

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

DETAIL NO.
2600-2

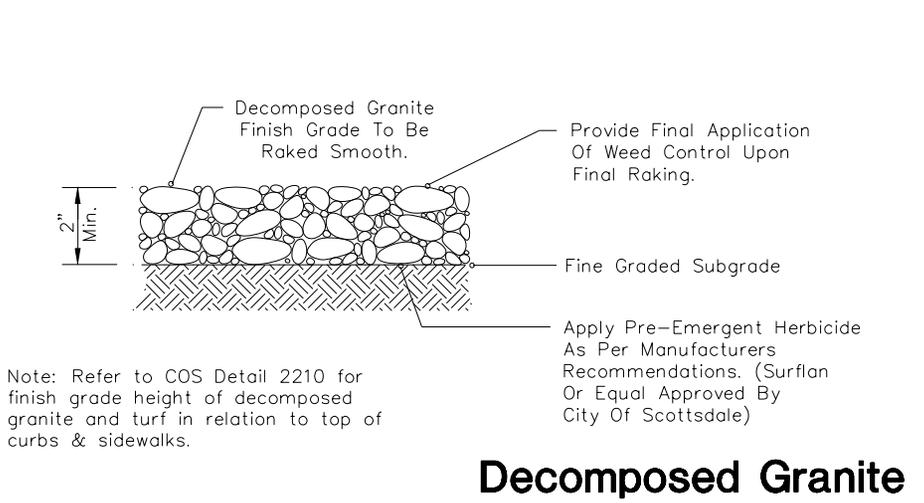
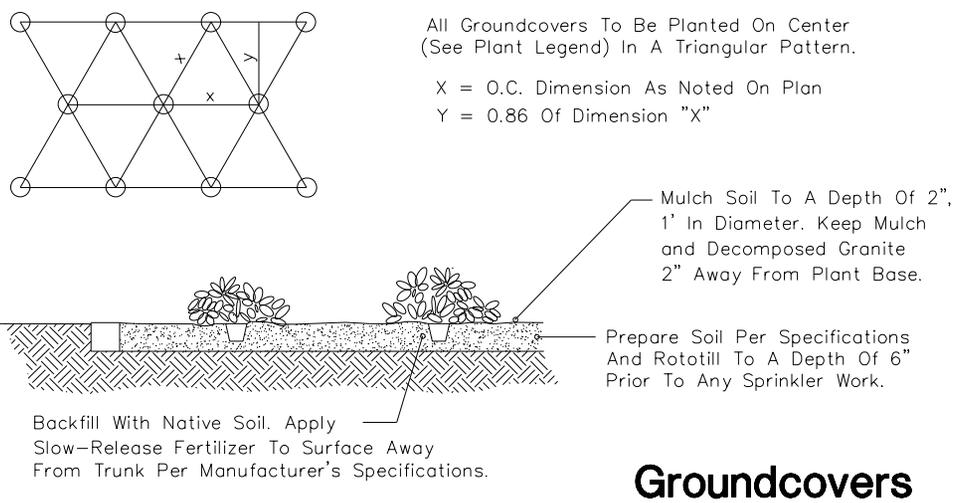
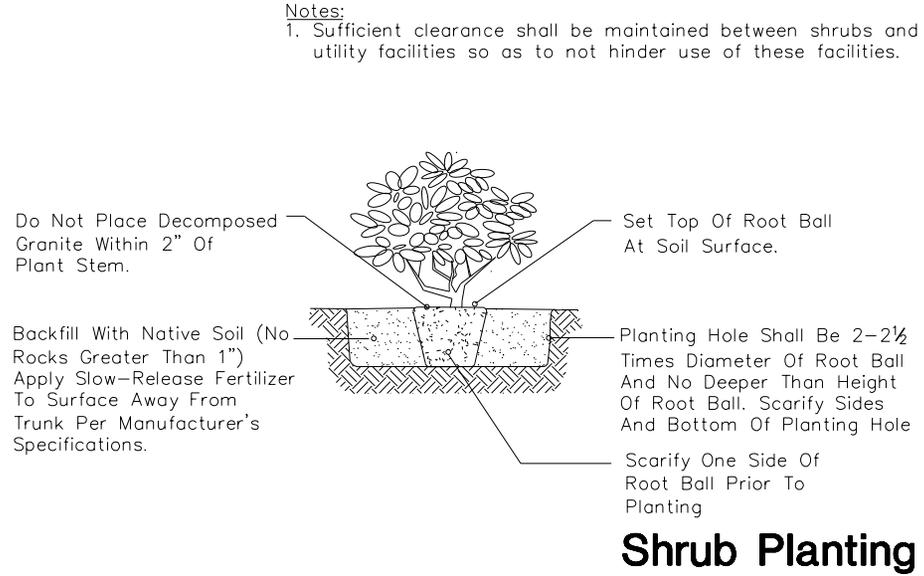
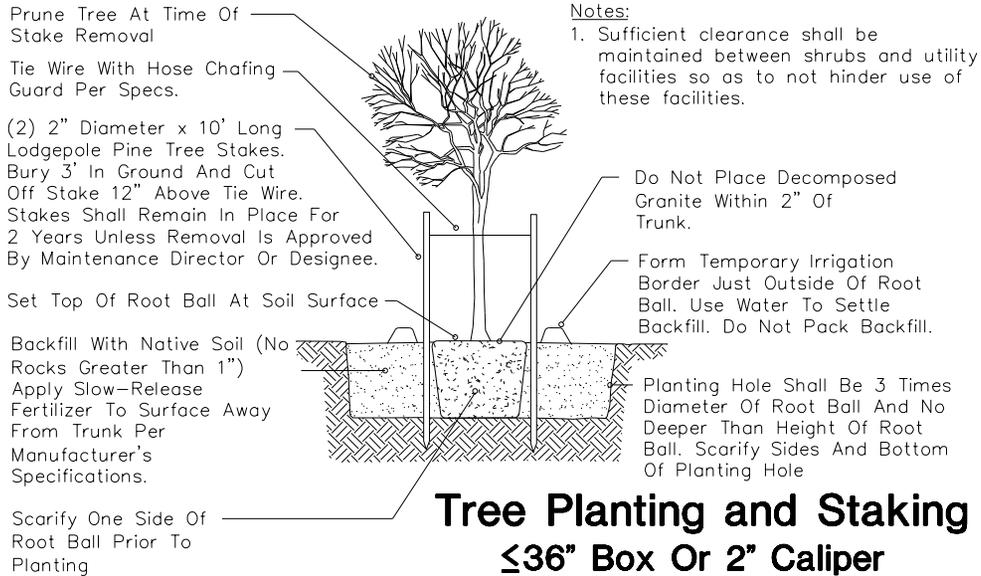
City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

MINIMUM TREE SIZE REQUIREMENTS

DETAIL NO.
2600-2

REVISED 3/1/12



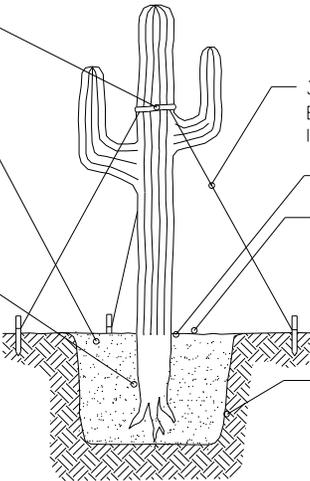
REVISED 3/1/12

① Do Not Place Decomposed Granite Within 2" Of Planting Base.

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.

①
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.

Plant At Depth Which Plant Was Grown.

NOTE: Water weekly through the summer.

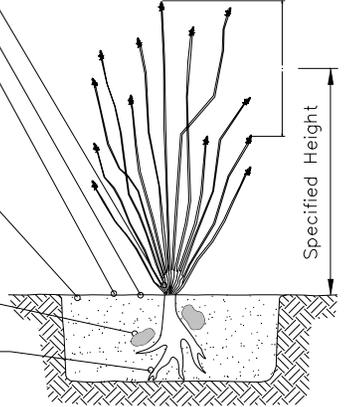
Planting Mix To Be 1/3 Golf Sand And 2/3 Specified Soil. Pack The Backfill Mix, Do Not Use Water To Settle Backfill Mix.

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.

Avg. of 75f Taller Canes



Ocotillo Planting

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.

Plant At Depth Which Plant Was Grown.

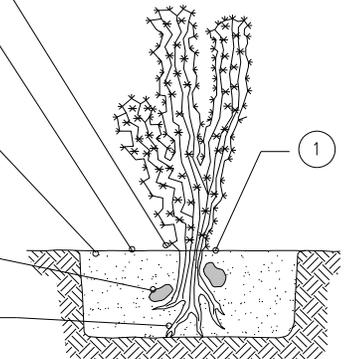
NOTE: Water weekly through the summer. Maintain original growing orientation.

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.

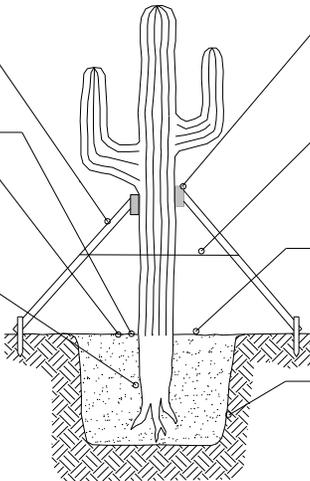


Cactus Planting

(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.

①
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

DETAIL NO.
2620-2

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

LANDSCAPE DETAILS

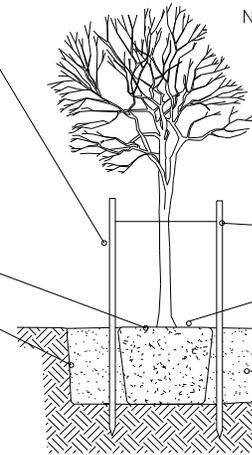
DETAIL NO.
2620-2

REVISED 3/1/12

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.

Do Not Place Decomposed Granite Within 2" Of Trunk.

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.



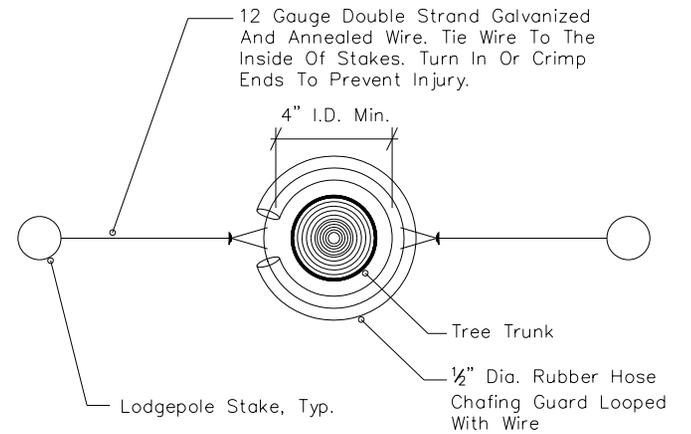
- Notes: 1. Sufficient clearance shall be maintained between trees and utility facilities so as to not hinder use of these facilities.
 2. Plant pit basins within sloped planting areas shall be constructed with a max. 2:1 slope. Provide smooth transition to surrounding finish grade.

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

Salvaged Tree Planting



Tree Staking - Plan View

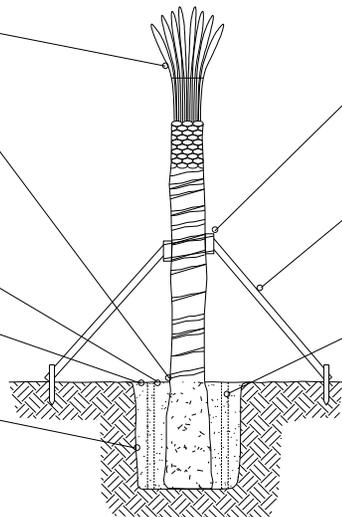
Thin Top 6-8 Fronds, Tie With Natural Fiber Twine. (Remove Ties Prior To Buckling 60-90 Days).

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

Do Not Place Decomposed Granite Within 2" Of Trunk.

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

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

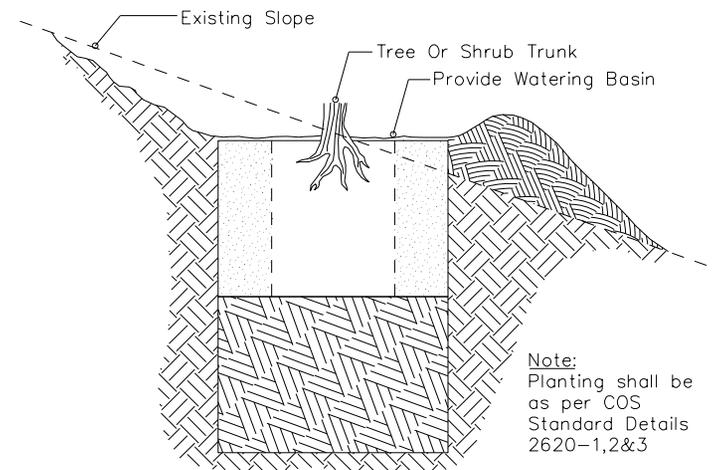


2"x 4" Blocking Nailed To Brace. Tie To Trunk With 1" (Min.) Vinyl Tie.

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

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

Palm Planting and Bracing Detail



Tree & Shrub On Slope Planting

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

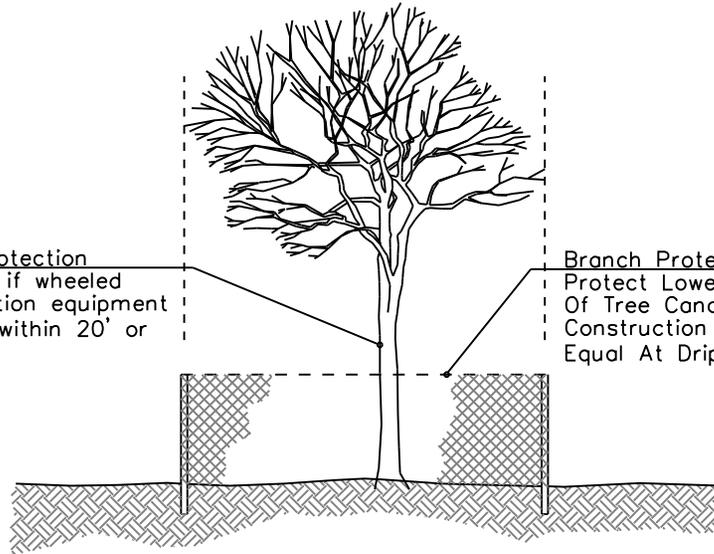
Note:
No Materials Shall Be
Stored Within The Tree
Protection Areas

Place Signs:

KEEP OUT
TREE PROTECTION
AREA

Every 50' Attached To Fencing

Trunk Protection
Required if wheeled
construction equipment
involved within 20' or
less.



Branch Protection
Protect Lower Branches
Of Tree Canopy. Provide
Construction Fencing Or
Equal At Dripline (Min.)

Root Protection
Varies per tree size
Extends from dripline
to dripline

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

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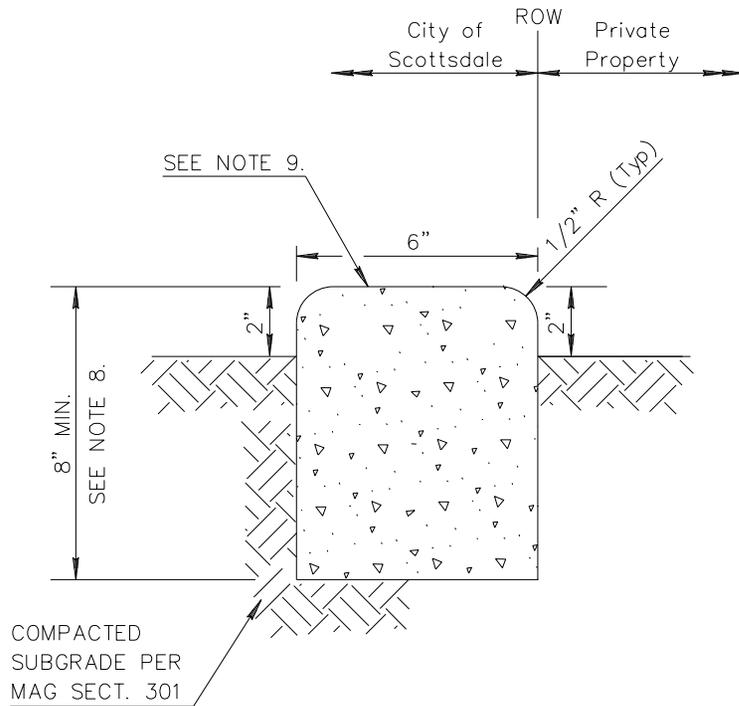
Scottsdale Standards &
Specifications Committee

LANDSCAPE DETAILS

DETAIL NO.

2620-4

NEW 6/12/12



HEADER CURB

NOTES:

1. ALL VERTICAL SURFACES TO BE FORMED.
2. VERTICAL SURFACES DOWN FROM 2" BELOW UNDISTURBED SOIL MAY BE PLACED AGAINST NEAT CUT IF APPROVED BY THE ENGINEER AND CONCRETE WILL NOT EXTEND MORE THAN 1" BEYOND THEORETICAL FACE.
3. ALL EXPOSED SURFACES TO BE STRIPPED GREEN AND TROWEL FINISHED.
4. CONCRETE CURBS CONFORM TO SECT. 340.
5. MAXIMUM SPACING OF CONTRACTION JOINTS IS 10' MAXIMUM.
6. EXPANSION JOINTS PER SECT. 340, 50' MAXIMUM SPACING.
7. CONCRETE TO BE CLASS 'B' PER SECT. 725.
8. HEADER SHALL HAVE AN 18" DEPTH IF HEADER IS SUBJECT TO SCOUR WHEN CONTAINING RIP-RAP AREAS.
9. TOP OF HEADER TO BE FLUSH WITH TOP OF ANY ADJACENT CONCRETE SURFACES.
10. ENSURE A SMOOTH AND EVEN TRANSITION WHERE CONCRETE HEADER TERMINATES AT SIDEWALK OR WALL.
11. COLOR TO MATCH ADJACENT SIDEWALKS OR STANDARD CONCRETE COLOR IF NOT ADJACENT TO OTHER PAVING.

DETAIL NO.
2622

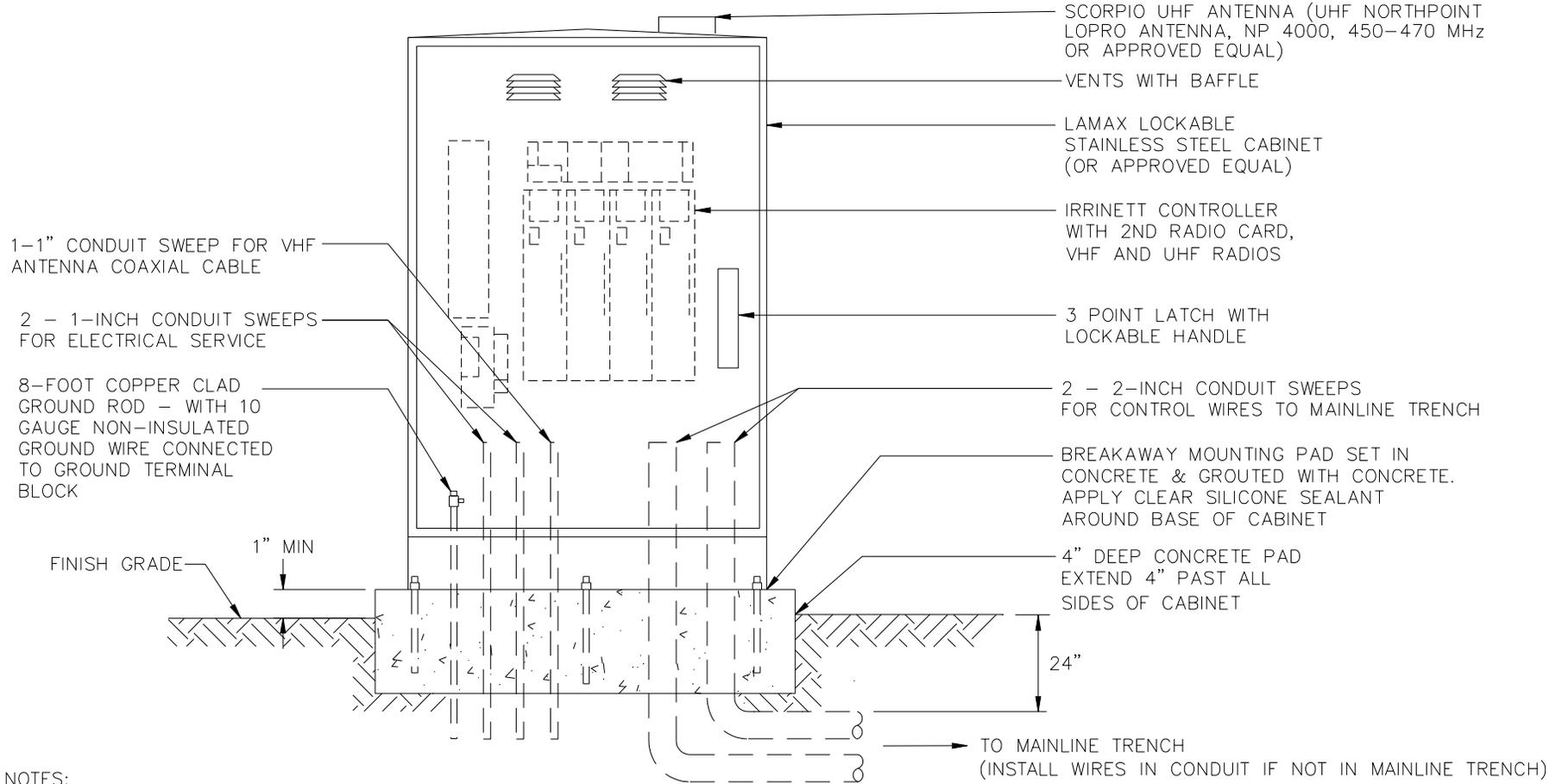
City of Scottsdale
Standard Details

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Scottsdale Standards & Specifications Committee

LANDSCAPE CONCRETE HEADER

DETAIL NO.
2622

REVISED 6/12/12



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. CONTROLLER TO BE LOCATED IN AREA WITH POSITIVE DRAINAGE.
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. ANTENNA TYPE, MAST & MOUNTING INSTALLATION TO BE APPROVED BY CITY OF SCOTTSDALE IRRIGATION DEPARTMENT.
7. 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.
2631

City of Scottsdale
Standard Details

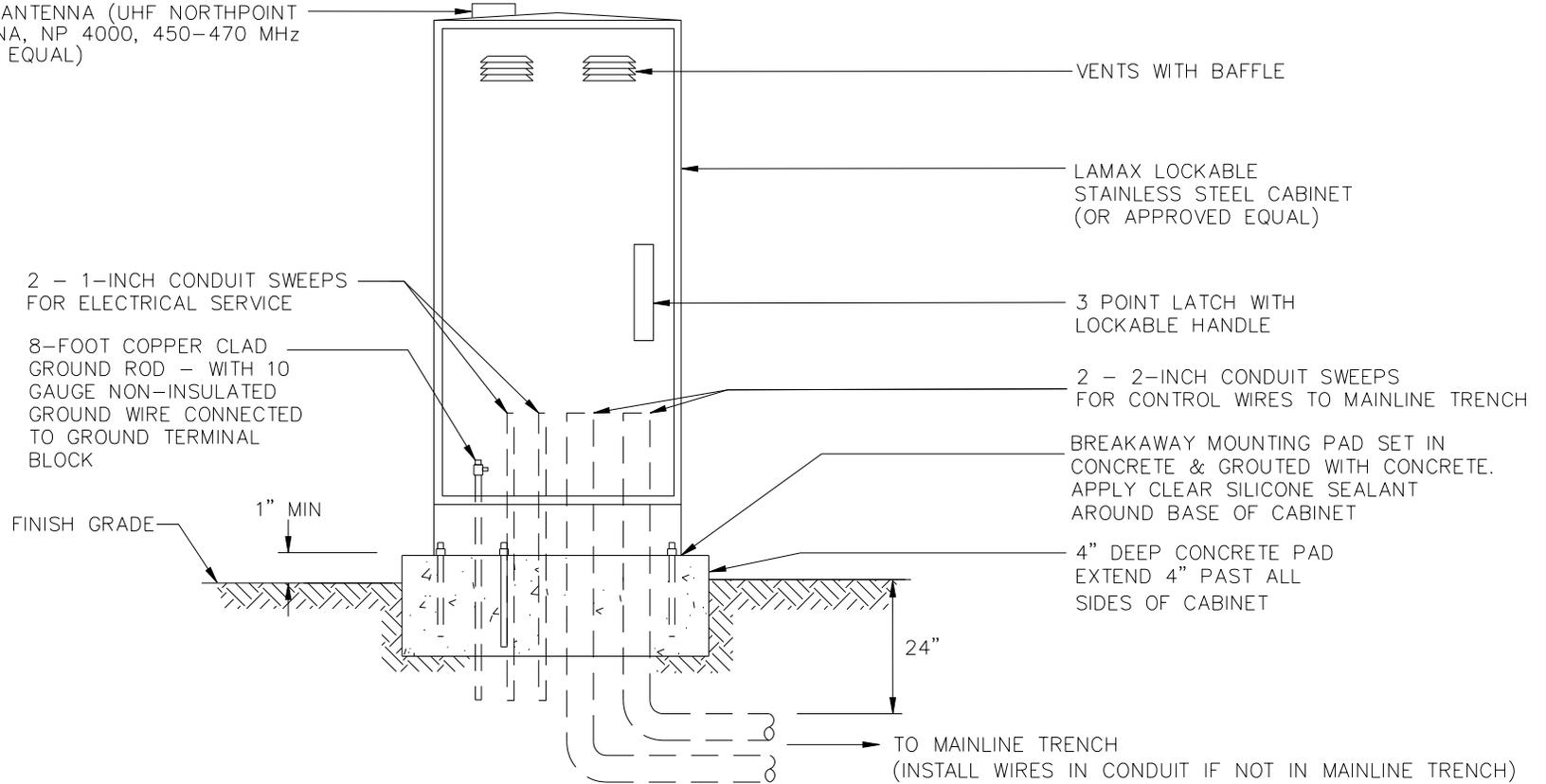
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Scottsdale Standards & Specifications Committee

IRRINET PEDESTAL MOUNTED CONTROLLER

DETAIL NO.
2631

REVISED 6/13/12

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. CONTROLLER TO BE LOCATED IN AREA WITH POSITIVE DRAINAGE.
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.
2632

City of Scottsdale
Standard Details

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Scottsdale Standards & Specifications Committee

SCORPIO PEDESTAL MOUNTED CONTROLLER

DETAIL NO.
2632

REVISED 3/7/12

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

LAMAX LOCKABLE STAINLESS STEEL CABINET (OR APPROVED EQUAL)

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

FINISH GRADE

DEPTH PER ELECTRICAL CODE

VENTS WITH BAFFLE

3 POINT LATCH WITH LOCKABLE HANDLE

2-INCH MALE ADAPTER WITH LOCK RING

2-INCH SCH. 40 P.V.C. SLEEVE WITH 2" SWEEP FOR CONTROL WIRES TO MAINLINE TRENCH. SECURE TO WALL WITH CONDUIT STRAP TOP AND BOTTOM.

TO MAINLINE TRENCH (INSTALL WIRES IN CONDUIT IF NOT 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. INSTALL ONLY ONE CONTROL VALVE WIRE PER CONTROLLER OUTPUT.
6. UHF RADIO TO BE TUNED TO C.O.S. FREQUENCIES. CONTACT IRRIGATION DEPARTMENT FOR INFORMATION (480-312-2189)
7. 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.

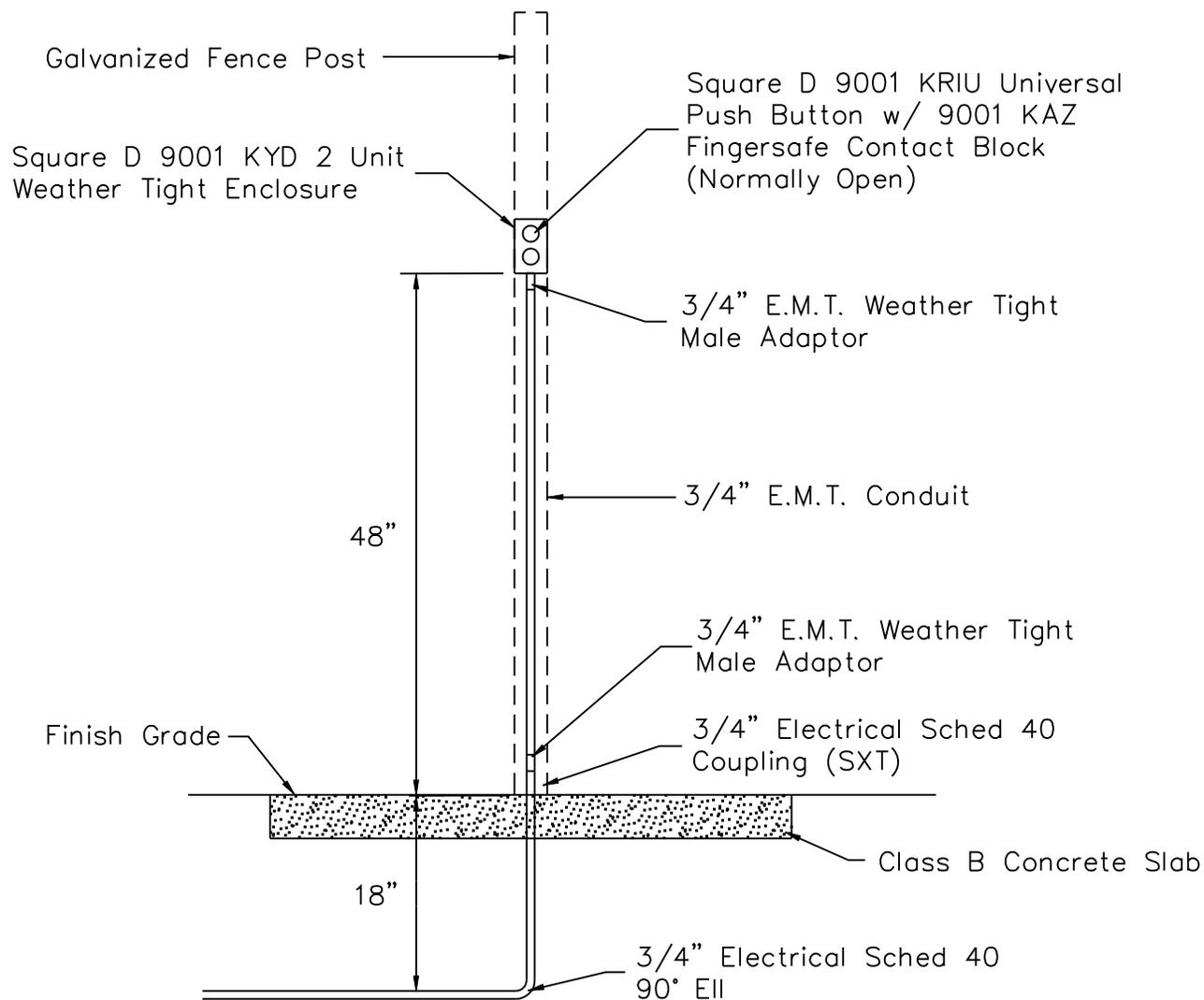
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City of Scottsdale
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SCORPIO WALL MOUNTED CONTROLLER

DETAIL NO.
2633



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

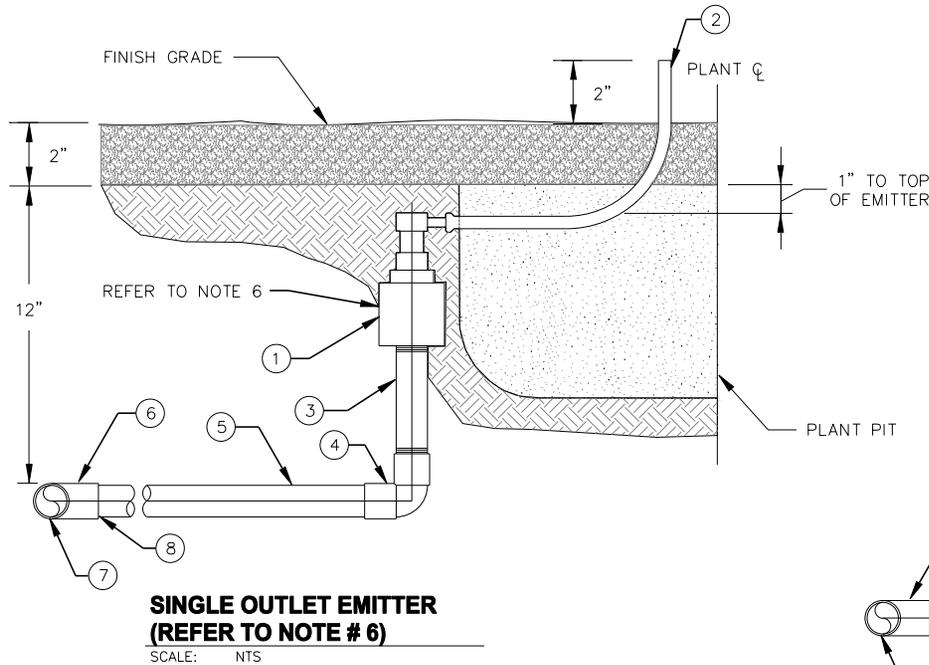
**City of Scottsdale
Standard Details**

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**Scottsdale Standards &
Specifications Committee**

IRRIGATION PUSH BUTTON CONTROL

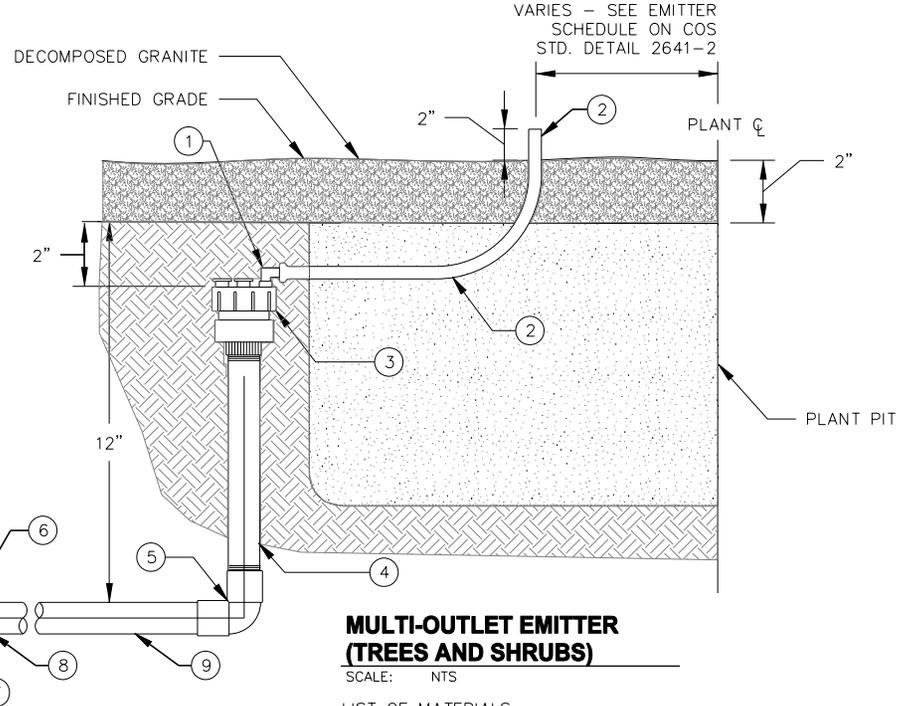
DETAIL NO.
2636

REVISED 2/21/12



SINGLE OUTLET EMITTER
(REFER TO NOTE # 6)

SCALE: NTS



MULTI-OUTLET EMITTER
(TREES AND SHRUBS)

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" X 6" SCH 80 TBE NIPPLE
- ④ 1/2" OR 3/4" PVC SCH 40 90° ELBOW - SXT REDUCING AS NECESSARY
- ⑤ 1/2" PVC CL 315 PIPE OR 3/4" CL 200
- ⑥ PVC SCH 40 FITTING
- ⑦ PVC CL 315 FOR 1/2" LATERALS, PVC CL 200 FOR LATERALS GREATER THAN 1/2"
- ⑧ INSTALL BUSHING AS REQUIRED

NOTES:

- 1. PIPE CEMENT & PRIMER SHALL BE USED ON RIGID PIPE CONNECTIONS. TEFLON TAPE SHALL BE USED FOR ALL PIPE THREAD 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".
- 6. MULTI OUTLET EMITTERS WILL USE A MIN. OF TWO OUTLETS, PLANTS THAT ARE NOT WITHIN A 6' RADIUS OF EACH OTHER SHALL BE IRRIGATED BY SINGLE OUTLET EMITTERS.

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 CENTERLINE
- ④ 1/2" X 6" SCH 80 NIPPLE TBE
- ⑤ 1/2" OR 3/4" PVC SCH 40 90° ELBOW - SXT REDUCING AS NECESSARY
- ⑥ PVC SCH 40 FITTING
- ⑦ PVC CL 315 FOR 1/2" LATERALS, PVC CL 200 FOR LATERALS GREATER THAN 1/2"
- ⑧ INSTALL BUSHING AS REQUIRED
- ⑨ 1/2" PVC CL315 PIPE OR 3/4" CL 200

DETAIL NO.
2641-1

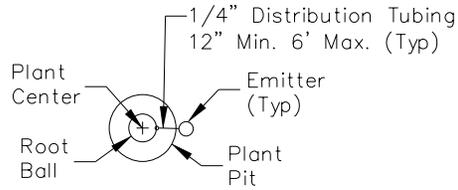
City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

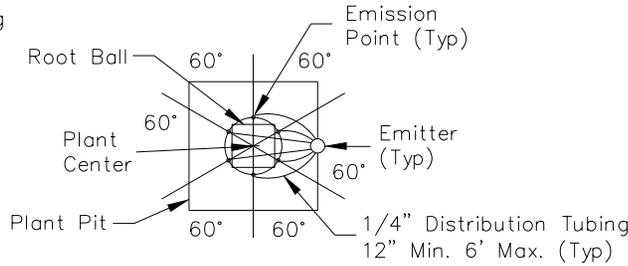
SINGLE & MULTI-OUTLET EMITTERS

DETAIL NO.
2641-1

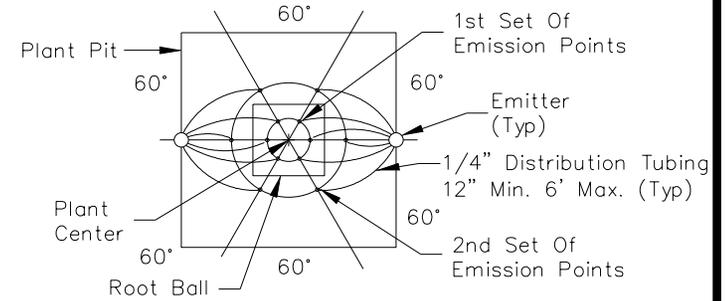
REVISED 2/21/12



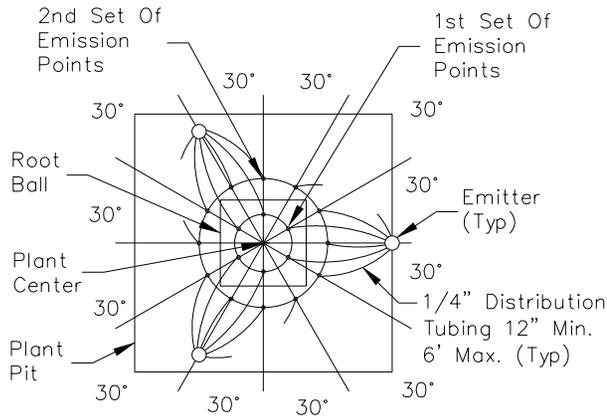
**SHRUB EMITTER
SINGLE OUTLET**



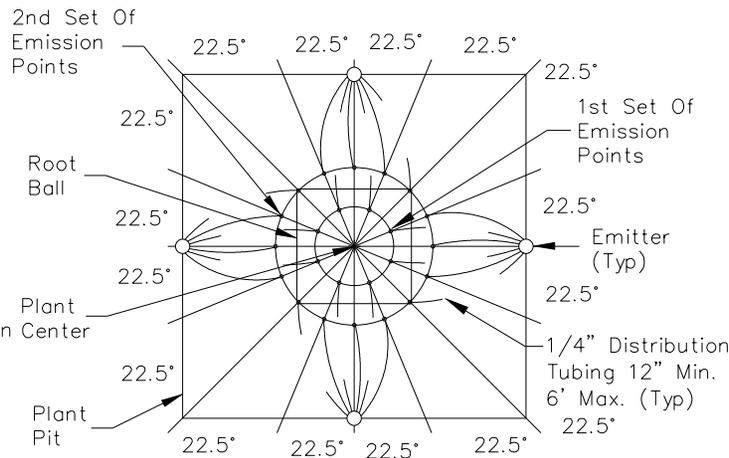
**TREE EMITTER – MULTI OUTLET
15 GAL. TO 42" BOX TREES**
(SEE EMITTER SCHEDULE)



**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"

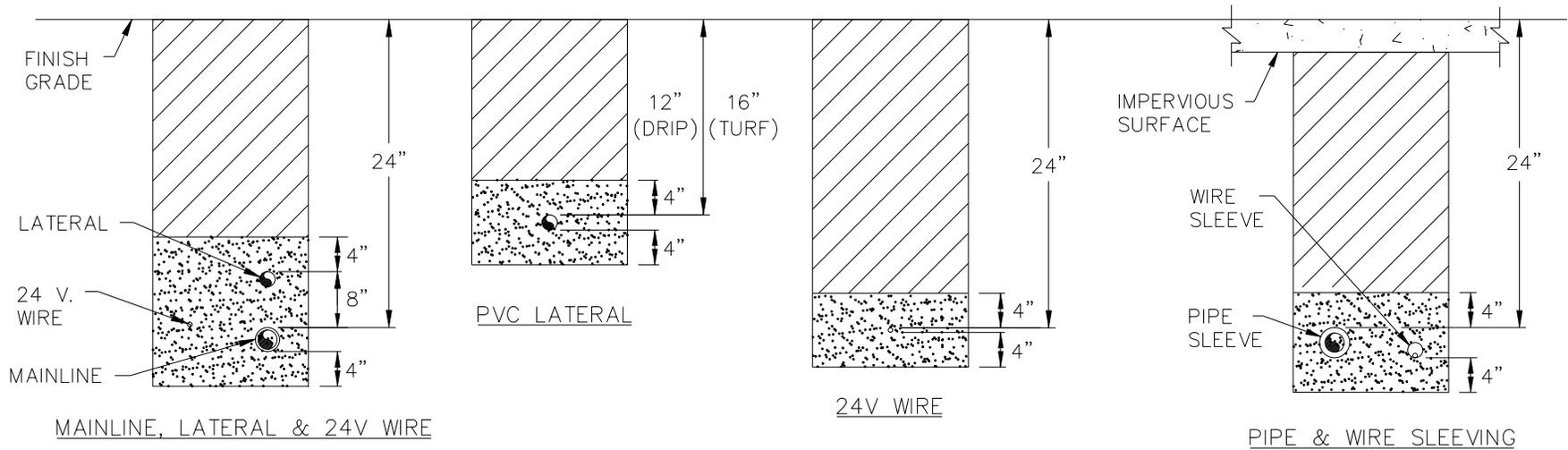
DETAIL NO.
2641-2

**City of Scottsdale
Standard Details**

APPROVED BY:
**Scottsdale Standards &
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IRRIGATION EMITTER LAYOUT

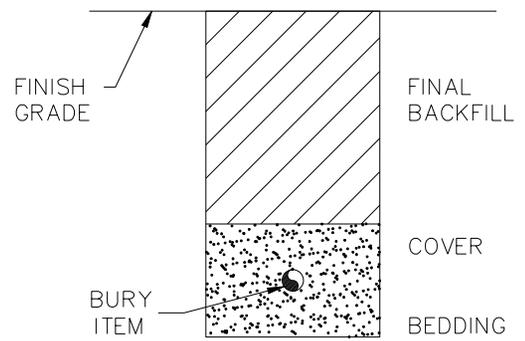
DETAIL NO.
2641-2



MAINLINE, LATERAL & 24V WIRE

24V WIRE

PIPE & WIRE SLEEVING



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

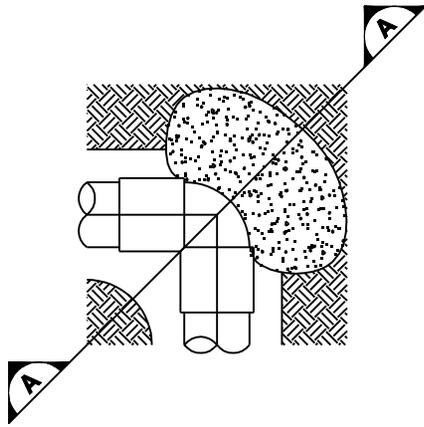
City of Scottsdale
Standard Details

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Scottsdale Standards & Specifications Committee

IRRIGATION TRENCHING

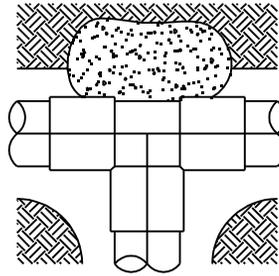
DETAIL NO.
2642

REVISED: 05/14/08



90° ELL

SCALE: NTS



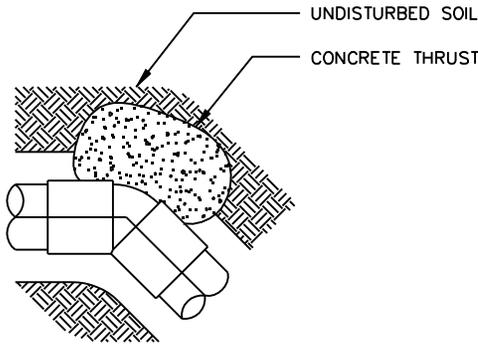
TEE

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

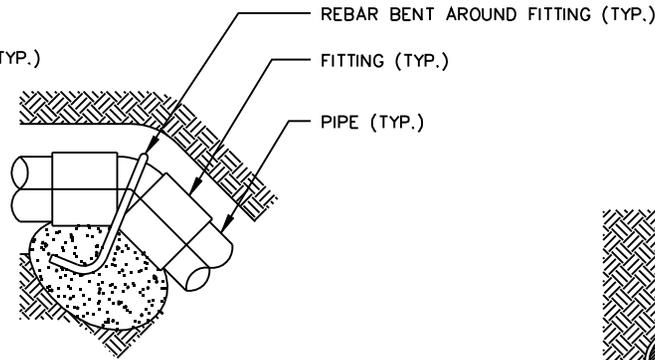
NOTES

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).



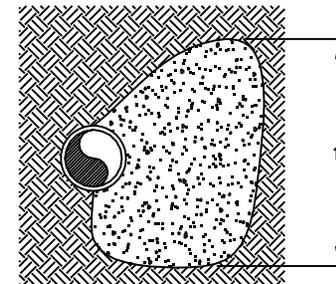
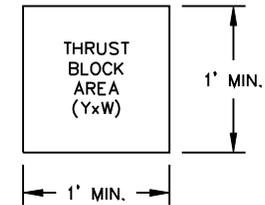
45° ELL

SCALE: NTS



45° ELL (VERTICAL)

SCALE: NTS



SECTION

A-A

DETAIL NO.
2643

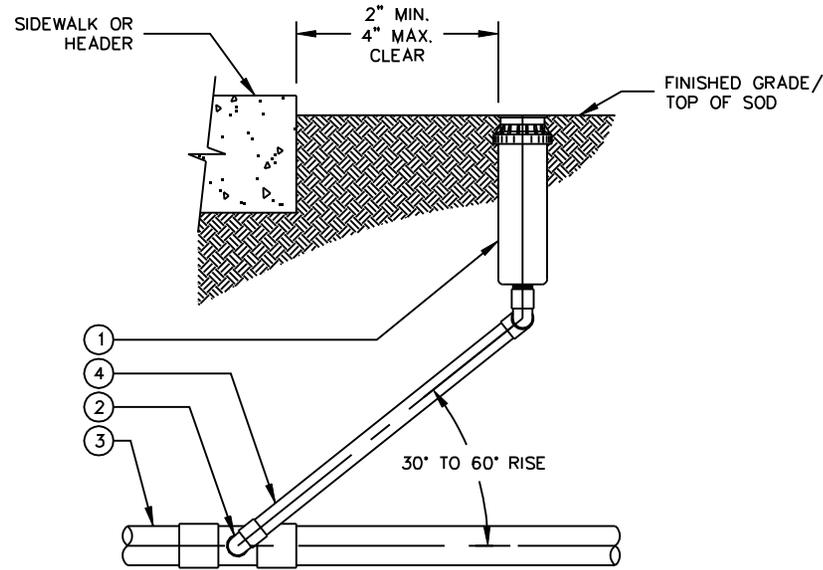
City of Scottsdale
Standard Details

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Scottsdale Standards & Specifications Committee

IRRIGATION THRUST BLOCK

DETAIL NO.
2643

REVISED: 2/27/02

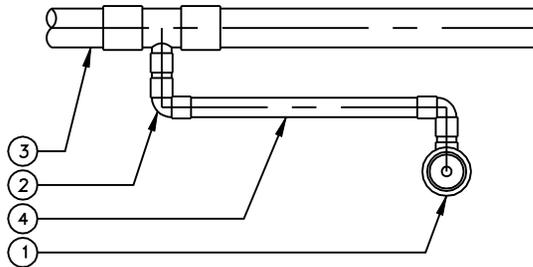


**SWING JOINT ASSEMBLY
ELEVATION**

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**

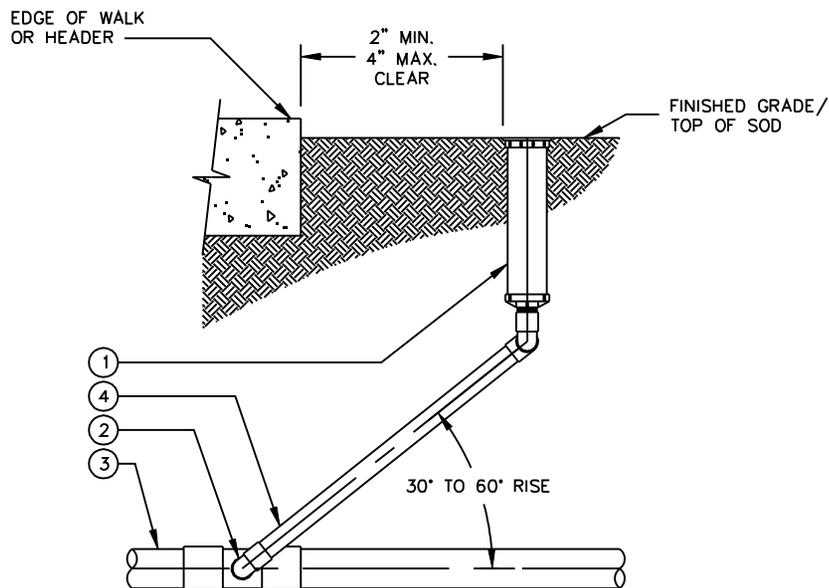
**City of Scottsdale
Standard Details**

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ROTOR SPRINKLER ASSEMBLY

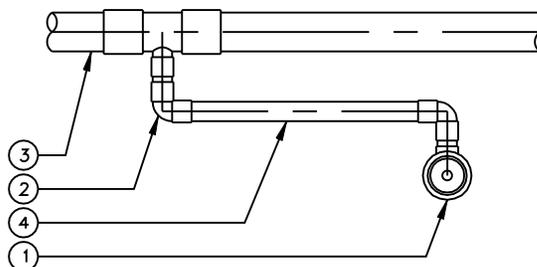
**DETAIL NO.
2644**

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**

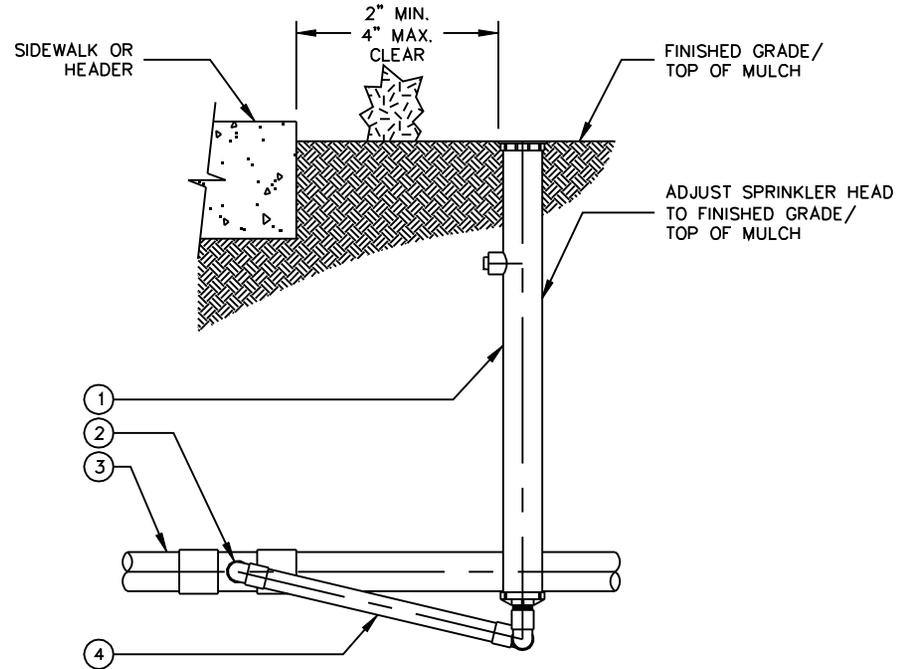
**City of Scottsdale
Standard Details**

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POP-UP SPRINKLER ASSEMBLY

**DETAIL NO.
2645**

REVISED: 2/27/02

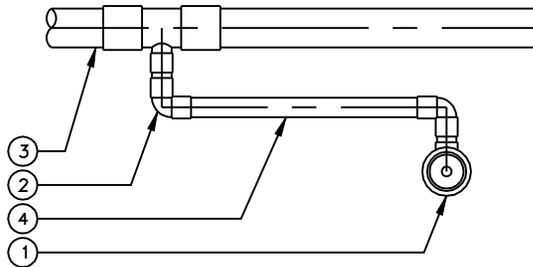


**SWING JOINT ASSEMBLY
ELEVATION**

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**

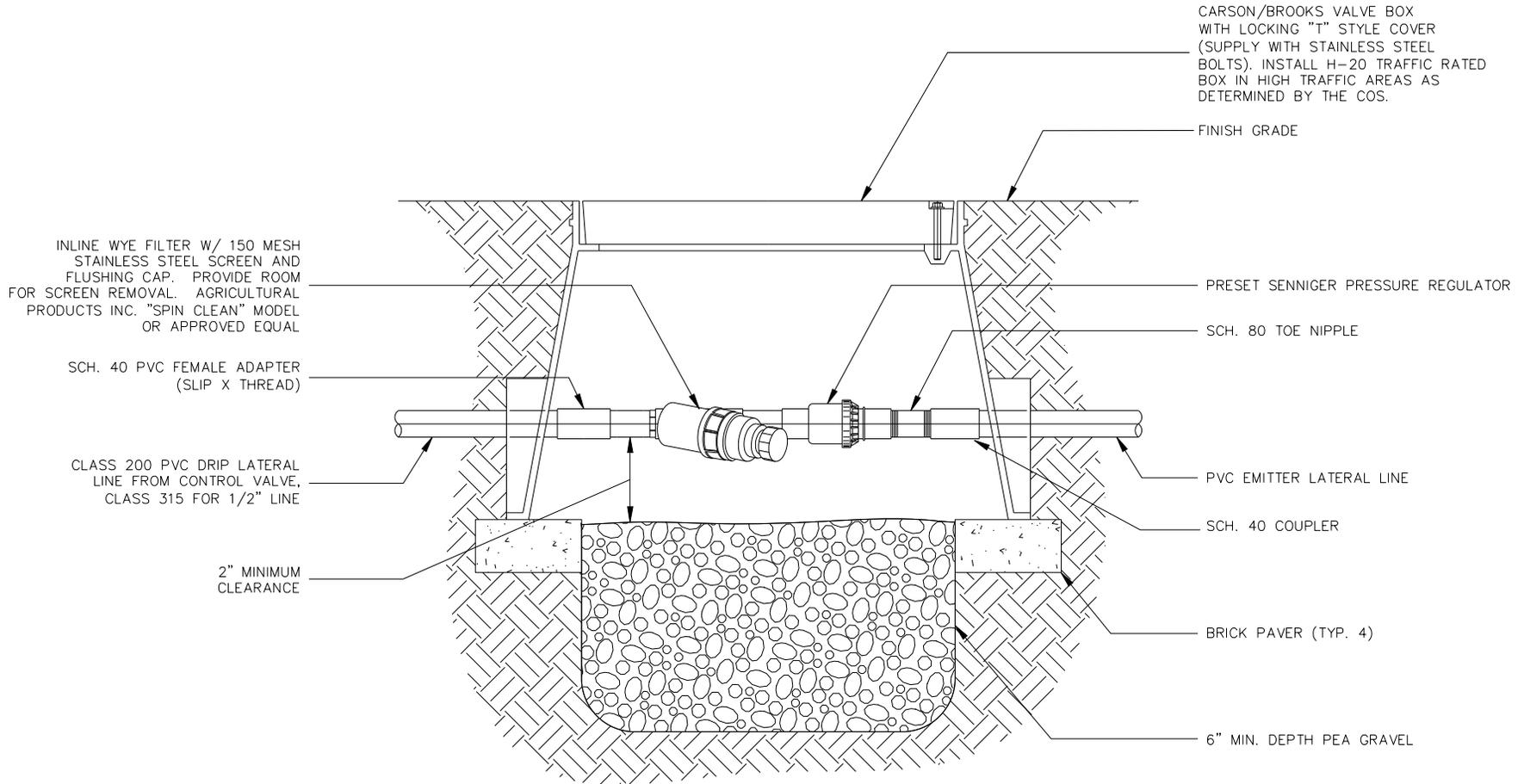
**City of Scottsdale
Standard Details**

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SHRUB POP-UP SPRINKLER ASSEMBLY

**DETAIL NO.
2646**

REVISED 3/7/12



DRIP FILTER & PRESS. REG. ASSEMBLY

SCALE: NTS

DETAIL NO.

2647

**City of Scottsdale
Standard Details**

APPROVED BY:

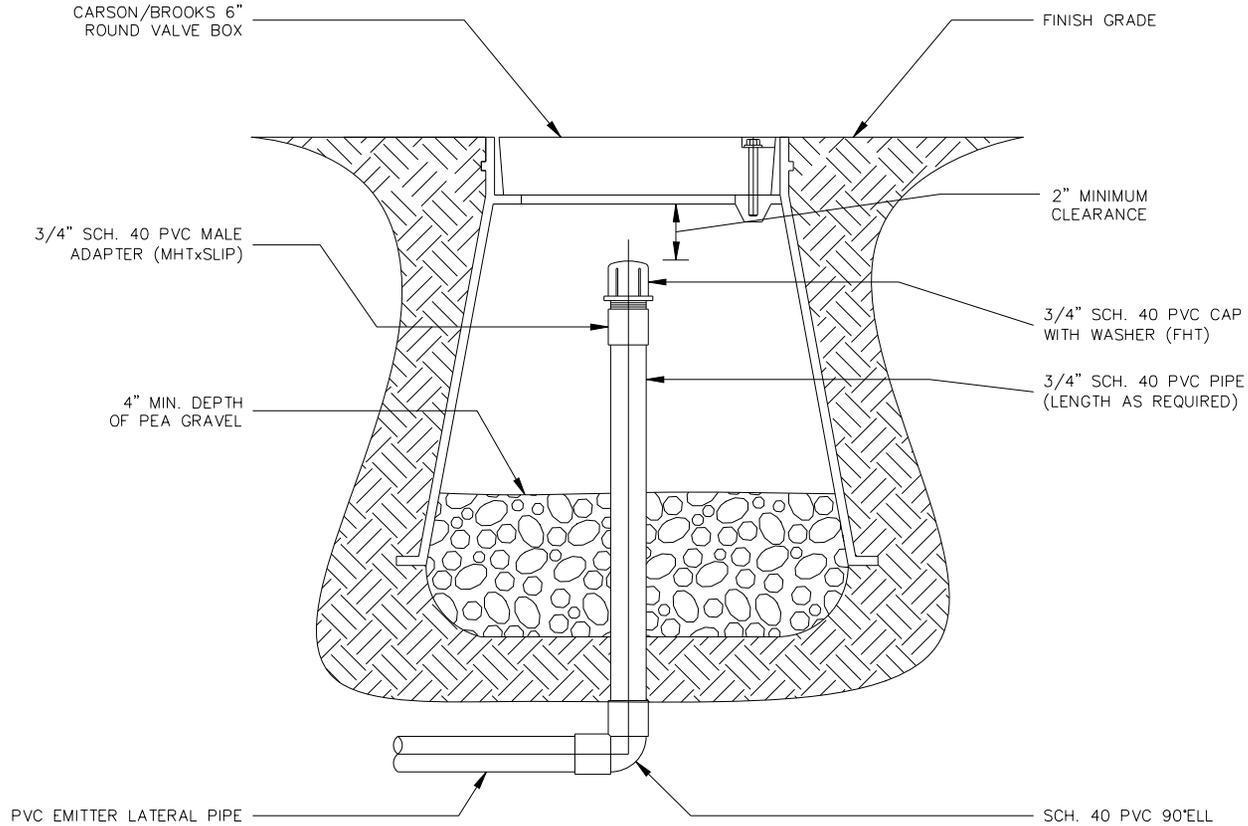
Scottsdale Standards & Specifications Committee

DRIP FILTER & PRESSURE REGULATOR

DETAIL NO.

2647

REVISED 3/7/12



EMITTER FLUSH CAP ASSEMBLY

SCALE: NTS

DETAIL NO.
2648

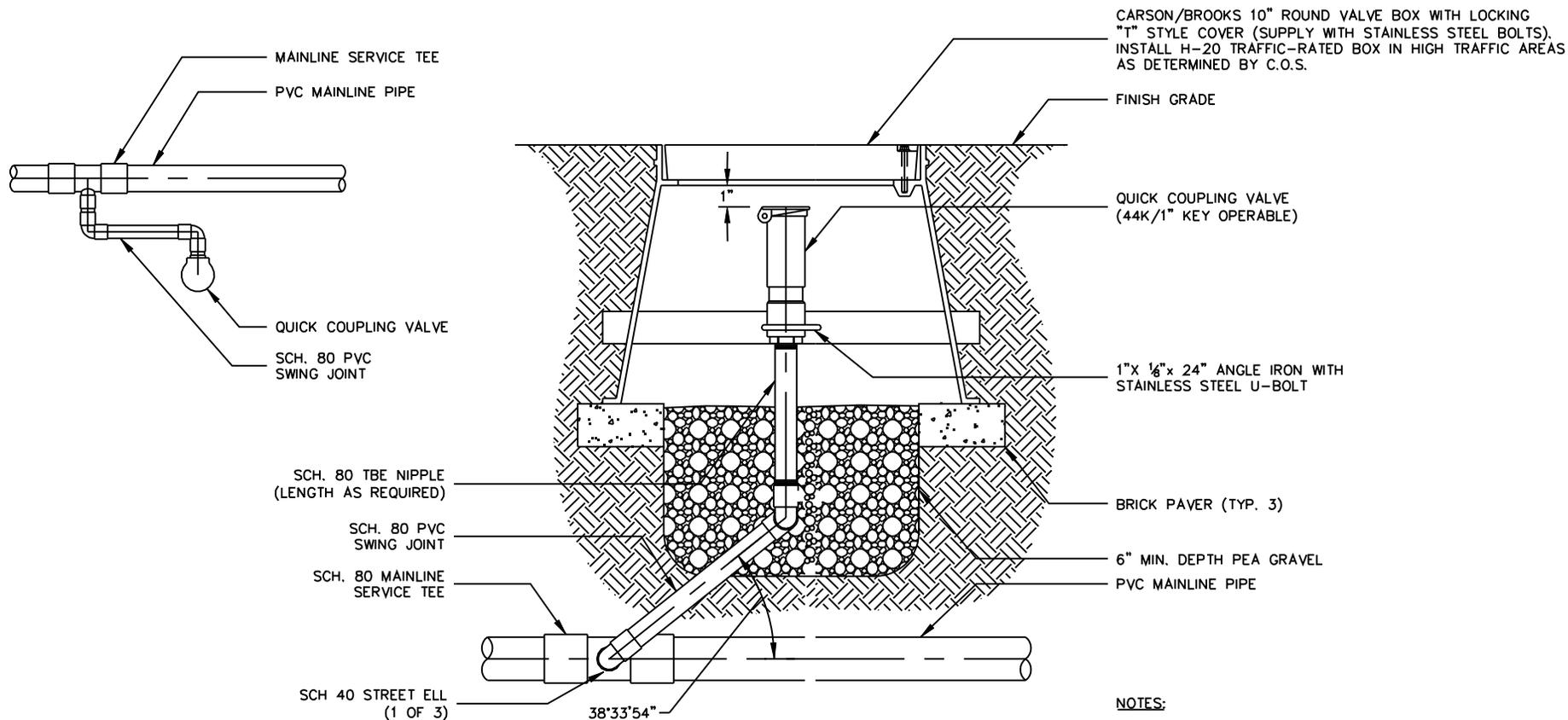
**City of Scottsdale
Standard Details**

APPROVED BY:
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EMITTER FLUSH CAP ASSEMBLY

DETAIL NO.
2648

REVISED: 05/02/08



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**

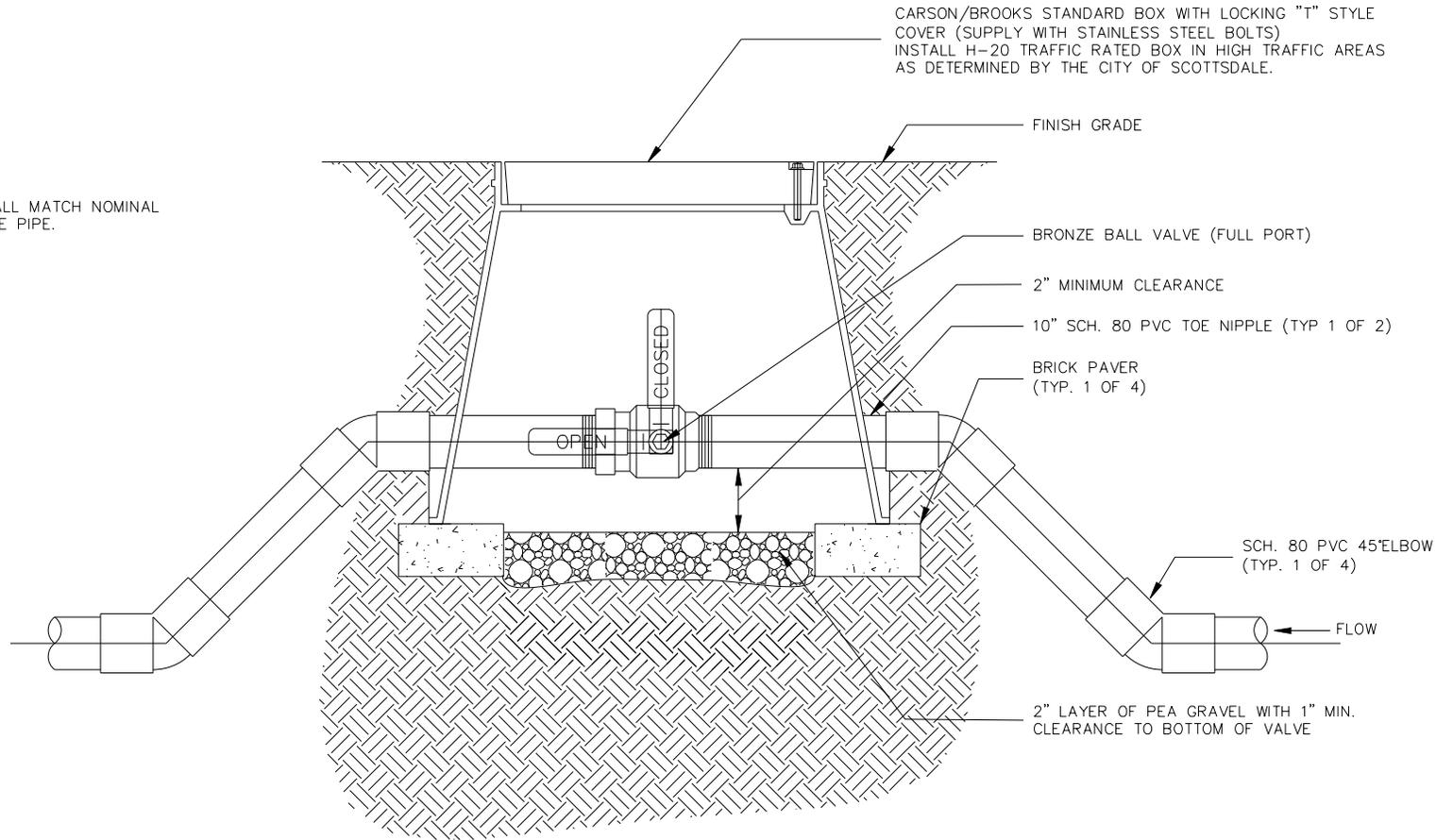
APPROVED BY:
**Scottsdale Standards &
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QUICK COUPLER ASSEMBLY

**DETAIL NO.
2649**

REVISED 3/7/12

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

**City of Scottsdale
Standard Details**

APPROVED BY:
**Scottsdale Standards &
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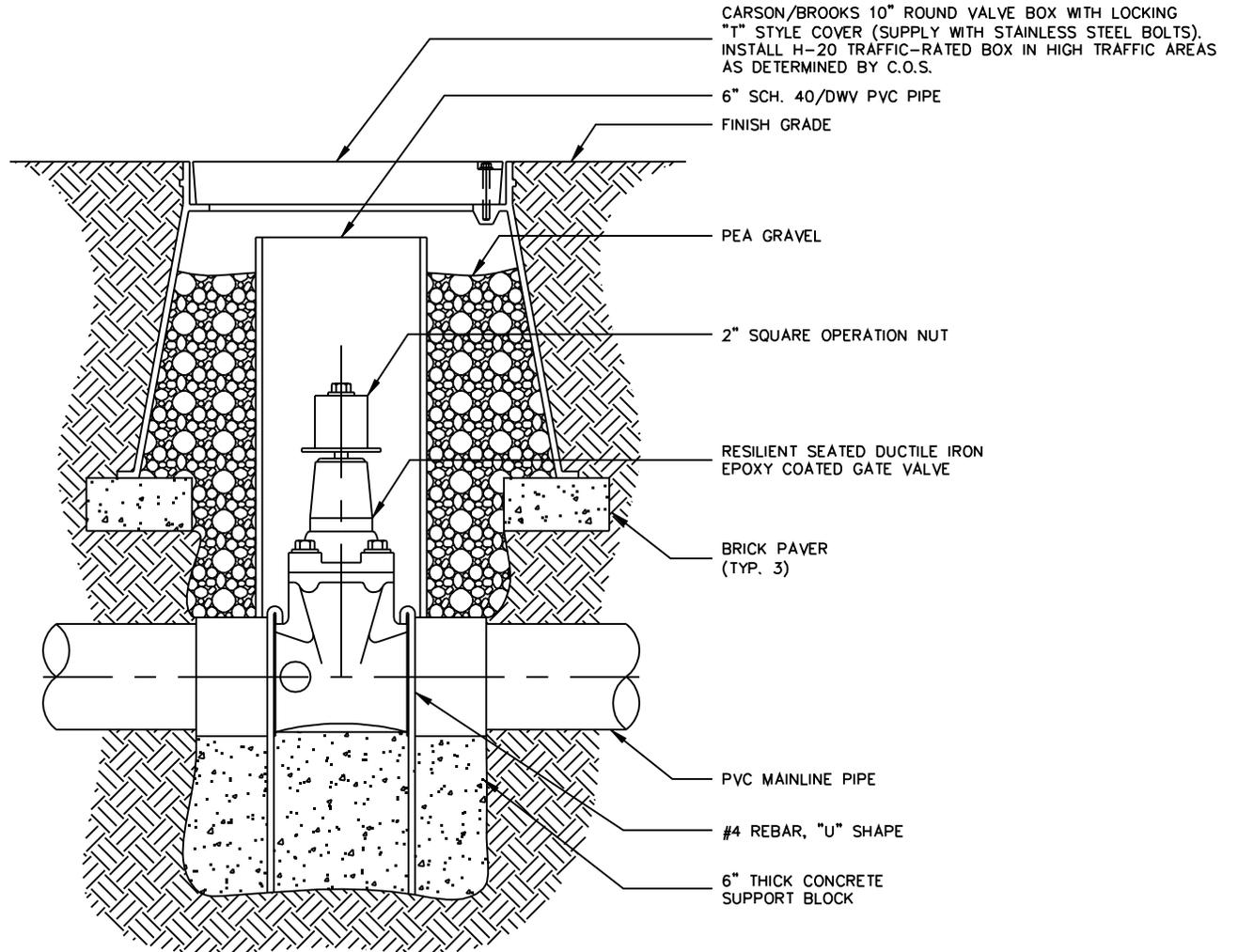
1 1/2" & SMALLER MAINLINE BALL VALVE

DETAIL NO.
2650

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**

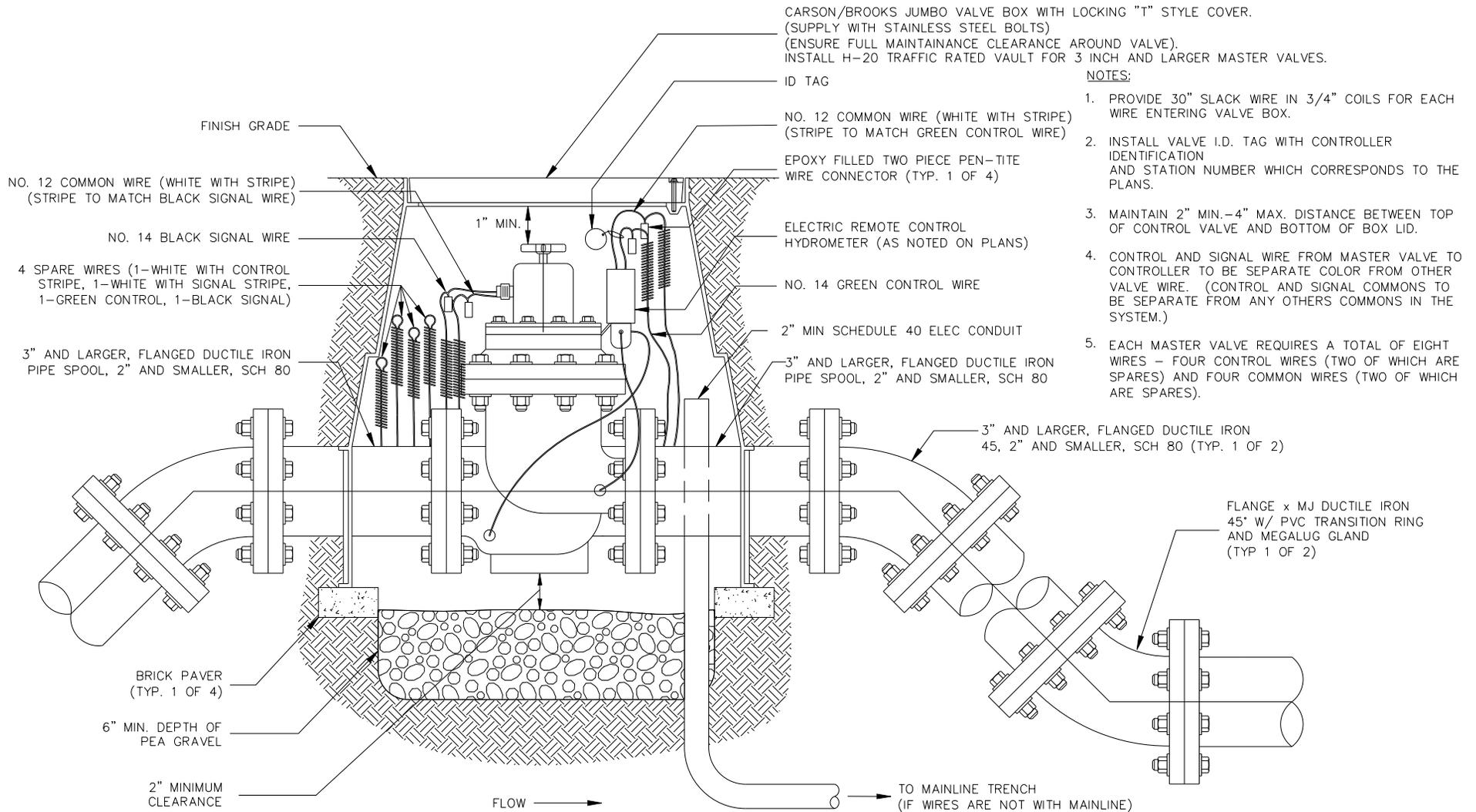
**City of Scottsdale
Standard Details**

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2" & LARGER MAINLINE ISOLATION GATE VALVE

**DETAIL NO.
2651**

REVISED 6/12/12



CARSON/BROOKS JUMBO VALVE BOX WITH LOCKING "T" STYLE COVER.
 (SUPPLY WITH STAINLESS STEEL BOLTS)
 (ENSURE FULL MAINTAINANCE CLEARANCE AROUND VALVE).
 INSTALL H-20 TRAFFIC RATED VAULT FOR 3 INCH AND LARGER MASTER VALVES.

- 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

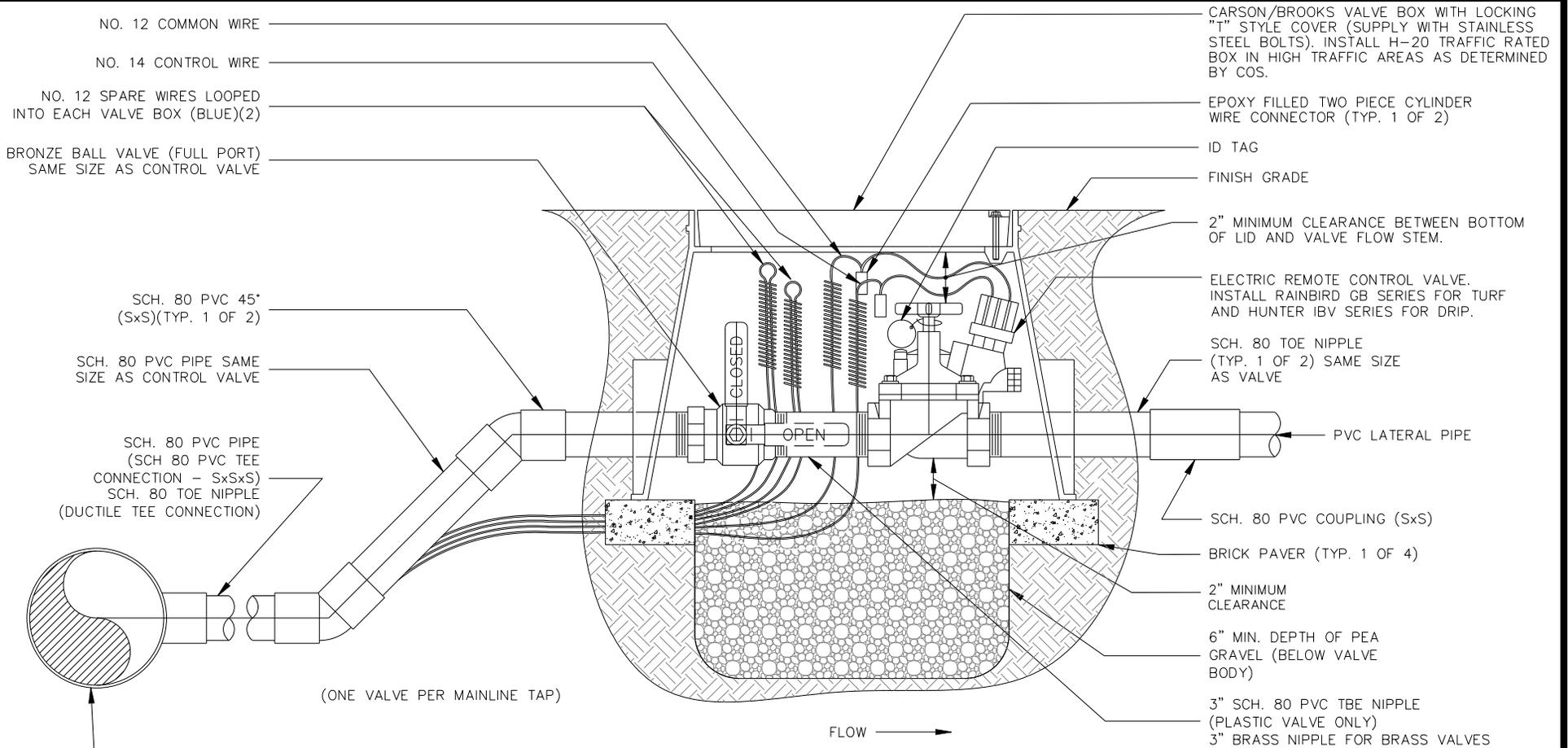
**City of Scottsdale
Standard Details**

APPROVED BY:
**Scottsdale Standards &
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1 1/2" & LARGER MASTER VALVE/FLOW METER

DETAIL NO.
2653

REVISED 6/1212



(ONE VALVE PER MAINLINE TAP)

FLOW →

REMOTE CONTROL VALVE ASSEMBLY

SCALE: NTS

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 CORRESPONDES TO THE PLANS.
3. MAINTAIN 2" MIN.-4" MAX. DISTANCE BETWEEN TOP OF CONTROL VALVE AND BOTTOM OF BOX LID.
4. INSTALL D.C. LATCHING SOLENOIDS W/ D.C. CONTROLLERS.
5. FOR BRASS CONTROL VALVES, INSTALL 3" BRASS TBE NIPPLE BETWEEN BALL VALVE AND CONTROL VALVE

DETAIL NO.
2654

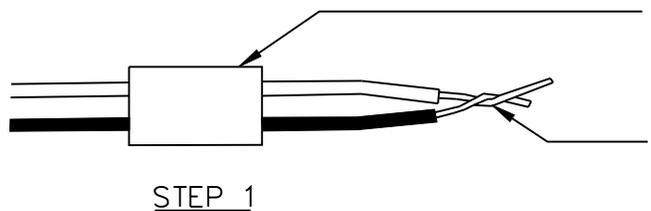
**City of Scottsdale
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**REMOTE CONTROL VALVE AND SOLAR
CONTROLLER MASTER VALVE ASSEMBLY**

DETAIL NO.
2654

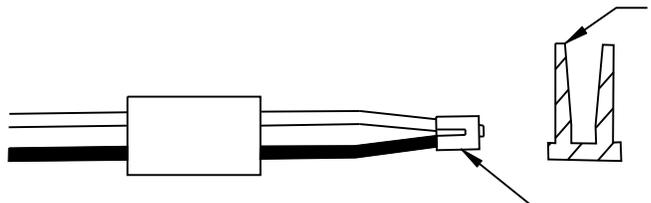
REVISED: 3/9/05



STEP 1

SLIP BASE SOCKET OVER
END OF WIRES

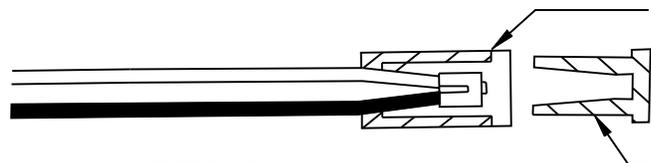
STRIP WIRES APPROX. 5/8" FROM
ENDS - TWIST ENDS TOGETHER



STEP 2

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

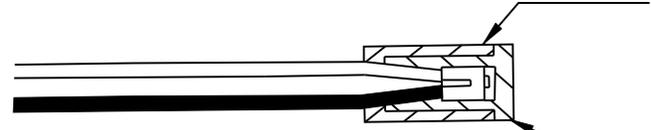
PUT CRIMP SLEEVE OVER WIRE
ENDS - CRIMP SLEEVE AND CUT
OFF EXCESS WIRE



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

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Scottsdale Standards & Specifications Committee

TYPICAL IRRIGATION WIRE CONNECTION

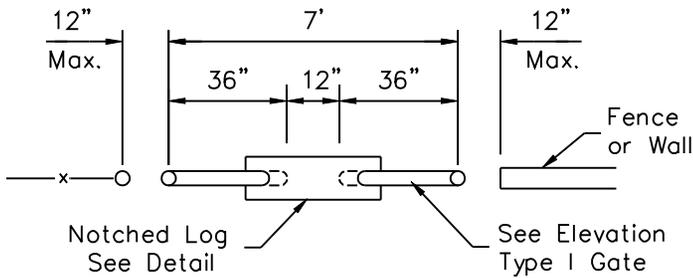
DETAIL NO.
2655

REVISED: 4/25/07

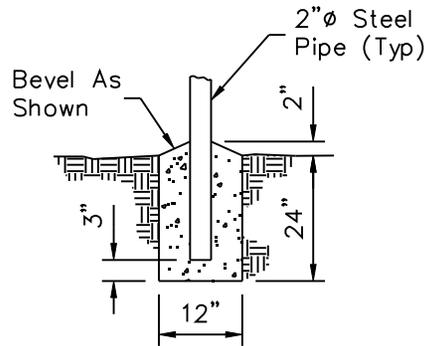
WIRE SIZE (AWG)	MAXIMUM NUMBER OF WIRES TO BE INSTALLED IN A SCHEDULE 40 PVC SLEEVE			WIRE SIZE (AWG)
	2"	2-1/2"	3"	
14	25	40	56	14
12	20	33	50	12

NOTE:

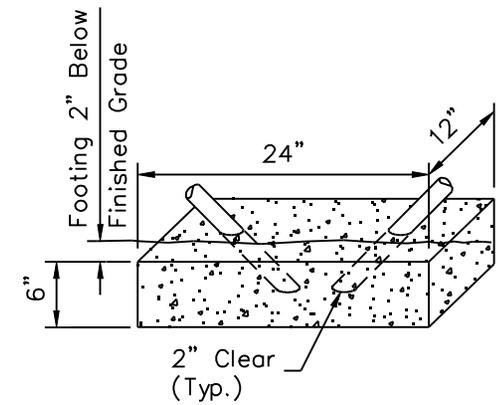
1. ALL WIRE SLEEVES TO BE SHC. 40 PVC AND SHALL BE INSTALLED WITH A MINIMUM OFFSET AT THE JOINTS TO PERMIT EASY INSTALLATION AND REMOVAL OF CONTROL AND COMMON WIRES. ALL WIRES SHALL BE INSTALLED IN SLEEVES UNDER THE PAVED AREAS. SLEEVES SHALL EXTEND AT LEAST 12" BEYOND THE EDGES OF THE PAVEMENT. SIZE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



**TYPE I GATE
w/ NOTCHED LOG**



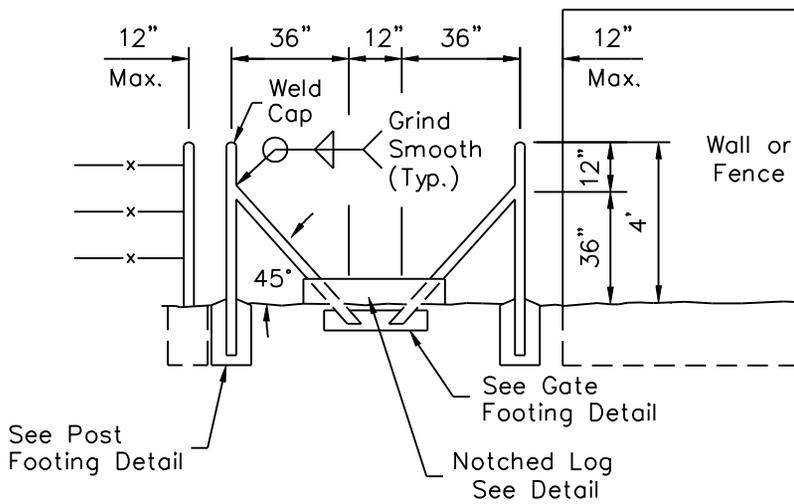
**POST FOOTING
DETAIL**



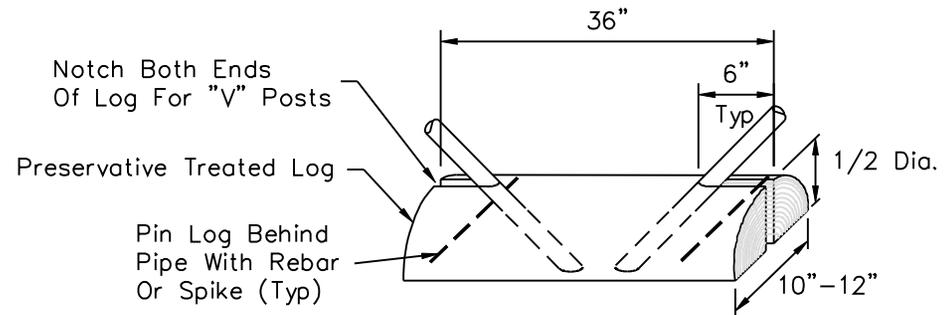
**GATE FOOTING
DETAIL**

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

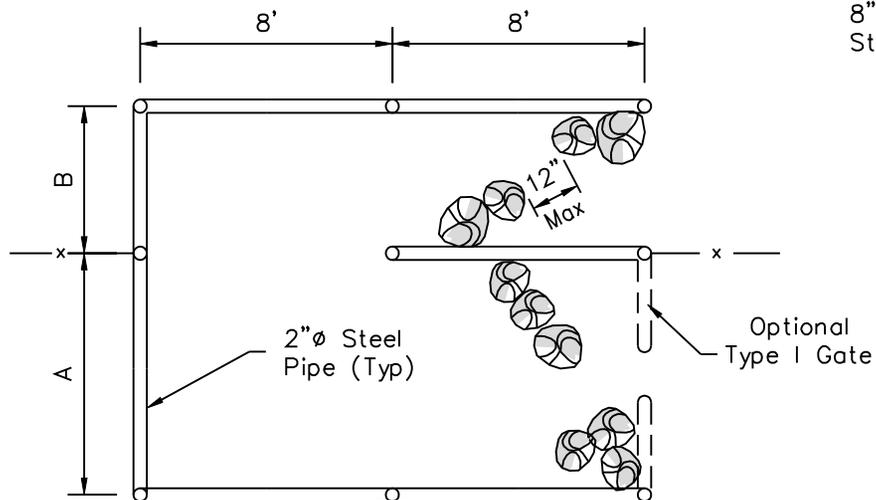
DETAIL NO.
2680-1

**City of Scottsdale
Standard Details**

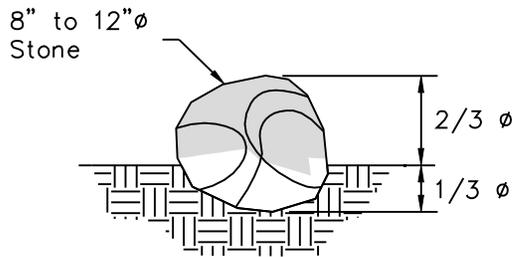
APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

TRAIL ACCESS GATES

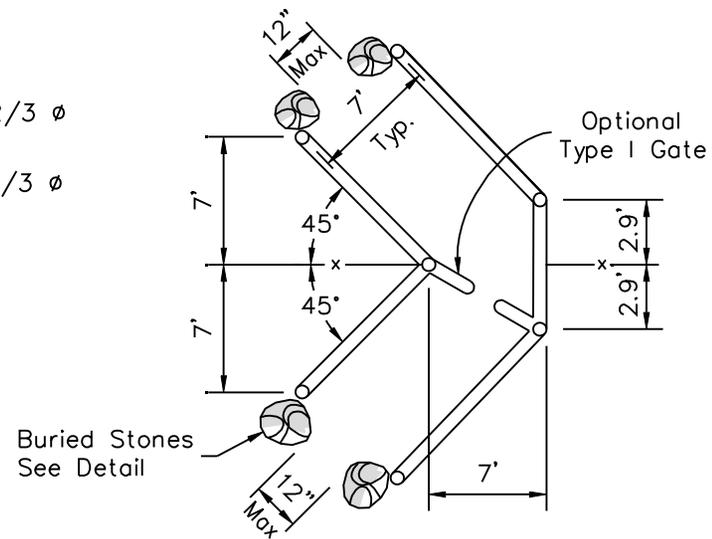
DETAIL NO.
2680-1



TYPE II GATE

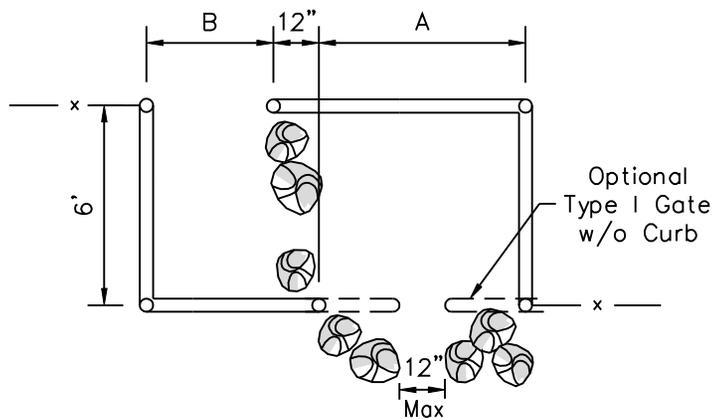


**BURIED STONE
DETAIL**



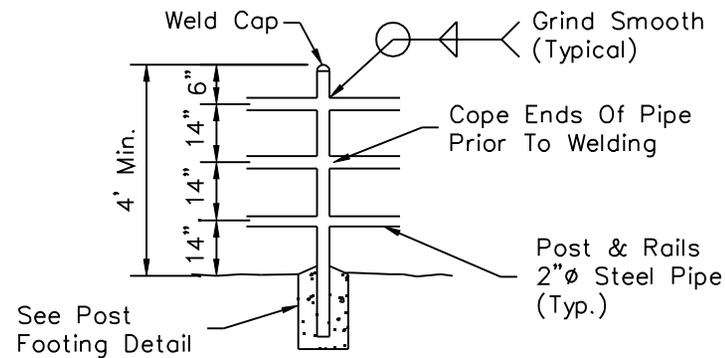
TYPE IV GATE

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

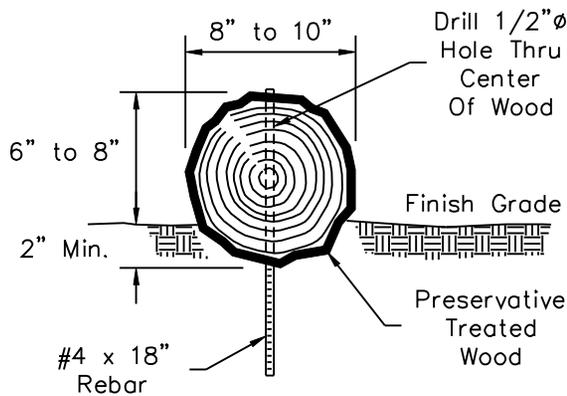


TYPE III GATE

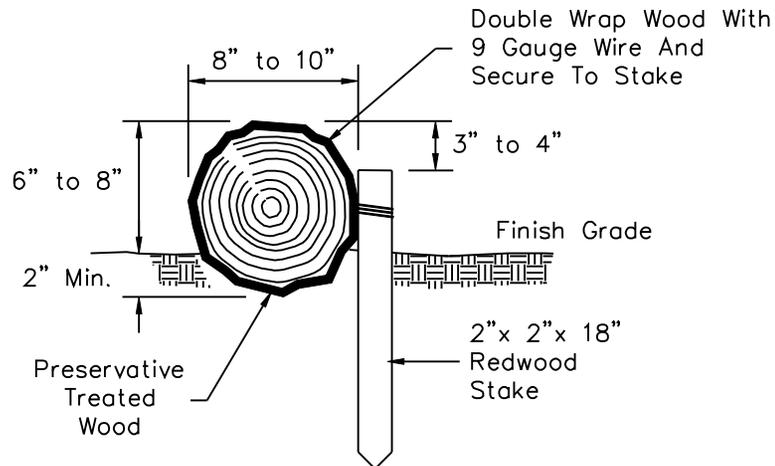
TYPE II and III GATE DIMENSIONS		
GATE BARRIER	A	B
Type I	7'	4'
Buried Rocks	4'	4'



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



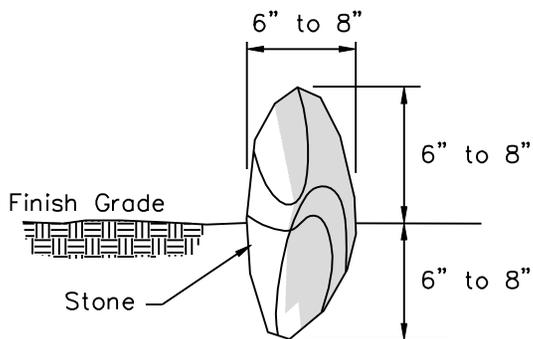
**REBAR SECURED
WOOD BARS**



**WIRE SECURED
WOOD BARS**

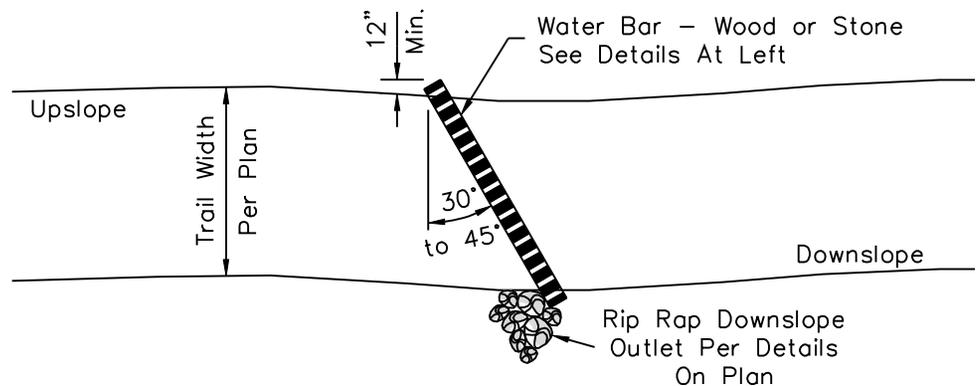
NOTES:

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**

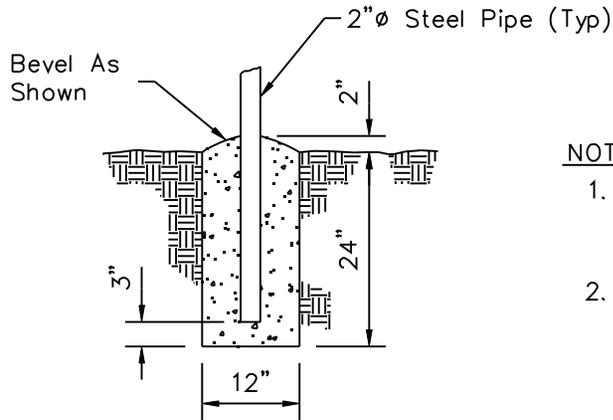
DETAIL NO.
2681

**City of Scottsdale
Standard Details**

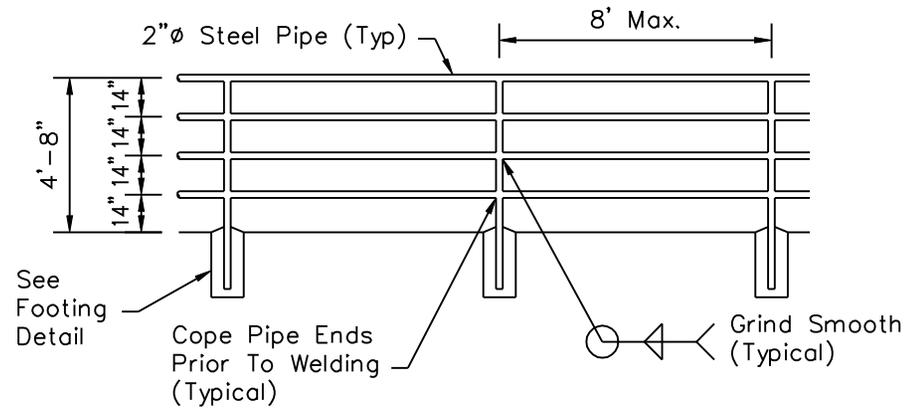
APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

TRAIL WATER BARS

DETAIL NO.
2681

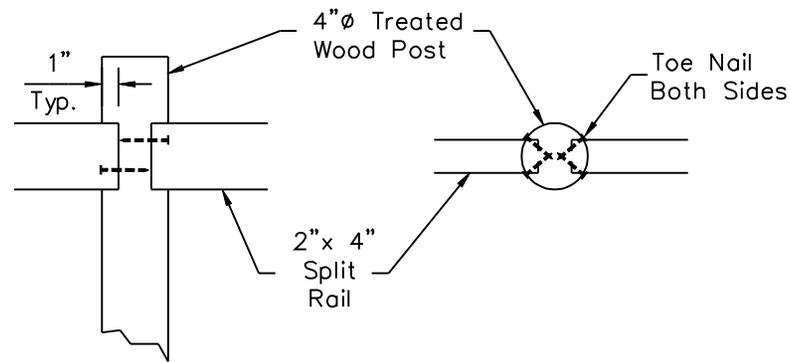


- NOTES:**
1. Paint Rails Per ADOT Specifications. Color Per Plan.
 2. Treated Wood Posts Per MAG Section 779.



CONCRETE FOOTING DETAIL

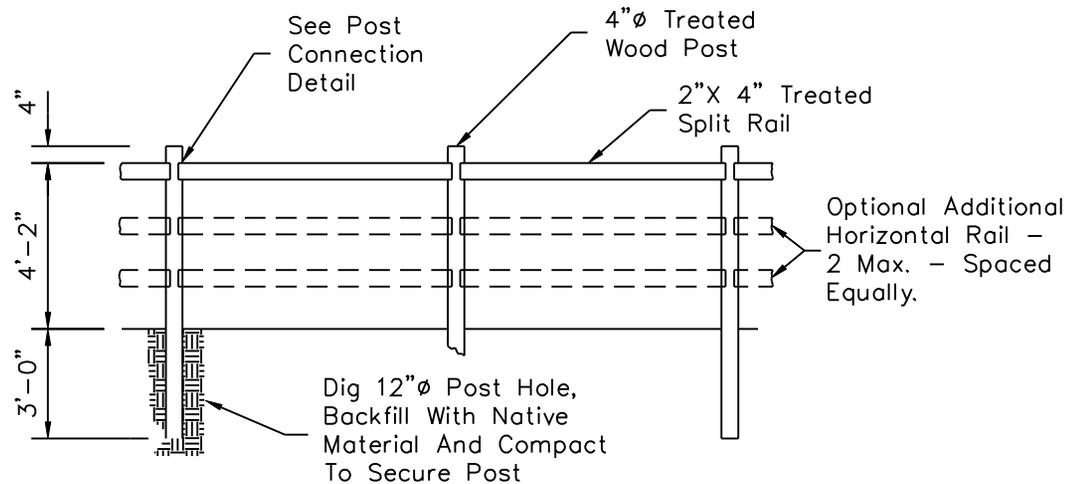
STEEL RAIL



ELEVATION

PLAN

POST CONNECTION DETAIL



POST AND RAIL

DETAIL NO.
2682

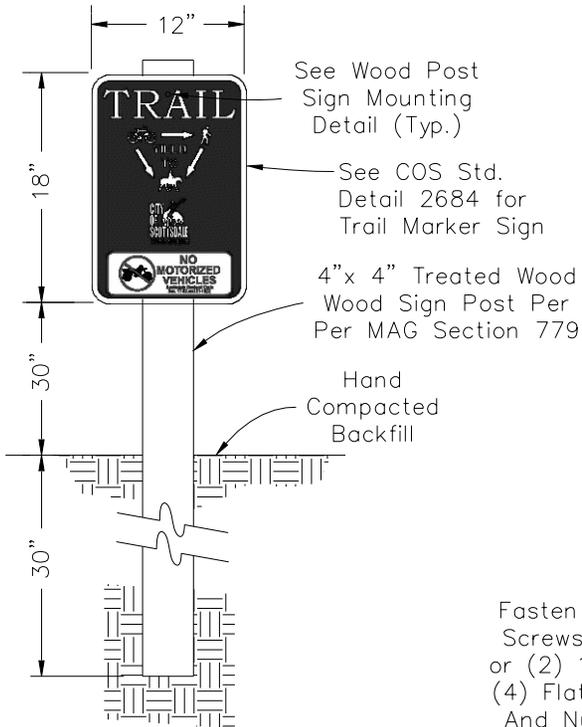
**City of Scottsdale
Standard Details**

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

TRAIL SAFETY BARRIERS

DETAIL NO.
2682

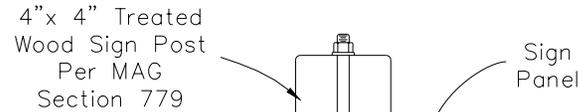
REVISED 3/1/12



TRAIL MARKER

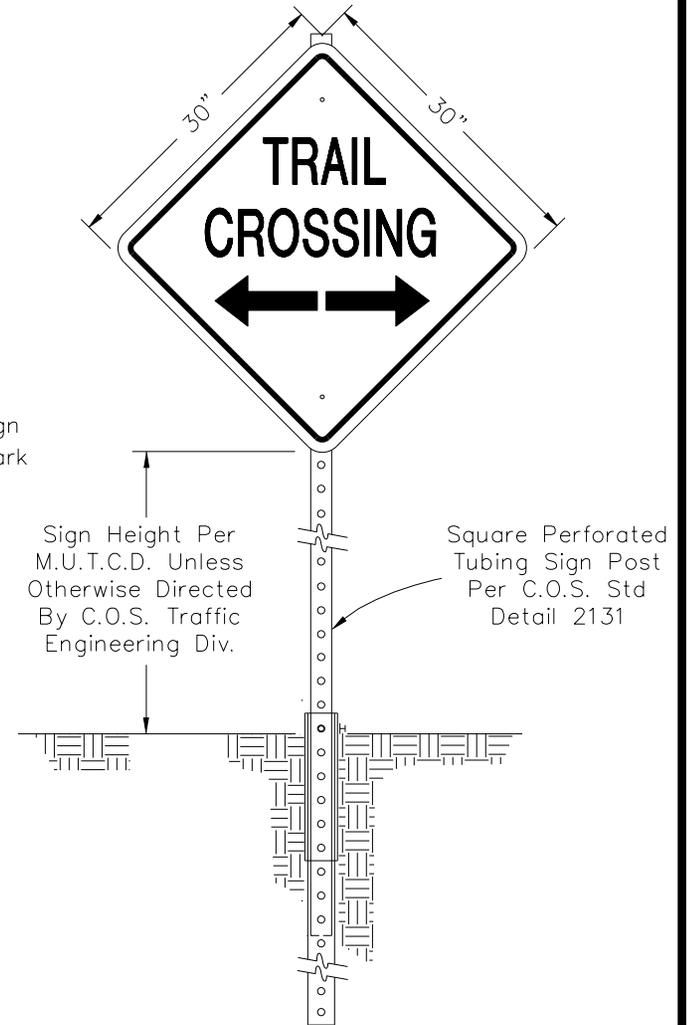
NOTES:

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. For signs located within Scenic Corridors, all sign backs shall be finished with a non-reflective dark color such as "Western Reserve 8716N Frazee" or similar, unless signs will be installed back to back on the same post.



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