

city of edmonds
development information



WATER SERVICE LINE SPECIFICATIONS

I. DEFINITION: The Water service line is defined as that pipe installed from the water meter to the building.

II. MATERIALS Per Section 604.0, Chapter 6 of the IAPMO/ANSI UPC 1-2003 Uniform Plumbing Code and WAC amendment #, the following types of water service line materials are recognized and shall meet the ASTM requirements as outlined in Table 14-1 of the above Code:

1. Copper piping no less than type "L".
2. Polyethylene piping with iron pipe O.D. size and ASTM-D2239-SIDR#7-PE3406 markings.
3. Plastic, PVC, CPVC, PEX
4. Galvanized malleable iron., galvanized wrought iron, galvanized steel
5. Asbestos cement, PE, PVC, PEX-AL-PEX or PEX-AL-PE water pipe manufactured to recognized standards for water supply outside the building supply distribution can also be used.
6. All materials used in the water supply system, except valves and similar devices, shall be of like material, except where otherwise approved by the City.
7. Per City policy, minimum pipe size from meter to house is 1".

III. MARKINGS Piping shall be marked on the material at intervals of not more than 5' for: poly, pvc, and pex, cpvc, plastic pipe, etc. with manufacturer's name, size and pressure rating. The pressure rating shall be a minimum of 160 P.S.I.

IV INSTALLATION

1. The water service pipe line shall be bedded on a firm, undisturbed base that is smoothly graded and free of large materials. If materials for backfill are larger than ½” diameter rock, a proper sandy soil shall be on site to backfill to 2 inches above the water pipe at time of inspection. If soil is disturbed, it shall be compacted to provide a stable base.
2. The pipe depth shall be a minimum of 18 inches from finished grade to top of service pipe and an 18 inch depth at the meter box.
3. When polyethylene pipe or other non traceable pipe is used, it must be buried with 12-gauge solid core tracer wire with vinyl coating. The run must be continuous, grounded at the meter and house and taped every 10 feet to the water pipe.
4. Polyethylene Pipe connections at the meter must be made with brass compression fittings. In addition, brass fittings shall be used to connect sections of pipe together. All connections shall be double-clamped with stainless steel clamps and shall be secured in opposite directions
5. **Proper pipe connection fittings to the water meter, for all other material shall be approved by the City prior to connection**
5. Piping shall be flushed out and under pressure with no leaks at the time of inspection.
6. The water service line shall not be buried with the sanitary sewer or drainage pipe.
 - a) Minimum horizontal separation between sewer and water shall be 10 feet.
 - b) Minimum vertical separation between sewer and water shall be 18 inches.

When the minimum 10 foot separation is not possible, due to lack of space, the waterline shall be placed on a solid shelf excavated at one side of the common trench line 18” above the top of the sewerline and at least 18” from edge of waterline to edge of sewer line (see figure 1 below). If the waterline must cross the sewer, it must be at least 18” above the top of the sewer pipe at all points.

V. INSPECTIONS

Water service line and all connections shall be inspected prior the backfill and the preceding criteria must be met, or inspection will not be performed. Call the Engineering Inspection line at 425-771-0220, Ext. 1326, 24 hours in advance to schedule the required inspection. You may state your preference for morning or afternoon. Approved permit and/or job card must be on site at time of inspection.

WATER SERVICE WITH LESS THAN 10 FOOT SEPARATION

Horizontal Separation Notes

(For Parallel Construction)

The parallel separation detail on figure 1 refers to side sewers only. Side sewers (gravity or pressure) shall be installed lower than the water service with a minimum vertical clearance of 18" from the bottom of the water service line to the top of the side sewer line.

Vertical Separation Notes

(For Perpendicular Construction)

Side sewer lines that must cross water service lines shall be laid below the water lines to provide a separation of at least 18" between the invert of the water pipe and the crown of the sewer, whenever possible. When local conditions prevent this vertical separation, the following construction shall be used:

A. Side sewers, passing over or under water lines, shall be:

1. Constructed of water main standard pipe material as shown in the Table. One segment of the maximum standard length of pipe, (but no less than 18' long) shall be used with the pipes centered to maximize joint separation.

OR

2. Standard gravity sewer material encased in 1 sack mix control density fill (CDF) or in a 1/4" thick continuous steel casing with all voids pressure-grouted with sand-cement grout. The length of sewer pipe shall be centered at the point of crossing so the joints will be equidistant and as far as possible from the water line. The sewer pipe shall be the longest standard length available from the manufacturer.

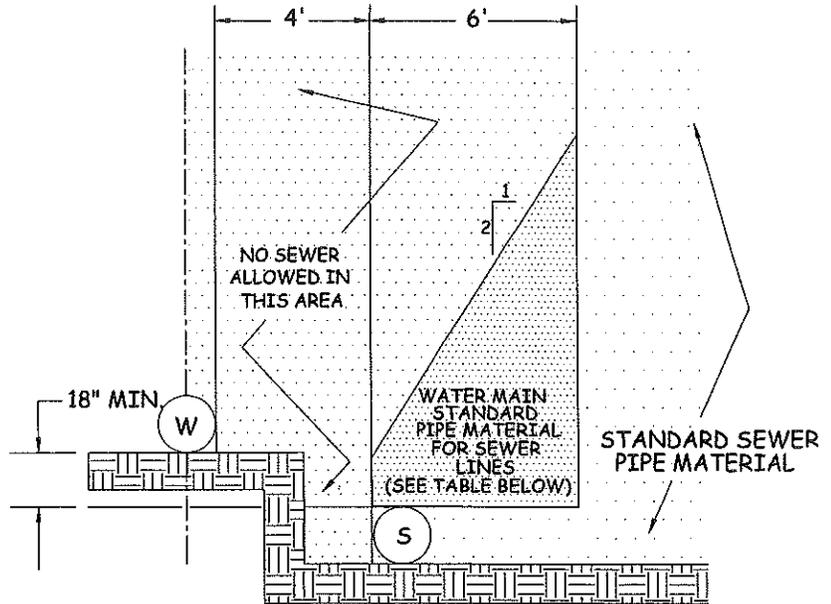


FIGURE 1

WATER SERVICE PARALLEL TO GRAVITY SEWER WITH LESS THAN 10 FOOT SEPARATION

WATER MAIN STANDARD PIPE MATERIAL FOR SEWER LINES			
TYPE OF PIPE	AWWA (ASTM) STANDARD		
	PIPE	JOINT	FITTINGS
Ductile Iron	C 151 & C 104	C 111	C 110
Polyvinyl-Chloride	C 900	(D3139 & F 477)	C 110
Concrete Cylinder	C 303		

B. Water lines passing under gravity sewer, in addition, shall be protected by providing:

1. A vertical separation of at least 18 inches between the invert of the sewer and the crown of the water line.
2. Adequate structural support for the sewers to prevent excessive deflection of joints and settling on and breaking of the water line.

C. Pressure sewers shall only be constructed under water lines with ductile iron pipe or standard sewer pipe in a steel casing for a distance of at least ten feet on each side of the crossing.