

WARRINGTON TOWNSHIP
PUBLIC WATER SERVICE
AND
SANITARY SEWER LATERAL
PERMITTING PROGRAM
AND
CONSTRUCTION STANDARDS

**WARRINGTON TOWNSHIP
PUBLIC WATER SERVICE
AND
SANITARY SEWER LATERAL
PERMITTING/CONNECTION PROCEDURES**

- Prior to connecting any water service and/or sewer lateral to the public water and sewer systems within the Township, an applicant (Property Owner or Contractor) shall complete a Permit Application, which includes a permit application plan illustrating the proposed scope of work, submit a Permit Application Fee as determined by the current Township Fee Schedule, and receive written approval via a Water/Sewer Connection Permit from the Township.
- If the water and/or sewer lateral is to be installed on an adjacent property, the applicant must submit a fully executed Easement Agreement, signed by the applicable parties in conjunction with the Water/Sewer Connection Permit Application.
- If a connection to a public water or sewer main is required, the applicant must first coordinate with the North Wales Water Authority (NWWA), and/or Bucks County Water & Sewer Authority (BCWSA). Documentation concerning the public water or sewer main connection coordination must be submitted with the Water/Sewer Connection Permit Application.
- Sewage Facilities Planning Approval must be obtained from the Pennsylvania Department of Environmental Protection ("PADEP") prior to the issuance of a Sewer Connection Permit by the Township. An applicant may prepare/file the documentation needed to obtain such approval, or request assistance from the Township. In the event that the applicant requests the Township's assistance, the applicant will be required to post escrow addressing the estimated administrative expenses of the Township to complete the required PADEP documentation. The amount of the required escrow will be determined by the Township based upon the complexity of the application. Any unused escrow funds will be returned to the applicant upon issuance of the Sewer Connection Permit.
- Upon issuance of the Water/Sewer Connection Permit by the Township, the applicant shall contact the Township Engineer, Carroll Engineering Corporation to arrange for an inspection by calling 215-343-5700, at least five (5) working days in advance of the required inspection.
- For new construction, sewer connections will generally require an inspection from the end cap at the BCWSA lateral connection point, (If no test tee had previously been installed, a test tee shall be installed), including the visual inspection of the lateral line, leakage test, (pressure test; 5 psi air/5 mins), and the final connection to the house. Backfilling of the lateral trench shall not be performed until the lateral has successfully passed the required leakage test.

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AND
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PERMITTING/CONNECTION PROCEDURES**

- For new construction, water service connections will generally require inspection which will be conducted after completion of the NWWA service connection, and completion of the service line and connections, during the pressure (leakage test), prior to backfilling the trench.
- For existing homes, all inspections required for new construction will be performed.
- An inspection will be required for the proper abandonment of the existing on-lot sewage disposal system (if applicable). This will include assuring the top of the septic tank is removed, tank cleaned out (Certificate provided), and tank is filled with 2B stone or clean dry fill. After this inspection, surface restoration may be performed.
- Upon final inspection, the applicant shall provide the Township's inspector with an As-built drawing as provided with the Water/Sewer Connection Permit. The inspector will sign the Connection Permit Form and copies will be forwarded to the Township and the Property Owner/Applicant.

APPLICATION FOR WATER SERVICE OR SANITARY SEWER LATERAL INSTALLATION

Indicate which service you are requesting: **WATER SERVICE** **SEWER SERVICE** **BOTH**

*****All Applications shall be in the name of the property owner*****

Property Classifications*:	Residential	Commercial	Public	Restaurant	Industrial
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I hereby make application for use of the water system and/or sanitary sewer and agree to be governed by the Rates, Rules and Regulations as adopted by the Warrington Township for water and sanitary sewer, which are made part of the application with the same effect as if physically attached to it, and further agree that I shall not permit a sump pump or roof drainage to be connected to our enter the sanitary sewer system from the described premises.

I agree to schedule an inspection with the Carroll Engineering inspection at 215-343-5700 when the building service line (from the building to the service line connection) is ready for inspection and connection to the public utility main, but before any portion of the work is covered.

Owner's Name: _____ Phone# _____

Service Address:

Tax Parcel: _____ Account # _____

Plumber:	Plumber's Phone#
Mr. Smith	555-1234
Mr. Jones	555-5678
Mr. Brown	555-9012
Mr. White	555-3456
Mr. Green	555-7890
Mr. Black	555-2345
Mr. Gray	555-6789
Mr. Gold	555-0123
Mr. Silver	555-4567
Mr. Copper	555-8901
Mr. Iron	555-2345
Mr. Steel	555-6789
Mr. Aluminum	555-0123
Mr. Zinc	555-4567
Mr. Lead	555-8901
Mr. Nickel	555-2345
Mr. Cobalt	555-6789
Mr. Manganese	555-0123
Mr. Silicon	555-4567
Mr. Boron	555-8901
Mr. Nitrogen	555-2345
Mr. Oxygen	555-6789
Mr. Hydrogen	555-0123
Mr. Helium	555-4567
Mr. Neon	555-8901
Mr. Argon	555-2345
Mr. Krypton	555-6789
Mr. Xenon	555-0123
Mr. Radon	555-4567
Mr. Francium	555-8901
Mr. Radium	555-2345
Mr. Actinium	555-6789
Mr. Thorium	555-0123
Mr. Protactinium	555-4567
Mr. Uranium	555-8901
Mr. Neptunium	555-2345
Mr. Plutonium	555-6789
Mr. Americium	555-0123
Mr. Curium	555-4567
Mr. Berkelium	555-8901
Mr. Californium	555-2345
Mr. Einsteinium	555-6789
Mr. Fermium	555-0123
Mr. Mendelevium	555-4567
Mr. Nobelium	555-8901
Mr. Lawrencium	555-2345
Mr. Rutherfordium	555-6789
Mr. Dubnium	555-0123
Mr. Seaborgium	555-4567
Mr. Bohrium	555-8901
Mr. Hassium	555-2345
Mr. Meitnerium	555-6789
Mr. Darmstadtium	555-0123
Mr. Roentgenium	555-4567
Mr. Copernicium	555-8901
Mr. Nihonium	555-2345
Mr. Flerovium	555-6789
Mr. Tennessine	555-0123
Mr. Oganesson	555-4567

Plumber Address:

Water connection only

Pursuant to the application for a water connection permit this permit is issued to the undersigned homeowner or registered Master Plumber, as agent for the owner, for connection of the building water (house service) with the public water system.

This permit is issued in accordance with the Ordinances, Resolutions, Rules and Regulations of Warrington Township and of the Warrington Township Water & Sewer Department respectively, relating to the water system constructed in the Township by Warrington Township Water & Sewer Department.

I agree to schedule an inspection with the Carroll Engineering inspection at 215-343-5700, at least five (5) working days in advance, when the building water service is ready for inspection and connection to the public water, but before any portion of the work is covered. I further agree that I shall not permit any cross connections to be connected to the public water system from the current well water system from the above described premises. If the well on the above described property is to be abandoned, it must be abandoned in accordance with Section 301.8 of the Warrington Township Well Ordinance # 02-0-14.

Applicant Signature: _____ Date: _____

Date of hook up: _____ Well Filled in: _____

Sewer connection only

Pursuant to the application for a sewer connection permit, this permit is issued to the undersigned homeowner or registered Master Plumber, as agent for the owner, for connection of the building sewer (house lateral) with the public sanitary sewer system.

This permit is issued in accordance with the Ordinances, Resolutions, Rules and Regulations of Warrington Township, relation to the sanitary sewer system in the Township.

I agree to schedule an inspection with the Carroll Engineering inspection at 215-343-5700, at least five (5) working days in advance, when the building sewer is ready for inspection and connection to the public sewer, but before any portion of the work is covered. I further agree that I shall not permit a sump pump or roof drainage to be connected to, or enter the sanitary sewer system from the above described premises. Septic tanks/cesspools must be filled in.

Applicant Signature: _____ Date: _____

Date of hook up: _____ Septic System Filled In: _____

Office Only:

WATER

Permit Fee: _____

SEWER

Permit Fee: _____

TOTAL FEE \$ _____

DATE PAID: _____

Applicant shall provide copies of proof of payment to utilities.

WATER – North Wales Water Authority

Check box if received:

Connection Deposit: ☐ Customer Facility: ☐ Capacity Fee: ☐ Distribution Fee: ☐

SEWER – Bucks County Water and Sewer Authority

Check box if received:

Professional Services Agreement: ☐ Reservation of Capacity Agreement: ☐ Sewer Service Agreement: ☐

Application approved and permit issued by: _____ Date: _____

Warrington Township Inspection Signature*

Date

*To be signed upon completion of water and/or sewer connection, including testing and backfill.

**WARRINGTON TOWNSHIP
SUMMARY OF RULES AND REGULATIONS
FOR
RESIDENTIAL WATER SERVICE CONNECTIONS**

- All plumbing must be inspected prior to backfill.
- The service connection piping beyond the curb stop will be the responsibility of the property owner.
- Residents with domestic fire sprinkler systems shall have a separate service connection for the sprinkler system.
- All water service piping materials and installation shall comply with North Wales Water Authority Standard Specifications and Details.
- All water service connection for residential properties will be minimum 1" diameter seamless soft temper Type K copper service pipe conforming to ASTM B88.
- A minimum of 42" of cover is required over all water service pipe.
- Water service lines shall be bedded in a minim of 6" of 2A stone. A minimum of 12" of 2A stone shall be placed over the pipe.
- All service connection piping shall be installed in continuous runs from the curb stop to a ball valve located inside the structure. Connections in service piping greater than 100 feet shall be made using an additional curb stop and box assembly. The use of buried couplings is prohibited. For service piping greater than 200 feet shall be metered by use of a meter box at the property line.
- Pipe penetration through the foundation wall shall be made with a protective sleeve and the service pipe shall be sealed using "Link Seal" to prevent water infiltration at the basement wall. A ball valve shall be installed at the entrance of the service line into the building.
- A pressure reducing valve shall be installed when the incoming pressure is greater than 80 psi. Pressure reducing valve shall be Watts Model U5B or approved equal.
- A minimum horizontal separation of 10 feet must be maintained between sanitary sewer lateral and water service piping unless the vertical separation between the piping is greater than or equal to 18 inches.

**WARRINGTON TOWNSHIP
PERMIT APPLICATION FOR WATER SERVICE CONNECTIONS
ADDITIONAL REQUIREMENTS:
COMMERCIAL/INSTITUTIONAL/INDUSTRIAL APPLICATIONS**

All Commercial/Institutional/Industrial Water Service Connection Permit Applications shall comply to the Summary of Rules and Regulations for residential Water Service Connections, as well as the following additional requirements:

- A copy of the property deed must be submitted with the permit application.
- A signed and executed Contract Agreement between the owner and general contractor and all subcontractors must be submitted with the permit application. The store/facility (owner's) name, signatures of both parties, and cost must be indicated on the contract.
- Three (3) full sets of construction plans and shop drawings pertaining to all Water Service materials of construction must be submitted with the permit application. Each sheet shall bear the signature and seal of a Pennsylvania Registered Professional Engineer.
- All industrial facilities must complete and file a projected water usage calculation and fire sprinkler demand calculation with the permit application.
- Commercial/Institutional/Industrial shall be serviced by separate domestic and fire service connections.
- All services shall include an approved backflow preventer.

**WARRINGTON TOWNSHIP
SUMMARY OF RULES AND REGULATIONS
FOR RESIDENTIAL
SANITARY SEWER LATERAL CONNECTIONS AND
ABANDONMENT OF SEPTIC SYSTEM (IF REQUIRED)**

- All plumbing must be inspected prior to backfill.
- Underground sewer pipe shall have a maximum SDR of 35 and shall conform to ASTM D3034. Pipe joints shall be made and joined with an integral bell, bell and spigot rubber gasketed joint. Each integral bell joint shall consist of a formed bell complete with a single rubber gasket. Gaskets shall conform to ASTM F477. The underground sewer pipe shall be installed from the Bucks County Water & Sewer Authority's six-inch (6") PVC SDR 35 lateral to within five feet (5') of the building entry which shall be converted to Schedule 80 PVC. All changes in pipe size, direction or connection shall be through standard PVC fittings as defined in ASTM D1784.
- All piping shall be placed at a minimum 2% grade (1/4 inch per foot), unless otherwise authorized by the Township.
- A minimum of 4" of 2A stone or 2B stone, bedding shall be placed below all piping. A minimum of 12" of 2A stone or 2B stone shall be placed over the pipe.
- In the event of over excavation of the sanitary sewer lateral trench, compacted 2A stone shall be used to backfill from subgrade to bottom of lateral pipe.
- The Township's inspector may require modifications in pipe material, bedding, and backfill requirements where sanitary sewer laterals will be constructed under or through porch or patio foundations.
- A minimum of 36" of cover is required over all piping.
- Cleanouts are required every 40 feet and at all bends, with a minimum of one cleanout if the laterals is less than 40 feet long.
- A minimum horizontal separation of 10 ft. must be maintained between sanitary sewer lateral and water service piping unless the vertical separation between the piping is greater than or equal to 18 inches.
- A cleanout shall be installed just outside the foundation wall for the purpose of performing a leakage test.
- Pipe penetration through the foundation wall shall be made with a protective sleeve two sizes or greater than the lateral pipe. The annular space between the sleeve and the lateral pipe shall be sealed using "Link Seal" to prevent water infiltration at the basement wall.

**WARRINGTON TOWNSHIP
SUMMARY OF RULES AND REGULATIONS
FOR RESIDENTIAL
SANITARY SEWER LATERAL CONNECTIONS AND
ABANDONMENT OF SEPTIC SYSTEM (IF REQUIRED)**

- Where connections are made to existing houses, the septic tanks shall be properly abandoned. The septic tanks shall be pumped out and flushed clean. The waste material shall be properly disposed by an approved sewage hauler and a Certificate shall be provided to the Township inspector.
- Where connections are made to existing house, plumber must demonstrate that internal plumbing within the house is properly trapped, or external trap(s) shall be provided at the location designated by the Township inspector.
- All lines entering/exiting the septic tank shall be flushed and plugged.
- The cover of the septic tank shall be completely removed, the bottom of the tank shall be perforated in a manner acceptable to the Township inspector, and the tank backfilled with 2b stone or clean dry fill.

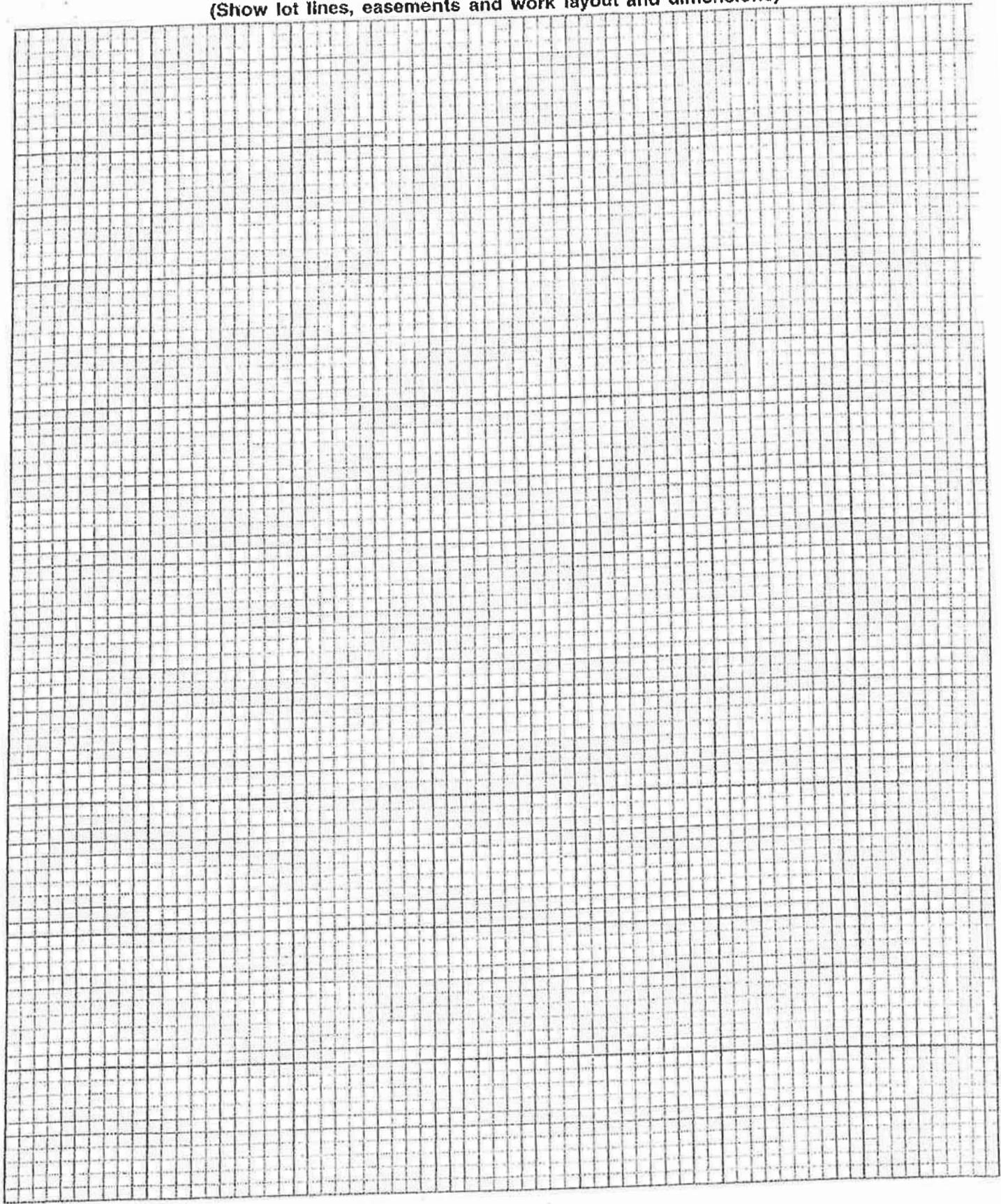
**WARRINGTON TOWNSHIP
PERMIT APPLICATION FOR
SANITARY SEWER LATERAL CONNECTIONS
ADDITIONAL REQUIREMENTS:
COMMERCIAL/INSTITUTIONAL/INDUSTRIAL APPLICATIONS**

All Commercial/Institutional/Industrial Sanitary Sewer Lateral Connection Permit Applications shall comply to the Summary of Rules and Regulations for Residential Sanitary Sewer Lateral Connections, as well as the following additional requirements:

- A copy of the property deed must be submitted with the permit application.
- A signed and executed Contract Agreement between the owner and general contractor and all subcontractors must be submitted with the permit application. The store/facility (owner's) name, signatures of both parties, and cost must be indicated on the contract.
- Three (3) full sets of construction plans and shop drawings pertaining to all Sanitary Sewer Service materials of construction must be submitted with the permit application. Each sheet shall bear the signature and seal of a PA Registered Professional Engineer.
- All industrial facilities must complete and file a Sanitary Sewage Discharge Questionnaire with the permit application.
- Grease traps shall be provided at all commercial, institutional, or industrial facilities that conduct on-site food preparation activities. The grease trap design for each facility shall be in accordance with the Township's Rules & Regulations. The capacity of each grease trap shall be determined by the Township Engineer.
- Oil separators shall be provided at all commercial, institutional or industrial facilities that conduct any on-site activities that could potentially result in the discharge of oil or petroleum bearing wastes into the sanitary sewer system. The oil separator design shall be in accordance with the Township's Rules and Regulations.
- All industrial facilities shall install a sampling manhole, immediately adjacent to the right-of-way line, in accordance with the Township's Rules & Regulations.

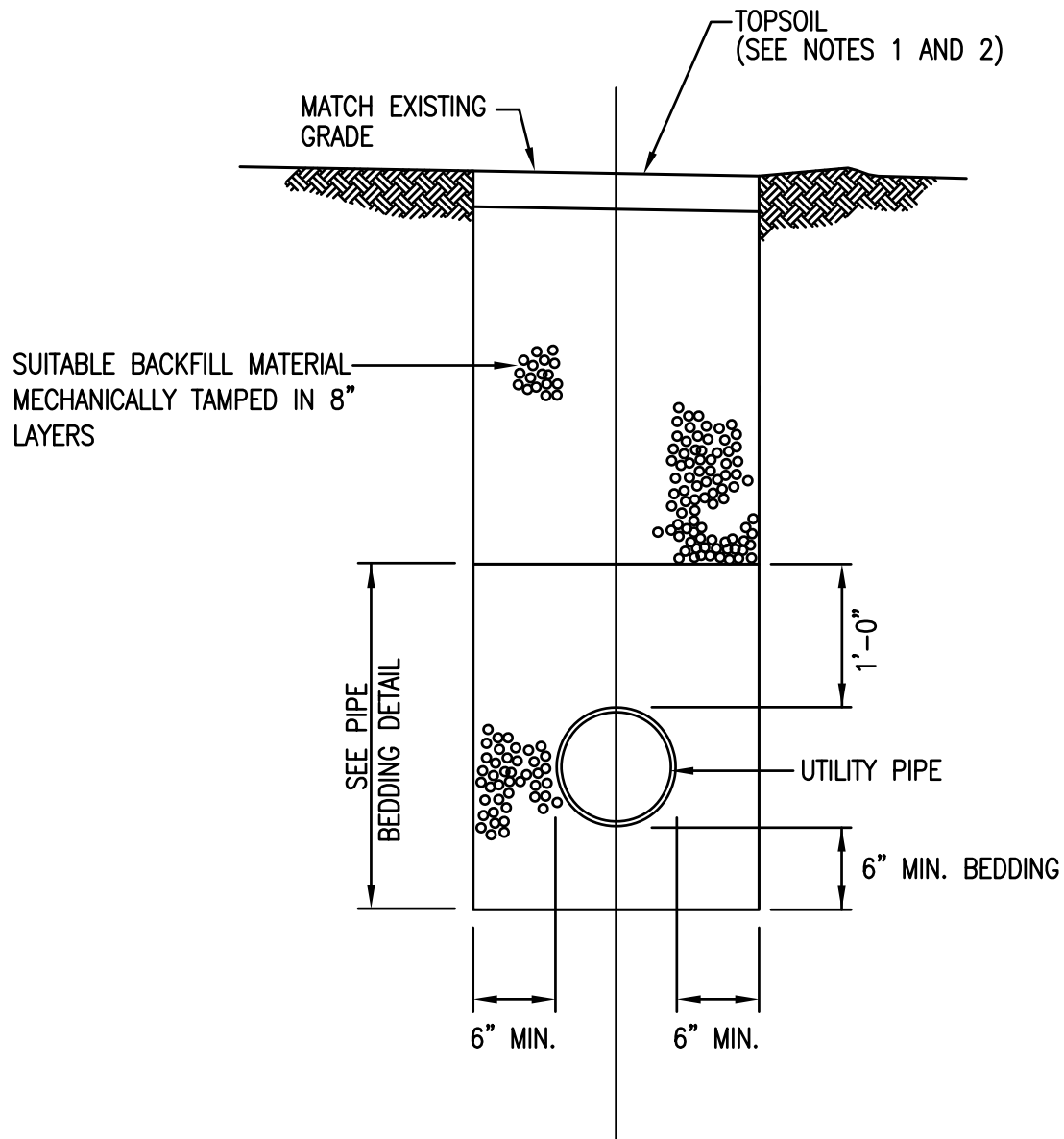
Water Service and/or Sanitary Sewer Lateral As-Built

(Show lot lines, easements and work layout and dimensions)



SCALE = 1 Inch = _____ FEET

CONSTRUCTION DETAILS



NOTES:

1. THE TOP 6" OF ALL TRENCHES IN NON-WETLAND AREAS SHALL BE BACKFILLED WITH TOPSOIL AND RESTORED IN ACCORDANCE WITH SECTION 02920 OF THE SPECIFICATIONS.
2. THE TOP 18" OF ALL TRENCHES IN WETLANDS SHALL BE BACKFILLED WITH PREVIOUSLY STRIPPED TOPSOIL AND RESTORED IN ACCORDANCE WITH SECTION 02920 OF THE SPECIFICATIONS.

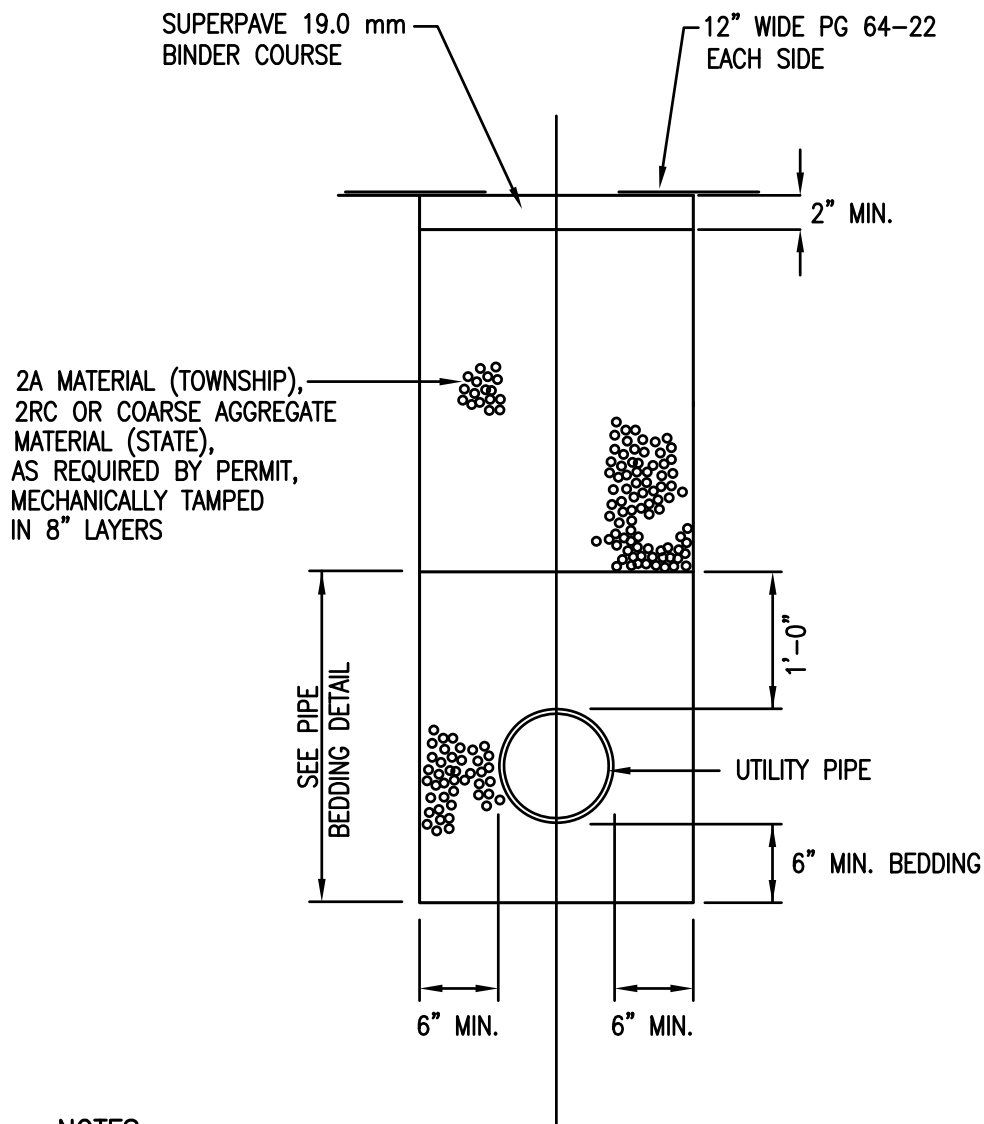
TRENCH RESTORATION FOR EASEMENTS

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL TR1

REF. NO. 4102-66

REV. 8/2020



NOTES:

1. SPECIAL CONDITIONS OF OCCUPANCY OR ROAD OPENING PERMIT MAY SUPERSEDE DETAIL.
2. CONTRACTOR TO MAINTAIN TEMPORARY PAVING.

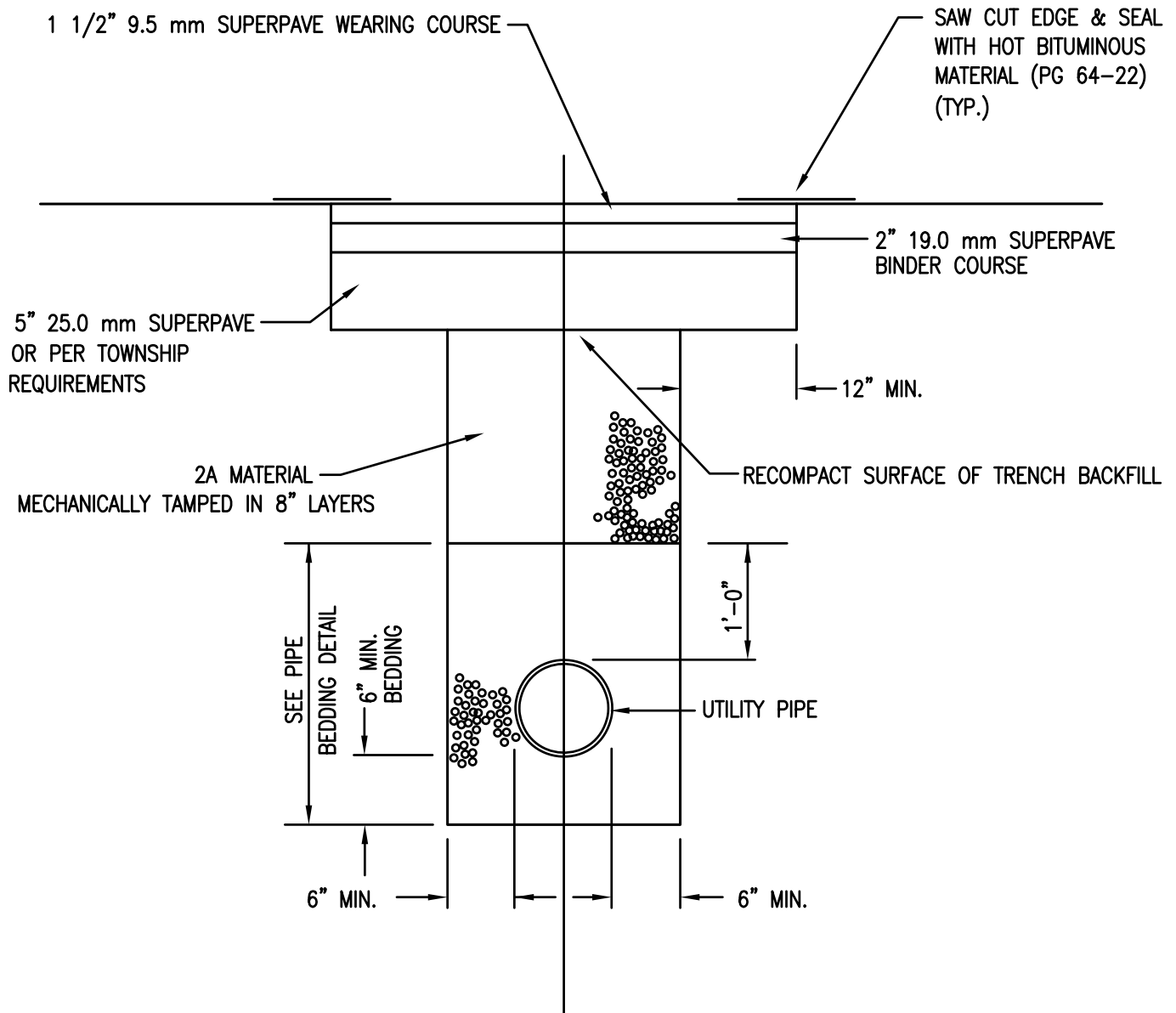
**TEMPORARY PAVEMENT AND TRENCH RESTORATION
FOR TOWNSHIP ROADS AND STATE HIGHWAYS**

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL TR4

REF. NO. 4102-66

REV. 8/2020



NOTES:

1. SPECIAL CONDITIONS OF ROAD OPENING PERMIT MAY SUPERSEDE THIS DETAIL.
2. RETAINED SUITABLE MATERIAL MAY BE USED AS BACKFILL FOR TRENCHES IN TOWNSHIP ROAD R.O.W. WHEN MORE THAN 3 FT. FROM EXISTING SHOULDER OR PAVED CARTWAY. RETAINED SUITABLE MATERIAL MAY BE USED AS BACKFILL FOR NEW ROADWAY CONSTRUCTION. COMPACTION REQUIREMENTS STILL APPLY.

PERMANENT PAVEMENT TRENCH RESTORATION FOR TOWNSHIP ROADS

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL TR5

REF. NO. 4102-66

REV. 8/2020



- TRENCH RESTORATION FOR UNPAVED
AREAS WITHIN TOWNSHIP ROAD RIGHT-OF-WAY

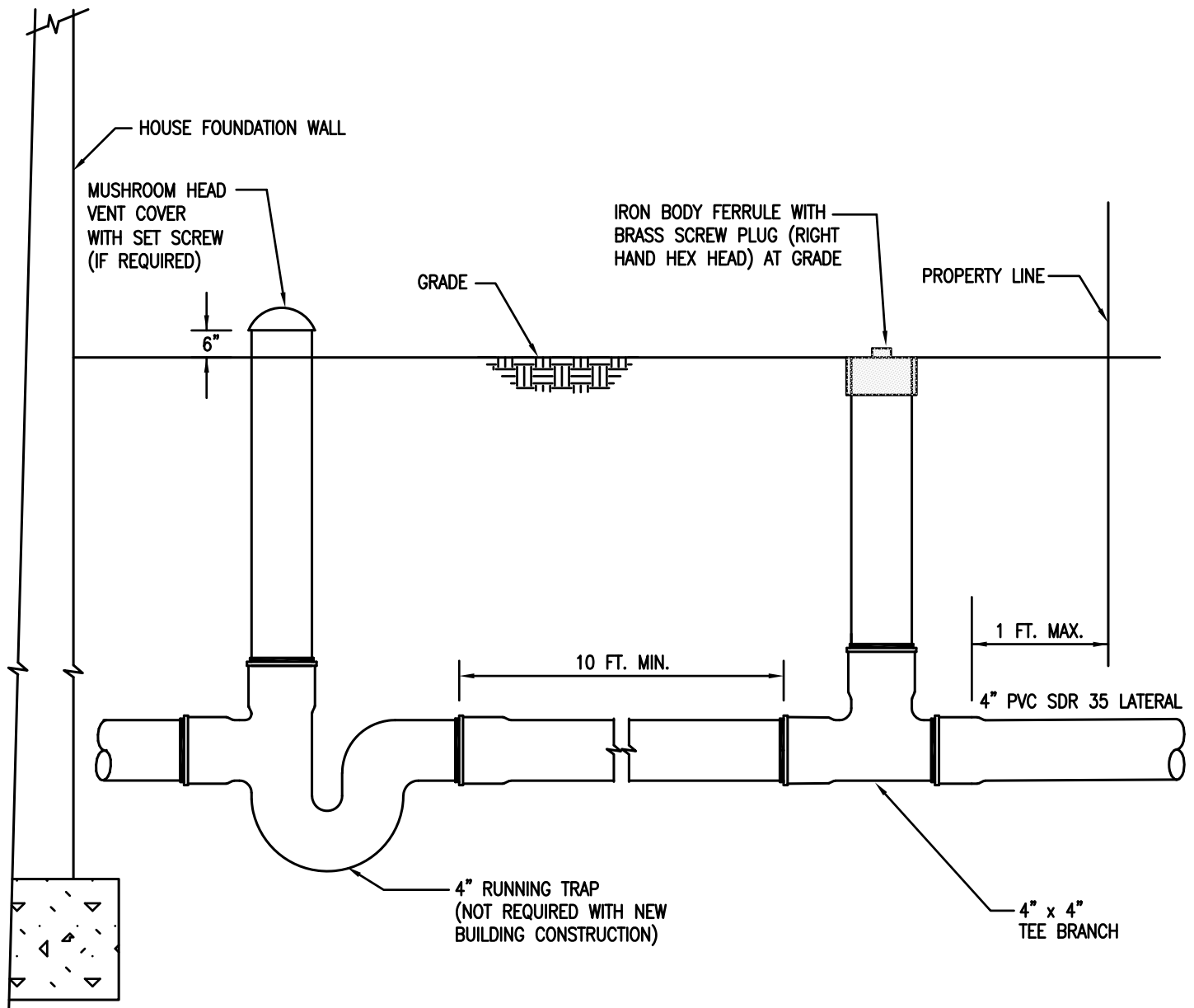
WARRINGTON TOWNSHIP
STANDARD DETAIL TR7

REF. NO. 4102-66

REV. 8/2020

NOTE:

1. LOCATE CLEANOUTS AND VENTS IN UNPAVED AREAS.



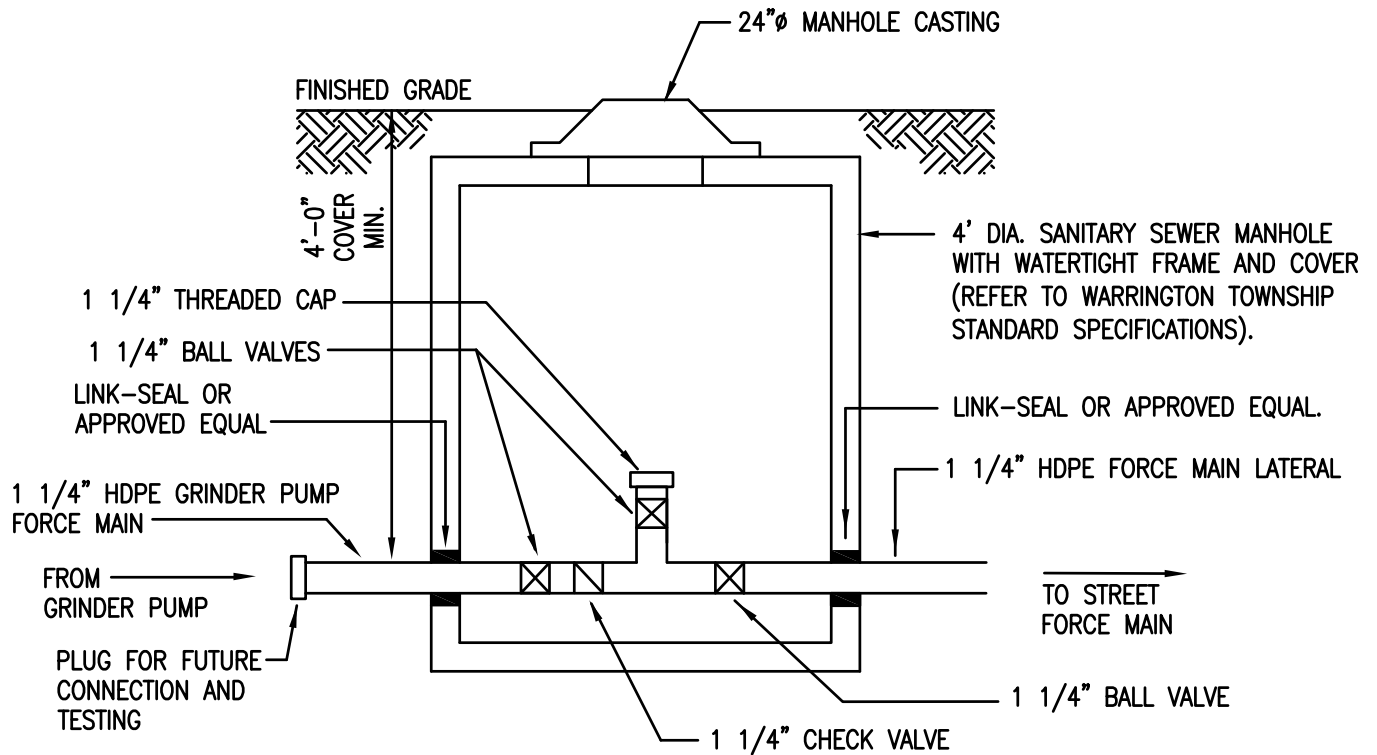
TYPICAL SERVICE CONNECTION AT
BUILDING FOR PVC LATERAL

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL SS13

REF. NO. 4102-66

REV. 8/2020



NOTES:

1. LOCATE IN UNPAVED AREA WITHIN PUBLIC RIGHT-OF-WAY.
2. PIPING INSIDE CONNECTION PIT SHALL BE HDPE OR SCHEDULE 80 PVC.
3. PIPE SIZE TO BE DETERMINED BY WARRINGTON TOWNSHIP BASED ON FLOW.

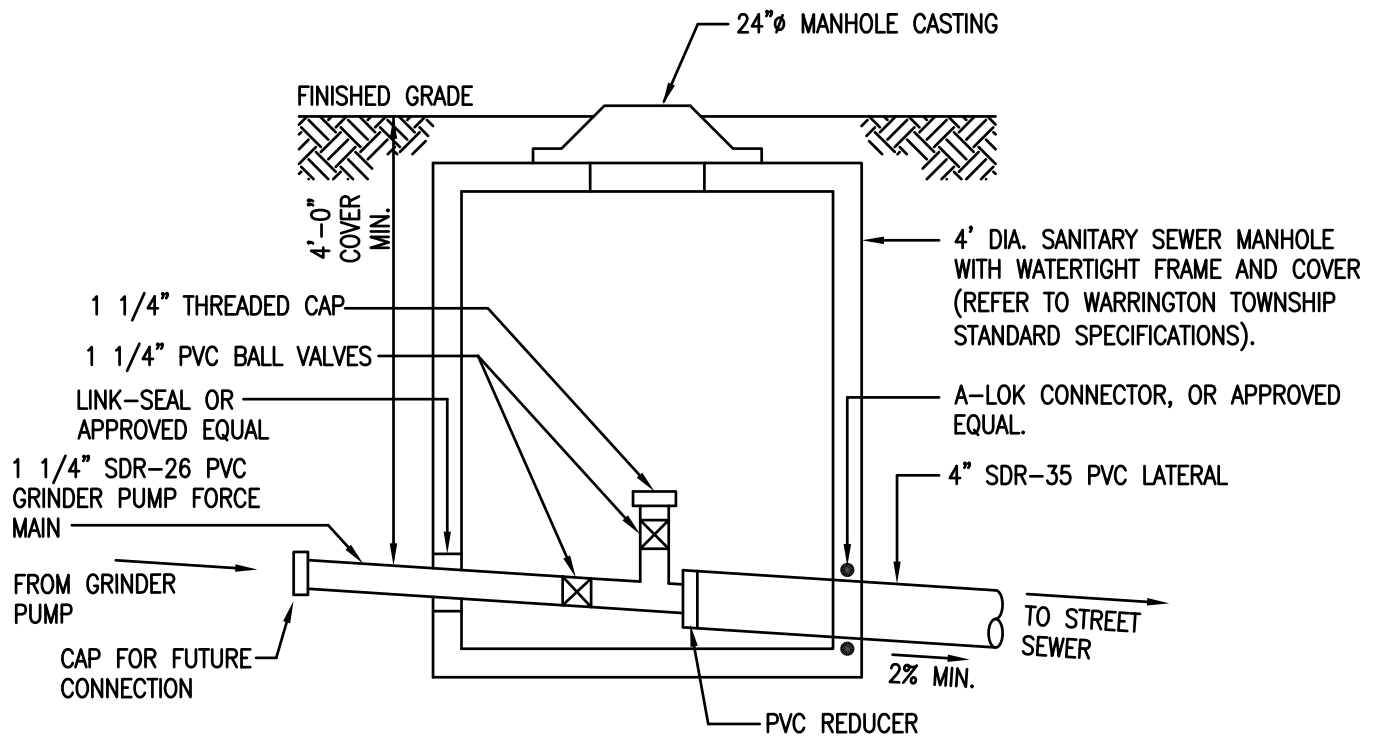
LPSS CONNECTION PIT
RESIDENTIAL GRINDER PUMP

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL SS14

REF. NO. 4102-66

REV. 8/2020



NOTES:

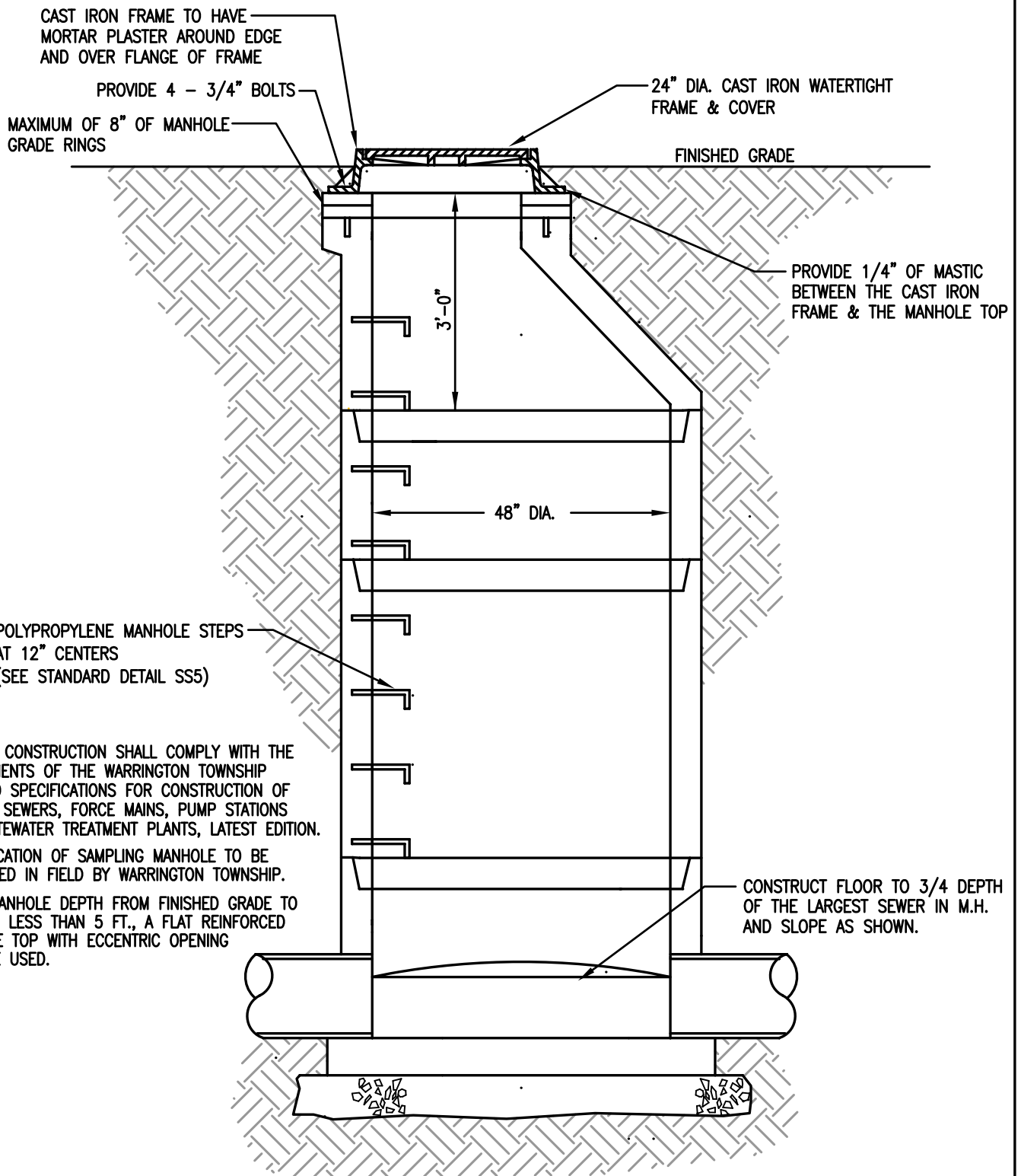
1. LOCATE IN UNPAVED AREA WITHIN PUBLIC RIGHT-OF-WAY.
2. PIPING INSIDE CONNECTION PIT SHALL BE HDPE OR SCHEDULE 80 PVC.
3. PIPE SIZE TO BE DETERMINED BY WARRINGTON TOWNSHIP BASED ON FLOW.

CONNECTION PIT RESIDENTIAL FORCE MAIN TO GRAVITY LATERAL CONNECTION

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL SS15

REF. NO. 4102-66
REV. 8/2020



NOTES:

- 1.) MANHOLE CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE WARRINGTON TOWNSHIP STANDARD SPECIFICATIONS FOR CONSTRUCTION OF SANITARY SEWERS, FORCE MAINS, PUMP STATIONS AND WASTEWATER TREATMENT PLANTS, LATEST EDITION.
- 2.) FINAL LOCATION OF SAMPLING MANHOLE TO BE DETERMINED IN FIELD BY WARRINGTON TOWNSHIP.
- 3.) WHERE MANHOLE DEPTH FROM FINISHED GRADE TO INVERT IS LESS THAN 5 FT., A FLAT REINFORCED CONCRETE TOP WITH ECCENTRIC OPENING SHALL BE USED.

SANITARY SEWER SAMPLING MANHOLE DETAIL

N.T.S.

WARRINGTON TOWNSHIP
STANDARD DETAIL SS16

REF. NO. 4102-66

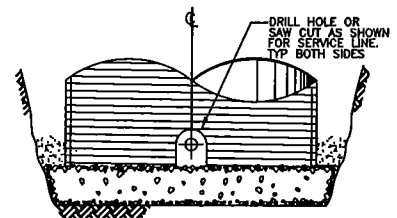
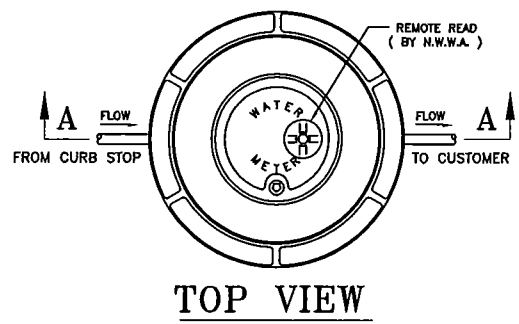
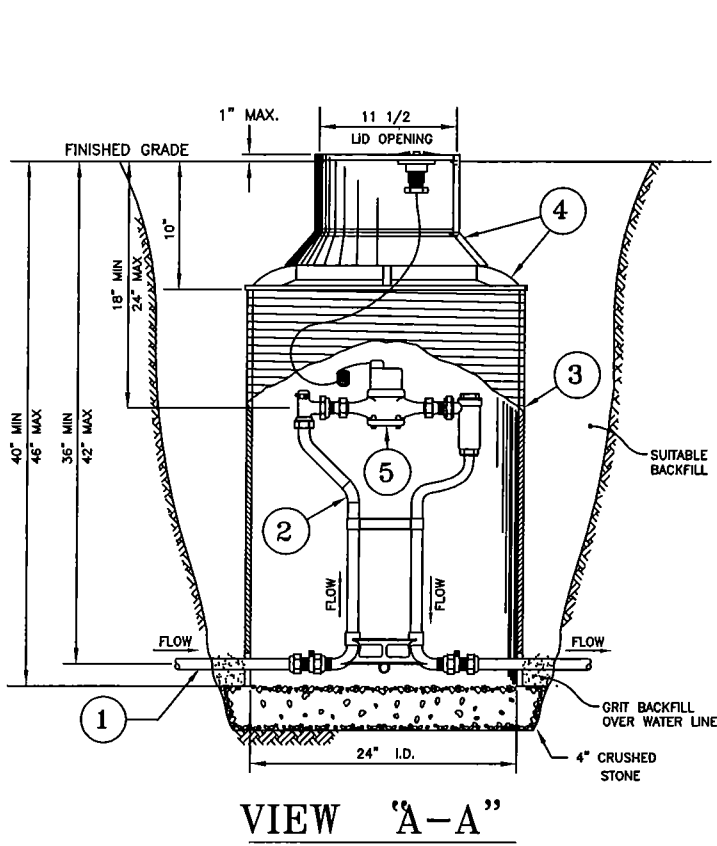
REV. 8/2020



- NORTH WALES WATER AUTHORITY

STANDARD WATER SERVICE CONNECTION

STANDARD DETAIL W3



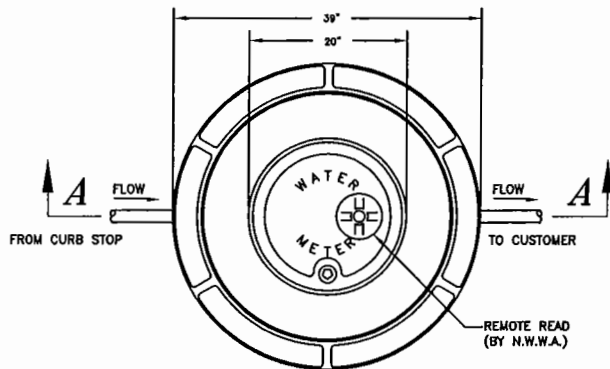
NOTES:

1. Customer to place stake marked "water" in the yard at the desired location.
2. No solder joints allowed underground.
3. If the static pressure exceeds 80 PSI, a 1" tandem line setter which is designed to hold a water meter in series with a pressure regulator is required.
4. The water meter & backflow preventer " will not be set if piping does not conform to NWWA specifications.

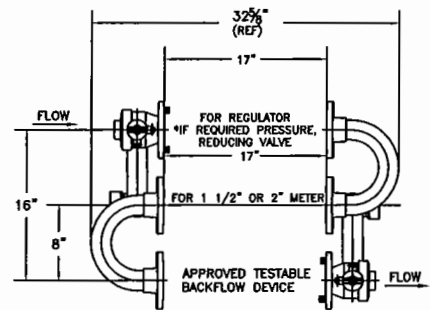
LEGEND:

1. 1" Service line type "K" soft copper
2. 1" Line Setter with dual cartridge backflow preventer with valve.
3. 24" ID x 36" plastic meter vault.
4. Double lid cover with frost plate and 24" x 20" extension ring.
5. Water meter and remote read provided by the NWWA.

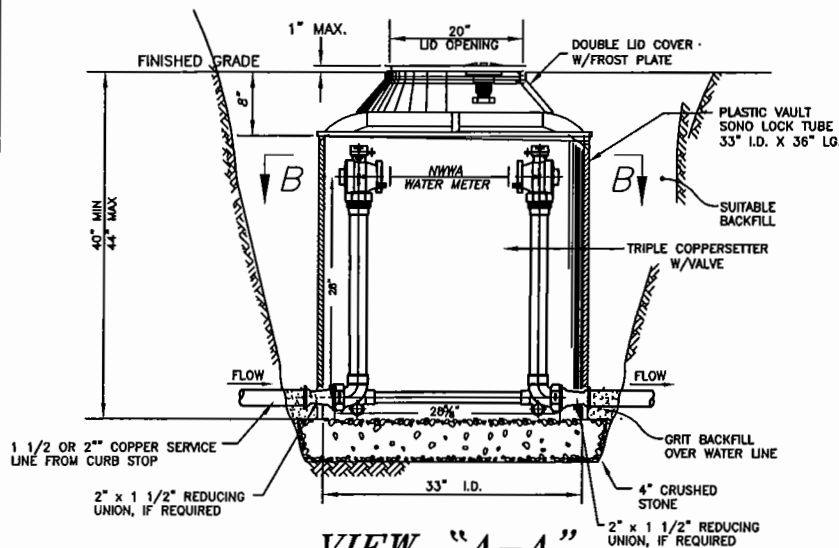
NORTH WALES WATER AUTHORITY			
DSG. BY: BSF		CKD. BY: BSF	
DATE: 5/11		SCALE: NONE	
REVISION		DATE	
		1"DOMESTIC SERVICE METER PIT INSTALLATION	
		STANDARD DETAIL W6	



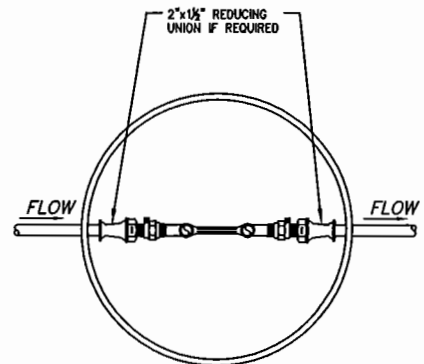
TOP VIEW



VIEW "B-B"



VIEW "A-A"



VIEW "C-C"

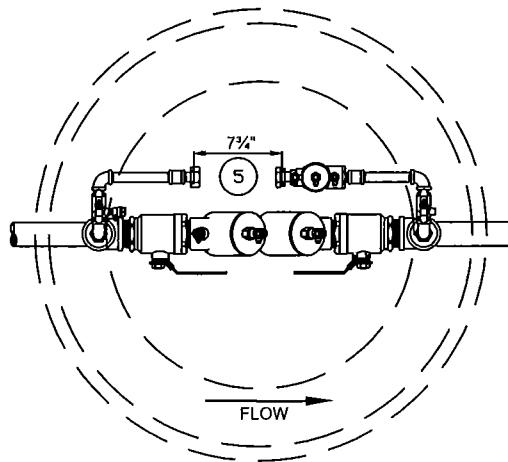
NOTES:

1. CUSTOMER TO PLACE STAKE MARKED "WATER" AT DESIRED LOCATION IN YARD FOR SERVICE LINE.
2. NO SOLDER JOINTS ALLOWED UNDERGROUND.
3. PIT INSTALLED BY CUSTOMER.
4. PRESSURE REDUCING VALVE PROVIDED BY CUSTOMER BECAUSE PRESSURE EXCEEDS 80 PSI.
5. WATER METER FURNISHED BY N.W.A.
6. WATER METER WILL NOT BE SET IF PIPING DOES NOT CONFORM TO SPECIFICATIONS.

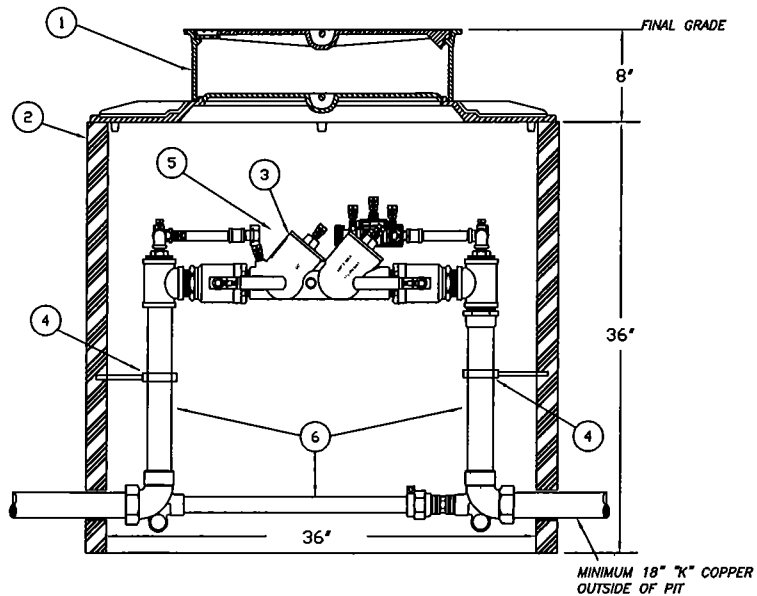
NORTH WALES WATER AUTHORITY			
DSG. BY: BSF		CKD. BY: BSF	
DATE: 5/11		SCALE: NONE	
REVISION		DATE	
		STANDARD DETAIL W7	

FIRE SERVICE PIT SPECIFICATION

for 1½" or 2" LINE SET w/OUT PRESSURE REDUCER



PLAN VIEW



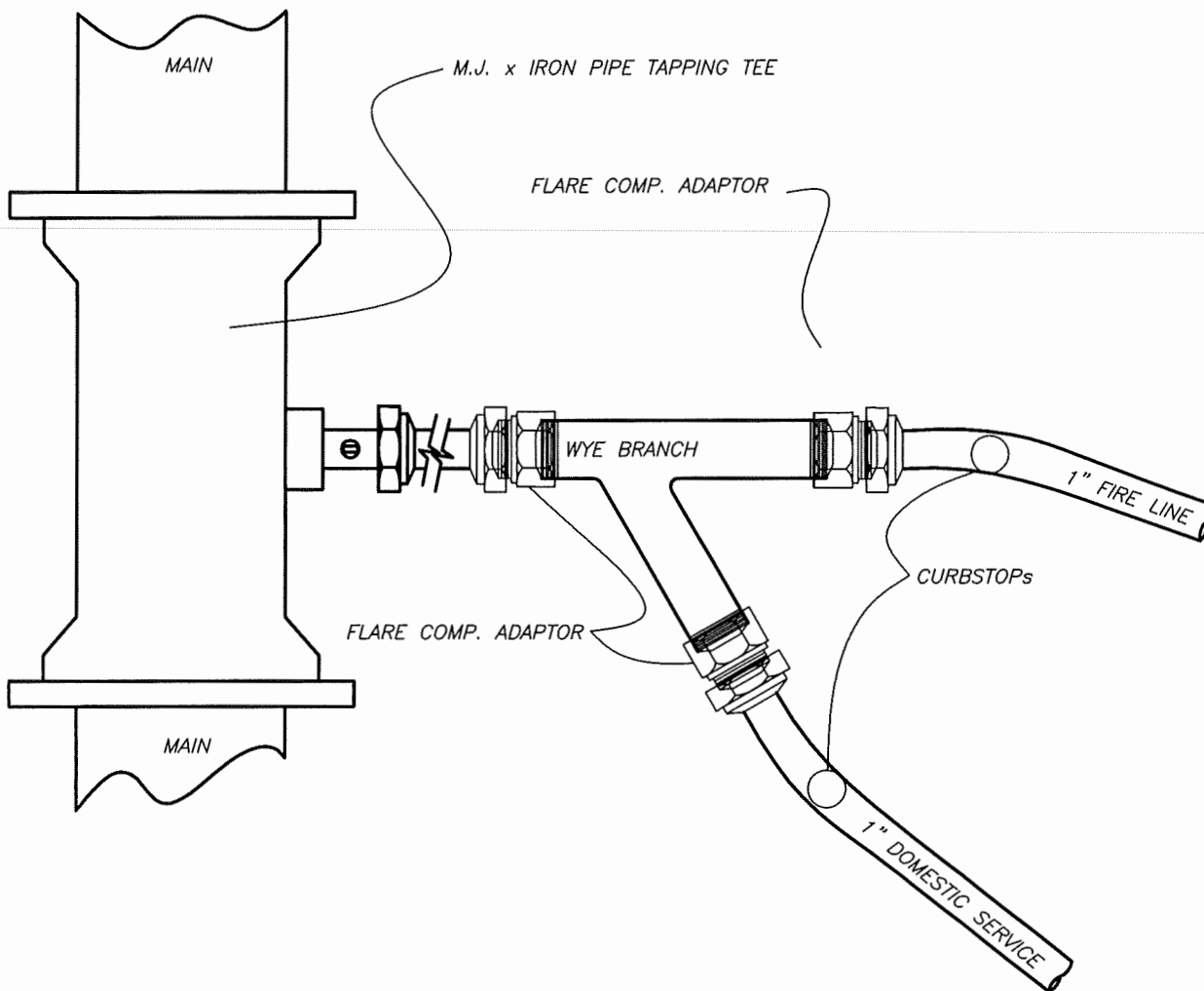
SIDE VIEW

LEGEND:

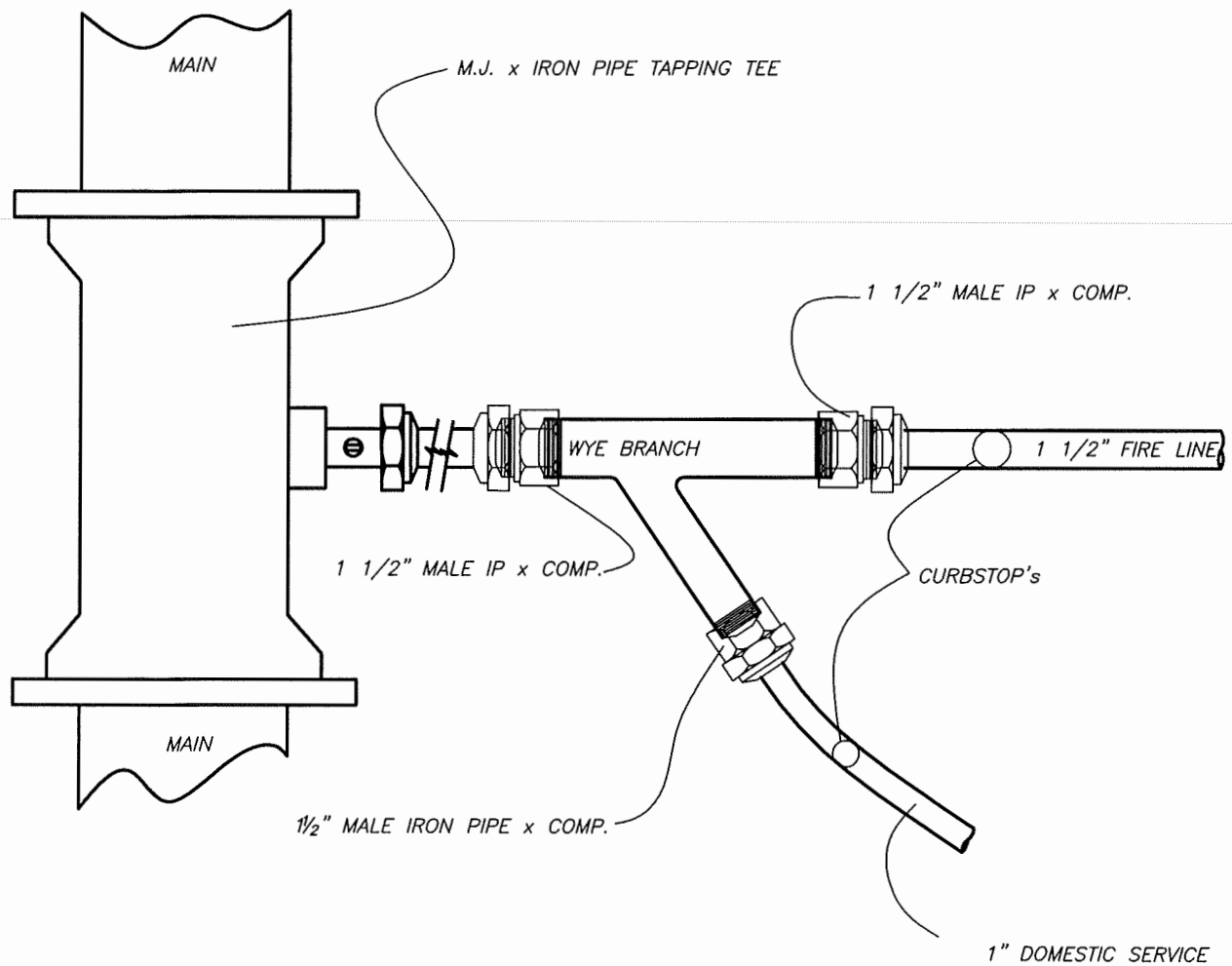
1. FORD MONITOR COVER WITH INNER LID, OR EQUAL
2. 36" x 36" METER PIT
3. 1½" OR 2" CONBRACO DCDA VERTICAL SET OR EQUAL
4. PIPE HANGER/SUPPORT
5. WATER METER SUPPLIED BY NWHA
6. FORD SETTERS SC-C11674-01 OR EQUAL

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	1½" OR 2" DCDA LINE SETTER	
DATE: 5/11	SCALE: NONE		
REVISION	DATE		
		STANDARD DETAIL W8	

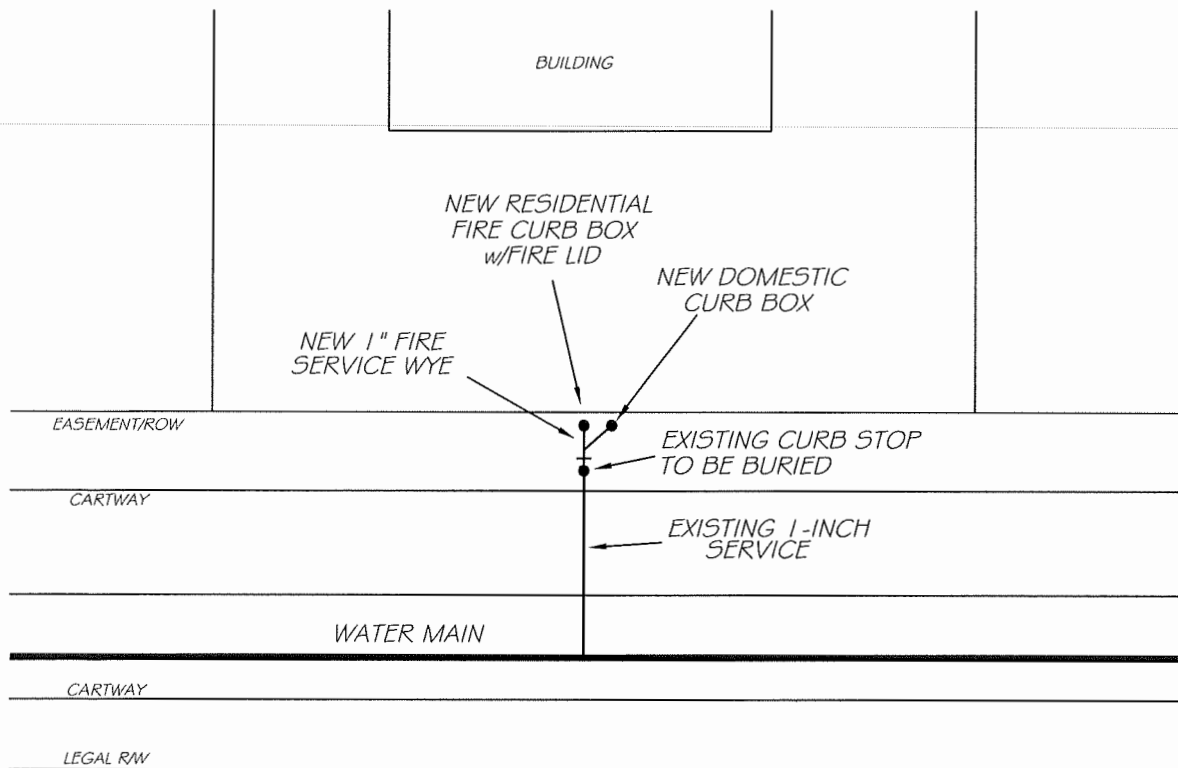
NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	1½" OR 2" DOMESTIC METER ASSEMBLY	
DATE: 5/11	SCALE: NONE		
REVISION		DATE	
		STANDARD DETAIL W9	



NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	TYPICAL TAPPED TEE w/ 1" SERVICE & 1" FIRELINE	
DATE: 5/11	SCALE: NONE		
REVISION	DATE		
		STANDARD DETAIL W10	



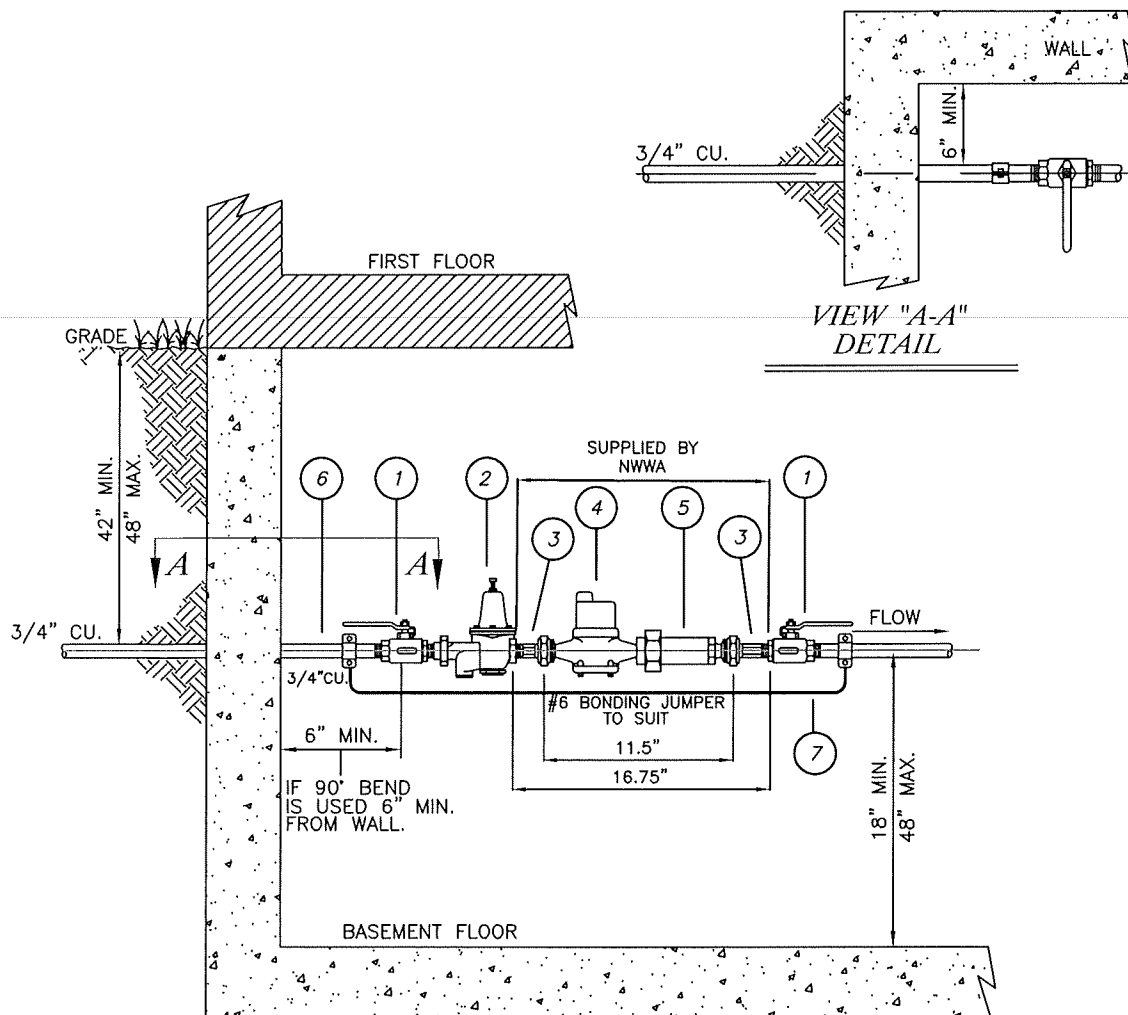
NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	TYPICAL TAPPED TEE w/ 1" SERVICE & 1 1/2" FIRELINE	
DATE: 5/11	SCALE: NONE		
REVISION	DATE	STANDARD DETAIL W11	



NOTES:

1. ALL NWWA FACILITIES MUST BE INSTALLED WITHIN EXISTING EASEMENT OR RIGHT-OF-WAY

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	ADDITION OF 1" FIRE LINE TO EXISTING 1" SERVICE LINE	
DATE: 5/11	SCALE: NONE		
REVISION	DATE		
		STANDARD DETAIL W12	



LEGEND

1. BALL VALVE - 3/4" MINIMUM BRASS 200 P.S.I. AWWA APPROVED
2. 3/4" PRESSURE REDUCING VALVE - REQUIRED IF PRESSURE EXCEEDS 80PSI - SUPPLIED BY CUSTOMER.
3. 3/4" METER COUPLING - FURNISHED BY N.W.W.A.
4. WATER METER - FURNISHED BY N.W.W.A.
5. DUAL CHECK BACKFLOW PREVENTER FURNISHED BY N.W.W.A.
6. SERVICE LINE - 3/4" MIN. TYPE "K" SOFT COPPER WITH FLARED OR COMPRESSION FITTINGS. CUSTOMER'S
7. PLUMBER TO INSTALL NO. 6 BONDING JUMPER ACROSS METER, AS SHOWN.

NOTES

TO PLACE STAKE MARKED CUSTOMER "WATER" AT DESIRED LOCATION IN YARD FOR SERVICE LINE.

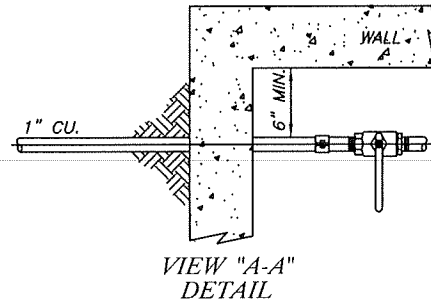
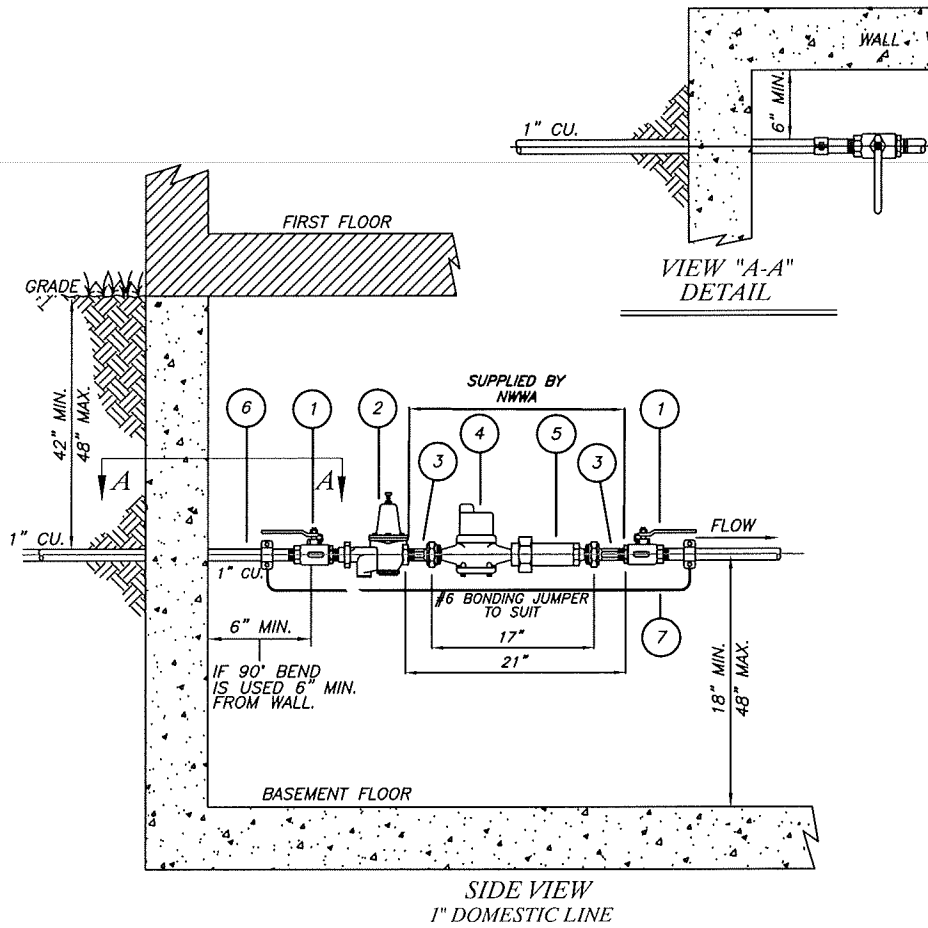
NO SOLDER JOINTS ALLOWED UNDERGROUND.

WATER METER WILL NOT BE SET IF PIPING DOES NOT CONFORM TO SPECIFICATIONS.

IT IS THE CUSTOMERS RESPONSIBILITY TO ADDRESS THERMAL EXPANSION WHEN A PRV OR BACKFLOW DEVICE IS FURNISHED.

NORTH WALES WATER AUTHORITY

DSG. BY: BSF	CKD. BY: BSF	RESIDENTIAL 3/4" SERVICE W/ 5/8"x3/4" OR 3/4" METER
DATE: 5/11	SCALE: NONE	
REVISION	DATE	
		STANDARD DETAIL W13



LEGEND

1. BALL VALVE – 1" MINIMUM BRASS
200 P.S.I. AWWA APPROVED
2. 1" PRESSURE REDUCING VALVE –
REQUIRED IF PRESSURE EXCEEDS
80PSI – SUPPLIED BY CUSTOMER.
3. 1" METER COUPLING – FURNISHED
BY N.W.W.A.
4. WATER METER – FURNISHED BY
N.W.W.A.
5. DUAL CHECK BACKFLOW PREVENTER
FURNISHED BY N.W.W.A.
6. SERVICE LINE – 1" MIN. TYPE "K"
COPPER SOFT WITH FLARED OR
COMPRESSION FITTINGS.
7. CUSTOMER'S PLUMBER TO INSTALL
NO. 6 BONDING JUMPER ACROSS
METER, AS SHOWN.

NOTES

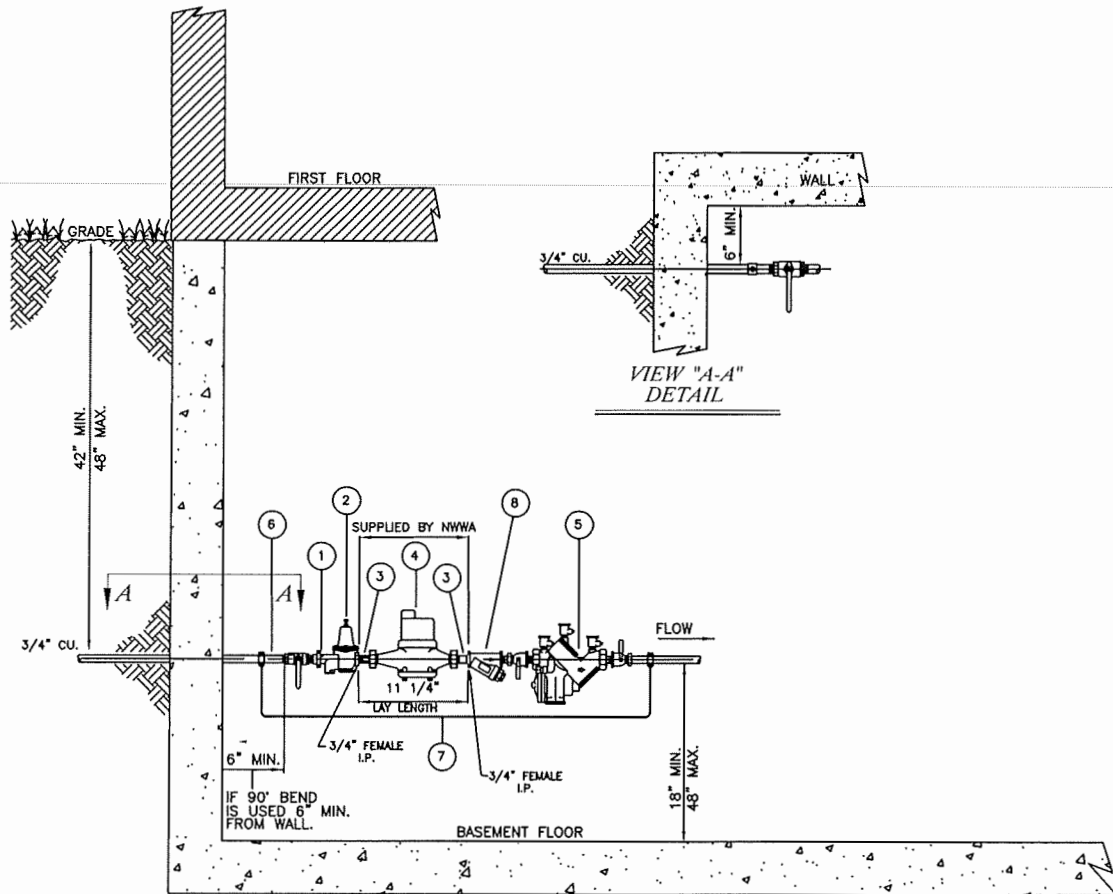
CUSTOMER TO PLACE STAKE MARKED "WATER"
AT DESIRED LOCATION IN YARD FOR SERVICE
LINE.

NO SOLDER JOINTS ALLOWED UNDERGROUND.

WATER METER WILL NOT BE SET IF PIPING
DOES NOT CONFORM TO SPECIFICATIONS.

IT IS THE CUSTOMERS RESPONSIBILITY TO
ADDRESS THERMAL EXPANSION WHEN A PRV
OR BACKFLOW DEVICE IS FURNISHED.

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	RESIDENTIAL 1" SERVICE W/ 5/8" x 3/4", 3/4" OR 1" METER	
DATE: 5/11	SCALE: NONE		
REVISION	DATE		
		STANDARD DETAIL W14	



LEGEND:

BALL VALVE — 3/4" MINIMUM BRASS 200 P.S.I.
A.W.W.A. APPROVED

PRESSURE REDUCING VALVE — REQUIRED IF
PRESSURE EXCEEDS 80PSI — SUPPLIED BY
CUSTOMER.

METER COUPLING — FURNISHED BY N.W.W.A.

WATER METER — FURNISHED BY N.W.W.A.

TO PROVIDE BACKFLOW CUSTOMER DEVICE.
DEVICE MUST BE APPROVED BY NORTH WALES
WATER AUTHORITY PRIOR TO INSTALLATION.

6. SERVICE LINE — 3/4" MIN. TYPE "K" SOFT
COPPER WITH FLARED OR COMPRESSION
FITTINGS. CUSTOMER

PLUMBER TO INSTALL NO. 6 BONDING JUMPER
ACROSS METER, AS SHOWN

STRAINER PROVIDED BY CUSTOMER (OPTIONAL).

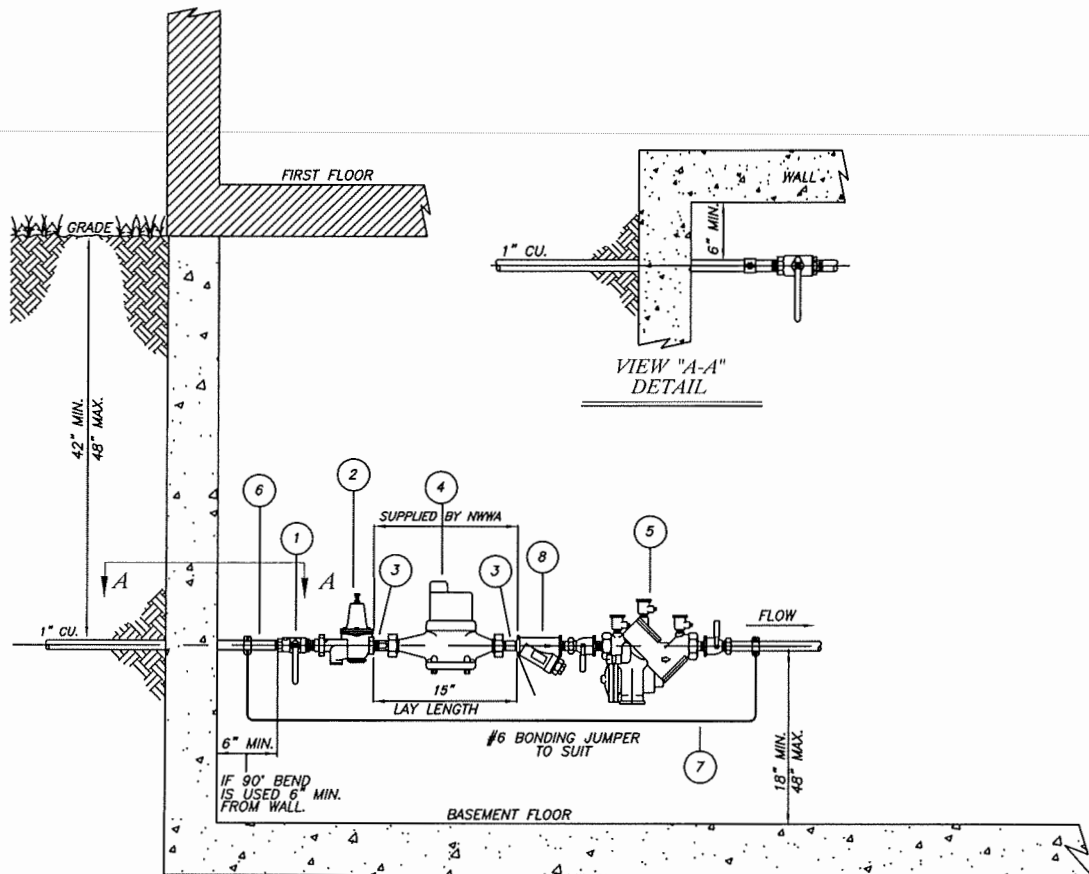
NOTES:

TO PLACE STAKE MARKED CUSTOMER "WATER"
AT DESIRED LOCATION IN YARD FOR SERVICE
LINE.

NO SOLDER JOINTS ALLOWED UNDERGROUND.

WATER METER WILL NOT BE SET IF PIPING
DOES NOT CONFORM TO SPECIFICATIONS.

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	COMMERCIAL/INDUSTRIAL 3/4" SERVICE W/ 5/8"x3/4" OR 3/4" METER	
DATE: 5/11	SCALE: NONE		
REVISION		DATE	
STANDARD DETAIL W15			



LEGEND

BALL VALVE - 1" MINIMUM BRASS 200 P.S.I.
AWWA APPROVED

1" PRESSURE REDUCING VALVE - REQUIRED IF
PRESSURE EXCEEDS 80PSI - SUPPLIED BY
CUSTOMER.

METER COUPLING - FURNISHED BY N.W.W.A.

WATER METER - FURNISHED BY N.W.W.A.

TO PROVIDE BACKFLOW CUSTOMER DEVICE.
DEVICE MUST BE APPROVED BY NORTH WALES
WATER AUTHORITY FOR DEGREE OF HAZARD.

SERVICE LINE - 1" MIN. TYPE "K" SOFT
COPPER WITH FLARED OR COMPRESSION
FITTINGS.

CUSTOMER'S PLUMBER TO INSTALL NO. 6
BONDING JUMPER ACROSS METER, AS SHOWN.

STRAINER PROVIDED BY CUSTOMER (OPTIONAL).

NOTES

CUSTOMER TO PLACE STAKE MARKED
"WATER" AT DESIRED LOCATION IN YARD
FOR SERVICE LINE.

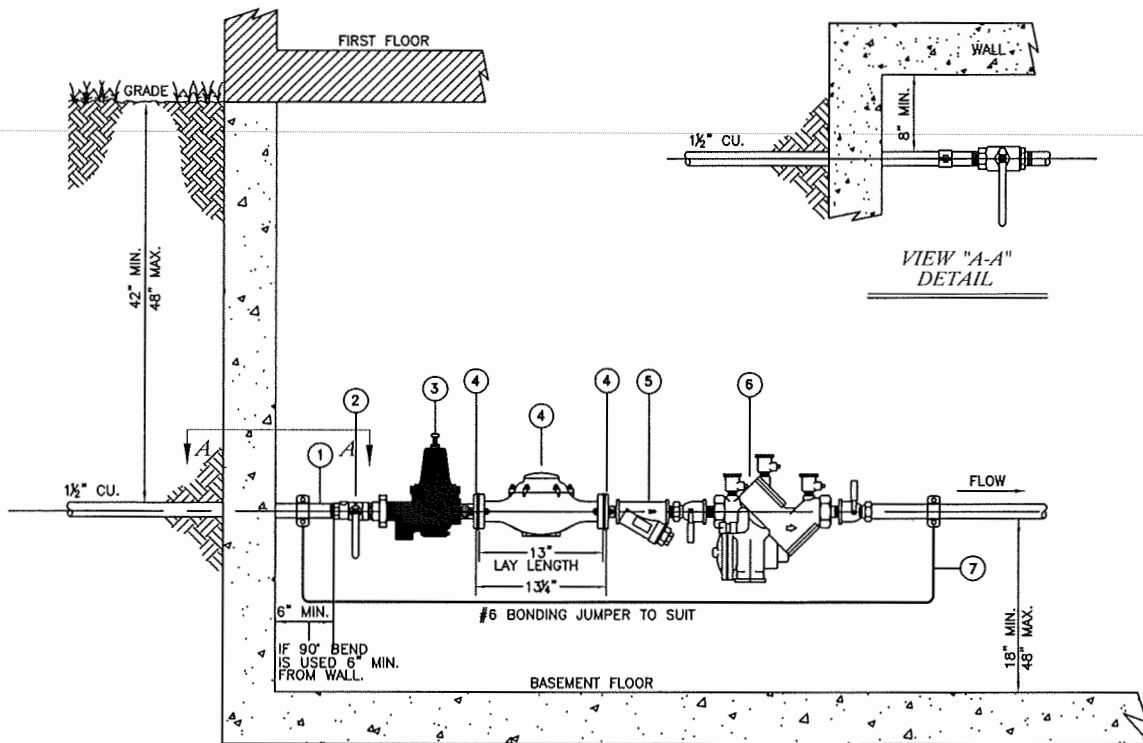
NO SOLDER JOINTS ALLOWED
UNDERGROUND.

WATER METER WILL NOT BE SET IF
PIPING DOES NOT CONFORM TO
SPECIFICATIONS.

IT IS THE CUSTOMER'S RESPONSIBILITY
TO ADDRESS THERMAL EXPANSION WHEN
A PRESSURE REDUCING VALVE OR
BACKFLOW DEVICE IS FURNISHED.

NORTH WALES WATER AUTHORITY

DSG. BY: BSF	CKD. BY: BSF	COMMERCIAL/INDUSTRIAL 1" SERVICE W/ 5/8" X 3/4", 3/4" OR 1" METER
DATE: 5/11	SCALE: NONE	
REVISION	DATE	STANDARD DETAIL W16



LEGEND

1. SERVICE LINE SHALL BE 1½" MIN. TYPE "K" SOFT COPPER WITH FLARED OR COMPRESSION FITTINGS.
2. 1½" MIN. BRASS BALL VALVE WITH A MAXIMUM WORKING PRESSURE OF 200 PSI.
3. A PRESSURE REDUCING VALVE IS REQUIRED AND MUST BE SUPPLIED BY THE CUSTOMER IF THE STATIC PRESSURE EXCEEDS 80 PSI.
4. WATER METER, FLANGES, AND GASKETS ARE PROVIDED BY NWWA.
5. "OPTIONAL" STRAINER PROVIDED BY THE CUSTOMER.
6. CUSTOMER TO PROVIDE BACKFLOW PREVENTION DEVICE WITH A MAXIMUM WORKING PRESSURE OF 175 PSI. ALL DEVICES MUST BE APPROVED BY NWWA PRIOR TO INSTALLATION.
7. CUSTOMER'S PLUMBER TO INSTALL NO. 6 BONDING JUMPER ACROSS WATER METER AND BACKFLOW DEVICE.

NOTES:

CUSTOMER TO PLACE STAKE MARKED "WATER" AT DESIRED LOCATION IN YARD FOR SERVICE LINE.

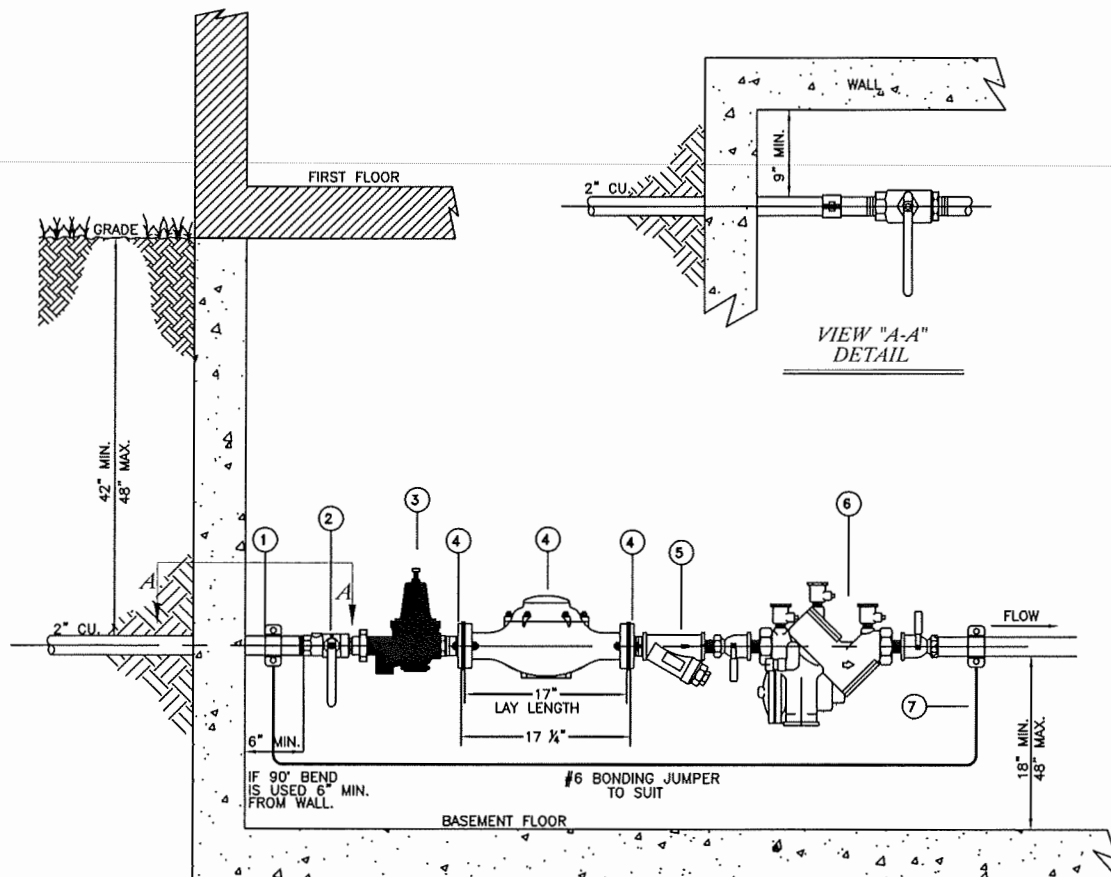
NO SOLDER JOINTS ALLOWED UNDERGROUND.

WATER METER WILL NOT BE SET IF PIPING DOES NOT CONFORM TO SPECIFICATIONS.

CUSTOMER TO SUPPORT PIPING AS NEEDED

IT IS THE CUSTOMERS RESPONSIBILITY TO ADDRESS THERMAL EXPANSION WHEN A PRV OR BACKFLOW DEVICE IS FURNISHED.

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	COMMERCIAL/INDUSTRIAL 1½" SERVICE W/ 1½" METER	
DATE: 5/11	SCALE: NONE		
REVISION	DATE	STANDARD DETAIL W17	



LEGEND

1. SERVICE LINE SHALL BE 2" MIN. TYPE "K" SOFT COPPER WITH FLARED OR COMPRESSION FITTINGS.
2. 2" MIN. BRASS BALL VALVE WITH A MAXIMUM WORKING PRESSURE OF 200 PSI.
3. A PRESSURE REDUCING VALVE IS REQUIRED AND MUST BE SUPPLIED BY THE CUSTOMER IF THE STATIC PRESSURE EXCEEDS 80 PSI.
4. WATER METER, FLANGES, AND GASKETS ARE PROVIDED BY NWWA.
5. "OPTIONAL" STRAINER PROVIDED BY THE CUSTOMER.
6. CUSTOMER TO PROVIDE BACKFLOW PREVENTION DEVICE WITH A MAXIMUM WORKING PRESSURE OF 175 PSI. ALL DEVICES MUST BE APPROVED BY NWWA PRIOR TO INSTALLATION.
7. CUSTOMER'S PLUMBER TO INSTALL NO. 6 BONDING JUMPER ACROSS WATER METER AND BACKFLOW DEVICE.

NOTES:

CUSTOMER TO PLACE STAKE MARKED "WATER" AT DESIRED LOCATION IN YARD FOR SERVICE LINE.

NO SOLDER JOINTS ALLOWED UNDERGROUND.

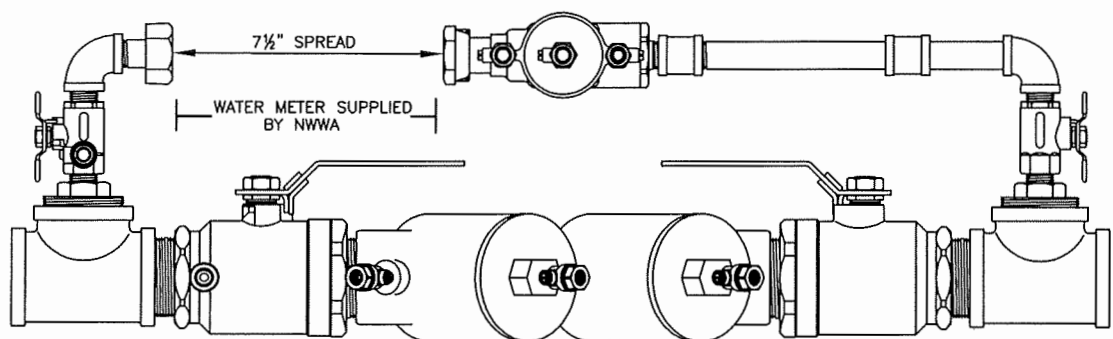
WATER METER WILL NOT BE SET IF PIPING DOES NOT CONFORM TO SPECIFICATIONS.

CUSTOMER TO SUPPORT PIPING AS NEEDED

IT IS THE CUSTOMERS RESPONSIBILITY TO ADDRESS THERMAL EXPANSION WHEN A PRV OR BACKFLOW DEVICE IS FURNISHED.

NORTH WALES WATER AUTHORITY

DSG. BY: BSF	CKD. BY: BSF	COMMERCIAL/INDUSTRIAL 2" SERVICE W/ 2" METER
DATE: 5/11	SCALE: NONE	
REVISION	DATE	
		STANDARD DETAIL W18



GENERAL SPECIFICATIONS:

THE BACKFLOW PREVENTER WILL BE A DOUBLE CHECK VALVE DETECTOR ASSEMBLY TYPE INCLUDING (4) RESILIENT SEATED TEST COCKS AND 2 FULL PORT BALL VALVES.

THE (2) CHECK VALVES SHALL BE INDEPENDENTLY ACTING AND INTERNALLY LOADED. EACH CHECK SHALL MAINTAIN A MINIMUM 1 PSID IN THE NORMAL DIRECTION OF FLOW, UNDER STATIC CONDITIONS. BOTH CHECKS AND TEST COCKS SHALL BE TOP MOUNTED FOR EASE OF TESTING, REPAIR AND MAINTENANCE.

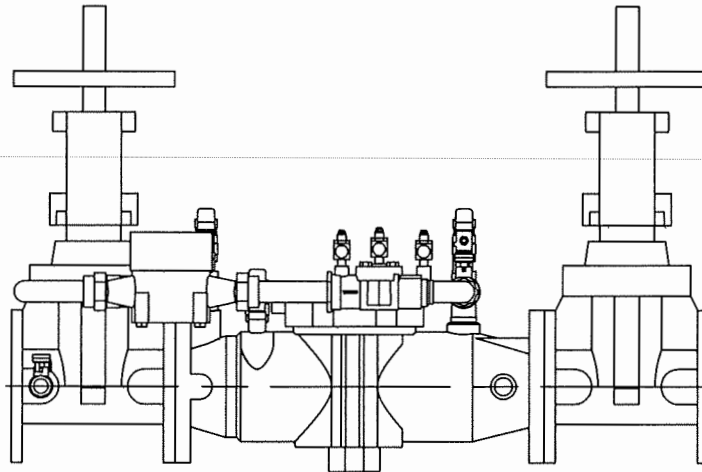
THE BACKFLOW PREVENTER SHALL BE SUITABLE FOR SUPPLY PRESSURE UP TO 175 PSI.

THE BACKFLOW PREVENTERS THAT COMPRISE THIS ASSEMBLY MUST MEET THE FOLLOWING STANDARDS: USC's FCCC & HR MANUAL SEC. 10, ASSE 1047, FM+UL.

NOTES:

1. ALL DEVICES MUST BE APPROVED BY NORTH WALES WATER AUTHORITY PRIOR TO INSTALLATION.
2. WATER METER AND GASKETS WILL BE PROVIDED BY NWWA
3. THE SERVICE LINE SHALL BE TYPE "K" SOFT COPPER WITH FLARED OR COMPRESSION FITTINGS.
4. CUSTOMER MUST PROVIDE THE BACKFLOW DEVICE.
5. IF THE SYSTEM UTILIZES A PUMP OR IS A CHEMICAL SYSTEM, THE DEVICE MUST BE AN RPDA.
6. THE WATER METER WILL NOT BE SET AND WATER SERVICE WILL BE DISCONTINUED IF PIPING DOES NOT CONFORM TO SPECIFICATIONS.

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	1" THROUGH 2" FIRE PROTECTION SYSTEMS	
DATE: 5/11	SCALE: NONE		
REVISION		DATE	STANDARD DETAIL W19



GENERAL SPECIFICATIONS:

THE BACKFLOW PREVENTER WILL BE A DOUBLE CHECK VALVE DETECTOR ASSEMBLY TYPE INCLUDING (4) RESILIENT SEATED TEST COCKS AND 2 FULL PORT BALL VALVES.

THE (2) CHECK VALVES SHALL BE INDEPENDENTLY ACTING AND INTERNALLY LOADED. EACH CHECK SHALL MAINTAIN A MINIMUM 1 PSID IN THE NORMAL DIRECTION OF FLOW, UNDER STATIC CONDITIONS. BOTH CHECKS AND TEST COCKS SHALL BE TOP MOUNTED FOR EASE OF TESTING, REPAIR AND MAINTENANCE.

THE BACKFLOW PREVENTER SHALL BE SUITABLE FOR SUPPLY PRESSURE UP TO 175 PSI.

THE BACKFLOW PREVENTERS THAT COMPRISE THIS ASSEMBLY MUST MEET THE FOLLOWING STANDARDS: USC's FCCC & HR MANUAL SEC. 10, ASSE 1047, FM+UL, AWWA.

NOTES:

1. ALL DEVICES MUST BE APPROVED BY NORTH WALES WATER AUTHORITY PRIOR TO INSTALLATION.
2. WATER METER AND GASKETS WILL BE PROVIDED BY NWWA
3. CUSTOMER MUST PROVIDE THE BACKFLOW DEVICE.
4. IF THE SYSTEM UTILIZES A PUMP OR IS A CHEMICAL SYSTEM, THE DEVICE MUST BE AN RPDA.
5. THE WATER METER WILL NOT BE SET AND WATER SERVICE WILL BE DISCONTINUED IF PIPING DOES NOT CONFORM TO SPECIFICATIONS.

NORTH WALES WATER AUTHORITY			
DSG. BY: BSF	CKD. BY: BSF	4" THROUGH 10" FIRE PROTECTION SYSTEMS	
DATE: 5/11	SCALE: NONE		
REVISION		DATE	
STANDARD DETAIL W20			