



Department of Public Works
111 Maryland Avenue, Rockville, MD 20850-2364

GENERAL WATER AND SEWER NOTES

1. The Contractor must contact the following entities prior to beginning work: **City Department of Public Works at 240-314-8500, City Traffic and Transportation Division at 240-314-8500 (traffic signal locates and street light locates), City Utilities Section at 240-314-8567, and Miss Utility at 1-800-257-7777, 48 hours before excavating.**
2. All water and sewer construction shall be in accordance with the latest General Specifications and Standard Details of the WSSC, latest General specifications and Standard Details of the Maryland State Highway Administration and/or the City of Rockville, unless otherwise noted.
3. Information concerning existing underground utilities was obtained from available records. The contractor must determine the exact location and elevation of existing utilities by digging test pits by hand at all utility crossings, well in advance of trenching.
4. Maintain a minimum one-foot vertical clearance between all water and sewer crossings and other utilities. If clearance is less than shown on this plan, contact the City Department of Public Works Project Engineer before proceeding with construction.
5. All fill, common borrow, and/or trench backfill shall be compacted according to the latest version of MSHA Section 204. At a minimum, compaction tests shall be completed a frequency of once per 150 linear feet of trench or lane width per lift, except that there shall be at least one compaction test per lift and at least two per day. Contractor shall supply the City Inspector with certified compaction test results from an independent firm that provides geotechnical services. The test report shall be signed, sealed and dated by a Professional Engineer licensed by the State of Maryland.
6. Unless otherwise specified, all fill, common borrow, and/or trench backfill material shall be a minimum of 100 lbs/ft³ for the maximum dry density according AASHTO T-180 and shall not be MH, CH, OH or PT as determined from ASTM D-2487.
7. At the end of each day, all trenches shall be backfilled, all equipment secured and the area left in a safe condition. Steel plates are allowed to remain no longer than seven (7) days. Plates are to be notched (recessed) and pinned to the roadway. Plates must be large enough to allow a minimum of 1-foot bearing on all four (4) sides of the pavement surrounding the excavation.
7. The public road utility patch shall be in accordance with City Standard Detail #60, #60A or as shown on the plans. All trenches in public streets are to be filled with compacted Graded Aggregate Base (GAB) to subgrade. If 18-inch cut back on either side of the utility trench is within 3-feet of the concrete gutter pan, then the full depth pavement section must be removed and replaced to the gutter pan. Mill and overlay requirements at street cuts shall be determined by the Chief of the Contract Management Division.

8. The contractor must maintain all sediment control devices and ensure that all points of construction ingress and egress are protected as directed by the City Inspector to prevent tracking of mud and dust onto public rights-of-way (sidewalks, roads, etc.) or affecting adjacent areas.
9. Traffic must be maintained on all roadways within the construction area as directed by the Chief of the Contract Management Division. No lane closure shall be permitted between 7:00-9:00 A.M. or 3:30-6:00 P.M. Monday through Friday, weekends or holidays. Deployment and design of all traffic control devices shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). If required, traffic control plans shall be reviewed and approved by the Chief of the Traffic and Transportation Division.

The City observes the following holidays: New Year's Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Thanksgiving Friday and Christmas Day, all days of general and congressional elections throughout the State, and a five-day work week.

The Contractor will not be permitted close lanes or do any work which requires the services of the City's inspection, supervisory or line and grade forces on the days on which the above mentioned holidays are observed by the City or on Saturdays or Sundays, unless otherwise authorized by the City in writing. However, the Contractor, with verbal permission of the City, may be permitted to perform clean up and such other items for which no specific payment is involved on Saturdays and holidays.

10. Sheeting and shoring shall be the total responsibility of the Contractor. Drawings shall be certified by a Maryland professional engineer and submitted to the City Inspector for informational purposes only.
11. The Contractor shall not operate any valves located on the existing public system. Requests to operate valves must be submitted to Chief of the Contract Management Division 48 hours in advance.
12. The applicant is required to obtain permits from all Federal, State and/or local permit authority having jurisdiction over any phase of construction associated with the installation of this system.
13. Abandonment of water house connections and sewer house connections shall be made at the main line as directed by the City Inspector. To abandon water house connections (2-inch or less), the tap hole is to be plugged with a brass plug and the valve and corporation must be removed at the main. All other house connections must be abandoned by cutting out the section of the water main and sleeving in a new pipe. To abandon sewer house connections, tees or saddles must be removed at the main and new pipe will be sleeved in.
14. All public water and sewer mains to be placed out of service (existing and proposed) must be completely removed and disposed. Abandonment of utilities in place may be allowed as an exception, only if adequate justification is provided to the Public Works Operations Maintenance Superintendent. If permitted, utilities abandoned in place must be completely filled with lean mix concrete or flowable fill, disconnected at the main and capped on both ends.
15. Upon completion of construction, the applicant shall provide 3 sets of red lined "as-built" prints for review and approval by the Chief of the Contract Management Division. Upon receipt of written approval and prior to release of the permit, the applicant shall provide to the City the original "as-built" mylar drawings (24" x 36") with approval stamp and As-Built Certification,

certified by a Professional Engineer.

Connection to Existing Water System: The connection shall be made at hours determined by the City in order to cause the least disturbance to existing customers. The contractor shall notify the Contract Manager in writing at least eighteen (18) calendar days prior to making the connection and submit for approval a schedule and method to complete the proposed connection. The contractor shall also notify the **City Utilities Section at 240-314-8567** at least eighteen (18) calendar days in advance of scheduled shutdown to arrange for valve operation. The City must provide a minimum of two (2) weeks notice to affected properties. The connection will then be made at the designated time in accordance with the directions of the Chief of the Contract Management Division. Test pit information on existing crossings must be provided a minimum of 48 hours prior to construction.

Water Mains: Materials for all water mains are to be Ductile Iron Pressure Class 350. All pipes are to be cement lined, minimum of 1/8 inch thick. **All pipes and fittings are to be restrained.** All pipes are to be U.S. Pipe "TYTON JOINT" or an approved equal. Water pipe shall be installed in accordance with WSSC Standard Details and Standard Specifications, Section 02510.

Valves: Valves shall conform to the latest AWWA Specifications and shall be a clockwise turn to close, mechanical joint. All valves 16-inches and larger shall be Mueller, Pratt or approved equal butterfly type. All valves 14-inches and smaller shall be resilient seat valves. Valve box and covers shall be as per WSSC Detail W/2.1. Valve cover/lid weight is 15 lbs and minimum diameter is 7.125-inch. The covers shall say 'WATER' only. Any valve cover/lid with the text 'WSSC' will be rejected.

Fire Hydrants and Fire Hydrant Connections: The contractor must test pit all fire hydrant leads and valves before removing or replacing a hydrant to confirm existence or condition of strapping.

Fire hydrants shall be set 2-feet behind the face of curb unless otherwise indicated on the drawing. Each hydrant shall be set exactly plumb, at the grade provided, and shall be jointed to the fire hydrant connection at the foot of the barrel. Care shall be taken to place the steamer outlet normal to the street line and any hydrants placed askew shall be reset as required by the City Inspector.

Fire hydrants shall be firmly set in a bed of screened gravel, which shall extend one foot below the bottom of the hydrant and be filled in and around it. The hydrant shall be firmly braced at the back, opposite the inlet pipe. The total amount of gravel used shall be at least 1/3 of a cubic yard. Fire hydrants shall not be blocked.

Fire hydrant connections of 6-inch cement lined ductile iron pipe shall be laid at the points shown on the drawings and shall be extended either to fire hydrants to which they shall be connected or to such points as shall be designated. Fire hydrant connections shall be laid in all particulars in a similar manner to the water mains themselves. All fire hydrant valves are to be tied to the main per WSSC Standard Details.

Fire hydrants shall be Mueller or approved equal Traffic Model Types, which consists of break away bolts, standpipe and couplings. All fire hydrants shall be restrained to the water main using Megalugs or approved equal. Hydrants shall be factory painted with two coats of rust-preventive paint. All hydrants barrels shall be painted Federal Safety Yellow. The bonnet and 3 nozzles shall be color coded as per the National Fire Protection Association (NFPA) standards. The colors are based upon the hydrant's available fire flow and as determined by the Public Works Engineering Division:

<u>FLOW</u>	<u>RUSTOLEUM ITEM #</u>	<u>COLOR</u>
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< 500 gpm	K7764402	Safety Red
500 – 1,000 gpm	3455402	Safety Orange
1,000-1,500 gpm	3433402	Safety Green
>1,500 gpm	K7725402	Safety Blue
All barrels	3444402	Federal Safety Yellow

Fire hydrants shall be as listed in WSSC General Conditions/Standard Specifications, Section 02510.

Fire hydrants shall have 5-1/4 inch, 3 way (2 hose nozzles and one pumper nozzle), 6-inch diameter mechanical joint inlet connection clockwise turn close, National Standard operating nut.

Polyethylene Encasement: All ductile iron pipe, fittings and appurtenances shall be single wrap polyethylene encased in accordance with AWWA C 105 method 'A' and WSSC specifications; section 02510. After the pipe has been assembled in trench, contractor shall carefully inspect polyethylene encasement for damage and repair in accordance with AWWA C 105 and manufacturer's recommendations.

Storage: The contractor shall store pipe and materials on site, so as not to damage the materials, and shall maintain such storage areas in a hazard free and safe condition at all times.

Lubricants: Lubricants shall be potable hydrogenated vegetable oil that is insoluble in cold water and does not impart taste or odor. The lubricant shall not contain detergents, soaps or organic solvent either aliphatic or aromatic and shall be certified as nontoxic to humans or animals. The lubricant shall be of a semi-paste consistency, which will readily stick to the inside of the bell of the pipe when applied by hand. It shall remain in a usable state through the temperature in which water pipe is normally installed.

Water House Connections: Water house connections shall be 1 or 2-inch copper, Type "K" as determined by the Inspection Services Division for service flow demand and fire protection requirements. The connection between main and meter shall be one continuous length. All connections must be tapped, saddles are not allowed. No taps shall be allowed in the last 5-feet of a deadend main.

- Contractors must have a WSSC tapping card.
- Compression fittings are not allowed in the City of Rockville

Corporation Stops: Shall be as per ASI/AWWA C800 with working and test pressures as per WSSC Specifications. The corporations shall be bronze (ASTM B62).

Tap, sleeve and valve (T, S & V) assemblies: All T, S & V assemblies are to be hydro-tested and witnessed by the City Inspector at the time of installation.

Cover: All water mains to be installed with minimum 3.5-feet of cover below finished grade or 3.0-feet of cover below finished subgrade.

Blocking: Block all fittings with concrete per plans and Standard WSSC Specifications and Standard Details. Mechanical joint fittings, bolts, etc. must be protected from concrete.

Water Main Tests: The contractor shall accomplish low (6 hour) and high pressure (2 hour) tests in accordance with WSSC Standards and Specifications. Prior to connection to existing water mains,

the City will conduct a 24-hour bacterial test.

- The contractor must not use existing or new water mains or appurtenances for temporary restraint or support during pressure tests.
- Back flow prevention is required when testing a new main as per WSSC specifications.

Water Meters: Water meters shall be located 1-foot behind the property line in a grass area. Water meters shall not be located in private driveways or aprons. Yoke angle valves should be compatible with Ford 500 series meter yokes.

Material Requirements for Sewer: The City shall accept the following materials for the construction of the main line sewer, except as otherwise specified on the plans:

1. Pipes 4” through 15” diameter
 - a. Polyvinyl chloride pipe (PVC) meeting ASTM D3034-78, wall thickness SDR 35, joints shall be watertight.
2. Pipes 18” and greater
 - a. Ductile Iron, Pressure Class 350, cement lined minimum 1/8 inch thick with US Pipe Tyton joint or approved equal;
 - b. Polyvinyl chloride pipe (PVC) meeting ASTM F679, thickness T-1, joints shall be watertight.

Ductile Iron Pipe may be used under special conditions such as steep slopes or stream crossings.

Pipe for sewer house connections shall be 4-inch polyvinyl chloride pipe and fittings as specified above, and shall be connected to the main line by the use of tees.

Flexible gaskets shall be used for connections to precast and existing manholes, and shall be A lock as manufactured by Atlantic Precast Concrete, Inc. or equal.

Mortar used in the installation of A Locks or the filling of any void in manholes walls, inside and out, shall be quick setting, non-shrink such as Octocrete, Speedcrete, Permacrete or equal.

Installation of Sanitary Sewer: Sewer pipe shall be installed in accordance with WSSC Standard Details and Specifications, Section 02530. Hydro-hammers may not be used within 3-feet of the top of pipe. Exercise care to ensure adequate compaction around structures and prevent damage to pipe at connections to manholes. The contractor shall assist in the compaction testing operation as requested by the City Inspector.

Horizontal deflection of pipe shall be accomplished in accordance with manufacturer's specifications.

Connection to Existing Sewers and Manholes: Connections must be as per WSSC Standard Details and Specifications, Section 02530.

Sewer Main Pressure Tests: The contractor shall accomplish pressure tests in accordance with WSSC Standards and Specifications. The City reserves the right to video the sewer main for quality control purposes.

Cleanouts: Cleanouts are to be installed on each sewer house connection and be located at the

property line, in a grass area. Cleanout caps shall be cast iron with a brass plug. Provide concrete cleanout blocks on all sewer house connections at bottom of cleanout per WSSC Standard Details.

When drop connections from the building are to be used at the property line cleanout, the “Y” of the cleanout shall be encased per WSSC Standard Details and Standard Specifications.