

## **105 WATER SERVICE INSTALLATION**

### **105.1 APPLICATION**

Refer to Section 103.

### **105.2 GENERAL LOCATION REQUIREMENTS**

All service lines shall conform to the following requirements:

105.2.1 The water service shall normally be installed perpendicular to the main and tapped in front of the property to be serviced.

105.2.2 A clearance of not less than 12" shall be maintained between the service line and any pipe, cable, or conduit in the same trench.

105.2.3 Service lines shall be buried a minimum of 5' deep unless circumstances prevent the installation at 5'. If a depth of 5' cannot be maintained, appropriate measures shall be taken to prevent the service line from freezing.

105.2.4 All residential, domestic and fire demands shall be supplied by a single tap.

### **105.3 SIZE OF WATER SERVICE LINES**

105.3.1 New or replacement service lines shall not be less than 1" inside diameter.

105.3.2 Commercial, industrial, and fire service lines shall be properly sized for the required demand.

### **105.4 MATERIAL FOR SERVICE PIPING**

105.4.1 All water service pipes through 2" diameter shall be type 'K' heavy, soft annealed copper, seamless ASTM B88 or PEXa Municipex 200 psi pipe meeting AWWA C-904 specifications or Yelomine Certa-Lok pipe, SDR 17, 250psi pipe. PEXa and Yelomine applications can only be used as specified in Section 4.1.1.

- 1) Can only be installed after the meter and extended to the premise (such as in a meter pit situation or when extending water line after a meter setting). Type K copper is required from the tap to the meter setting.
  - a. Shall not be used for repairs or partial replacement.
  - b. PEXa shall be blue in color for all installations.
  - c. Splicing of pipe between the meter and the premise is discouraged and will only be approved under special circumstances.
  - d. Tracer wire shall be installed. In the case of a meter pit it shall be extended from the meter setting into the interior of the premise

and secured. Tracer wire shall be #12 AWG (HS-CCS) and installed alongside the pipe and shall be **taped** to the pipe every 5 feet.

- e. An Anode Ground Rod: 1# 1.315" D x 18.5" L, magnesium drive in anode manufactured by Copperhead Industries, or approved equal, shall be attached to the tracing wire.
- f. Anode ground rod shall be spliced to tracer wire using Dryconn Direct Bury Lug, Part #3WB-01.
- g. A tracer wire inspection is required for all service line installations. Contact Urbandale Water Utility to schedule an inspection.

105.4.2 All pipe larger than 2" shall be ductile iron (DI), cement mortar lined, ANIS 21.50, Class 52 mechanical or push joint or PVC (polyvinyl chloride), AWWA C-900, Class 235 (DR 18) with cast iron outside diameter. Pipe joints shall be elastomeric gasket push-on type joints.

105.4.3 All new water lines installed within 200 feet of an underground fuel storage container shall be copper for 2" and smaller, 2" and above shall be ductile iron with nitrile gaskets.

## **105.5 SERVICE LINE APPURTENANCES**

All service lines shall include a curb stop or valve between the water main and the property line. The design of all curb stop and valve boxes shall meet the standards of the Water Utility.

105.5.1 All stop box extensions shall be secured in such a way so that it becomes one permanent pipe, such as welding, Red Loctite or set screws.

105.5.2 Service lines of 2" in diameter or less shall have a curb stop located on public property. The curb stop shall be installed within a stop box.

### **1) CURB STOP/VALVE STANDARD**

A main shut-off on the water supply line for each customer shall be provided on public property in front of the premise served, or another location approved by the Water Utility. All shut-offs for new and existing services shall consist of a ¼ turn curb stop. See Urbandale Water Utility Standard Specifications for details. The 'T' handle, on the curb stop will be parallel with the curb when the water is turned off. When installed the curb stop shall not exceed 6' below the surface of the ground.

### **2) STOP BOX STANDARD (CURB BOX)**

Stop boxes for 1" through 2" water service lines shall be sliding extension type, arch pattern base with stationary stainless steel rod, AY McDonald 5607 and lid 5607-L or approved equal. All stop box

installations shall be completed in such a manner that the lid is level with the surrounding surface and does not present a hazard to the public (see Appendix B, figures B-5, B-6 and B-7). Where the stop box lid is located in concrete/asphalt surface, sleeves shall not be permitted.

- 3) No union shall be permitted on new copper services 1" or less in diameter between the corporation stop and the curb stop when the distance is less than 100'. **No union shall be permitted on new copper services 2" in diameter between the corporation stop and the curb stop when the distance is less than 60'.**
- 4) Curb stop boxes and valve boxes shall be installed so that they will function properly and so that an access to the shut-off device is maintained. Boxes shall be set vertically so the top is flush with the surrounding surface so as not to be a hazard to the public. If conditions change that cause the curb stop to become a hazard to the public it is the customer's responsibility to correct the problem immediately. The use of curb stop sleeves will not be permitted to be installed in concrete, **brick, or asphalt.**

105.5.3 Services larger than 2" in diameter, the valve between the water main and the property line shall be immediately adjacent to the water main. The gate valve at the main shall open left (counterclockwise) and may serve as the shut off. The valve shall be installed in a roadway box (see Appendix B, figure B-8).

105.5.4 All valves and roadway boxes shall have the approval of the Water Utility.

105.5.5 There shall be no mechanical coupling located under the house foundation and/or slab.

105.5.6 Curb stop boxes and roadway boxes shall be installed so that they will function properly and so that an access to the shut-off device is maintained.

105.5.7 All service lines shall have a shut-off device or valve inside the building where the service enters the building. There shall be no appurtenances between this valve and the main, other than the curb box or valve as previously described, or when an outside meter is approved (see Appendix B, figures B-12a & 12b and B-15a & 15b).

## **105.6 COMMERCIAL COMBINATION SERVICE PIPES**

A commercial property requiring a domestic service line and a fire protection service line may be served from a single tap. When a single tap is used, the fire protection service line or combination service line shall extend straight from the public main to the property line. The domestic service line shall 'tee' off the fire line or combination service line and have its own shut-off valve located a minimum of 5' outside the building. **The fire service line shall have its own shut-off valve located a minimum of 5' outside the building. All service line shutoff valves shall be in areas where**

vehicles can't be parked or obstructions placed. A domestic service tee may not be placed on an existing fire line or combination service main without written permission of the Water Utility.

#### **105.7 MAINTENANCE OF WATER SERVICES**

If an existing water service is to be repaired, the materials used for the repair shall be of the type and size specified for new services. If it is determined that half or more of either section of the service, between the main and the curb stop or the curb stop and the building, shall be replaced, then that entire section shall be replaced with materials as approved for new services. Dissimilar metals may not be used in the repair of a service line unless insulators are used. Any premise being demolished must meet the current Urbandale Water Rules and Regulations water service specifications before rebuilding.