



SECTION

“F”

SERVICE

CONNECTIONS



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F1. GENERAL

The sizes and locations of all services will be subject to the approval of the County. The scope of the work described herein pertains only to that portion from the connection at the main to the property line.

If this specification does not cover an area of concern regarding sewer and water services, the onus will be upon the Developer to make recommendations and present alternative corrective measures based on sound economic, engineering, environmental, operational and maintenance criteria for approval by the County. All specifications and standards noted herein will refer to the latest revision thereof.

F2. SPECIFICATIONS FOR SEWER & WATER SERVICE CONNECTIONS

F2.1 Minimum Requirements:

1. Size of Service - The minimum diameter of service connections to a single family dwelling will be as follows:
 - i) Sanitary Service 100 mm
 - ii) Water Service 25 mm

Services of sizes larger than these will be required where deemed necessary by the County as the length of service pipe (> 20 meters) or other conditions warrant. Where more than one service is required, the sizes and locations must be approved by the County. A 20 mm water service line is acceptable where Type "K" copper tubing is used.

No water service exceeding 50 mm in diameter will be permitted unless approved otherwise.

2. Grade - The minimum grade on a sanitary sewer service will be 2.0%, unless approved otherwise.
3. Tie-in to Main - The sewer connection will be by means of an in-line "wye" or "tee" for new installations, or by means of a saddle at the top gradient of the main for tie-ins to existing lines. Water services 50 mm and smaller will be tapped at the top gradient of the water main, under pressure. The maximum size of tapping without the utilization of service clamps will be:
 - i) 25 mm tap on 150 mm and 200 mm main
4. Bends - The long radius type or a combination of 22-1/2 degree bends and straight pipe will be used when bends are required.

F2.2 Sewer Service:

Unless specified otherwise in the Development Agreement the minimum design standards and guidelines will be in accordance with the City of Lethbridge Design Standards and Alberta Environment Standards and Guidelines:



F2.3 Water Service:

Unless specified otherwise in the Development Agreement the minimum design standards and guidelines will be in accordance with the City of Lethbridge Design Standards and Alberta Environment Standards and Guidelines:

F3. CONSTRUCTION

See Construction Requirements as provided in Section C – Storm Sewerage System.

F3.1 Installation Requirements:

1. Location - Where the water service is 50 mm or smaller in size (continuous length), it will be laid in the same trench as the sanitary service to the right of the sanitary service when facing the property. Water services 100 mm or larger in size, will be laid in a separate trench and at a minimum separation of 3.0 m from any sewer service (typical) and 1.800 m from any other utility.
2. Depth - The minimum depth of cover at the property line will be 2.60 m. Where services are required to connect to mains in excess of 4.25 m in depth, risers will be installed and firmly supported and anchored to the trench wall.
3. Bedding - Class "B" - Method of bedding in which the pipe is set in compacted sand, as specified, on a trench bottom shaped to fit the pipe. The pipe is entirely encased with sand to a minimum of 300 mm above its top in layers not exceeding 150 mm in thickness.
4. Backfill - Sand bedding is to be placed over the full width of the trench and tamped in maximum compacted lifts of 150 mm to a level 300 mm above the crown of the highest service point in the trench. The balance of the backfill will be machine placed native or imported material in maximum compacted lifts of 300 mm. The backfilling around curb stops will be done by hand tamping to the finished grade.
5. Marker Post - A red painted stake 50 X 100 X 1200 mm in size with 600 mm protruding above ground will be placed directly behind the curb stop and/or sanitary stub.
6. Tapping - The utmost care will be exercised in tapping the mains for the connection of services. Watermains will be drilled and tapped under pressure by means of a tapping machine and the corporation main stop threaded in by a tapping machine. The minimum allowable distance between adjacent main stops will be 600 mm and the minimum allowable distance between a main stop and an adjacent coupling or collar will be 300 mm.
7. Bends - On sanitary services long radius type bends or a combination of 22-1/2° bends and straight pipe will be used. This is to facilitate rodding in case of blockage. For a water copper service, there will be a minimum of one gooseneck bend near the main stop and an additional gooseneck at each sewer crossing. The circular cross-section of the pipe is to be maintained.
8. Curb stops - All residential service valves to pre-serviced residential lots will be installed 300 mm back from the property line (or easement line), complete with



curb stop, box, rod. Curb stops are to be placed according to the indicated direction of flow. Curb stop and valve casings will be placed plumb over the curb stop and a check will be made after backfilling that the curb stop is operational. Caps for the casings will be placed so as to be flush with the finished grade.

F3.2 Record Drawings:

Legible grade sheets for service connections will be provided to the County prior to the commencement of work. Accurate as-built records of survey information of the elevations and locations of the service pipe, fittings, curb and main stops with respect to property lines and street locations will be provided upon completion of the work.

A table providing information on each service will be placed on the plan profile drawing of the respective service as required in Section B - Engineering Plans and Drawings B2.9.