**SECTION****LEGEND**

- ① 48" I.D. Manhole Shaft Per MAG Std. Detail 420, Type "B" Top (Without Manhole Steps)
- ② 32" Hinged Manhole Frame & Cover Per COS Specifications Section 610.8
- ③ Grouted Adjusting Rings
- ④ Not Used
- 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

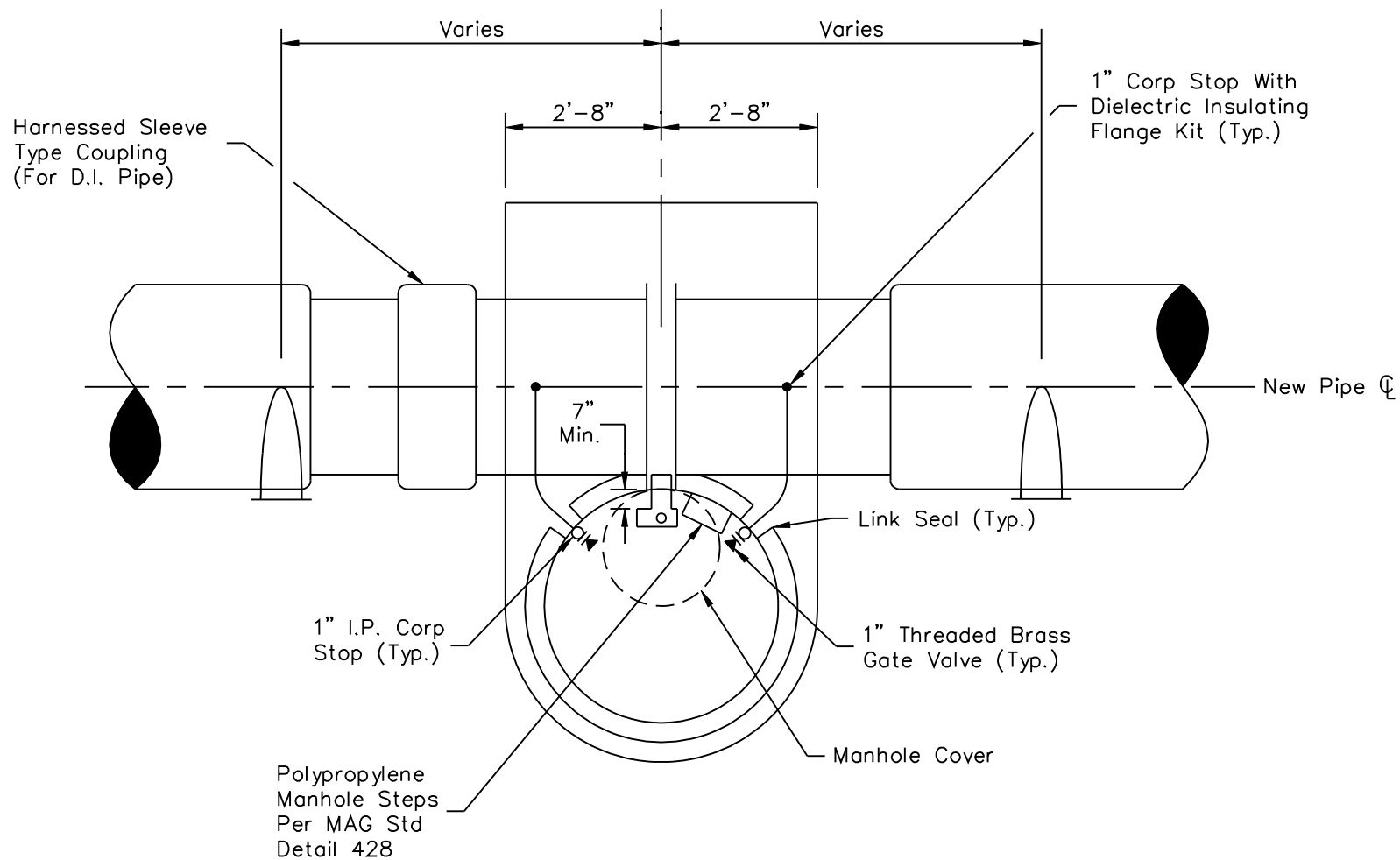
DETAIL NO.
2305-1

**City of Scottsdale
Standard Details**

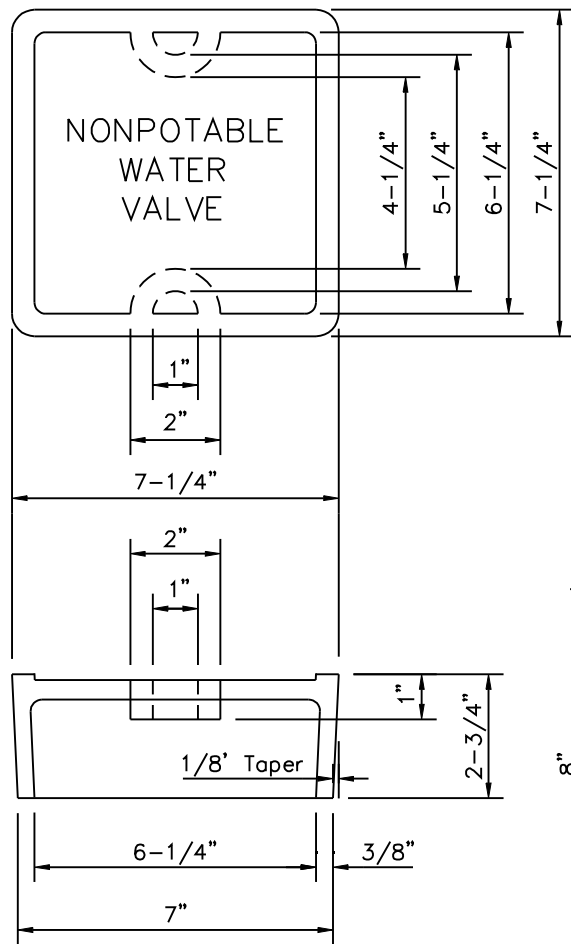
APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

BUTTERFLY VALVE OPERATOR MANHOLE

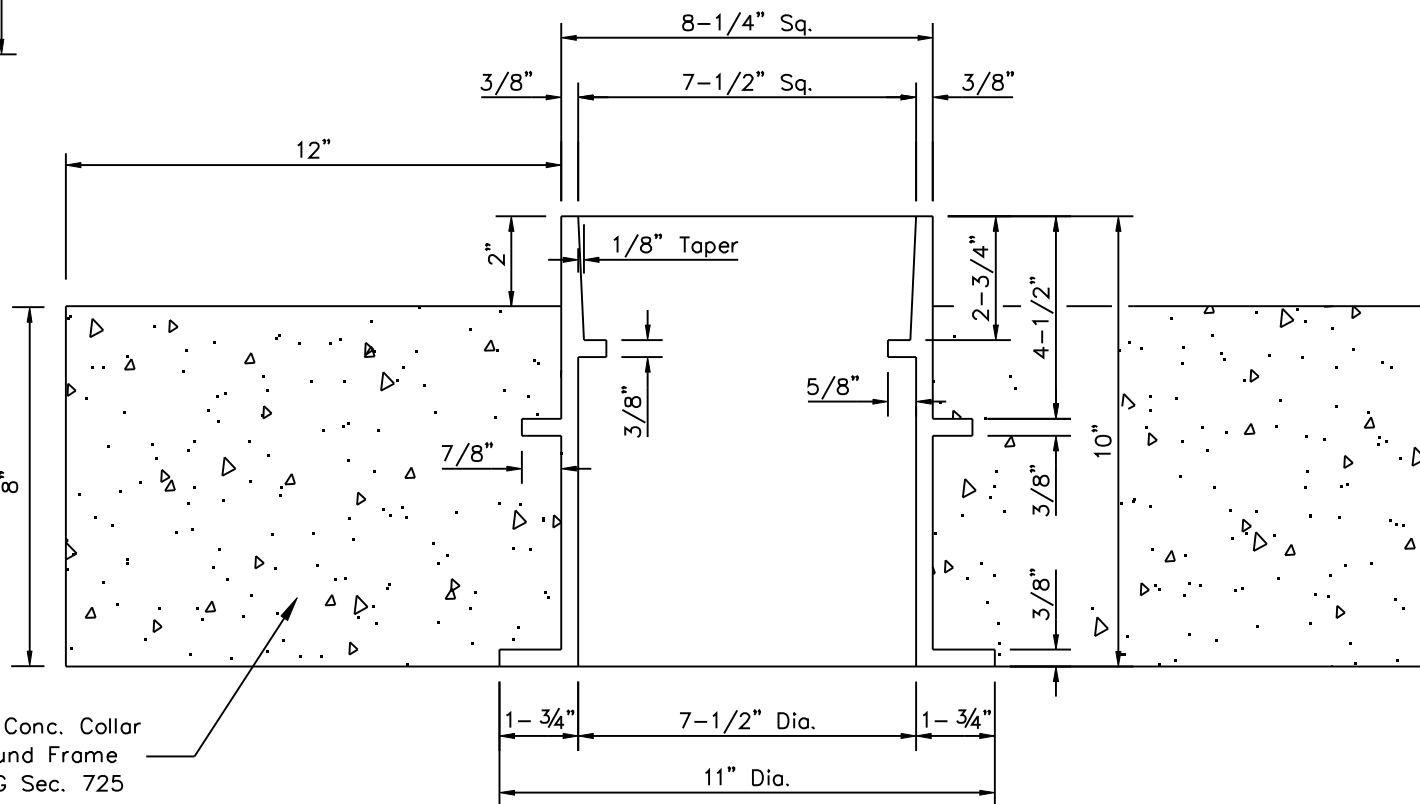
DETAIL NO.
2305-1



PLAN



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



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".

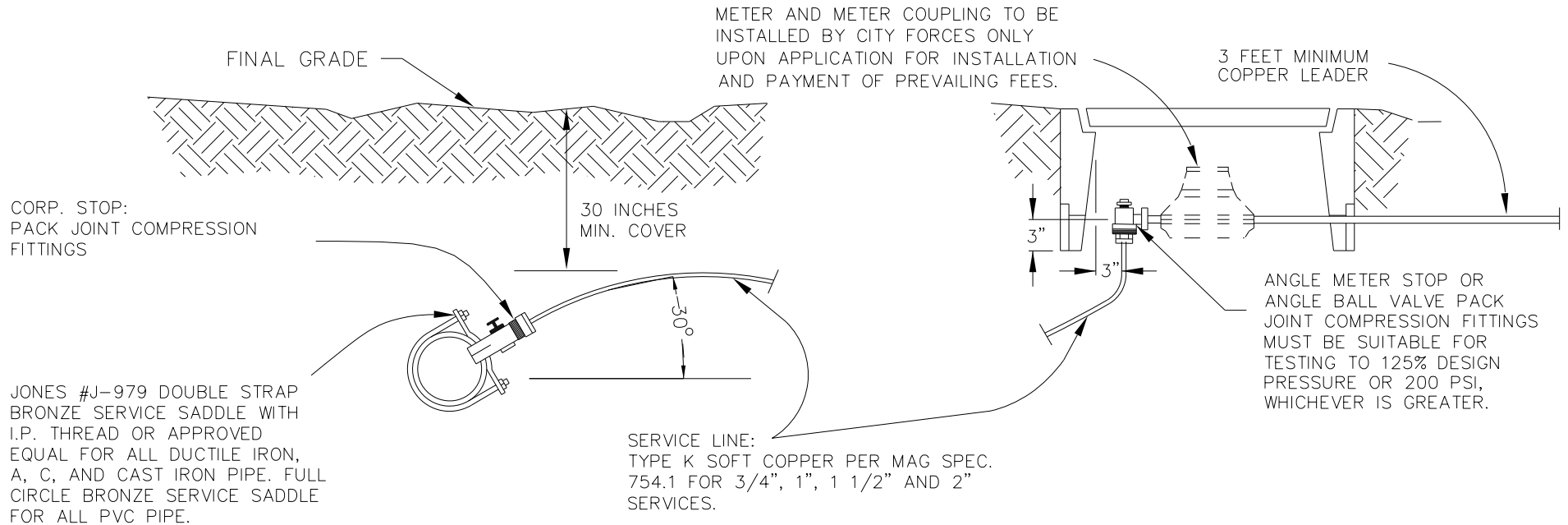
DETAIL NO.
2315

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

NONPOTABLE WATER VALVE BOX & COVER

DETAIL NO.
2315



- 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 a composite lid (DFW PLASTICS, INC or approved equal).
 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.

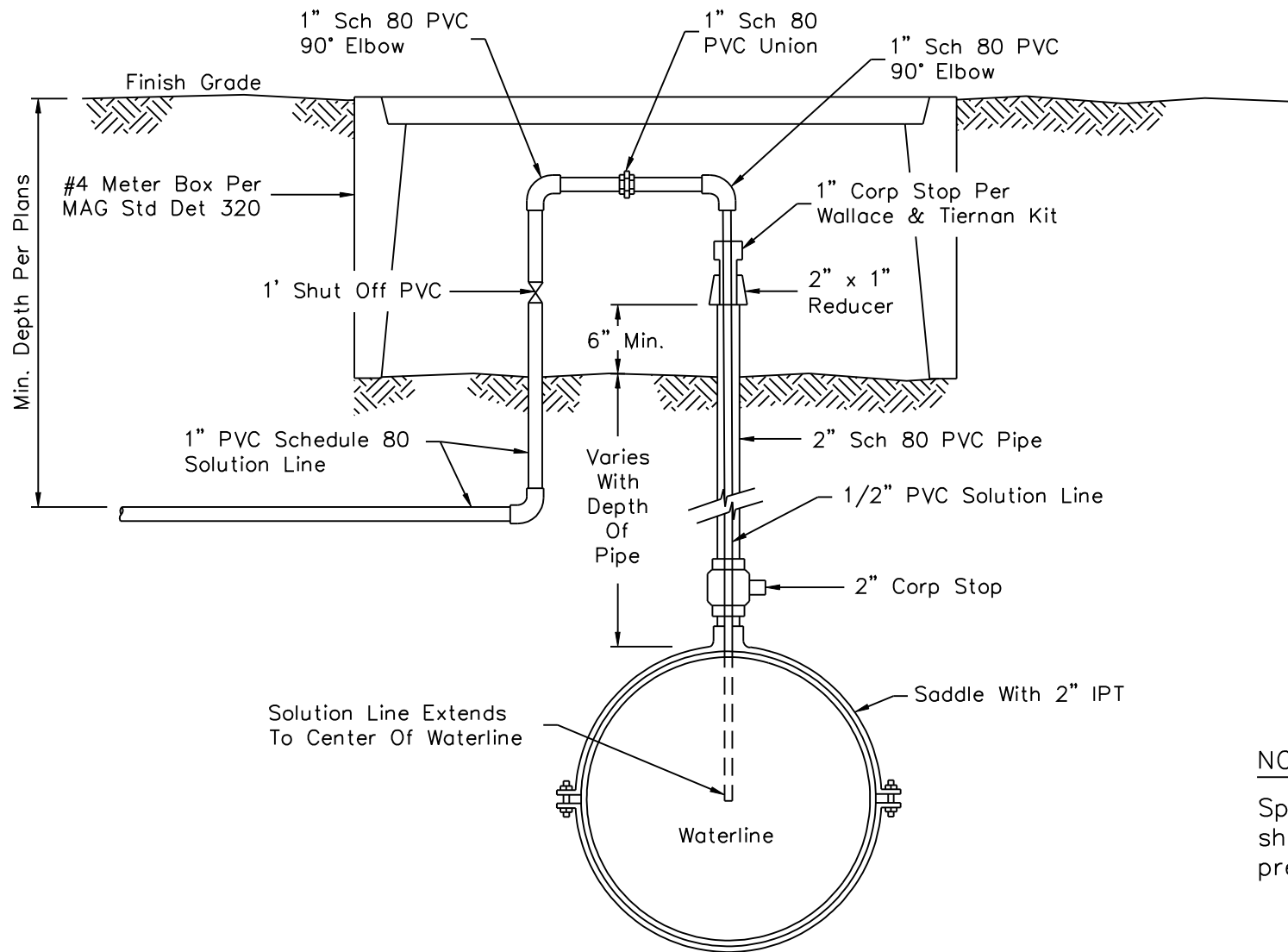
DETAIL NO.
2330

**City of Scottsdale
Standard Details**

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

WATER SERVICE LINE CONNECTION

DETAIL NO.
2330



NOTE:

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

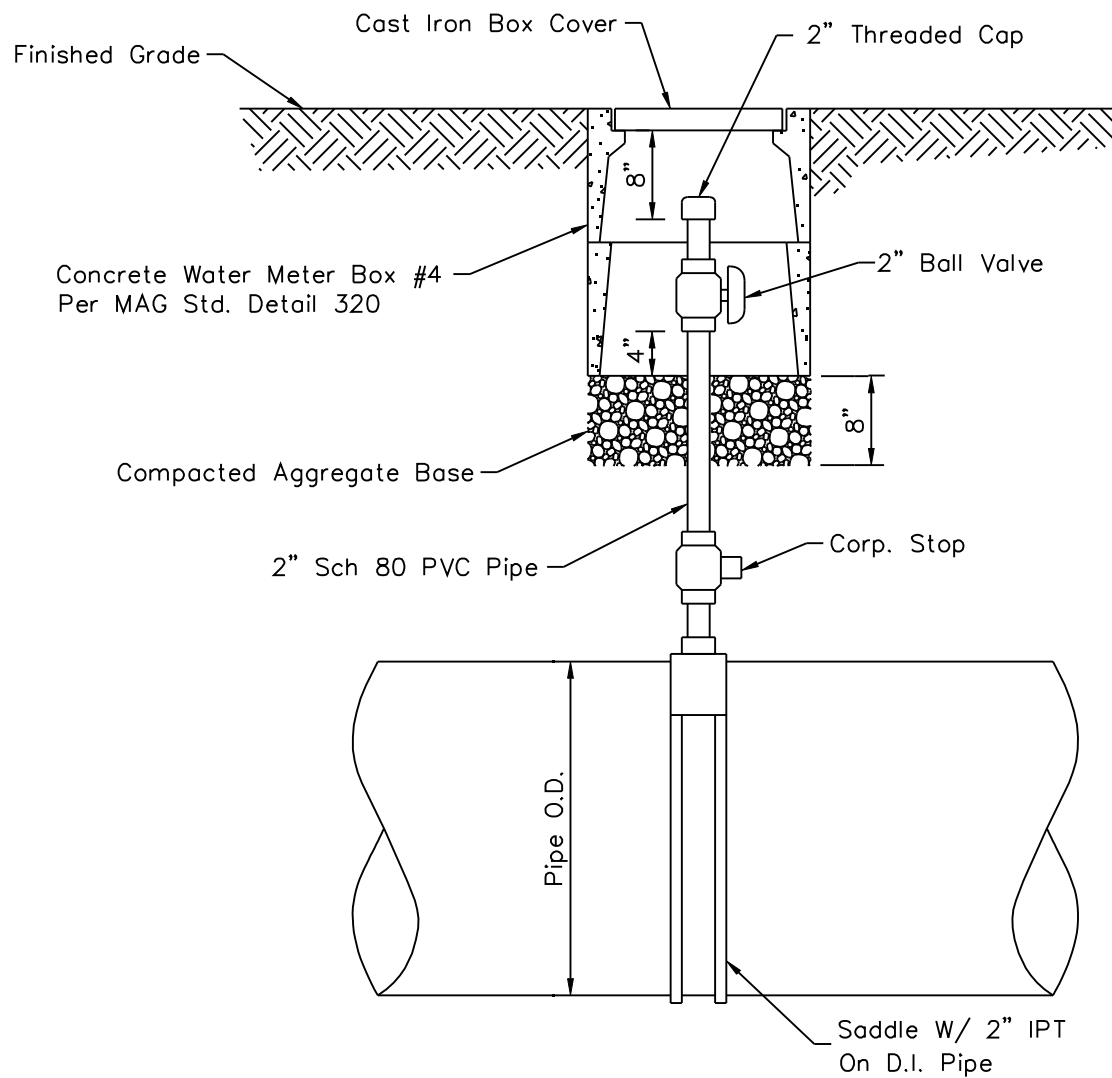
DETAIL NO.
2332

**City of Scottsdale
Standard Details**

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

**CHLORINE INJECTION TAP
FOR UNDERGROUND WATERLINES**

DETAIL NO.
2332



DETAIL NO.
2333

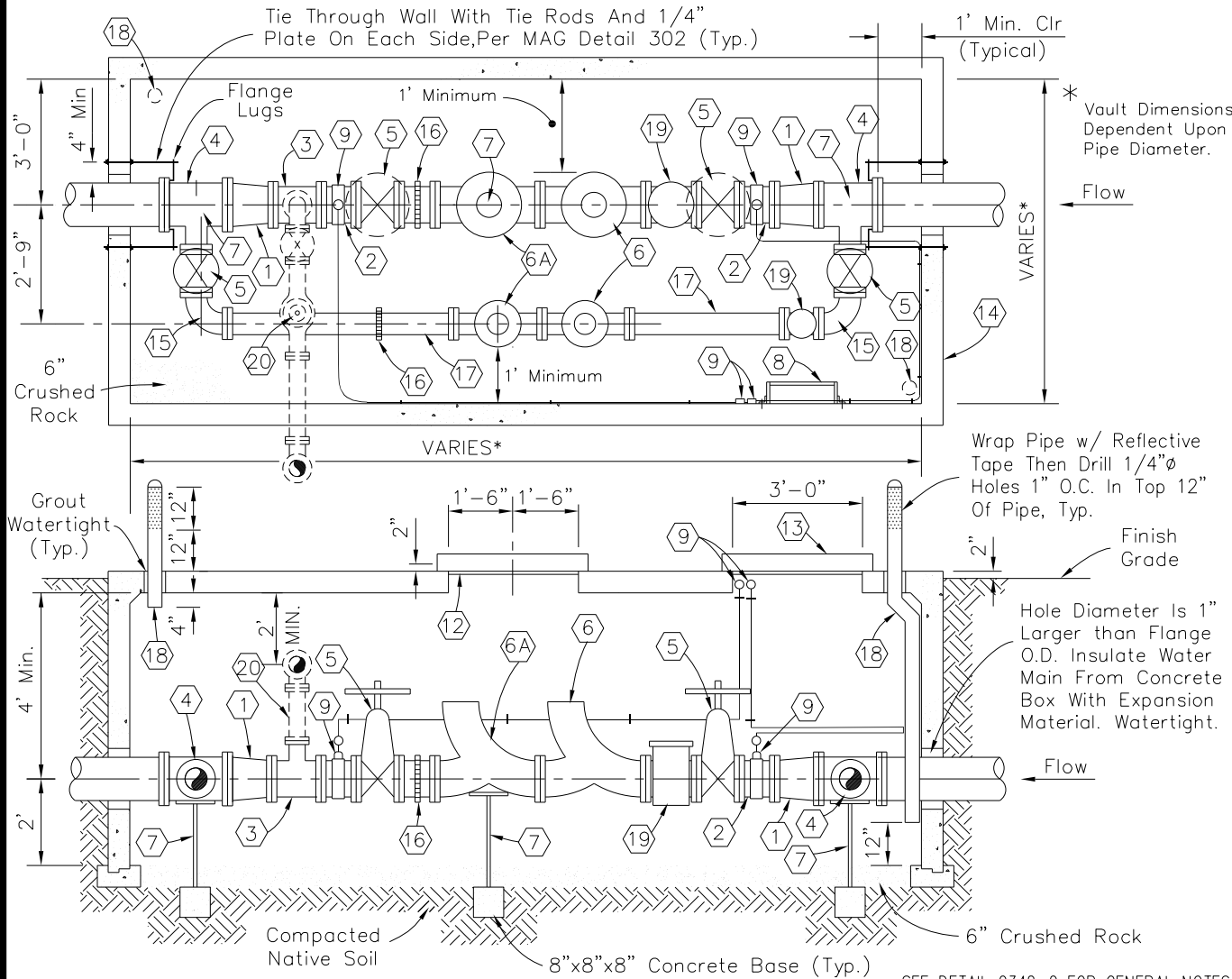
City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

TAP FOR FUTURE CHLORINE INJECTION

DETAIL NO.
2333

REVISED 5/19/15



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. Not Used.
- 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.
- 19 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

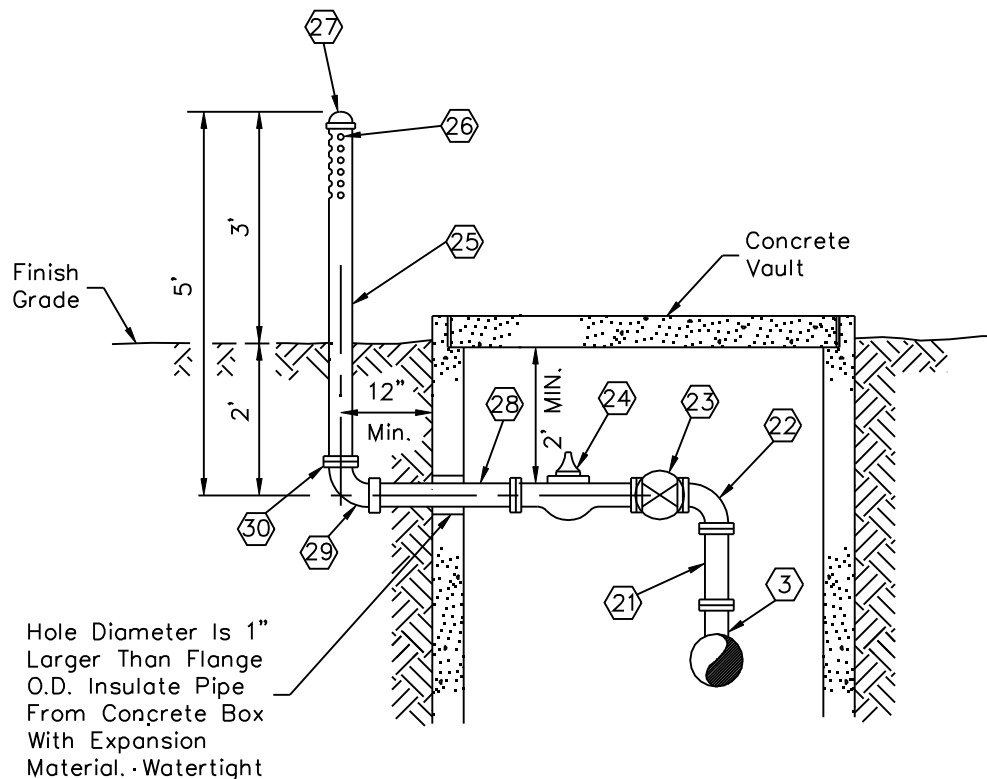
DETAIL NO.
2342-1

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

PRESSURE REDUCING VALVE

DETAIL NO.
2342-1



PRESSURE RELIEF OUTLET ASSEMBLY DETAIL

SEE NOTE 20 DETAIL 2342-1

NOTES

- 3 Flg x Flg Tee, See Detail 2342-1
- 21 4" Flg Connecting Piece
- 22 4" DIP Flg x Flg 90° Elbow, w/ Restrained Joints (Meg A Lug Or Approved Equal)
- 23 4" Flg NRS Resilient Wedge Gate Valve, Inside Epoxy Coated, Low Zinc Stem w/ Handwheel
- 24 4" Flg PRV Bermad Model 730-I-U Or Approved Equal, Epoxy Coated w/ Valve Position Indicator
- 25 4" SCH. 40 Steel Pipe (Painted Desert Beige)
- 26 6 Rows 2" O.C. Of 3-1"Ø Holes, 180° Spray Pattern
- 27 4" SCH 40 Steel Cap (Threaded)
- 28 4" Ductile Pipe Spool
- 29 4" DIP MJ x Flg 90° Elbow
- 30 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.

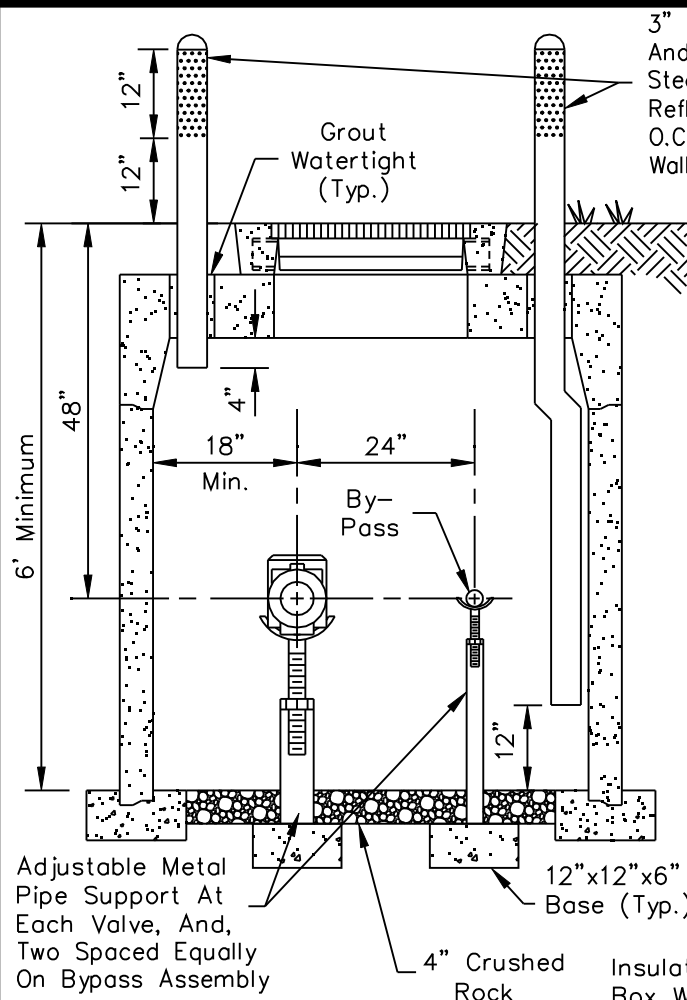
DETAIL NO.
2342-2

**City of Scottsdale
Standard Details**

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

PRESSURE REDUCING VALVE

DETAIL NO.
2342-2

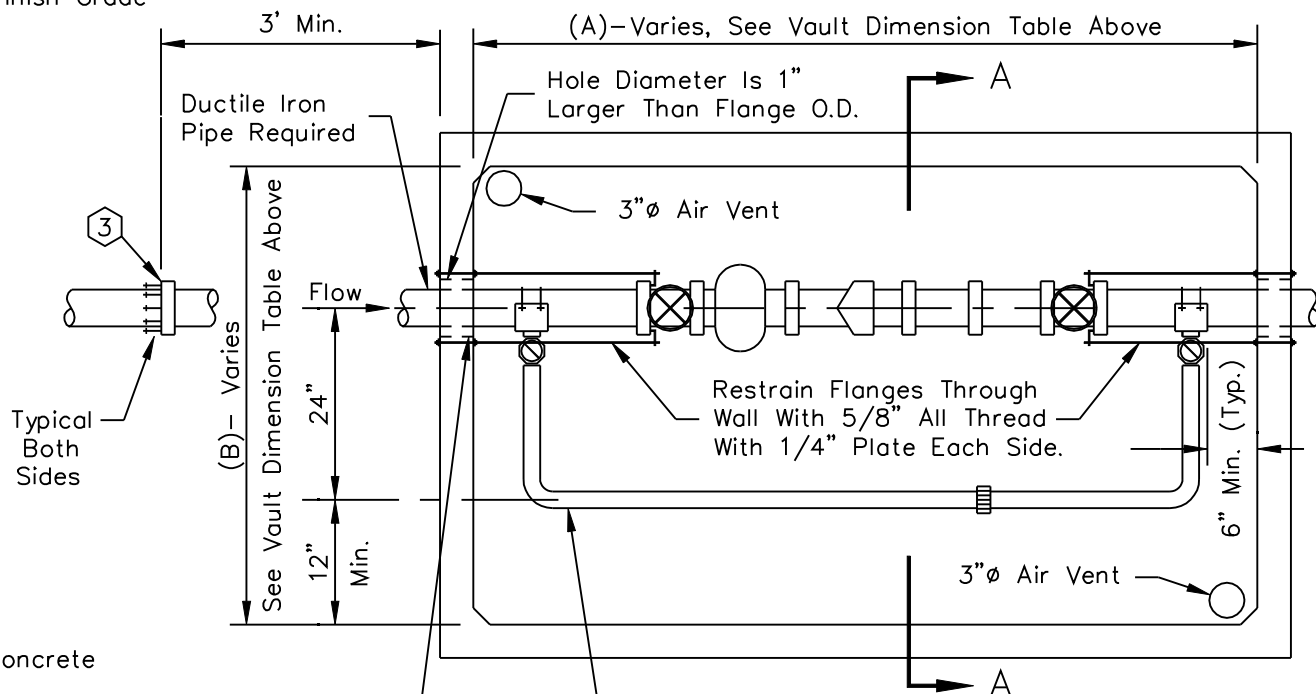


3" Dia. Sch 40 Steel Vent Pipe W/ Cap And Bracket as Manufactured By Blue Dot Steel Or Approved Equal. Wrap Pipe With Reflective Tape Then Drill 1/4"Ø Holes 1" O.C. In Top 12" Of Pipe. Strap Pipe To Wall. Install Vents In Unpaved Areas Only.

Insulate Water Main From Concrete Box With 1" Ramneck Or Other Expansion Material Approved By The Engineer. Grout Balance Of Opening Per MAG Specifications.

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"



Except For 2" Copper Bypass All Fittings Will Be Flanged. Uniflange Not Acceptable Unless Approved By Water Operations. 2" Copper Bypass Will Be Joined With Silver Solder Except At 2" Corp Stop Which Will Be Pac Joint.

VAULT INSTALLATION

PLAN

SHEET 1 OF 2

DETAIL NO.
2345-1

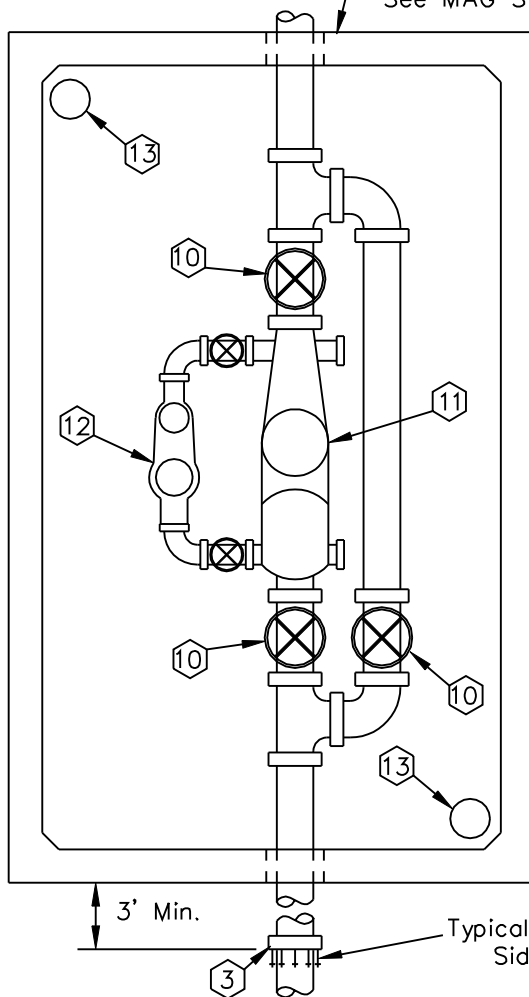
**City of Scottsdale
Standard Details**

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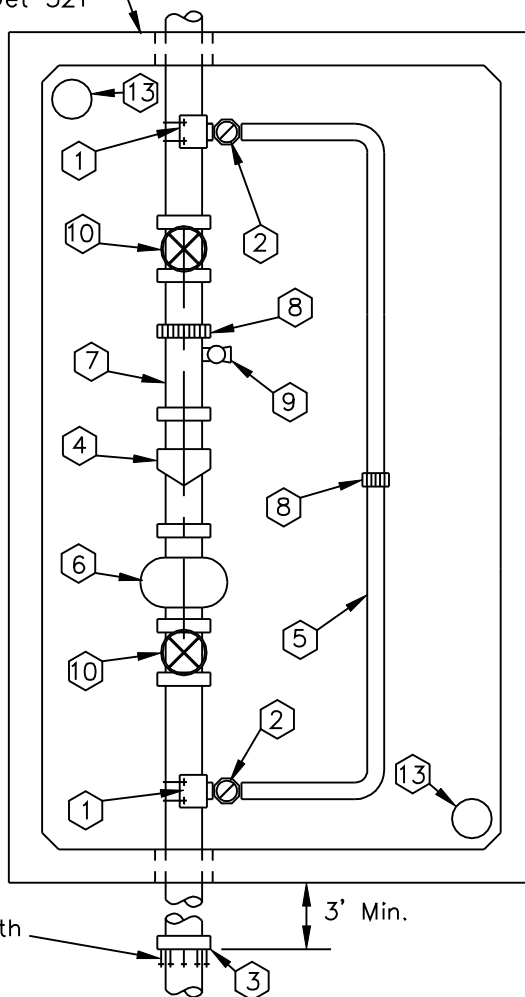
3", 4", 6" WATER METER

DETAIL NO.
2345-1

For Vault Construction
See MAG Std Det 321



**COMBINATION DOMESTIC/
FIRE LINE METER**



COMPOUND/TURBINE METER

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.

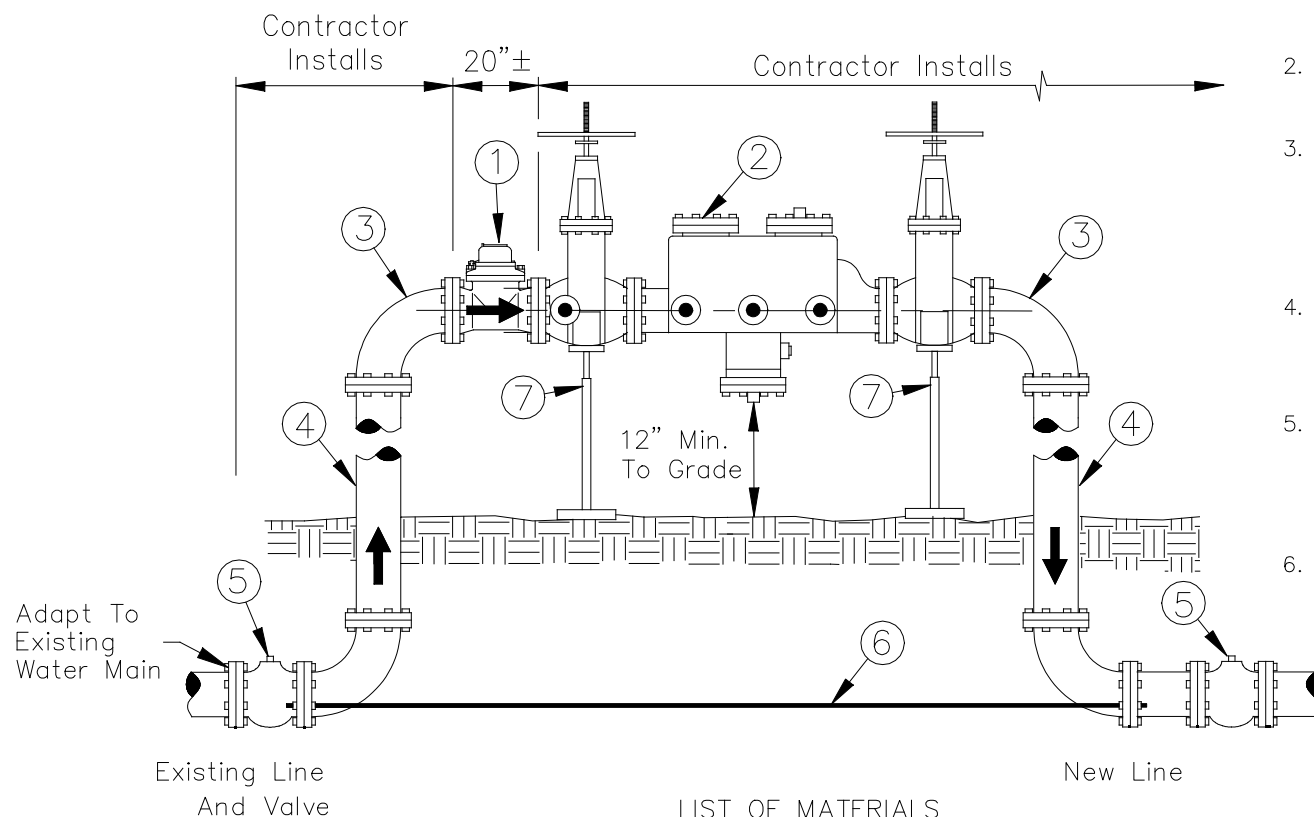
SHEET 2 OF 2

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

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

3, 4", 6" WATER METER

DETAIL NO.
2345-2



LIST OF MATERIALS

- ① 3" Turbine Construction Meter With 3" Flanges, Supplied By City.
- ② 3" Approved Reduced Pressure Principle Backflow Prevention Assembly, Supplied By Contractor.
- ③ 3" Flanged Ductile Iron 90° Ell, Supplied By Contractor.
- ④ 3" Ductile Iron Spool.

- 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.
- ⑥ 3/4"Ø zinc coated threaded rod.
- ⑦ Adjustable Metal Pipe Support (Required).

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.

DETAIL NO.
2346

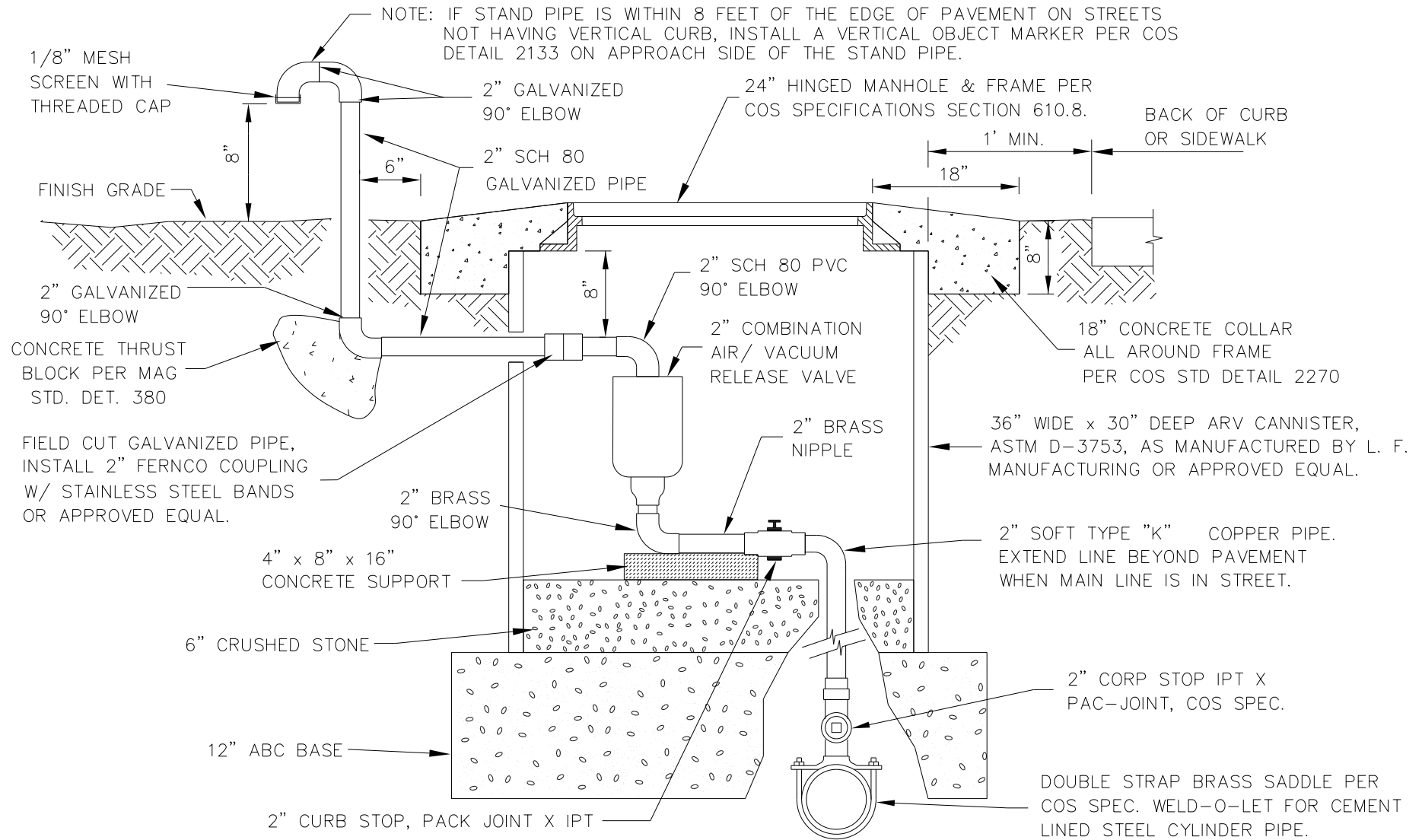
**City of Scottsdale
Standard Details**

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

TEMPORARY CONSTRUCTION METER

DETAIL NO.
2346

REVISED 5/28/15



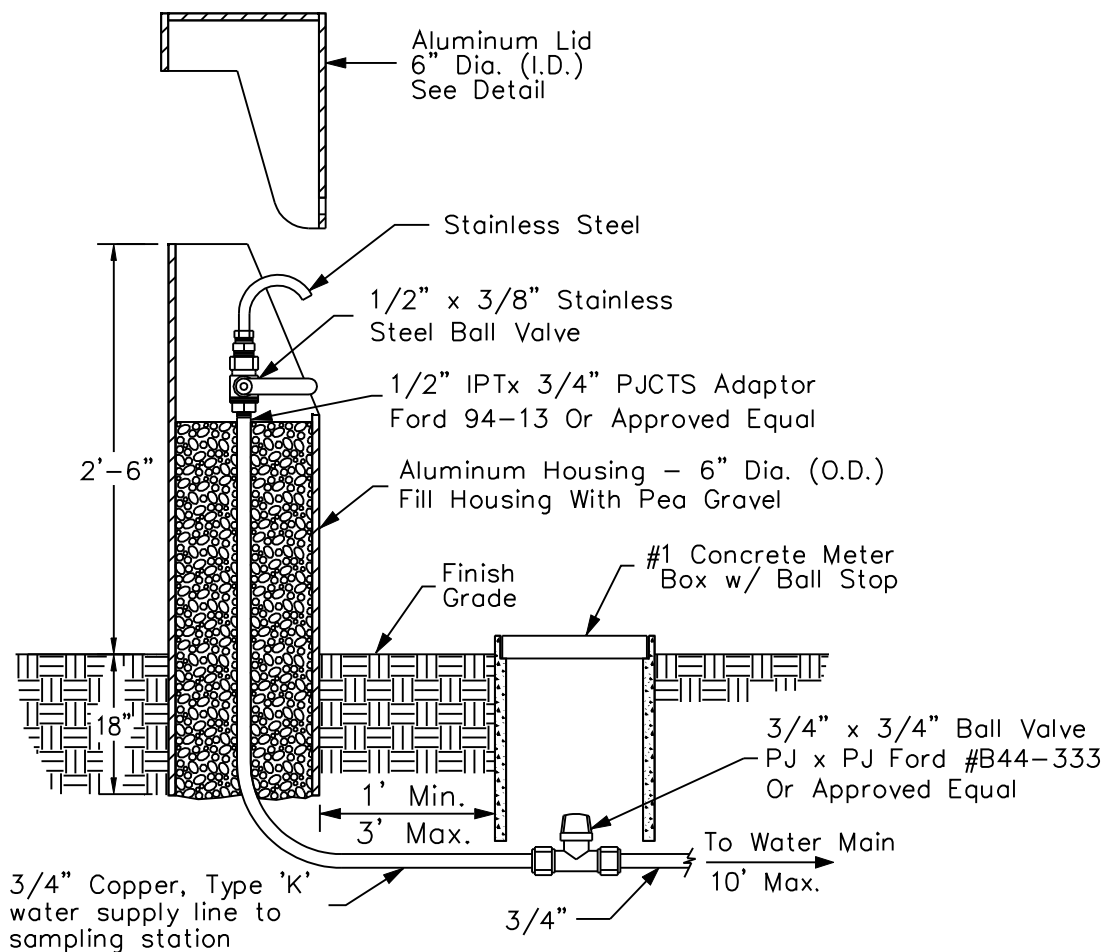
DETAIL NO.
2348

**City of Scottsdale
Standard Details**

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

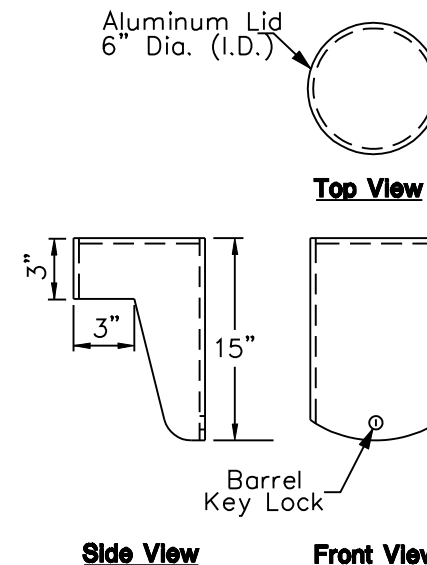
2" AIR/VACUUM RELEASE VALVE

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.

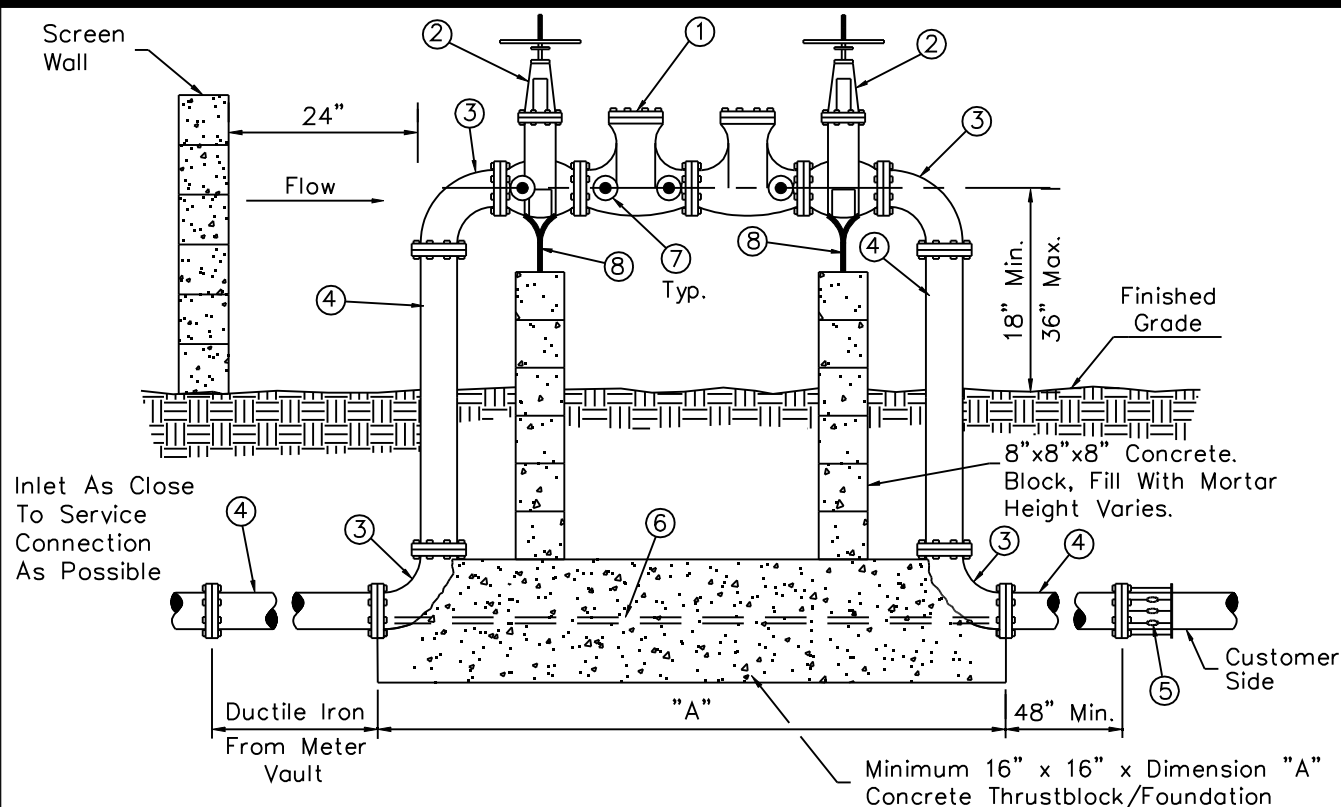
DETAIL NO.
2349

**City of Scottsdale
Standard Details**

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

WATER QUALITY SAMPLING STATION

DETAIL NO.
2349



LIST OF MATERIALS

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

GENERAL NOTES

- Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
- 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.
- For backflow preventers requiring guard posts see Detail 2356. Backflow preventers enclosed by screening shall maintain a 24 inch clearance around the assembly.
- Finished grade underneath the backflow preventer shall be at 95% compaction.
- Backflow preventers on fire lines may require tamper switches on the shut off valves. Contact City Of Scottsdale Plan Review, Fire Dept.
- Call for underground inspection before backfilling trench.
- Vertical installations of assemblies on fire sprinkler systems are allowed using assemblies approved for use in the vertical position on fire systems.
- 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.

2351

**City of Scottsdale
Standard Details**

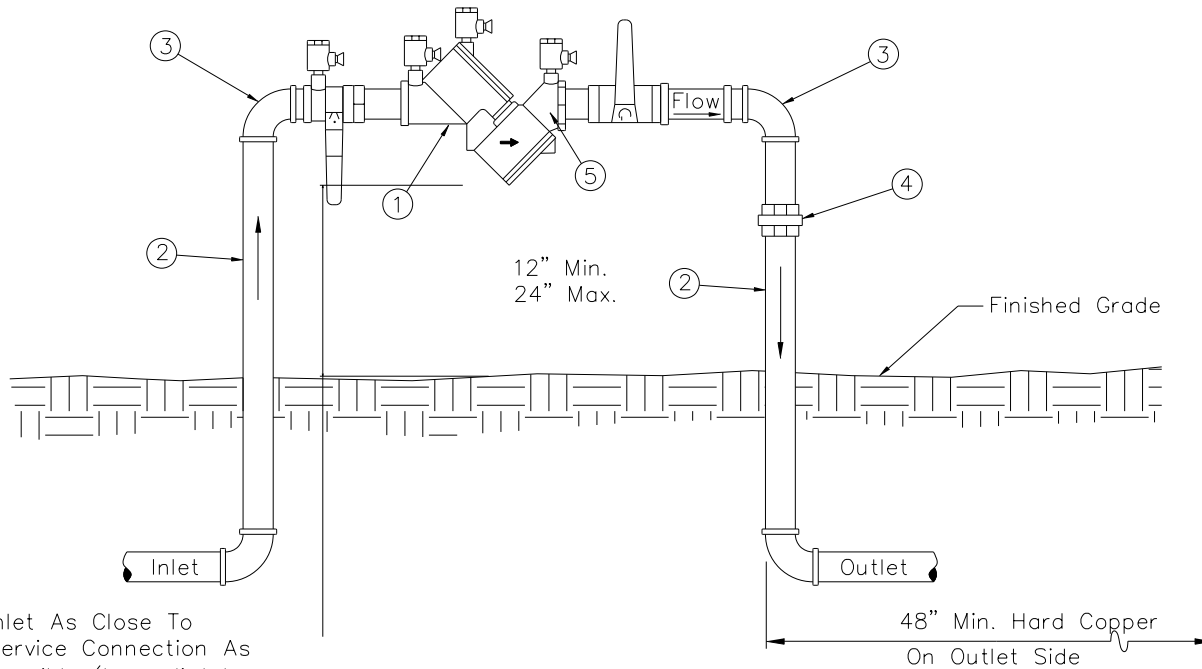
APPROVED BY:

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Specifications Committee**

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

DETAIL NO.

2351



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 or approved equal.
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.

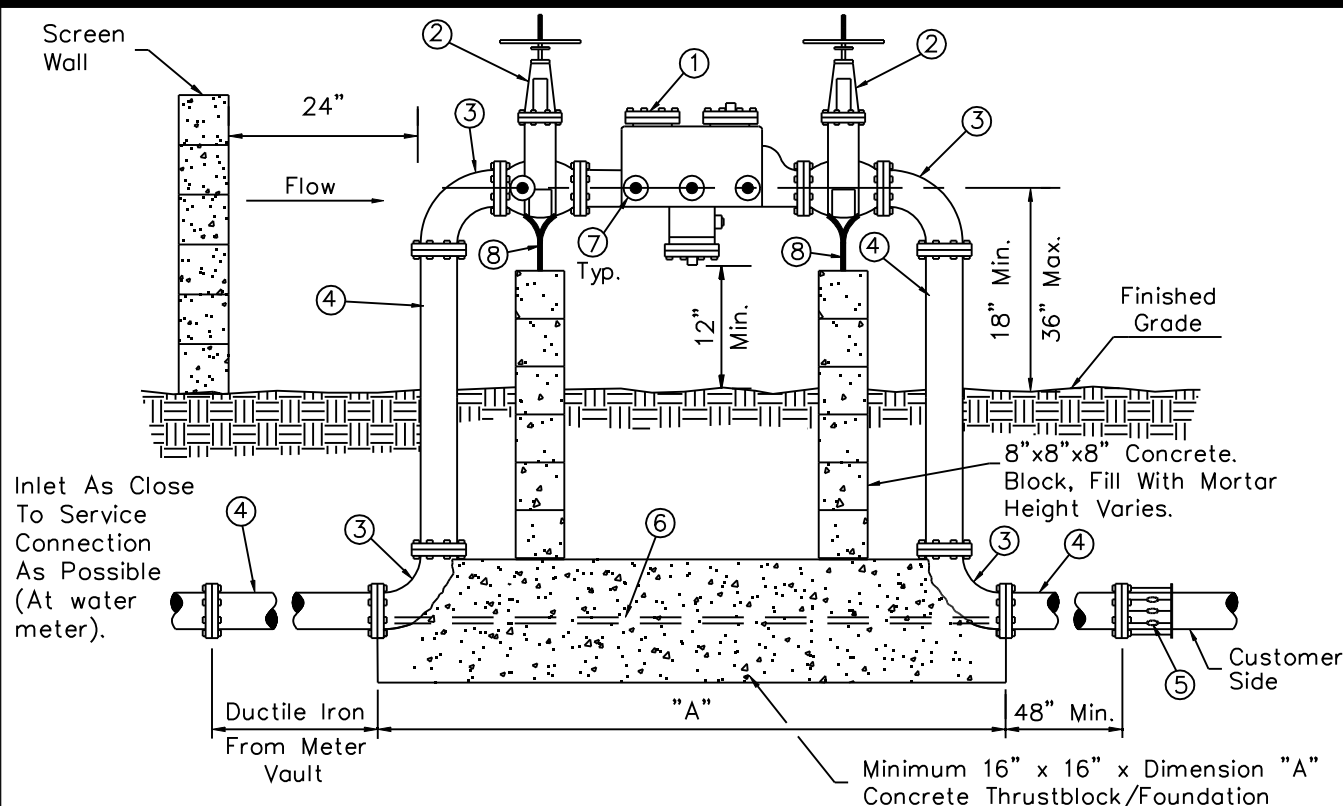
DETAIL NO.
2352

**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



LIST OF MATERIALS

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

GENERAL NOTES

- Backflow assemblies must be tested by a certified tester that is recognized by the City of Scottsdale.
- 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.
- For backflow preventers requiring guard posts see Detail 2356. Backflow preventers enclosed by screening shall maintain a 24 inch clearance around the assembly.
- Finished grade underneath the backflow preventer shall be at 95% compaction.
- Backflow preventers on fire lines may require tamper switches on the shut off valves. Contact City Of Scottsdale Plan Review, Fire Dept.
- Call for underground inspection before backfilling trench.
- 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.

2353

City of Scottsdale
Standard Details

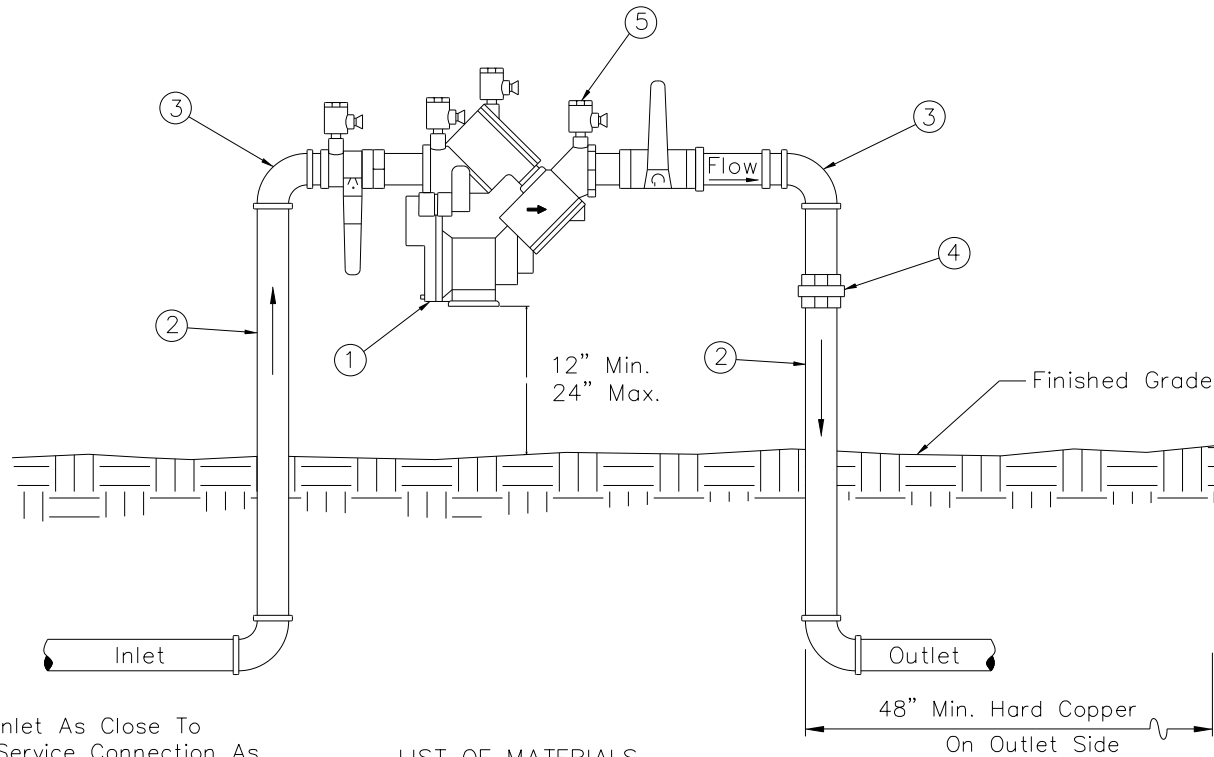
APPROVED BY:

Scottsdale Standards & Specifications Committee

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

DETAIL NO.

2353



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 or approved equal.
3. Finished grade underneath the backflow pre-venter 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.

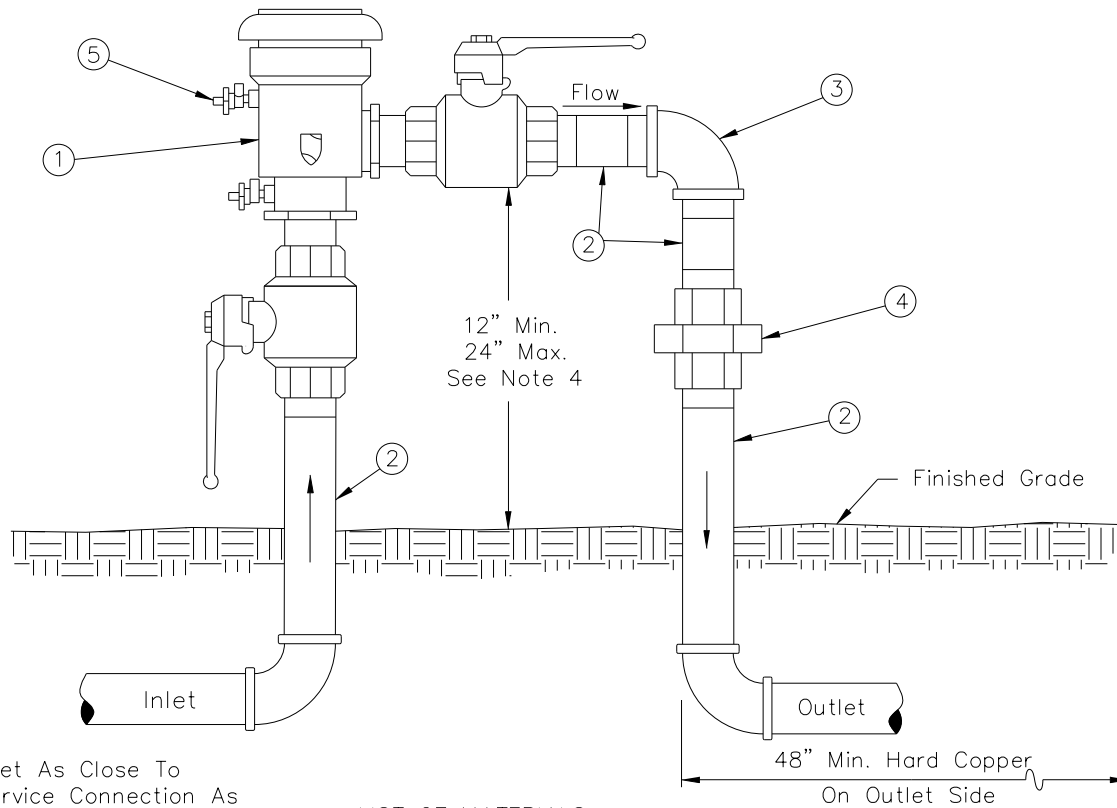
DETAIL NO.
2354

**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



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 or approved equal.
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.

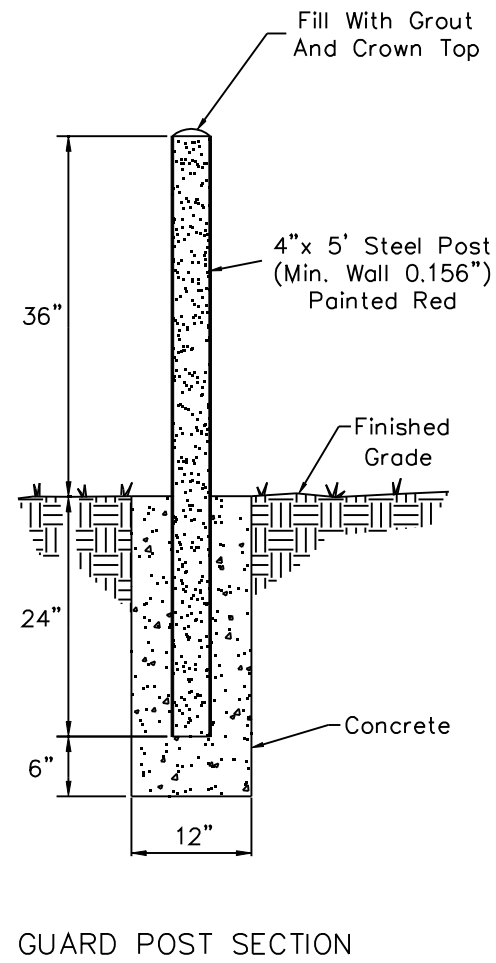
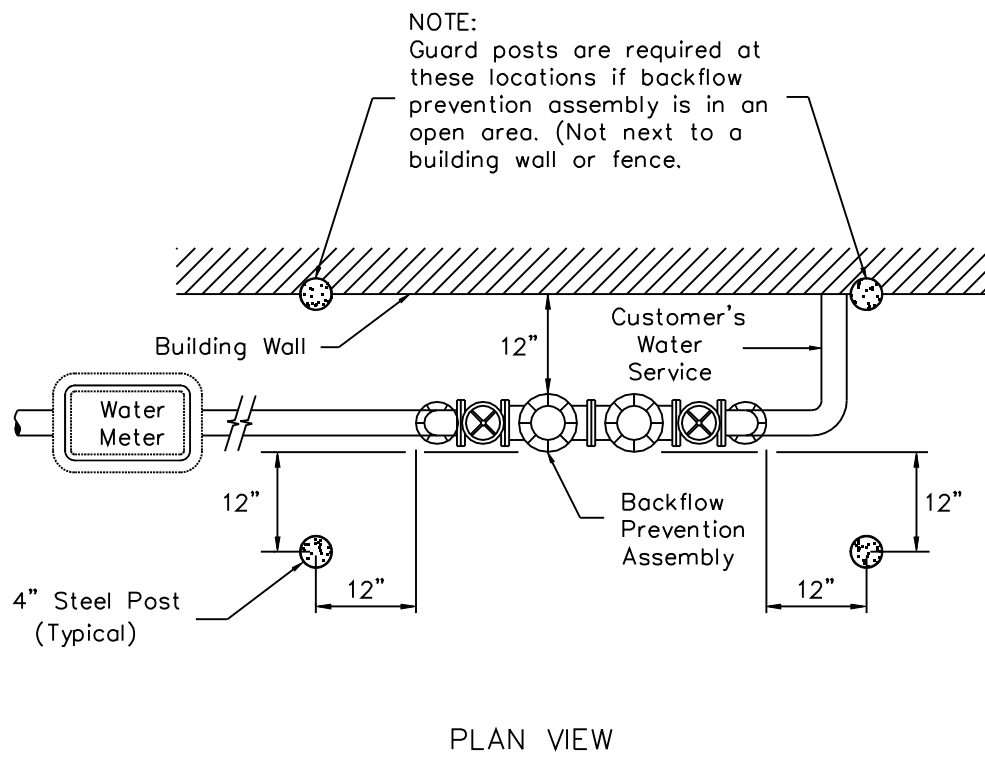
DETAIL NO.
2355

**City of Scottsdale
Standard Details**

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

DETAIL NO.
2355



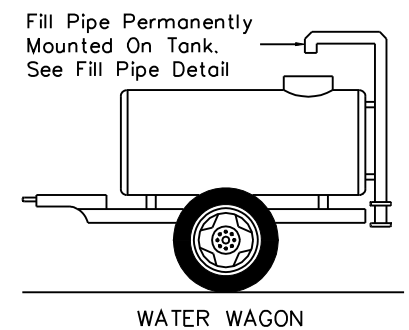
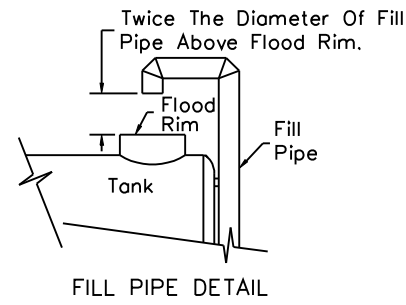
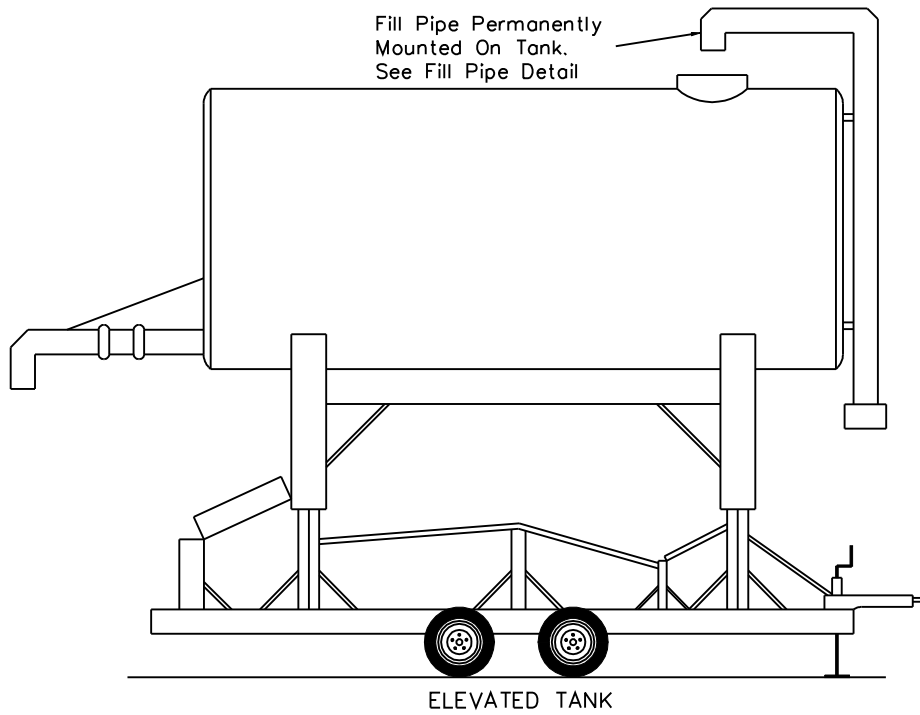
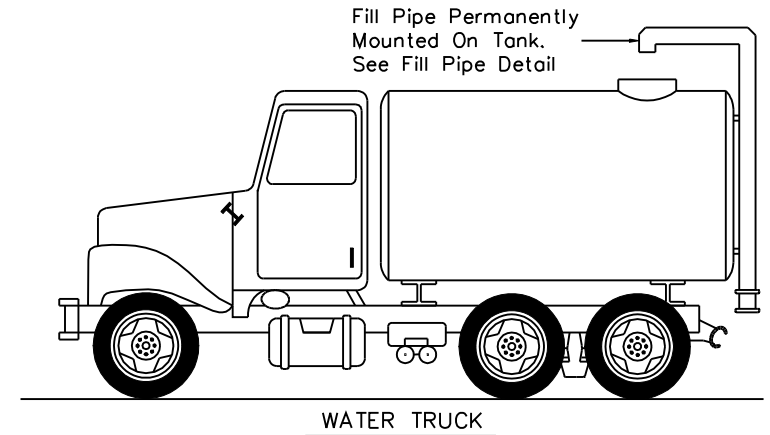
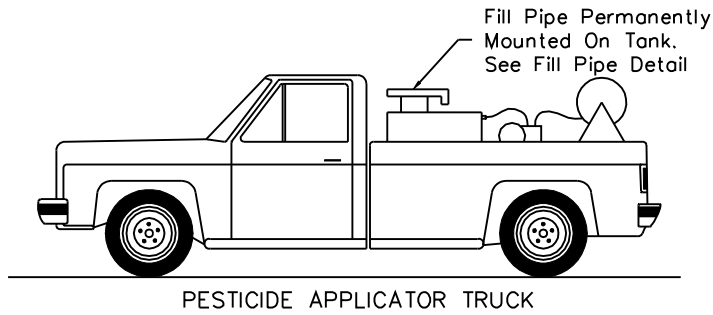
DETAIL NO.
2356

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

GUARD POSTS FOR BACKFLOW PREVENTION ASSEMBLIES

DETAIL NO.
2356



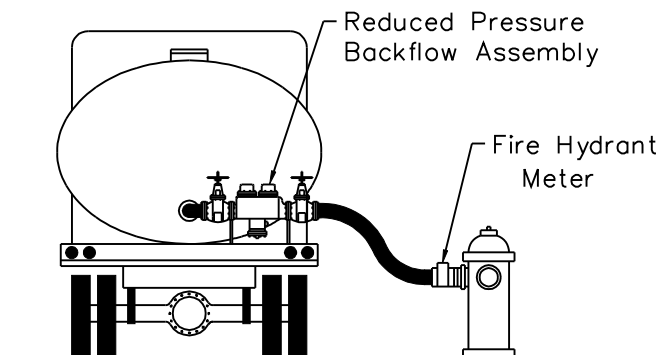
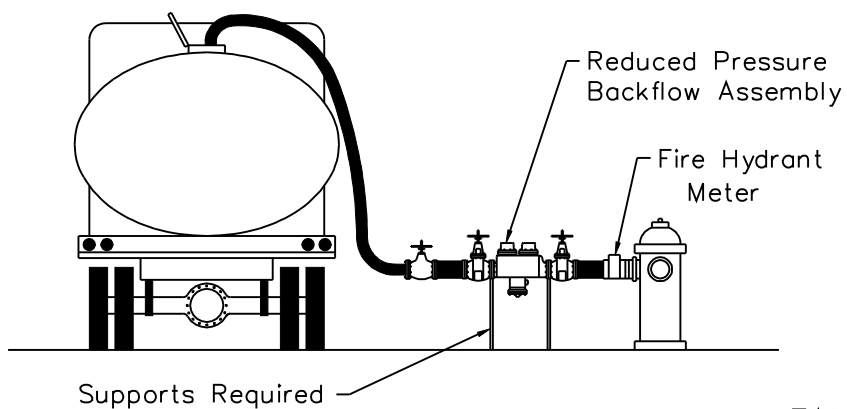
DETAIL NO.
2357

**City of Scottsdale
Standard Details**

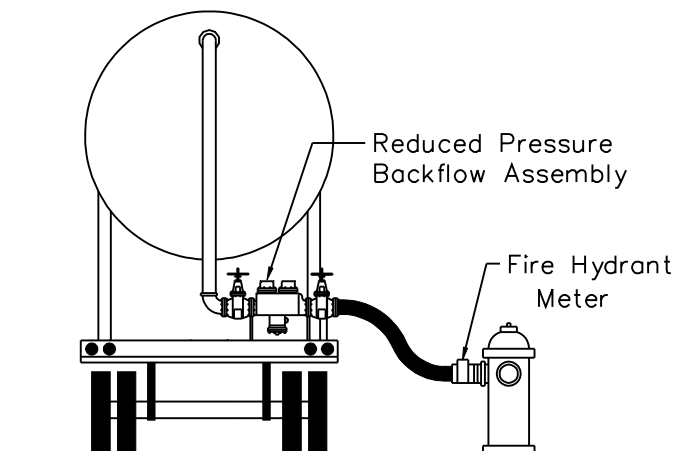
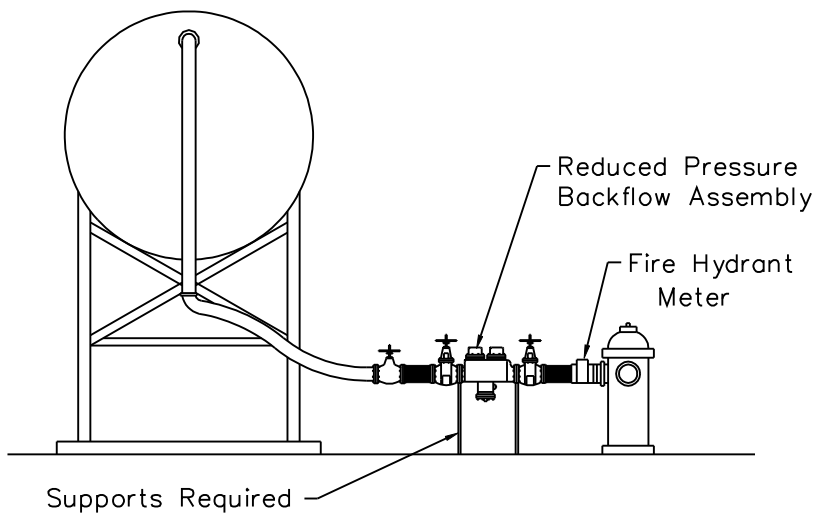
APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

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

DETAIL NO.
2357



TANK TRUCKS



ELEVATED TANKS

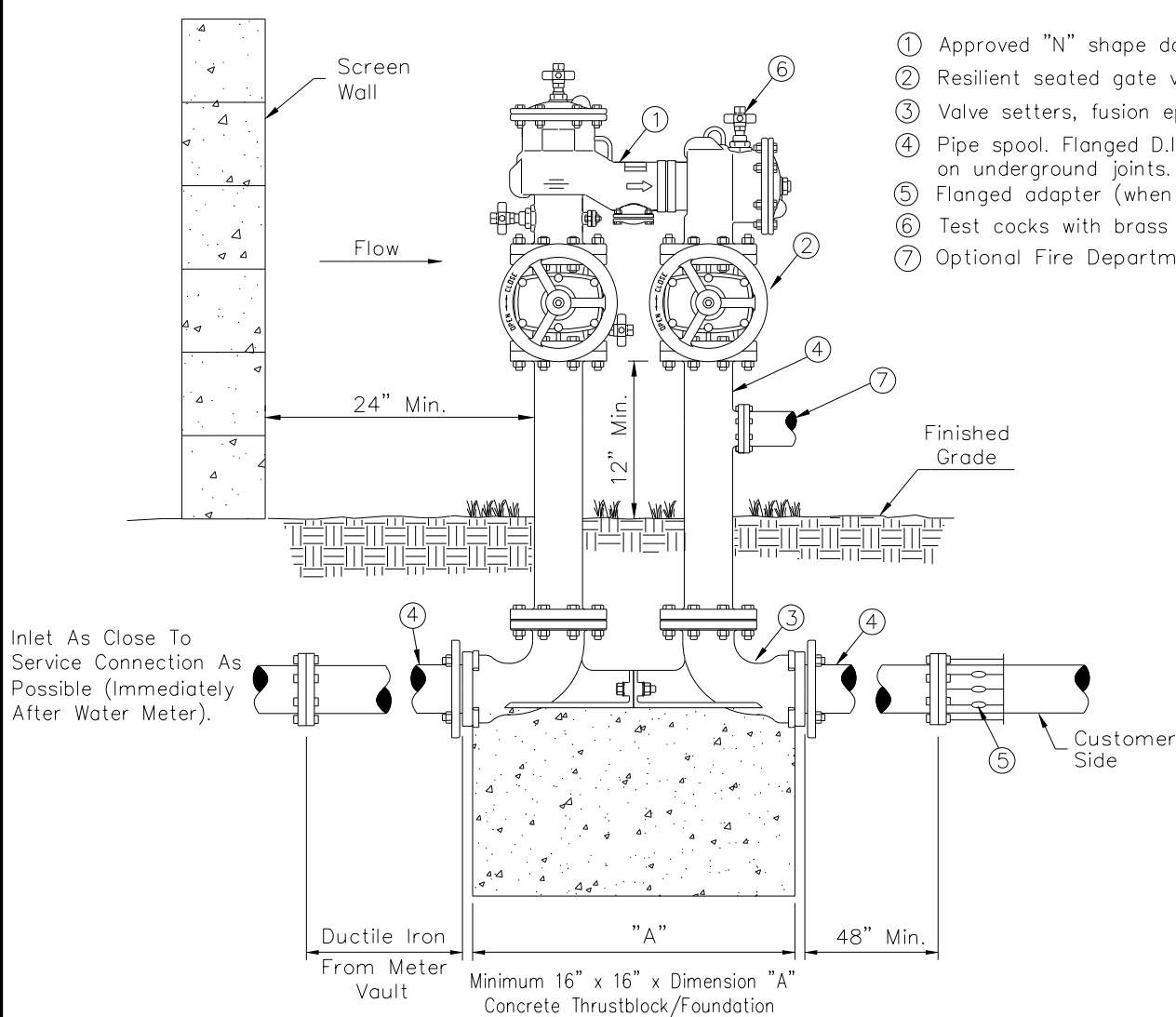
DETAIL NO.
2358

**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



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 adaptor (when required)
- ⑥ Test cocks with brass plugs or adaptors with caps installed. (4 required)
- ⑦ Optional Fire Department Connection (FDC) – see COS Std. Detail 2374.

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.

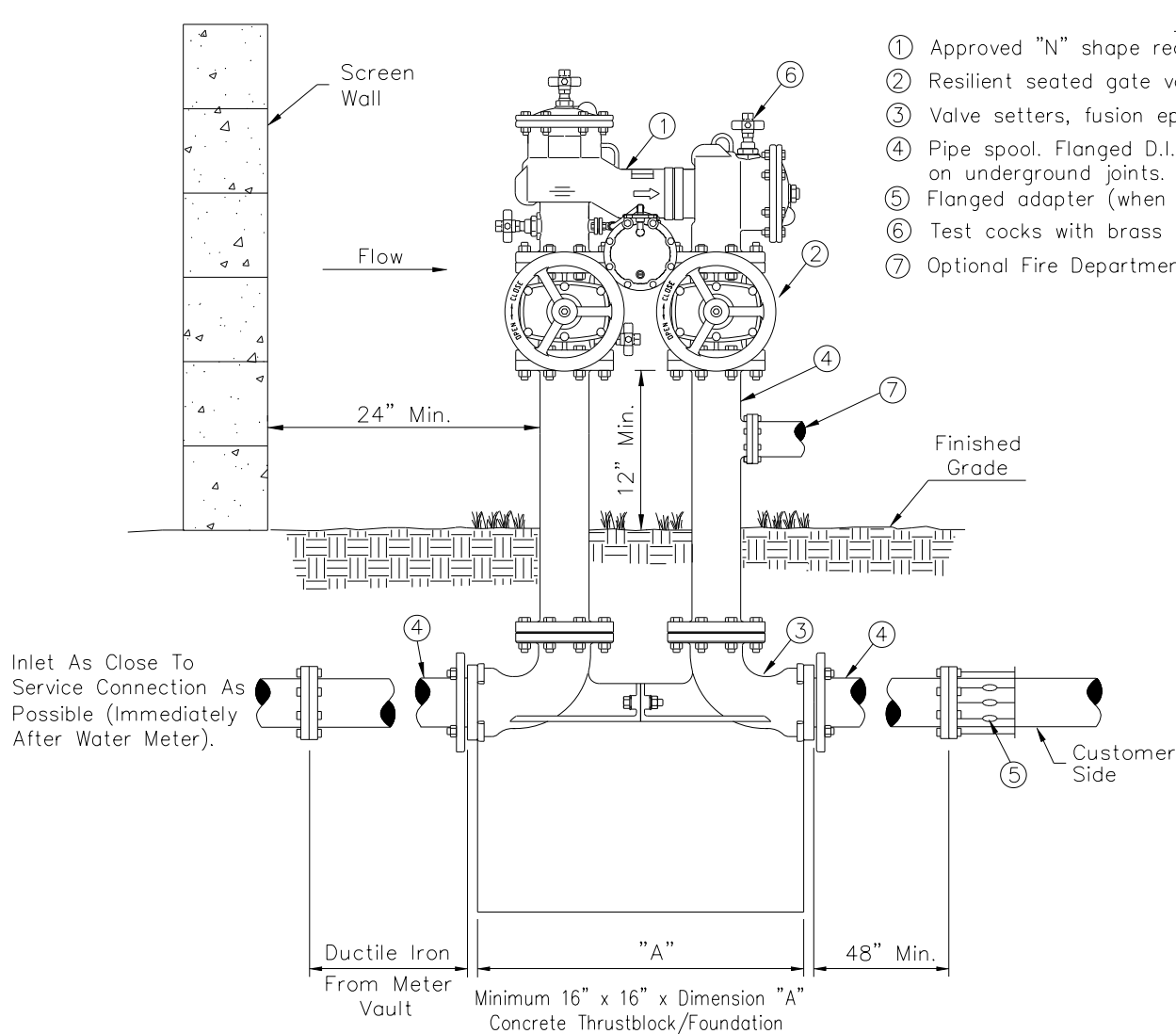
DETAIL NO.
2359

**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



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)
- ⑦ Optional Fire Department Connection (FDC) – see COS Std. Detail 2374.

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.

DETAIL NO.
2360

**City of Scottsdale
Standard Details**

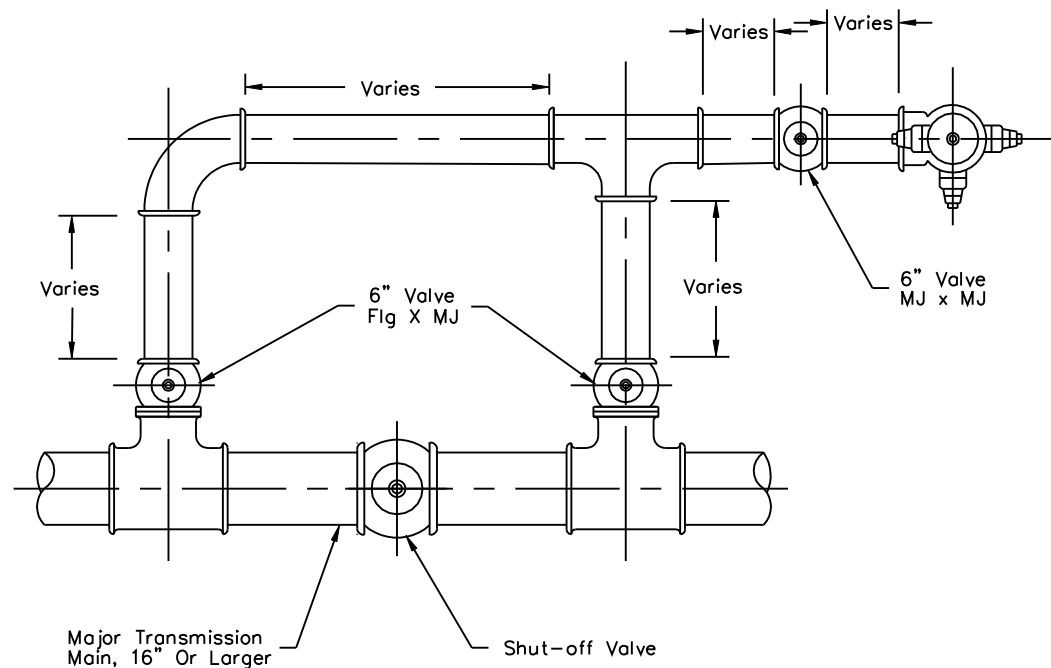
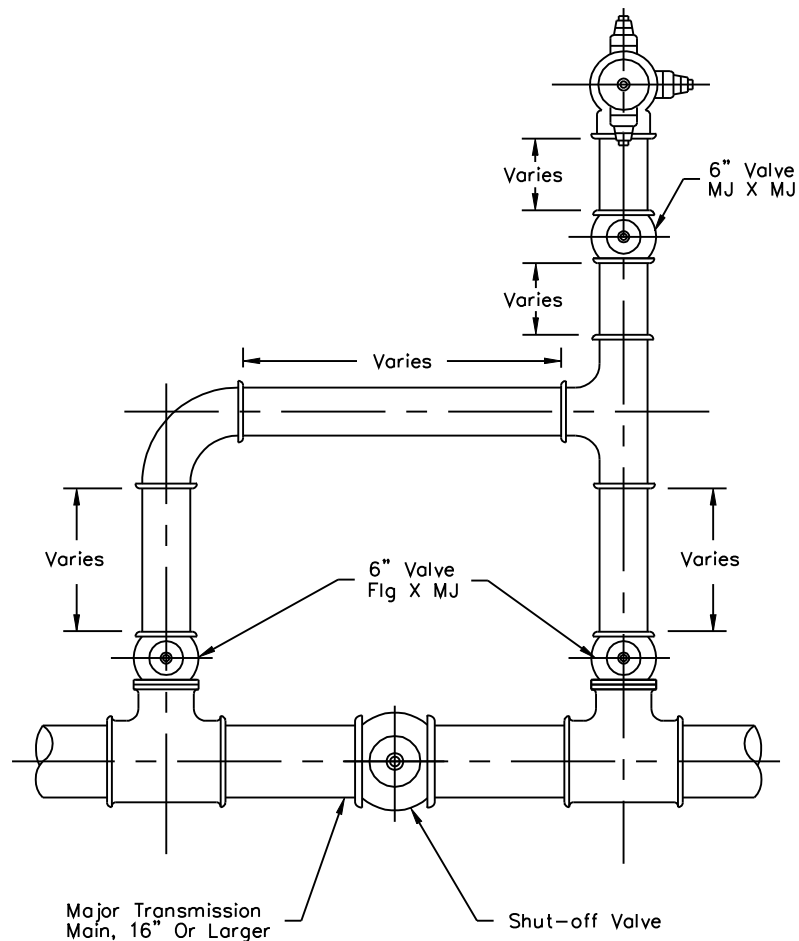
APPROVED BY:
**Scottsdale Standards &
Specifications Committee**

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

DETAIL NO.
2360

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.



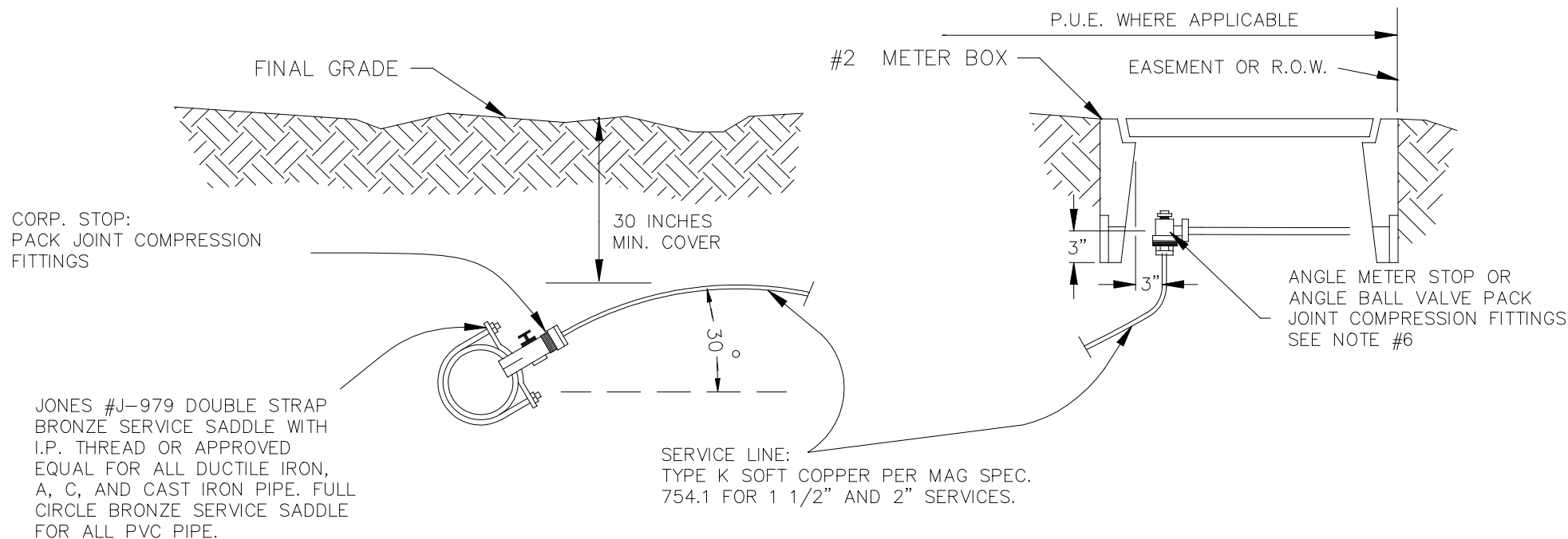
DETAIL NO.
2361

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

FIRE HYDRANT BYPASS ASSEMBLY

DETAIL NO.
2361



- 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

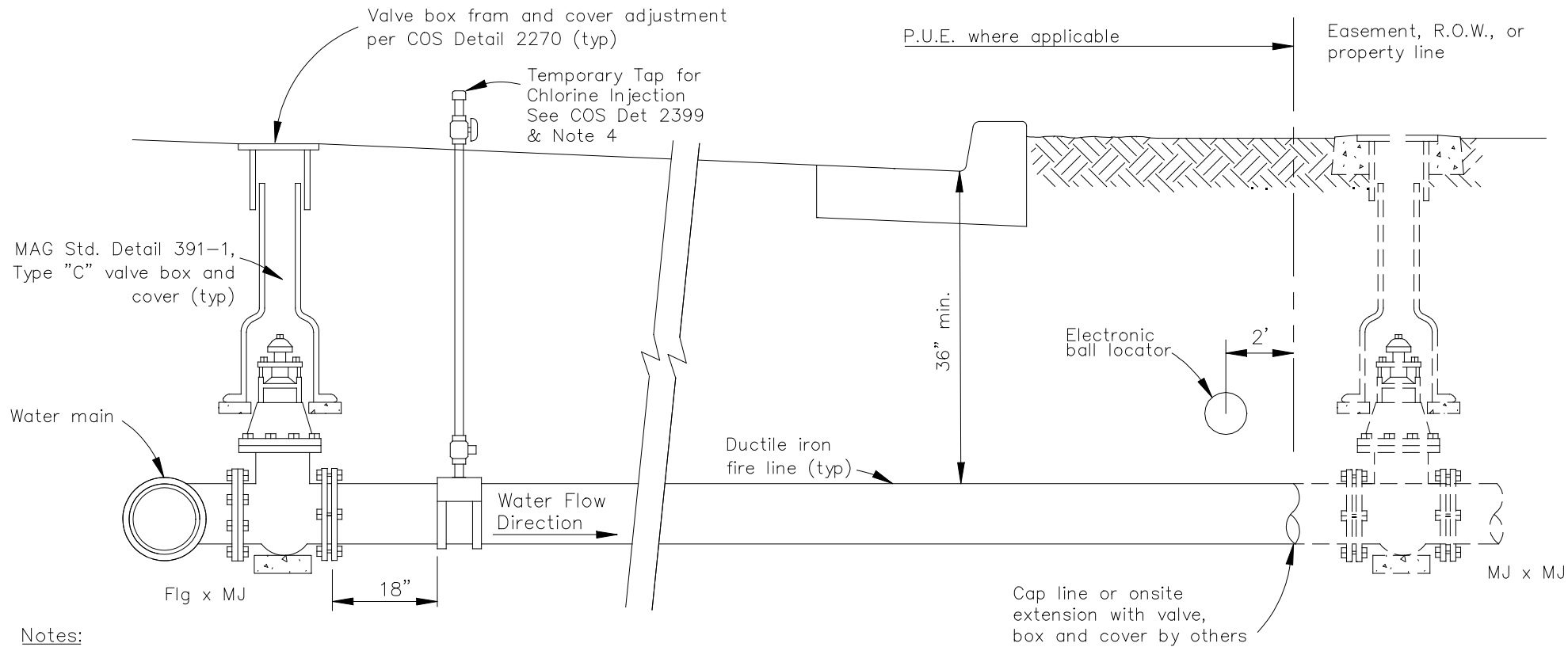
DETAIL NO.
2362-1

**City of Scottsdale
Standard Details**

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

1 1/2"-2" FIRE LINE CONNECTION

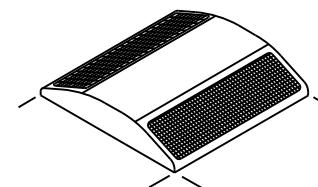
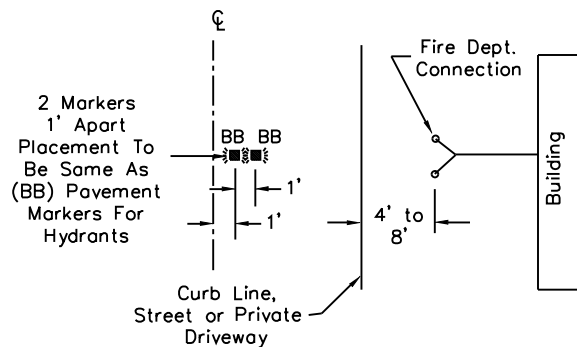
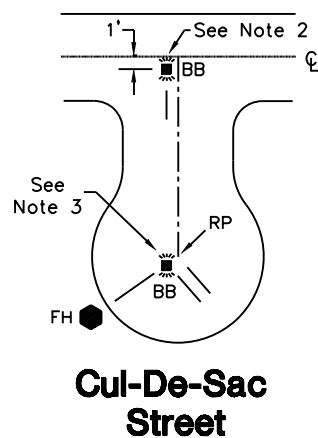
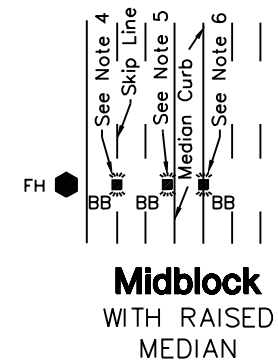
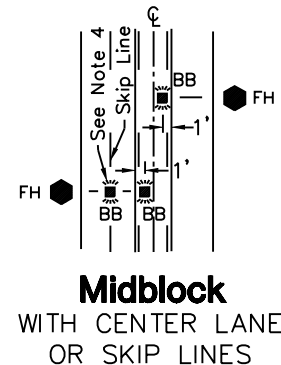
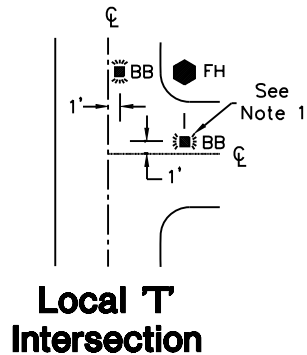
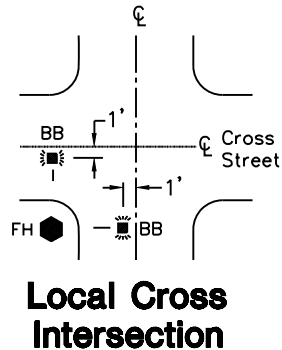
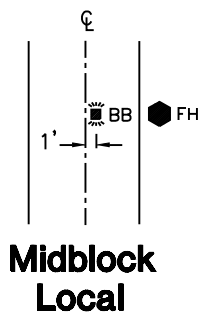
DETAIL NO.
2362-1



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. 2362-2	City of Scottsdale Standard Details	APPROVED BY: Scottsdale Standards & Specifications Committee	3" AND LARGER FIRE LINE CONNECTION	DETAIL NO. 2362-2
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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).

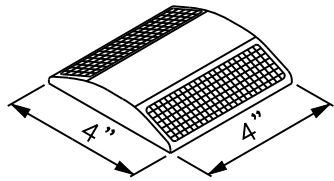
DETAIL NO.
2363

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

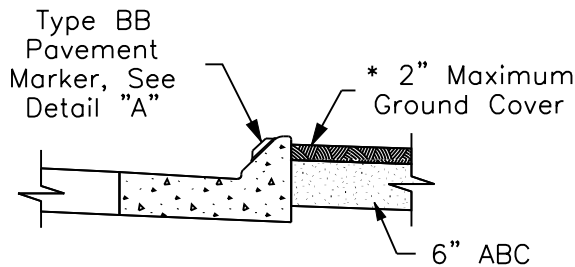
PAVEMENT MARKERS
FOR FIRE HYDRANTS

DETAIL NO.
2363



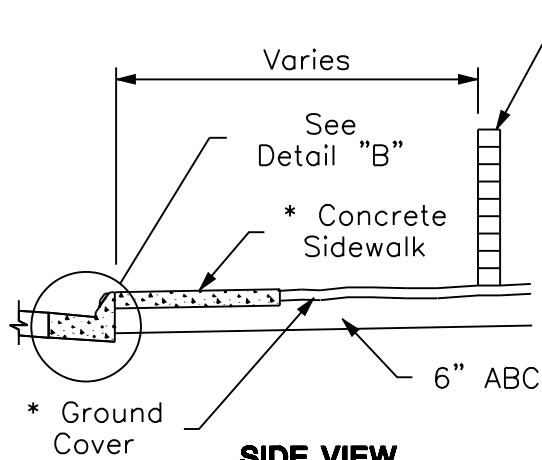
Pavement Marker
(2-WAY REFLECTIVE BLUE)
(ADOT TYPE BB)
DETAIL "A"

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

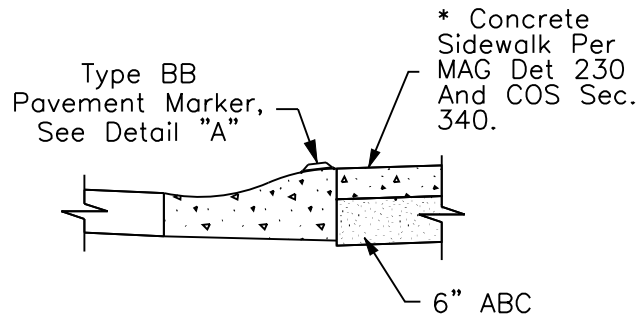


**TYPE "M" MOUNTABLE
CURB AND GUTTER**

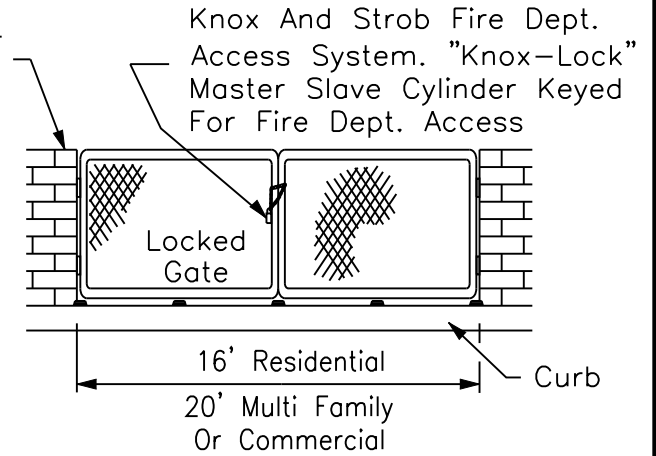
DETAIL "B"



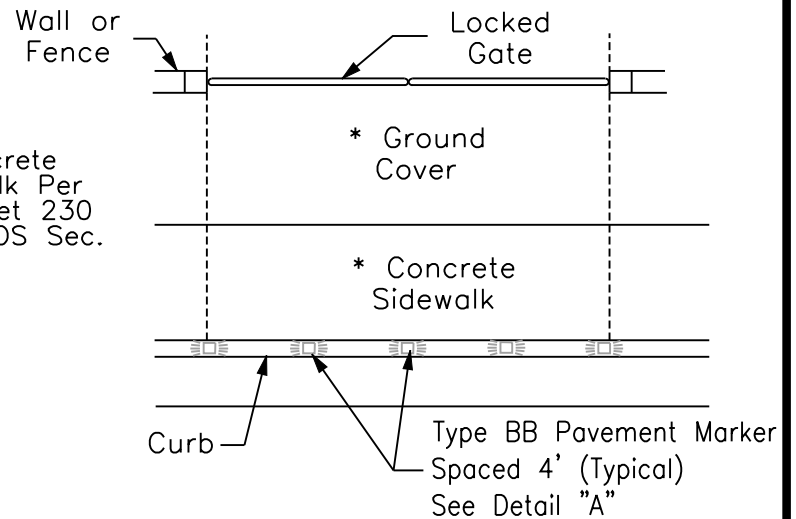
SIDE VIEW



ROLL CURB



FRONT VIEW



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

**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.

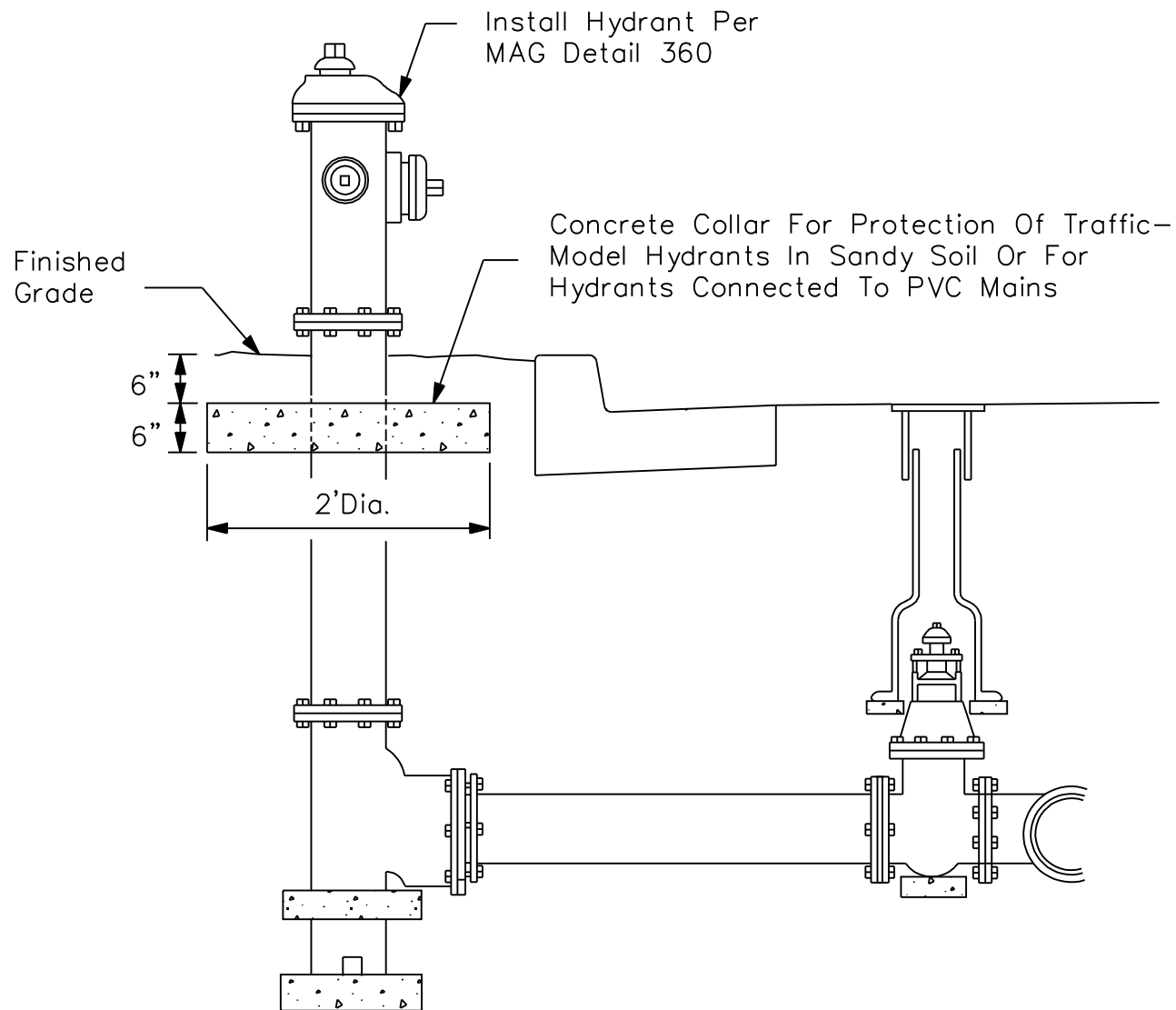
DETAIL NO.
2365

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

FIRE LANE SIGN

DETAIL NO.
2365



DETAIL NO.
2366

**City of Scottsdale
Standard Details**

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

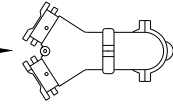
CONCRETE COLLAR FOR FIRE HYDRANTS

DETAIL NO.
2366

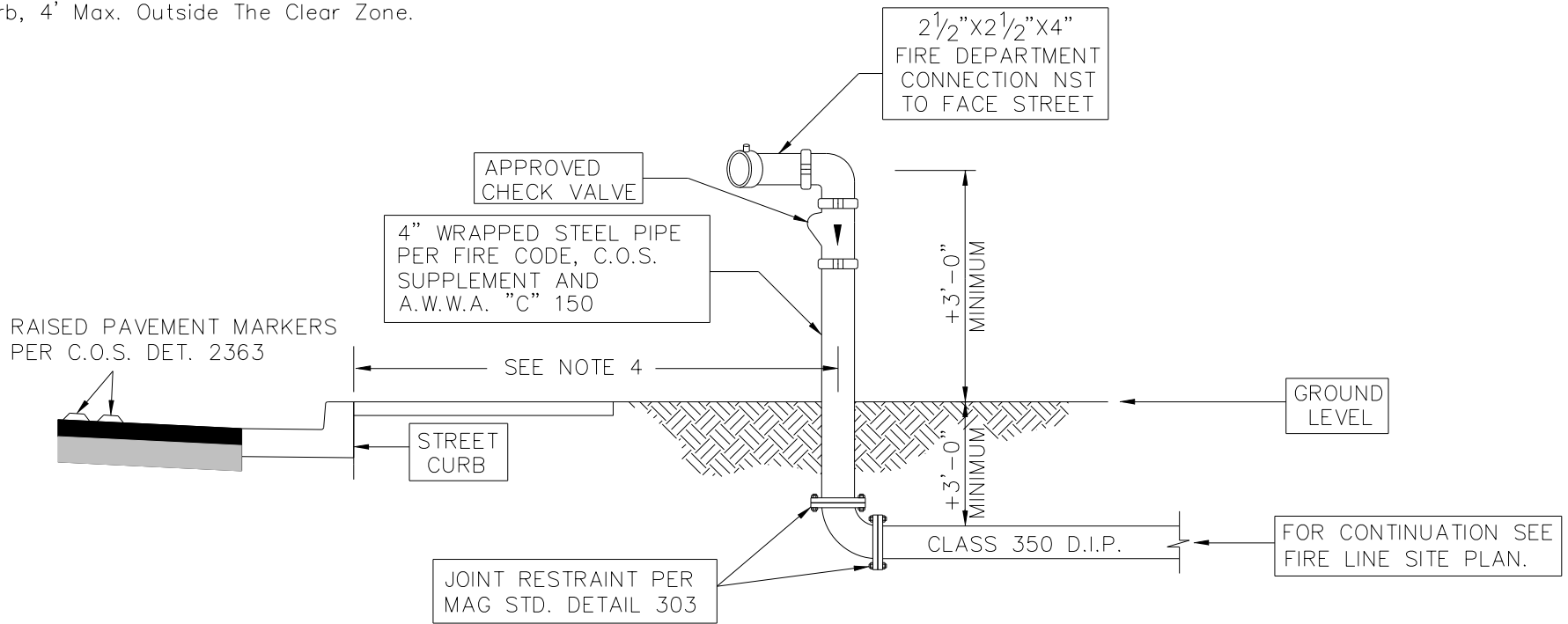
GENERAL NOTES

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 2½" 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.

2½"X2½"X4"
FIRE DEPARTMENT
CONNECTION NST



TOP VIEW



SIDE VIEW

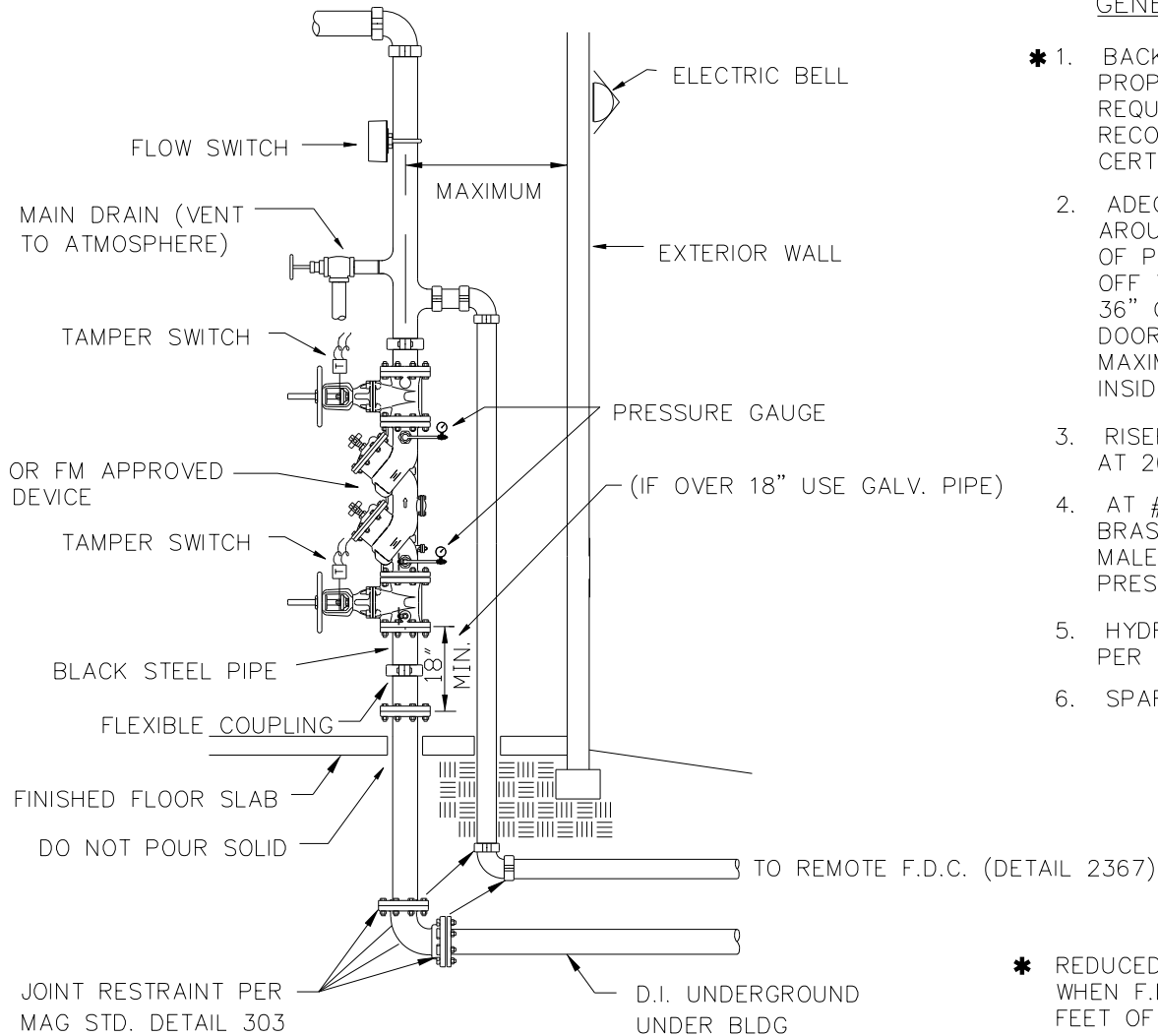
DETAIL NO.
2367

**City of Scottsdale
Standard Details**

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

**FIRE DEPARTMENT
REMOTE SIAMESE CONNECTION**

DETAIL NO.
2367



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.

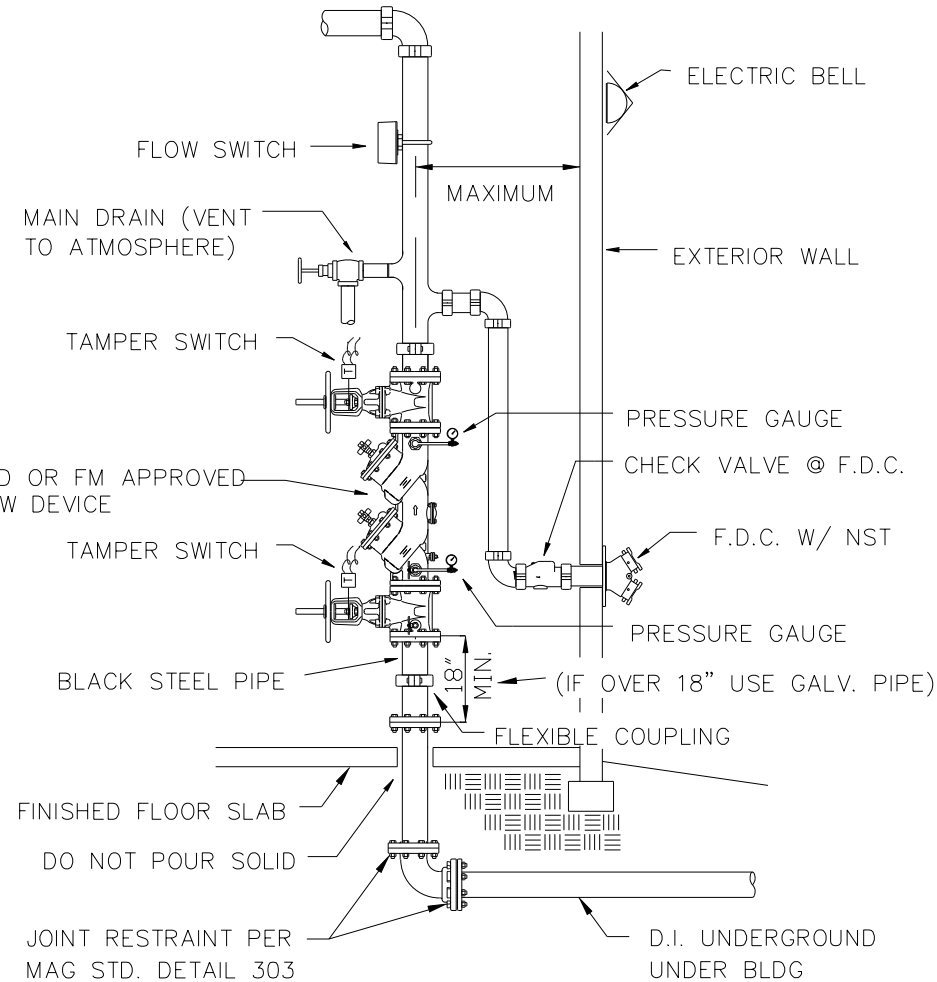
DETAIL NO.
2368

**City of Scottsdale
Standard Details**

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

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

DETAIL NO.
2368



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.

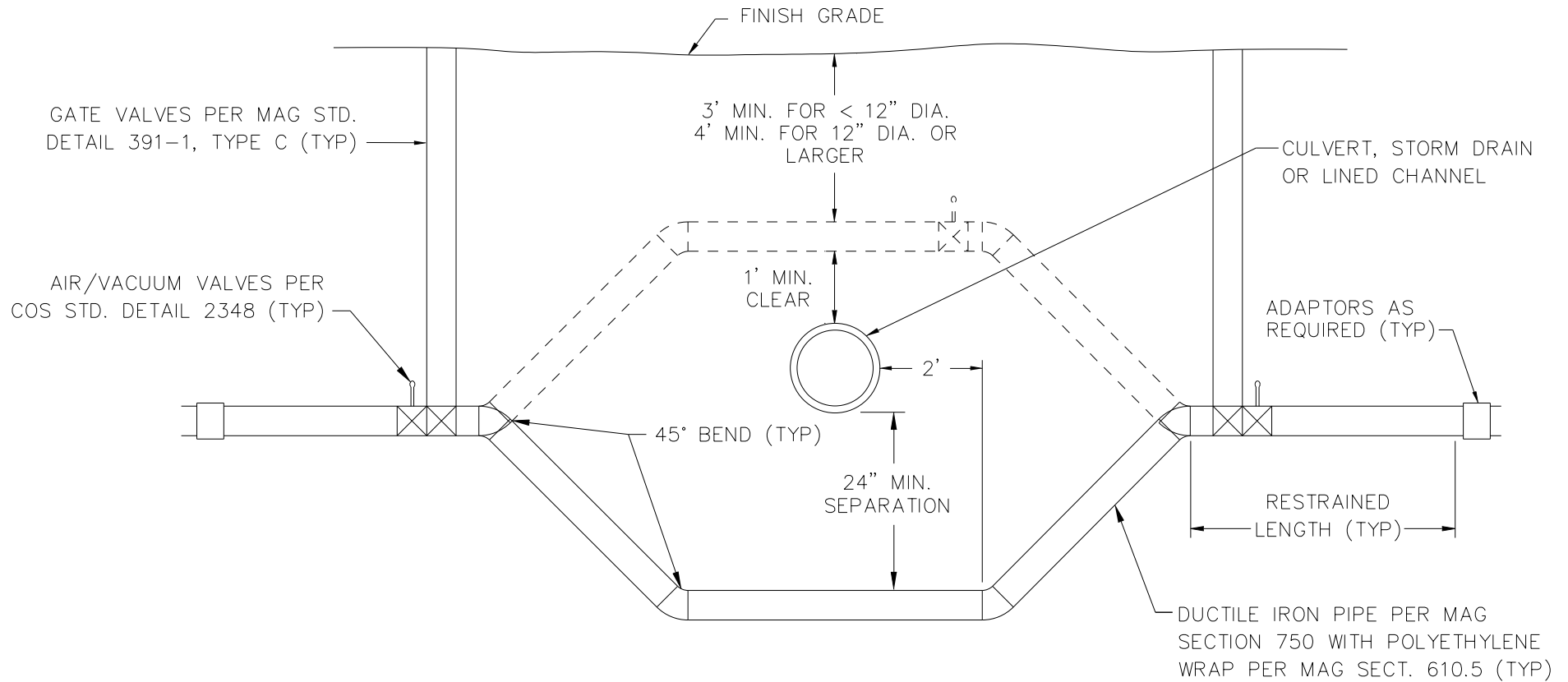
DETAIL NO.
2369

**City of Scottsdale
Standard Details**

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

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

DETAIL NO.
2369



NOTES:

1. DETAIL ONLY ILLUSTRATES MINIMUM SEPARATION AND COVER REQUIREMENTS.
2. QUANTITIES FOR PIPE, FITTINGS, VALVES AND RESTRAINT PER PLANS, INCLUDING ANY REMOVALS, TEMPORARY SUPPORT, SURFACE RESTORATION, ETC.
3. ALL JOINTS TO BE RESTRAINED PER MAG STD. DETAIL 303-1 AND 303-2 UNLESS OTHERWISE NOTED ON THE PLANS.
4. GATE VALVES AND AIR/VACUUM VALVES INSTALLED AS SHOWN UNLESS NOTED OTHERWISE ON THE PLANS.
5. BENDS NOT ADJACENT TO A GATE VALVE SHALL BE INSTALLED WITH BALL MARKERS PER COS STD. DETAIL 2397.

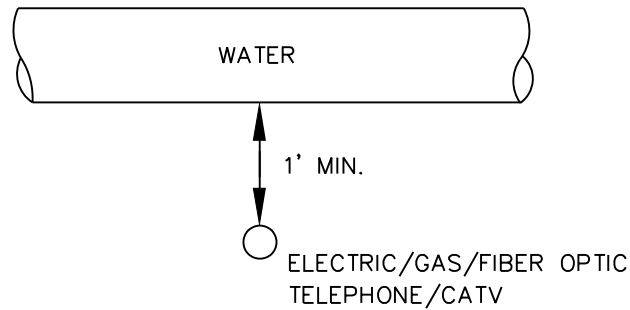
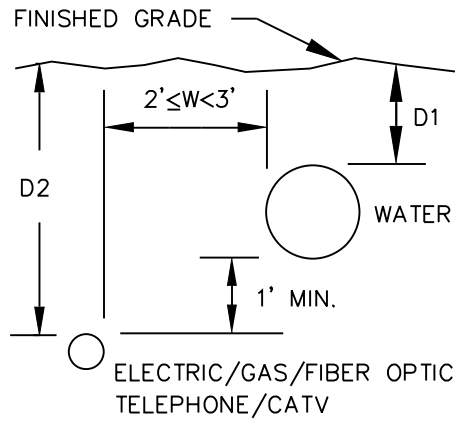
DETAIL NO.
2370

**City of Scottsdale
Standard Details**

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

VERTICAL REALIGNMENT OF WATER MAINS

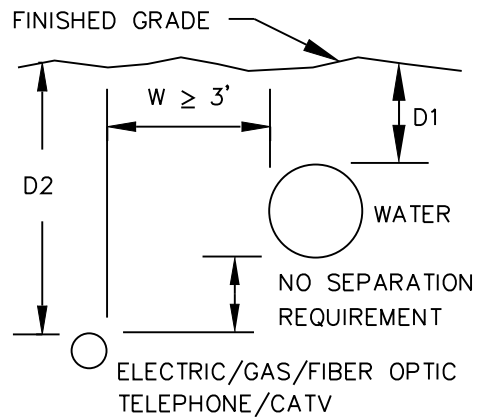
DETAIL NO.
2370



CROSSING

LEGEND:

- D1 = $\begin{cases} 3' \text{ Min. for pipe } < 12'' \text{ dia.} \\ 4' \text{ Min. for pipe } = 12'' \text{ dia.} \\ 5' \text{ Min. for pipe } > 12'' \text{ dia.} \end{cases}$
- 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.

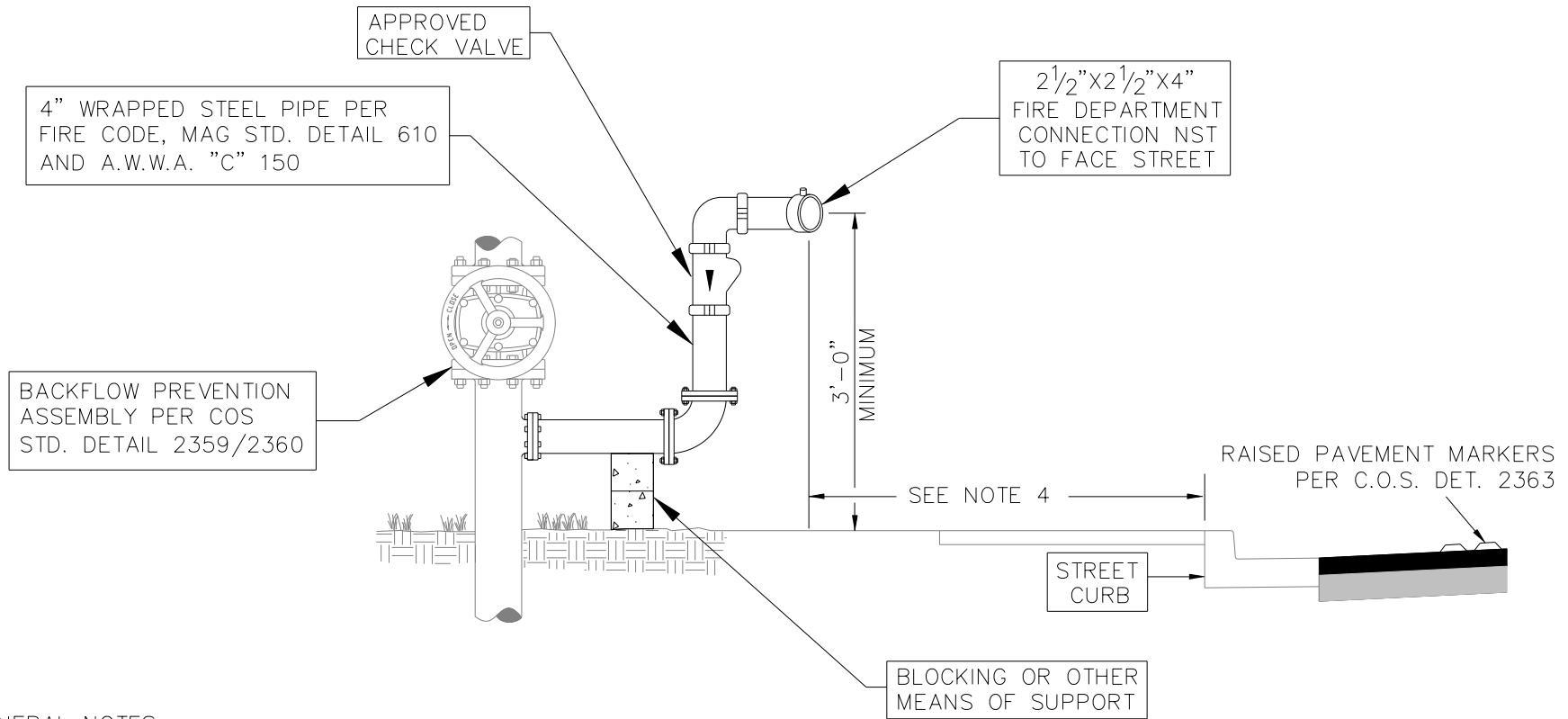
DETAIL NO.
2372

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

MINIMUM UTILITY
SEPARATION REQUIREMENTS

DETAIL NO.
2372



GENERAL NOTES

1. Provide Building I.D. On Remote Fire Dept. Connection.
2. No Trees, Bushes Or Walls Allowed 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.

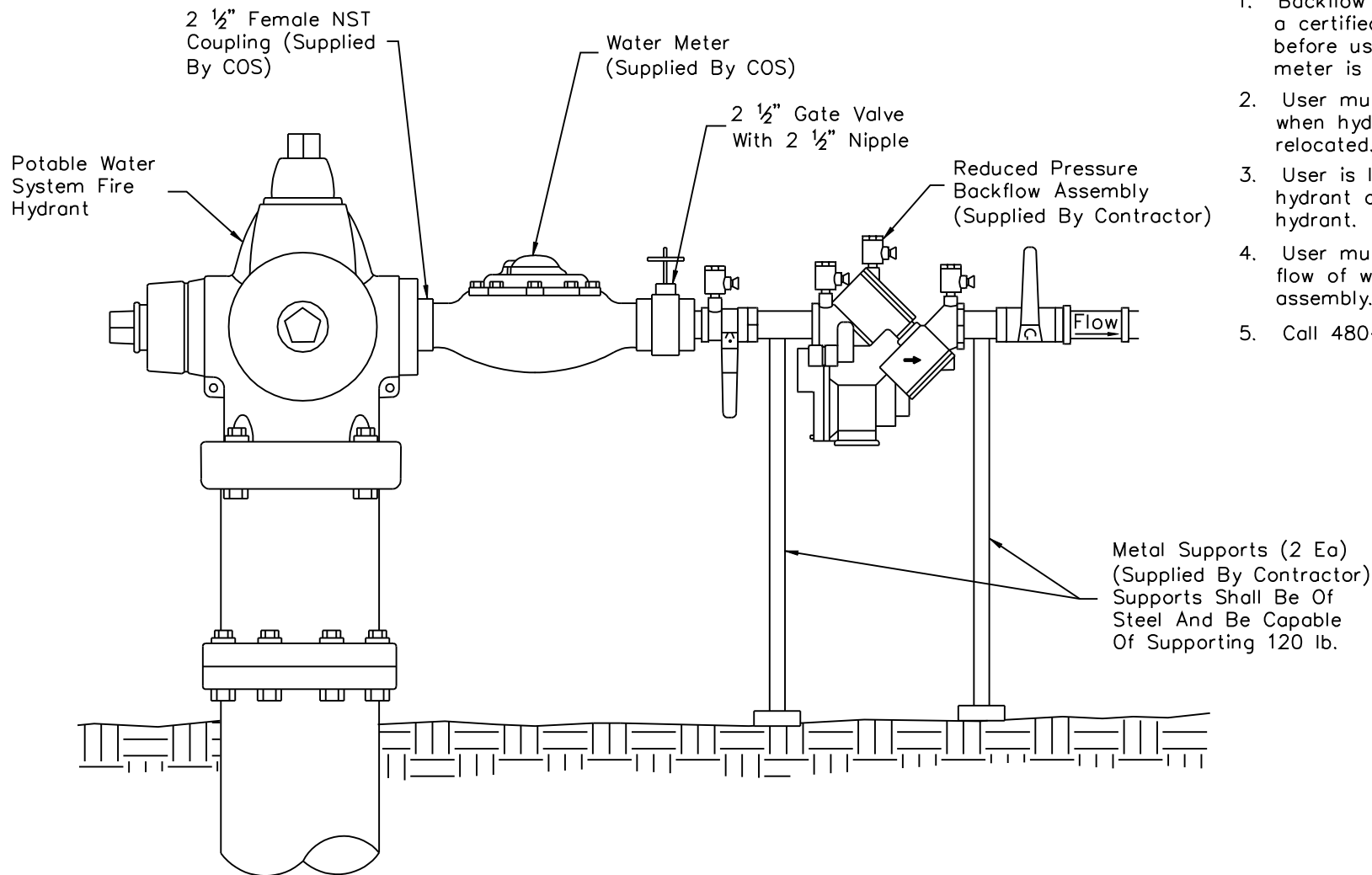
DETAIL NO.
2374

**City of Scottsdale
Standard Details**

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

**REMOTE FIRE DEPARTMENT CONNECTION
TO BACKFLOW PREVENTION ASSEMBLY**

DETAIL NO.
2374



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.

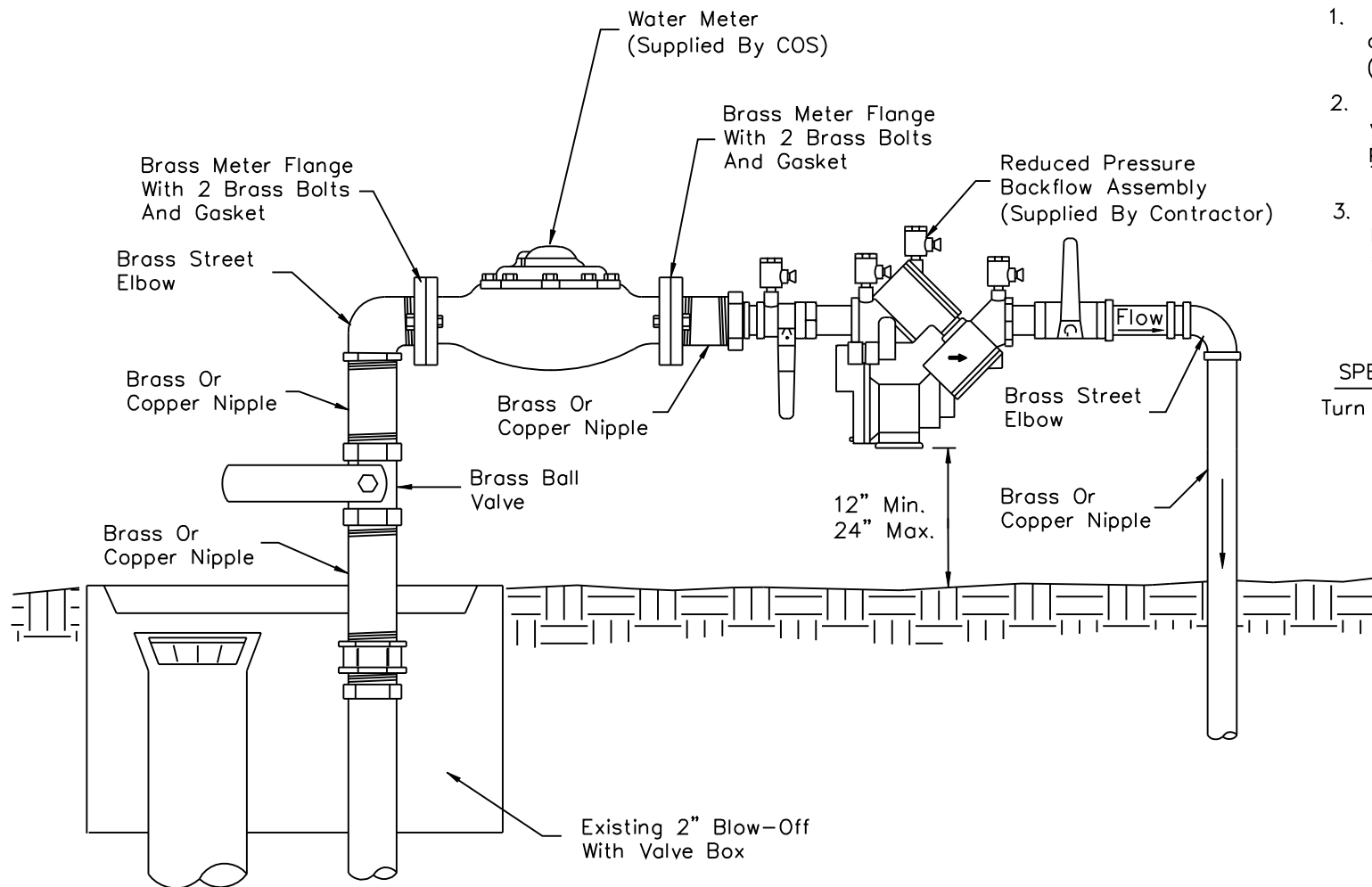
DETAIL NO.
2380

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.

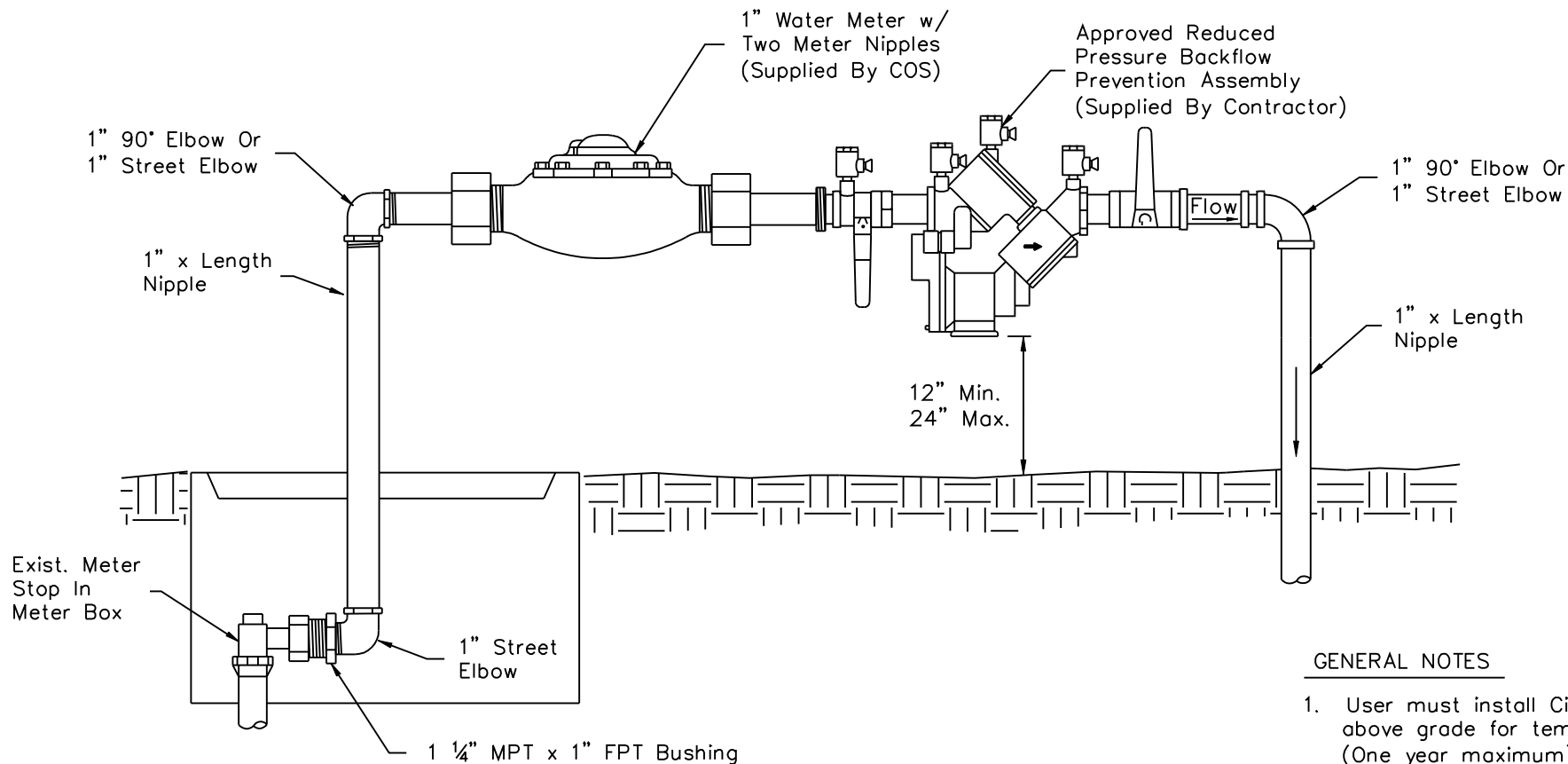
DETAIL NO.
2381

**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.

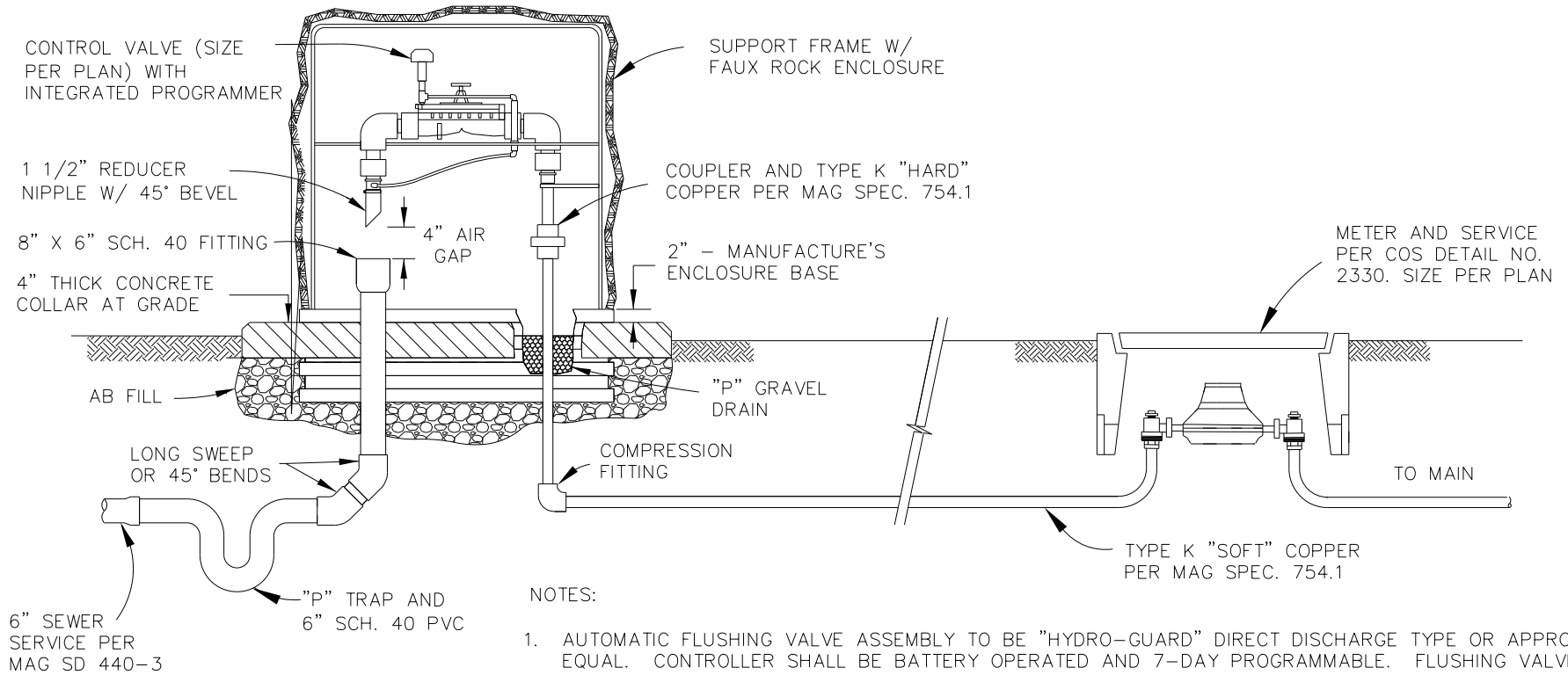
DETAIL NO.
2382

**City of Scottsdale
Standard Details**

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

TEMPORARY WATER SERVICE

DETAIL NO.
2382



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.
5. SERVICE LINE, METER AND CONTROL VALVE TO BE THE SAME SIZE.

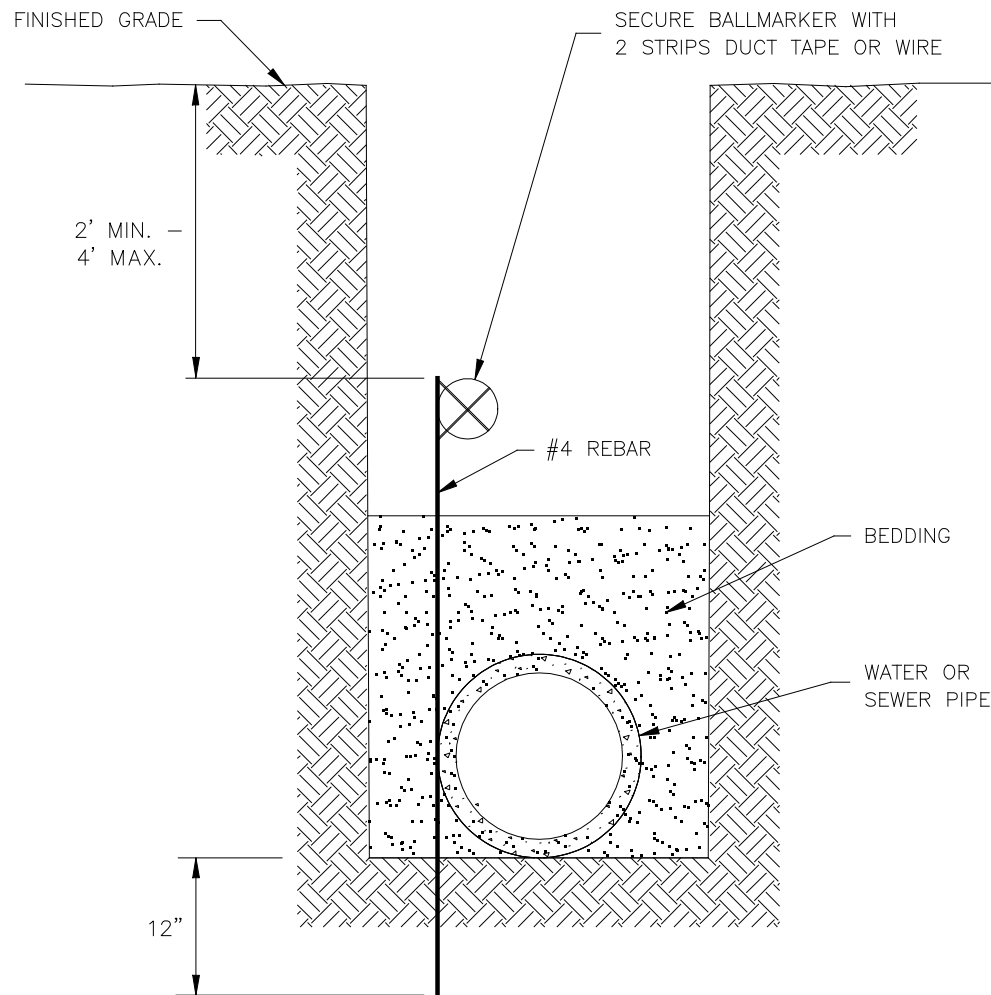
DETAIL NO.
2383

**City of Scottsdale
Standard Details**

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

WATER LINE FLUSHING ASSEMBLY

DETAIL NO.
2383



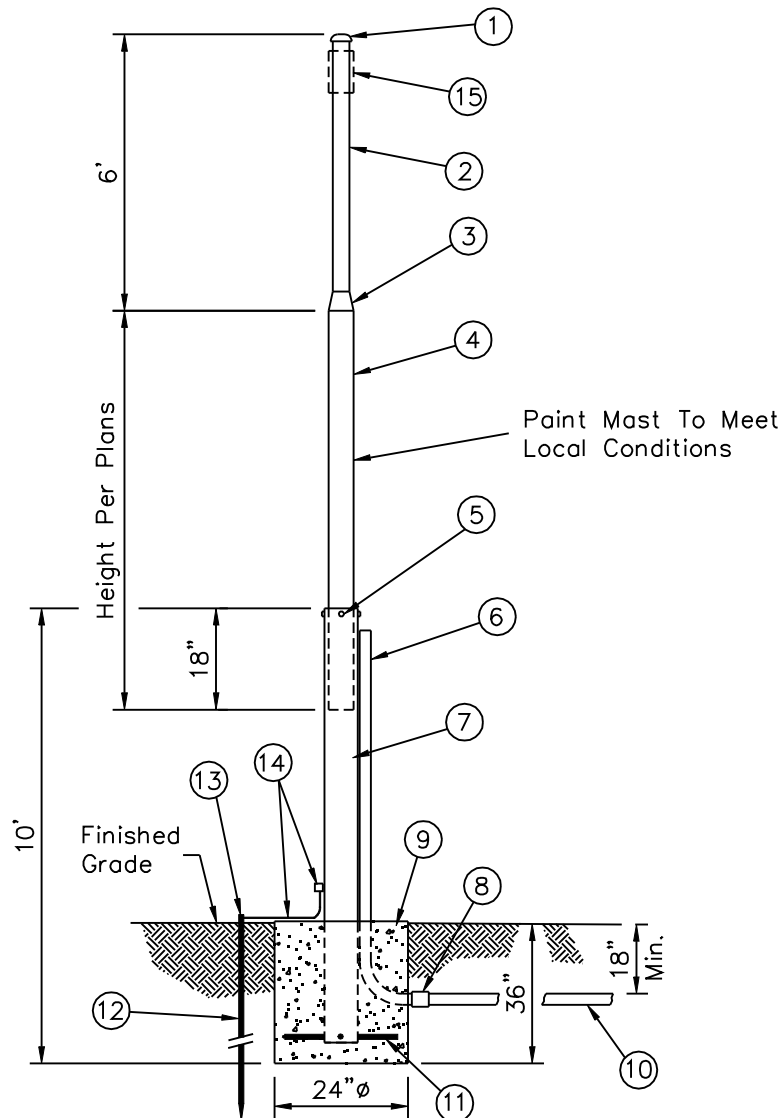
DETAIL NO.
2397

**City of Scottsdale
Standard Details**

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

ELECTRONIC BALLMARKER PLACEMENT

DETAIL NO.
2397



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

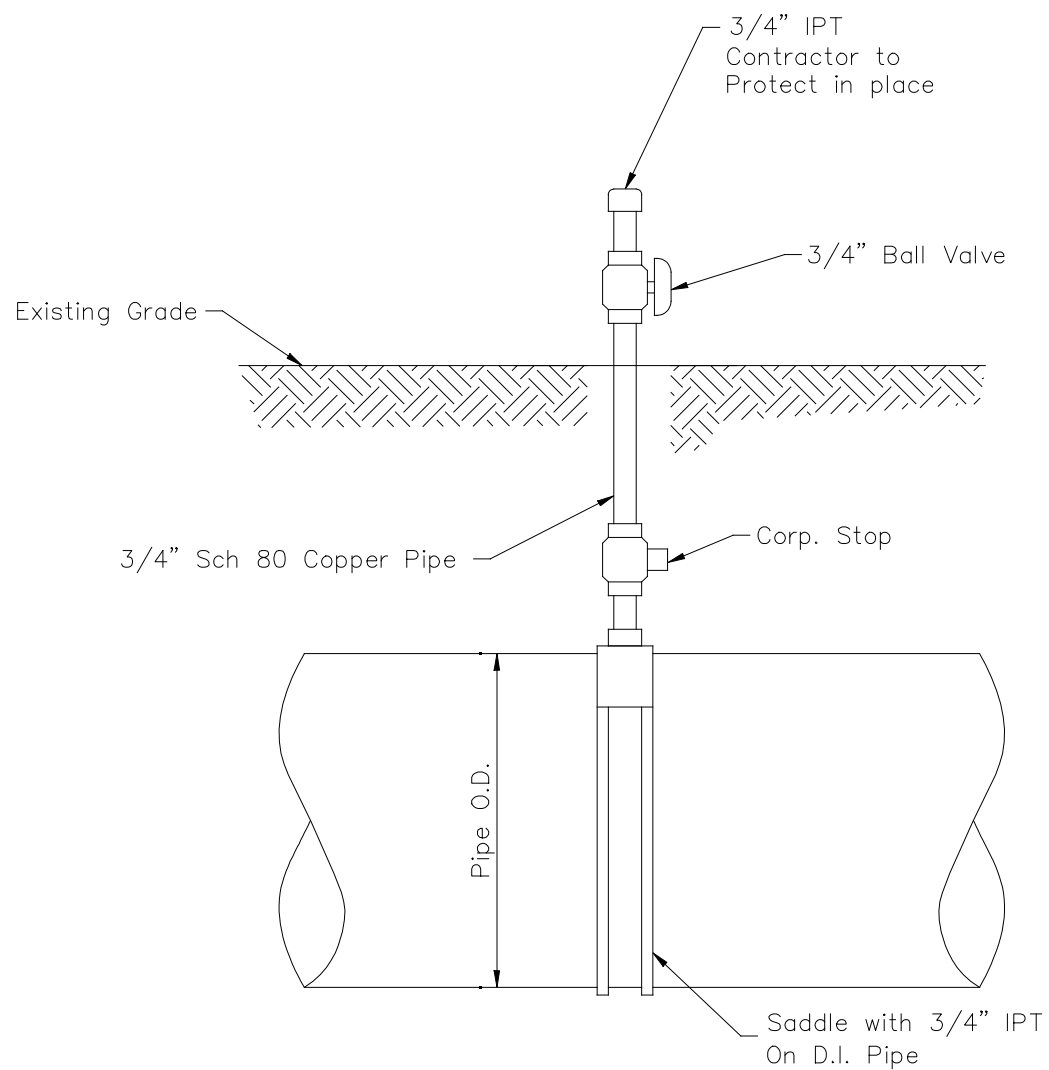
DETAIL NO.
2398

City of Scottsdale
Standard Details

APPROVED BY:
Scottsdale Standards & Specifications Committee

ANTENNA MAST DETAIL

DETAIL NO.
2398



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