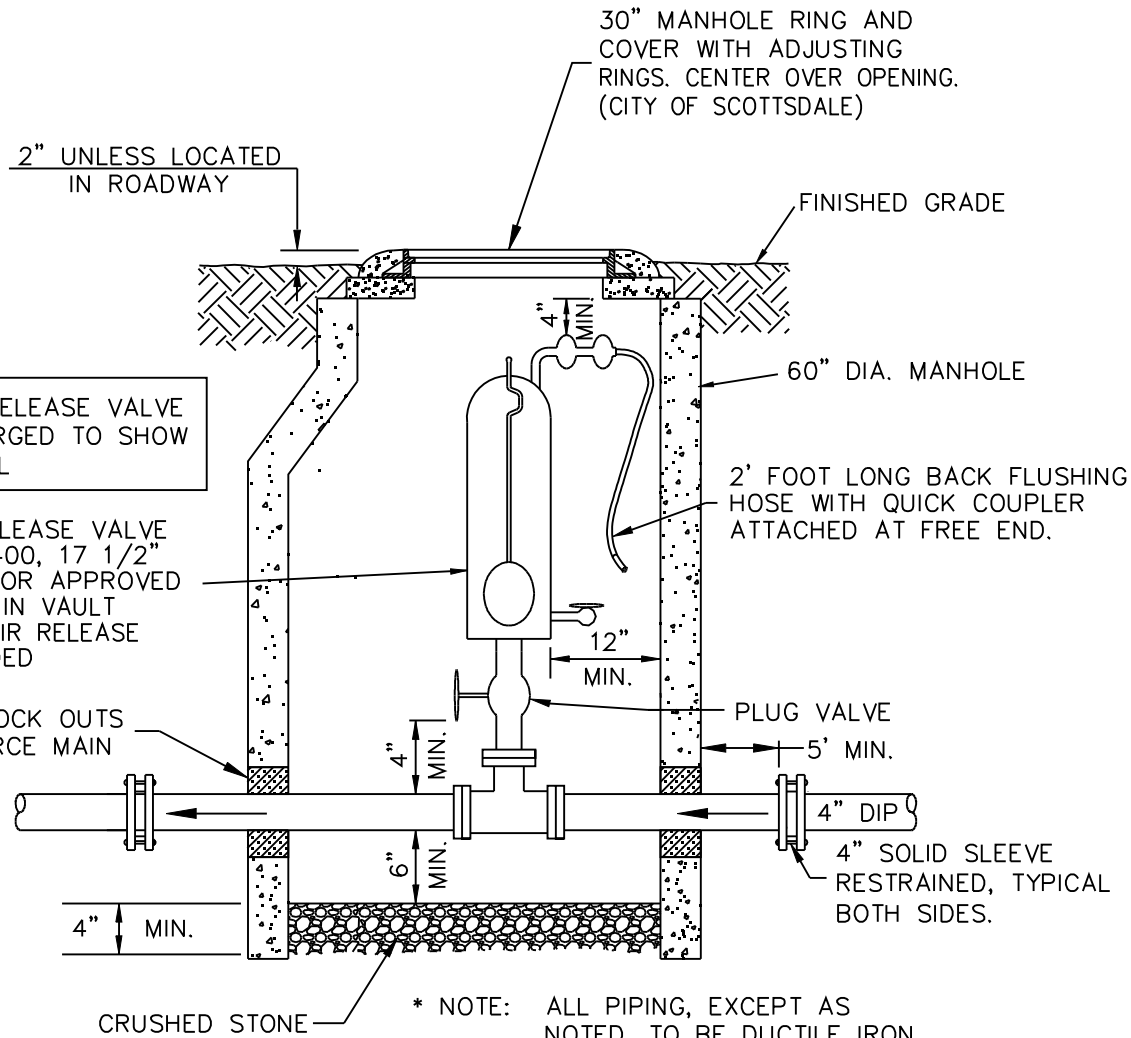
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**TWO-WAY FORCE MAIN CLEAN-OUT**

DETAIL NO.  
**2403**





AIR RELEASE VALVE ENLARGED TO SHOW DETAIL

SEWAGE AIR RELEASE VALVE (APCO MODEL 400, 17 1/2" VALVE HEIGHT, OR APPROVED EQUAL) CENTER IN VAULT AND SUPPORT AIR RELEASE VALVE AS NEEDED

PROVIDE KNOCK OUTS AROUND FORCE MAIN

30" MANHOLE RING AND COVER WITH ADJUSTING RINGS. CENTER OVER OPENING. (CITY OF SCOTTSDALE)

FINISHED GRADE

60" DIA. MANHOLE

2' FOOT LONG BACK FLUSHING HOSE WITH QUICK COUPLER ATTACHED AT FREE END.

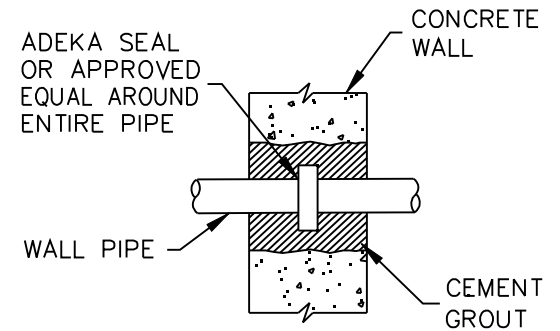
PLUG VALVE

4" DIP

4" SOLID SLEEVE RESTRAINED, TYPICAL BOTH SIDES.

CRUSHED STONE

\* NOTE: ALL PIPING, EXCEPT AS NOTED, TO BE DUCTILE IRON WITH FLANGE JOINTS AND STAINLESS STEEL BOLTS.



**SEAL DETAIL**

NOTE: TO BE USED FOR ALL PIPES PASSING THROUGH WALLS.

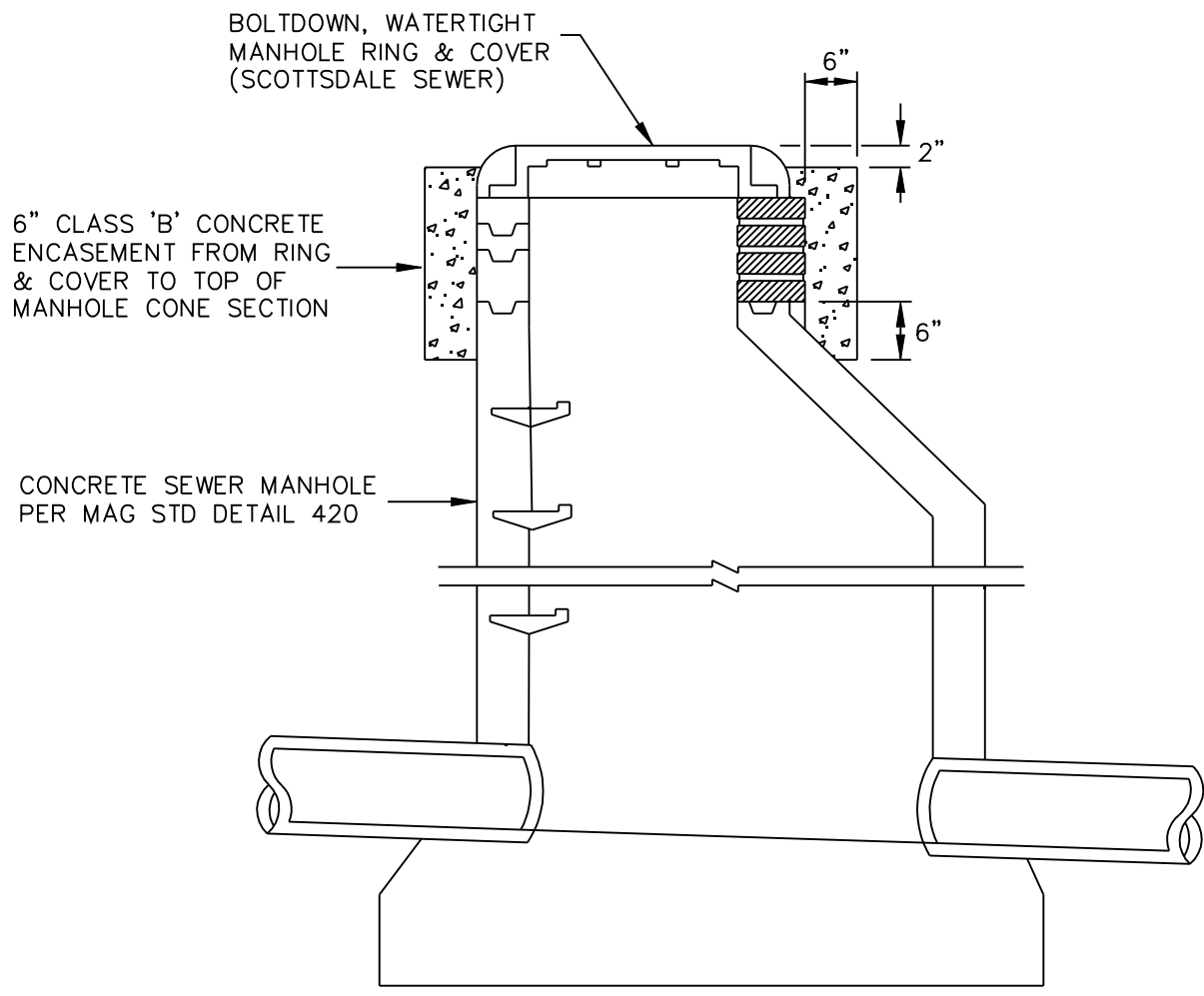
DETAIL NO. 2405

City of Scottsdale Standard Details

APPROVED BY: Scottsdale Standards & Specifications Committee

**SEWER AIR RELEASE VALVE**

DETAIL NO. 2405



DETAIL NO.  
**2420**

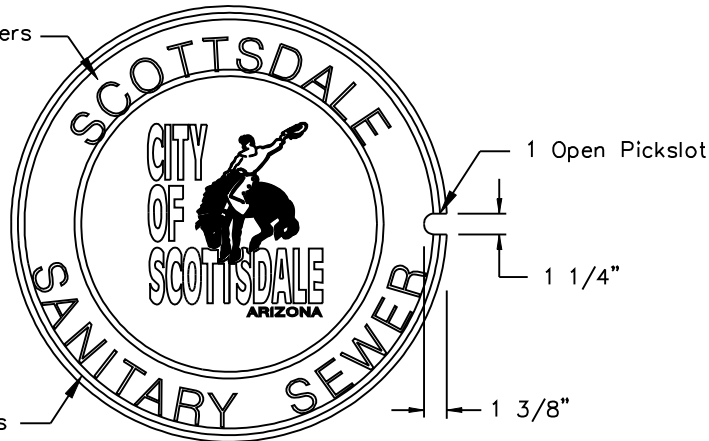
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**WATER TIGHT CONCRETE SEWER MANHOLE**

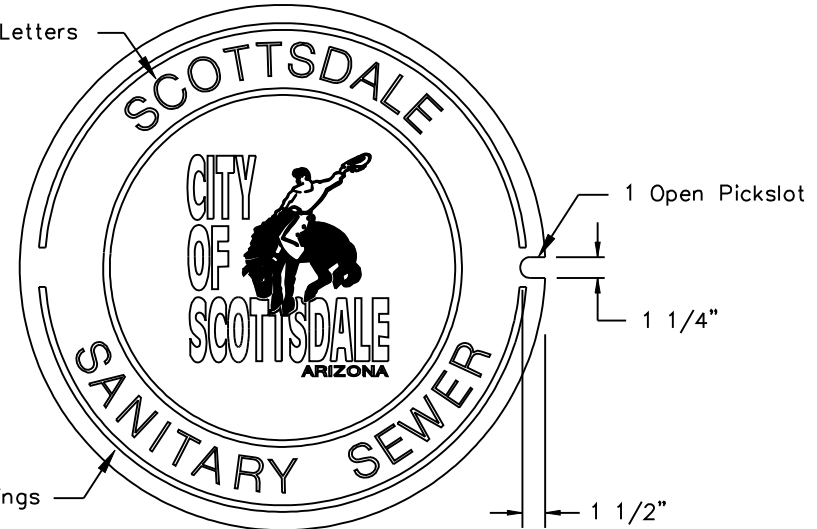
DETAIL NO.  
**2420**

2" High Raised Letters

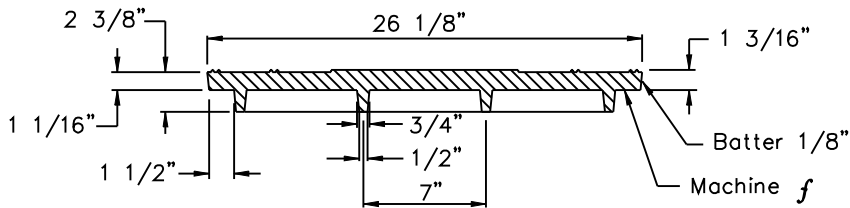


**TOP VIEW**

2" High Raised Letters

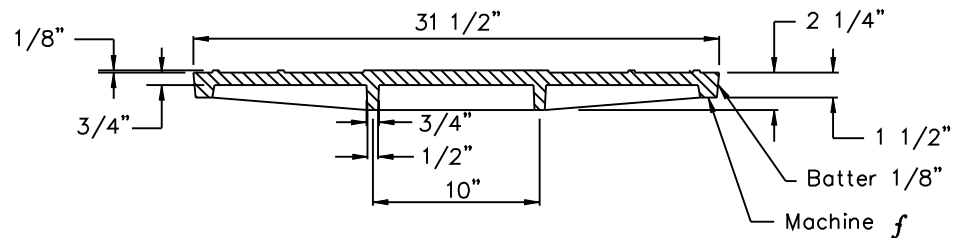


**TOP VIEW**



**SECTION OF COVER**

**24" MANHOLE COVER**



**SECTION OF COVER**

**30" MANHOLE COVER**

**NOTES**

1. Material: Cast Gray Iron ASTM A-48, Class 35B, Unpainted
2. The Total Width Of Individual Letters To Be Such That Letters And Words Are Equally Spaced And Balanced.
3. Letters To Be 2" In Height And Raised 1/8" Above Level Of Cover. Type Of Letters To Be Submitted For Approval.
4. Weight Of Castings Shall Be No More Than 2% Less Than Weight Specified. Castings Shall Conform To M.A.G. Section 787.

DETAIL NO.

**2421**

**City of Scottsdale  
Standard Details**

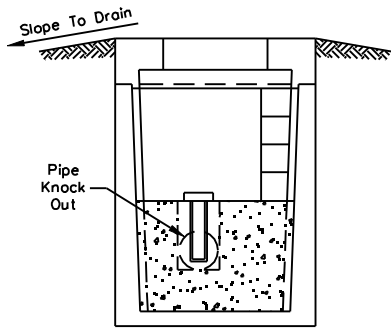
APPROVED BY:

**Scottsdale Standards &  
Specifications Committee**

**SANITARY SEWER MANHOLE COVER**

DETAIL NO.

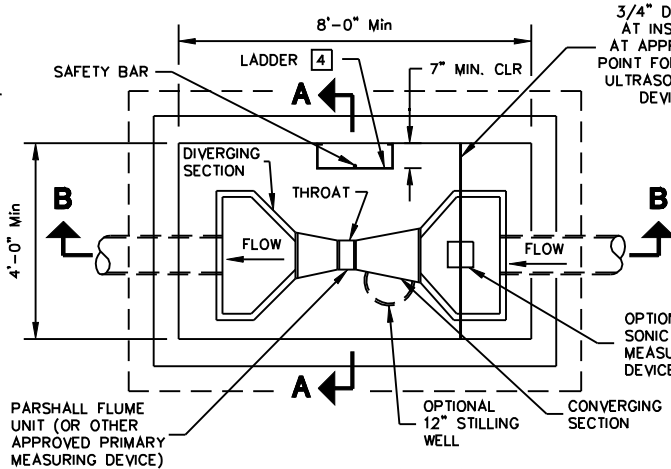
**2421**



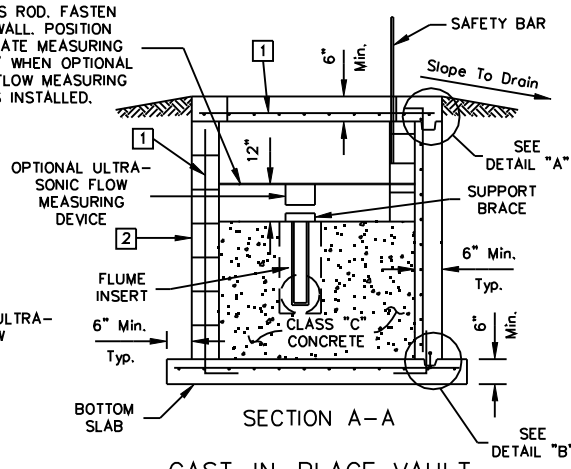
SECTION A-A

**PRE-CAST VAULT**

UTILITY VAULT CO.  
VAULT NO. 575-BL,  
NO. 577-BL OR  
APPROVED EQUAL



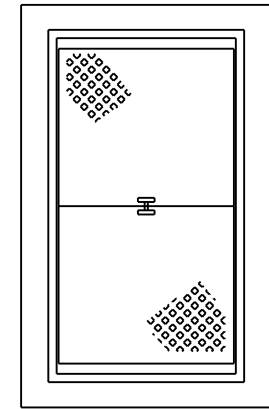
PLAN VIEW (TYP.)



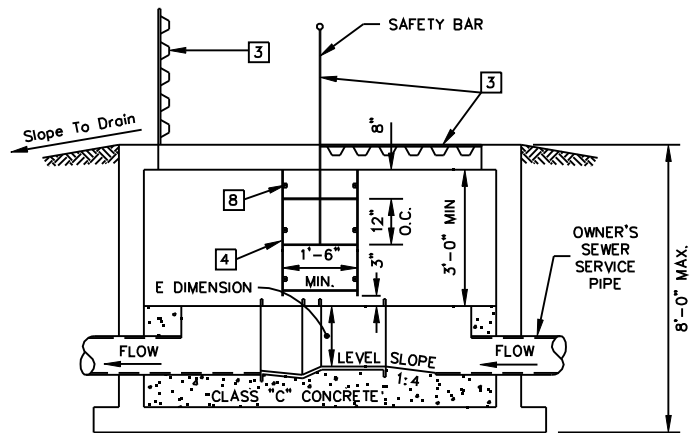
SECTION A-A  
**CAST-IN-PLACE VAULT**

**NOTES:**

- 1 Reinforced steel and clearance as approved by the engineer.
- 2 Block masonry may be used in lieu of CIP walls. 8" block masonry, grout each cell to full height (grout per MAG Section 776).
- 3 2 Torsion spring assisted galvanized diamond plate access doors (design loading AASHO-H20) locking with type 304SS hardware and safety bar (Bilco Model LU-3, or approved equal).
- 4 Ladder shall be furnished and installed in accordance with the detail and shall meet the requirements of OSHA for Type IA (300 lbs) fixed ladders, single section. Details of ladder construction, along with a certification that the ladder meets or exceeds OSHA requirements for Type IA (300 lbs) service shall be submitted for review prior to furnishing and installing. Mill finished aluminum ladder or approved corrosion resistant material.
- 5 2"x 4" key, center on wall. (Install rope caulk continuously).
- 6 1-5/8"x 2-1/2"x 3" key.
- 7 4" PVC dumbbell type continuous waterstop 3/8" min. thickness. (Wash thoroughly prior to installation).
- 8 Anchor straps (3 each side) with 5/8" x 3-1/2" 316SS anchor bolts with lock washer and nut.



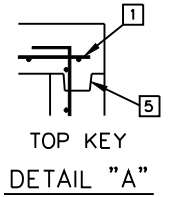
COVER WITH LID



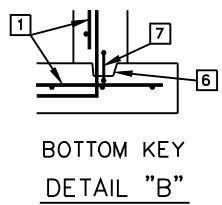
SECTION B-B

**EQUIPMENT DESCRIPTION**

A Fisher and Porter type 10F1940, Hinde Engineering Company, PS-1001, or approved equal molded fiberglass reinforced polyester Parshall Flume shall be installed. The flume shall be molded in one piece with ample wall thickness and reinforcing ribs to prevent distortion during shipment, installation and operation. The flume shall be self-supporting and require no external supporting structure. Interior dimensions shall conform to those in the latest revision of Water Measurement Manual published by the U.S. Department of the Interior, Water and Power Resources Services. The throat width and flume height ("E" dimension) shall be per plan.



TOP KEY  
DETAIL "A"



BOTTOM KEY  
DETAIL "B"

**GENERAL NOTES**

1. All construction shall conform to MAG Specifications and Details and City of Scottsdale Supplement to MAG Specifications and Details, unless modified on the plans.
2. All concrete floors, walls and top slab of the structure shall conform to MAG section 725, Class A, minimum compressive strength at 28 days = 3,000 psi.
3. All concrete for the grout fillet inside the structure shall conform to MAG Section 725, Class C, minimum compressive strength at 28 days = 2,000 psi.
4. All steel reinforcing shall be deformed bars, Grade 60, billet steel conforming to ASTM Specification No. A-615, latest edition.
5. The Monitoring/Sampling Vault shall be installed on the owner's property as close to the customer top to the City sewer as feasible, and approved by the City of Scottsdale.
6. Flume size should be based upon the minimum and maximum flow rates and velocities to insure free-flow conditions.
  - Maximum Flow = 70%-100% of maximum capacity of selected flume size.
  - 0.5 inches of flow should exist at the minimum actual flow.
7. Flume floor elevation should be high enough, relative to downstream conditions, to prevent submerged flow (50% submergence is acceptable at maximum flow), install the flume level (longitudinally and transversely) in the converging section.
8. Upstream flow should be wave free, non-turbulent, and symmetrical having a uniform velocity (1fps minimum to 3 fps maximum) at least 10 times the diameter of the upstream sewer pipe in length in the approach channel. Bends upstream in the flume will NOT be allowed for a distance of 25 pipe diameters unless conditions in the approach section of the flume will not be adversely affected.
9. The flume shall be installed off-center and away from the ladder to allow the maximum working space for City personnel.
10. It shall be the owner's responsibility to properly maintain the flume in accordance with the manufacturers recommendations to ensure the accuracy of the measurement.

DETAIL NO.  
**2460**

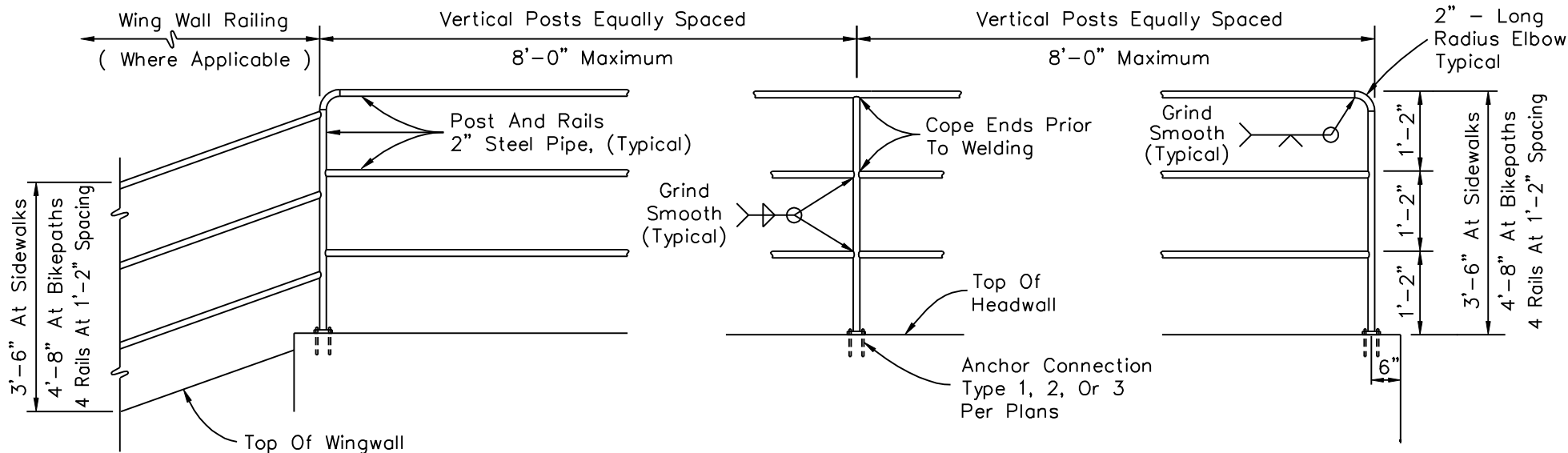
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

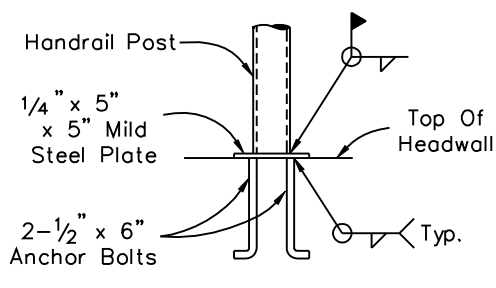
**MONITORING/SAMPLING VAULT**

DETAIL NO.  
**2460**

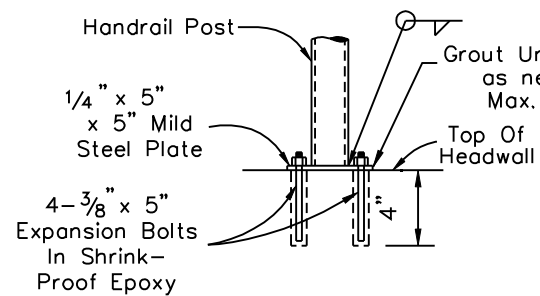
REVISED 3/28/02



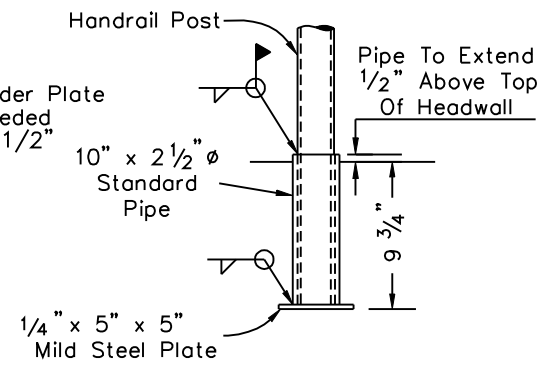
**ELEVATION**



**TYPE 1**  
**ANCHOR PLATE DETAIL**



**TYPE 2**  
**EXPANSION BOLT DETAIL**



**TYPE 3**  
**PIPE SLEEVE DETAIL**

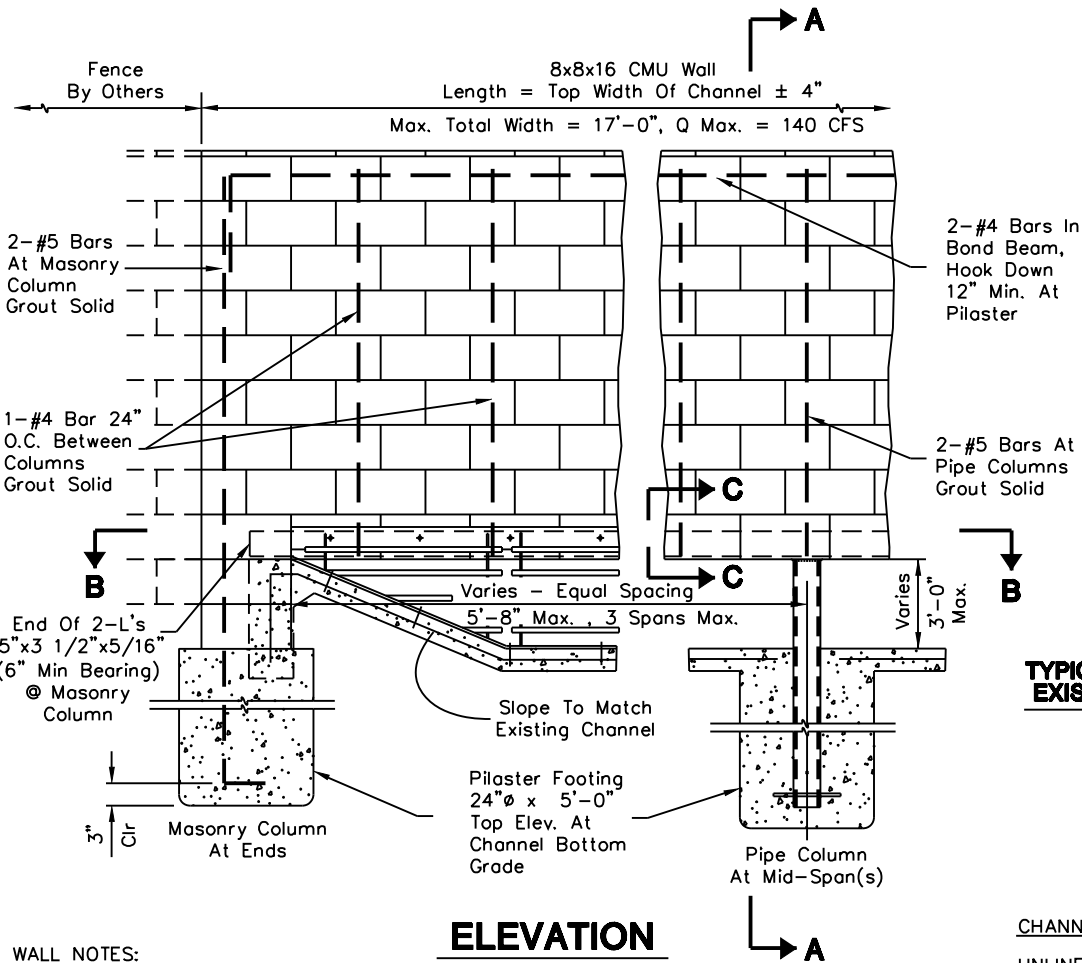
**CONSTRUCTION NOTES**

1. Paint handrail per MAG Specifications Section 530. Color per plans.
2. Vertical posts to be evenly spaced.

DETAIL NO. <b>2508</b>	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>HANDRAIL DETAIL</b>	DETAIL NO. <b>2508</b>
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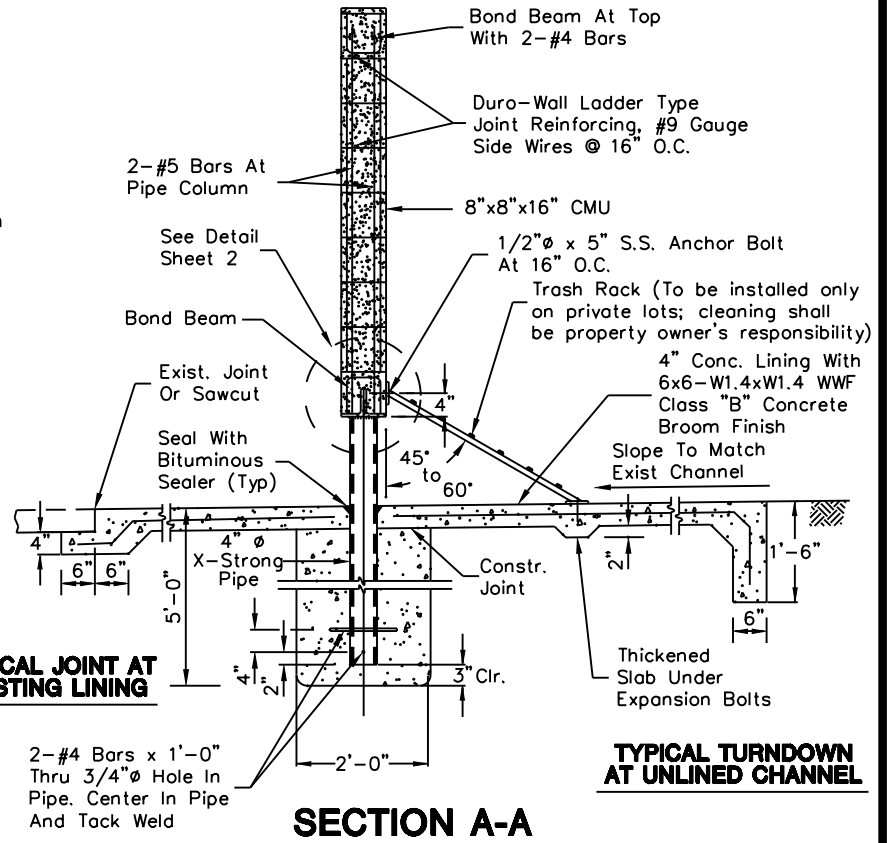


REVISED 3/15/10



**WALL NOTES:**

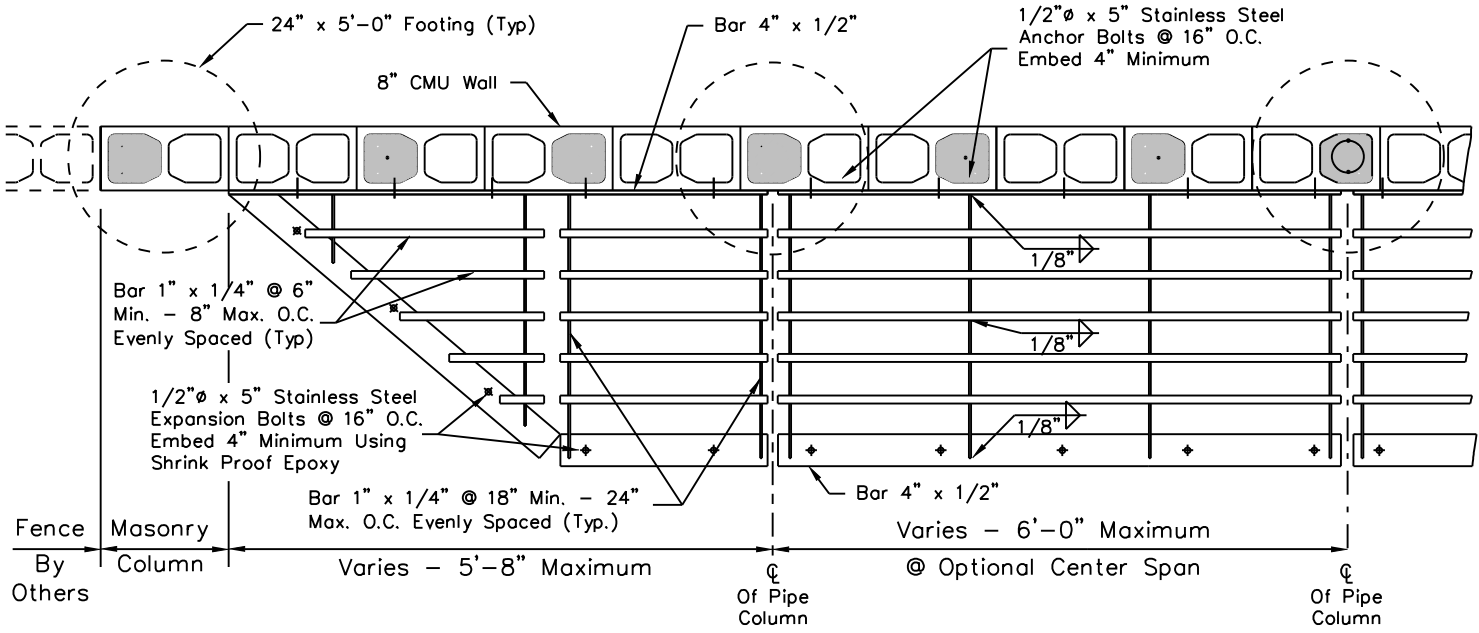
1. Wall Height, Finish Texture And Color to Match Adjacent Property Wall.
2. Construction To Conform to MAG Section 510.
3. Trash Rack Grate Required on Private Lots only; And Property Owner Shall Be Responsible for Cleaning.



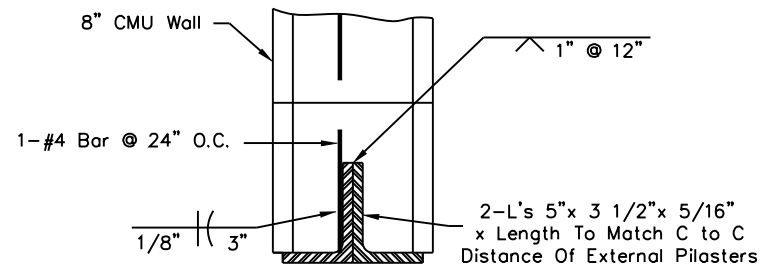
**CHANNEL NOTES:**

- UNLINED CHANNELS:** Construct New Lining 6' Minimum Upstream And Downstream From Wall With Turndown At All Edges Of Lining.
- EXISTING LINED CHANNELS:** Remove Existing Lining 4' Minimum Upstream And Downstream From Wall. Replace Using Joint Shown.

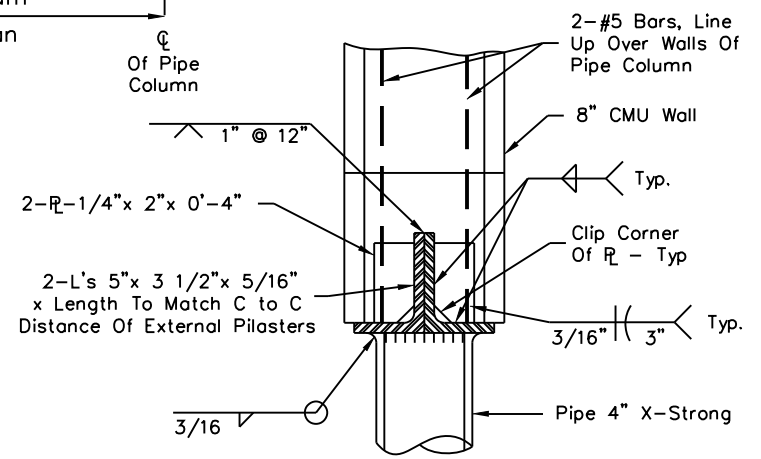
REVISED 3/15/10



**SECTION B-B**



**SECTION C-C**



**DETAIL AT PIPE COLUMN**

**GRATE NOTES:**

1. Steel Work Shall Conform To Mag Sections 515 And 770.
2. Shop Drawings Are Not Required. Contractor Shall Be Responsible For Correct Fit Between The Trash Rack, Channel And Wall As Constructed In The Field.
3. Shop Prime Steel And Touch-Up Per MAG Section 515.5. Apply A Second Coat After Erection And A Finish Coat Of Alkyd Enamel To Match Wall Finish Color.
4. Grate Required on Private Lots Only. Property Owner Responsible for Cleaning.

DETAIL NO.  
**2515-2**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

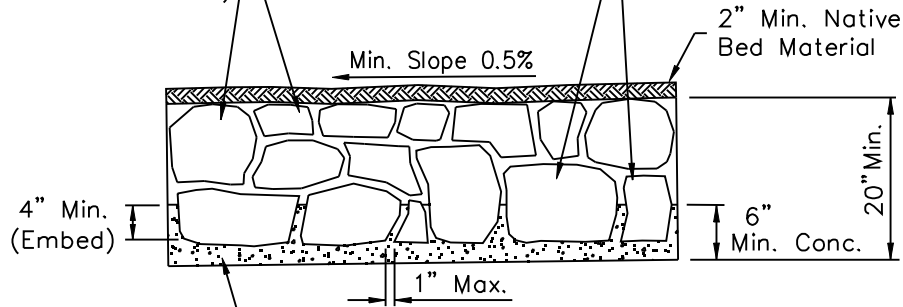
**DRAINAGE GRATE AT BLOCK WALL**

SHEET 2 OF 3  
DETAIL NO.  
**2515-2**

Top Stone:  
Loose Naturally Placed  
Native Stone. D<sub>50</sub> = 8"  
(Size: 3" Min. - 12" Max.)

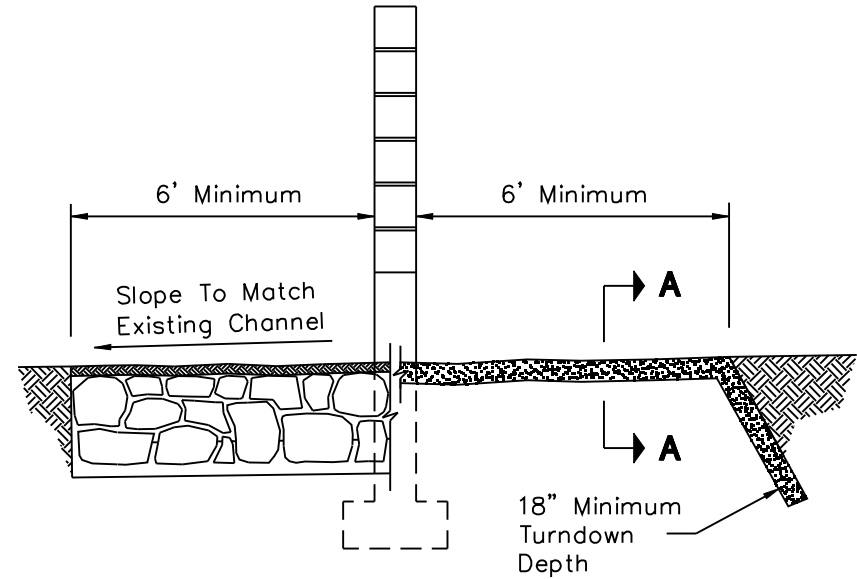
Note: Stone shall  
be fractured with  
angular faces; no  
river run

Bed Stone:  
Hand Placed Native Stone  
D<sub>50</sub> = 15" (Size: 12" Min. -  
18" Max.)

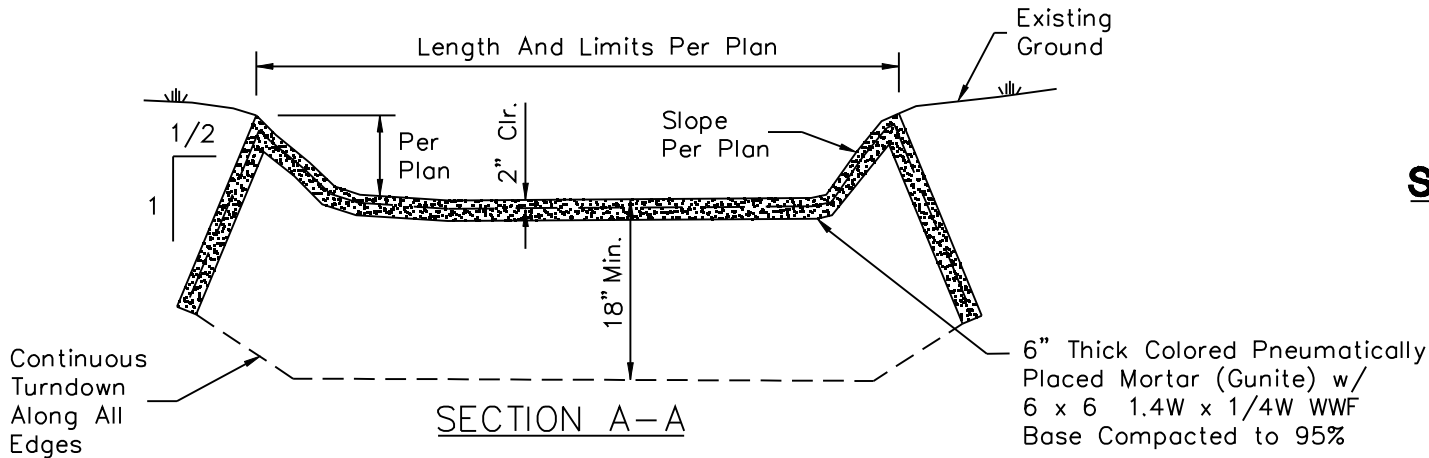


Integrally Colored Concrete Or  
Grout, Color To Be Determined By  
Plans or City Of Scottsdale Inspector  
(Color to match native stone)

### TYPE 2A - BURIED GROUDED RIP-RAP DETAIL



### SECTION AT WALL



### SECTION A-A

### TYPE 2B - PNEUMATICALLY PLACED MOTAR DETAIL

DETAIL NO.  
**2515-3**

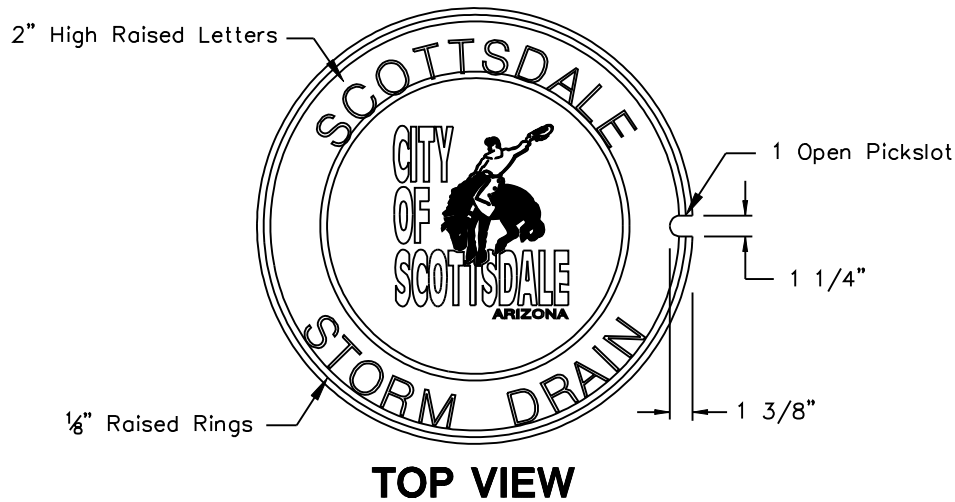
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

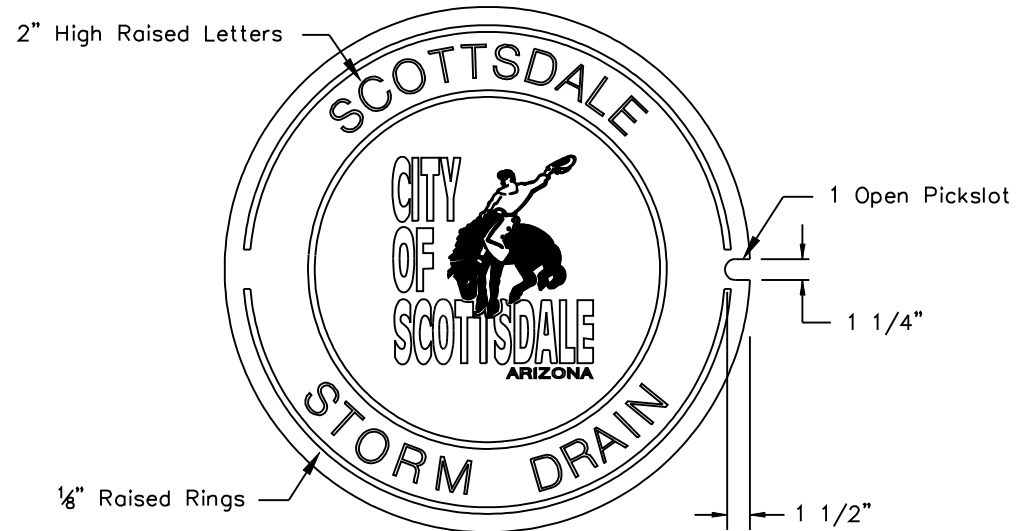
# EROSION PROTECTION - TYPE 2

SHEET 3 OF 3  
DETAIL NO.  
**2515-3**

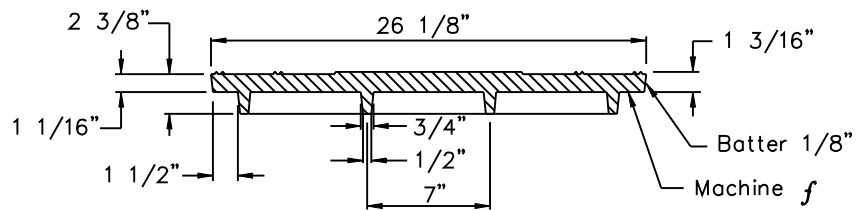
REVISED 5/17/06



**TOP VIEW**

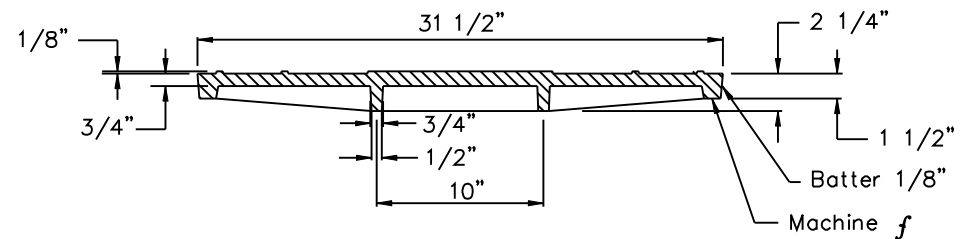


**TOP VIEW**



**SECTION OF COVER**

**24" MANHOLE COVER**



**SECTION OF COVER**

**30" MANHOLE COVER**

**NOTES**

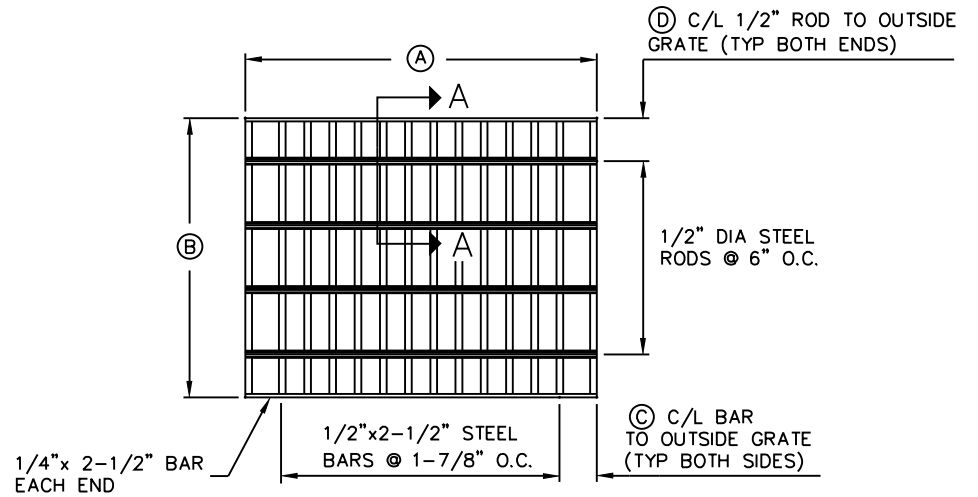
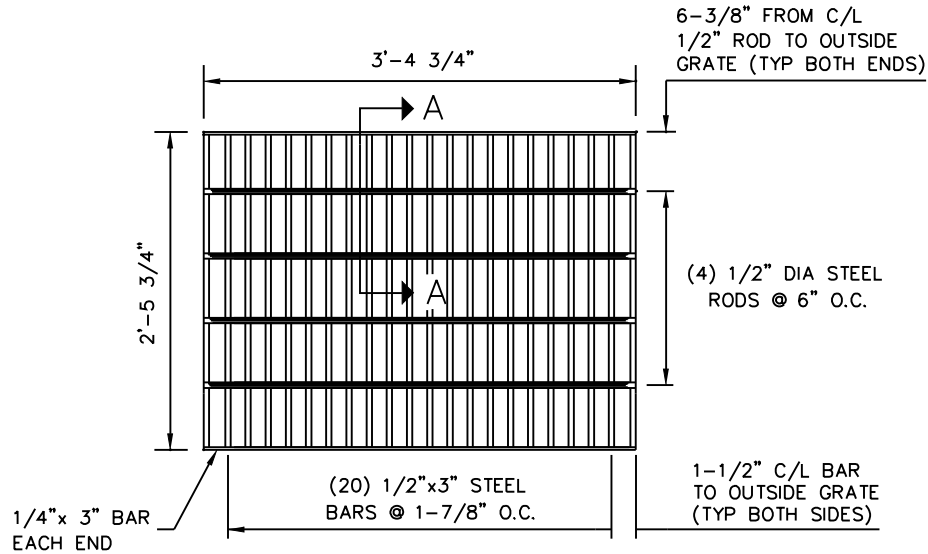
1. Material: Cast Gray Iron ASTM A-48, Class 35B, Unpainted
2. The Total Width Of Individual Letters To Be Such That Letters And Words Are Equally Spaced And Balanced.
3. Letters To Be 2" In Height And Raised  $\frac{1}{8}$ " Above Level Of Cover. Type Of Letters To Be Submitted For Approval.
4. Weight Of Castings Shall Be No More Than 2% Less Than Weight Specified. Castings Shall Conform To M.A.G. Section 787.

DETAIL NO. **2520** **City of Scottsdale Standard Details** APPROVED BY: **Scottsdale Standards & Specifications Committee**

**STORM DRAIN MANHOLE COVER**

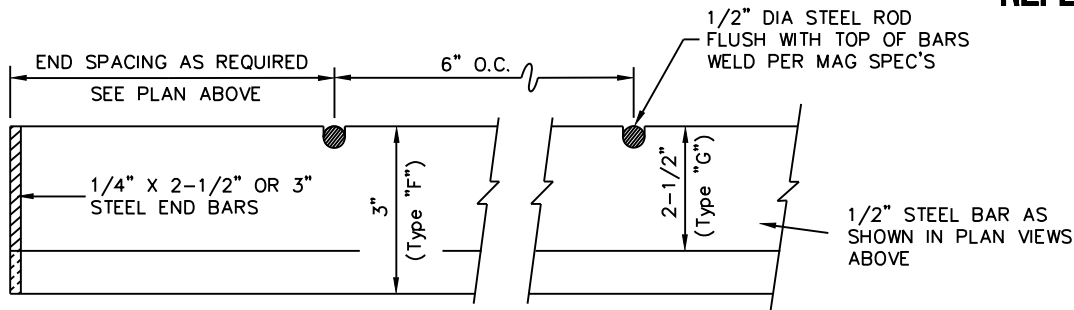
DETAIL NO. **2520**

REVISED 4/15/09



**GRATE FOR TYPE "F" CATCH BASIN**  
**REPLACES GRATE SHOWN IN MAG STD. DETAIL 535**

**GRATE FOR TYPE "G" & "H" CATCH BASINS**  
**REPLACES GRATE SHOWN IN MAG STD. DETAILS 537/539**



**SECTION A-A**

TYPE "G" GRATE DIMENSIONS		
	SINGLE GRATE	DOUBLE GRATE
(A)	2'-2"	4'-3 1/2"
(B)	2'-2"	2'-2"
(C)	2-11/16"	2-5/16"
(D)	0'-4"	0'-3 3/4"

**NOTES:**

1. ALL MATERIALS AND FABRICATION TO BE AS SPECIFIED IN MAG STANDARD DETAIL NO. 540-2.
2. MAXIMUM TOTAL DIMENSION BETWEEN OUTSIDE OF GRATE AND INSIDE OF FRAME SHALL NOT EXCEED 3/8".

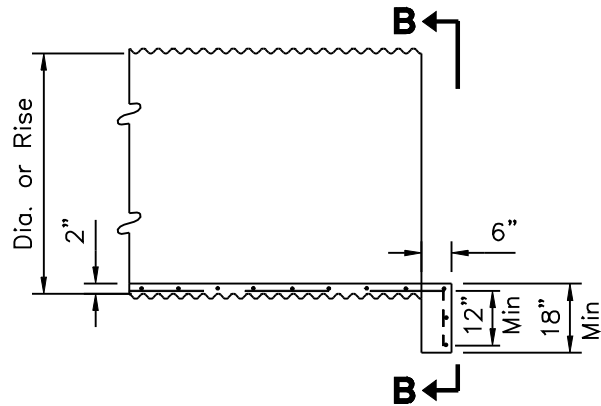
DETAIL NO.  
**2535**

**City of Scottsdale**  
**Standard Details**

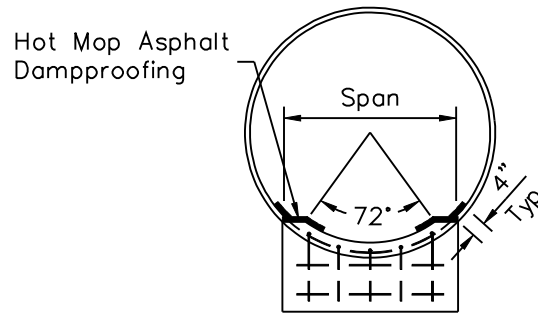
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**CATCH BASIN GRATES**

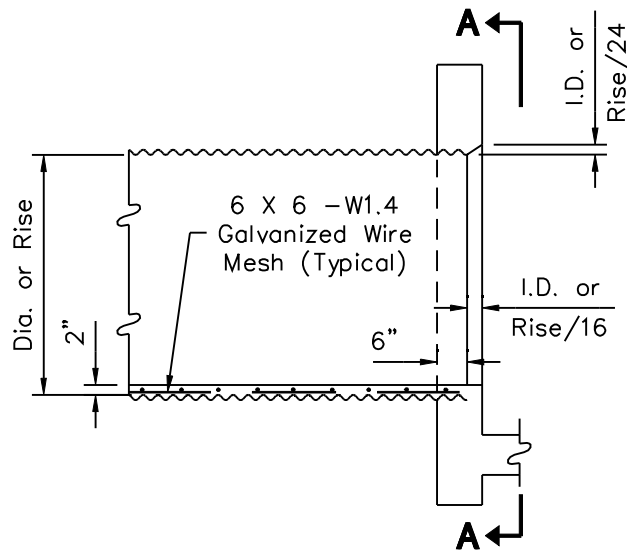
DETAIL NO.  
**2535**



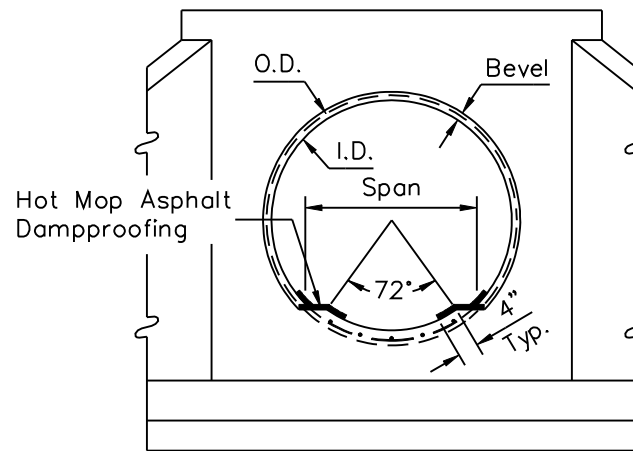
**NO HEADWALL**



**ELEVATION B-B**



**WITH HEADWALL**



**ELEVATION A-A**

**GENERAL NOTES**

1. For lateral dimensions of invert paving, use 72° control for CMP and span for CMPA.
2. Paving shall be scored at 18" min. (transverse) along pipe length.
3. Use bevel on inlet headwall only.
4. Wire mesh shall be tack welded to corrugation crests at 18" intervals. Laps shall be 6" min.
5. Paving shall not be placed until backfilling is completed.
6. Concrete shall be Class "B".

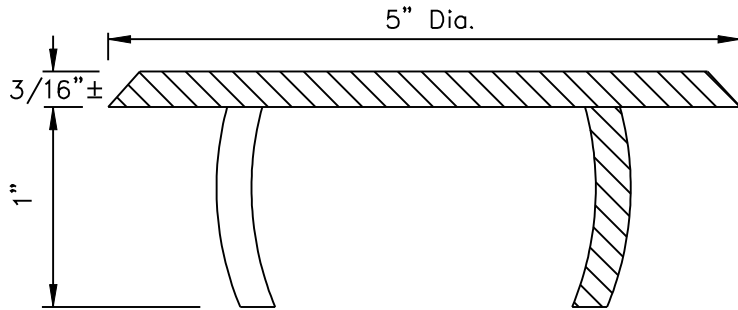
DETAIL NO.  
**2554**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

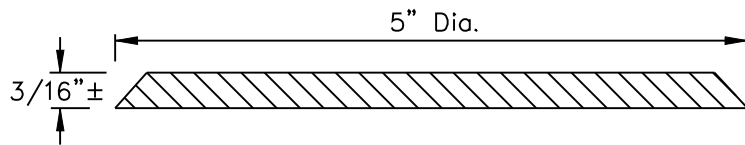
**CONCRETE INVERT PAVING FOR  
CORRUGATED METAL PIPE AND PIPE ARCH**

DETAIL NO.  
**2554**



**TYPE "A"**

TO BE INSTALLED IN WET CONCRETE  
DURING CONSTRUCTION



**TYPE "B"**

TO BE INSTALLED WITH ADHESIVE  
ON EXISTING STRUCTURES



NOTES

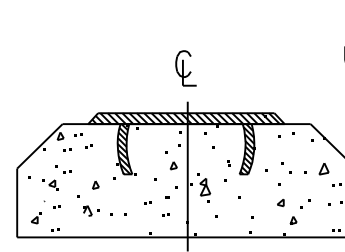
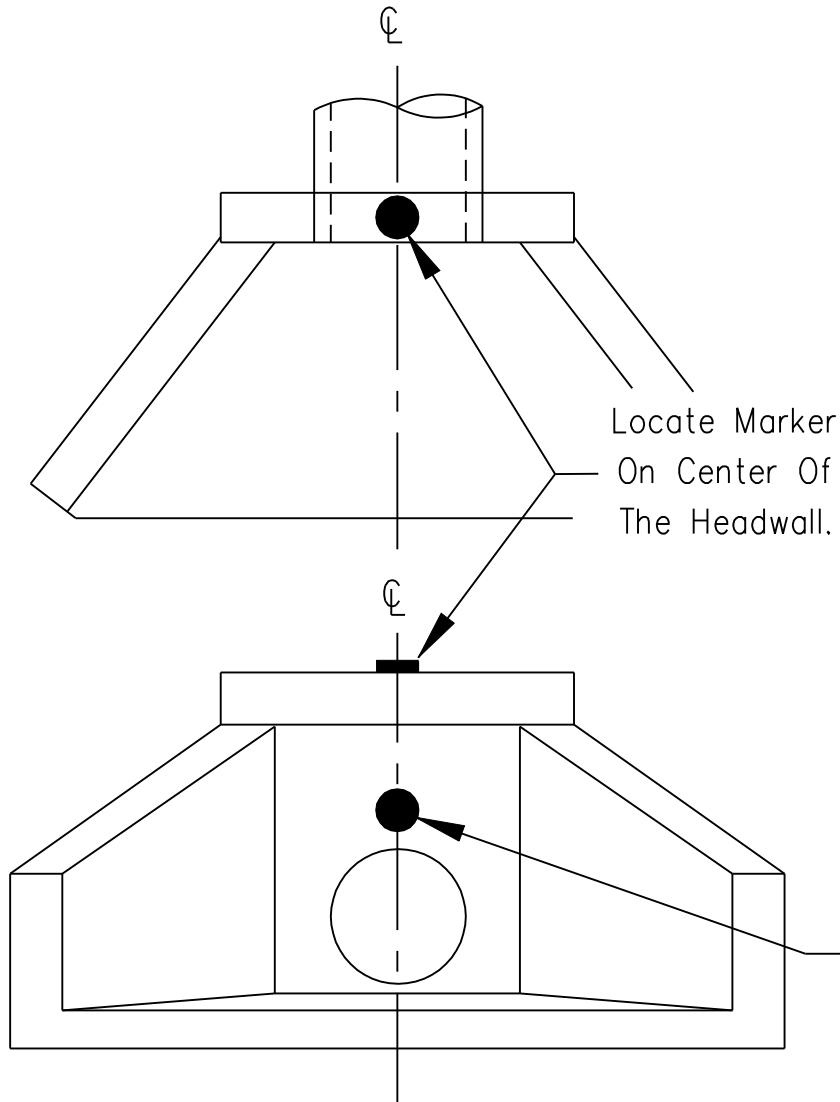
1. Material: Cast Aluminum
2. The Total Width Of Individual Letters To Be Such That Letters And Words Are Equally Spaced And Balanced.
3. Letters To Be 1/2" In Height. Type Of Letters To Be Submitted For Approval.

DETAIL NO. **2560-1** **City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

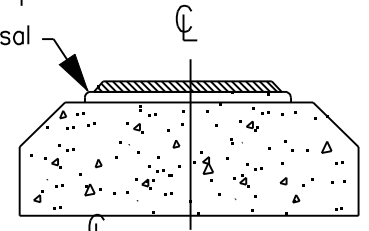
**STORM DRAIN INLET MARKER**

DETAIL NO. **2560-1**



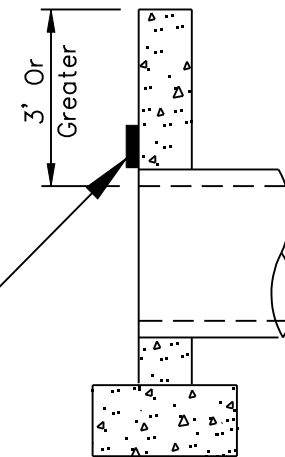
**TYPE "A"**  
TO BE INSTALLED IN WET CONCRETE  
DURING CONSTRUCTION

Dynamix #6125-1  
Urethane Universal  
Adhesive



**TYPE "B"**  
TO BE INSTALLED WITH ADHESIVE  
ON EXISTING STRUCTURES

Locate Marker On the  
Vertical Face Of Headwall  
When Face Is 3' Or Greater.  
Center On Headwall.



DETAIL NO.  
**2560-2**

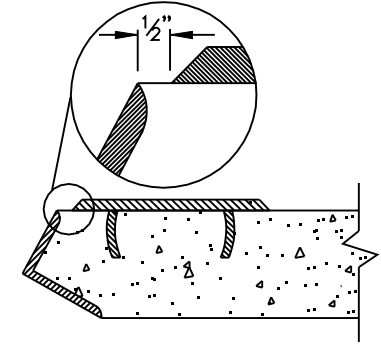
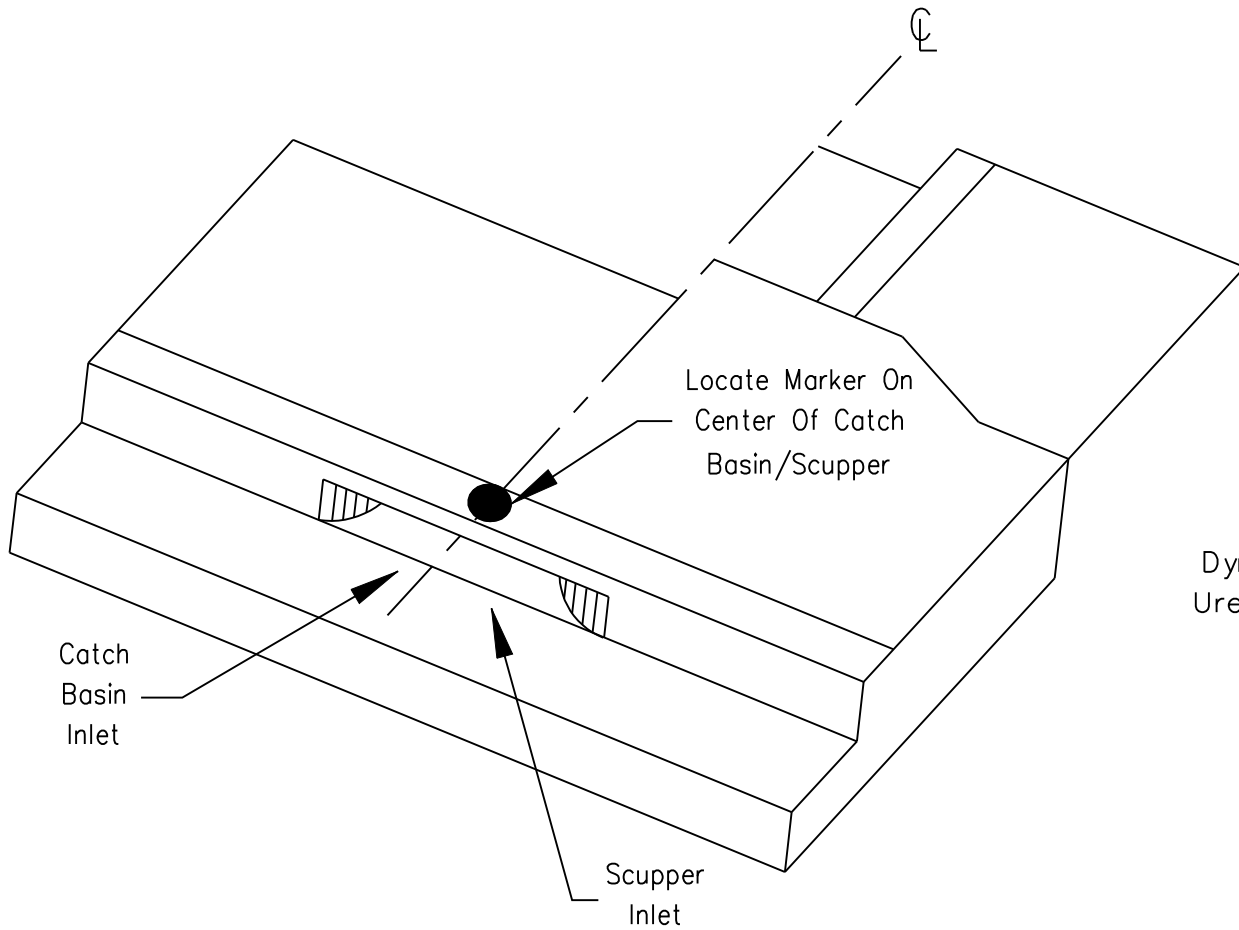
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**STORM DRAIN INLET MARKER ON HEADWALL**

DETAIL NO.  
**2560-2**

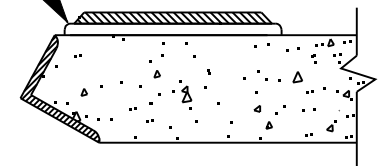




**TYPE "A"**

TO BE INSTALLED IN WET CONCRETE DURING CONSTRUCTION

Dynamix #6125-1 Urethane Universal Adhesive



**TYPE "B"**

TO BE INSTALLED WITH ADHESIVE ON EXISTING STRUCTURES

DETAIL NO.

2560-3

**City of Scottsdale  
Standard Details**

APPROVED BY:

**Scottsdale Standards &  
Specifications Committee**

**STORM DRAIN INLET MARKER ON CATCH BASIN/SCUPPER**

DETAIL NO.

2560-3



REVISED: 3/28/02

SIZE OF OUTFALL CONDUIT	FRAME ANGLES	SHEAR PIN CLIP ANGLES	SHEAR PINS	HINGE PINS	HINGE ANGLES	HINGE STD. PIPE	* NO. OF EQUAL BARRIER BAR SPACES (HORIZ.)	NO. OF EQUAL BARRIER BAR SPACES (VERT.)	H (OUT TO OUT FRAME ANGLES)	* W (OUT TO OUT FRAME ANGLES)	A	B
30"	2X2X1/4	4X4X1/4	1-1/8 $\emptyset$	1/2" $\emptyset$	2X2X1/4	3/4"	3	5	34"	20"	SINGLE HINGE CENTERED	
36"	2X2X1/4	4X4X1/4	1-1/8 $\emptyset$	3/4" $\emptyset$	2-1/2X 2-1/2X1/4	1"	4	6	40"	26"	SINGLE HINGE CENTERED	
42"	2X2X1/4	4X4X1/4	2-1/8 $\emptyset$	1/2" $\emptyset$	2X2X1/4	3/4"	5	6	42"	32"	0	0
48"	3X3X7/16	5X3X1/4	2-1/8 $\emptyset$	3/4" $\emptyset$	2-1/2X 2-1/2X1/4	1"	5	7	47"	38"	3"	1"
54"	3X3X7/16	5X3X1/4	2-1/8 $\emptyset$	3/4" $\emptyset$	2-1/2X 2-1/2X1/4	1"	6	8	54"	44"	5"	3"
60"	3X3X7/16	5X3X1/4	2-1/8 $\emptyset$	3/4" $\emptyset$	2-1/2X 2-1/2X1/4	1"	7	9	60"	50"	9"	4"
66"	3X3X7/16	5X3X1/4	2-1/8 $\emptyset$	3/4" $\emptyset$	2-1/2X 2-1/2X1/4	1"	8	10	66"	56"	11"	6"
72"	4X4X5/8	5X3X1/4	2-3/16 $\emptyset$	1" $\emptyset$	3X3X3/8	1-1/4"	9	11	73"	62"	15"	7"
78"	4X4X5/8	5X3X1/4	2-3/16 $\emptyset$	1" $\emptyset$	3X3X3/8	1-1/4"	10	11	79"	68"	17"	9"
84"	4X4X5/8	5X3X1/4	2-3/16 $\emptyset$	1" $\emptyset$	3X3X3/8	1-1/4"	11	13	86"	74"	21"	10"
90"	4X4X5/8	5X3X1/4	2-3/16 $\emptyset$	1" $\emptyset$	3X3X3/8	1-1/4"	12	13	92"	80"	23"	12"
96"	4X4X5/8	5X3X1/4	2-3/16 $\emptyset$	1" $\emptyset$	3X3X3/8	1-1/4"	12	14	98"	86"	29"	12"

\*NOTE: Adjust these values for skewed conduits. Provide 5" maximum opening at each side and between bars.

DETAIL NO. <b>2562-2</b>	<b>City of Scottsdale Standard Details</b>	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>BARRIER SPECIFICATIONS SCHEDULE</b>	DETAIL NO. <b>2562-2</b>
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REVISED 05/05/08

## MINIMUM TREE SIZE REQUIREMENTS

Name	Size	Height	Width	Caliper	Name	Size	Height	Width	Caliper	Name	Size	Height	Width	Caliper	Name	Size	Height	Width	Caliper					
<b>ACACIA</b>					<b>IRONWOOD</b>					<b>MESQUITE (Cont.)</b>					<b>OTHER TREES</b>					<b>COOLIBAH</b>	15	7	3	0.75
<b>BERLANDER</b>	15	4	2	0.5	<b>DESERT IRONWOOD</b>	15	3	2	0.5	<b>VELVET ARIZONA (M)</b>	15	5.5	3	0.5	<b>ALEPPO</b>	15	6	3	0.75	<b>(EUCALYPTUS -</b>	24	10	4	1.5
<b>GUAJILLO (M)</b>	24	5	4	1	<b>(OLNEYA TESOTA)</b>	24	6	3	1.25	<b>(PROSOPIS VELUNTINA)</b>	24	7	4	1	<b>(PINUS HALEPENSIS)</b>	24	9	4	2	<b>MICROTHECA)</b>	30	12	5	2
<b>(ACACIA BERLANDIERI)</b>	30	7	5	1.5							30	9	6	1.5		30	11	6	3		36	15	6	2.5
	36	9	6	2							36	10	8	2.5		36	14	7	3.5	<b>CORK OAK</b>	15	4	2	0.75
<b>MULGA</b>	15	5	2	0.75							42	12	10	2.5		42	16	9	4	<b>(QUERCUS SUBER)</b>	24	6.5	3	1.5
<b>(ACACIA ANEURA)</b>	24	7	4	1.5	<b>DESERT IRONWOOD (M)</b>	15	3	2	0.5	<b>PALOVERDE</b>					<b>ARIZONA SYCAMORE</b>	15	7	2	1		30	9	4.5	2.5
	30	9	6	2	<b>(OLNEYA TESOTA)</b>	24	6	3	1.25	<b>BLUE PALO VERDE</b>	15	6	2	0.75	<b>(PLATANUS WRIGHTII)</b>	24	9	4	1.5		36	12	6	3.5
	36	10	8	2.5						<b>(PARKINSONIA FLORIDUM)</b>	24	7.5	4	1.5		30	13	6	2.5		42	14	9	4
<b>SHOESTRING</b>	15	7	2.5	0.75							30	9	7	2		36	16	8	3.5	<b>CORRAL GUM</b>	15	6	2.5	0.75
<b>(ACACIA STENOPHYLLA)</b>	24	9	4	1.5							36	10	8	2.5	<b>ARIZONA SYCAMORE (M)</b>	15	6	3	0.5	<b>(EUCALYPTUS TORQUATA)</b>	24	8	3.5	1.25
	30	11	5	2							42	12	9	3	<b>(PLATANUS WRIGHTII)</b>	24	8	4	1	<b>DESERT WILLOW</b>	15	6	2	0.75
	36	13	6	2.5	<b>MESQUITE</b>						48	14	10	3.5	<b>(PLATANUS WRIGHTII)</b>	30	12	7	2	<b>(CHILOPSIS LINEARIS)</b>	24	7	4	1.25
	42	15	7	3	<b>CHILEAN MESQUITE</b>	15	6	2	0.75	<b>BLUE PALO VERDE (M)</b>	15	5	3	0.5		36	15	9	3		30	9	6	1.75
	48	17	8	4	<b>(PROSOPIS CHILENSIS)</b>	24	8	4	1.5	<b>(PARKINSONIA FLORIDUM)</b>	24	7	4	1	<b>AUSTRALIAN WILLOW</b>	15	5	3	0.75		36	10	8	2.25
<b>SHOESTRING (M)</b>	15	7	2.5	0.5							30	9	6	2	<b>WILGA</b>	24	8	4	1.25	<b>DESERT WILLOW (M)</b>	15	5	3	0.75
<b>(ACACIA STENOPHYLLA)</b>	24	9	4	1							36	10	8	2.5	<b>(GEJERA PARVIFLORA)</b>	30	10	5	2	<b>(CHILOPSIS LINEARIS)</b>	24	7	5	1
	36	13	6	2							42	12	9	2.5		36	12	5.5	2.5		30	9	6	1.5
<b>SWEET</b>	15	6	2.5	0.75							48	14	12	3.5	<b>CHASTE TREE</b>	15	5	3	0.75		36	10	8	2
<b>(ACACIA SMALLII)</b>	24	8	4	1.5	<b>CHILEAN MESQUITE (M)</b>	15	5	3	0.5	<b>LITTLE LEAF</b>	15	4	2	0.5	<b>(VITEX ANGUS-CASTUS)</b>	24	6	4	1.25	<b>ELDARICA</b>	15	6	2	1.5
	30	9	6	2	<b>(PROSOPIS CHILENSIS)</b>	24	8	5	1	<b>FOOTHILLS</b>	24	6	3	1		30	7	5	2	<b>(PINUS ELDARICA)</b>	24	10	4	2
	36	10	8	2.5						<b>(PARKINSONIA MICROPHYLLUM)</b>	30	9	7	1.5		36	8	6	2.5		30	13	4	3
	42	12	10	3							36	10	9	2	<b>CHINESE EVERGREEN</b>	15	7	2	0.75		36	15	5	4
	48	14	12	3.5							42	12	11	2.5	<b>ELM</b>	24	8	3	1.25		42	18	7	4.5
<b>SWEET (M)</b>	15	5	3	0.5						<b>LITTLE LEAF</b>	15	4	3	0.5	<b>(ULMUS PARVIFOLIA)</b>	30	12	6	2		48	20	9	5.5
<b>(ACACIA SMALLII)</b>	24	8	5	1	<b>HONEY MESQUITE (M)</b>	15	6	2	0.75	<b>FOOTHILLS (M)</b>	24	5	4	1		36	14	8	2.5	<b>FEATHER BUSH</b>	15	5	3	0.75
	30	9	7	1.5	<b>(PROSOPIS - GLANDULOSA)</b>	24	8	4	1.5	<b>(PARKINSONIA MICROPHYLLUM)</b>	36	8	7	2		42	16	9	3.5	<b>FERN OF THE DESERT</b>	24	6.5	4	1.25
	36	10	9	2							48	12	10	2.5	<b>CHINESE PISTACHE</b>	48	18	10	3.75	<b>(LYSILOMA THORNBERI)</b>	30	7	6.5	2
	42	12	10	2.5						<b>SONORAN</b>	15	6	2	0.75	<b>(PISTACIA CHINENSIS)</b>	15	7	2	0.75		36	8	6	2.5
	48	14	12	3						<b>(PARKINSONIA PRAEcox)</b>	24	7	4	1.5		24	9	4	1.5	<b>FEATHER BUSH FERN</b>	15	4	3	0.75
<b>WILLOW</b>	15	6	2	0.75							30	8	6	2		30	10	5	2.5	<b>OF THE DESERT(M)</b>	24	5	5	1
<b>AUSTRALIAN WILLOW</b>	24	8	4	1.5	<b>SCREW BEAN (M)</b>	15	5.5	3	0.5	<b>(PROSOPIS - PUBESCENS)</b>	24	8	4	1		36	12	6	3.5	<b>(LYSILOMA THORNBERI)</b>	30	7	7	1.5
<b>(ACACIA SALICINA)</b>	30	10	5	2							48	12	12	3.5	<b>CHIR PINE/ INDIAN</b>	15	5	3	1		36	8	8	2
	36	14	6	2.5							30	9	6	1.5	<b>LONG LEAF</b>	24	8	4	2					
										<b>(PARKINSONIA PRAEcox)</b>	24	7	4	1	<b>(PINUS ROXBURGHII)</b>	30	11	6	2.5					
											30	8	6	1.5		36	15	6.5	3.5					
											36	10	8	2		42	17	8	4.5					
											42	11	10	2.5		48	20	9	5					
											48	12	12	3										

See General Notes  
On Page 2

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REVISED 05/05/08

## MINIMUM TREE SIZE REQUIREMENTS

Name	Size	Height	Width	Caliper	Name	Size	Height	Width	Caliper	Name	Size	Height	Width	Caliper	Name	Size	Height	Width	Caliper					
<b>FICUS</b> (FICUS NITIDA)	15	8	2	0.75	<b>MEXICAN PALO VERDE</b>	15	7	3	1	<b>RED GUM</b> (EUCALYPTUS- CAMALDULENSIS)	15	8	3	1	<b>SILK TREE MIMOSA (M)</b> (ALBIZIA JULIBRISSIA )	15	5	3.5	0.5	<b>SILK TREE MIMOSA</b> (ALBIZIA JULIBRISSIN)	15	6	3	0.75
	24	9	4	1.5	<b>JERUSALEM</b> (PARKINSONIA ACULEATA)	24	9	6	1.5		24	10	4	1.75		24	6.5	5	0.75		24	8	4	1.5
	30	10	5	2			30	11	9	2.5					30	6	6	1		30	10	6	2	
	36	12	6	3			36	12	10	3	<b>RED IRON BARK</b> (EUCALYPTUS - SIDEROXYLON)	15	8	3	0.75	36	10	8	2.5		36	12	8	3
<b>FICUS (M)</b> (FICUS NITIDA M)	15	5.5	3	0.5	<b>MODESTO ASH</b> (FRAXINUS V MODESTO)	15	8	2	1	<b>RIO GRANDE FAN</b> (FRAXINUS V FANTEX)	24	10	4	1.5	<b>SILVER DOLLAR GUM</b> (EUCALYPTUS- POLYANTHEMOS)	15	7	3	0.75	<b>TEXAS EBONY (M)</b> (PITHECELLUBIUM- FLEXICAULE )	15	4	2	0.5
	24	8	4	1		24	10	4	1.5		24	10	4	1.5		24	10	4	1.5		24	6	4	1
	30	10	6	2		36	12	6	2	15	7	2	0.75								30	7	6	1.5
	36	12	8	2.5		42	16	8	3	24	9	4	1.25	<b>SISSOO</b> (DALBERGIA SISSOO)	15	7	3	0.75					36	9
<b>FLOODED GUM</b> (EUCALYPTUS RUDIS)	15	8	3	1	48	17	10	3.5	30	12	5	2	24		10	4	1.25	30	12	7	2.5	42	10	10
	24	10	4	1.5	48	17	10	3.5	36	14	8	2.5	30	12	7	2.5	30	12	7	2.5	48	11	11	3
<b>FLOWERING CHERRY</b> (PRUNUS VARIETIES)	15	6	2.5	0.75	<b>NARROW LEAF GIMLET</b>	15	6	2.5	0.75	<b>SHAMEL EVERGREEN</b> (FRAXINUS UHDEI)	15	8	2	1	<b>SOUTHERN LIVE OAK</b> <b>HERITAGE</b> (QUERCUS VIRGINIANA)	15	6	2	0.75	<b>YELLOW OLEANDER</b> (THEVETIA PERUVIANA)	15	6	2	0.5
	24	9	4	1.25	<b>SWAMP MALLET</b> (EUCALYPTUS - SPATHULATA)	24	8	3	1		24	10	4	1.5		24	9	4	1.25					
	30	11	8	2						30	12	5	2	30	11	6.5	2							
	36	13	10	2.5	<b>OLIVE TREE</b> (OLEA EUROPAEA)	15	5	3	0.5	30	12	5	2.5	36	13	8	2.75							
<b>HONEY LOCUST</b> (GLEDITSIA TRIACANTHOS INERMIS)	15	8	2	0.75	'SWAN HILL'	24	8	5.5	1.5	36	14	8	3	42	15	9	3.5							
	24	9	4	1.5		30	11	9	2	48	16	10	4	48	17	12	4.5							
	30	10	6	2		36	12	10	3	48	16	10	4	15	5	2	0.75							
	36	12	8	2.5	<b>ORCHID TREE</b> (BAUHINIA)	48	16	12	3.5	15	8	3	1	24	10	4	2	24	6	3	1.5			
<b>JACARANDA</b> (JACARANDA ACUTIFOLIA)	15	8	2	0.75		24	9	4	1.25	<b>SILK OAK</b> (GREVILLEA ROBUSTA)	24	10	4	2	<b>TEXAS EBONY</b> (PITHECELLOBIUM- FLEXICAULE)	15	5	2	0.75					
	24	9	4	1.5	30	11	6	2	30		12	6	2.5	30		7	4	2	24	6	3	1.5		
	30	12	5	2.5	<b>RAYWOOD ASH</b>	36	13	7	2.5	42	14	12	3.5	36	9	6	2.5	36	9	6	2.5			
	36	14	8	3	<b>CLARET ASH</b> (FRAXINUS O RAYWOODII)	48	18	12	4	48	16	14	4	36	14	7	3	42	10	6	3			
<b>JACARANDA (M)</b> (JACARANDA- ACUTIFOLIA )	15	5.5	3	0.5		30	11	6	2															
	24	8	5	0.75		36	13	7	2.5															
	30	10	6	1.5	<b>RED CAP GUM</b> (EUCALYPTUS- ERYTHROCORYES)	15	6.5	2.4	0.75															
	36	12	7	2		24	8	4	1.25															
<b>MESCAL BEAN TEXAS</b>	15	3	1	0.75																				
<b>MOUNTAIN LAUREL</b> (SOPHORA - SECUNDIFLORA)	24	4	2	1																				
	30	5	3	1.75																				
<b>MESCAL BEAN TEXAS</b>	15	3	2	0.75																				
<b>MOUNTAIN LAUREL (M)</b> (SOPHORA - SECUNDIFLORA )	24	4	3	1																				
	30	5	4	1.5																				
36	6	5	2																					

**GENERAL NOTES:**

1. All trees shall be guaranteed for one year from the date of acceptance
2. "M" designates a multitrunk tree. A multitrunk tree is a tree with more than one main trunk.
3. Caliper is measured at 12" above the ground for trees with caliper greater than 4". For multitrunk trees, and trees with caliper of less than 4", the caliper is measured 6" above the ground.
4. Size is listed as the box size in inches except for those trees in 15 gallon containers.

REVISED 3/30/09

Prune Tree At Time Of Stake Removal

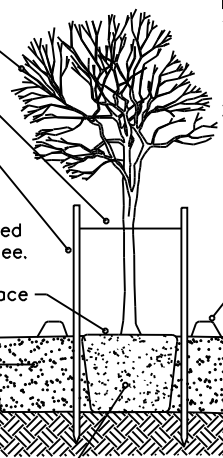
Tie Wire With Hose Chafing Guard Per Specs.

(2) 2" Diameter x 10' Long Lodgepole Pine Tree Stakes. Bury 3' In Ground And Cut Off Stake 12" Above Tie Wire. Stakes Shall Remain In Place For 2 Years Unless Removal Is Approved By Maintenance Director Or Designee.

Set Top Of Root Ball At Soil Surface

Backfill With Native Soil (No Rocks Greater Than 1") Apply Slow-Release Fertilizer To Surface Away From Trunk Per Manufacturer's Specifications.

Scarify One Side Of Root Ball Prior To Planting



**Notes:**

- Sufficient clearance shall be maintained between shrubs and utility facilities so as to not hinder use of these facilities.
- Plant pit basins within sloped planting areas shall be constructed with a max. 2:1 slope. Provide smooth transition to surrounding finish grade.

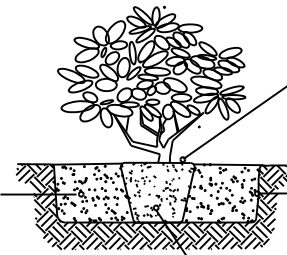
Form Temporary Irrigation Border Just Outside Of Root Ball. Use Water To Settle Backfill. Do Not Pack Backfill.

Planting Hole Shall Be 3 Times Diameter Of Root Ball And No Deeper Than Height Of Root Ball. Scarify Sides And Bottom Of Planting Hole

### Tree Planting and Staking ≤36" Box Or 2" Caliper

**Notes:**

- Sufficient clearance shall be maintained between shrubs and utility facilities so as to not hinder use of these facilities.
- Plant pit basins within sloped planting areas shall be constructed with a max. 2:1 slope. Provide smooth transition to surrounding finish grade.



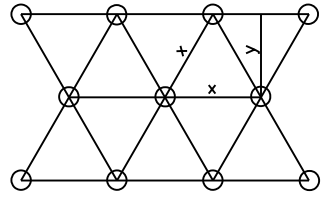
Backfill With Native Soil (No Rocks Greater Than 1") Apply Slow-Release Fertilizer To Surface Away From Trunk Per Manufacturer's Specifications.

Set Top Of Root Ball At Soil Surface.

Planting Hole Shall Be 2-2½ Times Diameter Of Root Ball And No Deeper Than Height Of Root Ball. Scarify Sides And Bottom Of Planting Hole

Scarify One Side Of Root Ball Prior To Planting

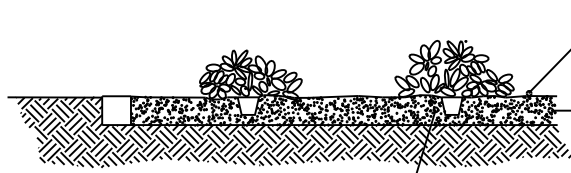
### Shrub Planting



All Groundcovers To Be Planted On Center (See Plant Legend) In A Triangular Pattern.

X = O.C. Dimension As Noted On Plan

Y = 0.86 Of Dimension "X"

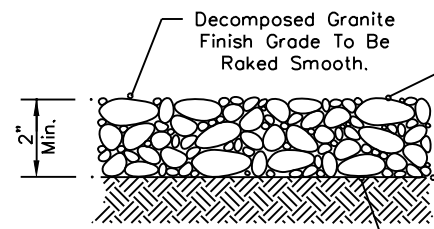


Mulch Soil To A Depth Of 2", 1' In Diameter. Keep Mulch 2" Away From Plant Base.

Prepare Soil Per Specifications And Rototill To A Depth Of 6" Prior To Any Sprinkler Work.

Backfill With Native Soil. Apply Slow-Release Fertilizer To Surface Away From Trunk Per Manufacturer's Specifications.

### Groundcovers



Provide Final Application Of Weed Control Upon Final Raking.

Fine Graded Subgrade

Apply Pre-Emergent Herbicide As Per Manufacturers Recommendations. (Surflan Or Equal Approved By City Of Scottsdale)

Note: Refer to COS Detail 2210 for finish grade height of decomposed granite and turf in relation to top of curbs & sidewalks.

### Decomposed Granite

DETAIL NO.  
**2620-1**

**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

# LANDSCAPE DETAILS

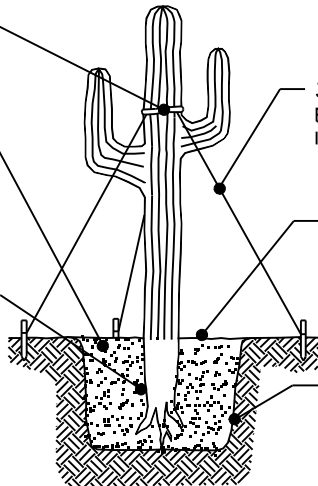
DETAIL NO.  
**2620-1**

REVISED 05/05/08

Garden Hose Reinforced With Wire (Metal).

Use Golf Sand Or 1/4" Minus Decomposed Granite To Backfill Planting Hole. Backfill 1/2 Of Pit, Then Compact.

Root Prune All Shredded Or Damaged Roots And Dust Entire Root Structure With Wettable Sulphur (1.5 ML Min.) And Streptomycin Spray At Planting Site. Root Ball Minimum Size Shall Be 24" With A Minimum Root Length Of 6" On All Sides.



3 Tree Braces, Spaced Equally. Braces To Remain In Place For One Year Min.

6 - 1 Gallon Emitters In 'Hula Hoop' Distribution, Run Once A Month 24 To 48 Hours For One Year.

Planting Hole Width Shall Be 3 Times Diameter Of Roots And No Deeper Than The Extension Of The Roots.

### Saguaro Planting Type A

#### NOTES:

1. Optimum transplanting season is October thru November.
2. Maintain original plant orientation. The original "North" orientation shall be marked on a rib at a height of 5' above ground level.
3. Water thoroughly at the time of transplanting to remove air pockets and assure proper compaction. Backfill shall be free of injurious rocks and debris.
4. Do not water for 3 weeks after planting.
5. Plant in areas safe from present and future construction activities.
6. Transplant to original depth of bury.

NOTE: Water weekly through the summer.

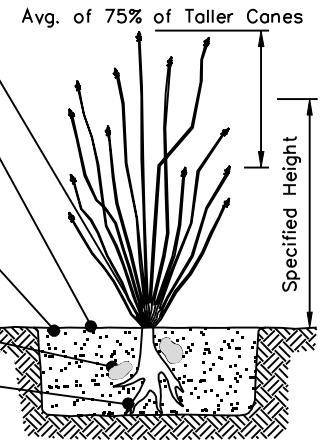
Plant At Depth Which Plant Was Grown.

Planting Mix To Be 1/3 Golf Sand And 2/3 Specified Soil. Pack The Backfill Mix, Do Not Use Water To Settle Backfill Mix.

Planting Hole Width Shall Be 3 Times Diameter Of Roots And No Deeper Than The Extension Of The Roots.

Use 6" to 8" Rocks To Anchor Roots.

Root Prune All Shredded Or Damaged Roots And Dust Entire Root Structure With Wettable Sulphur (1.5 ML min.) At Planting Site.

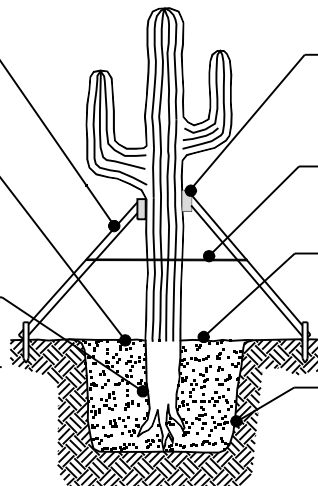


### Ocotillo Planting

(3) 2"x 6" Braces, Spaced Equally And Nailed To Wooden Stakes In The Ground. Braces To Remain In Place For One Year Min.

Use Golf Sand Or 1/4" Minus Decomposed Granite To Backfill Planting Hole. Backfill 1/2 Of Pit, Then Compact.

Root Prune All Shredded Or Damaged Roots And Dust Entire Root Structure With Wettable Sulphur (1.5 ML Min.) And Streptomycin Spray At Planting Site. Root Ball Minimum Size Shall Be 24" With A Minimum Root Length Of 6" On All Sides.



4"x 8"- Dense Foam And Carpet Padded, 8' Above Natural Grade And Nailed To Brace.

Steel Band Fastened With 2 Large Staples Per Brace.

6 - 1 Gallon Emitters In 'Hula Hoop' Distribution, Run Once A Month 24 To 48 Hours For One Year.

Planting Hole Width Shall Be 3 Times Diameter Of Roots And No Deeper Than The Extension Of The Roots.

### Saguaro Planting Type B

#### NOTES:

1. Optimum transplanting season is October thru November.
2. Maintain original plant orientation. The original "North" orientation shall be marked on a rib at a height of 5' above ground level.
3. Water thoroughly at the time of transplanting to remove air pockets and assure proper compaction. Backfill shall be free of injurious rocks and debris.
4. Do not water for 3 weeks after planting.
5. Plant in areas safe from present and future construction activities.
6. Transplant to original depth of bury.

NOTES: Water weekly through the summer. Maintain original growing orientation.

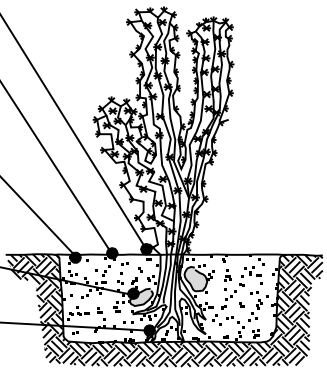
Plant At Depth Which Plant Was Grown.

Planting Mix To Be 1/3 Golf Sand And 2/3 Specified Soil. Pack The Backfill Mix, Do Not Use Water To Settle Backfill Mix.

Planting Hole Width Shall Be 3 Times Diameter Of Roots And No Deeper Than The Extension Of The Roots.

Use 6" to 8" Rocks To Anchor Roots.

Root Prune All Shredded Or Damaged Roots And Dust Entire Root Structure With Wettable Sulphur (1.5 ML min.) At Planting Site.



### Cactus Planting

DETAIL NO.

**2620-2 City of Scottsdale Standard Details**

APPROVED BY:

**Scottsdale Standards & Specifications Committee**

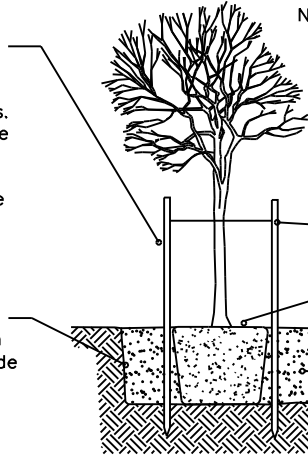
# LANDSCAPE DETAILS

DETAIL NO.

**2620-2**

REVISED 3/30/09

Staking Required For Trees In 36" Box Or Less Or With A Caliper Of Less Than 2". (2) 2" Diameter x 10' Long Lodgepole Pine Tree Stakes. Bury 3' In Ground And Cut Off Stake 12" Above Tie Wire. Stakes Shall Remain In Place For 2 Years Unless Removal Is Approved By Maintenance Director Or Designee.

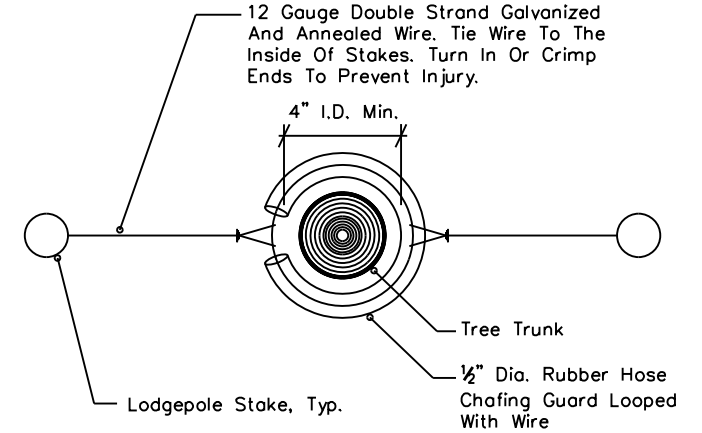


- Notes: 1. Sufficient clearance shall be maintained between trees and utility facilities so as to not hinder use of these facilities.
2. Plant pit basins within sloped planting areas shall be constructed with a max. 2:1 slope. Provide smooth transition to surrounding finish grade.

- Tie Wire With Hose Chafing Guard Per Specs. As Required.
- Set Top Of Root Ball At Soil Surface.
- Planting Hole Shall Be 3 Times Diameter Of Root Ball And No Deeper Than Height Of Rootball. Scarify Sides And Bottom Of Planting Hole

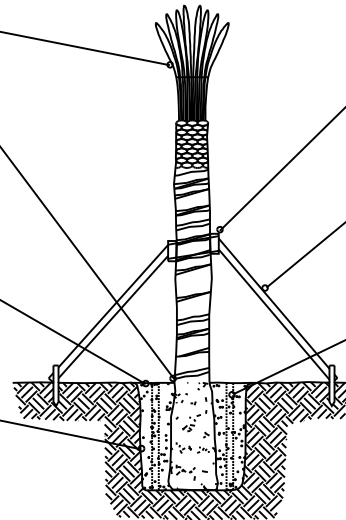
Backfill With Native Soil. (No Rocks Greater Than 3") Backfill 3/4 The depth Of Rootball Before Removing Box Side Panels. Compact Backfill As Needed To Prevent Breaking Rootball.

### Salvaged Tree Planting



### Tree Staking - Plan View

Thin Top 6-8 Fronds, Tie With Natural Fiber Twine. (Remove Ties Prior To Buckling 60-90 Days).



2"x 4" Blocking Nailed To Brace. Tie To Trunk With 1" (Min.) Vinyl Tie.

Plant At Depth Which Plant Was Grown. Adjusting Root Ball Depth To Align Finished Height Will Not Be Allowed.

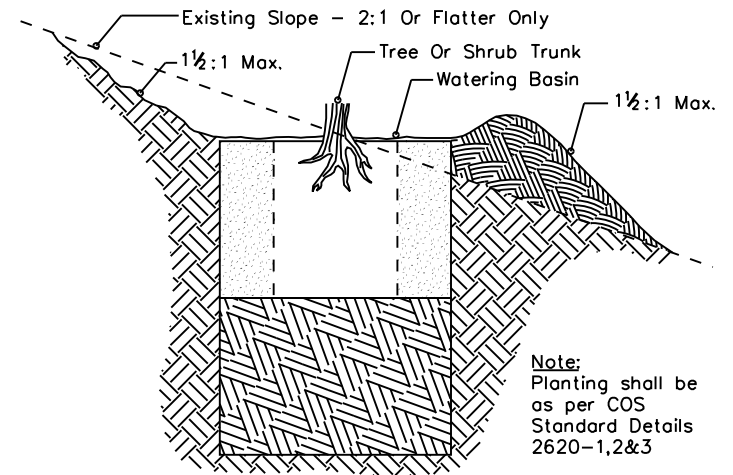
(3) 2"x 6" Braces, Spaced Equally And Nailed To Wooden Stakes In The Ground.

100% Golf Sand Backfill. Settle Backfill With Water, Do Not Pack Backfill.

4" Perforated PVC, 2 Per Tree. Wrap PVC With Soil Screen Fabric.

Planting Hole Width Shall Be 3 Times Diameter Of Roots And No Deeper Than The Extension Of The Roots.

### Palm Planting and Bracing Detail



### Tree & Shrub On Slope Planting

Note: Planting shall be as per COS Standard Details 2620-1,2&3

DETAIL NO.  
**2620-3**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**LANDSCAPE DETAILS**

DETAIL NO.  
**2620-3**



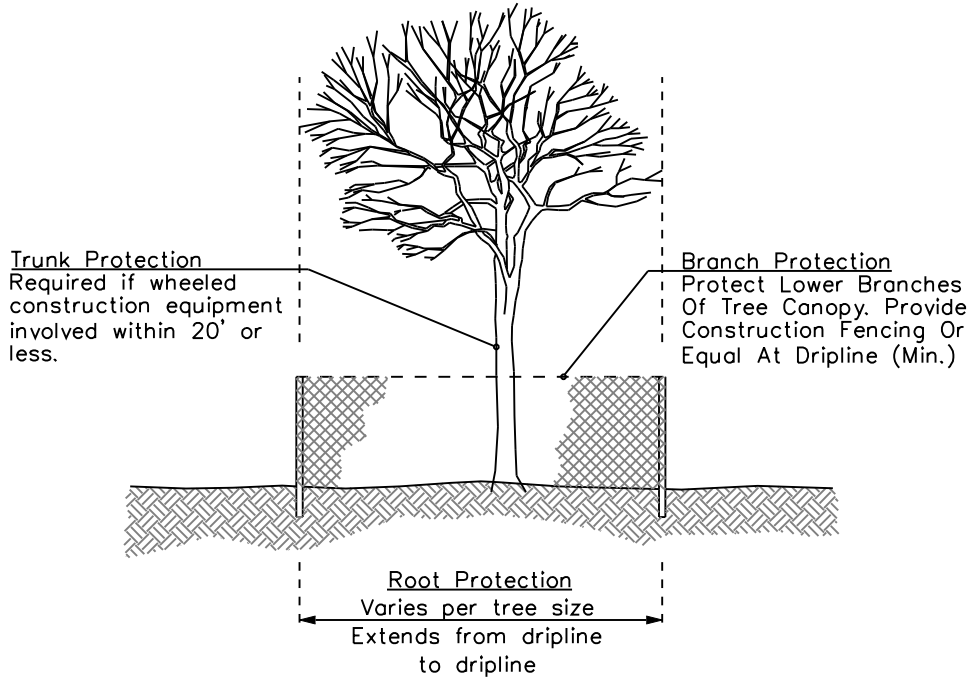
NEW 4/16/09

Note:  
No Materials Shall Be  
Stored Within The Tree  
Protection Areas

Place Signs:

KEEP OUT  
TREE PROTECTION  
AREA

Every 50' Attached To Fencing



### Tree Protection

#### NOTES:

1. All trees to be protected within the construction area shall be identified with white survey tape wrapped around the trunk. Grouping of more than one tree within the tree protection zone may occur.
2. To prevent tree root smothering, soil stockpiles, supplies, equipment or any other material shall not be placed or stored within a tree drip line or within 25 feet of a tree trunk, whichever is greater.
3. Trenches shall be hand dug within the drip line in areas where roots two inches in diameter and greater are present, or when in close proximity to low branching trees. Whenever possible, roots two inches or greater in diameter shall be tunneled or bored under and shall be covered to prevent dehydration.
4. Tree roots shall not be cut unless cutting is unavoidable. When root cutting is unavoidable, a clean sharp cut with an approved pruning saw shall be made to avoid shredding or smashing. Root cuts should be made back to a lateral root. Whenever possible, tree roots should be cut between late fall and bud opening, when root energy supplies are high and conditions are least favorable for disease-causing agents. Exposed roots shall be covered immediately to prevent dehydration. Roots shall be covered with soil or burlap and kept moist. Backfill material around damaged roots shall be a light mulch/sand mixture to promote root recovery.
5. Watering of protected trees in which roots were cut shall be provided by the contractor. Watering schedule to be established by City arborist.
6. Horizontal boring rather than trenching should be used for utility placement within drip line of tree whenever possible.
7. Fencing material shall encircle any tree whose outer drip line edge is within 25 feet of any construction activities.
8. Fencing material shall be orange construction fence a minimum of 4 feet in height.
9. Fencing material shall be set at the drip line or 25 feet from tree trunk, whichever is greater, and maintained in an upright position throughout the duration of construction activities.
10. Any grade changes or retaining wall/tree well installation within the drip line shall be approved by City arborist.

DETAIL NO.

2620-4

City of Scottsdale  
Standard Details

APPROVED BY:

Scottsdale Standards &  
Specifications Committee

LANDSCAPE DETAILS

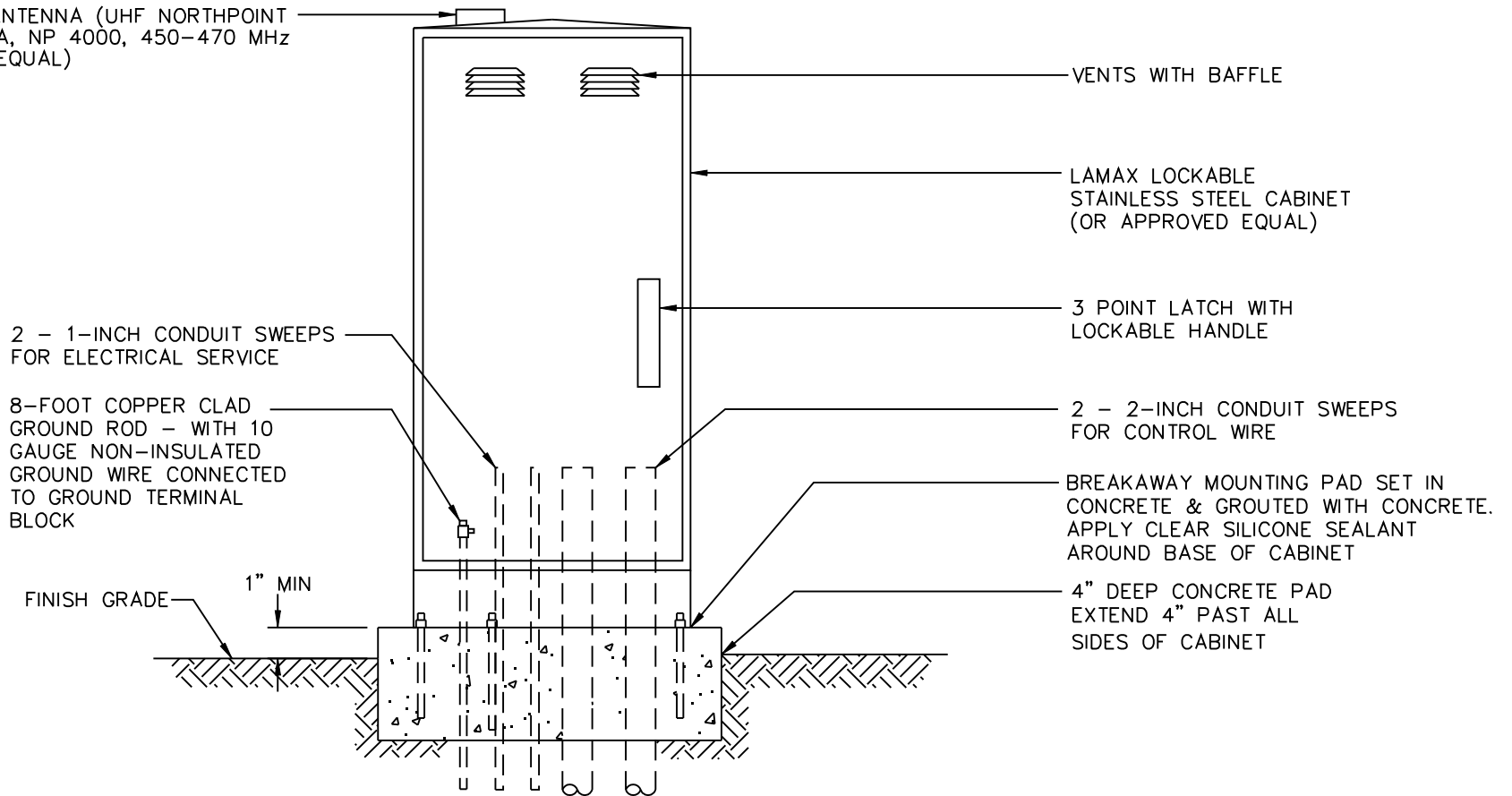
DETAIL NO.

2620-4



REVISED: 5/2/08

SCORPIO UHF ANTENNA (UHF NORTHPOINT LOPRO ANTENNA, NP 4000, 450-470 MHz OR APPROVED EQUAL)



NOTES:

1. POWER SOURCE FOR CONTROLLER TO BE HARD WIRED FROM CIRCUIT BREAKER MOUNTED INSIDE CABINET TO CONTROLLER.
2. LOCATION OF POWER SOURCE TO BE NOTED ON CIRCUIT BREAKER PANEL.
3. REMOTE CONTROL VALVES FOR D.C. SCORPIO APPLICATIONS MUST HAVE D.C. LATCHING SOLENOIDS AND APPROVED SOLAR PANEL FOR POWER SOURCE.
4. MIDLAND NARROW BAND RADIO # 2845 G TO BE INSTALLED WITH SCORPIO CONTROLLER.
5. PROGRAMMING KEYPAD TO BE SUPPLIED WITH CONTROLLER.
6. CONTROLLER TO BE LOCATED IN AREA WITH POSITIVE DRAINAGE.
7. INSTALL ONLY ONE CONTROL VALVE WIRE PER CONTROLLER OUTPUT.
8. UHF RADIO TO BE TUNED TO C.O.S. FREQUENCIES. CONTACT IRRIGATION DEPARTMENT FOR INFORMATION (480-312-2189)
9. POWER SOURCE TO BE PROVIDED BY CONTRACTOR FOLLOWING NEC REQUIREMENTS. INSTALLATION TO BE INSPECTED AND APPROVED BY COS INSPECTOR. INSTALL METAL ADDRESS LABELS TO OUTSIDE DOOR OF IRRIGATION CONTROLLER CABINETS FOR ALL CONTROLLERS RECEIVING NON-METERED POWER SUPPLY.

DETAIL NO.  
2632

City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

SCORPIO PEDESTAL MOUNTED CONTROLLER

DETAIL NO.  
2632

REVISED: 5/2/08

SCORPIO UHF ANTENNA (UHF NORTHPOINT  
LOPRO ANTENNA, NP 4000, 450-470 MHz  
OR APPROVED EQUAL)

LAMAX LOCKABLE  
STAINLESS STEEL CABINET  
(OR APPROVED EQUAL)

VENTS WITH BAFFLE

3 POINT LATCH WITH  
LOCKABLE HANDLE

2-INCH MALE ADAPTER  
WITH LOCK RING

1/2-INCH E.M.T. CONDUIT  
FOR 110V POWER SUPPLY

8-FOOT COPPER CLAD  
GROUND ROD - WITH 10  
GAUGE NON-INSULATED  
GROUND WIRE CONNECTED  
TO GROUND TERMINAL  
BLOCK

2-INCH SCH. 40 P.V.C. SLEEVE  
WITH 2" SWEEP FOR 24 VOLT  
CONTROL WIRE. SECURE TO WALL  
WITH CONDUIT STRAP TOP AND  
BOTTOM.

FINISH GRADE

DEPTH PER  
ELECTRICAL  
CODE

24"

CONTROL WIRES IN MAINLINE TRENCH

NOTES:

1. POWER SOURCE FOR CONTROLLER TO BE HARD WIRED FROM CIRCUIT BREAKER MOUNTED INSIDE CABINET TO CONTROLLER.
2. LOCATION OF POWER SOURCE TO BE NOTED ON CIRCUIT BREAKER PANEL.
3. REMOTE CONTROL VALVES FOR D.C. SCORPIO APPLICATIONS MUST HAVE D.C. LATCHING SOLENOIDS AND APPROVED SOLAR PANEL FOR POWER SOURCE.
4. MIDLAND NARROW BAND RADIO #2845 G TO BE INSTALLED WITH SCORPIO CONTROLLER.
5. PROGRAMMING KEYPAD TO BE SUPPLIED WITH CONTROLLER.
6. INSTALL ONLY ONE CONTROL VALVE WIRE PER CONTROLLER OUTPUT.
7. UHF RADIO TO BE TUNED TO C.O.S. FREQUENCIES. CONTACT IRRIGATION DEPARTMENT FOR INFORMATION (480-312-2189)
8. POWER SOURCE TO BE PROVIDED BY CONTRACTOR FOLLOWING NEC REQUIREMENTS. INSTALLATION TO BE INSPECTED AND APPROVED BY COS INSPECTOR. INSTALL METAL ADDRESS LABELS TO OUTSIDE DOOR OF IRRIGATION CONTROLLER CABINETS FOR ALL CONTROLLERS RECEIVING NON-METERED POWER SUPPLY.

DETAIL NO.  
2633

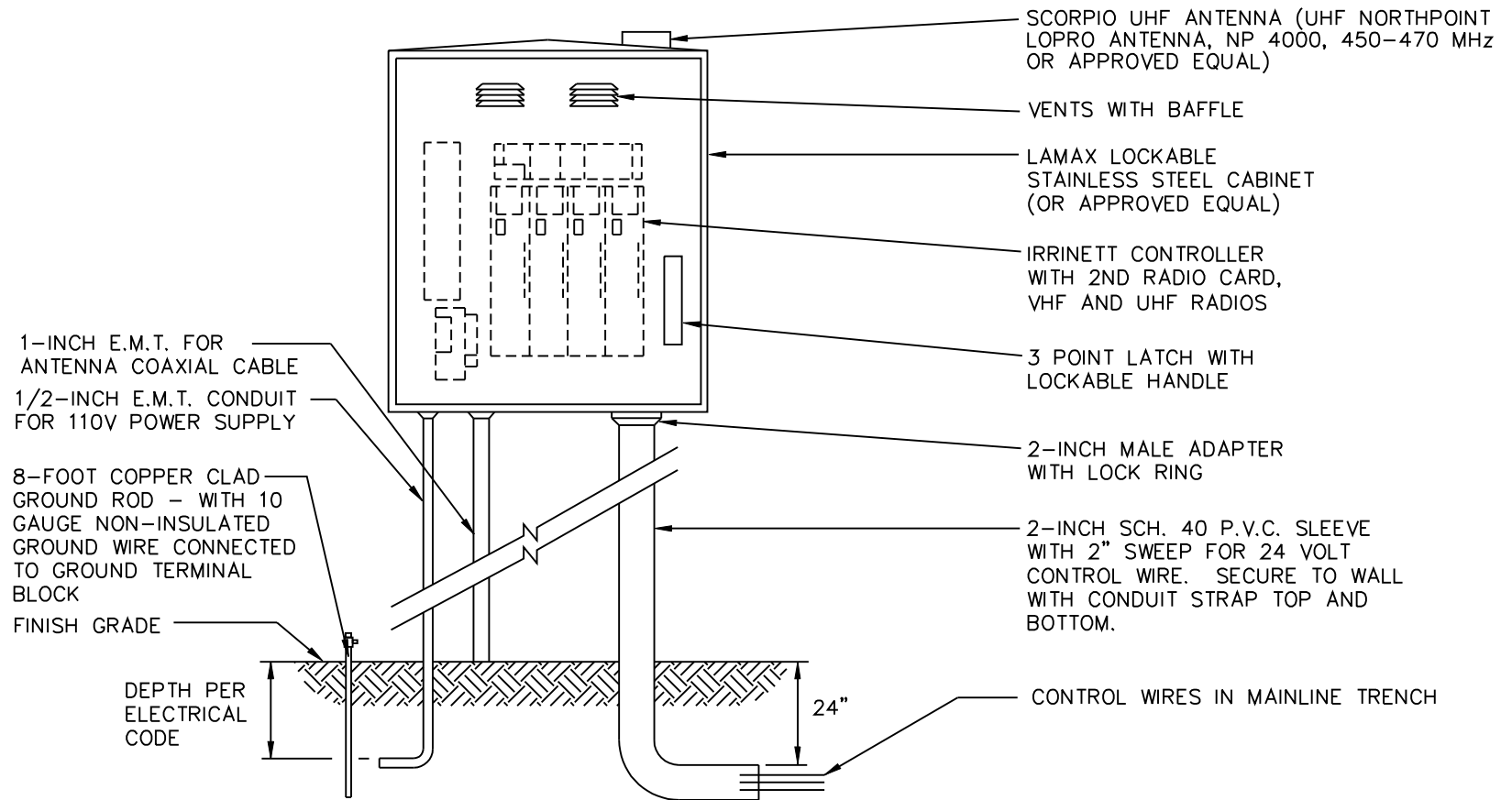
City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

SCORPIO WALL MOUNTED CONTROLLER

DETAIL NO.  
2633

REVISED: 5/2/08



NOTE:

1. POWER SOURCE FOR CONTROLLER TO BE HARD WIRED FROM CIRCUIT BREAKER MOUNTED INSIDE CABINET TO CONTROLLER.
2. LOCATION OF POWER SOURCE TO BE NOTED ON CIRCUIT BREAKER PANEL.
3. PROGRAMMING KEYPAD TO BE SUPPLIED WITH CONTROLLER.
4. INSTALL ONLY ONE CONTROL VALVE WIRE PER CONTROLLER OUTPUT.
5. VHF AND UHF RADIOS TO BE TUNED TO C.O.S. FREQUENCIES. CONTACT IRRIGATION DEPARTMENT FOR INFORMATION (480-312-2189)
6. POWER SOURCE TO BE PROVIDED BY CONTRACTOR FOLLOWING NEC REQUIREMENTS. INSTALLATION TO BE INSPECTED AND APPROVED BY COS INSPECTOR. INSTALL METAL ADDRESS LABELS TO OUTSIDE DOOR OF IRRIGATION CONTROLLER CABINETS FOR ALL CONTROLLERS RECEIVING NON-METERED POWER SUPPLY.
7. ANTENNA TYPE, MAST AND MOUNTING INSTALLATION TO BE APPROVED BY COS IRRIGATION DEPARTMENT.

DETAIL NO.  
2634

City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

# IRRINET WALL MOUNTED CONTROLLER

DETAIL NO.  
2634

REVISED 05/02/08

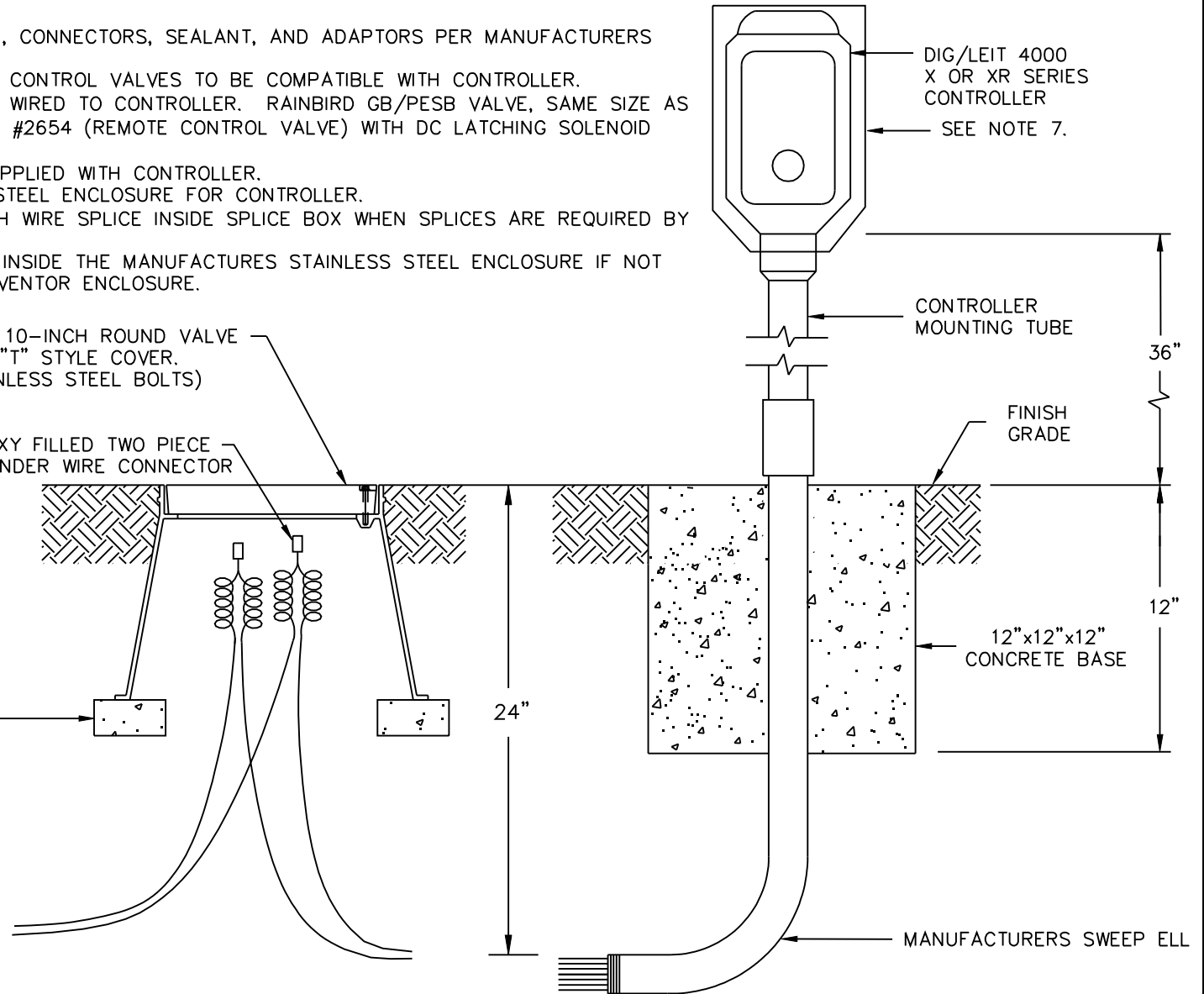
**NOTES:**

1. INSTALL WIRE OF APPROPRIATE GAUGE, CONNECTORS, SEALANT, AND ADAPTORS PER MANUFACTURERS INSTRUCTIONS.
2. D.C. LATCHING SOLENOIDS ON REMOTE CONTROL VALVES TO BE COMPATIBLE WITH CONTROLLER.
3. MASTER VALVE TO BE INSTALLED AND WIRED TO CONTROLLER. RAINBIRD GB/PESB VALVE, SAME SIZE AS MAINLINE INSTALLED PER COS DETAIL #2654 (REMOTE CONTROL VALVE) WITH DC LATCHING SOLENOID COMPATIBLE WITH CONTROLLER.
4. PROGRAMMING/ACCESS KEY TO BE SUPPLIED WITH CONTROLLER.
5. INSTALL MANUFACTURERS STAINLESS STEEL ENCLOSURE FOR CONTROLLER.
6. PROVIDE 12" EXANSION COIL FOR EACH WIRE SPLICE INSIDE SPLICE BOX WHEN SPLICES ARE REQUIRED BY MANUFACTURER.
7. THE CONTROLLER SHALL BE SECURED INSIDE THE MANUFACTURES STAINLESS STEEL ENCLOSURE IF NOT INSTALLED INSIDE THE BACKFLOW PREVENTOR ENCLOSURE.

CARSON / BROOKS 10-INCH ROUND VALVE BOX WITH LOCKING "T" STYLE COVER. (SUPPLY WITH STAINLESS STEEL BOLTS)

EPOXY FILLED TWO PIECE CYLINDER WIRE CONNECTOR

BRICK PAVER (1 OF 3)



DETAIL NO.  
2635-1

City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

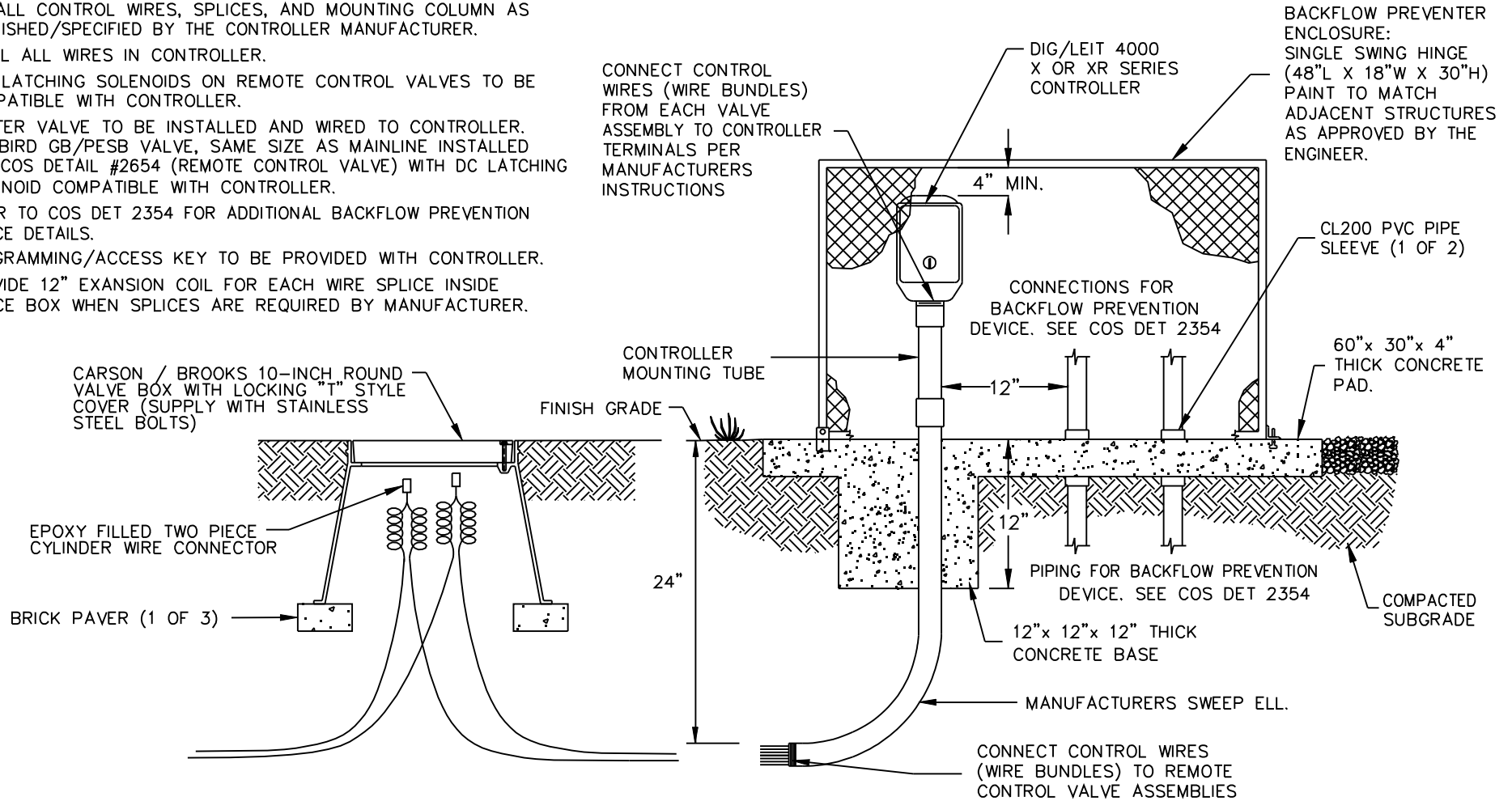
# SOLAR CONTROLLER

DETAIL NO.  
2635-1

REVISED 05/02/08

**NOTES:**

1. INSTALL WIRING OF APPROPRIATE GAUGE, CONNECTORS, SEALANT, AND ADAPTORS PER MANUFACTURERS INSTRUCTIONS.
2. INSTALL CONTROL WIRES, SPLICES, AND MOUNTING COLUMN AS FURNISHED/SPECIFIED BY THE CONTROLLER MANUFACTURER.
3. LABEL ALL WIRES IN CONTROLLER.
4. D.C. LATCHING SOLENOIDS ON REMOTE CONTROL VALVES TO BE COMPATIBLE WITH CONTROLLER.
5. MASTER VALVE TO BE INSTALLED AND WIRED TO CONTROLLER. RAINBIRD GB/PESB VALVE, SAME SIZE AS MAINLINE INSTALLED PER COS DETAIL #2654 (REMOTE CONTROL VALVE) WITH DC LATCHING SOLENOID COMPATIBLE WITH CONTROLLER.
6. REFER TO COS DET 2354 FOR ADDITIONAL BACKFLOW PREVENTION DEVICE DETAILS.
7. PROGRAMMING/ACCESS KEY TO BE PROVIDED WITH CONTROLLER.
8. PROVIDE 12" EXANSION COIL FOR EACH WIRE SPLICE INSIDE SPLICE BOX WHEN SPLICES ARE REQUIRED BY MANUFACTURER.



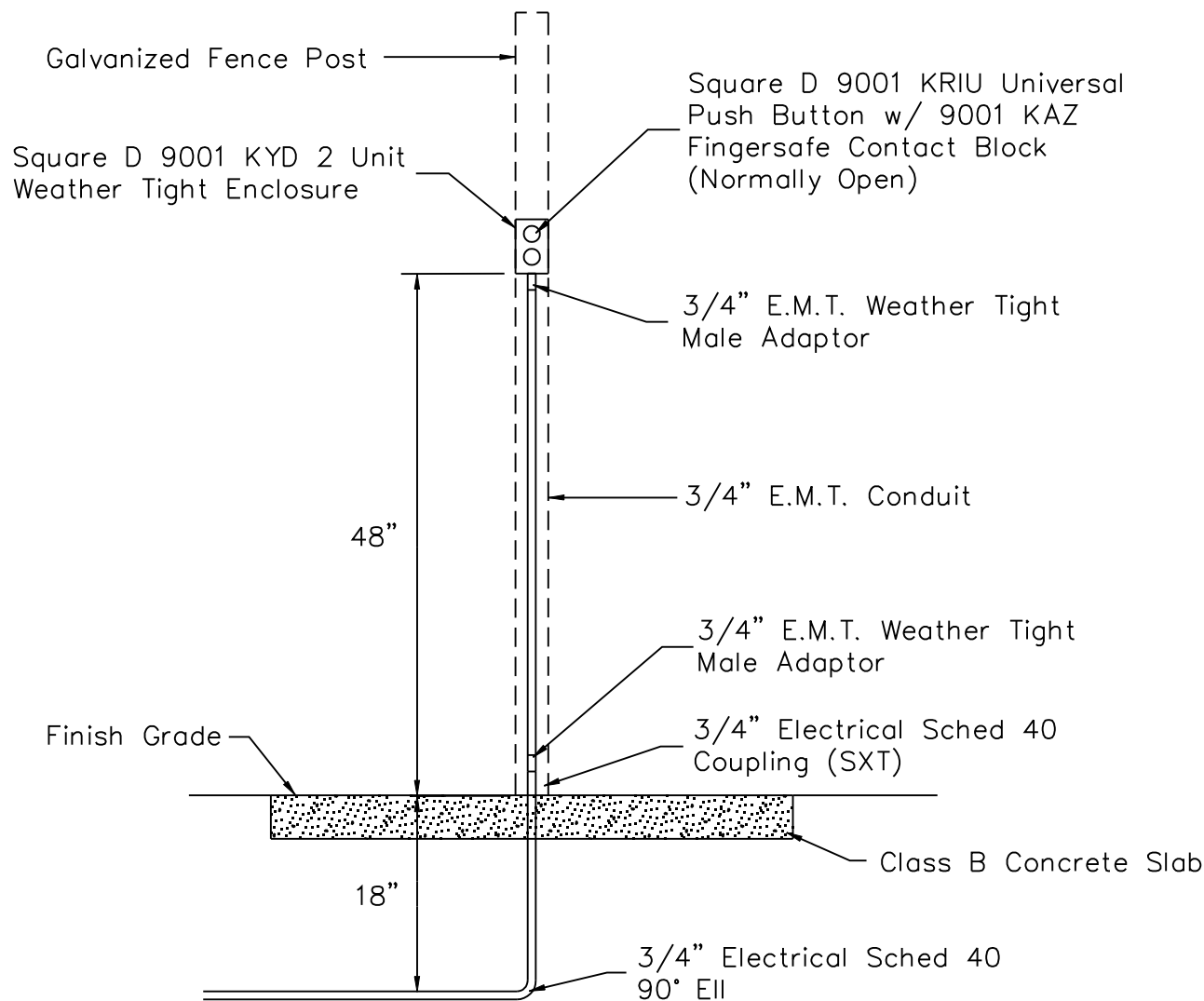
DETAIL NO.  
**2635-2**

**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**SOLAR CONTROLLER AND BACKFLOW PREVENTER ENCLOSURE**

DETAIL NO.  
**2635-2**



NOTES:

1. Install #14 ga. irrigation control wire.
2. Install one control wire per push button. Control wire to be different color from all other irrigation control wires.
3. Common wire (#12 ga) for push buttons shall be a separate common wire and not part of the irrigation control valve common wire.
4. Push button common wire to have color stripe matching push button control wire. The common wire may be shared by other push buttons.
5. Attach push button enclosure to galvanized post with two self-tapping hex head screws.
6. For other configurations/applications, contact Irrigation Dept 480-312-2189.
7. Label control wires inside enclosure and at controller to differentiate their functionality.

DETAIL NO.  
**2636**

**City of Scottsdale  
Standard Details**

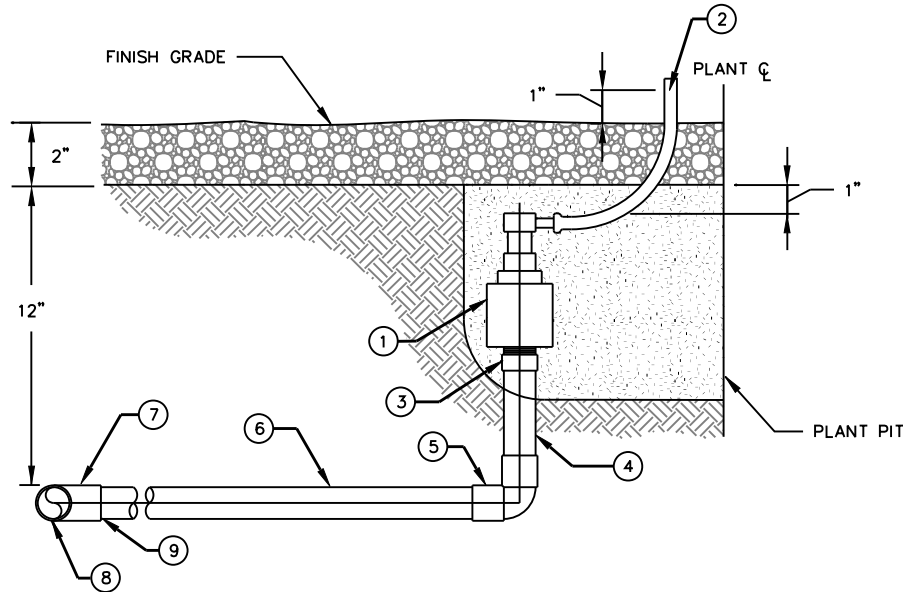
APPROVED BY:  
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Specifications Committee**

**IRRIGATION PUSH BUTTON CONTROL**

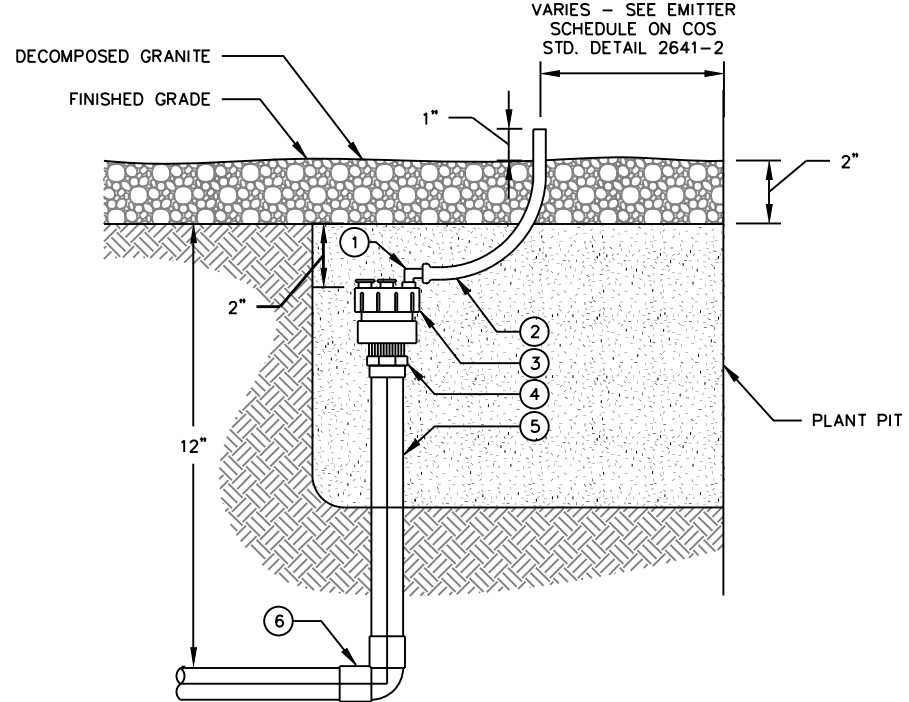
DETAIL NO.  
**2636**



REVISED 3/31/09



**SINGLE OUTLET EMITTER**  
**ALL SHRUBS & GROUND COVER**  
 SCALE: NTS



**MULTI-OUTLET EMITTER**  
**TREES ONLY**  
 SCALE: NTS

LIST OF MATERIALS

- ① BOWSMITH SL 200 SERIES SINGLE PORT EMITTER OR APPROVED EQUAL. LOCATE ON UPHILL SIDE OF PLANT CENTERLINE
- ② 1/4" POLYETHYLENE FLEX HOSE EMITTER TUBING (6' MAX.)
- ③ 1/2" PVC SCH 40 MALE ADAPTOR
- ④ AG. PRODUCTS - 1/2" I.P.S. FLEXIBLE VINYL PVC PIPE OR APPROVED EQUAL
- ⑤ 1/2" PVC SCH 40 90° ELBOW
- ⑥ 1/2" PVC CL 315 PIPE
- ⑦ 1/2" PVC SCH 40 FITTING
- ⑧ PVC CL 315 FOR 1/2" LATERALS, PVC CL 200 FOR LATERALS GREATER THAN 1/2"
- ⑨ INSTALL BUSHING AS REQUIRED.

NOTES:

- 1. PIPE CEMENT & PRIMER SHALL BE USED FOR FLEXIBLE AND RIGID PIPE CONNECTIONS.
- 2. POLYETHYLENE EMITTER TUBING EMISSION POINTS SHALL BE EQUALLY SPACED AND LOCATED TO DIRECT WATER FLOW TO THE PERIMETER OF THE DRIP LINE.
- 3. NUMBER OF OPENINGS AND EMITTER TUBES REQUIRED IS BASED ON PLANT SIZE. (SEE COS STD. DET. 2641-2)
- 4. MAXIMUM EMITTER TUBING LENGTH = 6 FEET.
- 5. NO EMITTER LATERALS OR PIPING SHALL BE INSTALLED THROUGH OR BENEATH PLANT PITS. MINIMUM DISTANCE BETWEEN PLANT PIT PERIMETER AND PIPING SHALL BE 12".

LIST OF MATERIALS

- ① SWIVEL OUTLET 90° ELBOW
- ② 1/4" POLYETHYLENE FLEX HOSE EMITTER TUBING (6' MAX.)
- ③ BOWSMITH ML 200 SERIES MULTI-PORT EMITTER OR APPROVED EQUAL. LOCATE ON UPHILL SIDE OF PLANT C
- ④ 1/2" PVC SCH 40 MALE ADAPTER
- ⑤ AG. PRODUCTS 1/2" I.P.S. FLEXIBLE VINYL PVC PIPE OR APPROVED EQUAL
- ⑥ 1/2" PVC SCH 40 FITTING

DETAIL NO.  
**2641-1**

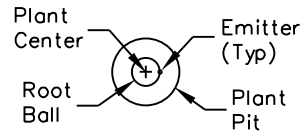
**City of Scottsdale**  
**Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

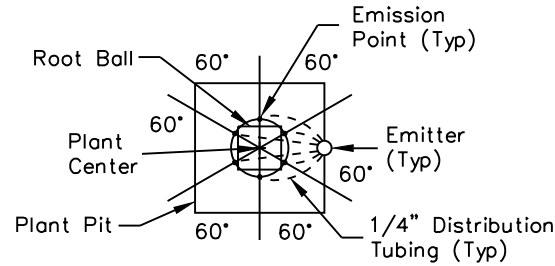
**SINGLE & MULTI-OUTLET EMITTERS**

DETAIL NO.  
**2641-1**

REVISED 3/31/09

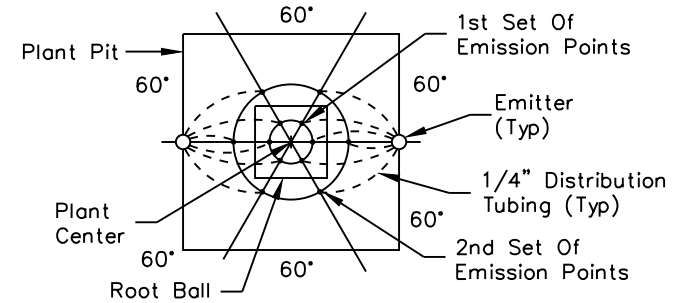


**SHRUB EMITTER  
SINGLE OUTLET**



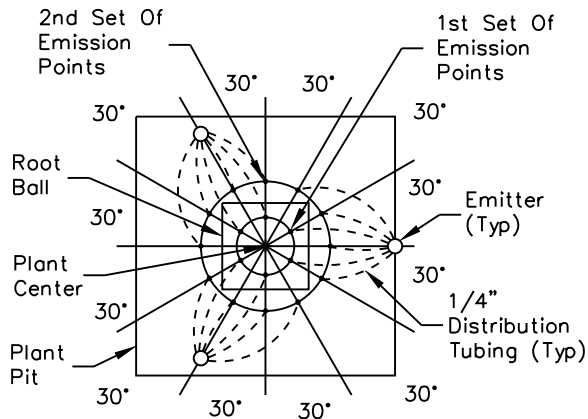
**TREE EMITTER - MULTI OUTLET  
15 GAL TO 42' BOX TREES**

(SEE EMITTER SCHEDULE)



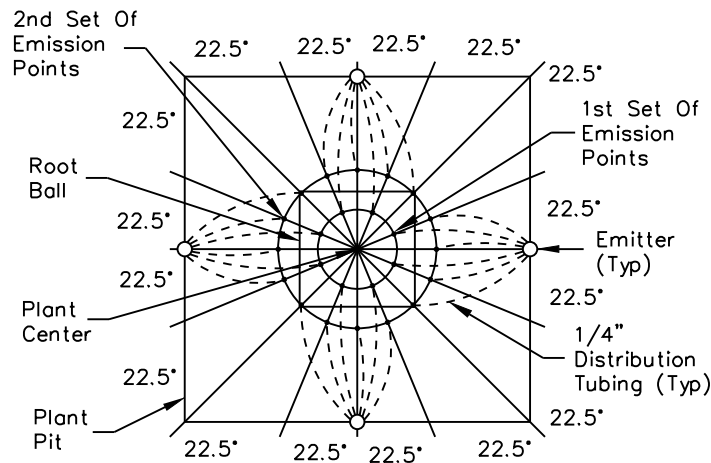
**TREE EMITTER - MULTI OUTLET  
48' BOX TO 60' BOX TREES**

(SEE EMITTER SCHEDULE)



**TREE EMITTER - MULTI OUTLET  
66' BOX TO 84' BOX TREES**

(SEE EMITTER SCHEDULE)



**TREE EMITTER - MULTI OUTLET  
96' BOX TREES**

(SEE EMITTER SCHEDULE)

EMITTER SCHEDULE			
Tree Size	Number Of Multi Outlet Emitters - Outlet Quantity = Emitter GPH Total	Distance From Trunk	
		1st Set Of Emission Points	2nd Set Of Emission Points
15 Gal.	1-2 GPH=12 GPH	3 @ 12"	
24" Box	1-2 GPH=12 GPH	4 @ 18"	
30" Box	1-2 GPH=12 GPH	6 @ 21"	
36" Box	1-2 GPH=12 GPH	6 @ 24"	
42" Box	1-2 GPH=12 GPH	6 @ 27"	
48" Box	2-2 GPH=24 GPH	6 @ 12"	4 @ 42"
54" Box	2-2 GPH=24 GPH	6 @ 15"	5 @ 45"
60" Box	2-2 GPH=24 GPH	6 @ 18"	6 @ 48"
66" Box	3-2 GPH=36 GPH	6 @ 24"	12 @ 54"
72" Box			
78" Box	3-2 GPH=36 GPH	6 @ 30"	12 @ 60"
84" Box			
≥ 90" Box	4-2 GPH=48 GPH	8 @ 33"	16 @ 66"

DETAIL NO.  
**2641-2**

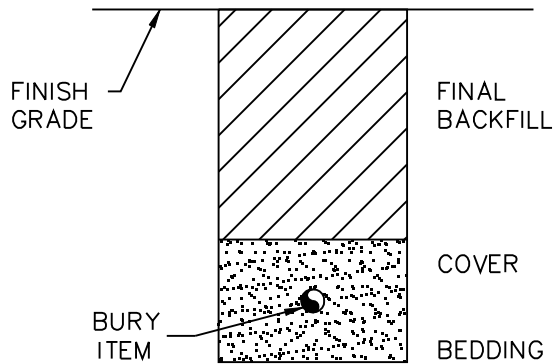
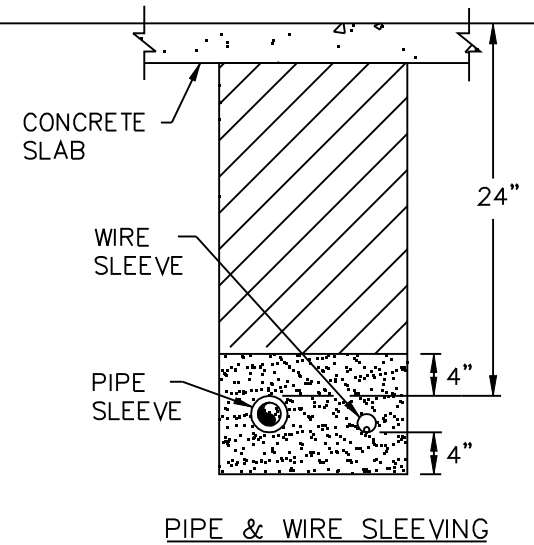
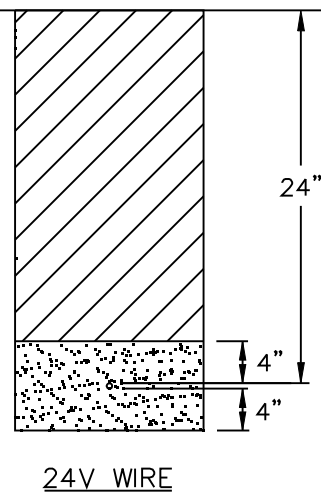
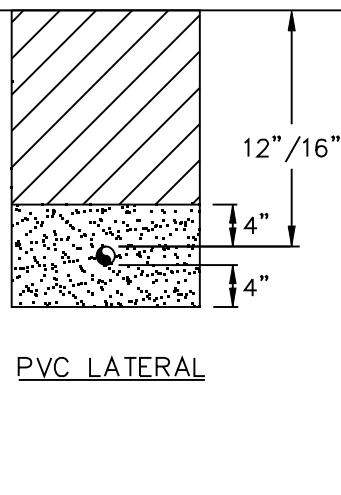
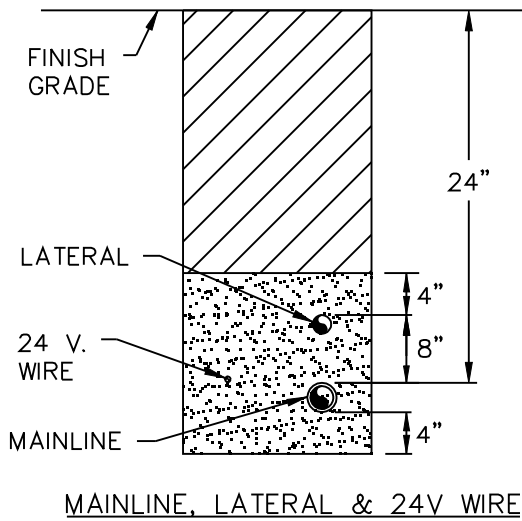
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**IRRIGATION EMITTER LAYOUT**

DETAIL NO.  
**2641-2**

REVISED: 05/02/08



EXCAVATED MATERIAL SHALL BE FINELY SCREENED WITH NO ROCKS LARGER THAN 1".



BEDDING AND COVER MATERIAL SHALL BE TOPSOIL WITH NO ROCKS.

NOTES:

1. BEDDING SHALL BE PLACED AND LEVELED PRIOR TO INSTALLATION OF BURY ITEM.
2. BACKFILL SHALL BE PLACED IN MAXIMUM 6" LIFTS.
3. SLEEVE ALL PIPE AND WIRE SEPARATELY. SLEEVE 2 X DIA. OF PIPE (MIN 2"). ONE PIPE PER SLEEVE. SLEEVES TO BE PRIMED AND SOLVENT WELDED.
4. ALL PIPE TO BE INSTALLED PER MANUFACTURES SPECIFICATIONS WITH PIPE LABELING FACING UP FOR INSPECTION PURPOSES. PROVIDE A MINIMUM OF 2" CLEARANCE TO SIDE OF TRENCH AND BETWEEN PIPES.
5. ALL 120 V. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
6. TAPE AND BUNDLE IRRIGATION CONTROL WIRES EVERY 10'. PROVIDE LOOSE 20" LOOP AT ALL CHANGES OF DIRECTION OVER 30°.
7. ALL REMOTE CONTROL VALVE WIRING NOT INSTALLED WITH MAINLINE PIPE SHALL BE INSTALLED IN A MINIMUM 2" SCHEDULE 40 GREY ELECTRICAL CONDUIT OR AS APPROVED.
8. "NON-POTABLE" WARNING TAPE TO BE INSTALLED ON ALL PRESSURIZED MAINLINES 12" ABOVE THE PIPE.
9. INSTALL ONE ADDITIONAL SLEEVE SIZED TO MATCH THE LARGEST REQUIRED SLEEVE WITH ENDS TAPED FOR FUTURE USE.
10. SLEEVES TO EXTEND A MINIMUM OF 12" PAST HARDSCAPE PLANTERS, CURBS, SIDEWALKS, ETC. SLEEVES TO BE STAGGERED/OFFSET SO THAT SLEEVE USE IS NOT OBSTRUCTED BY OTHER PIPES.
11. WHERE PRESSURE SUPPLY PIPING IS INSTALLED WITHOUT CONTROL WIRING, A 14 GA. TRACKING WIRE SHALL BE INSTALLED.

DETAIL NO.  
2642

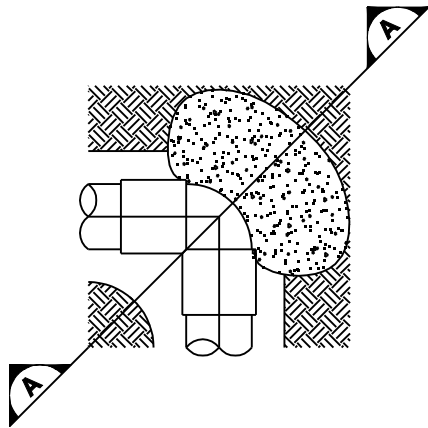
City of Scottsdale  
Standard Details

APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

**IRRIGATION TRENCHING**

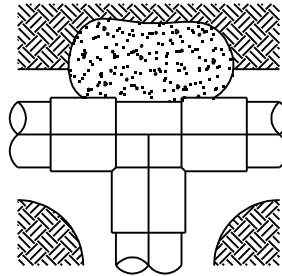
DETAIL NO.  
2642

REVISED: 05/14/08



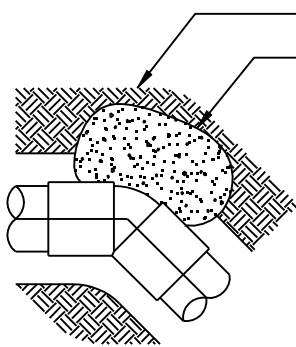
**90° ELL**

SCALE: NTS



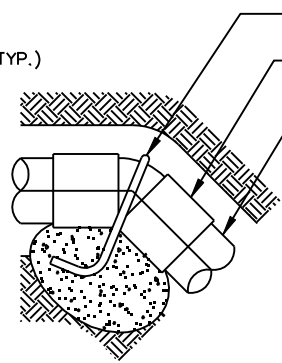
**TEE**

SCALE: NTS



**45° ELL**

SCALE: NTS



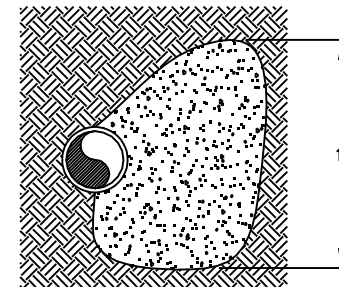
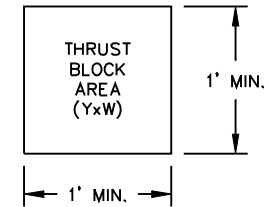
**45° ELL (VERTICAL)**

SCALE: NTS

PIPE SIZE	MINIMUM THRUST BLOCK AREA (YxW)	
	IRRIGATION PIPE	
	TEE, DEAD END 90° BEND	45°, 22.5°
3"	1 SF	.5 SF
4"	1.5 SF	1 SF
5" & LARGER	2 SF	1.5 SF
	PER MAG DETAIL 380	PER MAG DETAIL 380

**NOTES**

1. MINIMUM THRUST BLOCK AREAS ARE BASED ON A SOIL BEARING CAPACITY OF 3000 LBS/SF
2. THRUST BLOCK SHALL EXTEND INTO UNDISTURBED SOIL.
3. THRUST BLOCK SHALL BE MAG SECT. 725-CLASS C.
4. MAINLINE PIPING 4" AND LARGER SHALL HAVE MEGA/LUG JOINT RESTRAINTS INSTALLED AT ALL FLOW DIRECTION CHANGES (CONCRETE THRUST BLOCK NOT REQUIRED IF BELL END HARNESS JOINT RESTRAINTS ARE INSTALLED PER MAG 303-1 AND 303-2).



**SECTION**

**A-A**

DETAIL NO.  
**2643**

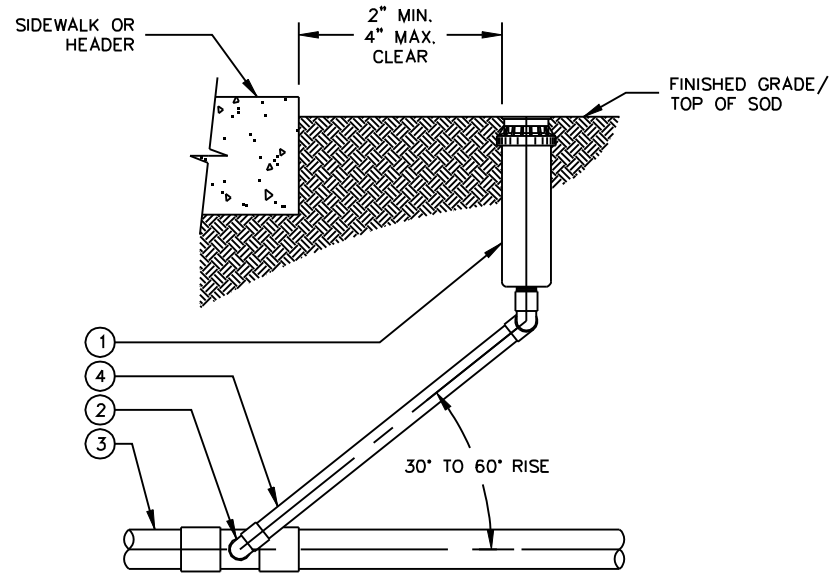
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**IRRIGATION THRUST BLOCK**

DETAIL NO.  
**2643**

REVISED: 2/27/02

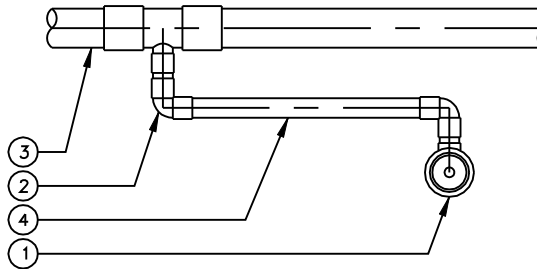


**SWING JOINT ASSEMBLY  
ELEVATION**

SCALE: NTS

LIST OF MATERIALS

- ① ROTOR SPRINKLER HEAD
- ② STREET ELL (1 OF 3) SCH 40 PVC
- ③ PVC LATERAL PIPE
- ④ SCH 80 NIPPLE TBE



**SWING JOINT ASSEMBLY PLAN**

SCALE: NTS

NOTES

- 1. SWING JOINT TO BE THE SAME SIZE AS SPRINKLER HEAD INLET.
- 2. NO PRE-FAB SWING JOINTS
- 3. NO MARLEX FITTINGS

**DETAIL NO.  
2644**

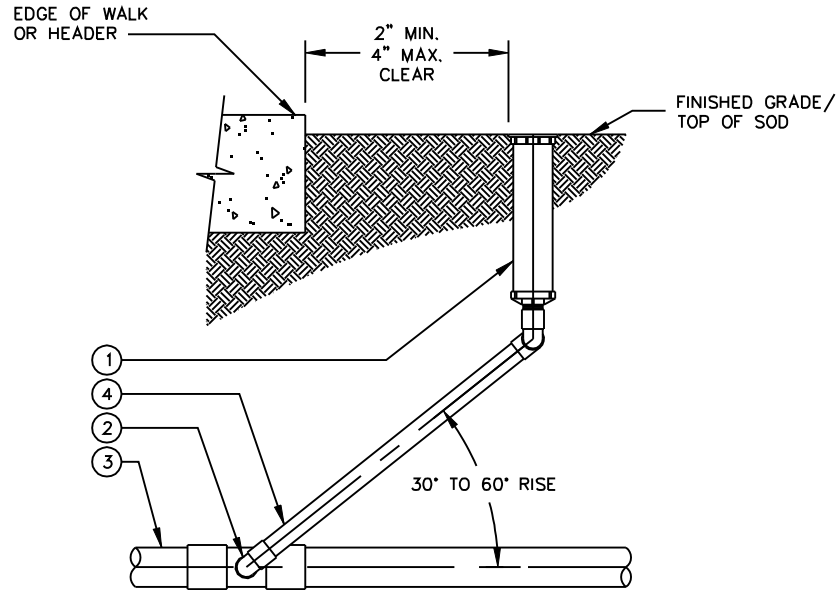
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**ROTOR SPRINKLER ASSEMBLY**

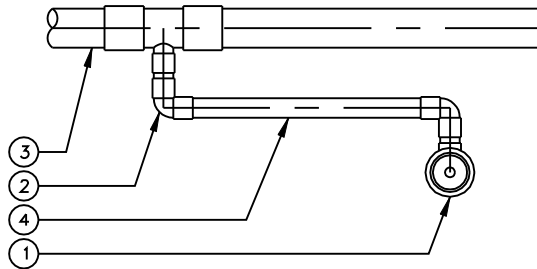
**DETAIL NO.  
2644**

REVISED: 2/27/02



**SWING JOINT ASSEMBLY  
ELEVATION**

SCALE: NTS



**SWING JOINT ASSEMBLY PLAN**

SCALE: NTS

LIST OF MATERIALS

- ① 4" POP-UP SPRAY SPRINKLER HEAD
- ② STREET ELL (1 OF 3) SCH 40 PVC
- ③ PVC LATERAL PIPE
- ④ SCH 80 NIPPLE TBE

NOTES

- 1. SWING JOINT TO BE THE SAME SIZE AS SPRINKLER HEAD INLET.
- 2. NO PRE-FAB SWING JOINTS
- 3. NO MARLEX FITTINGS

**DETAIL NO.  
2645**

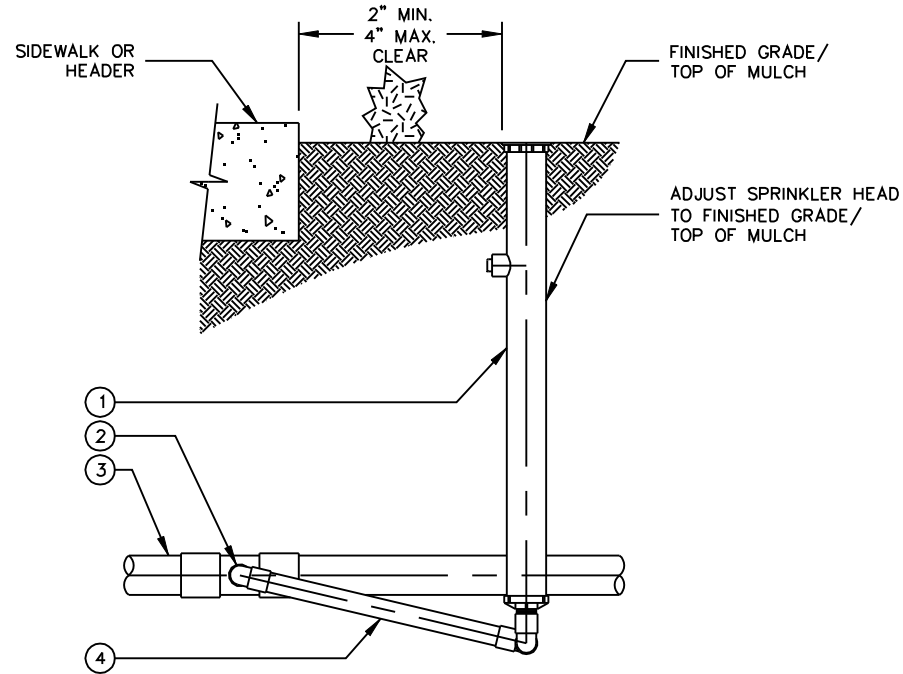
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**POP-UP SPRINKLER ASSEMBLY**

**DETAIL NO.  
2645**

REVISED: 2/27/02

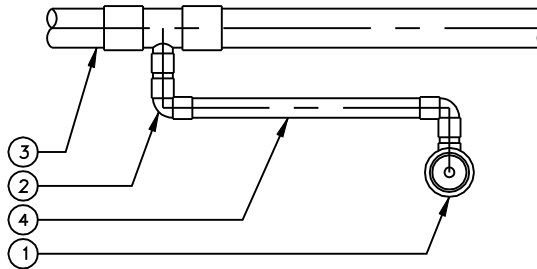


**SWING JOINT ASSEMBLY  
ELEVATION**

SCALE: NTS

LIST OF MATERIALS

- ① 12" POP-UP SPRAY SPRINKLER HEAD
- ② STREET ELL (1 OF 3) SCH 40 PVC
- ③ PVC LATERAL PIPE
- ④ SCH 80 NIPPLE TBE



**SWING JOINT ASSEMBLY PLAN**

SCALE: NTS

NOTES

- 1. SWING JOINT TO BE THE SAME SIZE AS SPRINKLER HEAD INLET.
- 2. SWING JOINT SHALL BE CONNECTED TO BOTTOM OUTLET.
- 3. NO PRE-FAB SWING JOINTS
- 4. NO MARLEX FITTINGS

**DETAIL NO.  
2646**

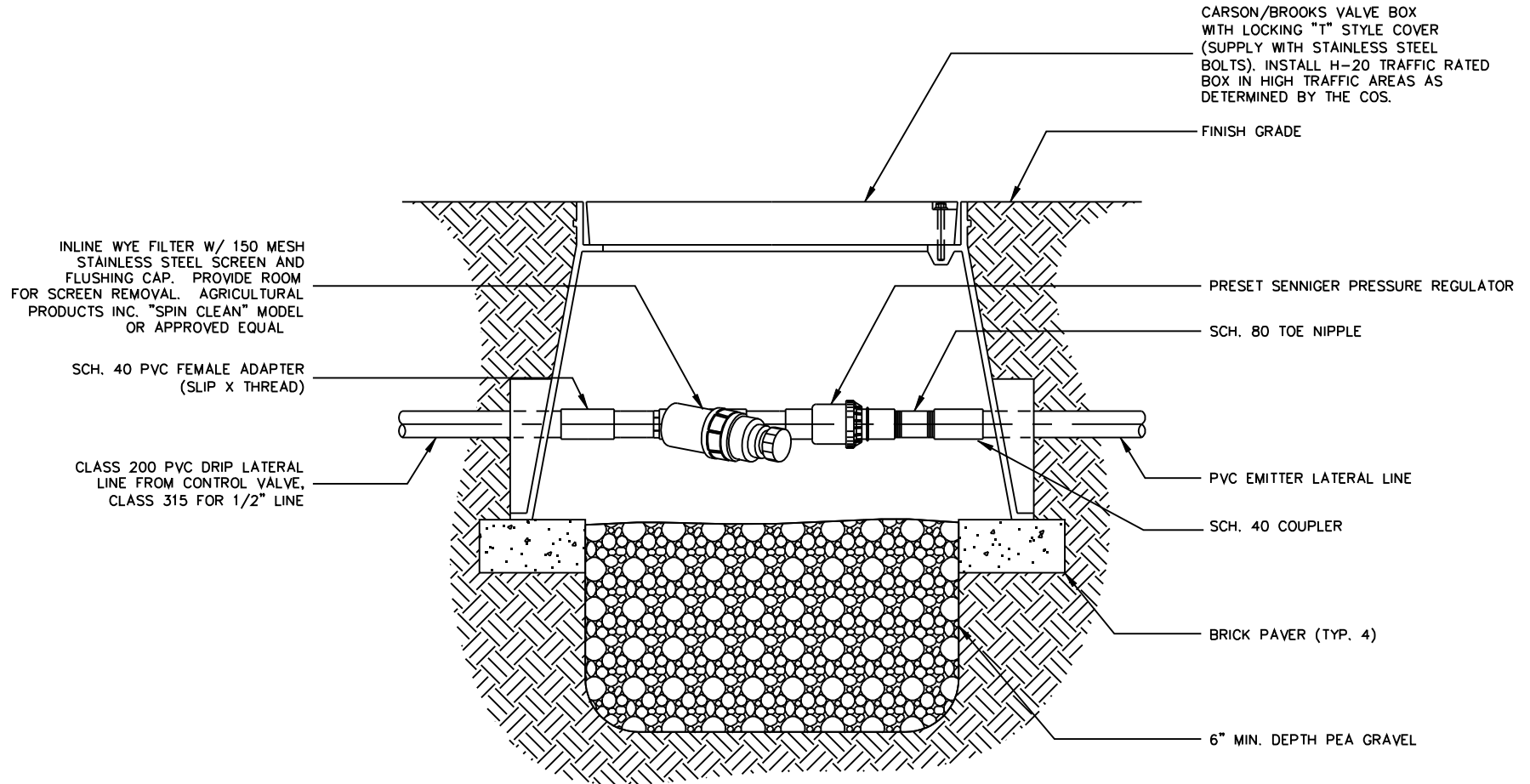
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**SHRUB POP-UP SPRINKLER ASSEMBLY**

**DETAIL NO.  
2646**

REVISED: 05/02/08



**DRIP FILTER &  
PRESS. REG. ASSEMBLY**

SCALE: NTS

DETAIL NO.  
2647

City of Scottsdale  
Standard Details

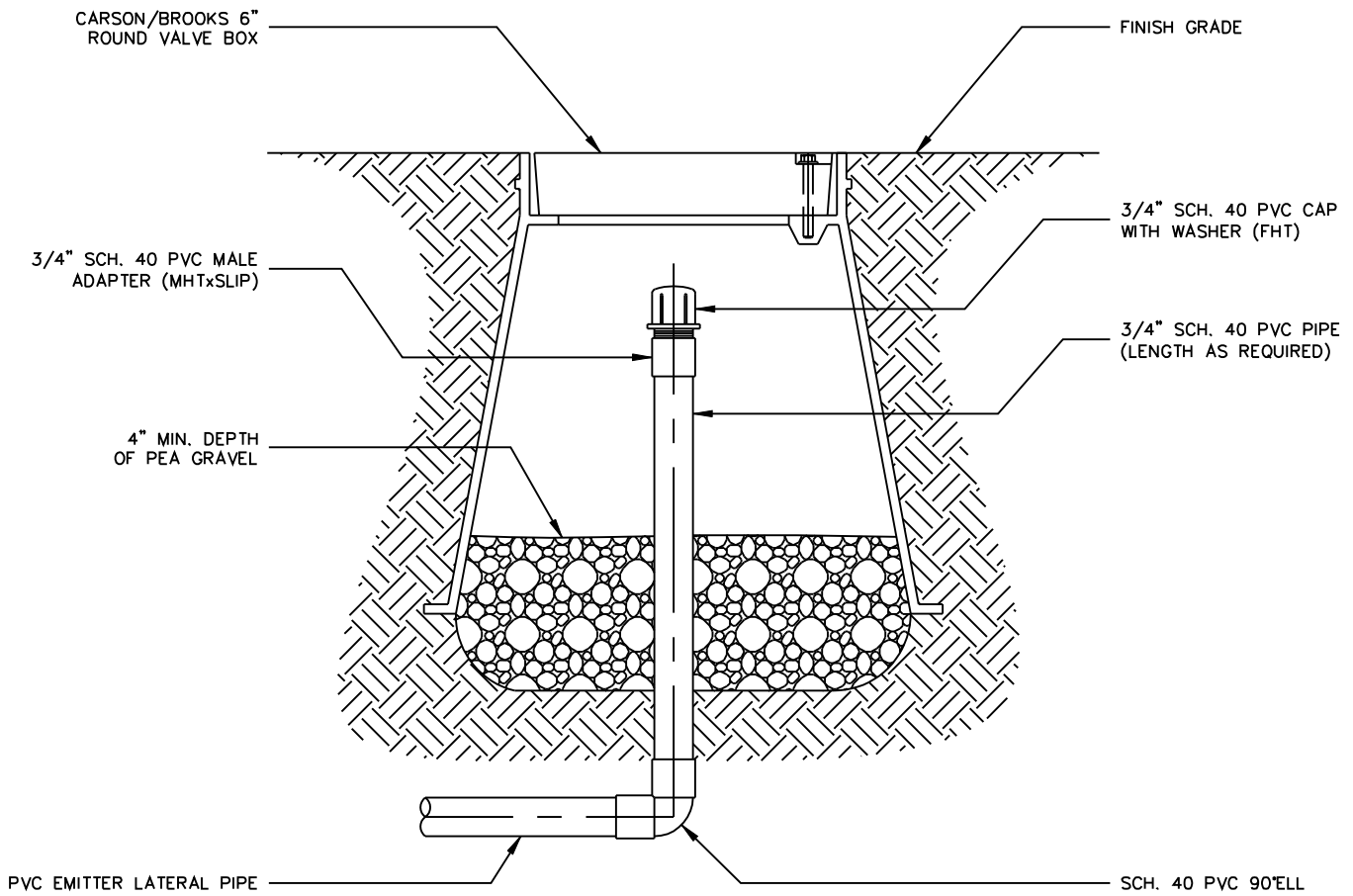
APPROVED BY:  
Scottsdale Standards &  
Specifications Committee

**DRIP FILTER & PRESSURE REGULATOR**

DETAIL NO.  
2647



REVISED: 1/5/00



**EMITTER FLUSH CAP ASSEMBLY**

SCALE: NTS

**DETAIL NO.  
2648**

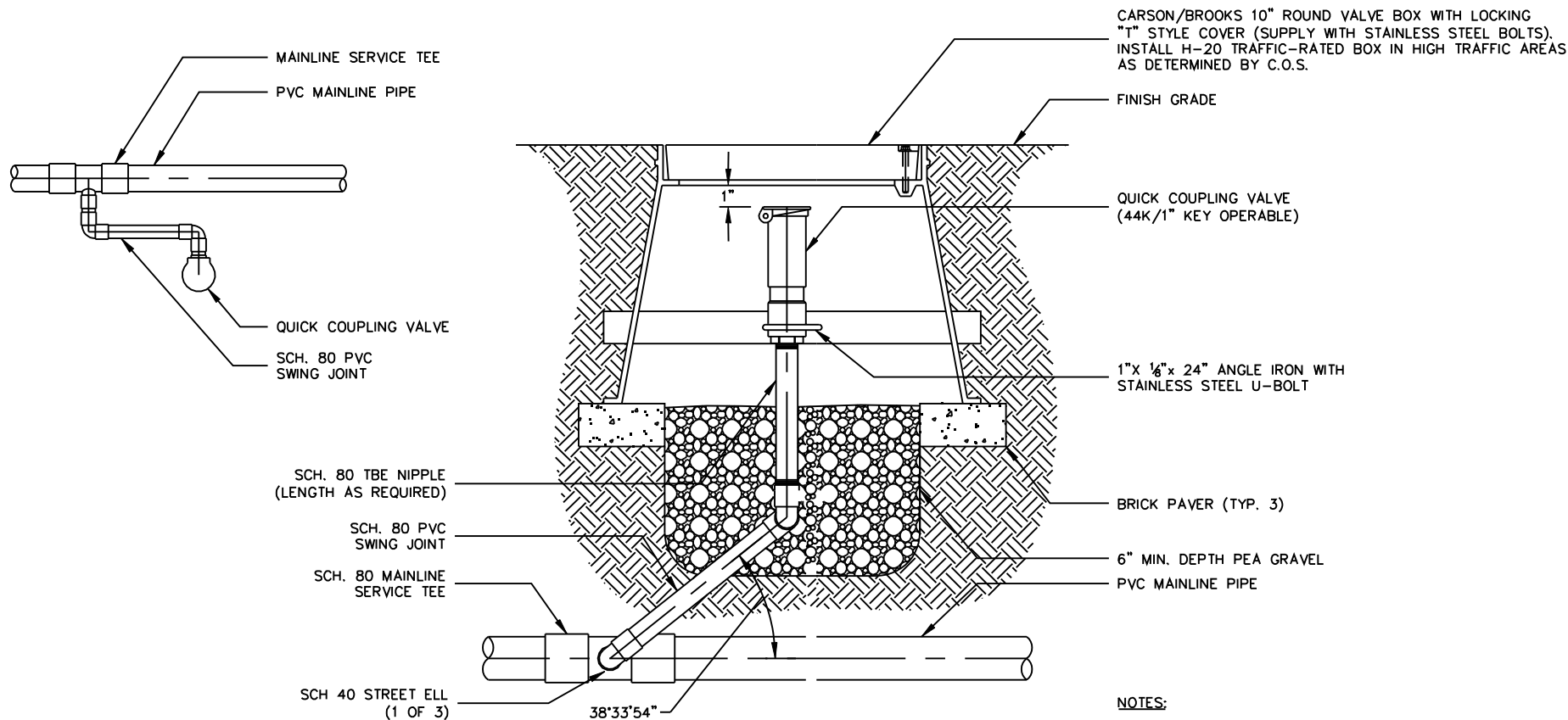
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**EMITTER FLUSH CAP ASSEMBLY**

**DETAIL NO.  
2648**

REVISED: 05/02/08



CARSON/BROOKS 10" ROUND VALVE BOX WITH LOCKING "T" STYLE COVER (SUPPLY WITH STAINLESS STEEL BOLTS). INSTALL H-20 TRAFFIC-RATED BOX IN HIGH TRAFFIC AREAS AS DETERMINED BY C.O.S.

FINISH GRADE

QUICK COUPLING VALVE (44K/1" KEY OPERABLE)

1" x 1/8" x 24" ANGLE IRON WITH STAINLESS STEEL U-BOLT

BRICK PAVER (TYP. 3)

6" MIN. DEPTH PEA GRAVEL

PVC MAINLINE PIPE

MAINLINE SERVICE TEE

PVC MAINLINE PIPE

QUICK COUPLING VALVE

SCH. 80 PVC SWING JOINT

SCH. 80 TBE NIPPLE (LENGTH AS REQUIRED)

SCH. 80 PVC SWING JOINT

SCH. 80 MAINLINE SERVICE TEE

SCH 40 STREET ELL (1 OF 3)

38°33'54"

**NOTES:**

1. EACH QUICK COUPLER SHALL BE IN A SEPARATE VALVE BOX.
2. SWING JOINT SHALL BE THE SAME SIZE AS QUICK COUPLER VALVE.
3. NO PRE-FAB SWING JOINTS.
4. U-BOLT TO BE SECURED WITH LOCK WASHERS AND BACK-UP LOCKING NUT.

**QUICK COUPLER ASSEMBLY**

SCALE: NTS

**DETAIL NO. 2649**

**City of Scottsdale Standard Details**

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

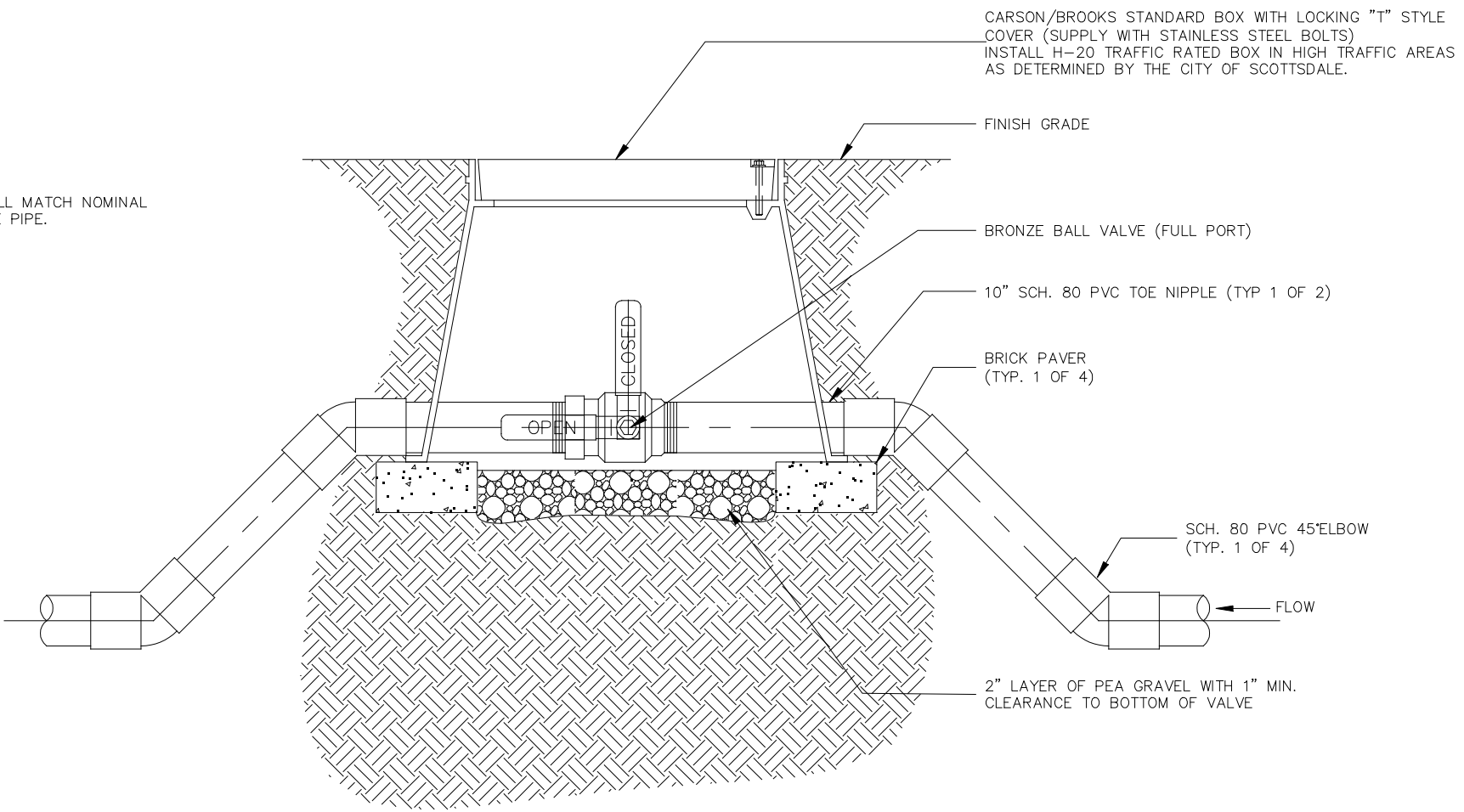
**QUICK COUPLER ASSEMBLY**

**DETAIL NO. 2649**

REVISED: 4/25/07

**NOTE:**

- 1. BALL VALVE SHALL MATCH NOMINAL SIZE OF MAINLINE PIPE.



# 1-1/2" & SMALLER MAINLINE ISOLATION BALL VALVE ASSEMBLY

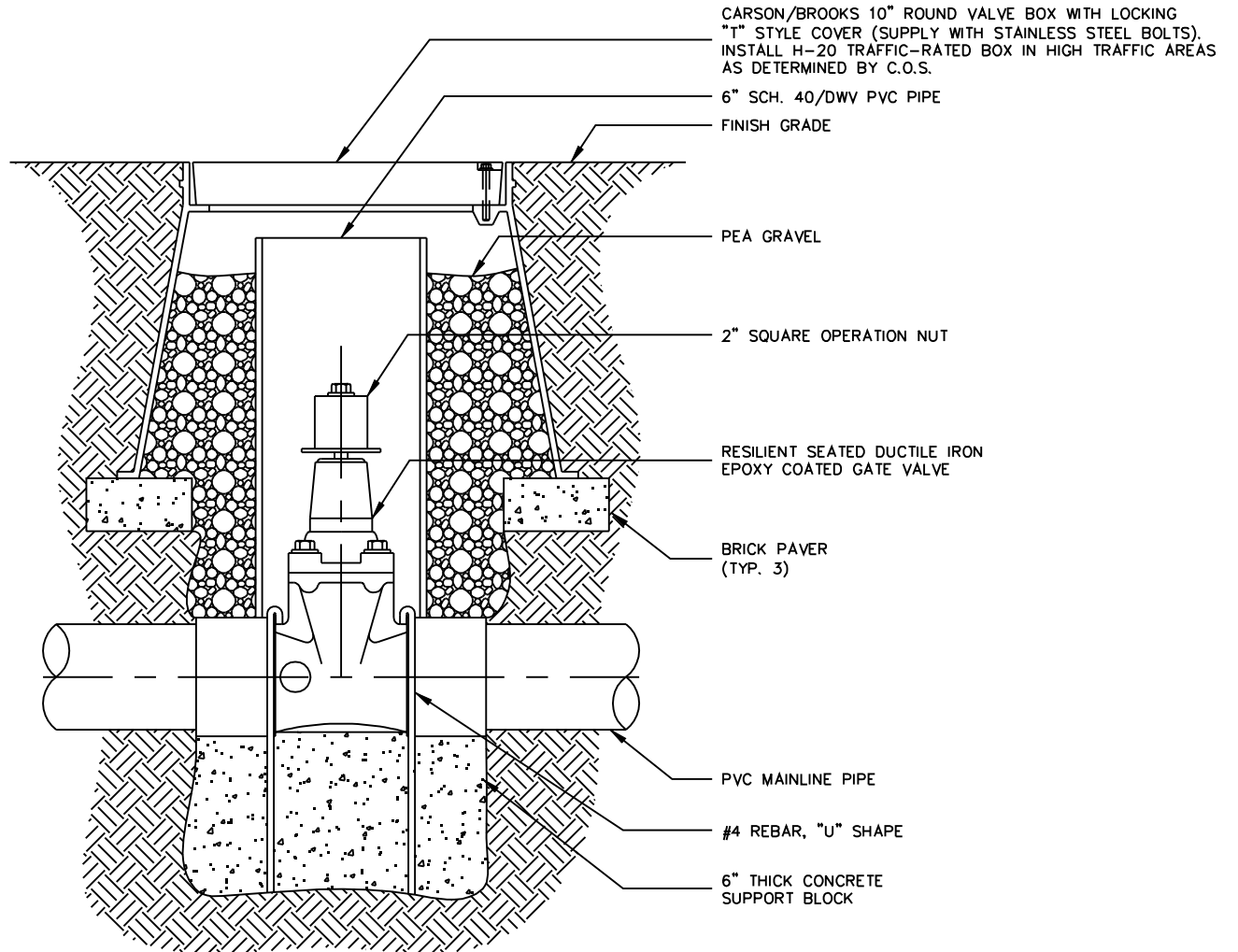
SCALE: NTS

DETAIL NO. 2650	<b>City of Scottsdale</b> Standard Details	APPROVED BY: <b>Scottsdale Standards &amp; Specifications Committee</b>	<b>1-1/2" &amp; SMALLER MAINLINE BALL VALVE</b>	DETAIL NO. 2650
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REVISED: 05/02/08

**NOTE:**

- 1. GATE VALVE SHALL MATCH NOMINAL SIZE OF MAINLINE PIPE.
- 2. PROTECT VALVE BODY WITH 10MIL PLASTIC PRIOR TO INSTALLATION OF REBAR & SUPPORT BLOCK.



**2" & LARGER MAINLINE ISOLATION GATE VALVE ASSEMBLY**

SCALE: NTS

**DETAIL NO.  
2651**

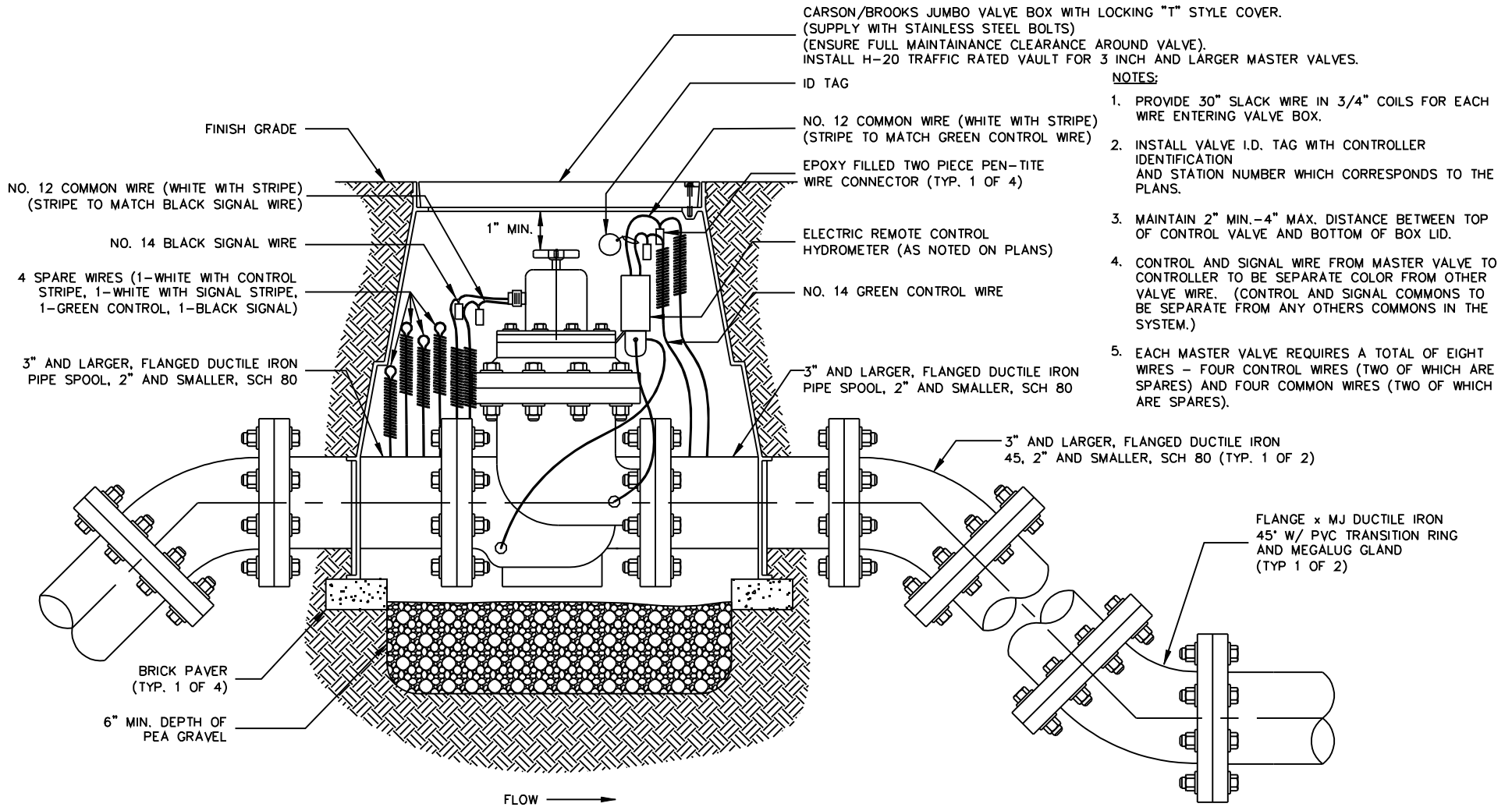
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**2" & LARGER MAINLINE ISOLATION GATE VALVE**

**DETAIL NO.  
2651**

REVISED: 05/05/08



- NOTES:**
1. PROVIDE 30" SLACK WIRE IN 3/4" COILS FOR EACH WIRE ENTERING VALVE BOX.
  2. INSTALL VALVE I.D. TAG WITH CONTROLLER IDENTIFICATION AND STATION NUMBER WHICH CORRESPONDS TO THE PLANS.
  3. MAINTAIN 2" MIN.-4" MAX. DISTANCE BETWEEN TOP OF CONTROL VALVE AND BOTTOM OF BOX LID.
  4. CONTROL AND SIGNAL WIRE FROM MASTER VALVE TO CONTROLLER TO BE SEPARATE COLOR FROM OTHER VALVE WIRE. (CONTROL AND SIGNAL COMMONS TO BE SEPARATE FROM ANY OTHERS COMMONS IN THE SYSTEM.)
  5. EACH MASTER VALVE REQUIRES A TOTAL OF EIGHT WIRES - FOUR CONTROL WIRES (TWO OF WHICH ARE SPARES) AND FOUR COMMON WIRES (TWO OF WHICH ARE SPARES).

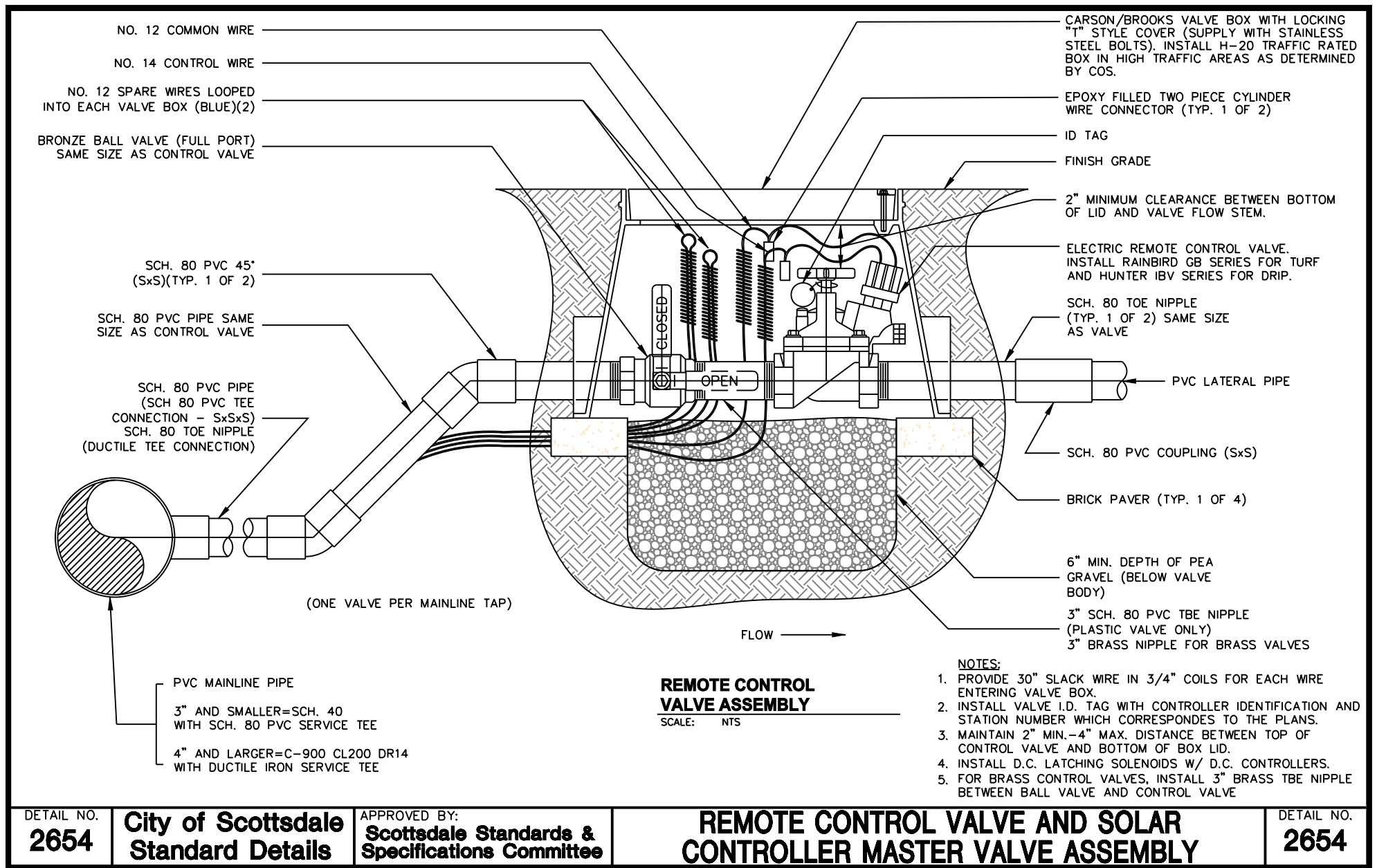
DETAIL NO.  
**2653**

**City of Scottsdale**  
Standard Details

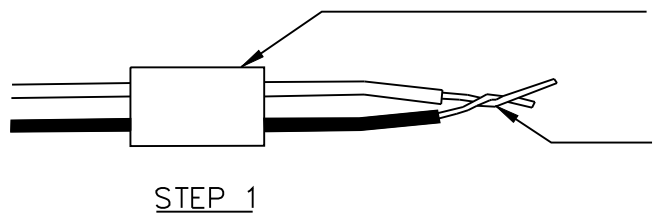
APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**1 1/2" & LARGER MASTER VALVE/FLOW METER**

DETAIL NO.  
**2653**



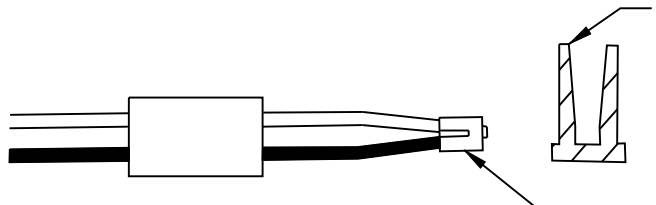
REVISED: 3/9/05



STEP 1

SLIP BASE SOCKET OVER END OF WIRES

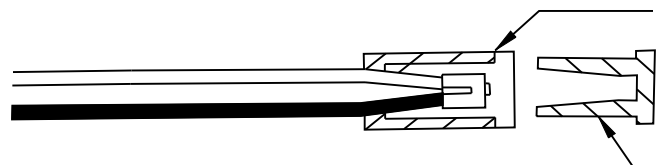
STRIP WIRES APPROX. 5/8" FROM ENDS - TWIST ENDS TOGETHER



STEP 2

APPLY SEALER TO OUTSIDE OF SEALING PLUG - FILL CAVITY WITH SEALER

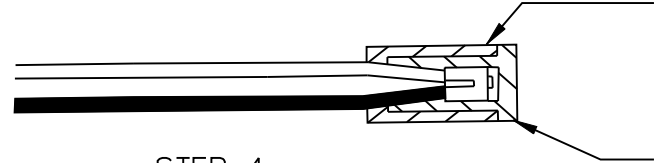
PUT CRIMP SLEEVE OVER WIRE ENDS - CRIMP SLEEVE AND CUT OFF EXCESS WIRE



STEP 3

PULL BASE SOCKET OVER WIRE END AS FAR AS POSSIBLE

PUSH SEALING PLUG INTO BASE SOCKET



STEP 4

PUSH WIRES TO END OF BASE SOCKET TO ASSURE COMPLETE SEALING OF CONNECTION

DRI-SPLICE TYPE WIRE CONNECTOR

NOTES:

1. FOR WIRE SIZES NO. 14, 12 AND 10, ALL CONNECTIONS IN VALVE BOXES ONLY.
2. INSTALL SPEARS DS-100 DRI-SPLICE CONNECTORS WITH DS-300 SEALANT.

DETAIL NO.  
**2655**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

# TYPICAL IRRIGATION WIRE CONNECTION

DETAIL NO.  
**2655**

REVISED: 4/25/07

WIRE SIZE (AWG)	MAXIMUM NUMBER OF WIRES TO BE INSTALLED IN A SCHEDULE 40 PVC SLEEVE			WIRE SIZE (AWG)
	2"	2-1/2"	3"	
14	25	40	56	14
12	20	33	50	12

NOTE:

1. ALL WIRE SLEEVES TO BE SHC. 40 PVC AND SHALL BE INSTALLED WITH A MINIMUM OFFSET AT THE JOINTS TO PERMIT EASY INSTALLATION AND REMOVAL OF CONTROL AND COMMON WIRES. ALL WIRES SHALL BE INSTALLED IN SLEEVES UNDER THE PAVED AREAS. SLEEVES SHALL EXTEND AT LEAST 12" BEYOND THE EDGES OF THE PAVEMENT. SIZE OF SLEEVES SHALL BE AS SHOWN.

DETAIL NO.  
**2656**

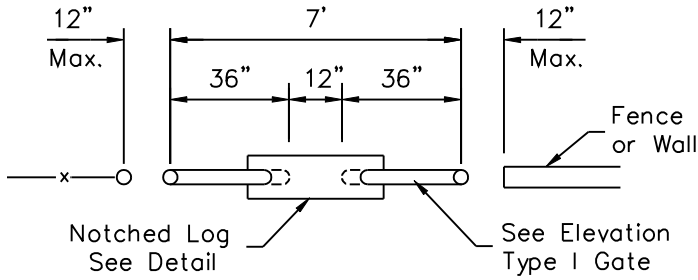
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

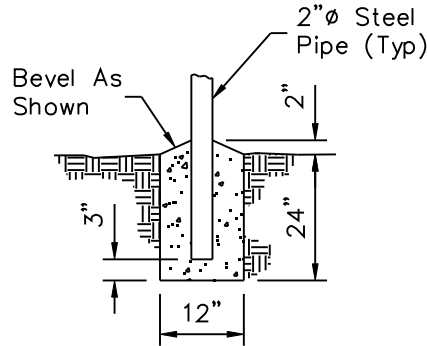
# IRRIGATION WIRE SLEEVING CHART

DETAIL NO.  
**2656**

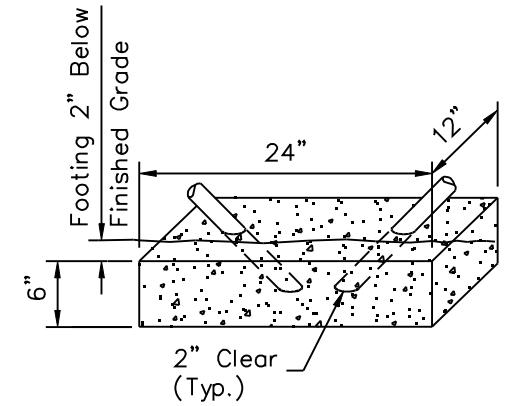




**TYPE I GATE  
w/ NOTCHED LOG**



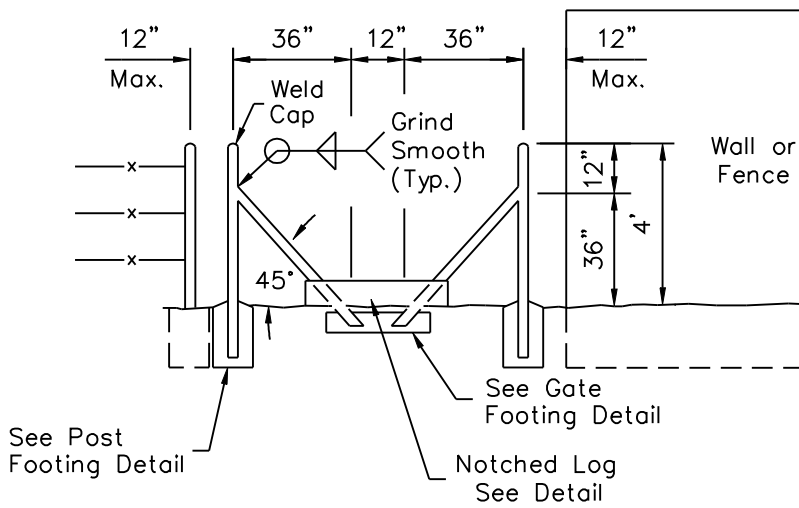
**POST FOOTING  
DETAIL**



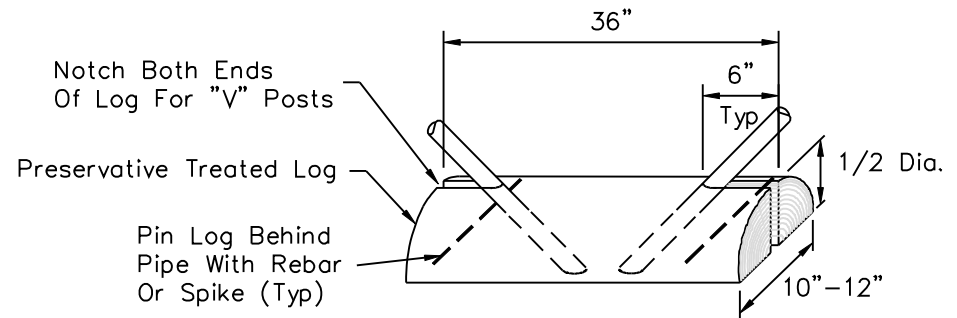
**GATE FOOTING  
DETAIL**

**NOTES:**

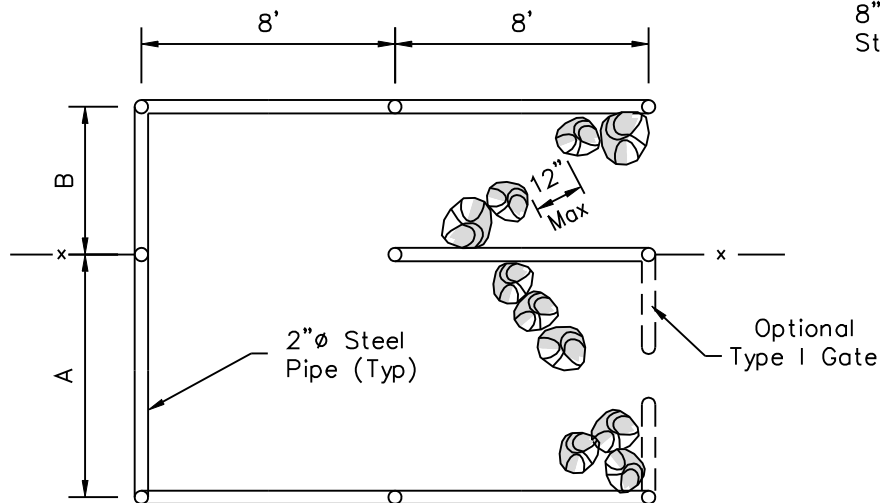
1. All Concrete Shall Be Class "B".
2. Paint Rails Per ADOT Specifications. Color Per Plans.
3. Treated Wood Per MAG Section 779.



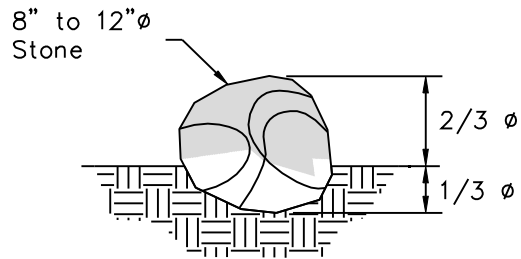
**ELEVATION  
TYPE I GATE**



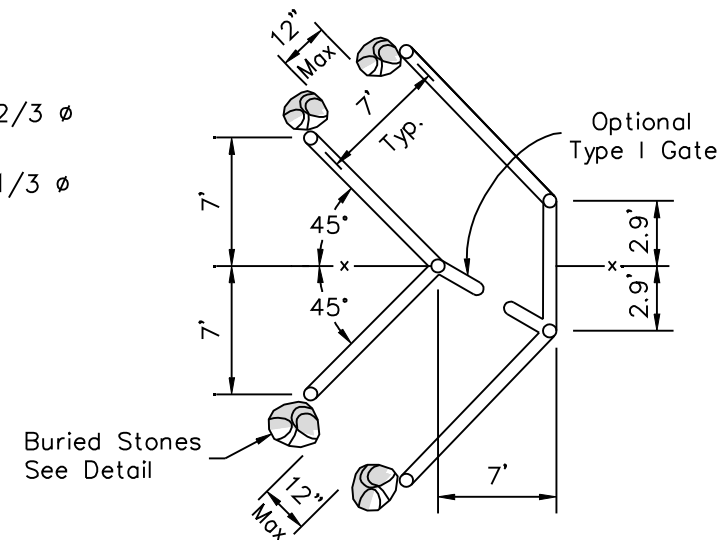
**NOTCHED LOG DETAIL**



**TYPE II GATE**



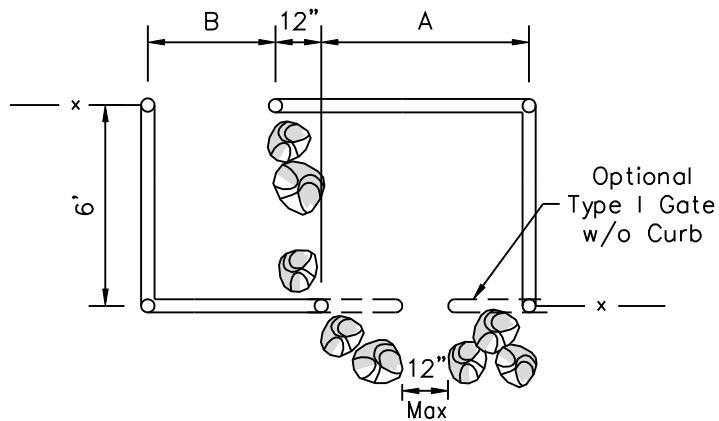
**BURIED STONE  
DETAIL**



**TYPE IV GATE**

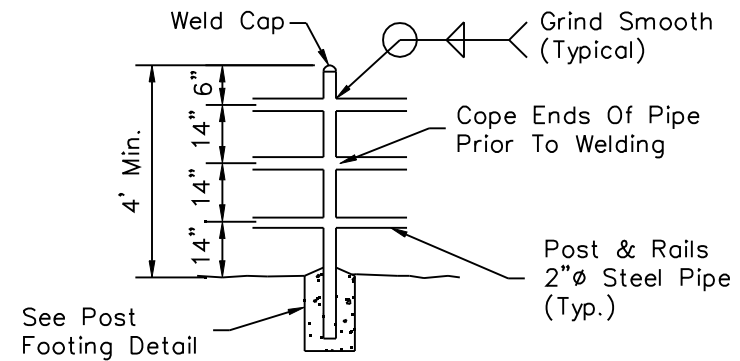
**NOTE:**

Gate barriers for Type II, III and IV gates shall be buried stones or Type I gate as shown on plan.

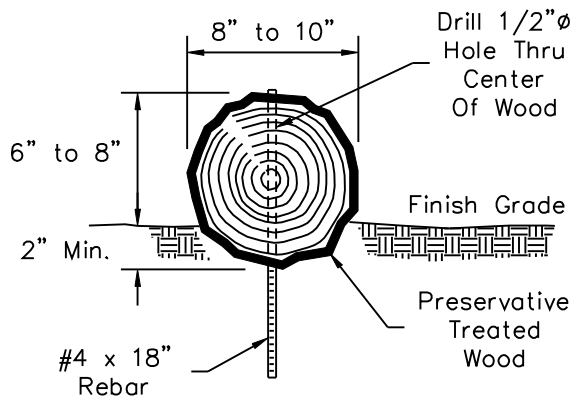


**TYPE III GATE**

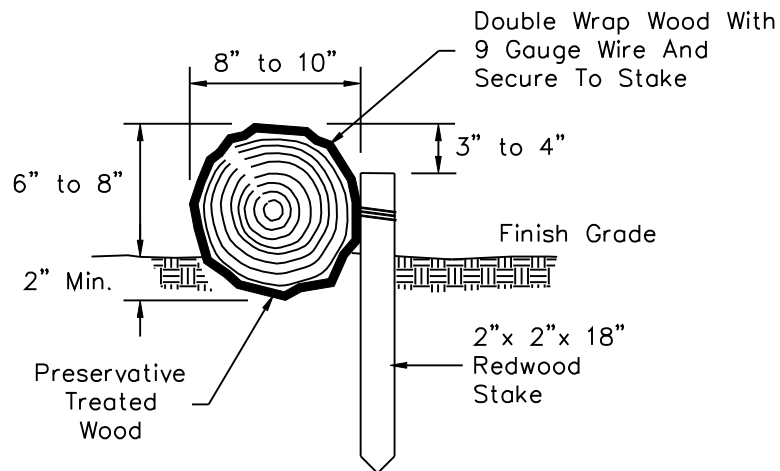
TYPE II and III GATE DIMENSIONS		
GATE BARRIER	A	B
Type I	7'	4'
Buried Rocks	4'	4'



**TYPICAL RAIL ELEVATION  
TYPE II, III & IV GATE**



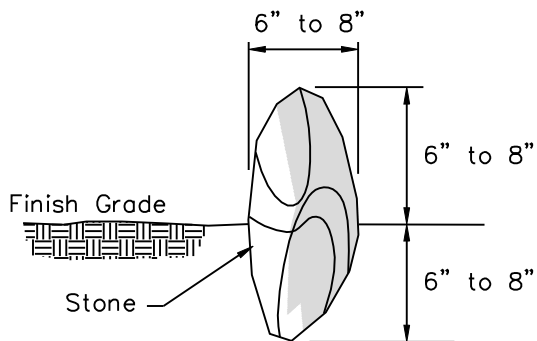
**REBAR SECURED  
WOOD BARS**



**WIRE SECURED  
WOOD BARS**

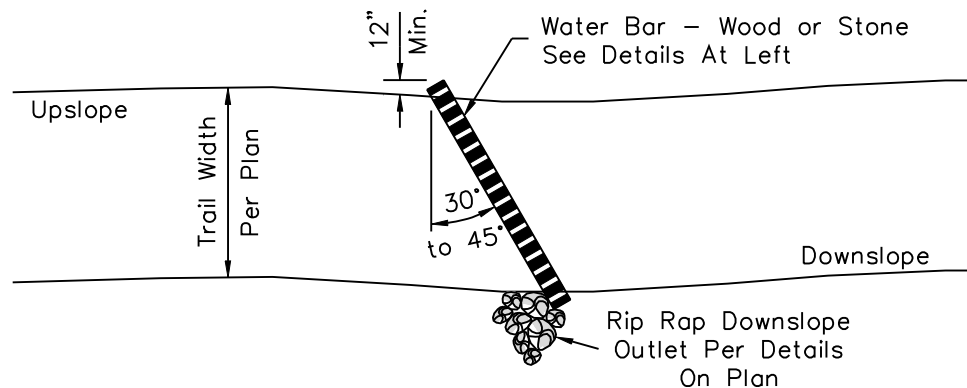
**NOTES:**

1. Provide water bars at a maximum 100' interval where trail grade is equal to or greater than 6% and at all locations as shown on plans.
2. Treated wood per MAG Section 779.



Stagger Stones To Provide  
A Continuous Water Bar

**STONE BARS**



**WATER BARS  
PLAN**

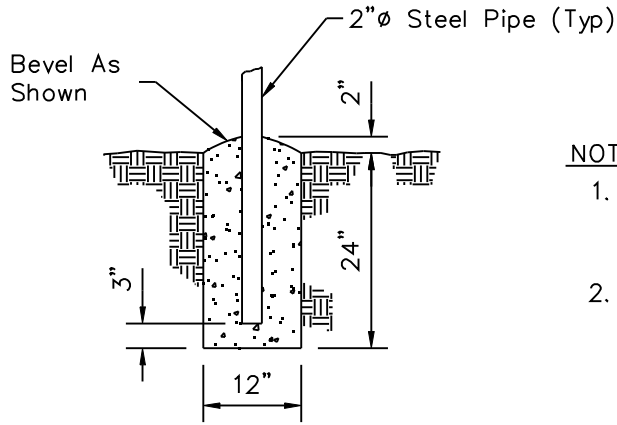
DETAIL NO.  
**2681**

**City of Scottsdale  
Standard Details**

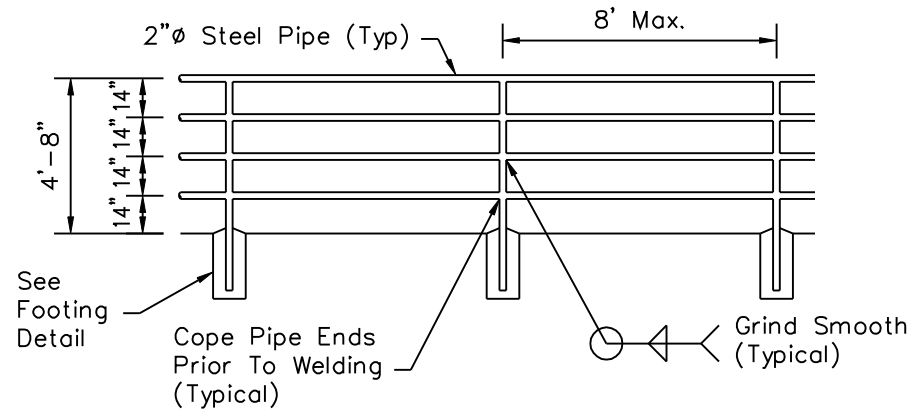
APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TRAIL WATER BARS**

DETAIL NO.  
**2681**

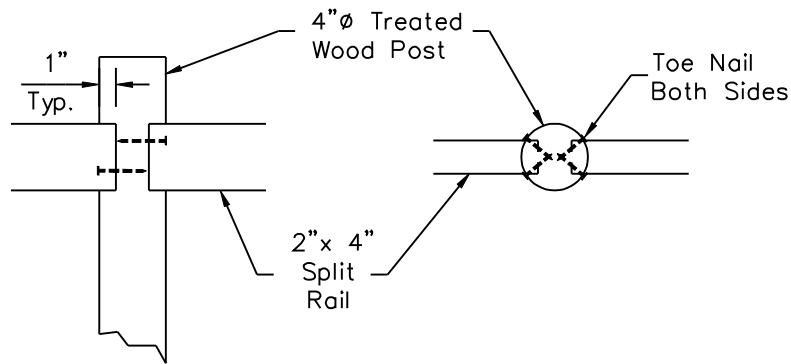


- NOTES:**
1. Paint Rails Per ADOT Specifications. Color Per Plan.
  2. Treated Wood Posts Per MAG Section 779.



**CONCRETE FOOTING DETAIL**

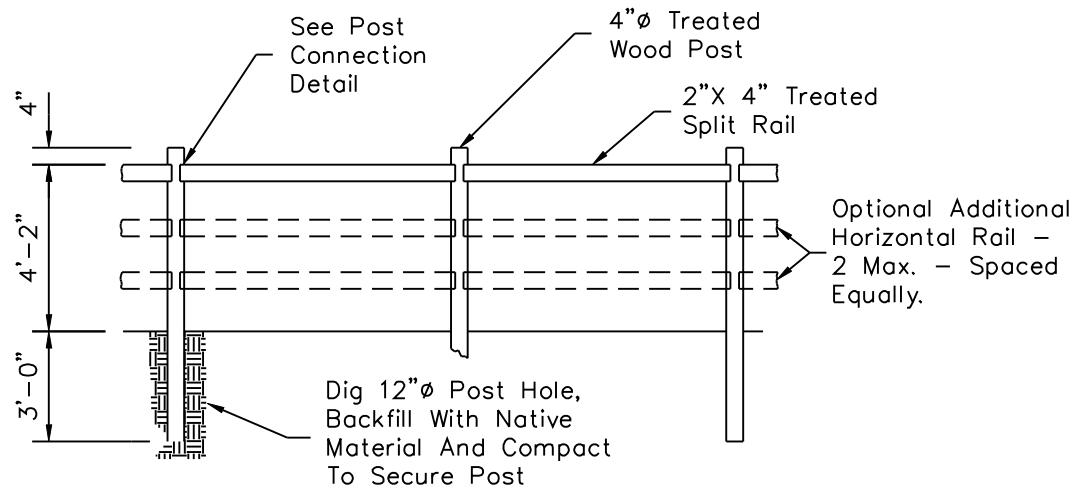
**STEEL RAIL**



**ELEVATION**

**PLAN**

**POST CONNECTION DETAIL**



**POST AND RAIL**

DETAIL NO.  
**2682**

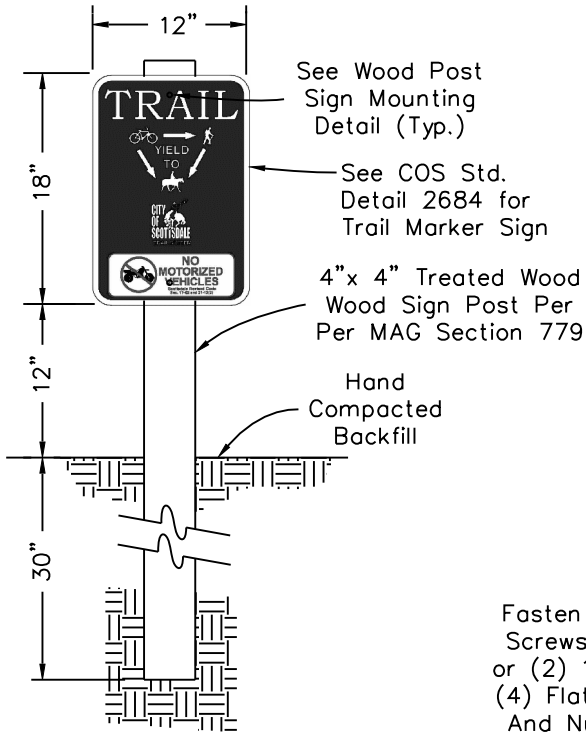
**City of Scottsdale  
Standard Details**

APPROVED BY:  
**Scottsdale Standards &  
Specifications Committee**

**TRAIL SAFETY BARRIERS**

DETAIL NO.  
**2682**

REVISED 3/31/10



See Wood Post Sign Mounting Detail (Typ.)

See COS Std. Detail 2684 for Trail Marker Sign

4"x 4" Treated Wood Wood Sign Post Per Per MAG Section 779

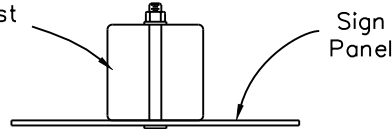
Hand Compacted Backfill

**TRAIL MARKER**

**NOTES:**

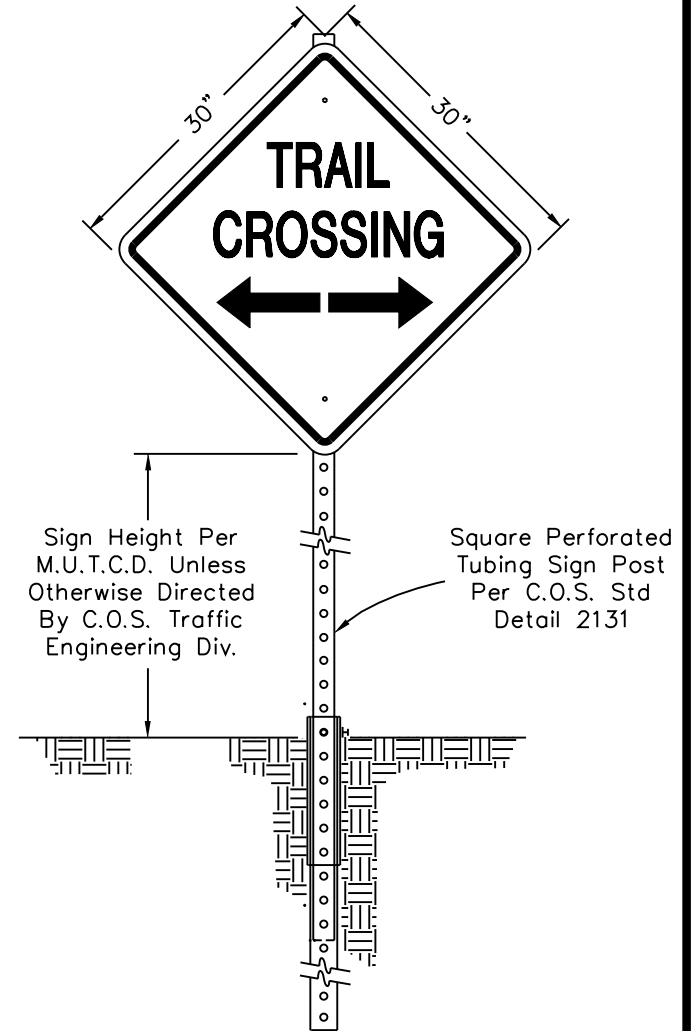
1. Signs shall conform to C.O.S. Supplemental Specifications, Section 402.3.
2. Signs to be mounted on square perforated tubing per C.O.S. Std Det 2131 within C.O.S. Right-of-Way. Treated wood post may be used for trail markers located outside C.O.S. Right-of Way.
3. Legends shall be reflectorized white vinyl sheeting on a green or brown vinyl background unless otherwise approved by the City of Scottsdale.

4"x 4" Treated Wood Sign Post Per MAG Section 779



Fasten With (2) 1/2"x 2" Log Screws With (2) Flat Washers or (2) 1/2"x 4 1/2" Bolts With (4) Flat Washers. Burr Threads And Nuts With Center Punch.

**WOOD POST SIGN MOUNTING DETAIL**



**TRAIL CROSSING SIGN**

DETAIL NO.  
**2683**

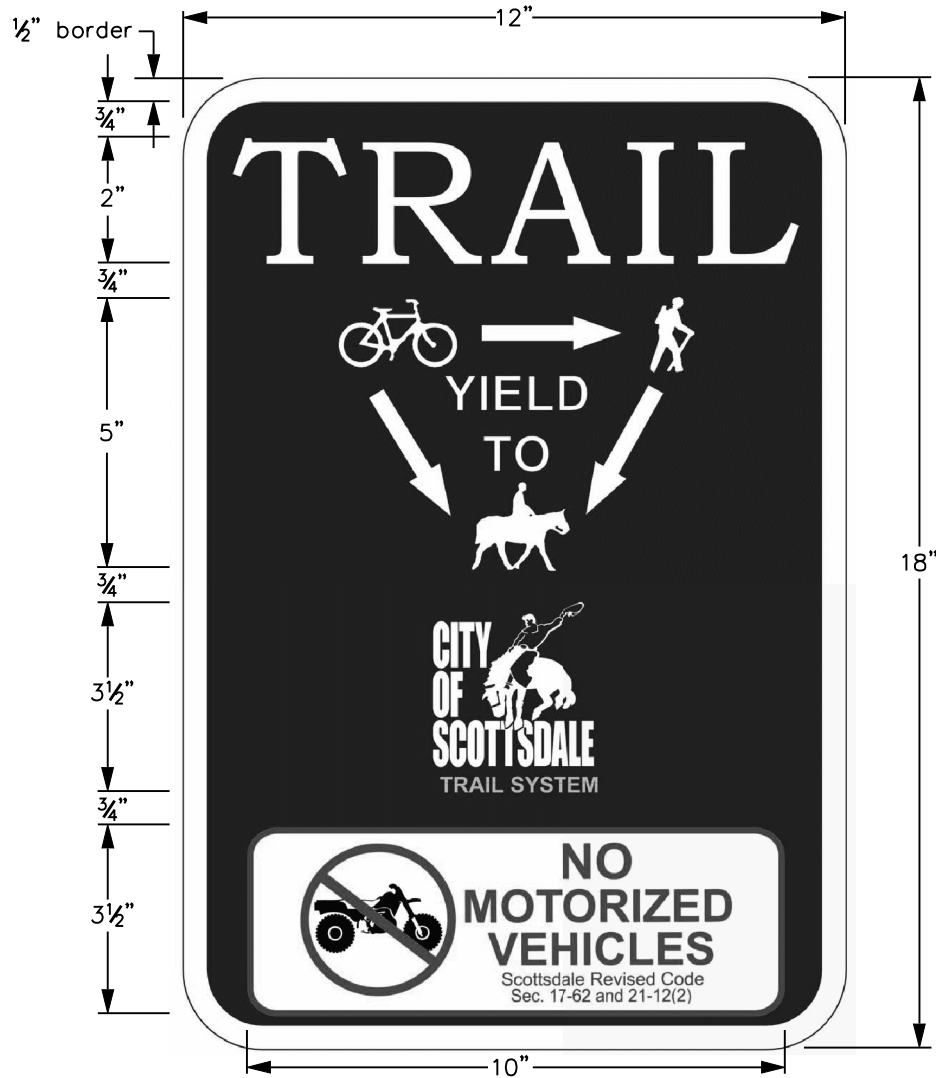
**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**TRAIL SIGNS**

DETAIL NO.  
**2683**

NEW 3/31/10



**NOTES:**

1. Signs shall conform to COS Spec. Sect. 402.3.
2. The sign substrate shall be treated aluminum with a thickness of 0.080".
3. The sign face shall have ASTM Type IV reflectorized sheeting with a brown screen printed or translucent acrylic EC overlay film reflective legend. Brown color shall be Pantone PMS 483 or closest equivalent. "NO MOTORIZED VEHICLES" portion shall be red text on white background except motor vehicle image shall be black.
4. Electronic version of sign graphics available upon request.
5. See COS Std. Detail 2683 for post and mounting details.

DETAIL NO.  
**2684**

**City of Scottsdale**  
Standard Details

APPROVED BY:  
**Scottsdale Standards & Specifications Committee**

**TRAIL MARKER SIGN**

DETAIL NO.  
**2684**