

308 WATER SERVICE CONNECTIONS

308.01 DESCRIPTION

[Refer to DC WASA Section 2650]

Where indicated in the contract, water service components to abutting properties shall be adjusted, replaced and/or maintained for water service connection piping 2-inches diameter and smaller, as needed to adapt water service connections to project requirements. Work includes water service trench excavation and fill per [207](#) and restoration of landscape features to original condition and sodding per [610.05](#).

Work shall be per this Section and the D.C. Plumbing Code and shall be performed by plumbers licensed in the District.

Related work specified elsewhere may include but is not limited to:

[207](#): Trench Excavation and Backfill.

[212](#): Test Pits.

[305](#): Pipe Water Main – Ductile-Iron.

[610.02](#): Sod and Sodding with 3-Inch Topsoil.

Quality Assurance – Reference Codes and Specifications:

American Society for Testing and Materials:

ASTM B88-96: “Seamless Copper Water Tube”.

ASTM D2146: “Specification for Propylene Plastic Molding and Extrusion Materials”.

ASTM D2853: “Standard Specification for Reinforced Olefin Injection Molding and Extrusion Materials”.

D.C. Plumbing Code.

PERMITS

Obtain Water Excavation Permits from the Department of Consumer and Regulatory Affairs for each water service connection to be adjusted or replaced. The cost of permits will be at the Contractor’s expense.

308.02 SUBMITTALS

No submittals are required for this work.

308.03 MATERIALS

Size No. 57 or 67 Gravel – [804.06](#)

Seamless Copper Water Tube – [809.05\(E\)](#)

Copper-to-Copper Couplings – Per D.C. Plumbing Code

Copper-to-Non-Copper Couplings – Per D.C. Plumbing Code – 3/4 inch through 2 inch diameter

Meter Yokes – Per D.C. Plumbing Code

Reducers – Per D.C. Plumbing Code

Angle Meter Stops – Per D.C. Plumbing Code

Meter Valves – Per D.C. Plumbing Code

Curb Stops – Bronze alloy with body and key precision fitted and lapped as a pair for a precision seal, inverted key or solid tee-head style. Mueller Inverted Key or Tee-Head curb stops are acceptable or approved equivalent.

Curb Stop Boxes – Curb stop boxes shall be of the telescoping, two piece, and screw style. The lower section shall consist of a full externally threaded shaft over a Buffalo style bell that is arched and flanged. The upper section shall consist of a full internally threaded shaft that fits over the lower section with a cast iron rim on top of the shaft accommodating a cast iron cover (lid) with “WATER” imprinted as specified.

Both the lower and upper section of the curb stop box shall be rigid acrylonitrile-butadiene-styrene (ABS) plastic, either injection molded or extruded per ASTM D1788, with test specimens molded by the injection process in accordance with Recommended Practice D1897.

The cast iron lid and rim shall be of the new standard Buffalo style design with standard pentagon head bolt and shall be interchangeable with the old style cast iron Buffalo boxes already in use.

The Series 250 Screw Type curb stop box made by Bingham & Taylor, Culpeper, Virginia is approved as an acceptable equivalent.

Meter Boxes – Meter boxes shall be of durable, high density polyethylene, molded with solid walls (containing no foam or corrugations) and shall have flanged bottom not only for added strength but also to retard settling or sinking into the ground. The nominal wall thickness of the box shall not be less than 0.3 inch and the box shall have nominal dimensions of 20 inches in diameter by 30 inches in depth. Other sizes may be used, if needed, for larger settings.

The polyethylene (PE) plastic material specified for the box shall be Type III or Type IV High Density polyethylene per ASTM D1248, with densities of 0.95 g/cc and above, as determined by the ASTM D1505 test method. The interior color of the box shall be white (natural) to aid in meter reading, but the exterior shall be black, compounded to improve strength and to protect against deterioration below ground. The low temperature brittleness shall be a maximum of (-76 degrees Fahrenheit) per ASTM D746. The vertical crushing strength, which is a measure of the magnitude of static vertical pressure a meter can withstand, shall be 3000 lbs. minimum.

A meter box such as MS 2030B, manufactured by Mid-States Plastics, Inc., Lexington, Kentucky, is acceptable or approved equal.

Meter box frames and covers to be used in conjunction with the meter boxes specified above shall be cast iron, Type A made by Meter Box Covers, or approved equal, having 1 1/2

inch clear openings with a bronze pentagon nut (standard size) swaged to an iron locking worm gear. The meter box frames and covers shall be made of gray cast iron treated with a coal tar epoxy coating and the covers shall be labeled with a "WATER METER" imprint as specified. A meter box frame and cover equivalent to MBC Model M3A, manufactured by Meter Box Covers, Inc., Waldorf, Maryland, is acceptable.

308.04 CONSTRUCTION REQUIREMENTS

- (A) **NOTIFICATIONS.** Property owners/tenants shall be notified at least 48 hours in advance of the Contractor's intent to work in their front yards in public space and the Contractor shall assure owners that disturbed property will be restored to its original condition, as shown in preconstruction photographs, upon completion of work.
- (B) **WORK ON PRIVATE PROPERTY.** In general, most water service building connection work is in public space. The Contractor shall locate all existing water service piping and may be required to conduct some work on private property. The Contractor shall obtain written approval from property owners before disturbing any private property, and shall submit a copy of the approval to the Chief Engineer. The Contractor shall make no claim for any time delay associated with obtaining permission to work on private property.

The District assumes no responsibility for any work or trespass on private property.

- (C) **MAINTAINING WATER SERVICE.** Existing water service shall, in general, be kept in service until transfer connections are made. Existing water service will then be discontinued from the old water main, service pipe disconnected from the corporation cock on the old main by the Contractor or abandoned in place as directed, service pipe adjusted or replaced as specified herein and connected to the new main by the Contractor within the time limits specified herein.

The Contractor shall contact the Manager, Distribution Division, and (202)-612-3410 two (2) weeks prior to proposed scheduling of water service work. The Contractor shall coordinate his water service work with water main tap and any required meter relocation or new meter installation by the District.

No more than three separate shutoffs will be permitted for any single water service connection, and the duration of each shutoff shall not exceed two (2) hours, except in an emergency when the Chief Engineer will grant a time extension. The Contractor shall give sufficient, advanced written notice to the Chief Engineer, starting time and duration of proposed shutoff sufficiently in advance to provide for emergency water supply.

If the proposed shutoff time conflicts with essential consumer use, it shall be rescheduled to alleviate interference. The Chief Engineer will determine the action to be taken for essential consumer use requests.

Overtime, weekend and holiday work may be ordered by the Chief Engineer to promptly complete temporary and/or permanent water service.

- (D) **WORK BY DISTRICT.** The District (D.C. Water and Sewer Authority, Department of Water Measurement and Billing) will furnish and install D.C. meters at no cost to the Contractor. For privately owned meters (2-inch and smaller diameter water service

installed and owned by private parties), the District will either make the necessary adjustments or will make arrangements for the owner to do so. District work includes connecting the meter at couplings to the existing meter yoke or new meter yoke furnished and installed by the Contractor. The Contractor shall furnish and install pipe, couplings, meter housings, frame and cover and meter housing gravel foundation.

The District will make all new water service connection taps at the water main, and will make tap removals from old main where indicated at no cost to the Contractor.

Where any unmetered water service is encountered, meters will be installed in public space by the District of Columbia Water and Sewer Authority.

Wherever an existing meter is located on private property or inside the building, the District will relocate said meter in public space.

(E) PRECONSTRUCTION PHOTOS. Two (2) preconstruction photographs shall be taken of each property where water service will be adjusted or replaced. These photographs are in addition to, and shall meet the same requirements of, [108.08](#). Views shall be taken as directed to show preconstruction existing conditions at each property within the area associated with the work.

(F) ADJUST WATER SERVICE PIPE. Work consists of adjusting water service connection pipe due to new water main work that affects water service.

If existing water service piping is copper with not less than 1-inch diameter and enough slack exists in the piping, the existing piping shall be connected to the new main without replacing any piping.

However, if the Chief Engineer determines that slack is insufficient or pipe cannot be bent by approved means to meet new corporation cock, adjustment under this subsection will not be feasible and a section of pipe shall be replaced per subsection (I) herein.

Work consists of trench excavation as needed within the street including excavation, backfill and compaction for District work to abandon old tap and install new tap, per [207](#), adjusting existing 1-inch through 2-inch diameter copper service pipe to bring pipe to the connection point at new corporation stop in main, making connection at tap, backfilling and compaction. .

The backfilled street area shall receive Temporary Asphalt Patching per [Section 409](#).

(G) REPLACE WATER SERVICE PIPE. Work consists of replacing water service connection pipe in the vicinity of and/or due to new water main work and/or new sewer work. Work shall meet requirements of Standard Drawing [308.01](#).

If the existing water service piping is copper, is not less than 1-inch diameter, and slack in the existing piping is insufficient to connect it directly to the new main, or else pipe cannot be bent by approved means to meet new corporation stop, the Contractor shall cut the pipe at a point behind the curbline as directed, install a new single section of same size copper pipe between the corporation stop (tap) and existing pipe, and connect new-to-existing water service pipe with a compression coupling.

However, if the point where existing pipe is to be cut is within five (5) feet of the meter, unless otherwise directed by the Customer Service Manager, Meter Operations, (202) 612-3495, the entire length between the new main and the meter shall be replaced with copper pipe not less than 1-inch diameter; pipe shall be continuous with no joints, couplings or fittings. Existing copper piping, if 1-inch minimum, between meter and property line shall remain. No curb stop will be required.

If the existing water service piping is not copper, or is copper pipe less than 3/4-inch diameter, the Contractor shall replace the water service piping (with a single section of copper pipe not less than 1-inch diameter with no joints, couplings or fittings) from the new main to the meter, and from the meter to:

- (1) The property line, along with a curb stop and curb stop box at the property line, if there is no building projection (areaways, steps, porches, bay windows, etc.) into public space.
- (2) The face of building projection, along with a curb stop and curb stop box close to the face of projection, when projection occupies public space.

Replacement piping shall be the same size as piping replaced except that all existing 3/4-inch or smaller non-copper piping shall be replaced with 1-inch copper piping.

In such case where the new copper pipe between main and meter will be 1-inch diameter but existing service between meter and dwelling is lead or galvanized pipe, the District will provide a new 1-inch meter, and the Contractor shall install 1-inch copper pipe between meter and property line (or building projection) along with a curb stop, curb stop box and compression coupling and reducer at the property line.

Work consists of trench excavation of dimensions as directed to allow sufficient space for meter and meter box replacement per [207](#), and preparation of new meter pit subgrade and gravel foundation, tunneling where feasible under curb/gutter, copings, walks, etc., removal and disposal of old service pipe and fittings if needed and, otherwise, abandonment (crimp ends) of existing pipe in-place, removal of top section of curb stop and box if present and abandonment of lower portion, installing new pipe and new riser pipe, providing new meter yoke with meter stop or meter valves and couplings, new meter box, and new frame and cover, connections at meter yoke, making connection at tap, curb stop and property line, backfilling and compaction, restoration of surface features including sodding per [610.02](#) and incidental work to restore water service.

A curb stop box shall be set plumb over the curb stop so that the stop is centered within box. Top section of box shall be rotated so that box cover will be flush with finished ground surface. Backfill shall be carefully placed to avoid disturbance of curb stop or curb stop box.

Work includes any excavation, backfill and compaction for District work at tap.

If the District determines that a meter requires relocation or a new meter is needed, the Contractor shall cut service pipe at a location as directed, provide new pipe, meter yoke and couplings, meter ox, frame and cover, and coordinate work with meter installation by the District. If meter and housing adjustments in-place are needed, the Contractor shall furnish and install new pipe and couplings.

Work consists of trench excavation per [207](#) and preparation of new meter pit subgrade and gravel foundation, new pipe and couplings as needed to meter yoke and to reconnect service in old meter location, providing new meter yoke with meter stop or meter valves and couplings, connecting meter yoke to service piping, backfill and compaction, restoration of surface features including sodding per [610.02](#) and incidental work to restore water service, after District installation of meter.

(H) RESTORATION. Any items disturbed during construction including walls, fences, shrubs and lawns shall be restored by the Contractor upon completion of work. Grassed areas shall be resodded as part of work per [610.05](#).

Any paved areas removed within water service trench limits shall be patched with asphalt per [409](#).

308.05 MEASURE

The unit of measure for Adjust Water Service Pipe will be each.

The unit of measure for Replace Water Service Pipe will be the linear foot.

The unit of measure for Furnish and Install Curb Stop/Curb Stop Box will be each.

The unit of measure for Furnish and Install Water Meter Box, Frame and Cover will be each.

308.06 PAYMENT

Payment for Adjust Water Service Pipe will be made at the contract unit price per each, which payment will include excavation or tunneling as needed, including excavation to abandon old tap, adjusting service piping and connecting to new corporation stop in new main, backfill, compaction excluding Temporary Asphalt Patching which will be measured and paid separately), and all labor, materials, tools, equipment and incidentals needed to complete work specified.

Payment for Replace Water Service Pipe will be made at the contract unit price per linear foot of pipe in place complete, which payment will include photographs, excavation, allowance of two linear feet for meter yoke, couplings and riser pipe when needed, backfill and compaction including backfill for meter pits and curb stop boxes (excluding Temporary Asphalt Patching, which will be measured and paid separately), replacing service piping, connections at corporation stop in new main, at water meter, at curb stop and at connection and reducer as needed to connect to existing service pipe at property line, and all labor, materials, tools, equipment and incidentals needed to complete work specified. Property restoration and sodding shall also be included if not included in [Section 308.04 H](#). Payment will be based on pipe in place, whether in open cut or in tunnel.

Payment for Furnish and Install Curb Stop/Curb Stop Box will be made at the contract unit price per each combined unit complete in place, which payment will include curb stop, curb stop box and its adjustment, securing cover, leakage test, and all labor, materials, tools, equipment and incidentals needed to complete work specified. Trench excavation and backfill will be included in Replace Water Service Pipe work.

Payment for Furnish and Install Water Meter Box, Frame and Cover will be made at the Contract unit price per each, which payment will include furnishing and placing meter pit foundation gravel, furnishing and installing water meter boxes, frames and covers, coordination with District installation of meters and all labor, tools, materials, equipment and incidentals needed to complete the work specified. Property restoration and sodding shall also be included if required and there is no Adjust or Replace Water Service Pipe pay item.