

# **THE METROPOLITAN DISTRICT**

## **WATER SERVICE CONNECTION MANUAL**

A manual of procedures and details for the installation of water services in the District service area.

January 2017

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# INTRODUCTION

This manual has been prepared by The Metropolitan District (MDC) to provide standards and procedures for the installation of water service connections, irrigation systems, fire protection systems and other domestic water uses directly or indirectly connected to the MDC's public water distribution system. It is created under the auspices of the Ordinances and Charter of the MDC.

The purpose of this manual is to develop an understanding of how a water service connection is executed following MDC procedures. These procedures include MDC review and approval of plans and specifications, mechanical contractor or plumber eligibility requirements, a water service permit and the construction inspection.

The MDC's potable water distribution system includes all of Bloomfield, East Hartford, Hartford, West Hartford, Newington, Rocky Hill, Wethersfield and Windsor and parts of East Granby, Farmington, Glastonbury and South Windsor.

MDC Ordinances require that a permit be obtained from the MDC before any person install, repair, alter, replace or remove any water service connection, or appurtenance in a public street or private lands which water service is in any way connected directly or indirectly to any public water main of the MDC.

This manual is comprised of four major parts: Part 1 - Standard Practices and Procedures, Part 2 –Design Standards, Part 3 – Water Service Installation Details and Part 4 - Approved Materials for Water Installations. There are four Appendices: Appendix A – Application for Eligibility; Appendix B – MDC Bond Form; Appendix C – MDC Insurance Certificate and Appendix D - MDC Water Service Permit Application Form.

# WATER SERVICE CONNECTION MANUAL

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# PART 1

## STANDARD PRACTICES AND PROCEDURES

### Section 1 – SUBMISSION OF PLANS AND SPECIFICATIONS

- a. Prior to the MDC issuance of a Water Service Permit, plans and specifications should be submitted for review to the MDC's Utility Services Department at 125 Maxim Road Hartford, Connecticut, 06114. The MDC will determine whether a water main extension or a water service connection is appropriate.
- b. All plans for commercial and industrial properties should have the seal of a Connecticut licensed professional engineer or surveyor, as appropriate.
- c. A water main extension involves extending an existing public water main from its terminus to a point in a public road or right of way to serve a specific property or properties. Water main extensions shall be installed under a Developer's Permit-Agreement (DPA) which is covered under a separate MDC manual entitled "Guidance Manual Developer's Permit-Agreement". All DPA's are managed through Engineering Services at 555 Main Street, Hartford, Connecticut 06142. The design standards to be used in water main extensions must utilize the MDC Project Manual. Both of these referenced manuals are available on the MDC website. The Developer's Permit-Agreement Guidance Manual is located at webpage <http://themdc.org/what-we-do/engineering-planning/developer-permit-agreements> and the MDC Project Manual is located at webpage <http://themdc.org/what-we-do/engineering-planning/technical-services>
- d. Plot plans submitted to the MDC as part of a water service application must include complete dimensions, the location of the lot on the public street and the location of the building on the lot, the house number, or the lot number, the metes and bounds of the lot and its location with respect to the nearest side street, the owner's (not builder's) name and address, the type of occupancy of the premises and number of family units to be served. A copy of the property deed must be submitted.
- e. A water service connection involves tapping an existing water main and installing copper or ductile iron pipe from the water main to the building. A water service connection shall be installed after applying for and the issuance of a water service permit (see Appendix D) managed through Utility Services Department, 125 Maxim Road, Hartford, Connecticut 06114. For each service so installed, a connection charge in addition to the regular service charge will be made. Water service renewals also require an application for a water service permit.
- f. Water service connections must be installed by a licensed plumbing contractor who is responsible for furnishing all materials including but not limited to tapping sleeves, tapping gates, corporations, shut-offs, meter connections and all piping as approved by the MDC. Note that the MDC will supply corporations and saddles for services 2 inch diameter and smaller. The MDC will also supply meter spacers and tail pieces for use inside the building. The MDC will perform the necessary taps in a prepared OSHA approved trench which is the

responsibility of the Contractor. All water service installation will be inspected and locations documented on record drawings by MDC forces. An inspection fee may be required if the inspection is outside of normal business hours.

g. The MDC requires separate water services for fire and domestic services. A proper design of a fire service should address the water system pressure and capacity to meet proposed demands and follow current NFPA guidelines and the requirements of the local fire marshal.

h. Specifications referenced in this manual are included in the MDC Project Manual located on the MDC website at webpage <http://themdc.org/what-we-do/engineering-planning/technical-services>. Contractors are expected to construct services in accordance with the technical provisions of these specifications which include materials of construction and execution of the work. Administrative procedures such as submittals are not required unless included as part of a permit approval.

## **Section 2 - CROSS-CONNECTION CONTROL AND BACKFLOW PREVENTION**

a. MDC Ordinances relating to Cross-Connection Control and Backflow Prevention indicate that no owner shall maintain upon his/her premises a cross connection between the public water distribution system or the potable water supplied thereby and any auxiliary water source, unless the installation has been registered with and approved by the MDC.

b. Plumbing plans for new buildings, additions and/or renovations should be submitted for review to the Utility Services Department, 125 Maxim Road, Hartford, Connecticut 06114 for conformance with The MDC and Public Health Code cross-connection regulations.

c. The MDC's uses the State of Connecticut, Cross Connection Control Manual, prepared by the State of Connecticut Department of Public Health for cross connection control and backflow prevention. The MDC has published a separate manual on cross connections, entitled The Metropolitan District Cross Connection and Backflow Prevention Manual of Practice, District Ordinance Section W12m.

d. A cross-connection is an actual or potential connection between a potable water system and any other source or systems including well water, through which it is possible to introduce into the potable water system any contaminating or polluting agent.

e. Contamination will result when a cross-connection exists and backflow or a reversal of flow occurs. There are two types of backflow: backsiphonage and backpressure. Backsiphonage results when there is a negative pressure in the system and the contaminant is pulled into the drinking water supply. Backpressure occurs when the pressure on the non-potable system is greater than the potable system and the contaminant is pushed into the drinking water supply.

f. The requirements for backflow prevention devices are dictated by the Federal Safe Drinking Water Act, Public Law 93-523 and Section 19-13-B37 of the State of Connecticut Public Health Regulations. The selection of the appropriate device in a particular installation

is based on a combination of the degree of hazard involved and the possibility of contamination. In many cases the MDC's cross-connection inspector must make a recommendation for installation based on the specific situation using the regulations, technical guidelines, field experience, and his/her own judgment.

g. The devices required under Section 19-13-B38a of the State of Connecticut Public Health Regulations and MDC Ordinances shall be purchased, owned, installed, and maintained by the property owner.

h. It is the property owner's responsibility to eliminate or contain all cross-connections. In case of non-compliance, the State and Local Health Departments will be notified in writing. Possible discontinuance of water service will be undertaken upon their orders.

i. Facility inspections are performed by the MDC Cross-Connection Inspectors on a one-year or five-year basis as determined by the degree of hazard.

j. All testable backflow preventers are to be tested upon installation or repair, and annually at the property owner's expense. Results are to be submitted to the MDC for compliance.

### **Section 3 – CONSTRUCTION - GENERAL**

a. The requirements established in this manual regulate the sizes, materials, methods, and workmanship be used in the construction of domestic and fire water services and appurtenances connected or intended to be connected directly or indirectly to any public water mains of the MDC, as provided in Section W5c of the Ordinances of The Metropolitan District Relating To Water Supply.

b. These requirements are minimum requirements for the construction of water service connections.

### **Section 4 – CONTRACTOR'S APPLICATION, BOND, AND INSURANCE**

a. In order to be permitted to install water service connections to the MDC system, the contractor shall submit a completed Application for Eligibility, Bond and Insurance, which information will be kept on file for future reference.

b. The Application for Eligibility form must indicate that applicants possess proper state licensing. A valid state license (P-1, P-7 or W-9) for plumbing/piping is required prior to obtaining a water service permit. Authorized individuals representing the licensee are required to sign the water service connection application forms. See Appendix A.

c. Prior to the MDC approving the application for a water service connection, the applicant shall present the required permit for street excavation from the proper local or state authority and the Call-Before-You-Dig ticket number.

d. The Contractor's Bond shall be executed by the surety company's agent, including the name of the contractor, name of responsible state licensee, name of surety and proper signatures. See Appendix B.

e. The Certificate of Insurance shall include coverage's for General Liability with the MDC and State of Connecticut added as additional insured, Automotive Liability, Protective Liability in the name of the MDC (with the policy) and Workers' Compensation and Employers' Liability. The amount of insurance coverage shall meet the prevailing minimum requirements and be presented on the MDC's Certificate of Insurance. See Appendix C.

f. Water service connection applications will only be approved once all forms are completed and approved by the MDC for eligibility, bond, insurance and after all assessment cost, if any, are paid or time payment plan and voluntary lien are completed by the property owner. See Appendix D.

## **Section 5 - SAFETY**

a. The Contractor shall comply with all pertinent provisions of the Department of Labor, Occupational Safety and Health Administration, Title 29 Code of Federal Regulations Chapter XVII Parts 1910 – “General Industry Standards” and Parts 1926 – “Construction Industry Standards”.

b. The Contractor alone shall be responsible for the safety, efficiency and adequacy of its plant, appliances and methods, and for any damage or injury which may result from their failure or the improper construction, maintenance or operation.

c. The Contractor shall properly design and furnish all labor, materials, equipment, and tools necessary to completely construct the excavation support system, permanent or temporary, including sheet piling, trench shields (trench boxes), timber trench shoring, pneumatic/hydraulic shoring, steel sheeting or sheeting using other materials, sloping and benching. All of the proper materials and all equipment necessary to protect employees in excavations against cave-ins shall be furnished and installed. Also, all employees and the general public shall be protected from hazards related to the construction. Adequate support systems shall also protect people from equipment which might fall or roll into an excavation, utilities within or adjacent to the excavation or which is impacted by operations under the construction.

d. If, in the opinion of the MDC, the Contractor has failed to maintain a safe trench and work area, MDC forces shall refuse to enter the trench until safety concerns are satisfied. This requirement shall not in any way relieve the Contractor of complete responsibility and liability for maintaining a safe and adequate trench excavation at all times and at any depth.

## **Section 6 - TRENCH EXCAVATION**

a. The licensed Contractor shall fully comply with the State of Connecticut Public Act No. 77-350 in regard to the proper notification to be given the Call-Before-You-Dig central

clearinghouse via [www.cbyd.com](http://www.cbyd.com), 1-800-922-4455 or 811 prior to any excavation, discharging explosives or demolition and to all other actions concerning work near underground utility facilities.

b. Trenching in streets or highways shall conform to the requirements and specifications of the state, city or town authorities having jurisdiction.

c. The Contractor is responsible for the trench excavation and restoration and shall provide a safe and adequate trench for the tapping of the water main by MDC forces.

d. The MDC requires a minimum depth of 4.5 feet of cover over most water service pipes and shall be laid on a sand bed with 2 feet of sand fill over the pipe.

e. Excavations shall be made in such manner and to such width as required to give suitable room for laying the piping or for construction of structures; all sheeting, bracing, and supports shall be furnished and placed and the bottoms of the excavations shall be rendered firm and dry and acceptable in all respects.

f. Excavating near existing structures – Attention is directed to the fact that there are pipes, manholes, drains and other utilities and structures in certain locations. The Contractor should exercise caution when excavating especially on private property, because the completeness of accuracy of the given information is not guaranteed.

g. Trenches in pavement shall have the traveled way surface cut in a straight line by a concrete saw or equivalent method to the full depth of pavement.

h. If pipe is to be laid in embankments or recently filled areas, the fill material shall first be placed to a height of at least three feet above the top of the pipe and compacted before excavation.

i. The trench for pipes 4-inches or larger shall be at least 18-inches beyond the outside of the barrel of the pipe on each side, the top of the barrel of the pipe shall be as shown on the approved drawings and the bottom of the trench shall be at the bottom of the pipe.

j. Pipe trenches shall be made as narrow as practicable and shall not be widened by scraping or loosening materials from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.

j. In rock excavation there shall be no projecting rock within six (6) inches of the outside of the pipe on the sides, top and bottom. The bottom six (6) inches of trench shall be refilled with sand or gravel and properly tamped before the pipe is laid. All excavated rock shall be disposed of and the trench refilled with suitable sand or gravel.

## **Section 7 – WATER SERVICE TAP & PERMIT SCHEDULE**

Subsequent to approval of the water service application, payment of tapping fees, and creation of a new account, the applicant should contact the Operations Department of The MDC at 860-278-7850, extension 3627 or 3629 to schedule a water main tap.

## **Section 8 - INSPECTION**

a. After the tap has been made by MDC, the Contractor shall contact the Command Center (860-278-7850, ext. 3600) to request an inspection. DO NOT backfill the service installation until approved by the MDC inspector.

**NOTE: Personnel of the MDC tapping crew are not to be construed as inspectors.**

b. In general, inspectors will be available between the hours of 7:30 a.m. to 3:30 p.m. on Monday through Friday inclusive. Inspection outside the hours of a normal 5-day work week must be pre-approved and an inspection fee is required to be paid to the MDC at its Utility Services office at 125 Maxim Road, Hartford, Connecticut 06114.

c. Water service connections 2-inch and smaller, serving buildings to be abandoned, demolished or relocated shall be physically severed at the property line while witnessed by an MDC inspector. Proposed abandoned water service connections larger than 2-inches shall be bulkheaded at the street line or other point approved by the MDC. If the property owner has decided not to utilize the property then a letter should be sent to the MDC Customer Service Department at 60 Murphy Road, Hartford, Connecticut 06114 requesting the water service be "cut off" at the main line. Abandonment of water services must be performed by a licensed plumber under MDC permit and inspected by MDC prior to demolition of the building.

d. All service pipes installed shall be visible for the entire length of the trench and shall be inspected for type of pipe and for water tightness in the presence of the MDC inspector.

e. Construction of meter pits (where approved by the MDC), including by-pass lines, shall be checked and approved by the inspector prior to installation of meter. By-pass lines require MDC approval.

## **Section 9 – WATER SERVICE INSTALLATION**

a. General

1. Service pipe shall not be laid in a trench with other pipes or conduits unless separated from the other pipes by at least 2 feet and laid on undisturbed earth. Service pipes shall be laid at least 10 feet away from any septic tank leaching field.
2. The inspector, where possible, should see that the service will not be under entrance walks, driveways, trees, large boulders or other obstructions and in the case of renewal of old services should recommend renewing, in a new location in order to avoid any of these obstructions.
3. If the service pipe on the owner's property is installed prior to the installation of that part of the service to be installed in the street, the Contractor will pressure test his installation to 150 lbs. per square inch.

4. All service pipe shall be laid, so far as practical in a straight line from the main to the inside front cellar wall. Foundation walls must be installed prior to the water service installation within the property owner's property.
  5. Under unusual circumstances where suitable conditions exist, and with the approval and issuance of permit by the MDC, the City, Town or State of Connecticut Department of Transportation and other utility companies that may be affected, a water service may be jacked or mechanically mole'd through an area where open excavation may not be desirable. This operation must be done in the presence of an MDC inspector.
- b. Services 1", 1-1/2" and 2"
1. Water services before the meter of 1", 1-1/2" and 2" size shall be of type K copper tubing. No other material is allowed. Copper services do not require disinfection.
  2. If the building has no cellar or has no suitable place or utility room for the meter, the meter shall be placed in a suitable housing or pit outside, provided and maintained by the property owner on his property, at or near the street line. Crawl spaces are not considered suitable places for water meters. The property owner will install a meter box or meter pit, at his/her expense. See Water Standard Details for installation requirements.
  3. Fully Excavated Cellars - The service pipe shall enter the front wall of the building with a gate valve of the same nominal size as the pipe immediately inside this wall. Beyond this valve two gate valves on both sides of the meter along with the meter couplings, spacer, bypass and backflow prevention device if required shall be installed by the Plumber. See Water Standard Details for installation requirements.
  4. The property owner is responsible for any damage to the meter which must be accessible for reading, changing and maintenance during regular working hours of the MDC. Conditions such as a septic tank leaching field in the front lawn may necessitate moving the service which would be presented to the MDC and if approved, noted on the permit. The point of entry may be either through the front wall, or through the side wall not more than 24" beyond the inside face of the wall. The pipe shall enter the side wall on a smooth curve, free from any distortion or kinks. In special cases where plans or other proof is submitted to show that the meter would be in a finished room, such as recreation or living quarters, if standard practice were followed, the meter installation will be allowed just beyond the second wall provided all other requirements are approved, the pipe being extended either along the side of the house or under the floor contained in a sleeve extending from the front wall to the second or partition wall.
  5. Partially Excavated Cellars - Where the excavated portion of the cellar is adjacent to the front wall, the service may enter at any point along the front

wall, or through either sidewall on a smooth curve of radius not less than 24" and shall be free from any distortion or kinks. See Water Standard Details for installation requirements.

6. Where the excavated portion is located to the rear of the house and is adjacent to either side wall, the service shall be laid parallel to the side wall, and shall enter the wall as directed above.
7. Where the excavated portion of the cellar is located to the rear but is not adjacent to either side wall or front wall, the usual meter setting will be allowed at the wall facing the street provided the service is contained in a sleeve or duct under the unexcavated portion of the building. Any other condition will require a meter pit located at the street line.

c. 4" & Larger Services

1. Water services of 4" and larger shall be constructed in accordance with the technical provisions of the MDC Project Manual and Water Standard Details. The ductile iron pipe used in services 4" and larger shall be ANSI/AWWA thickness class 54, all fittings shall have a pressure rating of 350 lbs. per square inch.
2. All services 4" and larger whether for domestic or fire use, shall be provided with a gate valve and gate box at the main, as well as the property line. See Water Standard Details for installation requirements.
3. Bends, tees and other fittings shall be restrained per MDC specifications. Ductile iron pipe shall be laid flat on the solid trench bottom and not on blocks. The pipe shall not be poured or cemented solidly into concrete walls or foundations. Restrained joint pipe or push on joint pipe may be used. All fittings shall be mechanical joint unless otherwise specified.
3. All underground pipe in fire services and all pipe before the meters in domestic services shall be pressure tested in the presence of the inspector at a pressure of 150 lbs. per square inch for domestic services and 200 lbs. per square inch for fire services. Fire service pressure tests may also require witnessing by the local fire authority.
4. All services 4" and larger are subject to chlorination and disinfection, with the submission of acceptable test results to MDC for final approvals, in accordance with the procedure described in Part 2 of this Manual. Contractors are responsible for all sampling and costs associated with this process.
5. Construction of meter pits (where approved by the MDC), including by-pass lines shall be checked and approved by the inspector prior to installation of meter. Meter pit piping details for large diameter water services are shown in Part 3 of this manual. Standard meter pit details showing pipe arrangement and meter dimensions should be used for all installations requiring meter pits.

Piping arrangement in pits should be reviewed and approved by MDC prior to installation. Approved meter by-passes may be considered and or not required depending on the application of use on approved services 1-1/2" in size and larger. See detail sheet for piping and valve layout.

6. Individual properties may receive their supply through one or more service pipes. In case of multiple services, each shall be metered and shall not be interconnected without the installation of approved check valves by the property owner and inspection by MDC forces.
7. Water services shall not be connected to newly installed water main until the new main has been satisfactorily pressure tested, sterilized and approved for use.

**NOTE: The use of solder joints on copper pipe for by-pass, and piping at the meter where acceptable, shall be made with 95/5 solder. DO NOT USE 50/50 SOLDER OR ANY OTHER LEAD BEARING SOLDER.**

## **Section 10 – BACKFILL STANDARDS & MATERIALS**

- a. After the subgrade has been prepared and the water service pipes laid, the fill material shall be placed and built up in successive layers. Backfill for the trench excavation within public streets shall be in compliance with the specifications of the City, Town or State of Connecticut Department of Transportation.
- b. In general, and unless other material is indicated on the drawings, bank gravel shall be suitable material for backfilling trenches. Bank gravel shall conform to the requirements of Article M.02.01-2, CTDOT Form 816. Sand shall conform to the requirements of Article M.03.01.0, CTDOT Form 816.
- c. As soon as practicable after the pipes have been laid trenches shall be refilled in 12-inch layers at least to a level 24-inches above the top of the pipe with sand unless otherwise indicated and compacted in accord with the requirements below. Each layer shall be leveled and thoroughly compacted to the satisfaction of the MDC before the next layer is deposited. Special care shall be taken to consolidate the material under the pipes and the whole work of backfilling shall be done in a manner which will prevent subsequent settlement and injury to the pipe.
- d. Each layer of material shall be compacted by the use of vibratory compaction equipment or rollers or other means to achieve the required compaction. At such points as cannot be reached by mobile mechanical equipment, the materials shall be thoroughly compacted by the use of suitable power-driven tampers.

e. The requirements for compaction of backfill shall conform to the following guidelines based on ASTM D1557 Method C:

<u>LOCATION</u>	<u>PERCENT MAXIMUM DENSITY</u>
Below pipe centerline	95
Above pipe centerline (below unpaved surface)	92
Above pipe centerline (below paved surface)	95
Embankments	92
Below pipe in embankments	95
Below Structures	95

f. Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction. No compacting shall be done when the material is too wet, from either rain or too great an application of water, to compact it properly; at such times the Work shall be suspended until the previously placed and new materials have dried out sufficiently to permit proper compaction. The water content of the soil shall be adjusted by wetting or drying as may be necessary to obtain proper compaction.

## **Section 11 –DISINFECTING AND FLUSHING WATER SERVICES**

a. Disinfection and flushing of ductile iron services 4 inches and larger will be conducted by using a modification of the Tablet Method as described in Section 4.3 of the latest edition of ANSI/AWWA C651 “Standard for Disinfecting Water Mains” and as described below. Copper services (which are 2 inches and smaller) do not require disinfection.

### **Procedure for Filling and Testing New Water Services 4-Inch and Larger**

#### *Contractor’s Responsibilities*

Last Updated: May 19, 2016

#### **Overview of Steps – Chlorine Tablet Method**

1. Water Service Construction
2. Fill Water Service
3. Allow Chlorine to Sit in Pipe for a Minimum of 24 Hours, no more than 48 hours
4. Slow Flush and De-chlorination (proper treatment and disposal of chlorinated water)
5. Hydrostatic Pressure Test (If >24 hours from Step 4, hard flush first)
6. Scour Flush
7. Wait 16 hours
8. Determine Chlorine Residual
9. Sample

## Step 1. Water Service Construction

\* Fire services less than four (4) inches in diameter shall be discussed with MDC Utility Services and the Fire Marshall having jurisdiction regarding appropriate means for disinfecting and testing.

1. **Maintain Clean Pipes and Appurtenances (Storage & Construction)**

Throughout construction the pipe must be kept clean, while stored on site as well as while being set in place in the trench. Prevent rainwater, groundwater, dirt, gravel or any foreign matter from entering the pipe. Each end of the pipe should be capped or bagged and taped shut while being stored. The pipe and appurtenances shall not be stored directly on the ground. Any debris which enters the ends of the pipes during the process of moving and placing the pipe in the trench shall be swept/removed from the pipe from the ends (without entering the pipe to prevent further contamination). During construction, keep the groundwater level in the trench below the level of the pipe invert and cap pipe end section at the end of each day to protect the pipe overnight. Cap the pipe end (s) during any times when the pipe or trench will be unattended, including lunch breaks.

2. **Utilize Approved Materials.** The Contractor shall provide submittals for materials used in the project. All pipe, gaskets, fittings (including temporary fittings for testing purposes), appurtenances and pipe lubricant/soap shall be certified NSF/ANSI-61. All chemicals used with potable water shall be certified NSF/ANSI-60. Tablet adhesive shall be in accordance with NSF 60. All products shall be domestically made.

3. **Tablet Method Disinfection – Tablet Installation (Section 4.3 ANSI/AWWA C651).** The appropriate number of five (5) gram calcium hypochlorite tablets as shown in Table 1 shall be cemented in each length of pipe by the Contractor. Tablets are to be attached to the roof of the pipe by using an NSF approved adhesive such as Permatex No. 2c to the top of each pipe.

Table I - Number of 5-gram Hypochlorite Tablets Required for 50 ppm Dose		
PIPE DIAMETER (INCHES)	NUMBER OF TABLETS PER LENGTH OF PIPE	
	18-ft	20-ft
4"	1	1
6"	1	1
8"	2	2
10"	3	3
12"	4	4

*CAUTION: Tablets are not to be left in pipes above ground overnight or on the job site where they can come in contact with children or animals.*

4. **Sterilization Sampling Points.** Service will be installed to and tested at the proposed meter or backflow prevention device location. If the service is greater than 1,000 linear feet in length,

District staff will review and determine the need for additional sampling locations. Use of a 3/4" x 1" corporation cock as a sterilization test sample connection at the end of the service is a one-time occurrence and after its use it can be converted to a permanent air valve or abandoned, whichever is dictated by the specific installation. Fire services are not to have taps made along them and therefore shall be tested through a sampling point via pipe cap with a threaded connection. See the Figure 1 below for an example of this configuration.

5. **Flushing of New Water Service.** The Contractor shall make arrangements with the District to flush the system subsequent to sterilization. The Contractor shall supply all materials and make provisions in construction to supply locations to flush the new water service. The District will be responsible for operating the gate valves in the street if necessary, and the Contractor will supply materials for neutralizing the residual chlorine. The Contractor shall be responsible for supplying equipment necessary to perform the flushing operation and determining where the water will drain during the flushing operation so as not to flood areas or cause damage to property.

## PART 2

### DESIGN STANDARDS

The MDC has developed design standards which apply to typical water service and water main pipeline installations. They are not intended to be all inclusive but are items that should be covered when designing typical services. Information covering the design of water mains and services is included in several documents as follows:

- The MDC Project Manual.
- The MDC Water Standard Details (see Part 3).
- The MDC Approved Materials for Water Main Installations (see Part 4)

MDC Project Manual Specification Sections that may be relevant to the design of water services include, but are not necessarily limited to, the following:

- 02054, Removal or Abandonment of Existing Water Mains and Appurtenances
- 02200, Earthwork
- 02202, Trench Refill
- 02317, Underground Warning Tape
- 02642, 12-inch and Smaller Gate Valves
- 02645, Fire Hydrant Assembly
- 02651, Ductile Iron Water Main and Fittings
- 02653, Disinfecting and Flushing Water Mains
- 02656, Tapping Sleeve and Gate Valve
- 02657, Water Service Renewal or Reconnection

All MDC Project Manual Specification sections are available online at the following webpage: <http://themdc.org/what-we-do/engineering-planning/technical-services>

#### Thrust Restraint

Thrust restraint shall be calculated as required for each project. The length of piping that must be restrained shall be noted on the drawings.

Restraint devices for nominal pipe sizes 3 inch through 48 inch shall consist of multiple gripping wedges incorporated into a follower gland meeting the applicable requirements of ANSI/AWWA C110/A21.10.

The devices shall have a working pressure rating of 350 psi for 3-16 inch and 250 psi for 18-48 inch. Ratings are for water pressure and must include a minimum safety factor of 2 to 1 in all sizes.

Ductile iron pipe bell restraint shall consist of a wedge action restraint ring on the spigot joined to a split ductile iron ring behind the bell. The restraint ring shall have individually actuated wedges that increase their resistance to pull-out as pressure or external forces increase. The restraint ring and its wedging components shall be made of a

minimum grade of 65-45-12 ductile iron conforming to ASTM A536. The wedges shall be heat treated to a minimum hardness of 370 BHN. Torque limiting twist off nuts shall be used to insure proper actuation of the restraining wedges.

The split ring shall be made of a minimum grade of 65-45-12 ductile iron conforming to ASTM A536. The connecting tie rods that join the two rings shall be made of low alloy steel that conforms to ANSI/ AWWA C111/ A21.11 and shall have a protective coating. The assembly shall have a rated pressure with a minimum two to one safety factor of 350 psi in sizes 16 inch and 250 psi in the sizes 18 inch through 36 inch.

Refer to Approved Materials for Water Installations for push-on and bell joint restraints. All restraint systems shall be installed in accordance with manufacturer's specifications. Re-use of restrained MJ Fittings will not be permitted. Once a restrained MJ fitting has been installed and nuts have been torqued off, that fitting cannot be re-used, and a new fitting will be provided at no additional cost to the Owner.

### Gate Valves

Gate valves for 4", 6", 8", 10" and 12" pipe shall be full pipe size and resilient seat. Gate valve operations shall be to MDC standards – Open Left or Open Right.

Refer to Approved Materials for Water Main Installations for gate valves

### Hydrants

Hydrants shall have a 6" branch pipe with a 6" gate valve controlling each hydrant.

The appropriate town approving authority shall be contacted for locations of hydrants to be installed.

Hydrants shall be installed on the side closest to the water main, in the area directly behind the curb or pavement line, normally 2 feet from face of curb to center line of hydrant except in Bloomfield, Farmington and Glastonbury where they shall be 3 feet from the face of curb.

Hydrants, although located where assigned by proper municipal authorities, shall not be located on the radius of intersecting curb lines. Most MDC towns now require a maximum spacing of 500 feet between hydrants and they are normally placed at a side property line.

All hydrant installations are to be restrained from the branch to the hydrant with approved methods, i.e. retainer glands and hydrant anchoring tee.

All hydrants prior to their acceptance and placing in service shall: have concrete collars installed around the barrel below grade as indicated on the hydrant detail; be painted according to MDC color scheme (barrel-red; cap yellow or green); and have cap chains in place.

All hydrants shall open counterclockwise and shall have two 2-1/2" nozzles and one 4-1/2" nozzle.

Hydrants are not to be placed at the end of the main in cul-de-sac but rather at or before the P.C. of the cul-de-sac.

Refer to Approved Materials for Water Main Installations for hydrants.

### Air Valves

Air valves shall be installed at the high point of the water line, if the grade change is over 4 feet and no hydrant is available near the high point.

Each case should be reviewed for the required need, since the air valve consists of a box and fittings that must be maintained. Their use is very occasional, i.e., filling the water line and then on any shut down. Hydrants or end blow-offs can most often be used if they occur at the high point.

Refer to Approved Materials for Water Main Installations for air valves.

### Blow Offs

All blow offs installed to the road surface are to be 4" ductile iron pipe with the proper reducer.

All components of the blow off assembly including the gate valve, reducer, and 90 degree bend are to be restrained together with approved methods.

All blow offs shall be separated from the gate valve by one full length of pipe or a minimum of 15 feet wherever possible. In certain cases there may be exceptions based on practicality of the installation and physical constraints such as green belts in cul-de-sacs, driveways and conflicting utilities, therefore this separating distance may be reduced to 10 feet with the approval of the MDC.

### Pipe and Fittings

All mechanical joint fittings shall be installed using approved retainer glands instead of the normal mechanical joint follower glands.

Use of thrust blocks for thrust restraint will generally not be permitted. Use of thrust blocks must be approved by the MDC on a case by case basis.

All water pipe shall have a minimum cover of 4-1/2 feet.

All ductile iron pipe shall be Class 54 cement lined ductile iron and conform to the latest Specification ANSI/AWWA C151/A21.51, ANSI/AWWA C111/A21.11 and ANSI/AWWA C104/A21.4.

All ductile iron fittings shall conform to the latest ANSI/AWWA Specification ANSI/AWWA C110/A21.10, ANSI/AWWA C111/A21.11, ANSI/AWWA C104/A21.4 and ANS/AWWA C153/A21.53.

Refer to Approved Materials for Water Main Installations for pipe and fittings.

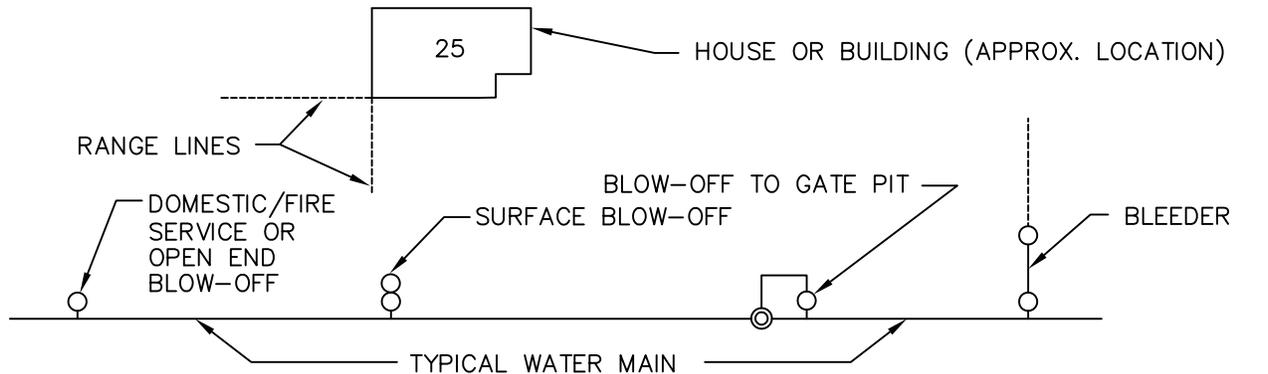
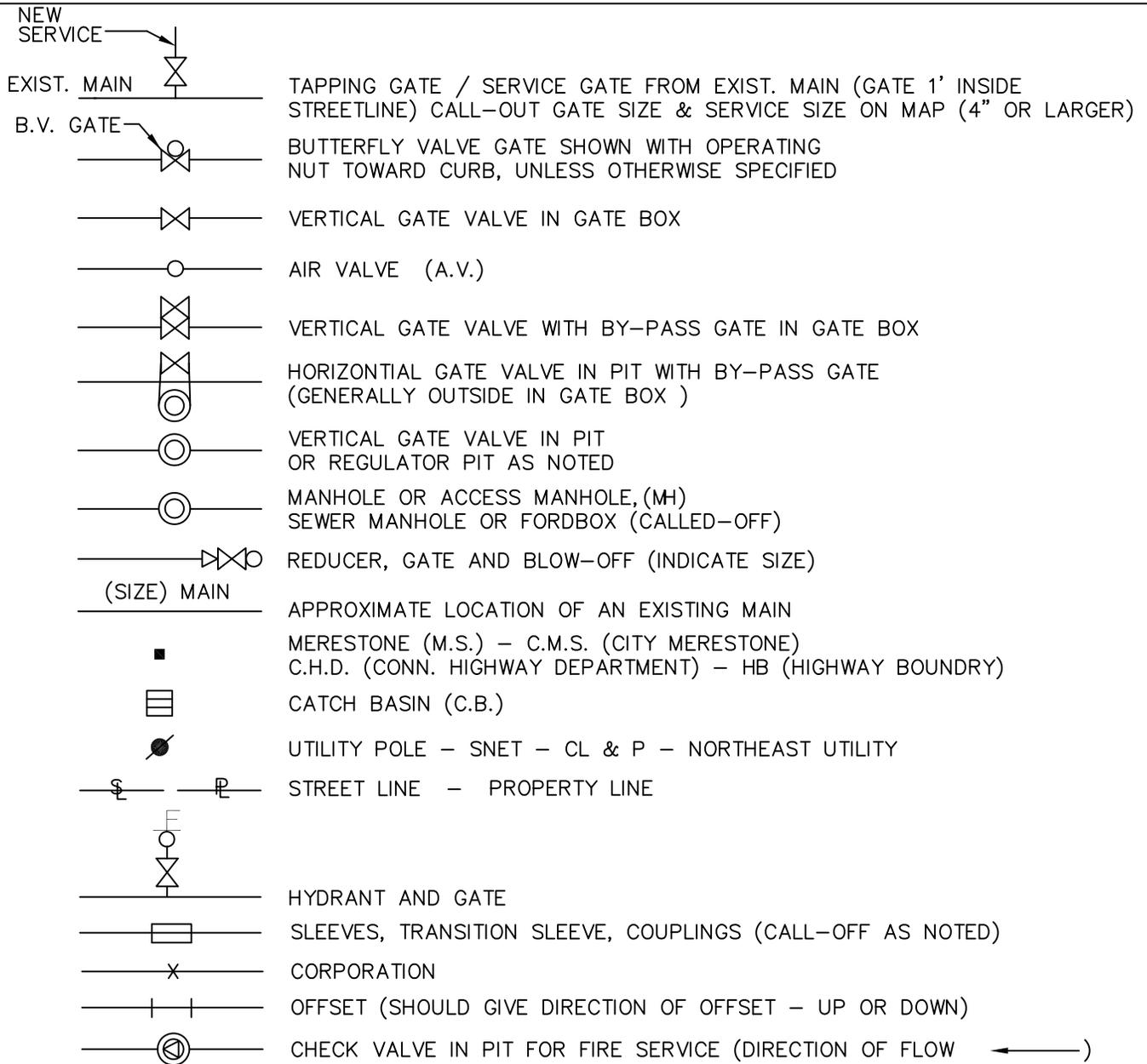
Tapping Sleeves

Refer to Approved Materials for Water Main Installations for tapping sleeves.

# **PART 3**

## **FIGURES**

# THE METROPOLITAN DISTRICT WATER SERVICES INSTALLATION



## WATER RECORDS SYMBOLS

FIGURE – 1

**PART 4**  
**THE METROPOLITAN DISTRICT**  
**WATER STANDARD DETAILS**  
**INDEX**

The latest revision of the water service and water main standard details are located on the MDC website at the following webpage <http://themdc.org/what-we-do/engineering-planning/technical-services> in the Standard Details Manual and are intended to exhibit MDC approved installation for the various sized water services and their appurtenances. If deviations from the prescribed installation are necessary, approval must be obtained from the MDC prior to the installation. The following details are intended to supplement and amplify the MDC Material Standards. See MDC website for latest revision of the Standard Details Manual for revised or additional details.

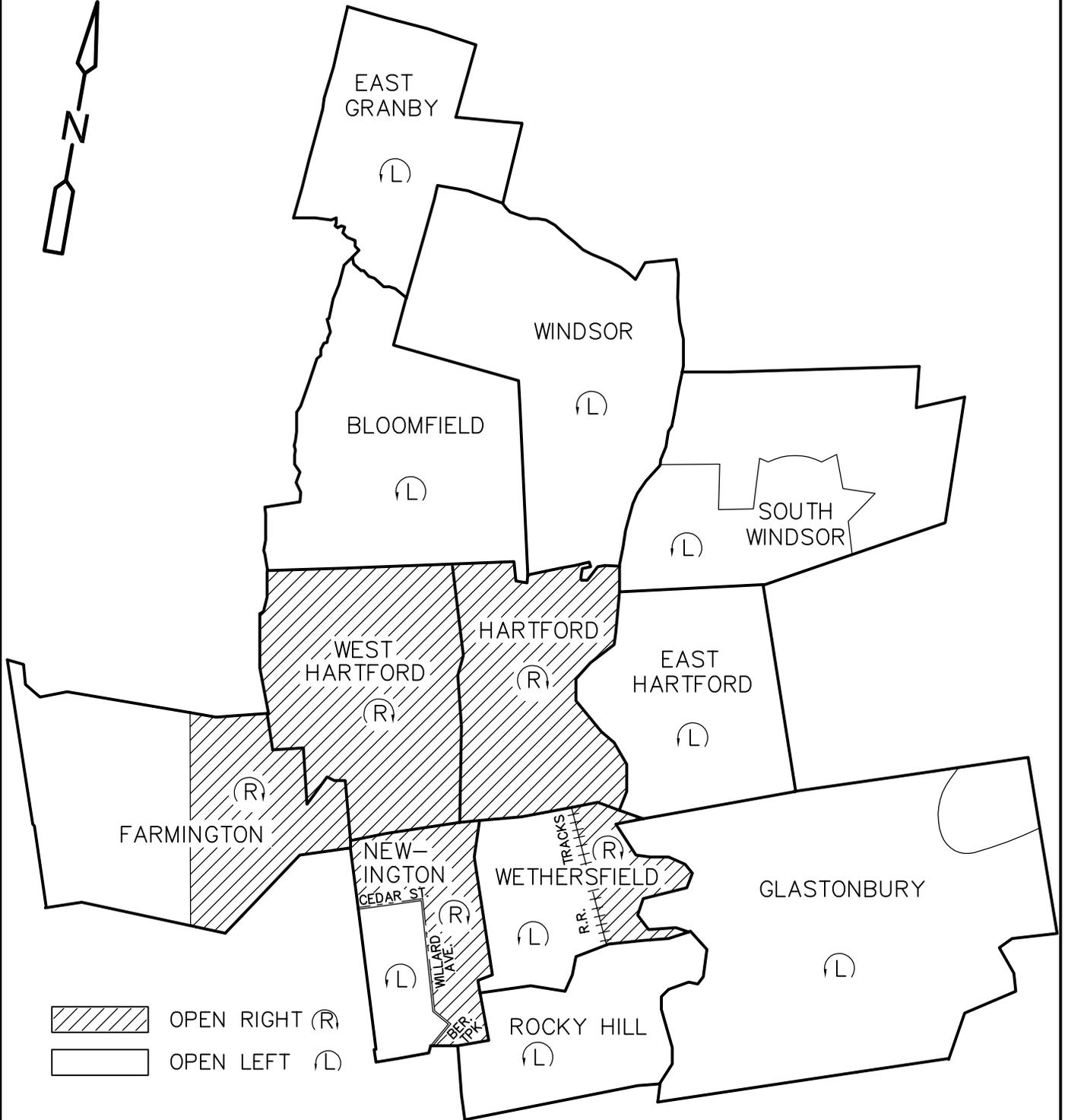
## Index of Water Standard Details

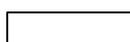
- W-1 Gate Operation Index
- W-2 Standard Water Layout
- W-3 Water Main Trench
- W-4 Water Service Trench
- W-5 Type K Copper Service
- W-6 Copper Water Service Offset
- W-7 Trench Requirements for 1-inch to 2-inch Service Taps
- W-8 Trench Requirements for 4-inch to 12-inch Tap on Water Main
- W-9 1-inch Service Tap Off Horizontal Center Line
- W-10 Services 4–inch Through 8-inch
- W-11 Standard Service Curb Box
- W-12 Standard Gate Valve 12-inch and Smaller
- W-13 Standard Gate Box Assembly (Dwyer Type)
- W-14 Cast Iron Gate Box Top Section (Dwyer Type)
- W-15 Cast Iron Gate Box Bottom Section 8-inch (Dwyer Type)
- W-16 Cast Iron Gate Box Bottom Section 10-inch (Dwyer Type)
- W-17 Cast Iron Gate Box Cover (Dwyer Type)
- W-18 Cast Iron Gate Box Extension Cover 6-inch (Dwyer Type)
- W-19 Gate Box Extension
- W-20 Gate Box Extension Spacer Rings
- W-21 Gate Nut Extension Stem for Gate Box
- W-22 Standard Fire Hydrant Assembly
- W-23 Swivel Mechanical Joint Hydrant Tee
- W-24 Standard Restrained Joints
- W-25 Mechanical Joint Lacing Method
- W-26 Restrained Offset with Concrete Anchor
- W-27 Concrete Thrust Blocks for 12-inch and Smaller Mains
- W-28 Standard Water Manhole
- W-29 Standard Water Manhole Frame and Cover
- W-30 Precast Meter Pit for 1 ½ - inch to 2 – inch Service
- W-31 4' x 4' Precast Meter Pit for 1 ½-inch to 2 –inch Service
- W-32 6' x 4' x 6' Precast Meter Pit for 2-inch Through 4- inch Meters
- W-33 5' x 10' x 6' Precast Meter Pit for 4-inch and Larger Meters
- W-34 5' x 10' x 6' Combined Meter Layout
- W-35 Aluminum Hatch for Precast Meter Pits
- W-36 Meter Box for 1" Service and 5/8" x 3/4" to 1" Meter
- W-37 Standard Meter Installation with By-Pass on 1 1/2–inch Services and Larger within Buildings
- W-38 Standard Meter Installation with By-Pass for 1 1/2–inch and 2-inch Meters Within Pit
- W-39 Standard Meter Installation with By-Pass for 3–inch and 4-inch Meters Within Pit

- W-40 Chlorination Inlet / Blow-Off
- W-41 Standard Air Valve
- W-42 4-inch or 6-inch Blow-Off Assembly (End of Main)
- W-43 4-inch or 6-inch Blow-Off Assembly (Branch Type)
- W-44 4-inch or 6-inch Blow-Off Assembly with Full Size Main Gate Valve
- W-45 8-inch or 10-inch Blow-off Assembly
- W-46 Standard Butterfly Valve
- W-47 Water Crossing Below Sewer Less Than 18-inch Vertical Separation

# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

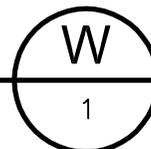


-  OPEN RIGHT (R)
-  OPEN LEFT (L)

### GATE OPERATION INDEX

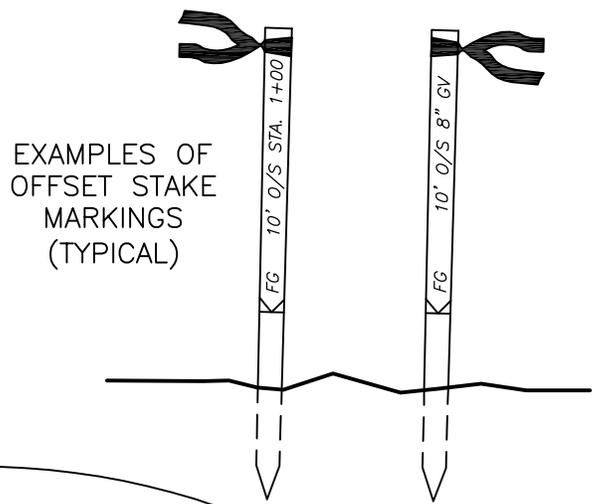
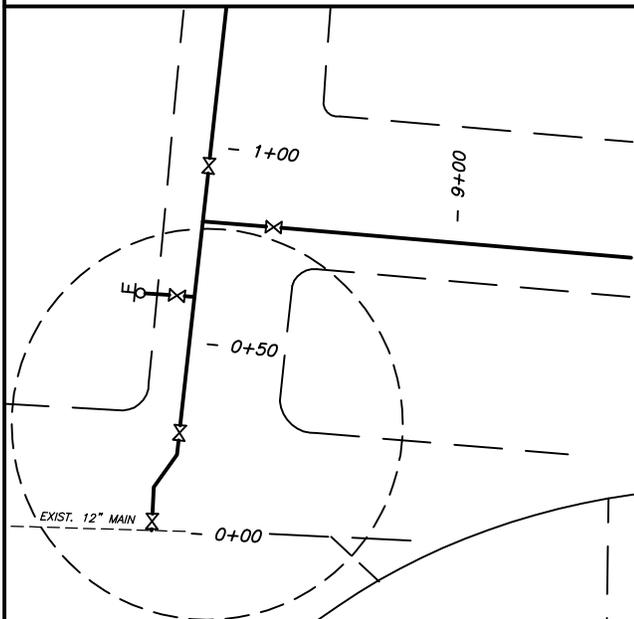
## DETAIL

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

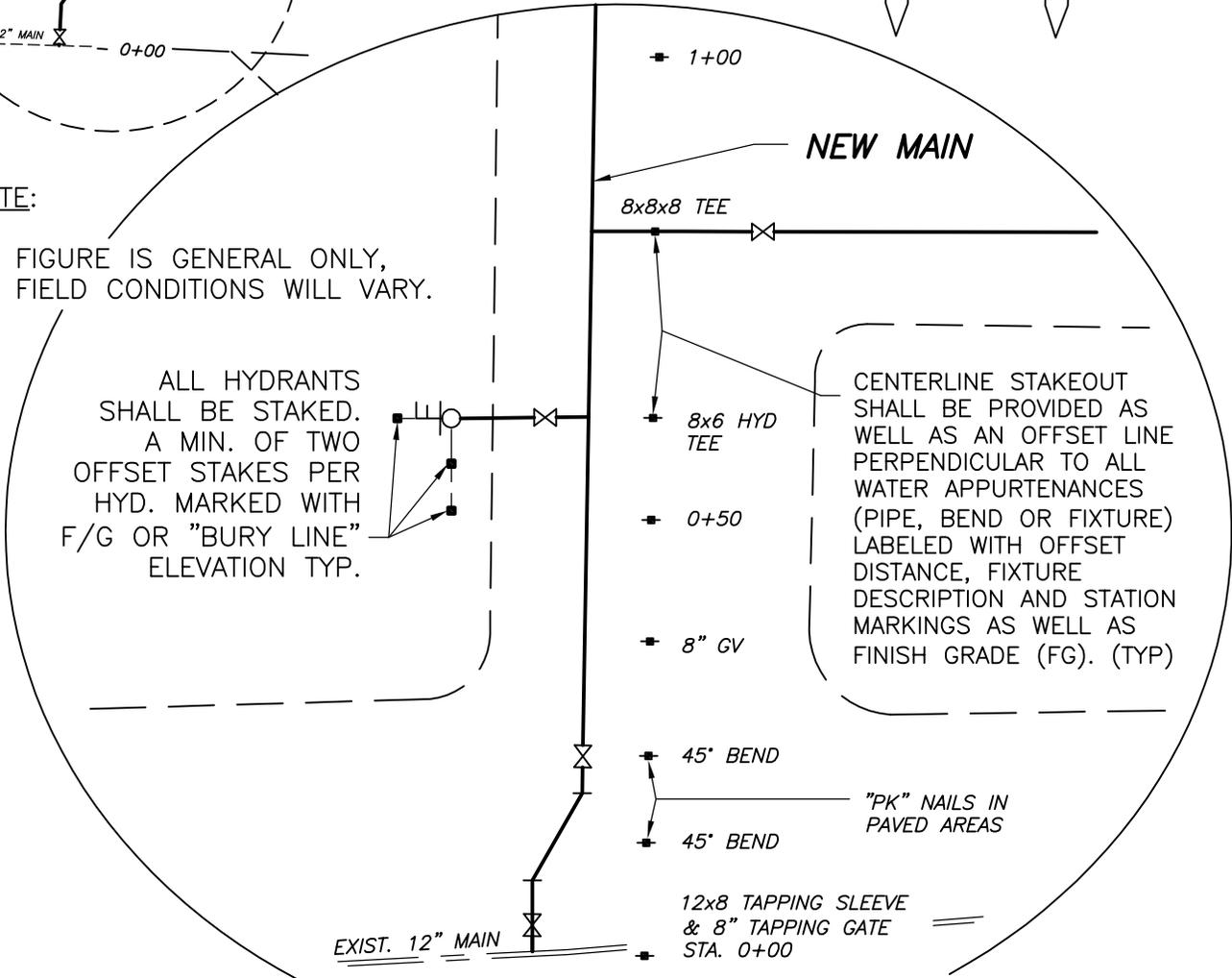


EXAMPLES OF  
OFFSET STAKE  
MARKINGS  
(TYPICAL)

**NOTE:**

- FIGURE IS GENERAL ONLY, FIELD CONDITIONS WILL VARY.

ALL HYDRANTS SHALL BE STAKED. A MIN. OF TWO OFFSET STAKES PER HYD. MARKED WITH F/G OR "BURY LINE" ELEVATION TYP.

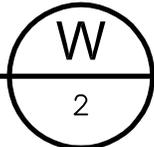


CENTERLINE STAKEOUT SHALL BE PROVIDED AS WELL AS AN OFFSET LINE PERPENDICULAR TO ALL WATER APPURTENANCES (PIPE, BEND OR FIXTURE) LABELED WITH OFFSET DISTANCE, FIXTURE DESCRIPTION AND STATION MARKINGS AS WELL AS FINISH GRADE (FG). (TYP)

### STANDARD WATER LAYOUT

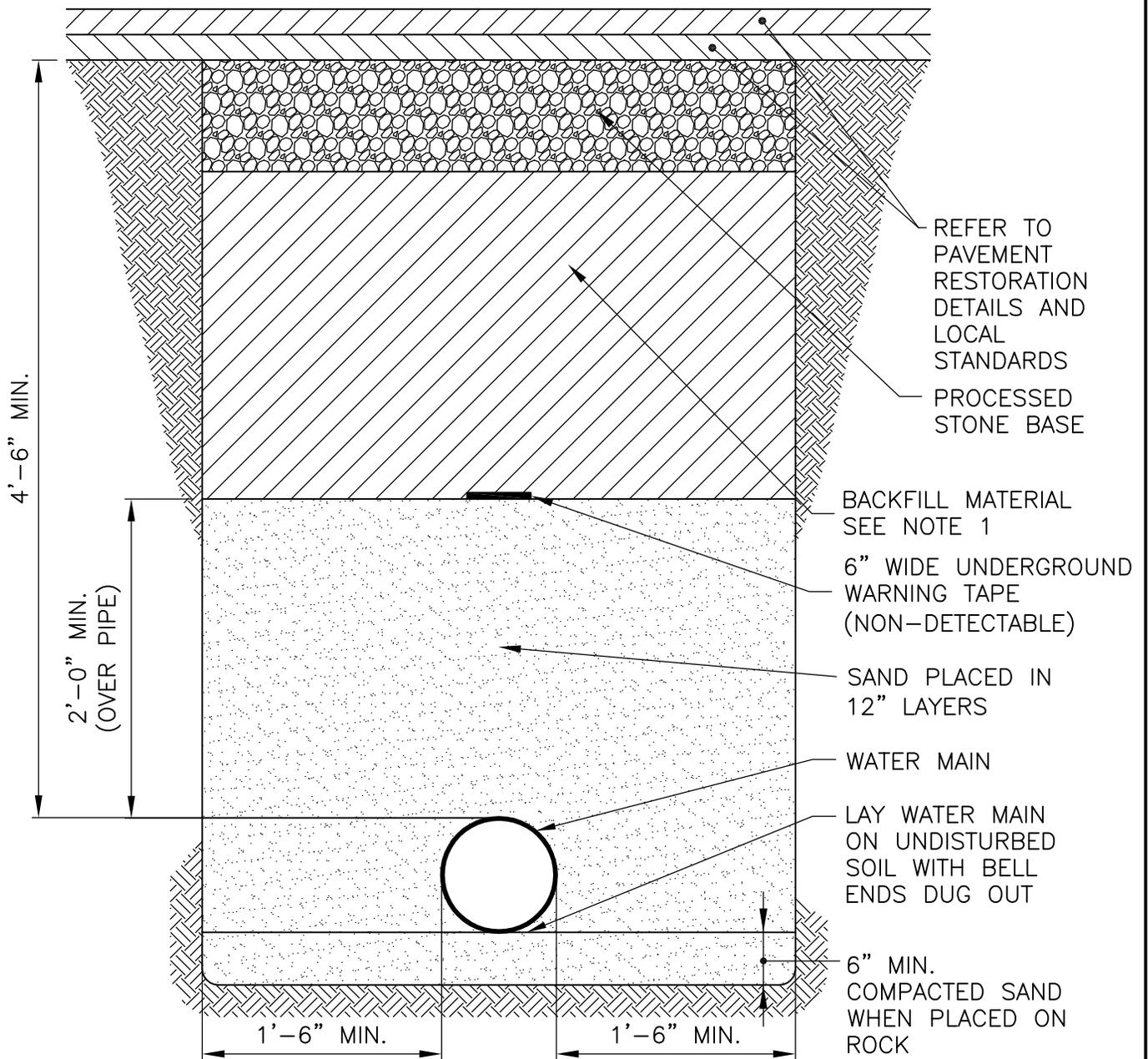
## DETAIL

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

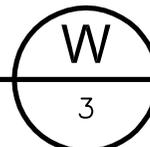


**NOTE:**

1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS (INCLUDING SIDEWALKS AND DRIVEWAYS) OR COMMON FILL IN NON-PAVED AREAS.

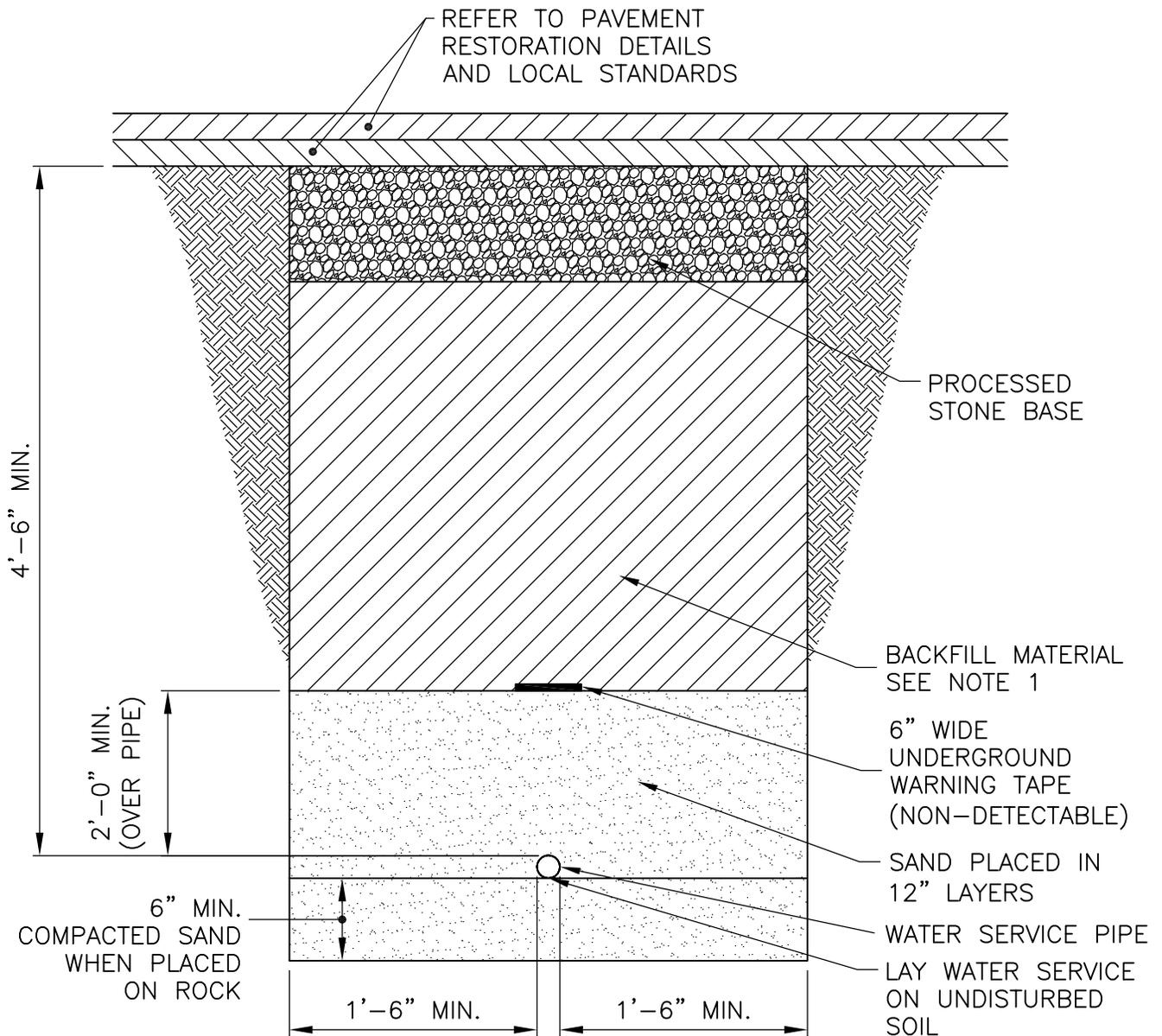
### WATER MAIN TRENCH DETAIL

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



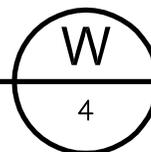
**NOTE:**

1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS (INCLUDING SIDEWALKS AND DRIVEWAYS) OR COMMON FILL IN NON-PAVED AREAS.

### WATER SERVICE TRENCH

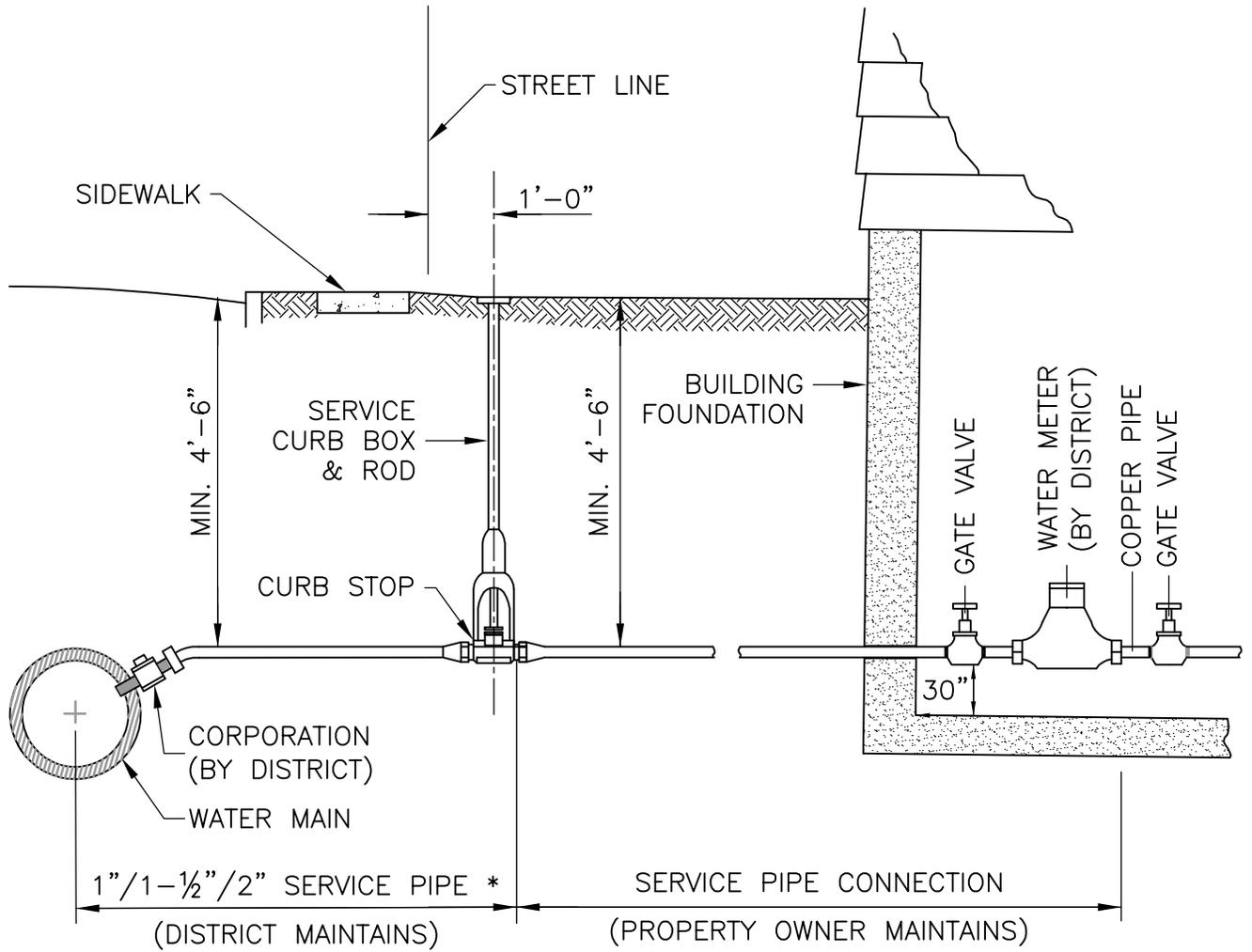
## DETAIL

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

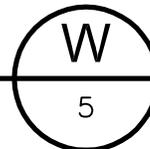


\* 1-1/4" PIPE IS NOT PERMITTED

### TYPE K COPPER WATER SERVICE

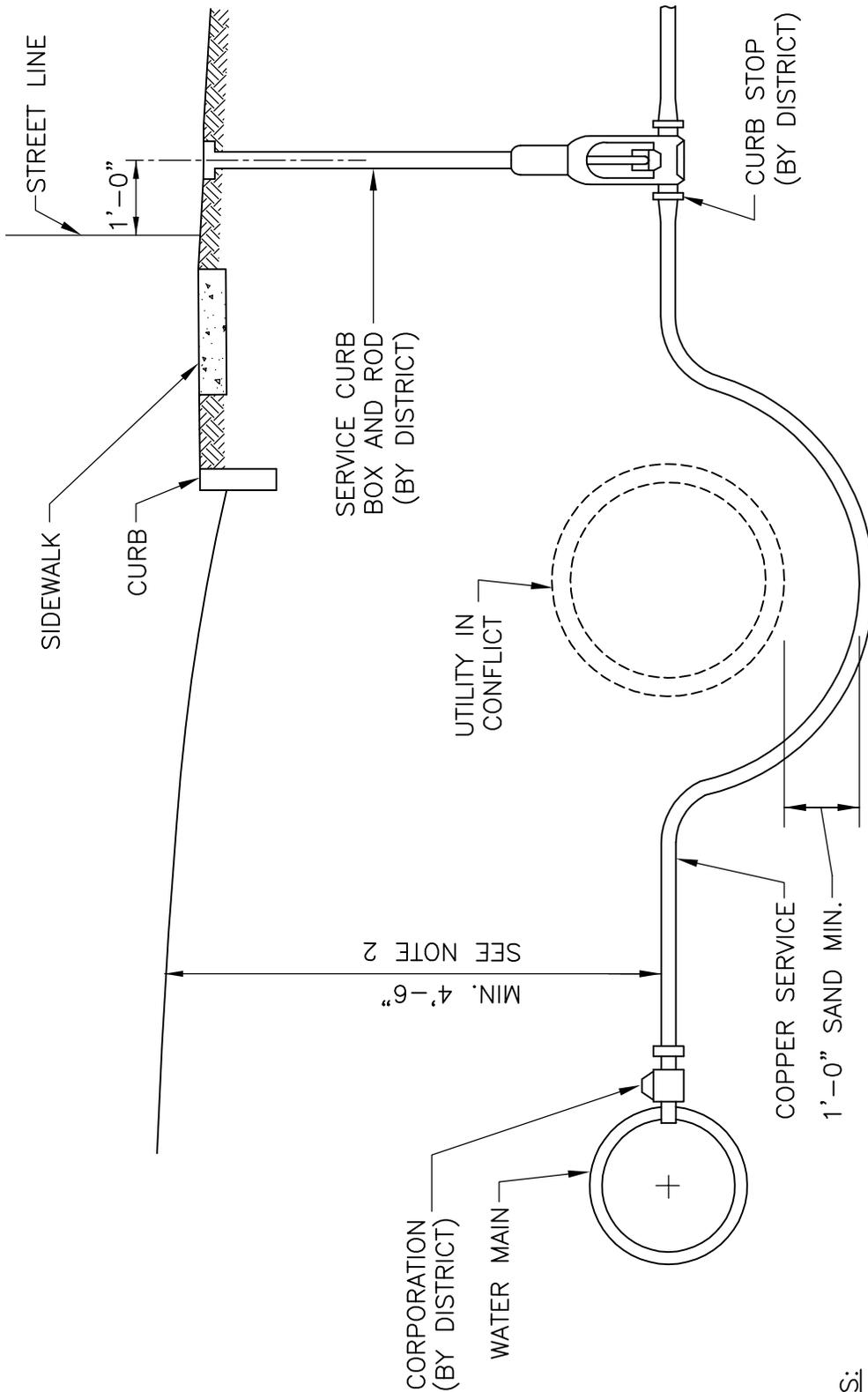
## DETAIL

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



**NOTES:**

1. MAINTAIN 18" MINIMUM CLEARANCE WITH SANITARY SEWER.
2. INSULATION OF COPPER WATER SERVICE REQUIRED WITH LESS THAN 4'-6" COVER.

**COPPER WATER SERVICE OFFSET**

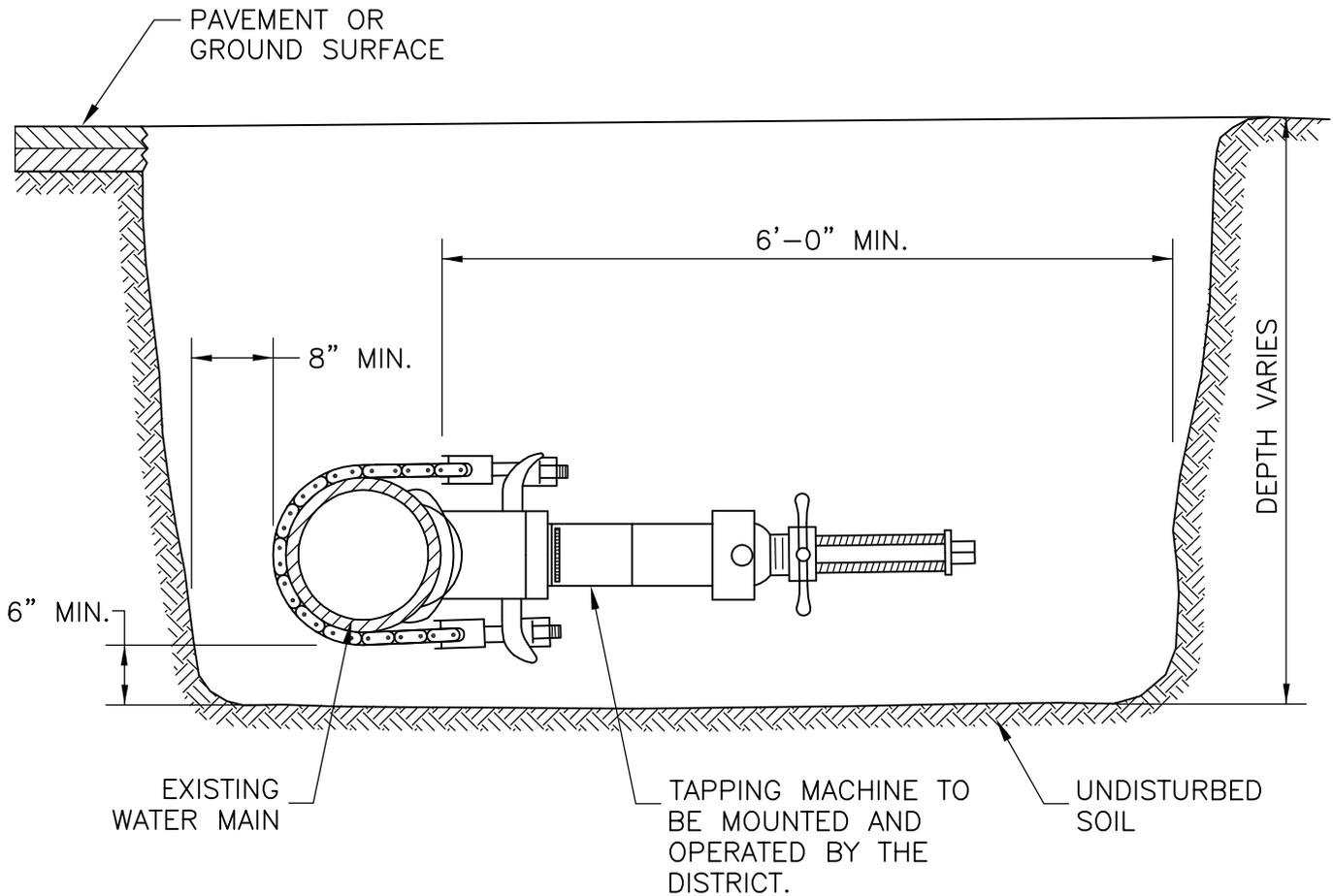
**DETAIL**

NTS

W  
6

# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



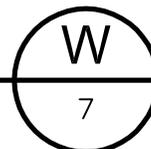
**NOTE:**

1. CONTRACTOR SHALL COORDINATE WITH THE DISTRICT AND THE PROPERTY OWNER PRIOR TO TRENCH EXCAVATION. THE TRENCH SHALL BE PROPERLY DEWATERED, SUPPORTED AND SHALL COMPLY WITH OSHA REQUIREMENTS FOR TRENCH EXCAVATION.

### TRENCH REQUIREMENTS FOR 1-INCH TO 2-INCH SERVICE TAPS

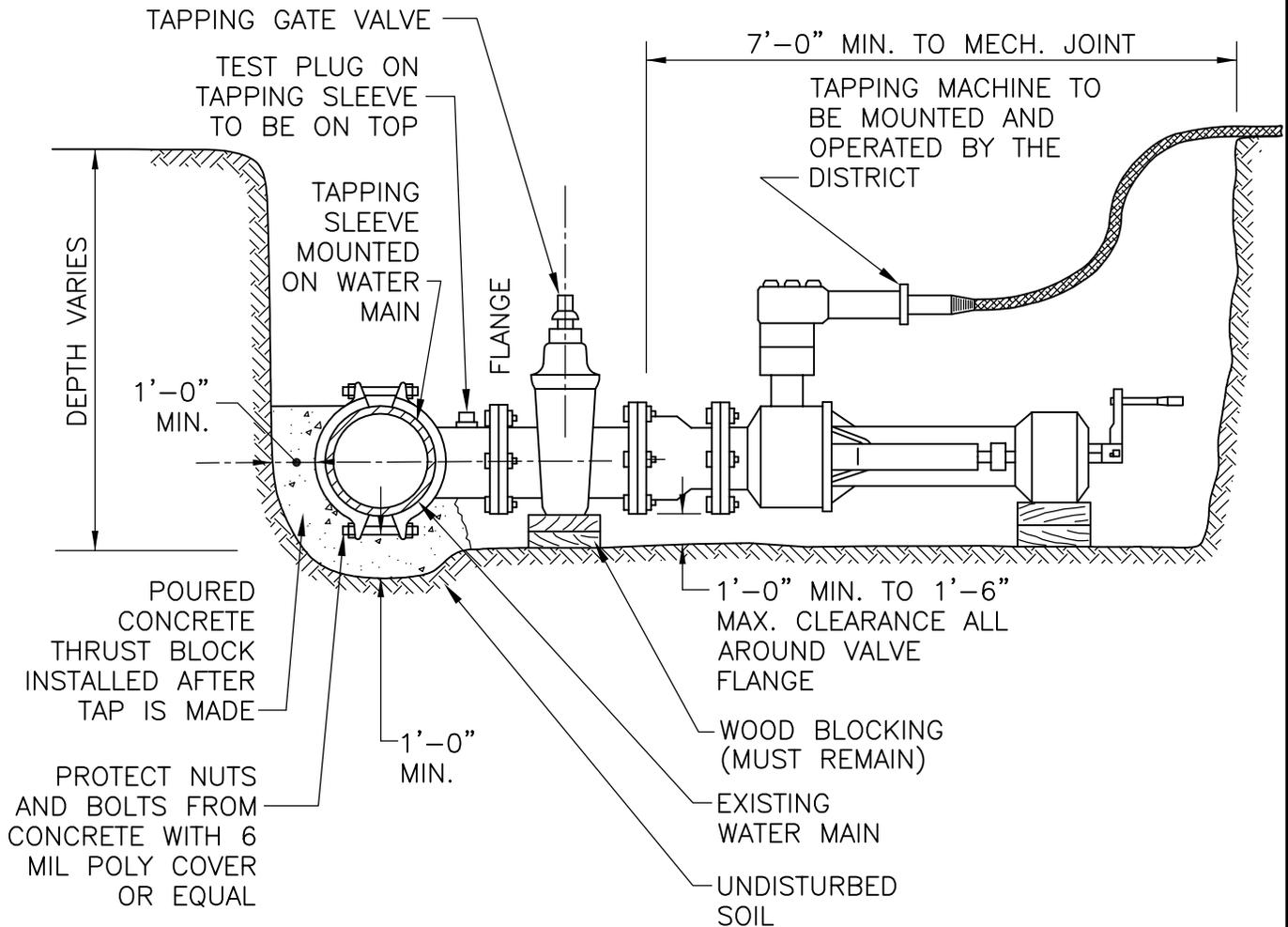
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# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



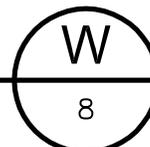
**NOTES:**

1. TAPPING SLEEVE & TAPPING GATE VALVE TO BE INSTALLED ON WATER MAIN BY THE CONTRACTOR. THE DISTRICT WILL TEST INSTALLATION PRIOR TO MAKING TAP. NO TAP WILL BE MADE IF THERE IS NO TEST PLUG.
2. TAPPING GATE VALVE TO HAVE HAND OF OPERATION AS DIRECTED BY THE DISTRICT. IF VALVE HAND OF OPERATION IS NOT CORRECT, NO TAP WILL BE MADE.
3. CONTRACTOR SHALL COORDINATE WITH THE DISTRICT AND THE PROPERTY OWNER PRIOR TO TRENCH EXCAVATION. THE TRENCH SHALL BE PROPERLY DEWATERED, SUPPORTED AND SHALL COMPLY WITH OSHA REQUIREMENTS FOR TRENCH EXCAVATION.

## TRENCH REQUIREMENTS FOR 4-INCH TO 12-INCH TAP ON WATER MAIN

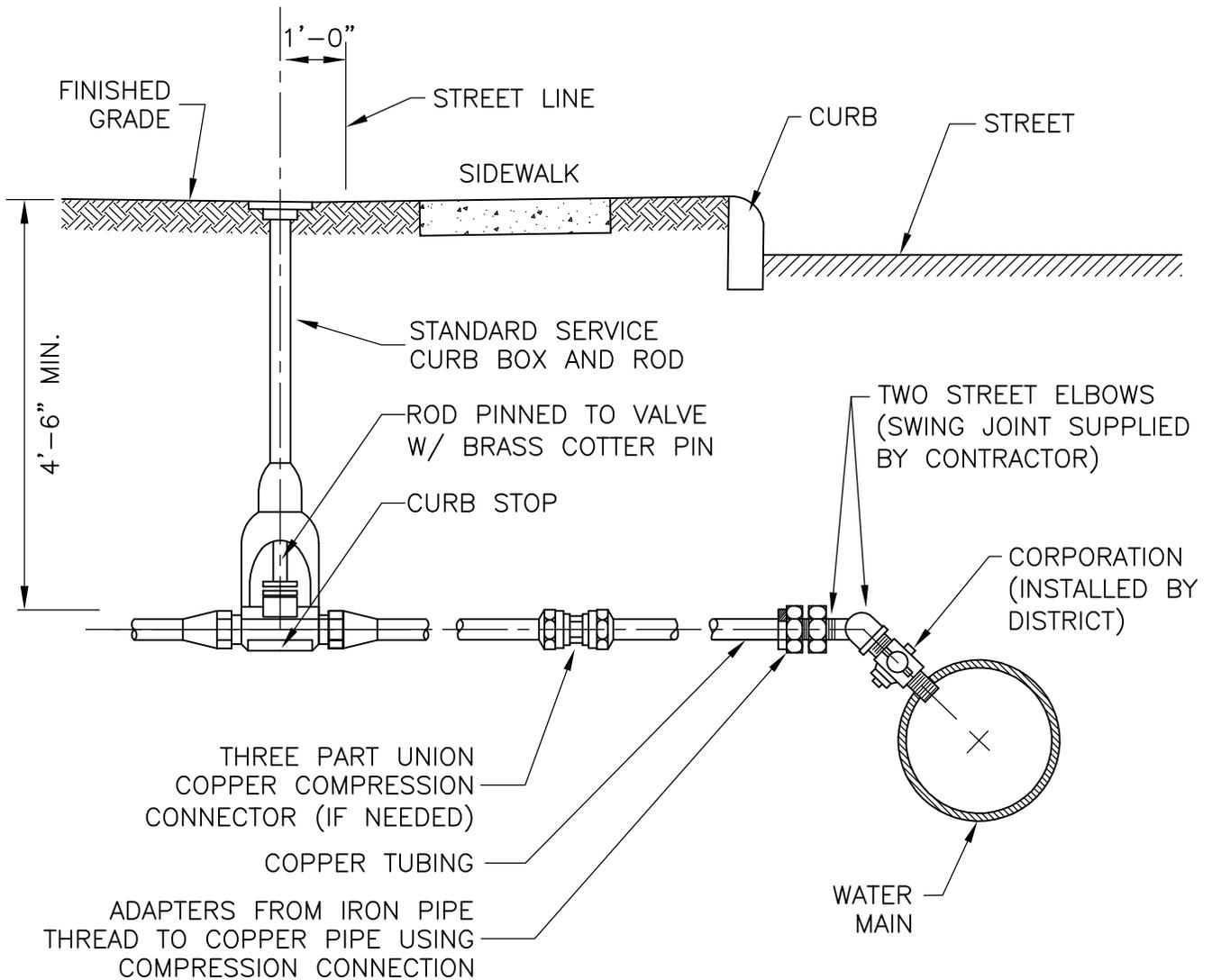
**DETAIL**

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



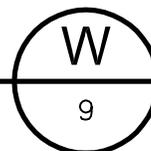
**NOTE:**

1. IF THE WATER SERVICE PIPE IS IRON OR BRASS ON THE PRIVATE PROPERTY SIDE, PROVIDE SHORT LENGTH OF COPPER PIPE AND PACK JOINT ADAPTER COUPLING OR EQUIVALENT.

### 1-INCH SERVICE TAP OFF HORIZONTAL CENTER LINE

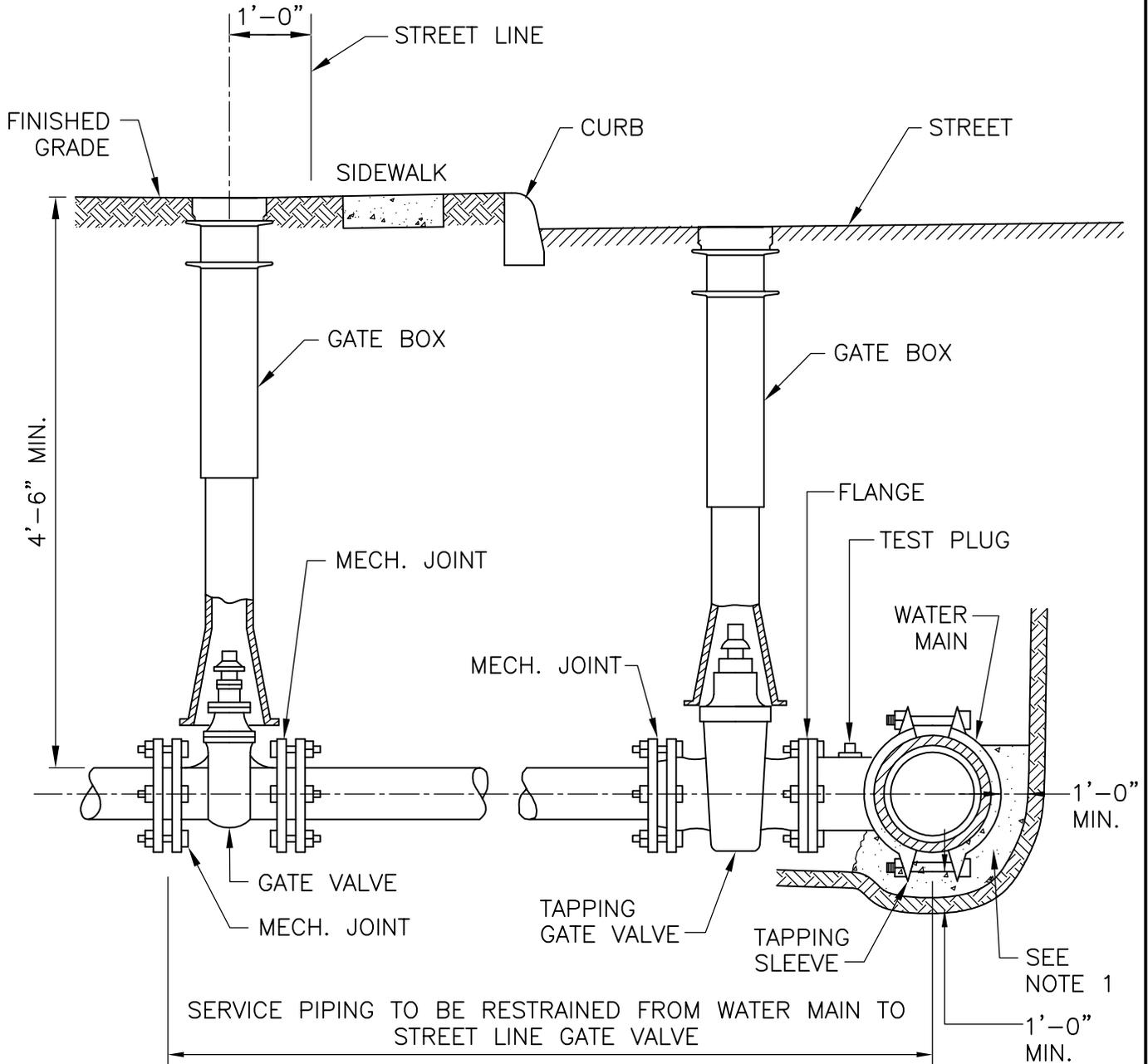
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



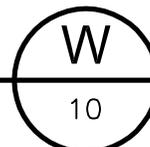
**NOTES:**

1. POURED CONCRETE THRUST BLOCK TO BE INSTALLED AFTER TAP IS MADE. PROTECT NUTS FROM CONCRETE WITH 6 MIL POLY COVER OR EQUAL.

### SERVICES 4-INCH THROUGH 8-INCH

## DETAIL

NTS



# THE METROPOLITAN DISTRICT

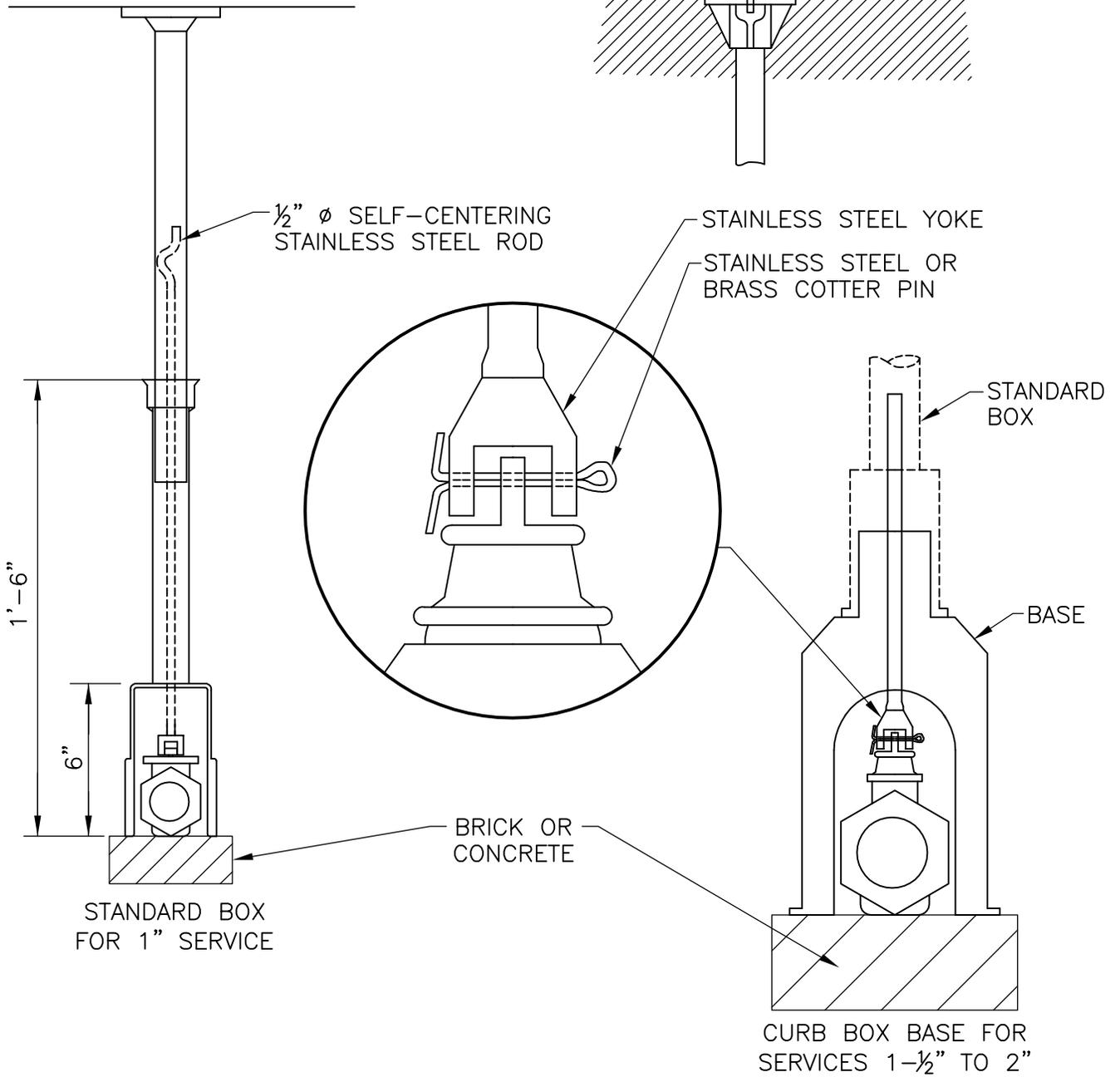
## WATER STANDARD DETAILS



TWO HOLE COVER  
FOR USE IN  
NON-PAVED AREAS

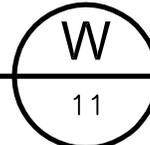


PLUG COVER FOR  
CONCRETE OR  
PAVED AREAS



### STANDARD SERVICE CURB BOX

DETAIL

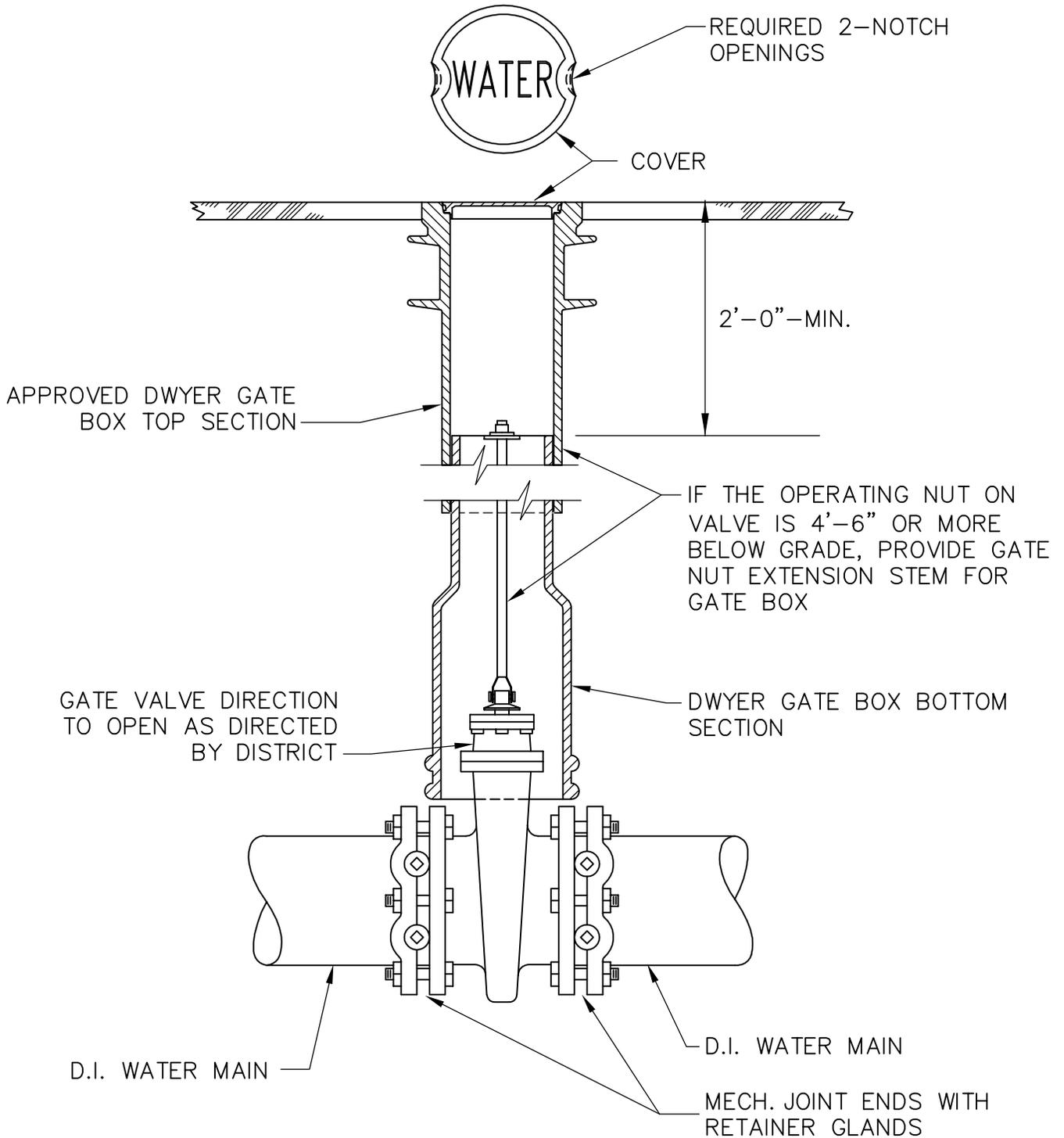


NTS

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# THE METROPOLITAN DISTRICT

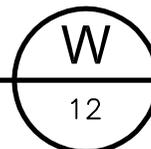
## WATER STANDARD DETAILS



### STANDARD GATE VALVE 12-INCH AND SMALLER

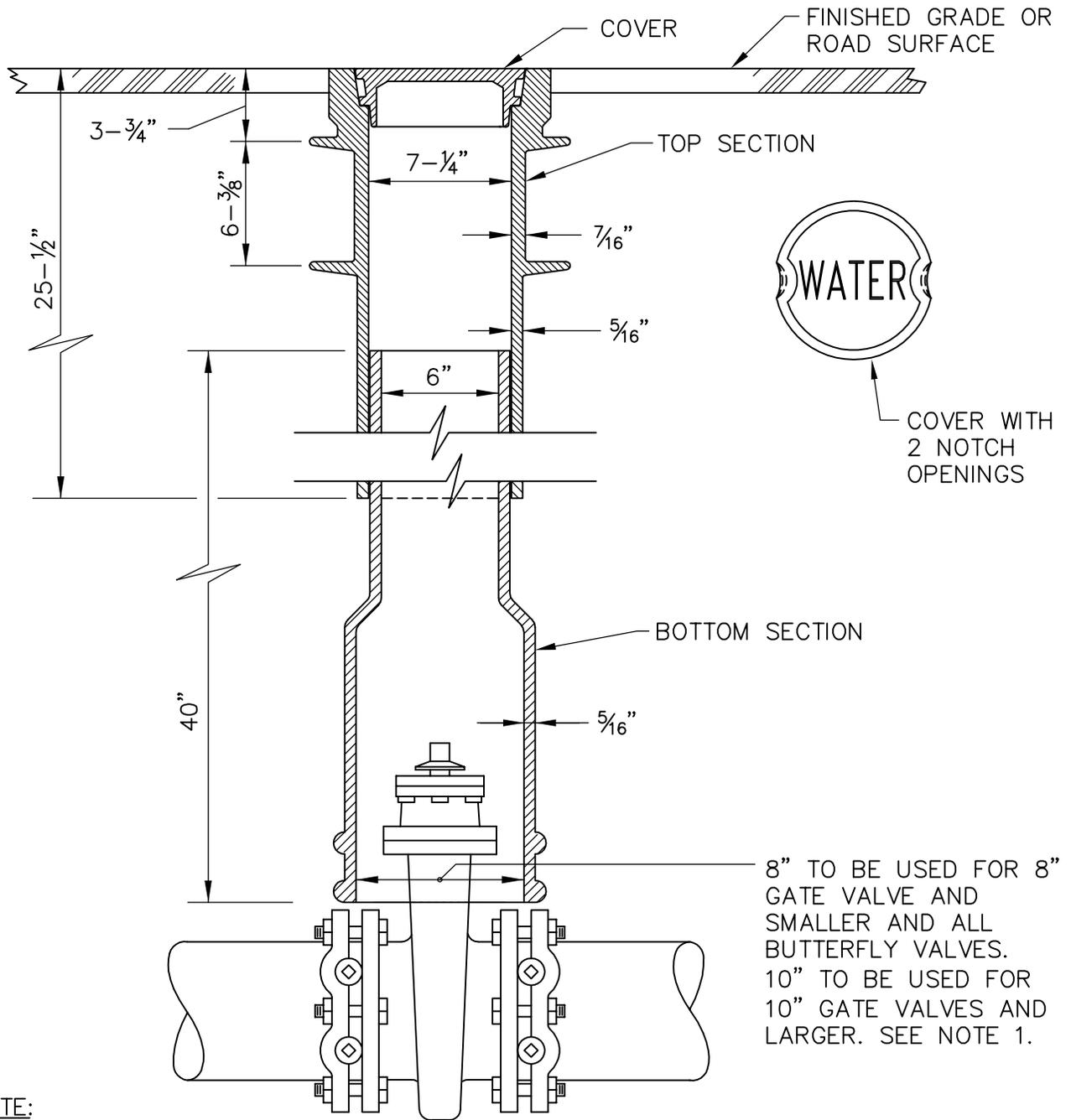
**DETAIL**

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



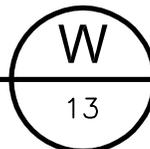
**NOTE:**

1. THE GATE BOX SHALL BE SET PLUMB AND CENTERED DIRECTLY OVER THE OPERATING NUT OF THE VALVE. THE CONTRACTOR SHALL USE A COMMERCIALY AVAILABLE CENTERING DEVICE TO PREVENT DAMAGE TO THE TOP OF THE VALVE AND MAINTAIN ALIGNMENT.

### STANDARD GATE BOX ASSEMBLY (DWYER TYPE)

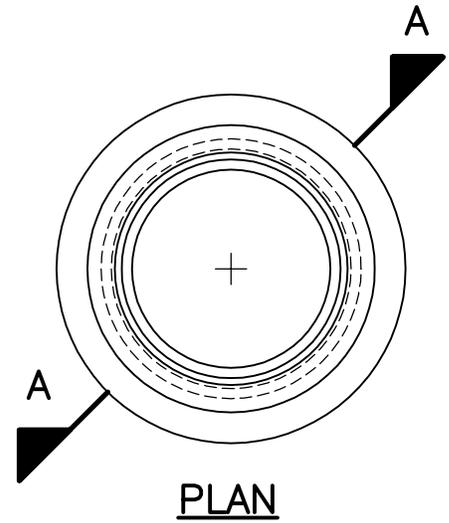
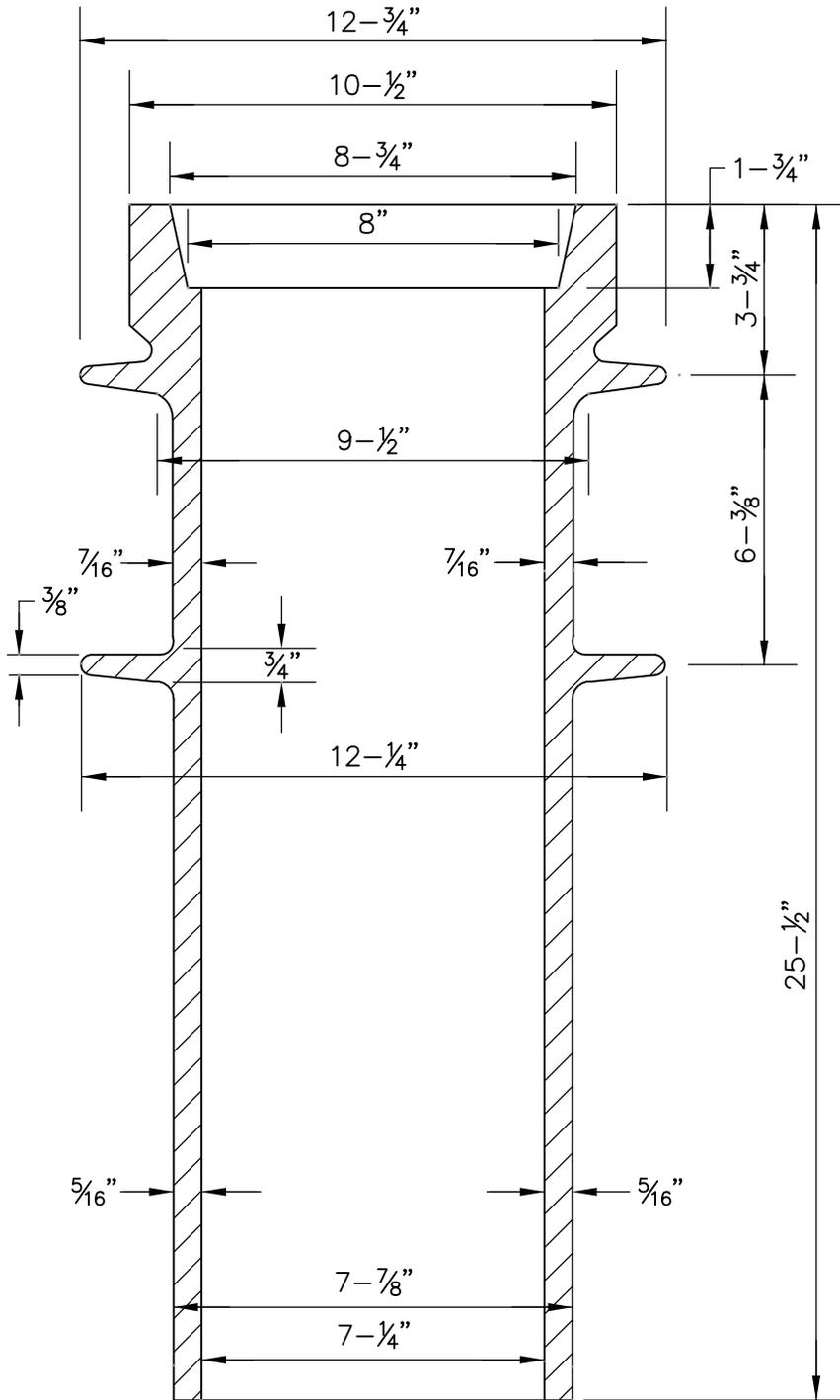
**DETAIL**

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# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS

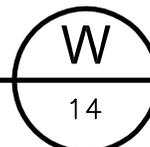


## SECTION A-A

CAST IRON GATE BOX TOP SECTION (DWYER TYPE)

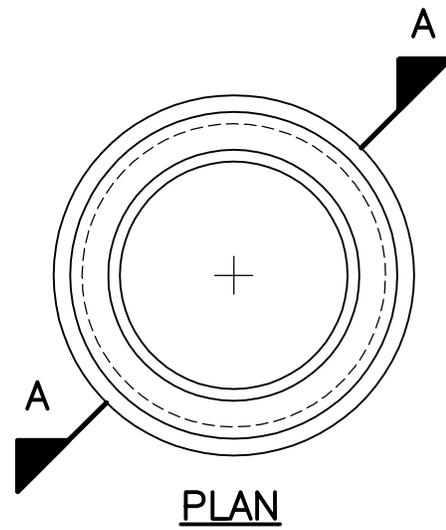
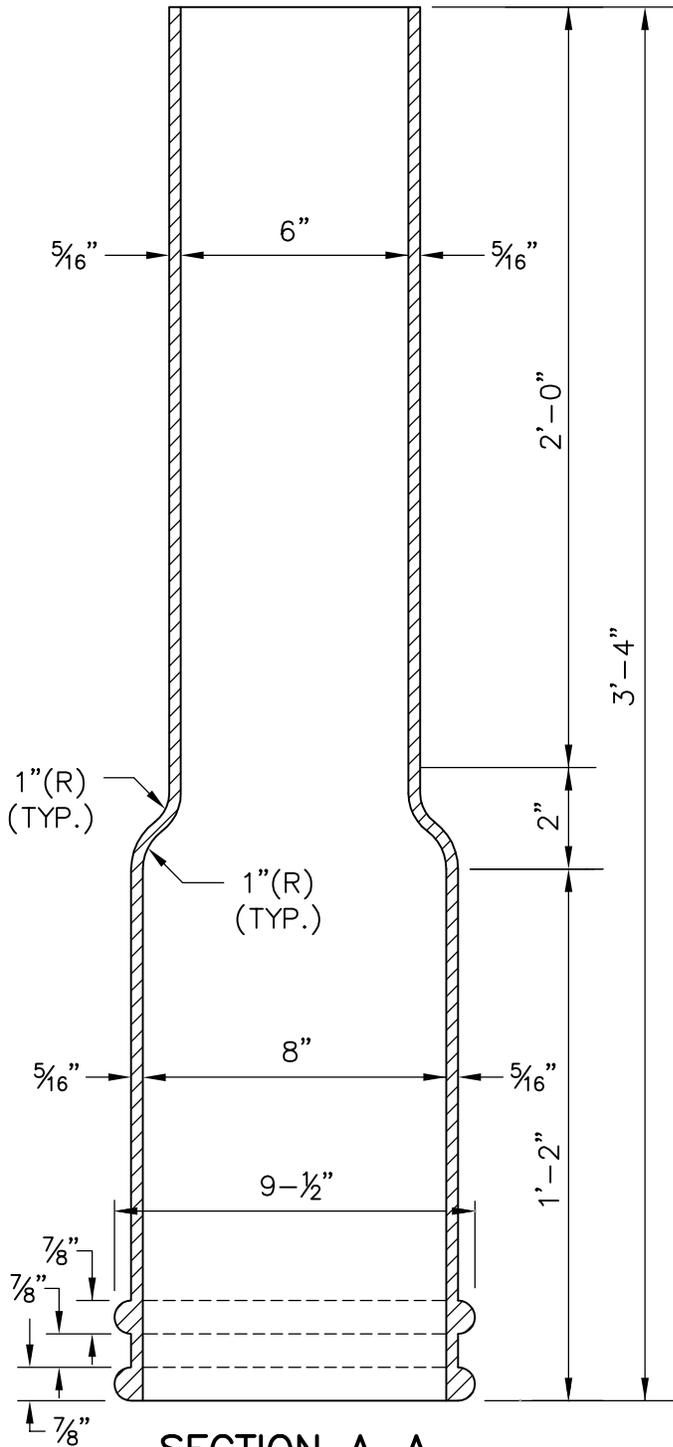
**DETAIL**

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# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



**NOTE:**

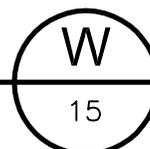
1. FOR USE ON 8" AND SMALLER GATE VALVES AND ALL BUTTERFLY VALVES.

**SECTION A-A**

**CAST IRON GATE BOX BOTTOM SECTION 8-INCH (DWYER TYPE)**

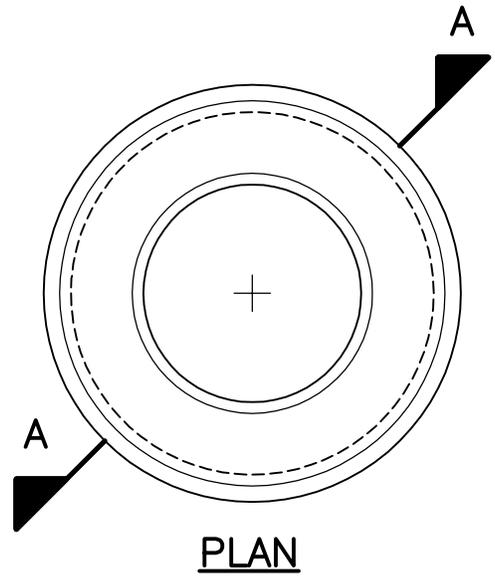
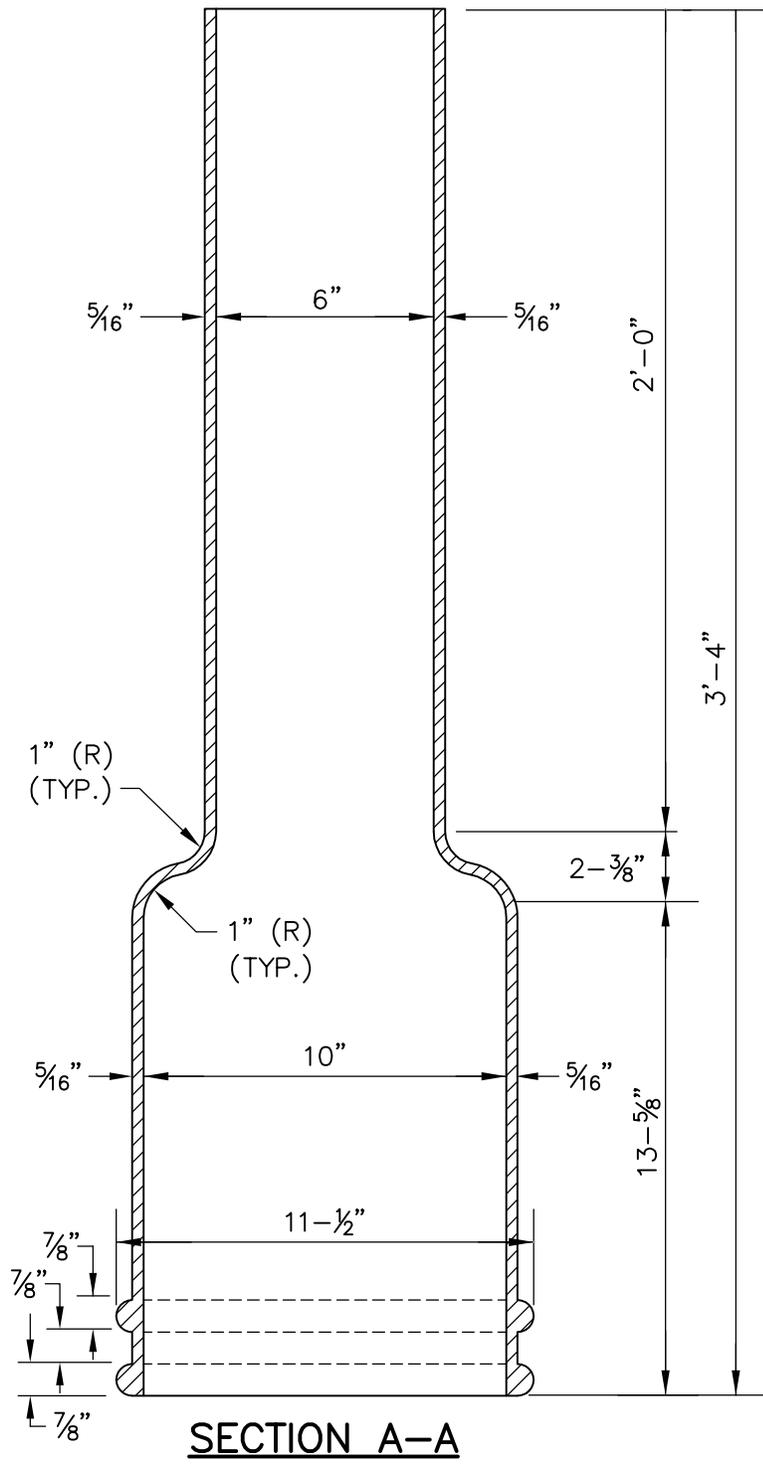
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



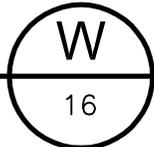
**NOTE:**

1. FOR USE ON 10" AND LARGER GATE VALVES.

**CAST IRON GATE BOX BOTTOM SECTION 10-INCH (DWYER TYPE)**

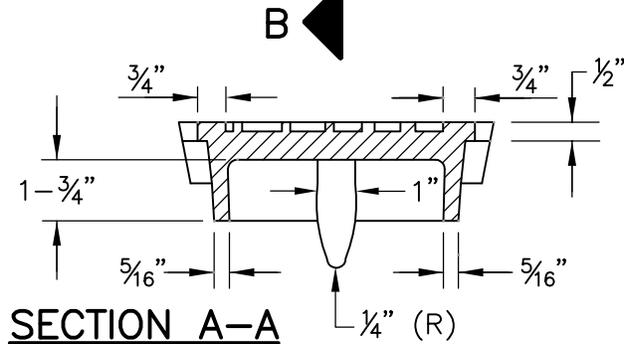
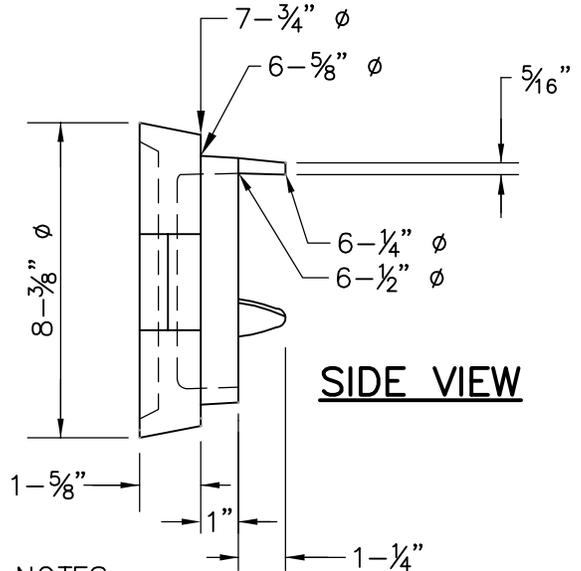
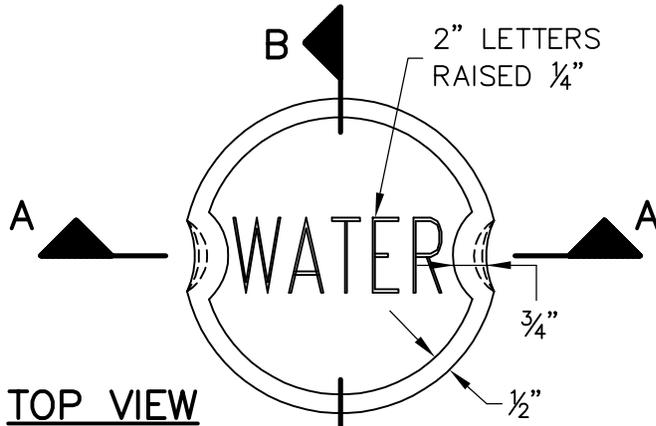
**DETAIL**

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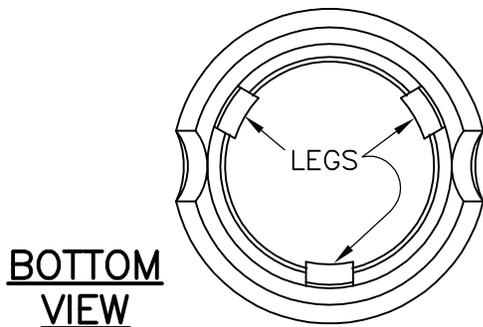
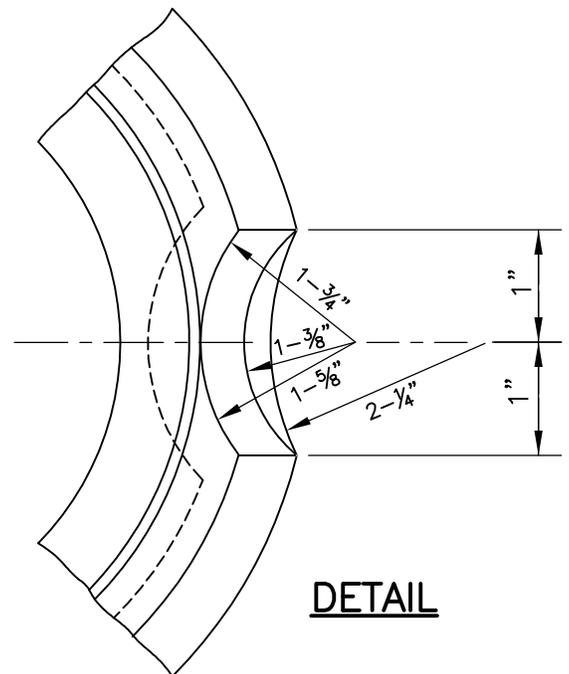
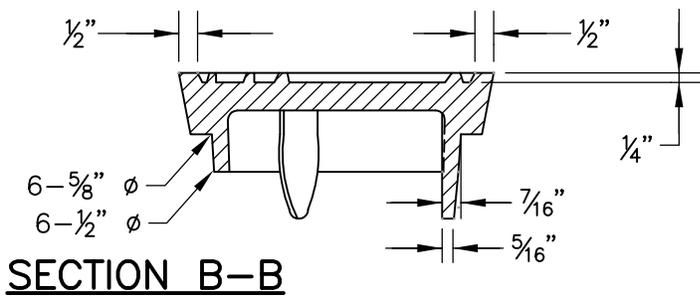
# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



**NOTES:**

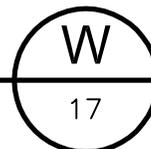
1. APPROXIMATE WEIGHT 20 LBS.
2. FOR NEW CONSTRUCTION.



### CAST IRON GATE BOX COVER (DWYER TYPE)

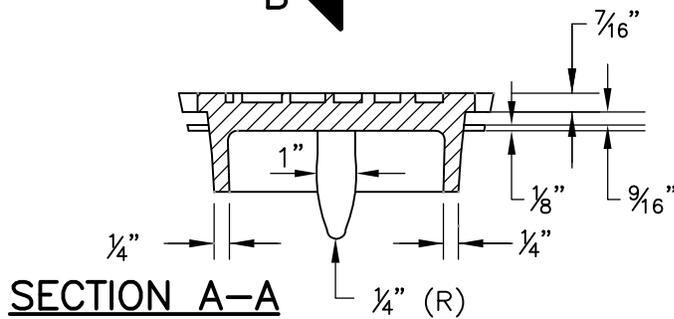
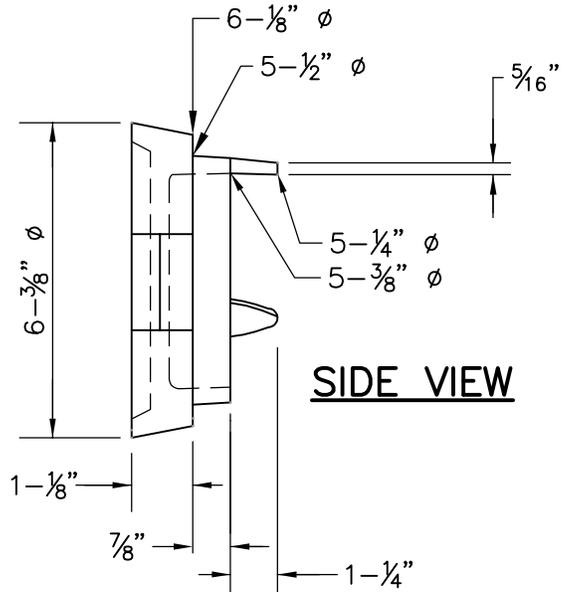
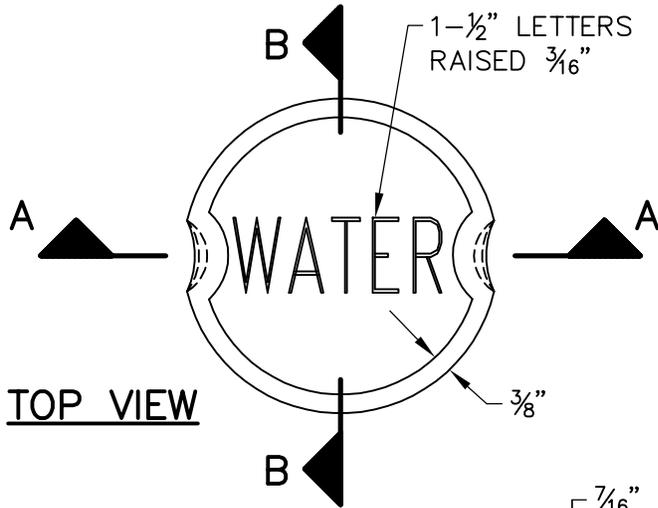
## DETAIL

NTS



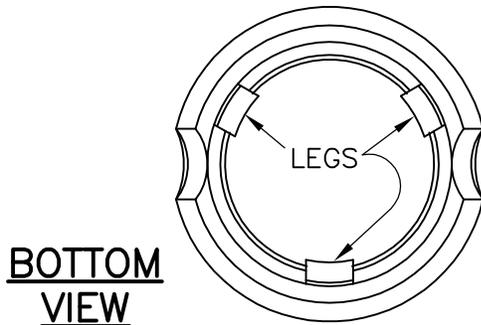
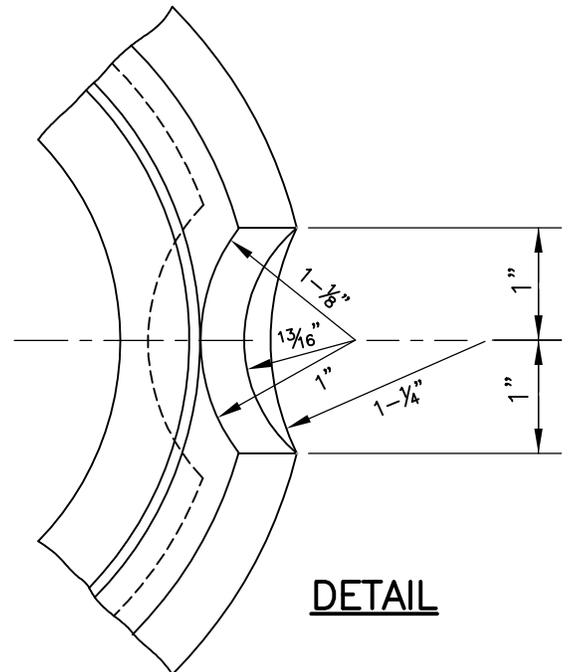
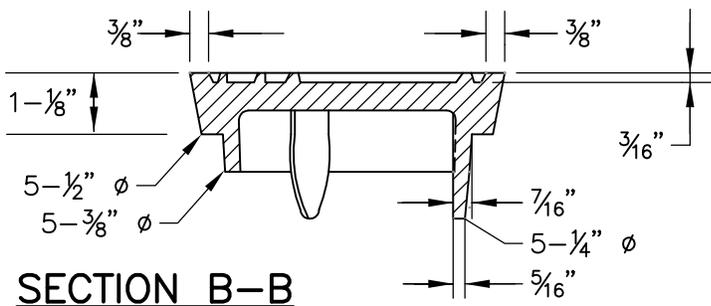
# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



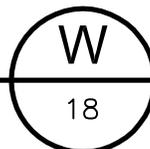
**NOTE:**

1. APPROXIMATE WEIGHT 20 LBS.



### CAST IRON GATE BOX EXTENSION COVER 6-INCH (DWYER TYPE)

**DETAIL**



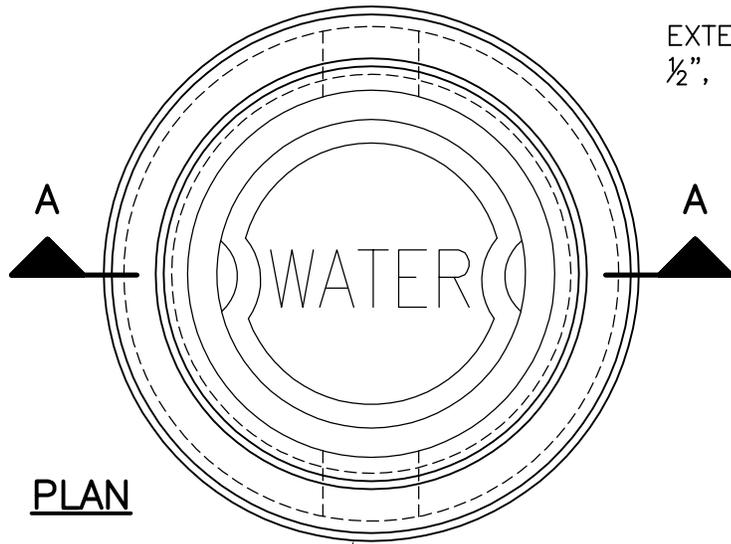
NTS

# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



EXTENSION RING HEIGHTS  
 $\frac{1}{2}$ " , 1" , 1- $\frac{1}{2}$ " & 2"



PLAN

NOTES:

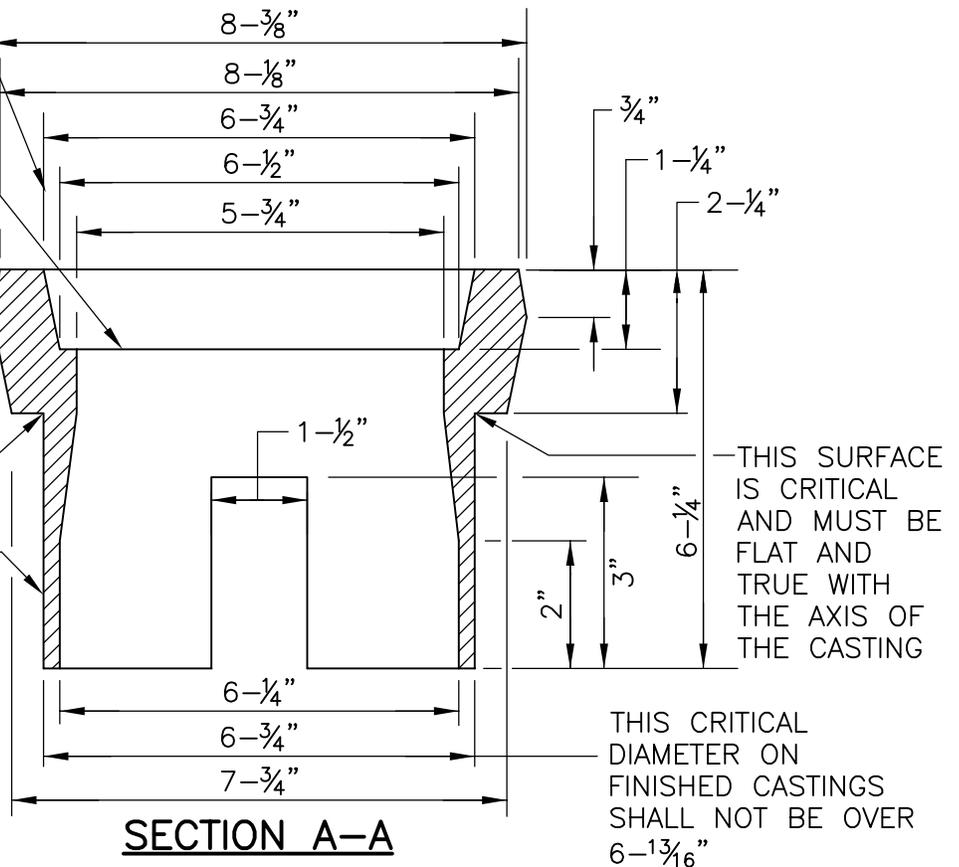
1. A MAXIMUM OF THREE EXTENSION RINGS CAN BE USED PER GATE BOX.
2. ALL DIMENSION AREA TO BE  $\pm \frac{1}{16}$ " UNLESS INDICATED OTHERWISE.
3. NOT TO BE USED FOR NEW WATER MAIN INSTALLATIONS.

GATE BOX EXTENSION  
 (6-INCH DIAMETER)

THIS SURFACE IS CRITICAL AND MUST BE FLAT AND TRUE WITH THE AXIS OF THE CASTING

$\frac{1}{16}$ " (R)  
 (MAXIMUM)

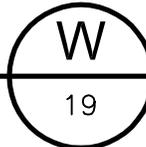
THIS SURFACE TO BE SMOOTH WITH MINIMUM TAPER TO BOTTOM OF SKIRT



SECTION A-A

GATE BOX EXTENSION

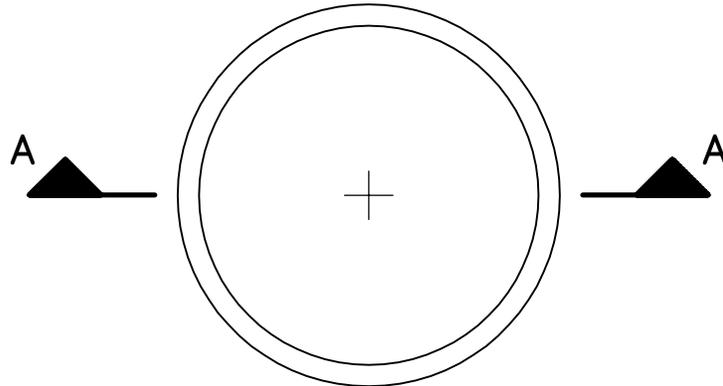
**DETAIL**



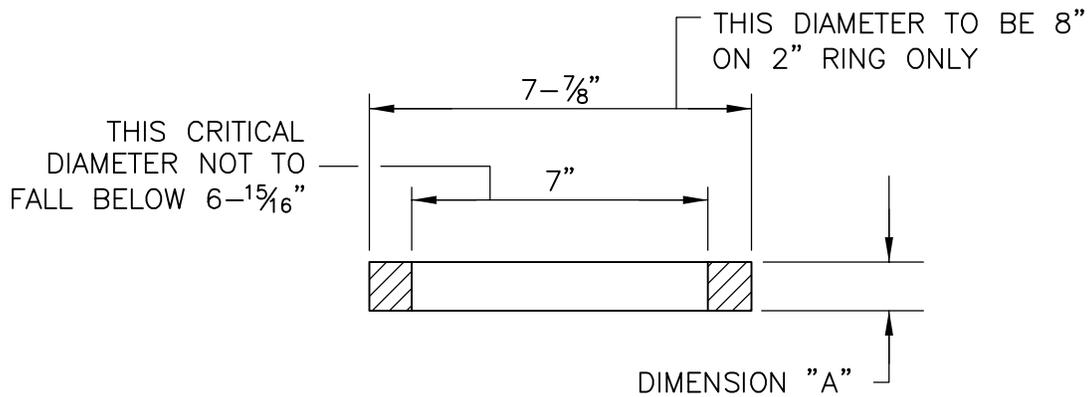
NTS

# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



**PLAN**



**SECTION A-A**

DIMENSION "A"	APPROXIMATE WEIGHT
1/2"	1.50 LBS
1"	2.75 LBS
1-1/2"	3.75 LBS
2"	6.00 LBS

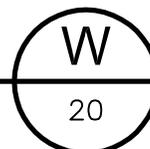
**NOTE:**

1. ALL DIMENSIONS ARE TO BE  $\pm 1/16$ " UNLESS INDICATED OTHERWISE.

### GATE BOX EXTENSION SPACER RINGS

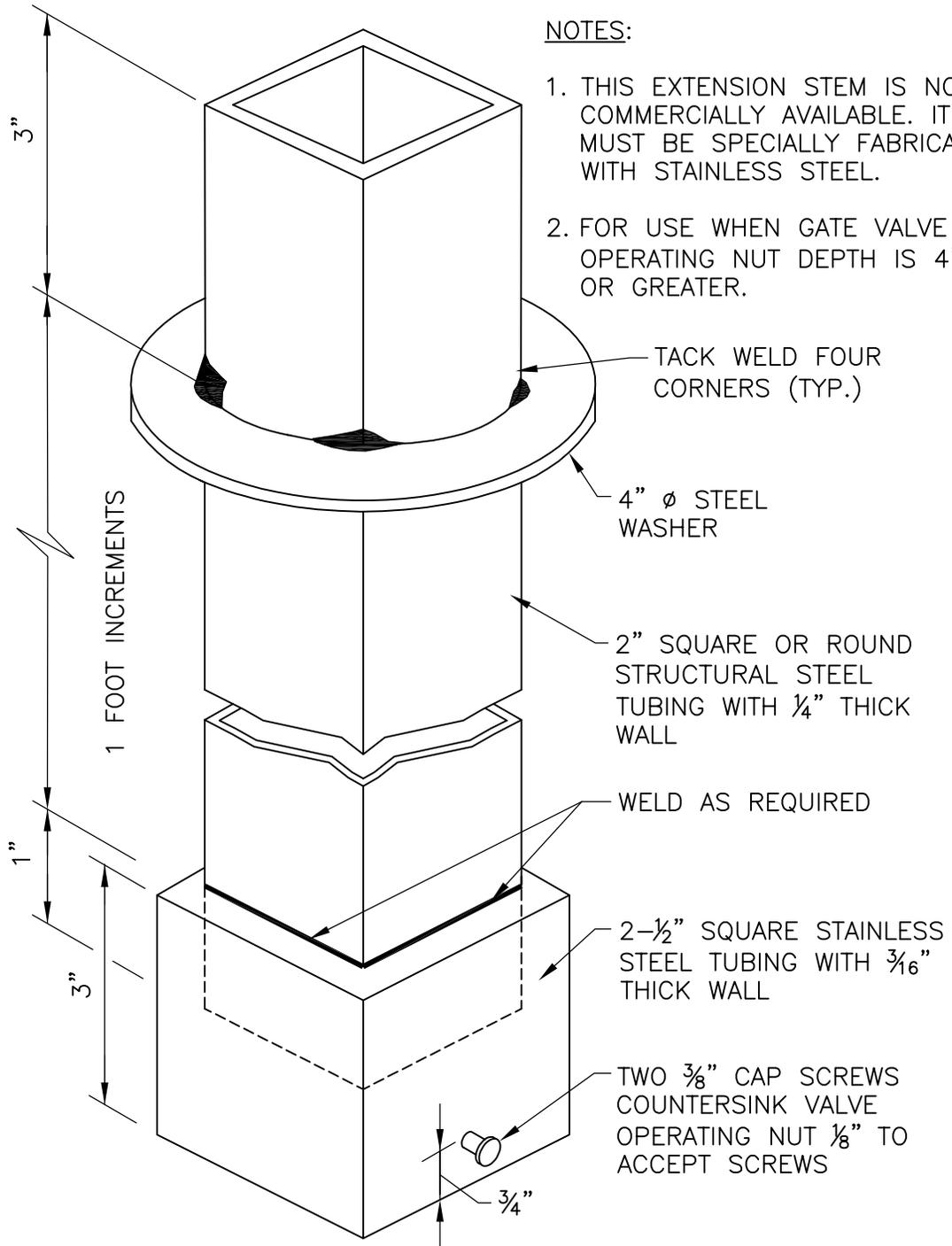
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

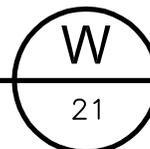
WATER STANDARD DETAILS



## GATE NUT EXTENSION STEM FOR GATE BOX

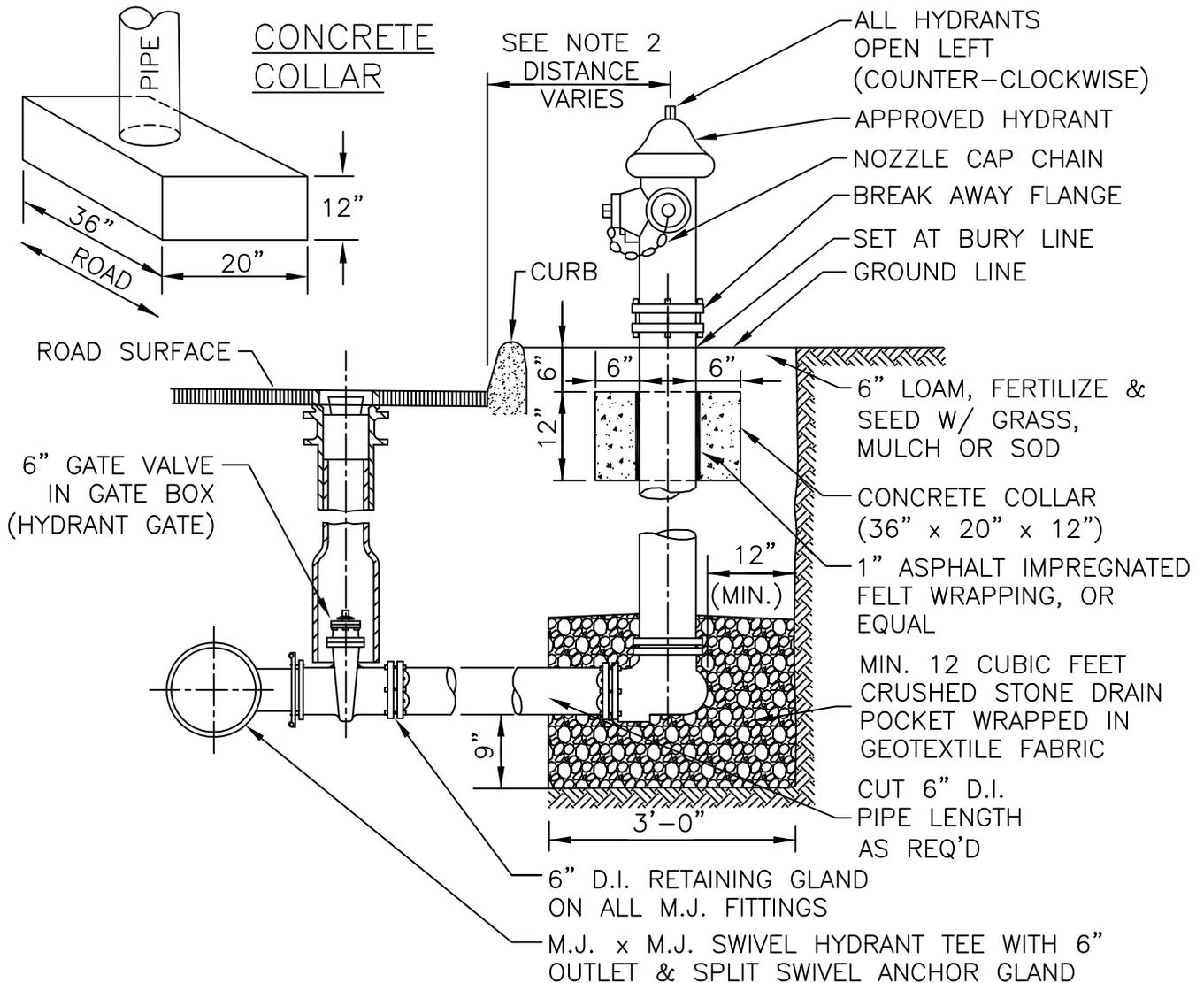
DETAIL

NTS



# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



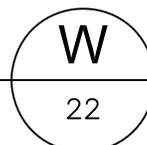
**NOTES:**

1. INSTALL 6" WIDE UNDERGROUND WARNING TAPE (NON-DETECTABLE) 2-FT ABOVE LENGTH OF HYDRANT BRANCH.
2. DISTANCE SHALL BE 3'± IN BLOOMFIELD, FARMINGTON AND GLASTONBURY AND 2'± IN OTHER MEMBER TOWNS.
3. OFFSET HYDRANT LATERAL AS NECESSARY WHILE MAINTAINING MINIMUM 4.5 FEET OF COVER TO SET FIRE HYDRANT BURY LINE AT GRADE. FURNISH AND INSTALL EXTENSIONS AS NECESSARY ONLY IF A LATERAL OFFSET IS NOT POSSIBLE.

STANDARD FIRE HYDRANT ASSEMBLY

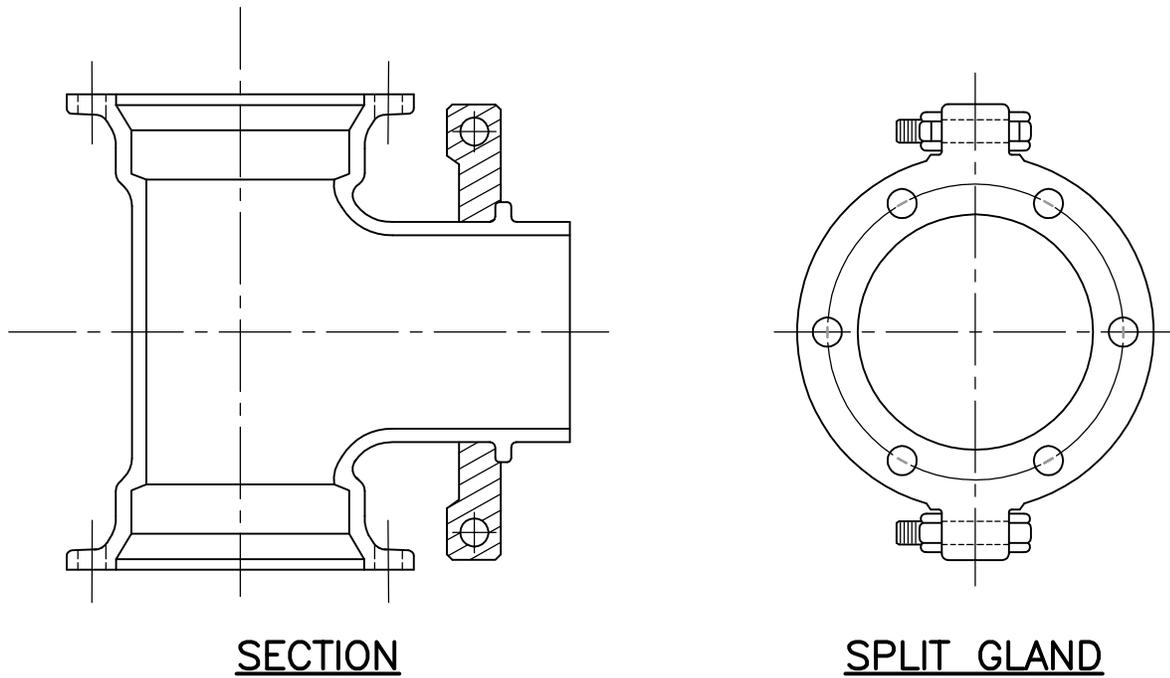
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



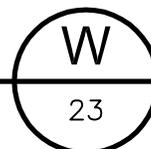
NOTE:

1. THE SWIVEL HYDRANT TEE IS A COMPACT MECHANICAL JOINT TEE EXCEPT THE BRANCH IS PLAIN END WITH AN INTEGRAL RING AND A ROTATABLE SPLIT GLAND. THE SPLIT GLAND ANCHORS THE PLAIN END TO ANY MECHANICAL JOINT BELL AND ELIMINATES THE NEED FOR THE RODS AND BLOCKING. THIS TEE SHALL BE USED FOR HYDRANT LEADS AND FOR ANCHORING A VALVE TO THE TEE SHOULD A FUTURE BRANCH LINE BE ANTICIPATED.

## SWIVEL MECHANICAL JOINT HYDRANT TEE

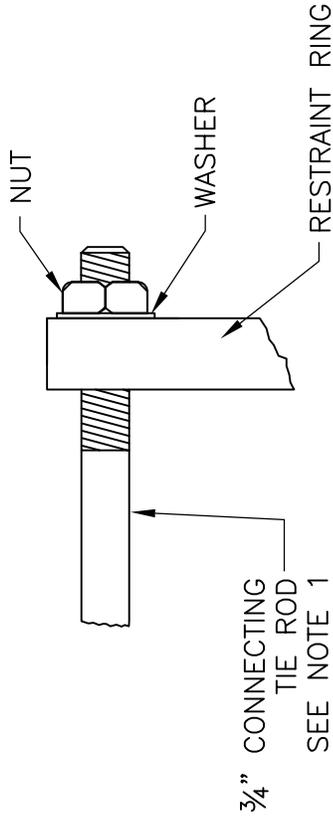
DETAIL

NTS



JOINT METHOD NOTES:

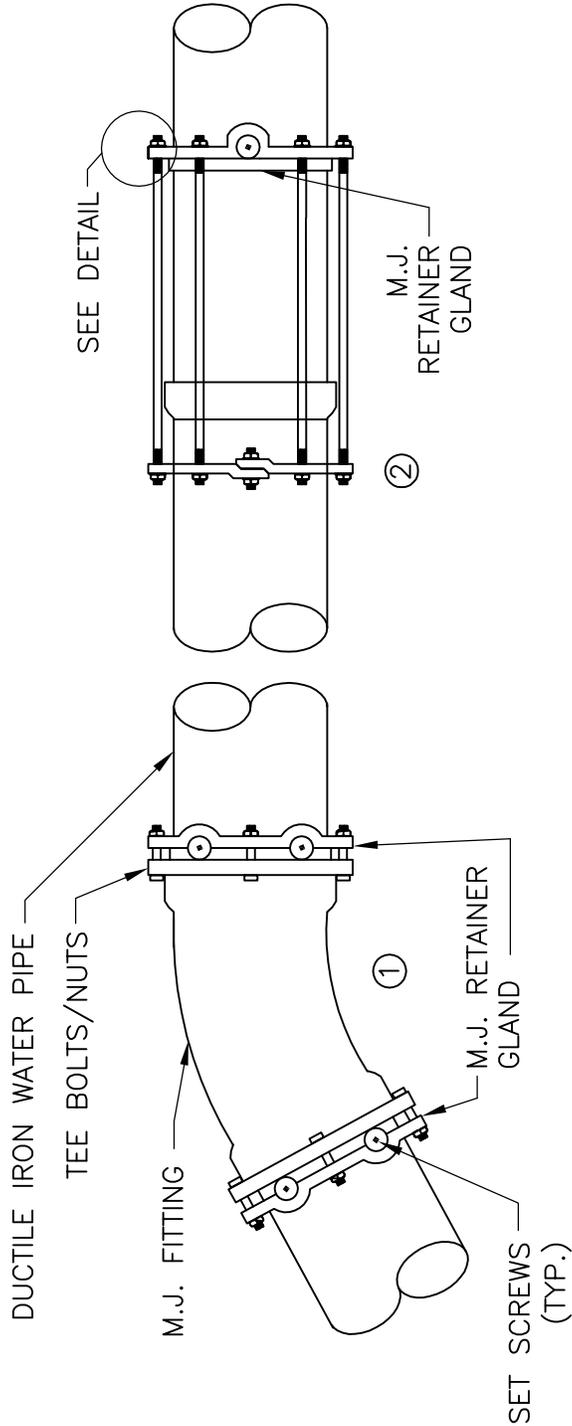
- ① MECHANICAL JOINT RETAINER GLANDS
- ② PUSH-ON JOINT RESTRAINT USING MECHANICAL JOINT RETAINER GLANDS



DETAIL

NOTE:

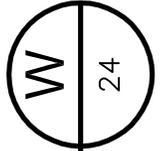
- 1. PROVIDE 12" MIN. LENGTH TIE RODS W/ NUTS AND WASHERS. TYPICAL TIE ROD LENGTH IS 24".



STANDARD RESTRAINED JOINTS

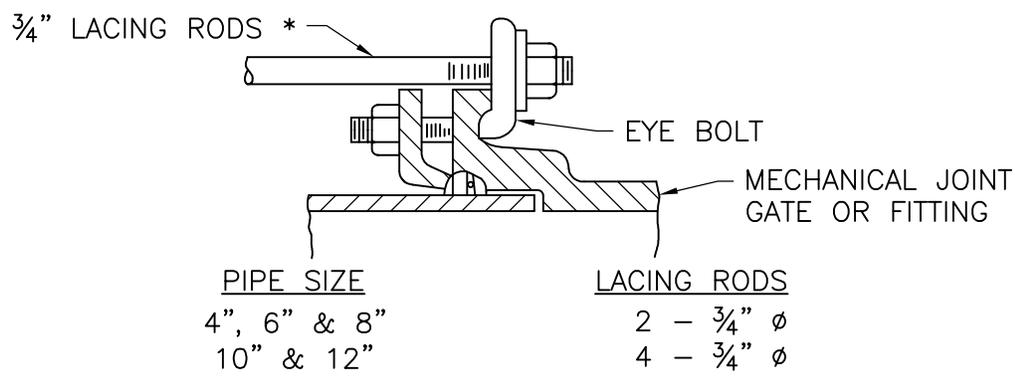
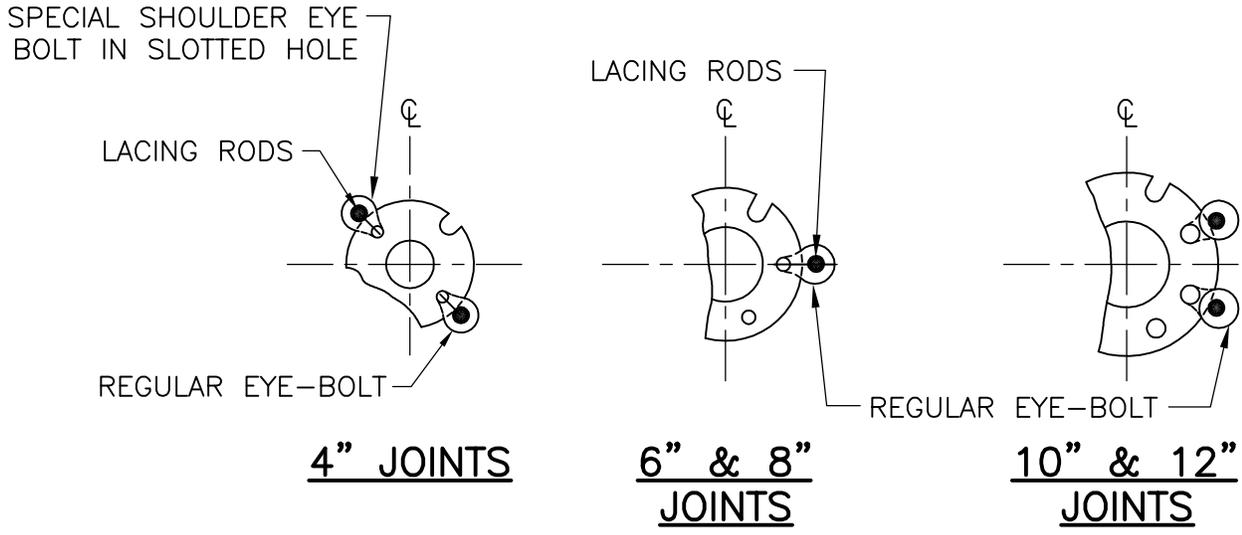
DETAIL

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



\* STANDARD LENGTHS ARE 6' & 10'.  
 COUPLINGS MAY BE USED FOR LONGER LENGTHS.

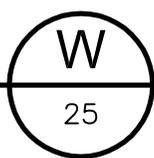
**NOTES:**

1. NUMBER OF LACING RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I. IN MAIN.
2. STEEL LACING RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 36,000 P.S.I.
3. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 7,000 LBS. EACH.
4. 3/4" LACING RODS AND EYEBOLTS ARE UNSUITABLE FOR PIPELINES 16 INCHES IN DIAMETER AND LARGER. RESTRAINT FOR 16 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY THE DISTRICT.
5. ALL COMPONENTS SHALL BE HOT-DIPPED GALVANIZED.

### MECHANICAL JOINT LACING METHOD

**DETAIL**

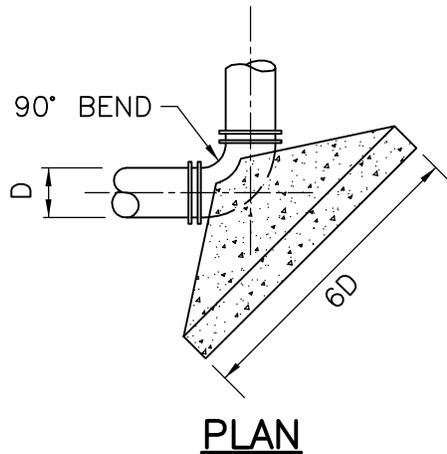
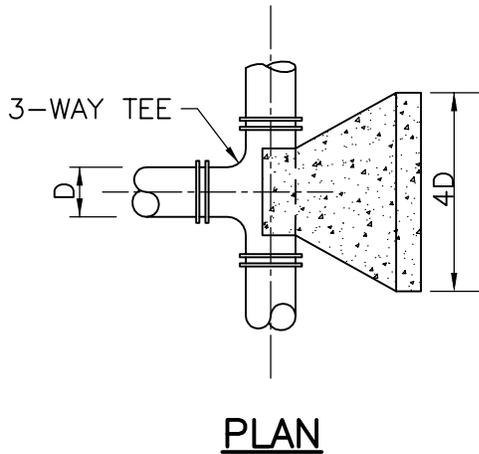
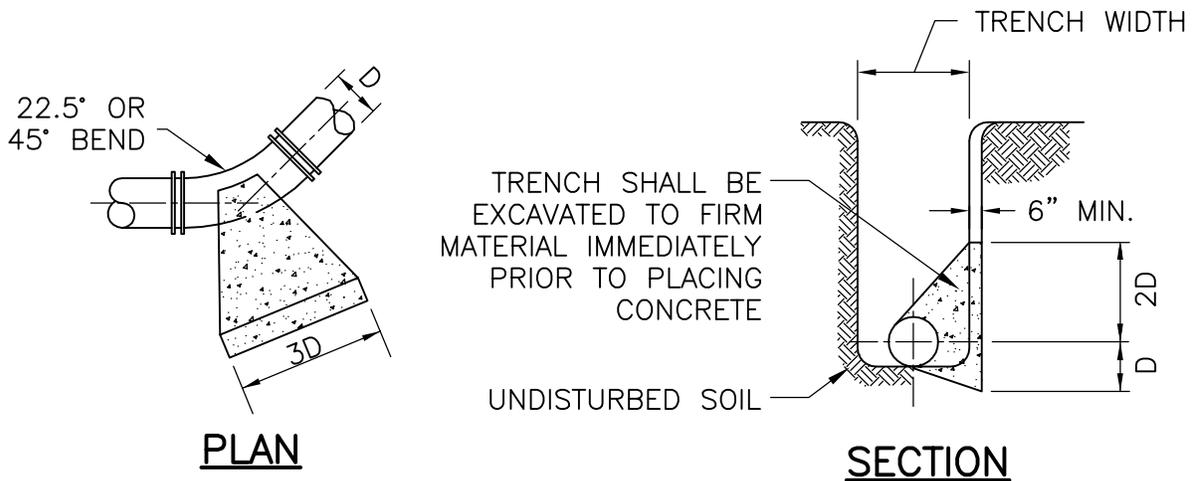
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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



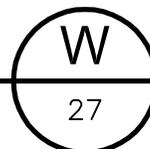
NOTES:

1. THRUST RESTRAINTS SHALL BE EITHER RESTRAINED JOINTS FOR DUCTILE IRON PIPE OR THRUST BLOCKS. THRUST BLOCKS ARE NOT THE PREFERRED METHOD OF THRUST RESTRAINT AND WILL ONLY BE PERMITTED IN SPECIAL CASES AS DIRECTED BY THE ENGINEER OR BY THE DISTRICT.
2. THRUST BLOCKS SHOULD ONLY BE USED WHEN SOIL CONDITIONS ARE STABLE.
3. ANCHORS SHALL BE BASED ON MAXIMUM ALLOWABLE WATER PRESSURE OF 150 PSI.

### CONCRETE THRUST BLOCKS FOR 12-INCH AND SMALLER MAINS

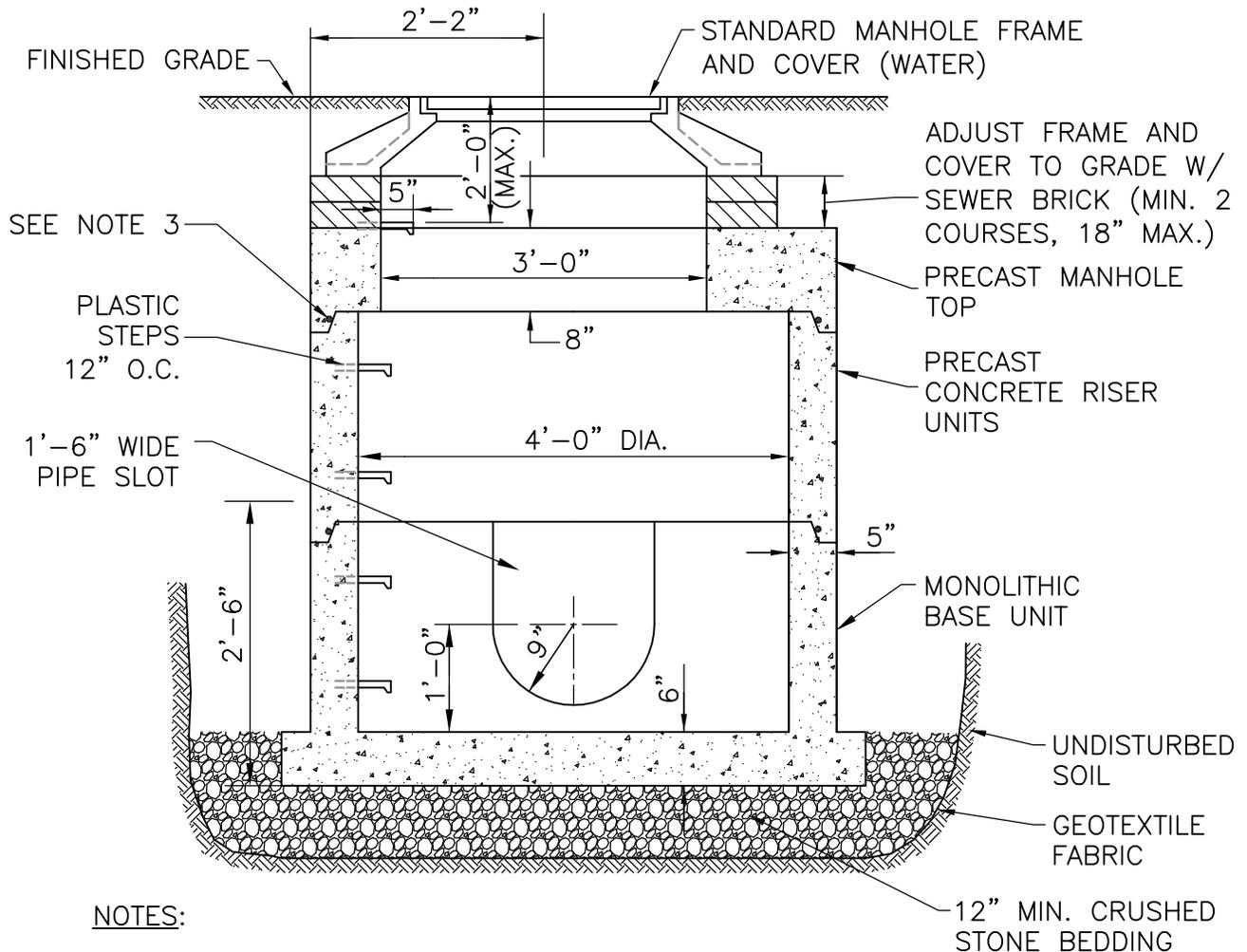
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

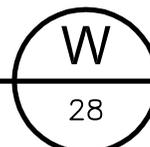


1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS OR COMMON FILL IN UNPAVED AREAS.
2. CONCRETE STRENGTH SHALL BE MIN. 4,000 P.S.I (28 DAYS). REINFORCING STEEL NOT SHOWN.
3. INSTALL REINFORCED CONCRETE MANHOLE SECTIONS WITH PREFORMED FLEXIBLE JOINT SEALANT OR O-RING RUBBER GASKET.

### STANDARD WATER MANHOLE

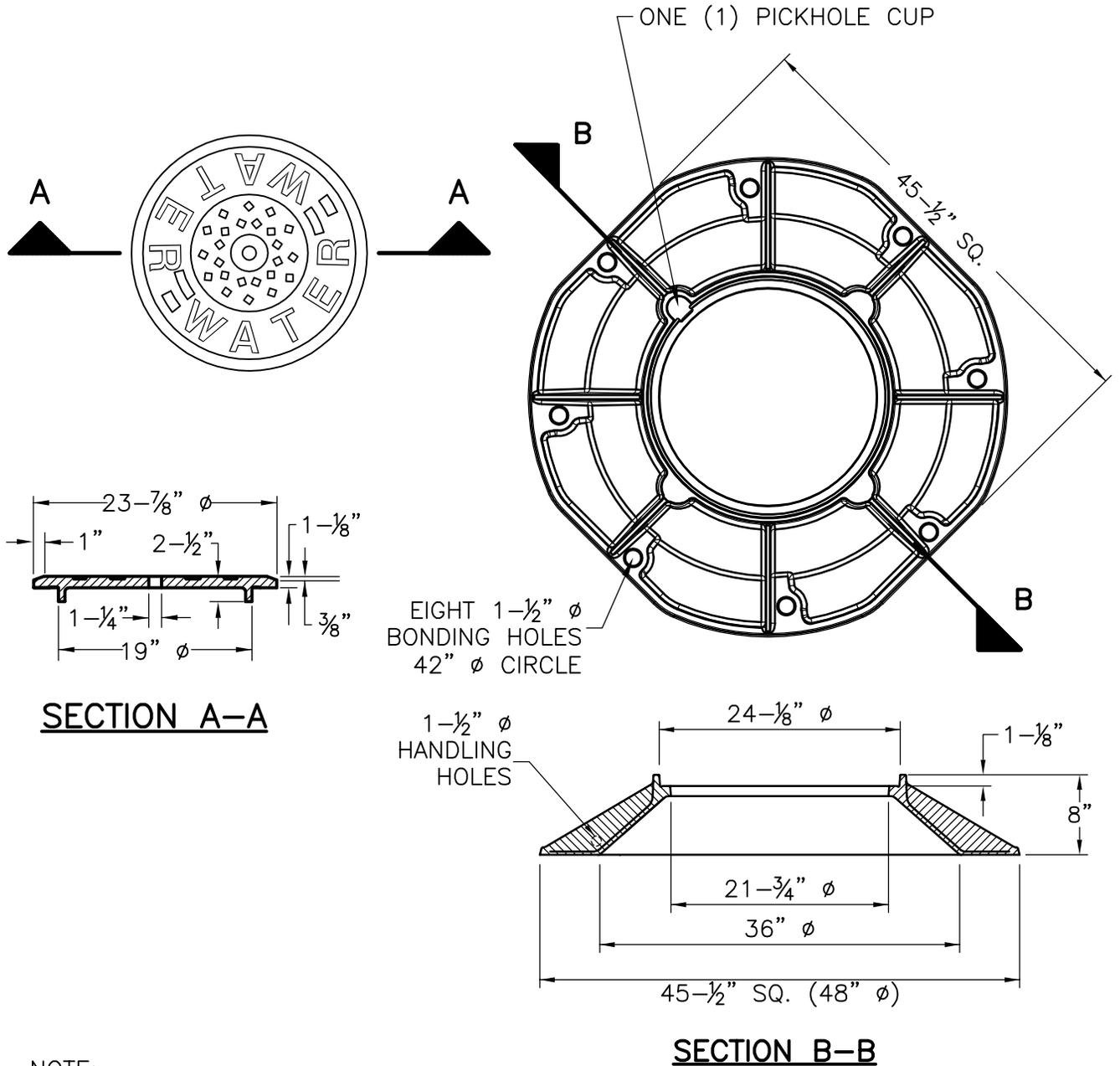
DETAIL

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



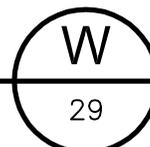
**NOTE:**

1. THE LOWER SURFACE OF THE COVER AND THE CORRESPONDING UPPER SURFACE OF THE FRAME SHALL BE MACHINE FINISHED TO PROVIDE A SMOOTH FLAT CONTACT OR FIT WITHOUT ANY TENDENCY FOR THE COVER OR GRATE TO ROCK OR RATTLE.

### STANDARD WATER MANHOLE FRAME AND COVER

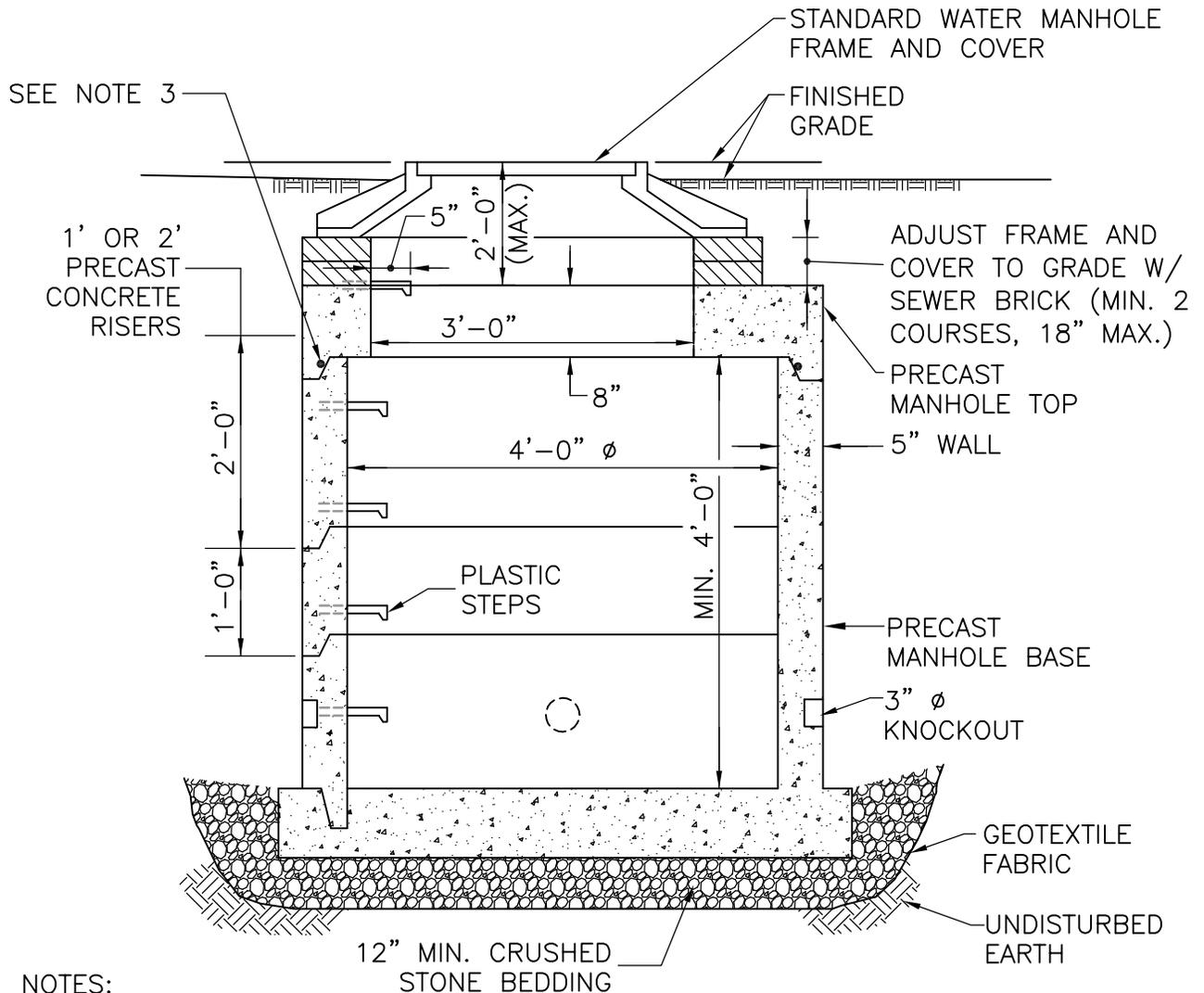
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



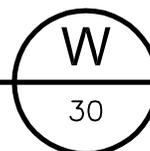
**NOTES:**

1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS OR COMMON FILL IN UNPAVED AREAS.
2. CONCRETE STRENGTH SHALL BE MIN. 4,000 P.S.I (28 DAYS). REINFORCING STEEL NOT SHOWN.
3. INSTALL REINFORCED CONCRETE MANHOLE SECTIONS WITH PREFORMED FLEXIBLE JOINT SEALANT OR O-RING RUBBER GASKET.
4. ALL PRE-PLUMBED STRUCTURES SHALL BE APPROVED BY ENGINEER AND OWNER.

### PRECAST METER PIT FOR 1½-INCH TO 2-INCH SERVICE

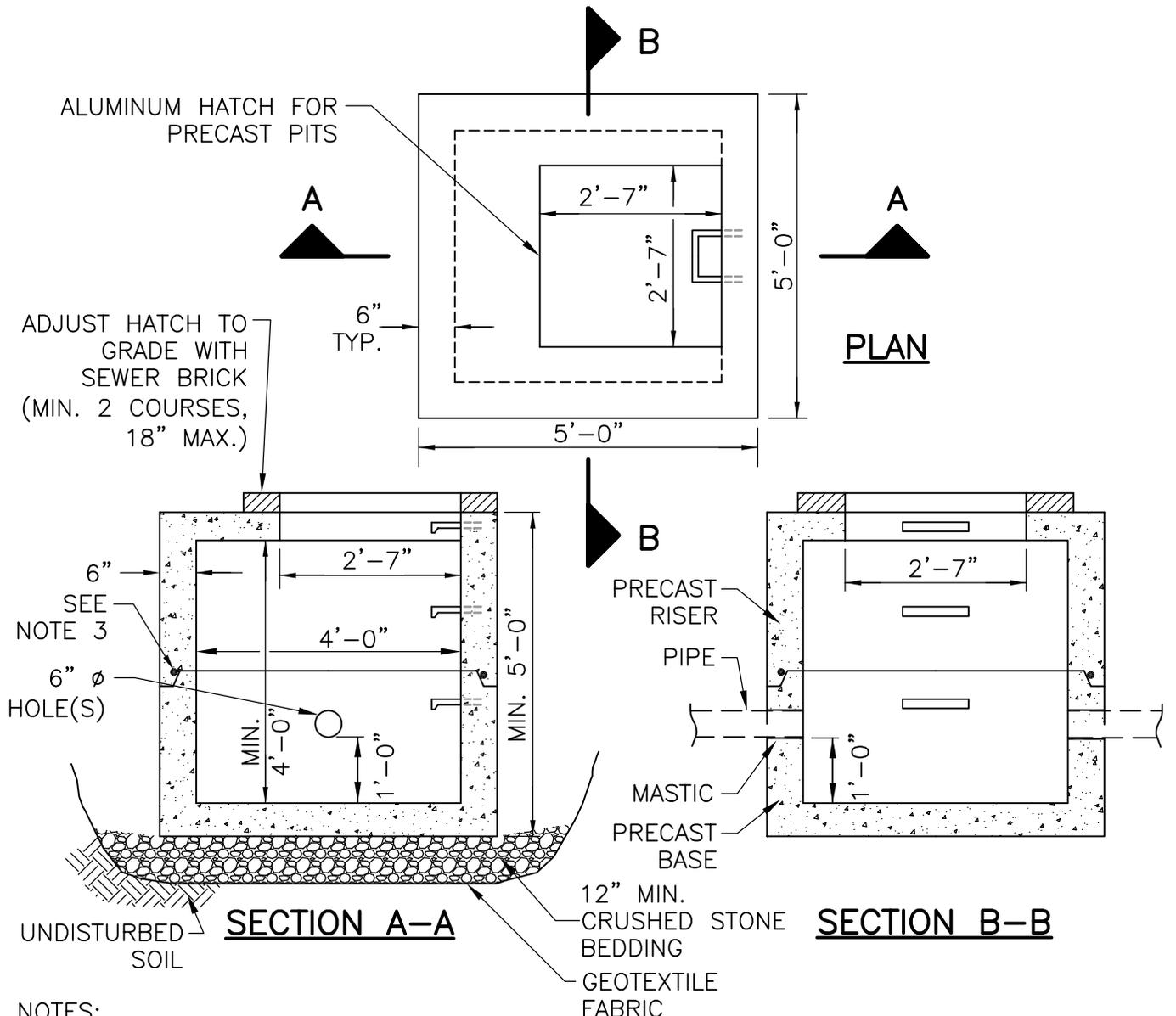
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



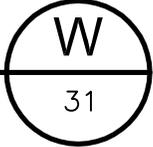
**NOTES:**

1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS OR COMMON FILL IN UNPAVED AREAS.
2. CONCRETE STRENGTH SHALL BE MIN. 4,000 P.S.I (28 DAYS). REINFORCING STEEL NOT SHOWN.
3. INSTALL REINFORCED CONCRETE MANHOLE SECTIONS WITH PREFORMED FLEXIBLE JOINT SEALANT OR O-RING RUBBER GASKET.

**4' x 4' PRECAST METER PIT FOR 1½-INCH TO 2-INCH SERVICE**

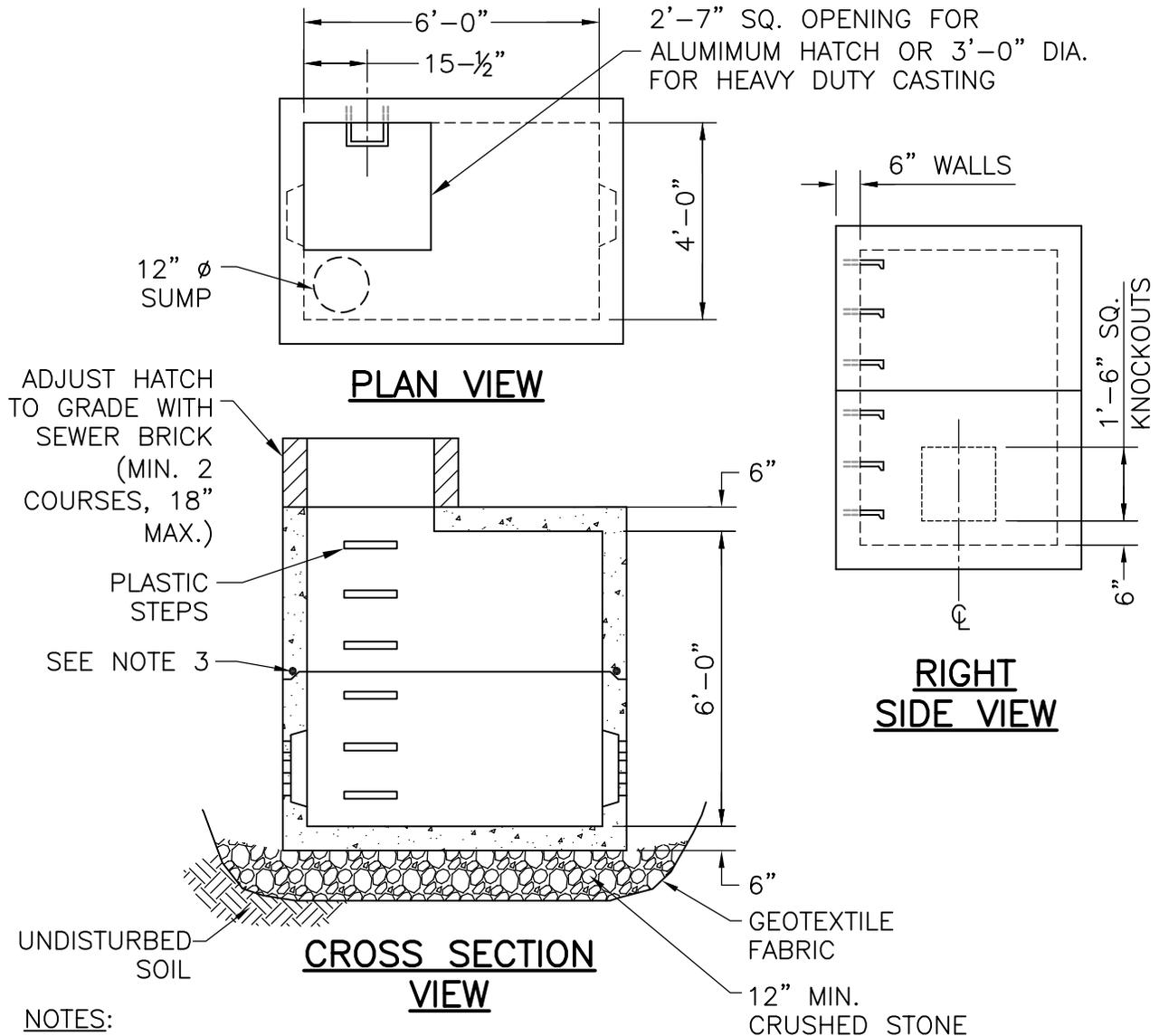
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

WATER STANDARD DETAILS



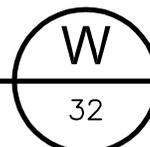
**NOTES:**

1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS OR COMMON FILL IN UNPAVED AREAS.
2. CONCRETE STRENGTH SHALL BE MIN. 4,000 P.S.I (28 DAYS). REINFORCING STEEL NOT SHOWN.
3. INSTALL REINFORCED CONCRETE MANHOLE SECTIONS WITH PREFORMED FLEXIBLE JOINT SEALANT OR O-RING RUBBER GASKET.

**6' x 4' x 6' PRECAST METER PIT  
FOR 2-INCH THROUGH 4-INCH METERS**

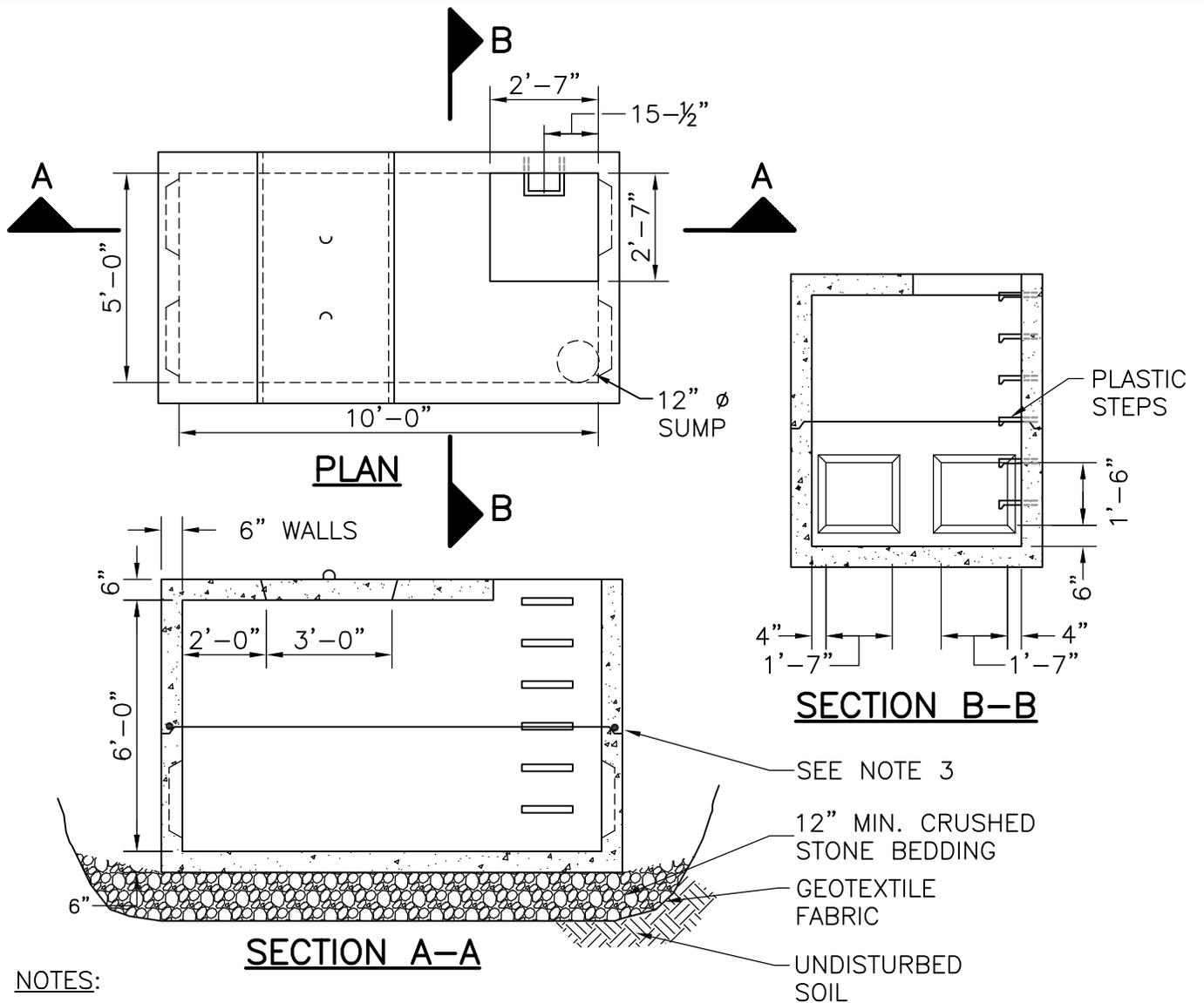
**DETAIL**

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



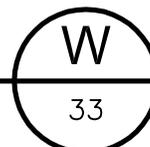
**NOTES:**

1. BACKFILL MATERIAL SHALL BE BANK-RUN GRAVEL IN PAVED AREAS OR COMMON FILL IN UNPAVED AREAS.
2. CONCRETE STRENGTH SHALL BE MIN. 4,000 P.S.I (28 DAYS). REINFORCING STEEL NOT SHOWN.
3. INSTALL REINFORCED CONCRETE MANHOLE SECTIONS WITH PREFORMED FLEXIBLE JOINT SEALANT OR O-RING RUBBER GASKET.

**5' x 10' x 6' PRECAST METER PIT  
FOR 4-INCH AND LARGER METERS**

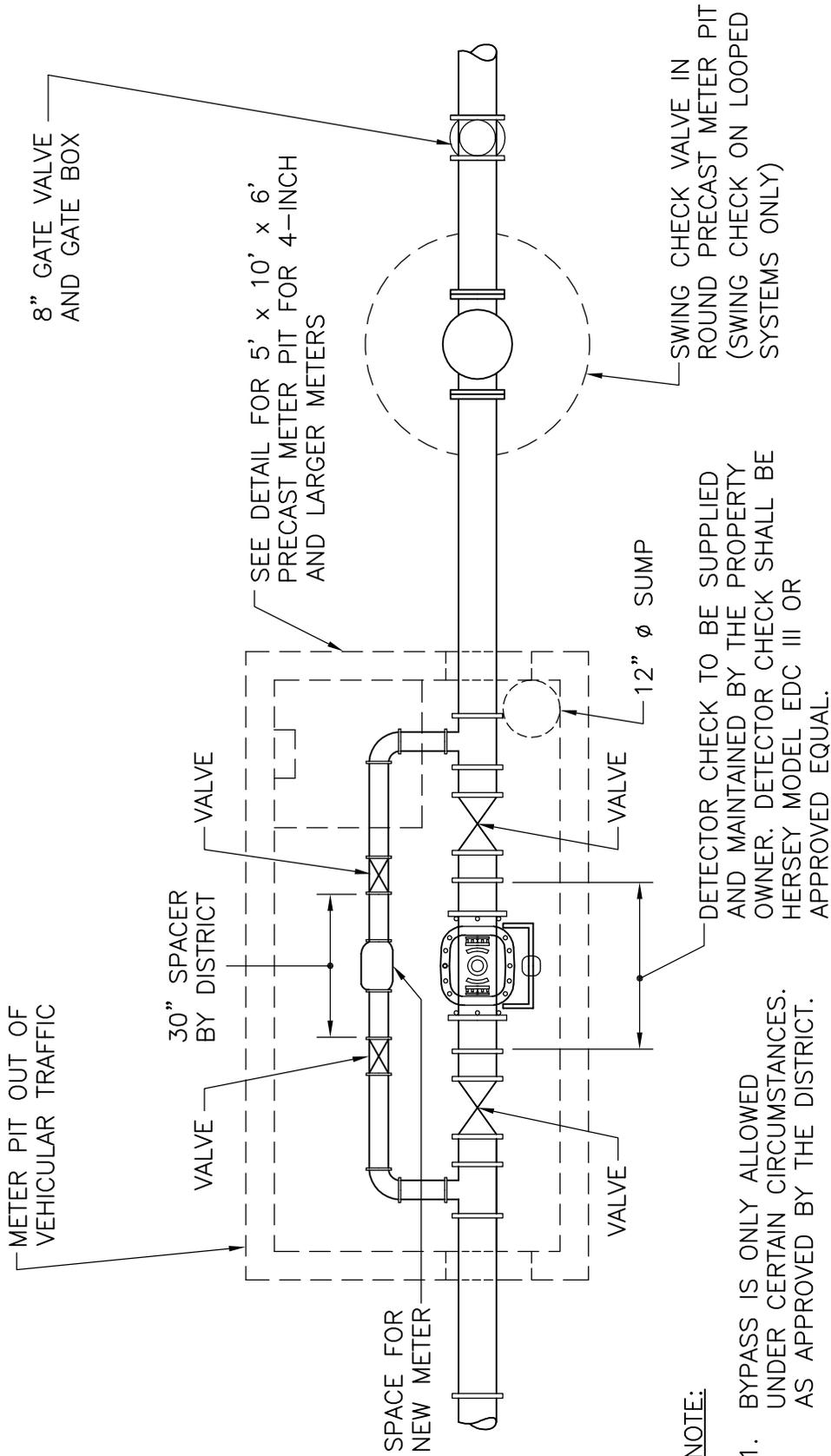
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

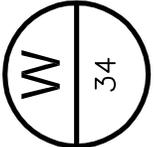


**NOTE:**

1. BYPASS IS ONLY ALLOWED UNDER CERTAIN CIRCUMSTANCES. AS APPROVED BY THE DISTRICT.

DETECTOR CHECK TO BE SUPPLIED AND MAINTAINED BY THE PROPERTY OWNER. DETECTOR CHECK SHALL BE HERSEY MODEL EDC III OR APPROVED EQUAL.

### 5' x 10' x 6' COMBINED METER LAYOUT

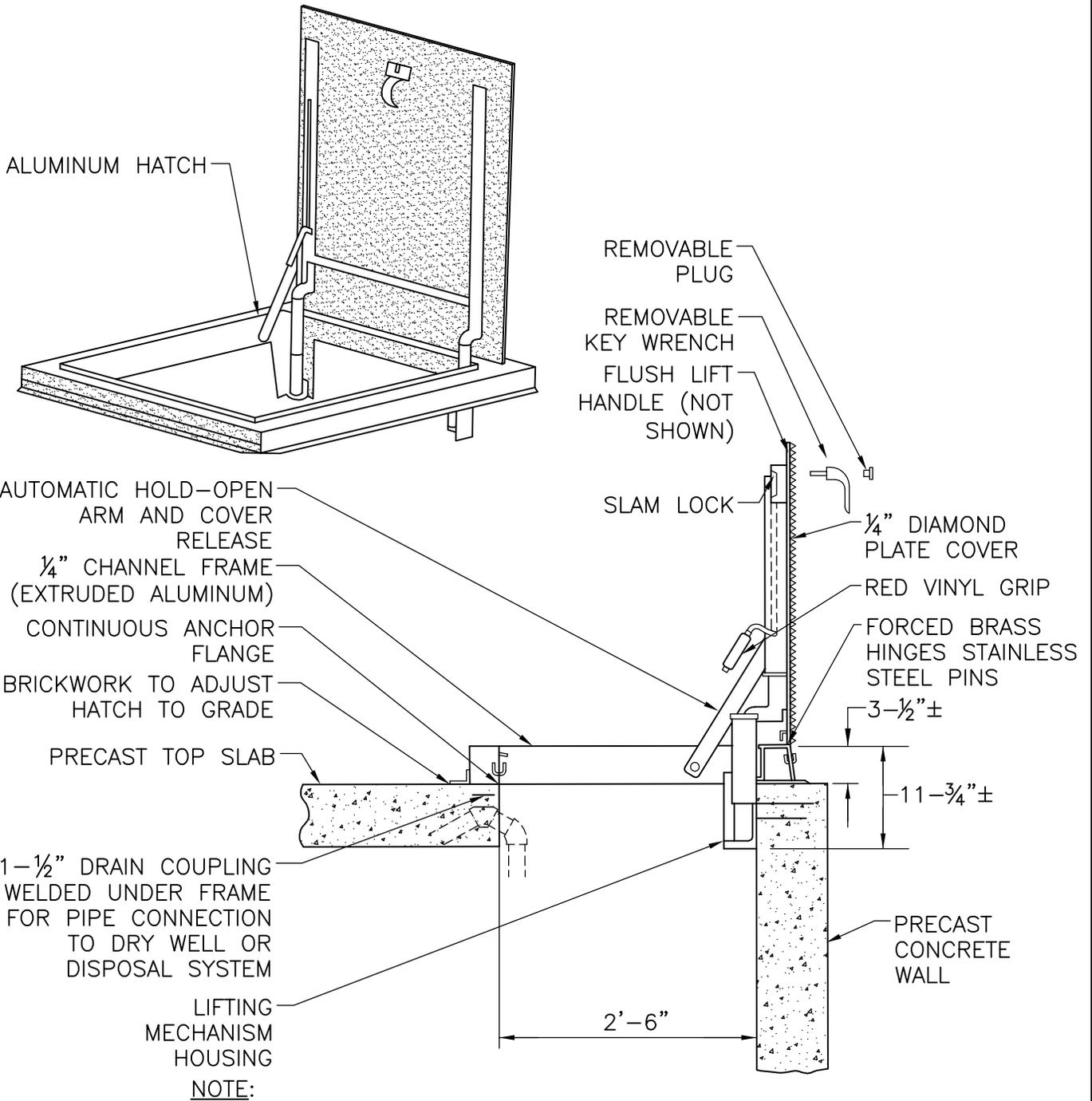


## DETAIL

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS

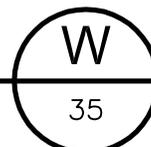


- NOTE:
1. ALUMINUM HATCH SHALL BE 2'-6" x 2'-6" BILCO TYPE "J-ALH20" OR EQUAL.

### ALUMINUM HATCH FOR PRECAST METER PITS

**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

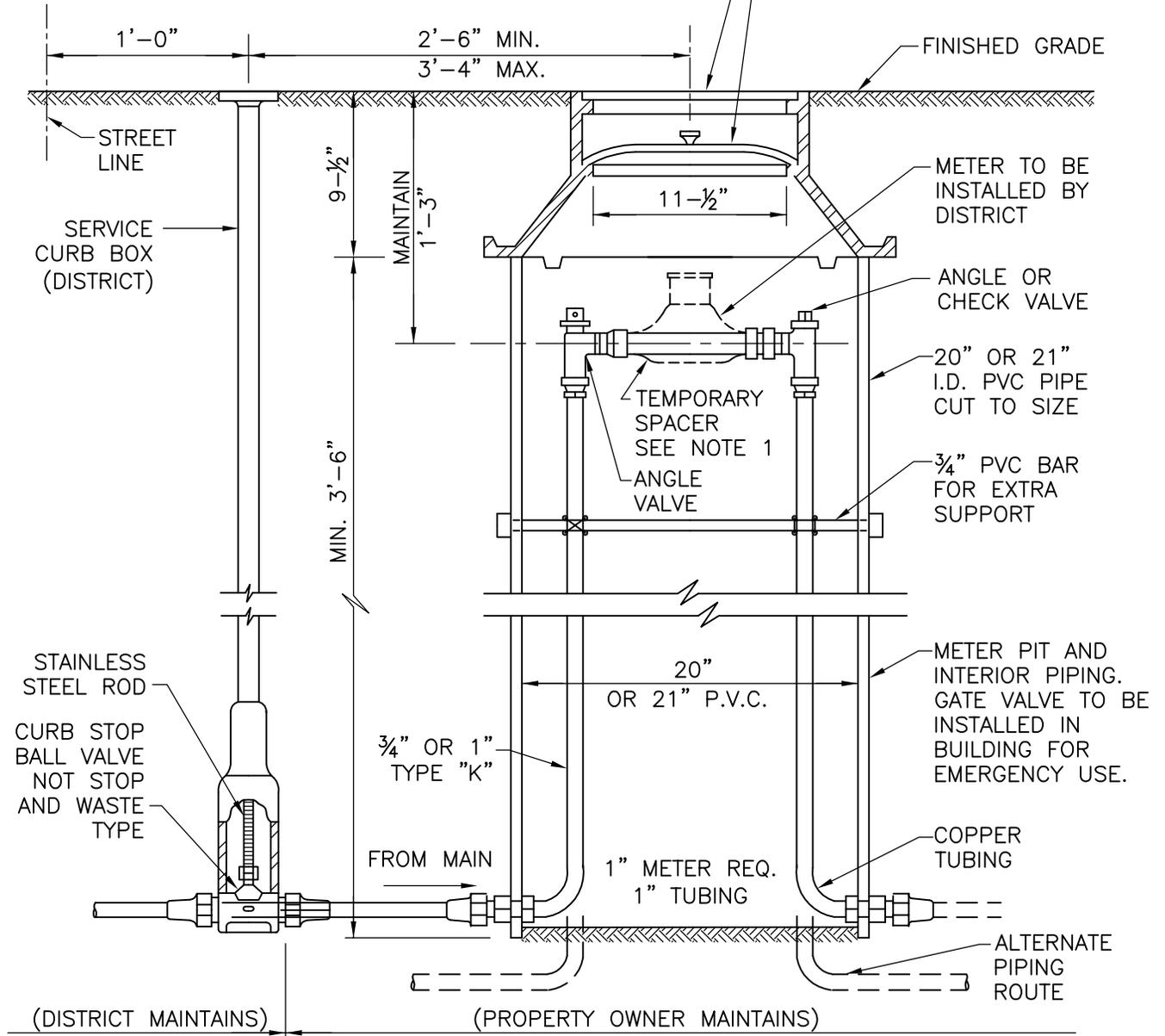
## WATER STANDARD DETAILS



**NOTES:**

1. METER SPACER SIZE FOR  $\frac{5}{8}$ " x  $\frac{3}{4}$ " METER SHALL BE 7- $\frac{1}{2}$ ".
2. METER SPACER SIZE FOR 1" METER SHALL BE 10- $\frac{3}{4}$ ".

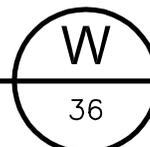
STANDARD DOUBLE LID COVER (EXTRA HEAVY) SHALL BE ALUMINUM INNER LID. NO. W3 HAL WABASH FORD METER BOX OR EQUAL.

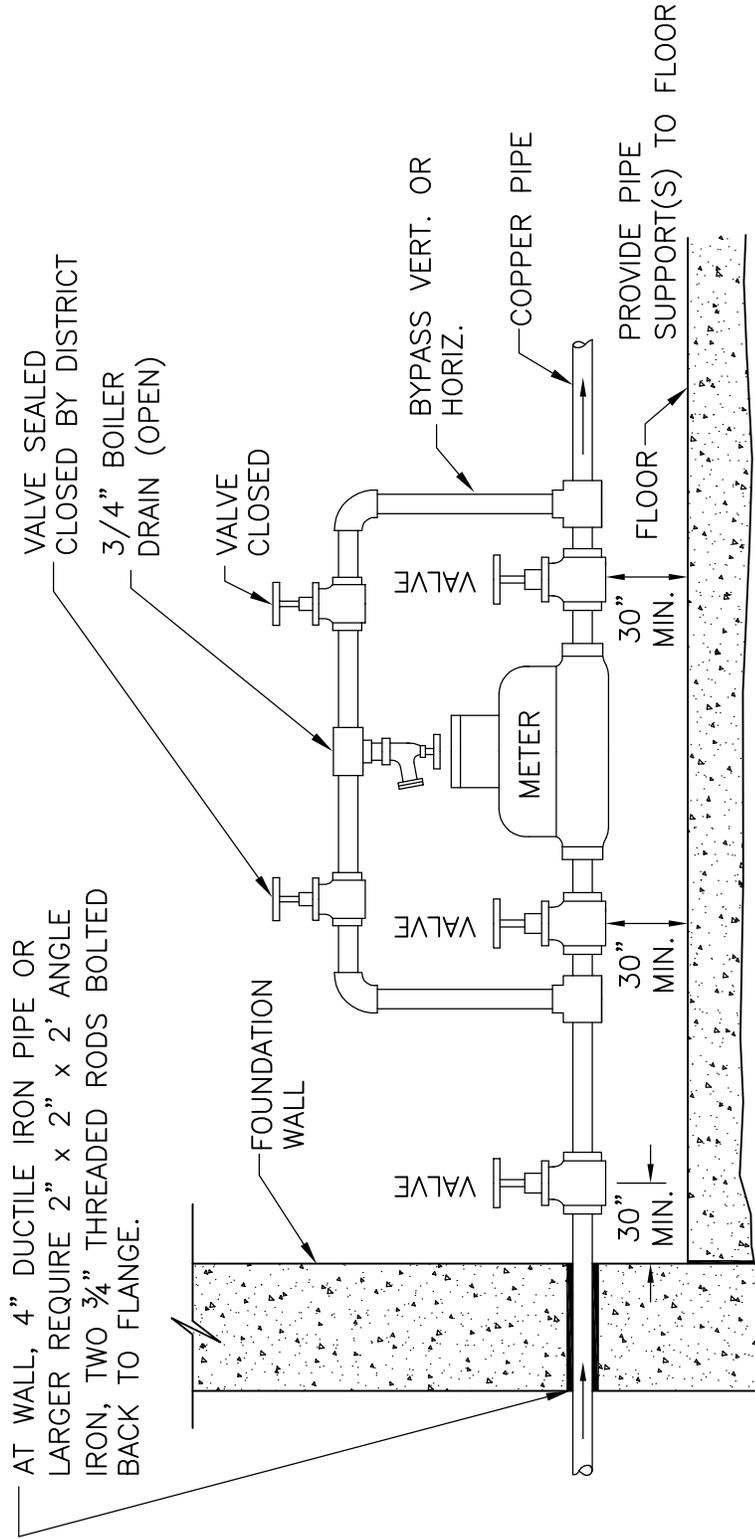


**METER BOX FOR 1" SERVICE AND  $\frac{5}{8}$ " x  $\frac{3}{4}$ " TO 1" METER**

**DETAIL**

NTS





NOTES:

1. ALL PIPING AND FITTINGS BY PROPERTY OWNER. COPPER SETTERS ARE ACCEPTABLE.
2. VALVES CAN BE EITHER GATE VALVES OR BALL VALVES.
3. BYPASS IS ONLY ALLOWED UNDER CERTAIN CIRCUMSTANCES. CONTACT DISTRICT TO DETERMINE IF A BYPASS IS NECESSARY. BYPASS SHOULD BE SAME SIZE AS METER.

**STANDARD METER INSTALLATION WITH BYPASS  
ON 1½-INCH SERVICES AND LARGER WITHIN BUILDINGS**

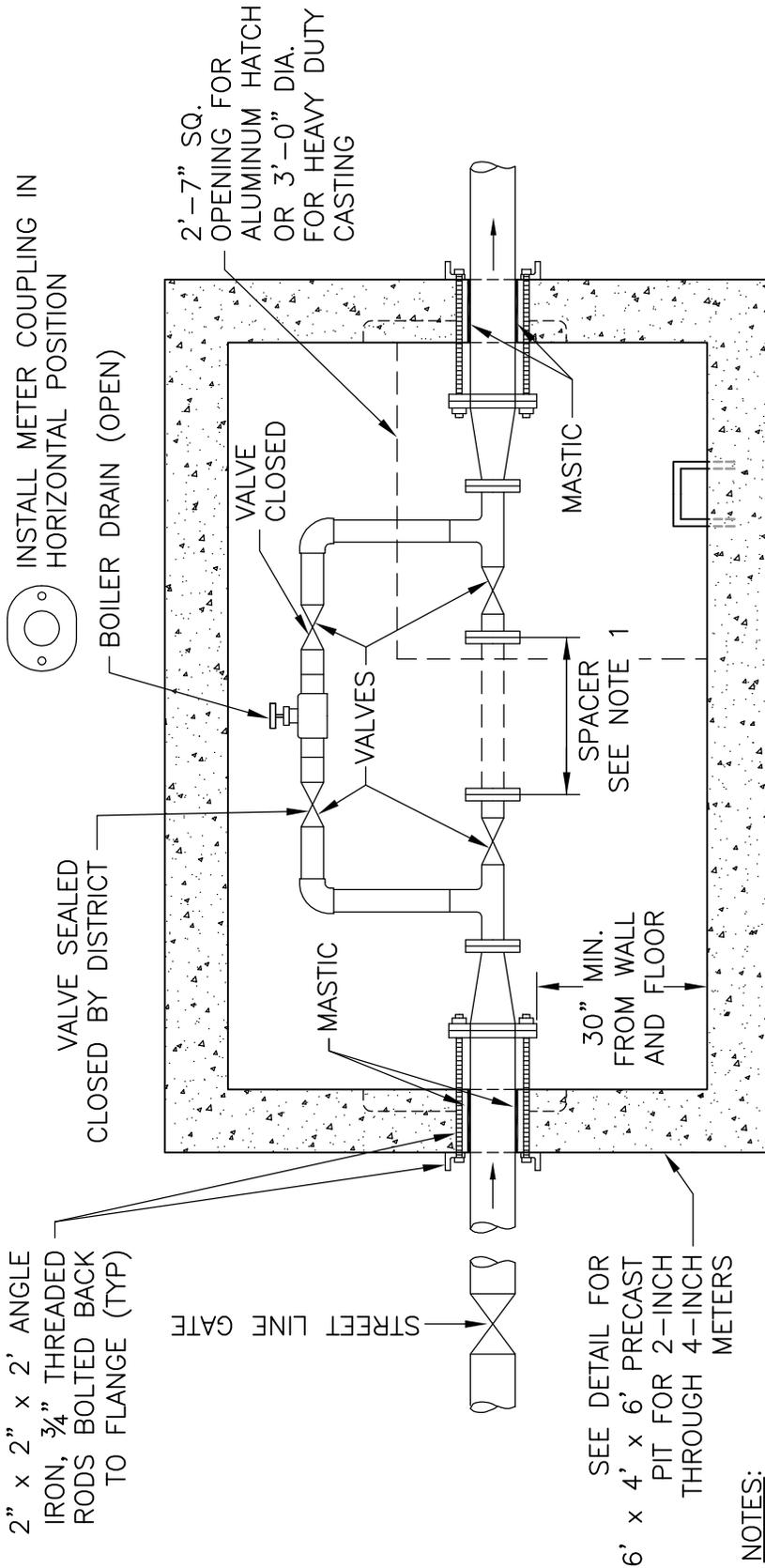
**DETAIL**

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# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



**NOTES:**

1. SPACER FURNISHED BY THE DISTRICT. SPACER FOR 1½" METER SHALL BE 13". SPACER FOR 2" METER SHALL BE 17". BYPASS SHOULD BE SAME SIZE AS METER.
2. VALVES CAN BE EITHER GATE OR BALL VALVE TYPE. GATE VALVES SHALL HAVE NON-RISING STEMS.
3. BYPASS IS ONLY ALLOWED UNDER CERTAIN CIRCUMSTANCES. CONTACT DISTRICT TO DETERMINE IF A BYPASS IS NECESSARY. BYPASS SHOULD BE SAME SIZE AS METER.

### STANDARD METER INSTALLATION WITH BYPASS FOR 1½-INCH AND 2-INCH METERS WITHIN PIT

DETAIL

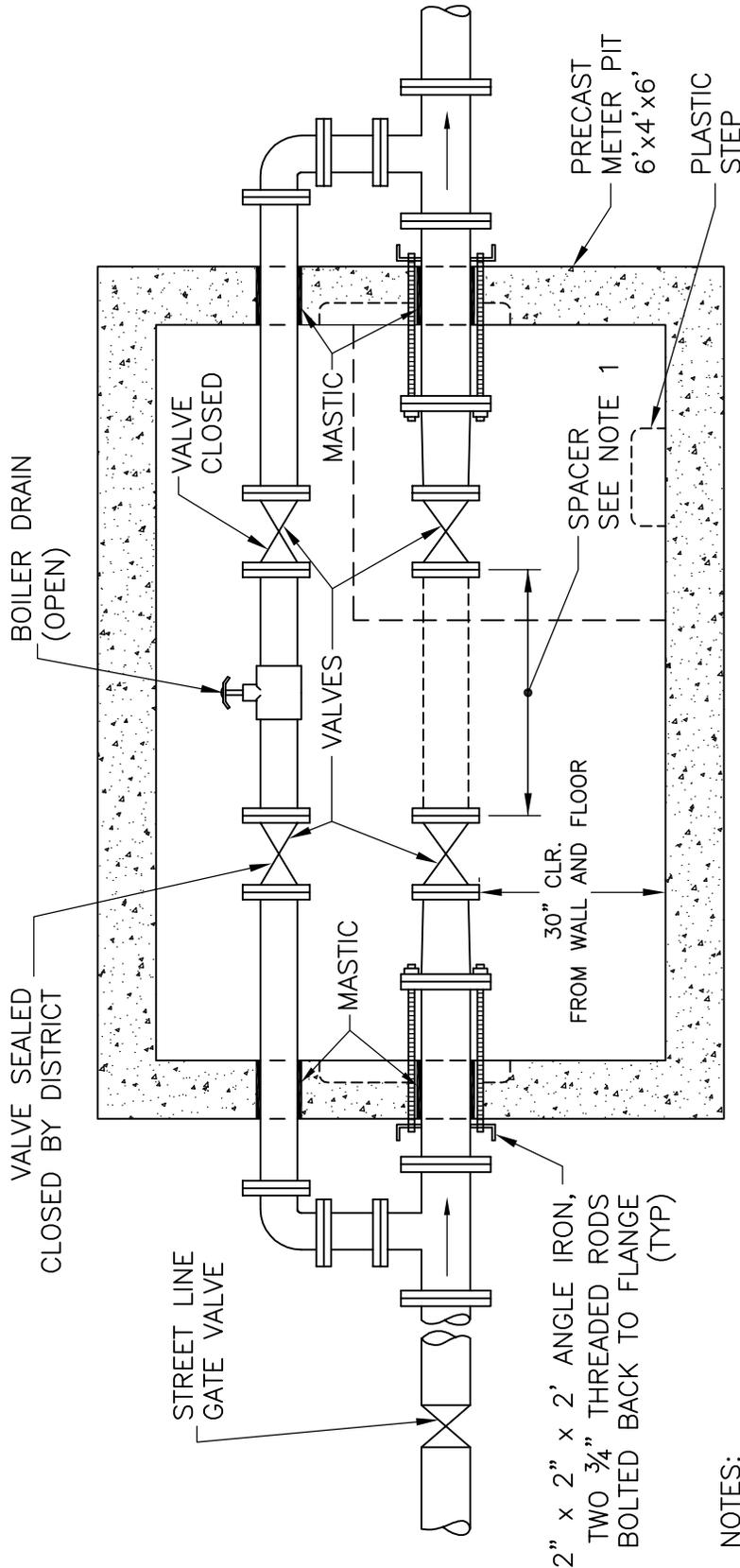
W

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NTS

# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



**NOTES:**

1. SPACER FURNISHED BY THE OWNER. SPACER SIZE FOR 3" METER SHALL BE 18". SPACER FOR 4" METER SHALL BE 20".
2. GATE VALVES SHALL HAVE NON-RISING STEMS.
3. BYPASS IS ONLY ALLOWED UNDER CERTAIN CIRCUMSTANCES. CONTACT OWNER TO DETERMINE IF A BYPASS IS NECESSARY. BYPASS SHOULD BE SAME SIZE AS METER.

### STANDARD METER INSTALLATION WITH BYPASS FOR 3-INCH AND 4-INCH METERS WITHIN PIT

**DETAIL**

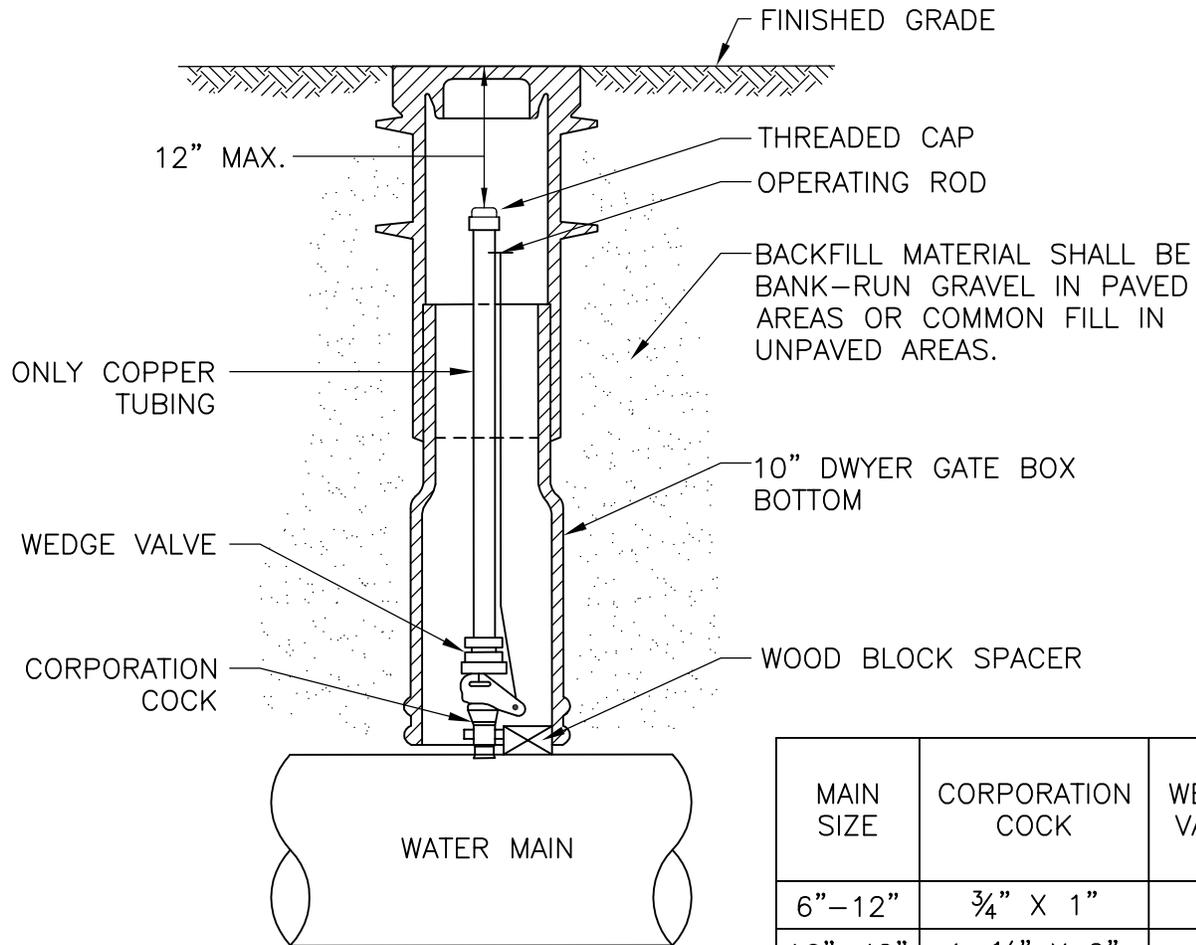
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NTS

# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



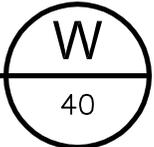
MAIN SIZE	CORPORATION COCK	WEDGE VALVE
6"–12"	¾" X 1"	1"
16"–42"	1–½" X 2"	2"

**NOTES:**

1. CANNOT BE USED FOR FUTURE SERVICE.
2. A CHLORINATION/SAMPLING ASSEMBLY SHALL BE REMOVED ONCE WATER MAIN PASSES SAMPLING. CORPORATION SHALL EITHER BE CONVERTED TO AIR VALVE OR ABANDONED PRIOR TO FINAL PAVEMENT RESTORATION.

### CHLORINATION INLET / BLOW-OFF

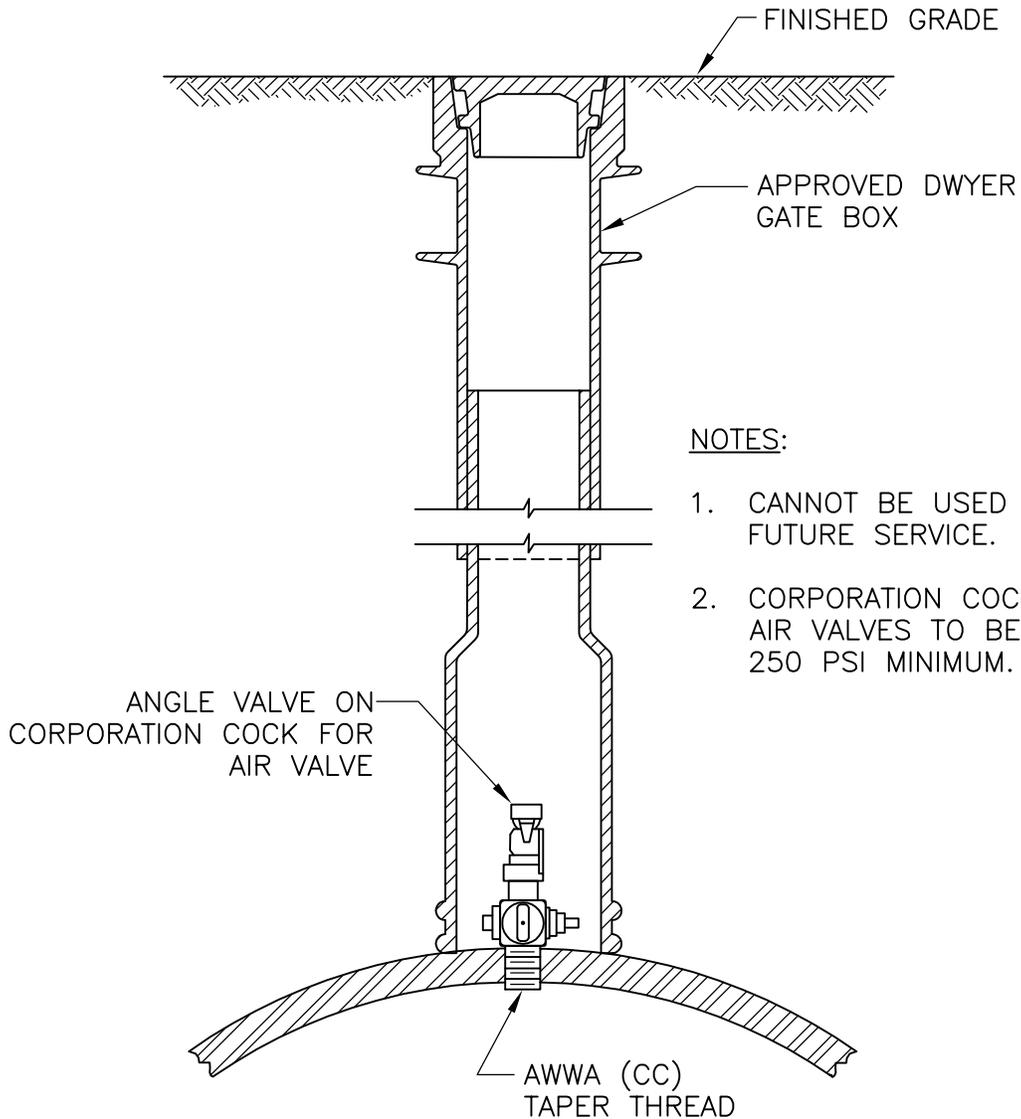
**DETAIL**



NTS

# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



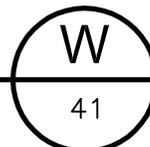
**NOTES:**

1. CANNOT BE USED AS FUTURE SERVICE.
2. CORPORATION COCKS FOR AIR VALVES TO BE RATED 250 PSI MINIMUM.

MAIN SIZE	MIN. SIZE AIR VALVE	CORPORATION COCK	ANGLE VALVE SIZE
6"–12"	3/4"	3/4" x 1"	1"
16" & 20"	1"	1" x 1"	1"
24" & 30"	1-1/4"	1-1/4" x 1-1/2"	1-1/2"
36" & 42"	1-1/2"	1-1/2" x 2"	2"
48" & 54"	2"	2" x 2"	2"

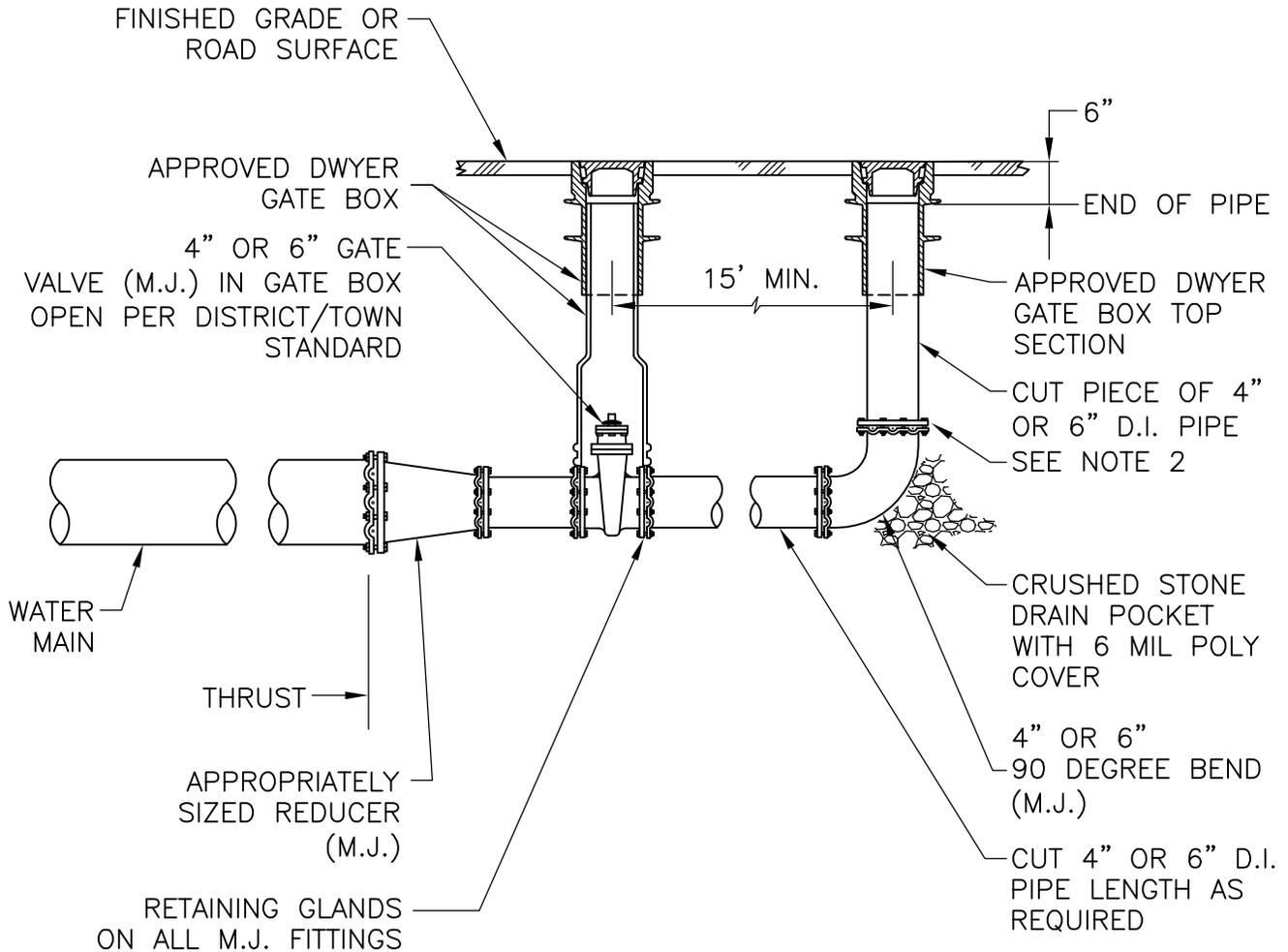
### STANDARD AIR VALVE DETAIL

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



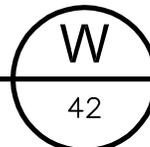
**NOTE:**

1. TO BE USED AT END OF MAIN ONLY WHEN THERE IS NO PROBABILITY OF FUTURE MAIN EXTENSION.
2. CUT AND REMOVE  $\frac{1}{2}$ " OR  $\frac{3}{4}$ " SECTION OF GASKET SO WATER WILL DRAIN FROM STANDPIPE

### 4-INCH OR 6-INCH BLOW-OFF ASSEMBLY (END OF MAIN)

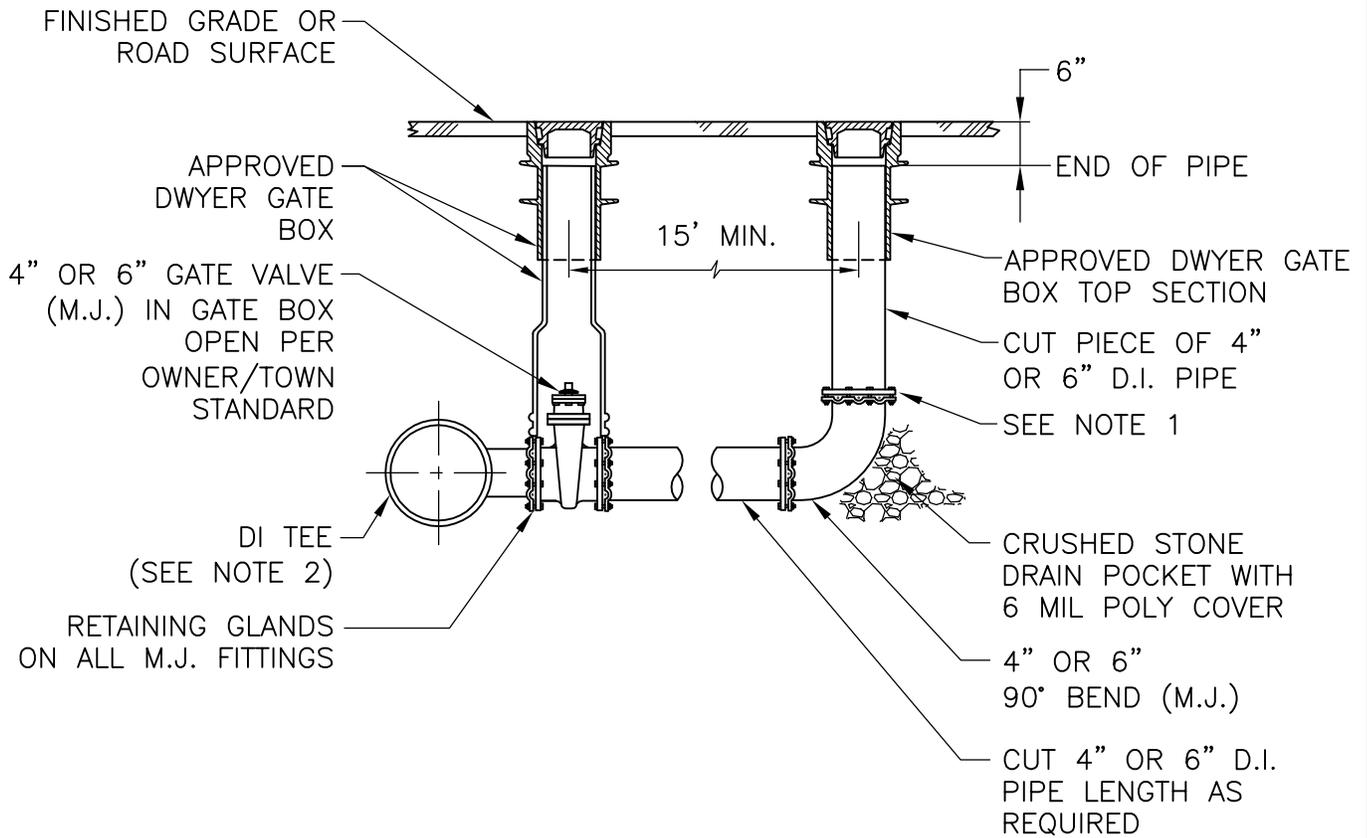
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



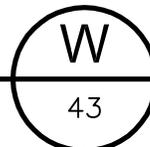
**NOTES:**

1. CUT AND REMOVE  $\frac{1}{2}$ " OR  $\frac{3}{4}$ " SECTION OF GASKET SO WATER WILL DRAIN FROM STANDPIPE.
2. PROVIDE M.J. x M.J. SWIVEL HYDRANT TEE FOR 6" BLOW-OFF ASSEMBLY AS DIRECTED BY THE DISTRICT.

### 4-INCH OR 6-INCH BLOW-OFF ASSEMBLY (BRANCH TYPE)

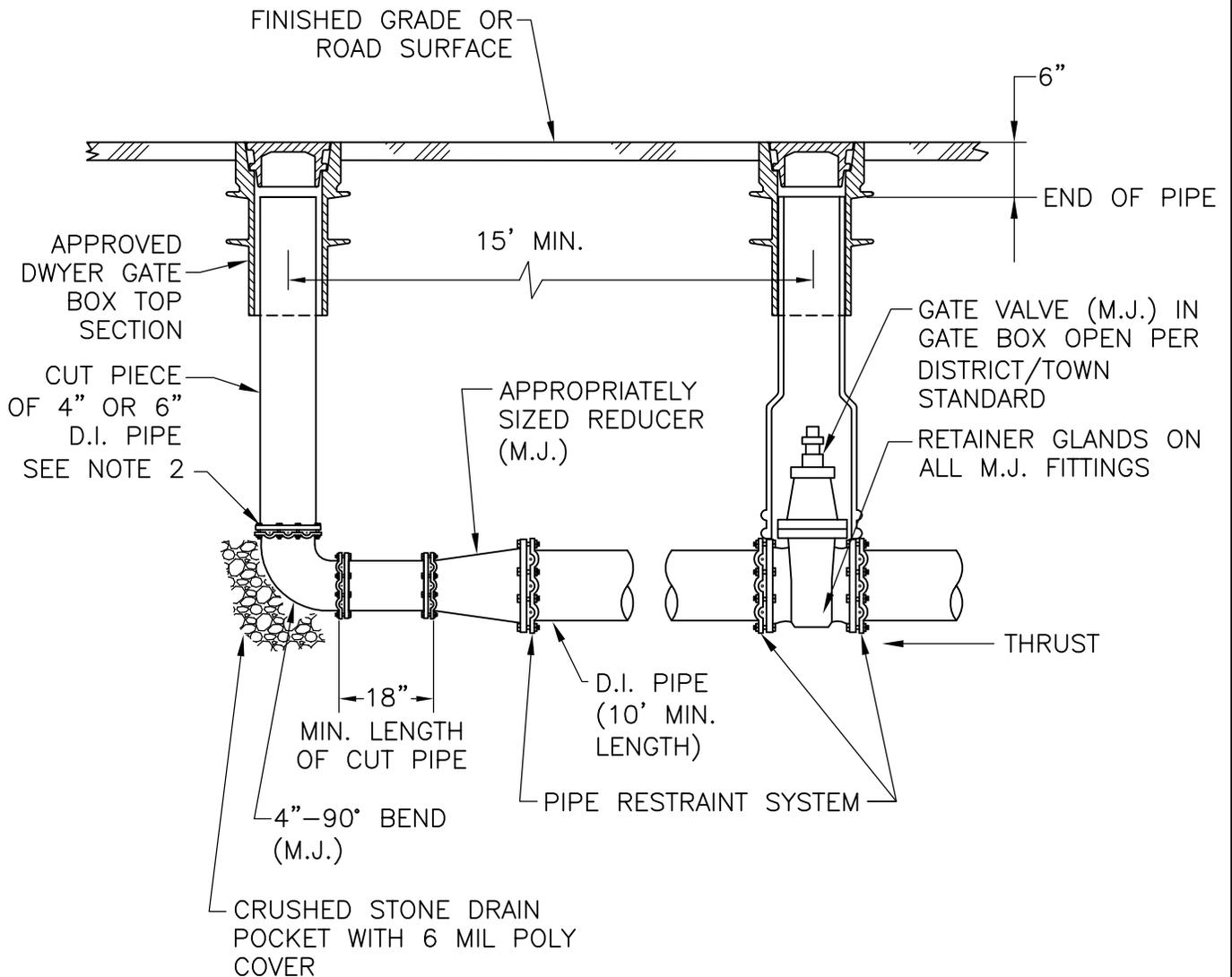
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



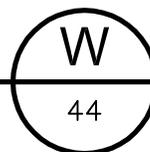
**NOTES:**

1. THIS BLOW-OFF SHALL BE USED IF THE MAIN MAY BE EXTENDED IN THE FUTURE.
2. CUT AND REMOVE  $\frac{1}{2}$ " OR  $\frac{3}{4}$ " SECTION OF GASKET SO WATER WILL DRAIN FROM STANDPIPE.

### 4-INCH OR 6-INCH BLOW OFF ASSEMBLY W/ FULL SIZE MAIN GATE VALVE

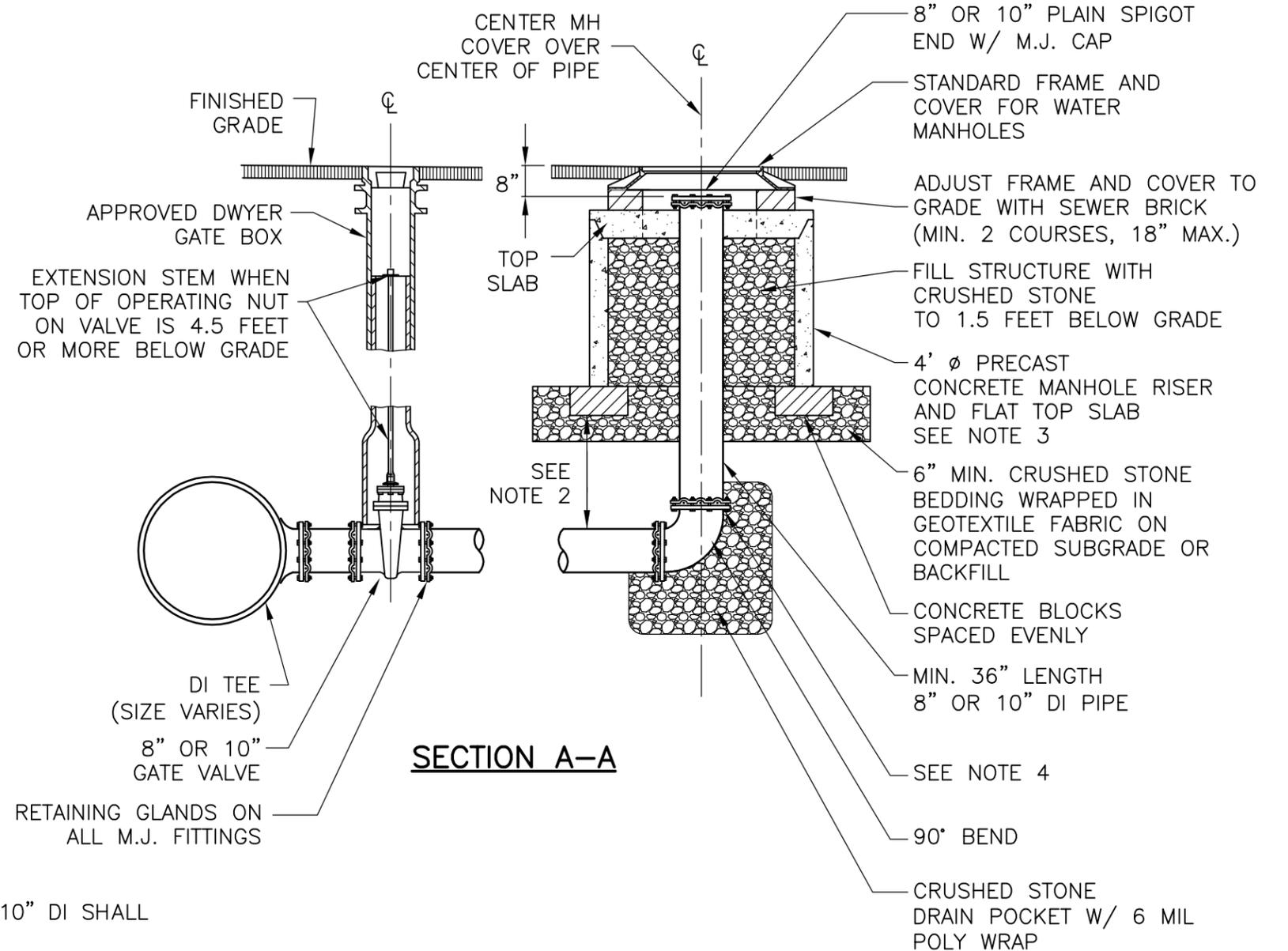
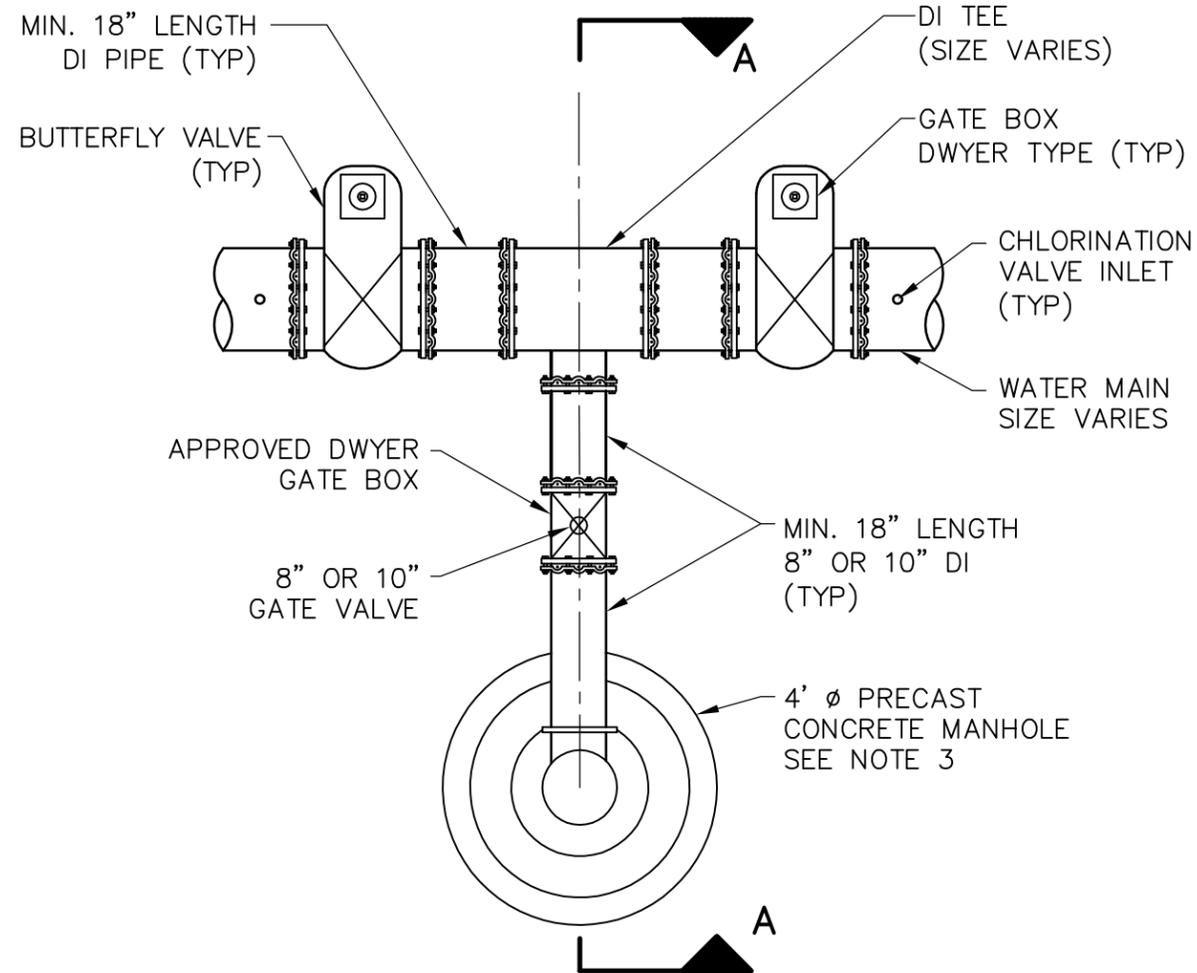
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



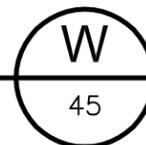
**NOTES:**

1. ALL PIPING, FITTINGS AND VALVES SHALL BE RESTRAINED JOINTS.
2. MINIMUM DIMENSION FROM BOTTOM OF CONCRETE BLOCKS TO TOP OF 8" OR 10" DI SHALL BE 18 INCHES.
3. MANHOLE RISER SHALL MEET THE REQUIREMENTS OF TYPE II PRECAST CONCRETE RISER SECTIONS. MANHOLE STEPS ARE NOT REQUIRED.
4. CUT AND REMOVE 1/2" OR 3/4" SECTION OF GASKET SO WATER WILL DRAIN FROM STANDPIPE.

### 8-INCH OR 10-INCH BLOW-OFF ASSEMBLY

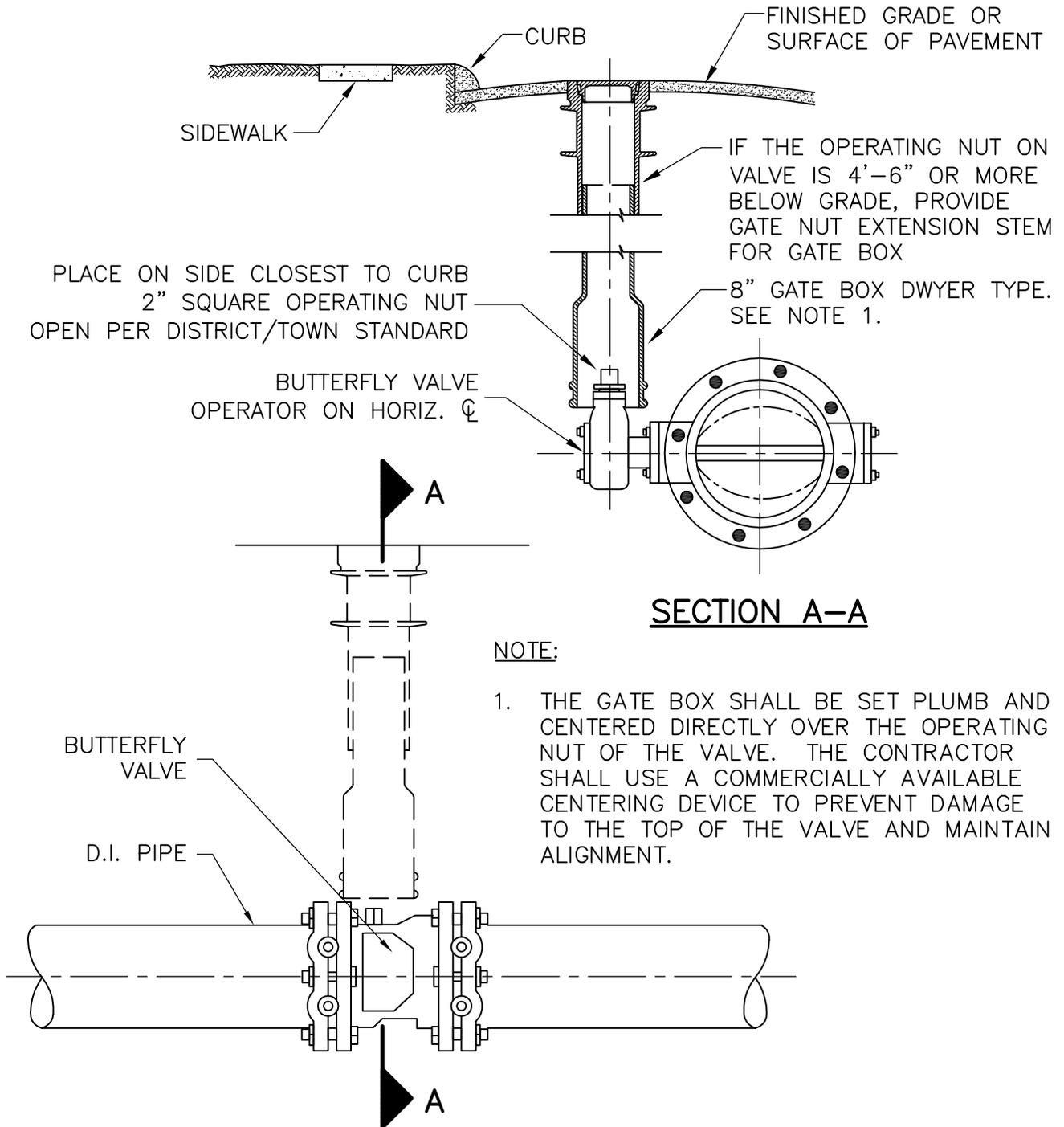
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

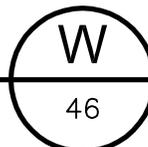
WATER STANDARD DETAILS



## STANDARD BUTTERFLY VALVE

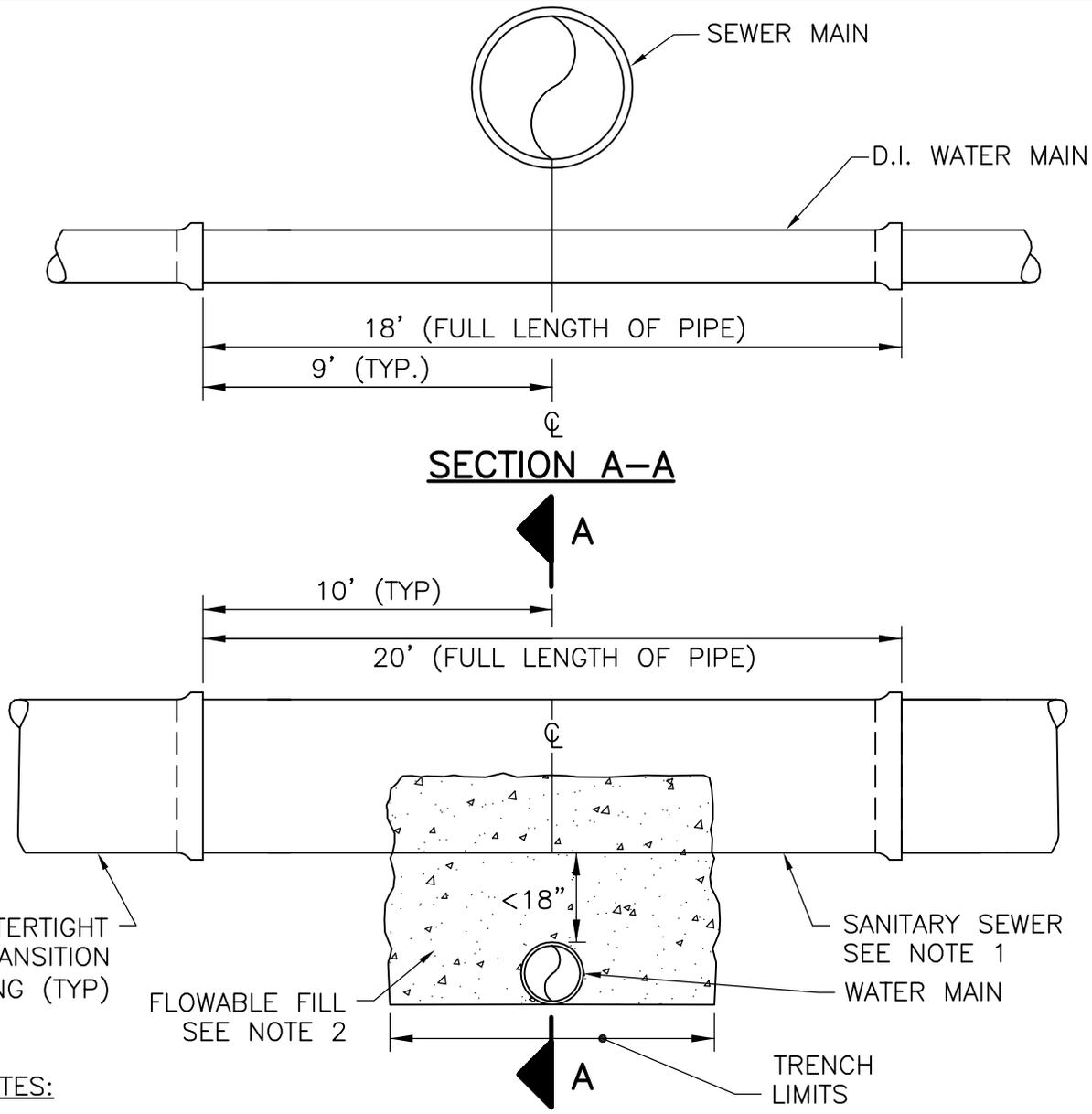
**DETAIL**

NTS



# THE METROPOLITAN DISTRICT

## WATER STANDARD DETAILS



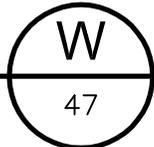
**NOTES:**

1. SEWER PIPE WITHIN CROSSING LIMITS SHALL BE THE SAME MATERIALS AND WATERTIGHT JOINTS AS NEW WATER MAIN PIPE, CONSTRUCTED IN ACCORDANCE WITH WATER MAIN STANDARDS OF CONSTRUCTION AND PRESSURE TESTED TO ENSURE WATER TIGHTNESS.
2. IF A FULL LENGTH OF WATER PIPE OR SEWER PIPE IS NOT USED, ENCASE SEWER MAIN OR WATER MAIN WITH FLOWABLE FILL WITHIN THE TRENCH LIMITS.

### WATER CROSSING BELOW SEWER LESS THAN 18-INCH VERTICAL SEPARATION

**DETAIL**

NTS



## **PART 5**

### **THE METROPOLITAN DISTRICT**

#### **APPROVED MATERIALS FOR WATER INSTALLATIONS**

The MDC Approved Materials List can be found at the MDC website at the following webpage: <http://themdc.org/what-we-do/engineering-planning/technical-services>.

If deviations from the prescribed materials are necessary, approval must be obtained from the MDC prior to the purchase and installation.

**APPENDIX A**  
**APPLICATION FOR ELIGIBILITY**

**APPLICATION FOR ELIGIBILITY FORM**

The undersigned, having read and understood the terms of the construction manual, rules, regulations and ordinances of The Metropolitan District pertaining to the issuance of permits to drain layers, and to the laying of water services, sewers and drains, hereby requests eligibility for sewer connection and/or water service permits in the name indicated hereinbelow and hereby agrees, for himself and partners, or for any corporation in whose name the license or permits is to be issued, to fulfill and be bound by all of the provisions of said construction manual, rules regulations and ordinances, and also to any amendments or additions thereto which may hereafter be made.

.....  
 (Name under which permits will be issued)

..... (Business Address – Street and Town) ..... (Business Telephone)

If business is a Partnership or Corporation, list below the owners partners principal officers and/or State Licensee:

Name	Title	Home Address	Home Telephone
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Said applicant agrees to notify The Metropolitan District within 24 hours of any change in the employment status of the (partner, officer, associate, employee) listed herein, including persons empowered to sign applications and receive permits as listed on the reverse side.

Application is made for:

**ELIGIBILITY FOR SEWER CONNECTION AND WATER SERVICE PERMITS**  
 (for work on private sewers and drains & water services under STATE OF CONNECTICUT)

LICENSE NO..... Signed \_\_\_\_\_  
 (Name of Corporation or firm (Seal))

Issued to (Signed)..... by \_\_\_\_\_

\_\_\_\_\_ Its \_\_\_\_\_ Duly Authorized  
 Witness (Title)

\_\_\_\_\_ Witness



**APPENDIX B**  
**MDC BOND FORM**

CONTRACTORS BOND NO. \_\_\_\_\_

Know all Men by these Presents, that \_\_\_\_\_ and/or  
(Name of Firm, Partnership or Corporation)

\_\_\_\_\_  
(Name of Responsible Individual State Licensee) \_\_\_\_\_ (Title)

as principal, and \_\_\_\_\_ as surety

are held and firmly bound unto THE METROPOLITAN DISTRICT, within its service area in the State of Connecticut, in the sum of Ten Thousand dollars (\$10,000), lawful money of the United States of America to be paid to the said METROPOLITAN DISTRICT, its respective successors or assigns, for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed and Sealed and dated \_\_\_\_\_ Conn., this \_\_\_\_\_ day of \_\_\_\_\_, 20.....

The condition of this Obligation is such, that whereas, the above bound principal has by The Metropolitan District and/or by the State of Connecticut been duly licensed as a Contractor in said District Service Area, said obligation shall be continuous subject to cancellation by said Surety by giving ninety (90) days notice in writing of its intention to so do.

Now, therefore, if the said \_\_\_\_\_ shall well and truly keep and perform, during said term, all the terms and conditions of the ordinances, resolution, rules and regulations of The Metropolitan District, regulating the laying of sewers, drains, and appurtenances, sewer house connections, private drains, water mains, water services and appurtenances, and shall forever indemnify and save harmless THE METROPOLITAN DISTRICT and all its respective agents for or on account of any damages to property of any person or persons or any damage to the sewer or water system of THE METROPOLITAN DISTRICT in consequences of or resulting from any work performed by

said principal \_\_\_\_\_ servants  
or agents, or of, or from any negligence in guarding said work, or of, or from any act or

omission of said principal \_\_\_\_\_ servants or agents until the expiration of the one year maintenance period after, work, under any permit issued, is complete; shall faithfully perform said work in all respects with the rules and regulations established by THE METROPOLITAN DISTRICT, and the terms of the permits that may be issued to him, and shall also pay all fines or penalties imposed upon him for violation of any such rules or regulation, then this obligation shall be of no effect; otherwise, it shall remain in full force and virtue.

Signed: \_\_\_\_\_ (Corporate Seal of Surety)  
(Individual State Licensee)

Signed: \_\_\_\_\_ Signed: \_\_\_\_\_  
(Corporation of Firm) (Surety Corporation)

By: \_\_\_\_\_ By: \_\_\_\_\_

Its: \_\_\_\_\_ Duly Authorized Its Duly Authorized Agent

Witnessed by: \_\_\_\_\_ Witnessed by: \_\_\_\_\_

On: \_\_\_\_\_ On: \_\_\_\_\_  
(Date) (Date)

## **APPENDIX C**

### **MDC INSURANCE CERTIFICATE**

**CERTIFICATE OF INSURANCE -THE METROPOLITAN DISTRICT** FORM INS390 | ISSUE DATE (MM/DD/YY)

INSURED	THIS IS TO CERTIFY THAT THE POLICIES LISTED BELOW HAVE BEEN ISSUED, SUBJECT TO APPLICABLE TERMS, CONDITIONS AND EXCLUSIONS. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES INDICATED BELOW.
---------	---

<b>COMPANIES AFFORDING COVERAGE</b>	
PRODUCER	COMPANY LETTER <b>A</b>
	COMPANY LETTER <b>B</b>
	COMPANY LETTER <b>C</b>

<b>MINIMUM INSURANCE REQUIREMENTS</b> BODILY INJURY AND PROPERTY DAMAGE \$1,000,000 EACH OCCURRENCE \$1,000,000 AGGREGATE	(NOTE: CERTAIN PROJECTS, CONTRACTS OR AGREEMENTS MAY REQUIRE HIGHER OR LOWER LIMITS AND/OR REQUIRE SPECIFIC ADDITIONAL INSURANCE COVERAGES. SEE PROJECT, CONTRACT OR AGREEMENT FOR ADDITIONAL INFORMATION.)
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**COVERAGES**

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	EFF. DATE (MM/DD/YY)	EXP. DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	<b>GENERAL LIABILITY</b>  <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR. <input type="checkbox"/> PER PROJECT AGG. LIMIT END. <input type="checkbox"/> BLANKET CONTRACTUAL <input type="checkbox"/> THE METROPOLITAN DISTRICT AND THE STATE OF CONN. ADDED AS ADDITIONAL INSURED				EACH OCCURRENCE	\$
					GENERAL AGGREGATE	\$
					PRODUCTS COMP/OPS AGGREGATE	\$
					SELF-INSURED RETENTION	\$
	<b>AUTOMOBILE LIABILITY</b>  <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS				COMBINED SINGLE LIMIT	\$
					BODILY INJURY (Per Person)	\$
					BODILY INJURY (Per Accident)	\$
					PROPERTY DAMAGE	\$
					SELF-INSURED RETENTION	\$
	<b>EXCESS/UMBRELLA LIABILITY</b>				EACH OCCURR. \$	AGGREGATE \$
	<b>WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY</b>				STATUTORY	
					\$ (EACH ACCIDENT)	
					\$ (DISEASE-POLICY LIMIT)	
					\$ (DISEASE-EACH EMPLOYEE)	
	<b>PROTECTIVE LIABILITY</b> ((IN THE NAME OF THE METROPOLITAN DISTRICT) POLICY MUST BE SUBMITTED.				BODILY INJURY & PROPERTY DAMAGE	
					EACH OCCURRENCE:	
					AGGREGATE:	
	<b>OTHER</b>					

**DESCRIPTION OF OPERATIONS**

<b>CERTIFICATE HOLDER</b> THE METROPOLITAN DISTRICT 555 MAIN STREET-PO BOX 800 HARTFORD, CT 06142-0800	IT IS AGREED THAT 30 DAYS' NOTICE OF CANCELLATION OR RESTRICTIVE AMENDMENT OF SAID POLICIES SHALL BE MAILED TO THE METROPOLITAN DISTRICT, AND IT IS FURTHER AGREED THAT ALL EARNED PREMIUM CHARGES FOR THE PROTECTIVE LIABILITY AND OTHER POLICIES WILL BE BILLED TO THE ABOVE NAMED PERSON OR FIRM. _____ AUTHORIZED REPRESENTATIVE
---	--

## **Insurance Requirements:**

### **For License As Pipe Layer, Excavator Or Eligibility For Metropolitan District Permits:**

**Commercial General Liability:** Limit of Liability not less than \$1,000,000 each occurrence, \$1,000,000 aggregate. MDC must be added as additional insured.

**Automobile Liability:** Limit of Liability not less than \$1,000,000 combined single limit.

**Workers' Compensation:** As required by Connecticut Law and Employer's Liability with a limit of not less than \$100,000/occurrence, \$500,000 disease policy limit and \$100,000 disease each employee.

**Owner/Operator Note:** A letter from your insurance agent attesting to the fact that W/C insurance is not mandatory and you elect not to carry it, will satisfy this requirement.

**Protective Liability:** For and in the name of the District with a minimum limit of liability not less than \$1,000,000/occurrence and \$1,000,000/aggregate.

All of the above requirements must be met prior to issuance of a permit.

**APPENDIX D**

**MDC WATER SERVICE PERMIT  
APPLICATION FORM**



# Application for Water Service / Permit

Work Order No.	Notification No.
Date	Application No.

Type of Permit			House No.	Street Name			Lot# / Bldg.#	Map #	Town
New/Tap	Renewal	Repair							
Service Size		Service Kind / Material		Type of Service			Main Pipe Size	Tap Fee	Charges
				Dom	Fire	Comb			
By-Pass Required		Check for Cross Connection		Meter Setter Issued		Meter Size	Location of Meter		X
Yes	No	Yes	No	Yes	No		Regular / Inside	Outside / Pit	
Assess. Charge Satisfied		Intended Use		Sanitary Sewer Avail.		Required Plan Approved by:		Miscellaneous Charges	
Yes	No	Residential	Commercial	Yes	No				

**Description of Work**

**Water service 4" or larger are required to pass hydrostatic and sterilization tests. (150# Domestic & 200# Fire). The undersigned agrees to perform the approved description of work in accordance with all applicable MDC ordinances, CT state and Federal laws and regulations. All work is subject to inspection and approval by The Metropolitan District.**

Owner's Mailing Address				Owner's Telephone	Road Cut	Current CBYD #
Name						
Address			P.O.Box or Apt#	City		
Email Address				State	Zip	

**\*\*\* P1 or P7 Licensee must be on site performing or directly supervising all regulated piping work! \*\*\***

Excavation Contractor				Contractor's phone #	State License	Insurance Exp
Signature						
Plumbing Contractor				Date Signed	State License	Insurance Exp
Licensee Name						
Signature			Is Licensee an employee of Contractor?		Yes	No
Owner or Agent Signature					Total Due	
Remarks	CHECK#	By	DV	Date Paid		

**For Inspections: During Normal MDC Business Hours Call 860-278-7850 x3780. All other times Call 860-278-7850 x3600**

The above signed declares himself to be the actual owner of record, or authorized agent acting in behalf of the owner, and agrees to conform to all the rules and regulations of the BUREAU, and that this application is subject to investigation before final approval.  
Application to become void if service not installed within one year.

**MDC USE ONLY**

Distribution: 1st Copy: Revenue Accounting 2nd Copy: Customer Info No. 1 3rd Copy: Utility Services 4th Copy: Customer Info

BP No.	CA No.	Con Obj	Premise	Install	SUC	CWP

Comments for non standard installion: \_\_\_\_\_

Road Inspection by: \_\_\_\_\_ Lawn Inspection by: \_\_\_\_\_

Road Inspection Date: \_\_\_\_\_ Lawn Inspection Date: \_\_\_\_\_