

CHAPTER 12

WATER DISTRIBUTION SYSTEMS

SECTION GENERAL 1201

1201.1 Water Distribution Required. The developer of all developments and subdivisions shall provide a water distribution system designed, approved and installed in accordance with these Regulations. Water distribution systems for subdivisions and developments shall be connected to a public water supply.

The water distribution system shall meet the minimum requirements of the Mississippi Department of Health and conform to the applicable standards of the City including the current Water Use Policy.

The developer shall be fully responsible for the design, installation, and oversight of any physical improvements necessary to connect to existing public infrastructure.

1201.2 Waiver and Exception. In the event it is determined by the Director of the Water and Sewer Department that it is not possible, or is not feasible, to provide access to the public water supply system, the developer may request a waiver from providing a public water distribution system. Such request shall be in writing and be presented to the Planning Director prior to Preliminary Plat Approval.

The Board of Aldermen shall have sole authority in granting or denying such a waiver.

Should the Board of Aldermen grant a waiver to the developer from providing a public water distribution system, the developer shall install a private individual water supply system for each lot within the proposed development or subdivision.

1201.2.1 Individual Water Supply. Individual water supply systems shall be designed and installed in accordance with the *Mississippi Department of Health*, and *National Groundwater Association (NGWA)* standards.

1201.3 Plans and Specifications Approval. Prior to advertising for bids, or prior to beginning construction where bids are not received on a new public water system, or for extensions or modifications to an existing public water system, plans and specifications shall be provided to the Planning Director.

Plans and specifications shall be prepared, sealed, and signed by a professional engineer registered to practice in Mississippi.

Such plans shall be forwarded to the Mississippi Department of Health for review and approval. Such plans shall not be approved by the City, until approved in writing by the Mississippi Department of Health, Division of Water Supply.

1201.4 System Design. Unless otherwise recommended by the City Engineer, the distribution system shall be designed to maintain a minimum dynamic pressure of twenty (20) psi. Maximum static pressure shall not exceed eighty (80) psi.

Water mains shall be designed based on hydraulic analysis using an appropriate friction coefficient, but shall not be less than six inches (6"). The maximum Hazen-Williams C value to be used is one hundred twenty (120).

The minimum water main size supplying fire hydrants with pumper connections shall be as determined by hydraulic analysis using calculated fire flows.

1201.5 Materials. All materials not specifically referenced herein shall be non-toxic and approved for use in potable water systems by American Water Works Association (AWWA), U.S. Environmental Protection Agency (EPA), Underwriters Laboratory (UL), National Sanitation Foundation (NSF), or other appropriate organization.

Ductile iron pipe and fittings shall only be allowed for open ditch crossings and similar surface layments, and shall be approved by the Water and Sewer Director prior to installation. When allowed, ductile iron pipe shall comply with the latest application standards issued by the AWWA.

All water distribution mains shall be Polyvinyl Chloride (PVC) pipe and shall meet the latest revised requirements of AWWA C-900.

1201.6 Installation. Pipe installation shall comply with generally accepted standards of good workmanship, including applicable AWWA and industry standards, along with, but not limited to the following:

- A. A continuous uniform bedding shall be provided, free of injurious stones or debris within six inches (6") of the pipe in the bedding and cover material.
- B. There shall be a minimum of thirty-six inches (36") of cover.
- C. Except for street and driveway crossings, water lines shall be located outside of paved areas. Exceptions will be considered on a case-by-case basis. Water lines shall be installed a minimum of five feet (5') behind the back of the curb.
- D. While under construction, unattended exposed pipelines must have the ends capped.
- E. Adequate separation from other utilities for maintenance and/or repair should be provided.
- F. Water mains shall be laid at least ten feet (10') horizontally from any sanitary sewer or manhole. Where local conditions prevent ten feet (10') horizontal separation, the City may allow the water line to be laid closer to the sewer line if the following requirements are met:
 - 1. The developer must obtain written approval from the Mississippi State Health Department.

2. If local conditions prevent ten feet (10') horizontal separation, the water main may be laid closer to the sewer line provided they are in a separate trench and the bottom of the water line is eighteen inches (18") above the top of the sewer lines.
 3. Where this ten foot (10') horizontal separation cannot be maintained, the water line should be ductile iron with water line joints located at the maximum distance possible from sewer line joints. PVC pipe may be used if it is protected by a steel casing.
 4. Where water lines cross sewer lines, the pipe segments should be centered to provide maximum spacing of joints of both water and sewer lines. A vertical separation of at least eighteen inches (18") should be maintained (water over sewer).
 5. No water pipe shall pass through or come into contact with any part of a sewer manhole. In places where the water line passes underneath a sanitary sewer line, the water line shall be installed so the midpoint of a full pipe length of water line is centered on the sanitary sewer.
- G. Water lines crossing ditches where less than thirty-six inches (36") of cover is maintained or crossing streams shall be either ductile iron pipe (when approved by the Water and Sewer Director), or protected by a steel casing. Adequate support and anchorage shall be provided on both sides of the ditch.
 - H. Pipe lines including main and service lines that cross roadways shall be protected by a steel casing. Casings for service lines under collector and local streets installed by open cut may be PVC pipe or steel pipe.
 - I. Encasements for all main lines shall be welded steel encasement pipe.
 - J. All water users shall be supplied individually from a service line extended directly from the main line.
 - K. A sufficient number of valves shall be provided to limit the number of meters isolated during line maintenance and repairs. Valves shall be located and lines looped so that not more than twenty-five (25) meters will be isolated at a time. Valve location spacing shall not exceed one thousand feet (1,000') along any segment. Valves shall be provided at each fire hydrant.
 - L. Pressure and leakage tests should be completed and conform to the current AWWA Standard, C 600 Section 5. Provide records of test results indicating witness by the developer's engineer or a city representative.
 - M. There shall be no physical connection (cross connections) between the distribution system and any pipes, pumps, hydrants, or tanks whereby unsafe water or any contaminants may be caused to enter the water system. An appropriate backflow prevention device shall be installed on each service extension where an existing or potential health hazard exists or where a hazardous hydraulic condition may be allowed to exist. Where backflow

prevention devices are required, they must be installed inside of an associated building, or equipped with a prefabricated exterior housing to be approved by the Administrator or designee. These devices should be located in a serviceable area but screened away from the public view. Prior to service being connected to a public water system, all wells or water sources owned or used previously by the potential customer shall be physically disconnected from the plumbing to be supplied by the public water system.

N. All dead end mains shall terminate with one of the following:

1. A two inch (2") flushing hydrant may be installed, serviced by a two inch (2") brass tapping saddle with corporation stop and curb stop. A main line valve and pipe bell with cap shall be placed beyond the tap for the flushing hydrant.
2. A fire hydrant may be installed. Hydrant type and installation shall be per the specifications herein, at the discretion of the Planning Director.

SECTION 1202

WATER PIPE LINES

1202.1 Size and Materials. Except as otherwise provided, water mains shall be minimum six inch (6") PVC. Ductile Iron Pipe for water pipe lines, where permitted, shall be in accordance with ANSI/A21.50 and ANSI/A 21.51 mechanical or push-on jointed and shall be cement lined in accordance with ANSI/A 21.4. Rubber gasket joints shall be in accordance with ANSI 21.11. The pressure classes for ductile iron pipe shall be: PC 350 for eight to twelve inch (8"-12") pipe.

Plastic Pipe shall be rigid polyvinyl chloride pipe AWWA C-900 Class 150 (DR18) with integral bell for gasketed slip joints. "O"-ring joints and glue joints will not be accepted. Gasket joints shall be in accordance with ASTM D-3139. All plastic pipe shall be installed within one (1) year of the date of manufacture indicated on the pipe.

1202.1.1 Pipe Fittings. Fittings for ductile iron and PVC pipe shall be ductile iron mechanical joint fittings, ANSI Specification A21.53, A21.11 as applicable. Fittings shall be rated for a working water pressure of 350 psi. Ductile iron fittings shall be uniformly coated on the inside with cement-mortar lining conforming to ANSI Specifications A21.4. Mechanical joint fittings with Ebaa Iron Megalug glands and gaskets or Uni-Flange Series 1400 restrained joint device may be used where restrained joint fittings are specified. Pipe Fittings for Flanged Connections shall be ANSI Specifications A21.10, Class 125, ductile iron fittings.

1202.1.2 Thrust Blocks: Concrete thrust blocks, or similar method approved by the City Engineer, shall be installed around fittings at the locations and of the volume and strength required to withstand thrust reactions at the test pressure. Where directional changes occur in a vertical plane, approved mechanical retainers shall be used.

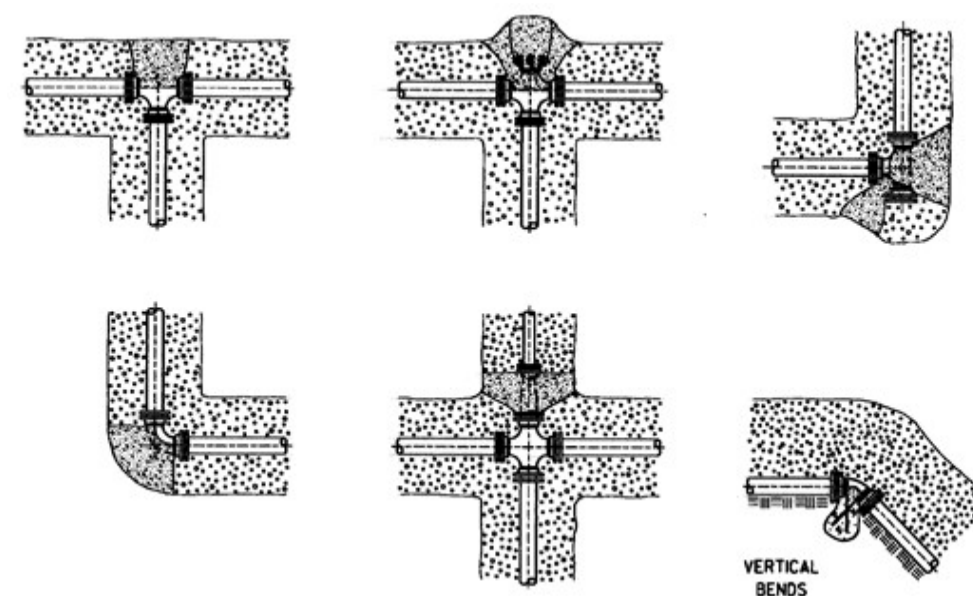


ILLUSTRATION 1202.1.2 - THRUST BLOCKING

1202.2 Jointing.

Ductile Iron Pipe – When permitted, all joints shall be in accordance with the manufacturer's instructions exercising extreme care to clean all parts before assembly. Joints shall be made under dry conditions. Underground flanges shall be wrapped with 8 mil black polyethylene material conforming to ANSI A21.5 and taped in place before backfilling.

Plastic Pipe - Joints in plastic pipe shall be rubber gasket push-on type. Push-on joints shall be made in accordance with the manufacturer's instructions. The resulting joints shall be clean and watertight.

1202.3 Encasements. Encasement for water lines at roadway crossings shall be new black steel pipe per ASTM A252, Grade 2, ASTM A53, Grade B or better. Minimum wall thickness shall be 0.188" for sizes 12" and less and 0.250" for 14" and above. Joints shall be welded. Trenching and backfilling shall be performed in conformity with the Water Pipe Lines standard.

1202.4 Pipe Laying. The pipe shall be lowered into the trench in such a manner as to prevent damage to the pipe or pipe coating. It shall not be dropped or dumped during unloading or laying. Foreign matter and dirt shall be prevented from entering the pipe. A minimum cover of thirty-six inches (36"), measured from the top of the pipe shall be provided.

1202.5 Tracer Wire. Twelve gauge (minimum) insulated single-strand solid copper tracer wire shall be installed with all plastic mains and service lines to facilitate location with a pipe locator. The tracer wire shall be laid in the trench with the plastic pipe.

The tracer wire shall be brought up and terminated in a tracer wire test station at each valve and at intervals along pipelines not to exceed five hundred feet (500'). Tracer wire test stations shall be Rhino TriView Flex with internal test station as manufactured by REPNET, Inc. or equal. The tracer wire station shall be installed by sliding it over a six foot (6') long 1-1/2 lb. per foot U-channel post driven eighteen to twenty four inches (18" - 24") into the ground and securing it with a bolt or rivet as recommended by the manufacturer. Where utilities are located in the front or side yard, use "snakepit" style tracing wire system with six inch (6") top flange in-grade locator markers. Identification decals shall be affixed to all three sides of the post.

1202.6 Backfilling. Trenching and excavation shall be backfilled immediately after the pipes are laid. The initial backfill shall extend to twelve inch (12") above the pipe. The initial backfill shall be thoroughly and carefully tamped before the next layer is placed. The remainder of the backfill shall be as follows:

In areas not be paved, the backfill may be fine, loose soil, free from large clods, stones, frozen earth, debris or any material with an exceptionally high void content. The backfill may be accomplished by dozing in layers of approximately one foot each. A windrow shall be left over the trench and bladed and shifted as necessary as settling occurs. For graveled areas, after maximum settlement has been reached, excess material shall be hauled away and washed gravel or crushed stone added as necessary.

In areas to be paved, the trench soils shall be tested by the design engineer to determine their suitability for use as backfill material. If the trench soils are found to be unsuitable, they shall be replaced with suitable materials. Backfill in areas to be paved shall be placed in twelve inch (12") lifts and each lift compacted to ninety five percent (95%) Standard Proctor density. Backfill shall extend to the top of the subgrade.

The location of backfill density tests shall be at the discretion of the design engineer. Generally, one sample will be taken mid-trench depth and one on top of the material each two hundred feet (200')+ along the trench. In the event of failed density tests, the compaction shall be continued and water added until the optimum moisture content is reached and the samples meet or exceed the specified minimum density.

1202.7 Pressure Testing. After the pipe has been laid, all newly laid pipe and selected valved sections shall be subjected to a hydrostatic pressure equal to one and one-half (1-1/2) times the normal static water pressure, but not less than 100 psi. All pressure tests must be conducted in the supervision of the Developer's Engineer or representative.

Test Pressures shall:

- A. Not exceed pipe or thrust-restrain design pressures (Backfill pipe trenches sufficiently and provide reaction blocking hydrostatic testing.)
- B. Be of at least 2-hour duration.
- C. Not vary by more than + 5 psi for the duration of the test.
- D. Not exceed the rated pressure of the valves when the pressure boundary of the test section includes closed, resilient-seated gate valves.

Each valved section of pipe shall be slowly filled with water. The specified test pressure shall be applied, by means of a pump connected to the pipe in a satisfactory manner. Valves

shall not be operated in either the opening or closing direction at differential pressures above the rated pressure. The system shall be allowed to stabilize at the test pressure before the leakage test is conducted.

Before applying the specified test pressure, air shall be expelled completely from the section of pipe under test. If permanent air vents are not located at all high points, corporation stops shall be installed at such points so that the air can be expelled as the line is filled with water. After all the air has been expelled, the corporation stops shall be closed and the test pressure applied. At the conclusion of the pressure test, the corporation stops shall be left in place and record of their location provided.

Damaged or defective pipe, fittings, valves, or hydrants that are discovered following the pressure test shall be repaired or replaced and the test shall be repeated until satisfactory results are obtained.

A leakage test shall be conducted concurrently with the pressure test. Leakage shall be defined as the quantity of water that must be supplied into a pipe to maintain pressure within five (5) psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. Leakage shall not be measured by a drop in pressure in a test section over a period of time.

No pipe installation will be accepted if the leakage is greater than the allowable leakage at various pressures as shown in the table below.

Table 1202.7. Allowable Leakage per 1000 ft (GPH)

Avg. Test Pressure (PSI)	Nominal Pipe Diameter (inches)									
	3	4	6	8	10	12	14	16	18	24
180	0.31	0.41	0.61	0.81	1.01	1.21	1.41	1.61	1.82	2.42
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	2.38
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	2.21
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	2.01
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.80

Note: If the pipeline under test contains sections of various diameters, the allowable leakage will be the sum of the computed leakage for each size.

Acceptance shall be determined on the basis of allowable leakage. If any test of installed pipe discloses leakage greater than that specified, repairs shall be made as necessary until the leakage is within the specified allowance.

All visible leaks are to be repaired regardless of the amount of leakage. Tests must be observed by the Planning Director or designee and certification of such observance must appear on the test record.

1202.8 Disinfection and Bacteriological Testing. Disinfection shall be in valved sections and may be done concurrently with pressure testing. Flushing and disinfection shall be in accordance with AWWA Specification C651. After completion of the disinfection, arrangements shall be made to collect a least one sample from every dead-end line and every major looped line for bacteriological examination. The sample shall be collected by a representative of the Mississippi State Department of Health, the registered professional

Engineer in charge of the project, or a certified water operator authorized by the City. Water being collected for testing shall not have a chlorine residual higher than is normally maintained in other part of the distribution system.

1202.8.1 Test Results Required. No coliform bacteria and no confluent growth indication shall constitute a satisfactory sample when analyzed by the Mississippi Department of Health or a laboratory certified by the State of Mississippi. A copy of the test results shall be furnished to the City.

SECTION 1203

VALVES AND BOXES

1203.1 Materials. Gate valves shall be resilient seated gate valves conforming to AWWA Standard C509, iron body, bronze mounted, non-rising stem with O-ring seals, opening counterclockwise, M&H Valve Company. All cast iron parts, inside and out except contact or bearing surfaces of resilient seated valves, shall be coated with an approved surface tolerant hi-solids catalyzed epoxy coating. Buried valves shall have an AWWA wrench nut; mechanical joint ends, but may have flanged ends (ANSI B16.1) - (125 lb.) where necessary.

Valve boxes for underground installation of valves shall be fine grain gray iron castings, 5-1/4 inch shaft, screw type, adjustable height, round base, Vulcan V8460, Fastech or equal per ASTM Specification A48 Class 30B. Shaft extension pieces shall be installed where necessary. Valve boxes shall have the word "WATER" cast into the top of the cover. Valve boxes shall not be painted.

1203.2 Installation. Valves and boxes shall be installed truly vertical. Joints and leakage shall be as specified under the Water Pipe Lines standard. The valve box shall not transmit shock or stress to the valve and shall be centered and plumb over the wrench nut of the valve. In unpaved areas, an 18"x18"x6" reinforced, formed concrete pad shall be provided at the finished grade around the top of the box. The top of the valve box should be flush with grade.

Tracer wire shall be terminated in a test station only and not in the valve box.

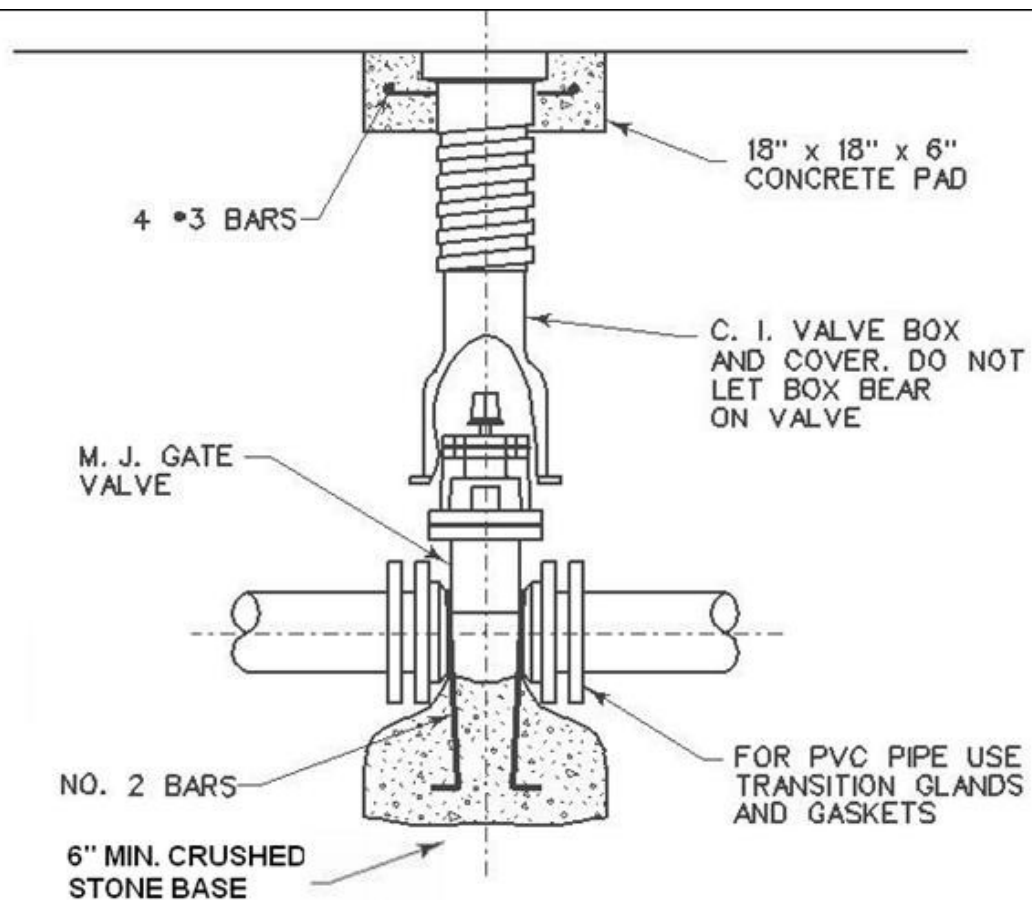


ILLUSTRATION 1203.2 - TYPICAL VALVE INSTALLATION

SECTION 1204 FIRE HYDRANTS

1204.1 Materials. Fire hydrants shall conform to AWWA Standard C-502. Hydrants shall be Mueller "Super Centurian - 250" or M & H "Style 129" or equal for a minimum of 200 psi working pressure. Hydrants shall be of the 5-1/4" valve size for connections to mains with 6" mechanical joint connections, with 42" minimum cover and shall be fitted with 2-1/2" hose connections and one 4-1/2" steamer connection with National Standard threads. Stems shall be provided with "O"-ring seals. The above ground part of the hydrant shall be given a prime coat then two coats of an approved, weather-proof paint. Hydrants shall be of the traffic model type. The riser shall be designed so that if breakage occurs, the breakage flange, ring, or bolts and the stem will break before damage is done to the riser and the hydrant can be restored to service by replacing the breakage parts.

1204.2 Installation. Hydrants shall be set perpendicular and the base braced against the water pressure at the shoe with concrete blocking, or similar method approved by the Planning Director or designee. Three cubic feet of washed gravel shall be placed around the drain port to provide the water absorption to prevent freezing. Concrete blocking shall not interfere with hydrant drainage.

Hydrants shall be spaced at not more than 500 feet (500') in residential developments and at not more than 300 feet (300') in commercial and industrial developments. Such measurements shall be made solely along the routes of existing or proposed streets. Hydrants shall not be located more than twelve feet (12') from a street or road. Hydrants shall be installed with the hose connections in the proper direction for attachment to the fire hose. A clear space shall be provided around all fire hydrants defined by a circle with a minimum radius of three feet (3').

Hydrants shall be marked with a sign or reflector affixed to the roadway surface, as approved by the Fire Chief. In addition, at the discretion of the Fire Chief, hydrants shall be color coded or otherwise marked in an approved manner indicating the available flow capacity.

Hydrants subject to vehicular damage, and not located within a public right-of-way, shall be protected from damage with barriers, bollards, or similar methods, as approved by the Fire Chief.

The collision ring of hydrants shall be set flush with (not below) the finished grade surface or not more than six inches (6") above the finished surface. Barrel extension sections shall be installed where necessary.

A valve shall be provided to isolate each hydrant from the main line. The valve shall be furnished and installed in accordance with Section 603.

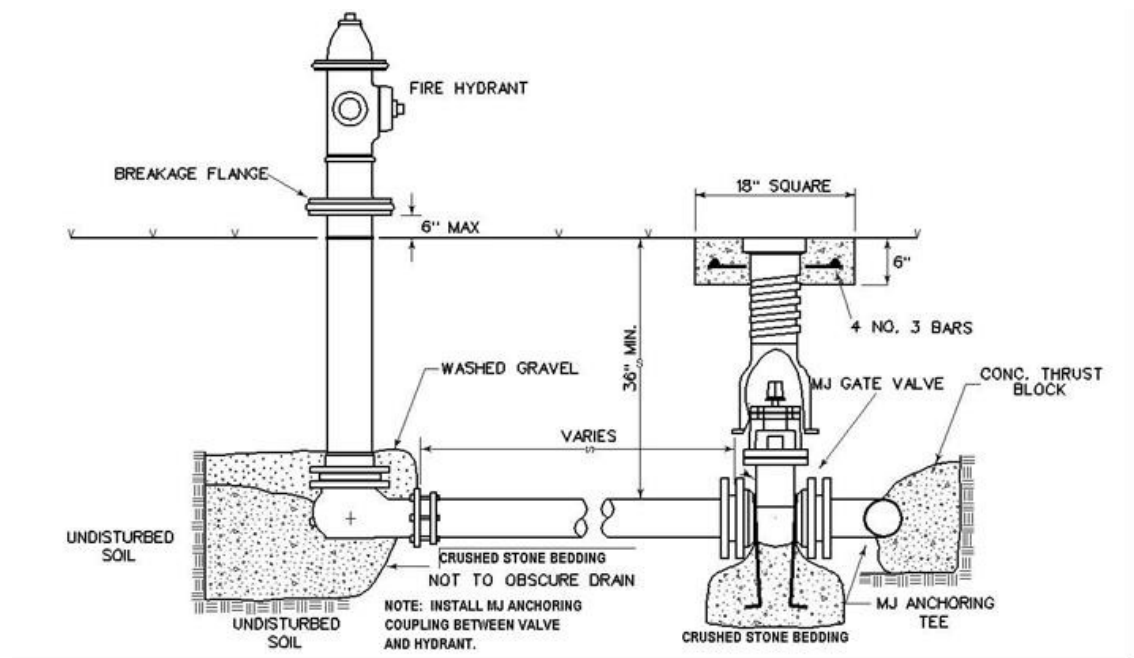


ILLUSTRATION 1204.2. - FIRE HYDRANT INSTALLATION

**SECTION
1205**

WATER SERVICE CONNECTIONS

1205.1 General. This standard covers the installation of a corporation stop in the water main, the water service line extending from the water main outward towards the road right-of-way line, and the meter valve at the line terminus.

1205.2 Connection to Main Waterlines. Connection to water mains shall be made with the service line horizontal and watertight using an approved sealer on all screwed joints. Corporation stops shall be set in an up-45 degree position. Two-inch service lines shall be connected using a PVC Schedule 80 female adapter (IPT/Socket).

For three quarter inch ($\frac{3}{4}$ ") and one inch (1") services, a properly sized, hinged, single strap, bronze service clamp equal to Ford (#) series shall be installed with a bronze corporation stop with compression connection equal to Ford (#) or packing nut. For two inch (2") services the corporation stop equal to Mueller H-9969 shall be installed in a service tee.

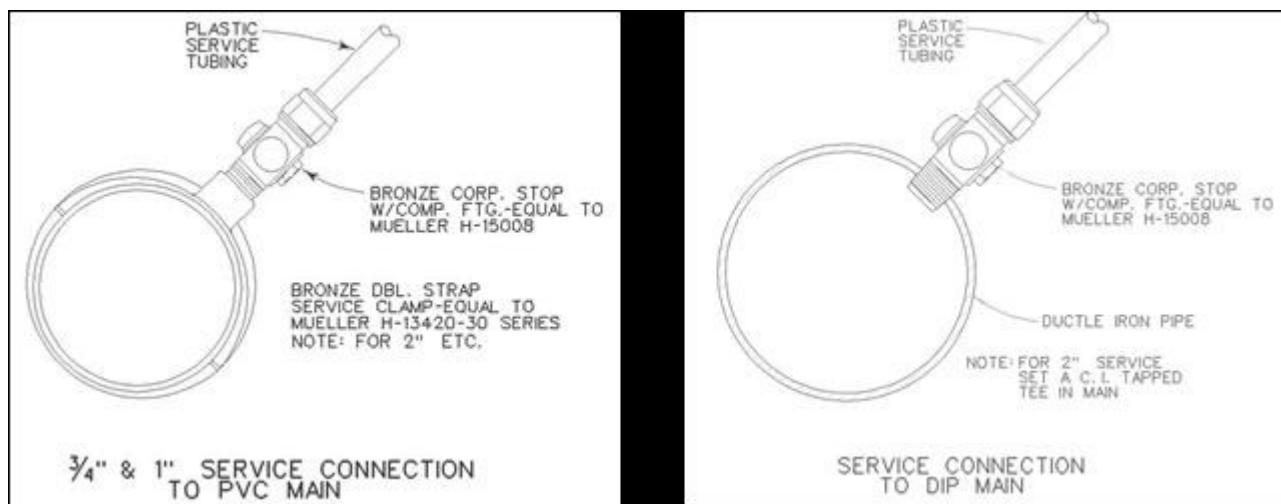


ILLUSTRATION 1205.2 - SERVICE CONNECTION DETAILS

1205.3 Water Service Lines. Water service lines shall be polyvinyl chloride Class 200 pipe or greater. All tubing and pipe shall have the manufacturer's name and NSF logo identification number. Generally, service lines shall be installed with a minimum bury of twenty-four inches (24") and shall be laid to conform roughly to the topography of the ground. Under ditches, the minimum bury shall be twenty-four inches (24") (measured from the bottom of the ditch). Trenching, backfilling, and pipe laying shall be performed in conformity with the Water Pipe Lines standard. Water meters shall be installed with either a three-quarter inch ($\frac{3}{4}$ ") or one inch (1") riser.

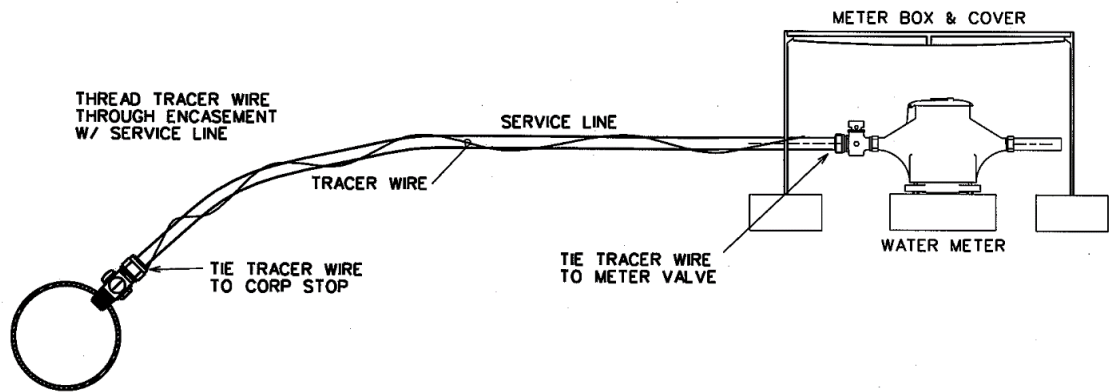


ILLUSTRATION 1205.3 - WATER SERVICE LINE DETAILS

1205.4 Encasements. Encasement for service lines at roadway crossings shall be two inches (2") Schedule 40 PVC with solvent weld couplings. Trenching and backfilling shall be performed in conformity with the Water Pipe Lines standard.

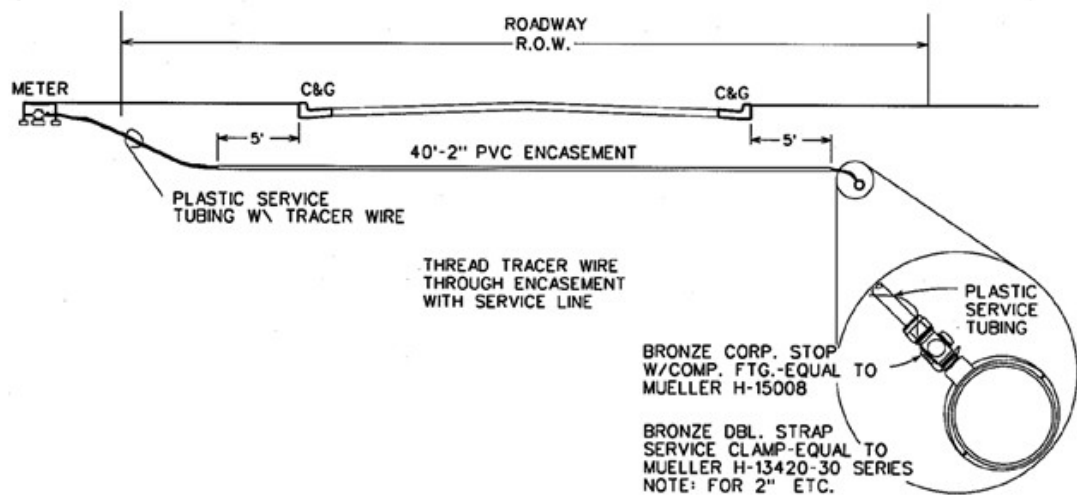


ILLUSTRATION 1205.4 - SERVICE LINE ENCASEMENT DETAILS

1205.5 Water Service Line Terminals. Each three quarter inch ($\frac{3}{4}$ ") and one inch (1") service shall terminate with a bronze meter valve with packing nut or compression connection/meter coupling equal to Mueller H-14348 and brass meter coupling equal to Mueller H-10890, set in a meter box near the right-of-way line. All joints shall be watertight.

For two inch (2") services a two inch (2") bronze meter valve with inside IPT/Meter-Flange equal to Mueller H-14337 shall be installed.

A teaspoon or one (1) tablet of HTH powder shall be placed in each service connection before setting.

Meter boxes shall be cast iron or plastic of an approved type. Set a t-post guard at each meter box.

Water meters shall be installed with either a three-quarter inch ($\frac{3}{4}$ ") or one inch (1") riser.

1205.6 Tracer Wire. Twelve gauge minimum insulated solid copper wire shall be installed with all plastic mains and service lines to facilitate location with a pipe locator. The tracer wire shall be laid in the trench with the pipe and threaded through encasements. Tracer wire shall be tied to the corporation stop, threaded through encasements where applicable and extended into the meter box. Tracer wire shall also be required on water connection service lines to the connection point at the structure.

1205.7 Flushing. After completion of the service assembly installation, each service shall be thoroughly flushed with chlorinated water. During sterilization of the mains, the meter stop shall be opened to allow chlorinated water to pass through each service.

SECTION 1206

CONNECTIONS TO EXISTING WATER MAINS

1206.1 General. Connections to existing water mains shall be made in cooperation with the Water and Sewer Department Director. Schedule taps so as to interfere as little as possible with the operation of the system.

Connections to existing water mains shall be made as follows:

- A.** Connections to existing water mains shall be made by machine taps except as directed otherwise.
- B.** A City permit will be required for each main line tap. The tap shall be made in the presence of the Director of the Sewer and Water Department or designee after MSDH approval is provided.
- C.** A connection fee will be required for each service tap.
- D.** The Director of the Sewer and Water Department or designee must be present for each tap. No work will be permitted without an inspector present.
- E.** All work shall conform to applicable requirements of these Regulations and any other applicable City Ordinance.
- F.** Surfaces shall be restored in accordance with City Standards.
- G.** Damages shall be repaired at no cost to the City.
- H.** The developer's contractor shall be liable for the cost of the removal of contaminants introduced into the system as a result of the work.

1206.1.1 Tapping Mains under pressure. Where the water cannot be cut off on a line to be tapped, make the tap under pressure using a tapping sleeve and a tapping valve in accordance with the tapping machine manufacturer's instructions. It shall be the Contractor's responsibility to furnish the tapping machine required for a machine tap under pressure. Tapping sleeves for machine taps to PVC mains shall be stainless steel body Mueller H-304, JCM432, or approved equivalent.

1206.1.2 Machine Tap Valves. Valves for machine taps shall be resilient wedge tapping valves conforming to ANSI/AWWA C509 with stainless steel nuts and bolts on the stuffing box and valve bonnet. Mueller T-2360 MJFL, or approved equivalent.

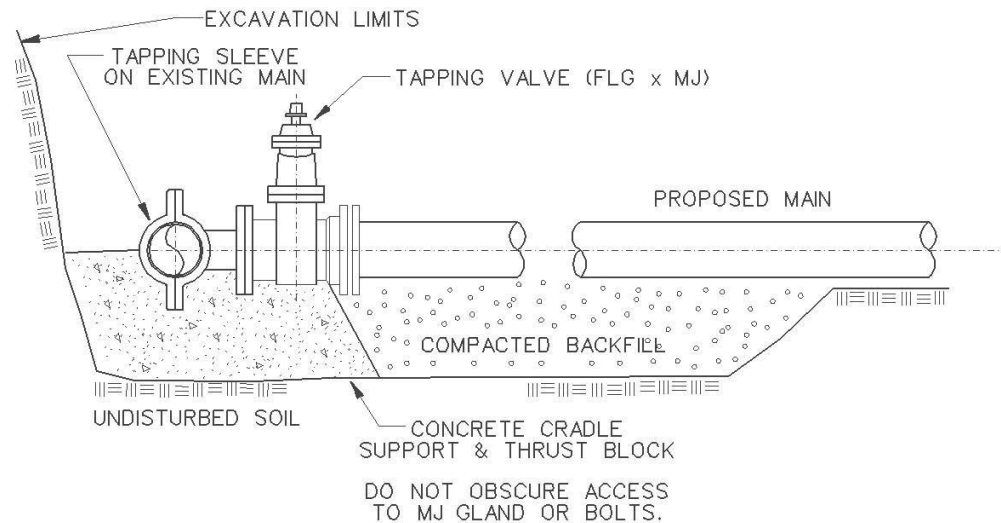


ILLUSTRATION 1206.1 - MACHINE TAP DETAIL

**SECTION
1207**

WATER SYSTEM CONSTRUCTION RECORDS

The following records must be provided prior to approval of the Final Plat or release of the Construction Bond:

- A.** A copy of the Mississippi State Health Department's final approval letter.
- B.** A certification letter from the developer's engineer that the improvements were constructed in substantial conformance with the approved construction plans and specifications, accompanied by inspection documentation records and construction inspection photographs of all mechanical joints, assemblies and pipe deflection joints as constructed in the field. The developer's engineer, or his designee, is responsible for maintaining inspection records to ensure that all improvements were constructed according to approved plans.
- C.** RECORD DRAWINGS shall accurately represent the completed construction including locations of service stub outs, valves, fire hydrants, flushing hydrants, and other

appurtenances. Provide four (4) printed sets and two (2) sets on CD or other media in PDF or other acceptable machine-readable file format.

D. Copies of the manufacturer's literature necessary for reference in operating and maintaining the facilities including but not limited to manufacturer's product descriptive literature for materials incorporated into the work, operation and maintenance manuals for equipment, copies of basic warranty information, etc.

E. Contact information for the source of supply.

F. Copies of Mississippi State Department of Health bacteriological test results; and

G. Other information as may be requested by the Planning Director or designee.