SECTION S924 - WATER METER PIT (2-INCH AND SMALLER)

S924-1 DESCRIPTION

Work consists of the installation of a new water meter pit or replacement of an existing water meter pit, as required in the Contract Documents and as directed by the Project Manager.

Work is to be in conformance with the requirements of Section S900 General Water Provisions.

S924-2 MATERIALS

S924-2.01 General

Water meter pits are to be installed in lawn areas that are not subject to vehicular traffic.

S924-2.02 Meter Pit Setter

Meter pit setter shall be pre-fabricated and shall be designed for cold weather climates. Pit setter shall include PVC tile, Type K copper tube risers, inlet and outlet angle ball valves with padlock wings and meter swivel nuts and an interior support bracket. The risers and valves shall be located at least 2-inches from the tile wall. The risers shall be constructed such that the meter will be centered within the tile. For meter pits 1-inch and smaller, the centerline of the water meter will be approximately 14-inches below the top lid of the cover. For 1-1/2-inch and 2-inch meter pits, the centerline of the water meter will be approximately 20-inches below the top lid of the cover.

Optional bypass may be installed in 1-1/2-inch and 2-inch meter pits only if a continuous supply of water is required.

PVC tile shall not be used for meter pits located in sidewalks and paved areas. Specially designed tiles that will accommodate AASHTO HS20 loading will be required in these areas. Plans and specifications shall be submitted to the Water Bureau for review and approval.

Minimum inside diameter of the tile shall be 18-inches for 5/8-inch and 5/8-inch x 3/4-inch water meters, 20-inches for 3/4-inch and 1-inch water meters and 36-inches for 1-1/2-inch and 2-inch meters.

S924-2.03 Meter Pit Setter for Yard Hydrant Water Service

Meter pit setters that are installed on water services used exclusively to supply yard hydrants shall have an angle cartridge dual check valve installed on the outlet side of the meter instead of an angle ball valve.

S924-2.04 Cover

Cover shall be cast iron frame and top lid with inner frost lid. Top lid shall have locking mechanism that utilizes pentagon bolt and cast iron “worm” type lock and a plugged hole for electronic meter read module. The words “WATER METER” shall be cast into the top lid. For meters 1-inch and smaller, top lid shall be 11-1/2-inch minimum diameter and inner lid shall be plastic. For 1-1/2-inch and 2-inch meters, top lid shall be 20-inch minimum diameter and inner lid shall be steel.

Specially designed covers that will accommodate AASHTO HS20 loading will be required in sidewalks and paved areas and shall be approved by the Project Manager.

S924-2.05 New Water Meter

Water meter for a new installation must be purchased from the Water Bureau

S924-2.06 Ground Wire

Ground wire shall be #4 AWG with heavy duty bronze ground clamps.

S924-2.07 Concrete Block

Concrete blocks shall be solid 16-inches long by 8-inches wide by 4-inches deep in conformance with the requirements of ASTM C145.

S924-3 CONSTRUCTION DETAILS

For new installations, a water service permit application must be submitted to the Bureau of Water's Maps and Records Office, and a permit fee, which includes the fee for the meter, must be paid prior to construction. All new water services 1-1/2-inch diameter and larger will require the installation of a backflow protection device. New water services smaller than 1-1/2-inch diameter, that are deemed by the Bureau to be a health hazard, will also require the installation of a backflow protection device. Detailed plans and Application for Approval of Backflow Prevention Devices must be submitted to the Water Bureau's Backflow Prevention Inspector and approved before a water service permit is issued.

If necessary, Contractor shall provide the water customer with temporary water service according to the requirements of Sections S901 Water Main Pipe and Fittings and S916 Temporary Bypass.

Unless otherwise approved by the Director of Water, the water meter pit shall be installed on private property, as close as possible to the street right-of-way line.

Solid concrete blocks shall be used as a base to support the tile. Place solid concrete blocks around the perimeter of the tile on a level 6 inch layer of compacted sand.

Water service tubing shall be laid in the trench in a single piece, without joints, between the curb stop and inlet of the pit setter tile.

The tile shall be installed on the solid concrete blocks such that the walls are vertical and the top lid flush with finished grade.

For meter pit replacements, Contractor shall remove existing water meter from its existing pit/vault and reinstall it inside of the new water meter pit, unless otherwise indicated in the Contract Documents or directed by the Project Manager. If the existing water meter is to be replaced, new water meter will be furnished by the Bureau of Water at no charge. Contractor shall deliver the existing water meter and pick up new water meter from Bureau of Water Meter Shop.

Prior to backfilling, installation shall be pressure tested under line pressure with all joints exposed in the presence of the Project Manager. Installation shall be made watertight.

Before backfilling, brace water meter pit setter to insure that it remains in a vertical position centered on the water meter during and after backfilling. Backfilling of the trench shall be done in a manner so as to avoid damage to water meter pit setter and all appurtenances.

Install top of water meter pit cover flush with the finished grade. Upon completion of the work the surface area shall be restored.

Existing meter pit structure shall be removed, excavated area backfilled and the surface area restored.

Upon completion of the work, Contractor shall immediately inform the Bureau of Water Meter Services Office of the completed installation. A representative of the Bureau's Meter Services Office will then install an electronic or radio meter reading device and seal the meter and optional bypass.

S924-4 METHOD OF MEASUREMENT

The quantity to be measured for payment shall be the number of water meter pits constructed.

S924-5 BASIS OF PAYMENT

The unit price bid shall include the cost of: verifying location and disposition of water service; notifying Bureau of Water Meter Services Office and water customer; providing temporary water service; furnishing and installing complete pit setter, cover, ground wire, solid concrete blocks and sand bedding; connecting water service tubing to meter pit inlet and outlet connections; removing existing meter from existing meter pit; reinstalling and delivering existing water meter; purchasing, picking up and installing new water meter; leakage testing; adjustment of meter pit to finished grade; and furnishing all labor, material and equipment necessary to complete the work.

Removal of existing water meter pit shall be paid for under Section S914.

Excavation, furnishing and placing of select granular backfill, and surface restoration shall be included in the unit price bid for the item or paid for under separate bid items, as indicated in the item description.

Excavation that is included in the pay item does not include rock excavation. Rock excavation will be paid for under separate bid item.

Payment will be made under:

ITEM NO.	ITEM	PAY UNIT
S924.01XXXX	X" Water Meter Pit	Each
S924.02XXXX	X" Water Meter Pit (Including Excavation and Backfill)	Each
S924.03XXXX	X" Water Meter Pit (Including Excavation, Backfill and Surface Restoration)	Each
S924.04XXXX	X" Water Meter Pit for Yard Hydrant Water Service	Each
S924.05XXXX	X" Water Meter Pit for Yard Hydrant Water Service (Including Excavation and Backfill)	Each
S924.06XXXX	X" Water Meter Pit for Yard Hydrant Water Service (Including Excavation, Backfill and Surface Restoration)	Each

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