

STANDARD SPECIFICATIONS

SECTION 15150

METERS

**PART 1 - GENERAL**

A. Description

This section describes the materials and installation of meter assemblies.

B. Related Work Specified Elsewhere

All related work specified elsewhere, or in other codes or standards, will be as last revised, unless a specific date of issuance is called out in opposition to later revision date(s).

Other sections of the technical specifications, not referenced below, shall also apply to the extent required for proper performance of this work.

1.	Structure Excavation:	02200
2.	Concrete:	03300
3.	Precast Concrete Vaults:	03462
4.	Painting and Coating:	09900
5.	Ductile-Iron Pipe and Fittings:	15056
6.	Copper, Brass, and Bronze Pipe, Fittings, and Appurtenances:	15057
7.	Manual Valves:	15100

C. Approved Manufacturers

1. Per VWD Approved Materials List, latest edition.

D. Residential and Irrigation Meters 2” and Smaller

1. The developer/contractor is responsible for furnishing and installing meters and meter boxes.
2. The developer shall expose and set to grade all angle meter stops prior to installing meters.
3. The developer is responsible for the purchase and installation of the meter box, angle meter stop, meter, and customer service valve. If a pressure regulator is required on the District side of the meter, the angle meter stop, regulator, meter and customer service valve shall be placed in a single meter box, per Standard Drawing W-8, or as approved by the District representative.

4. For all 3/4" through 1" water meter installations with pressures greater than 150 psi, a pressure regulating valve shall be installed to protect the District meter. 1" high pressure water services will require a #6B meter box. For 1½" and larger water meter installations with pressures less than 200 psi, use Invensys Omni T<sup>2</sup> meters. For 1½" and larger water meter installations with pressures greater than 200 psi, a pressure regulating valve shall be installed to protect the District meter.
5. Prior to occupancy, the District will, upon finding the installation to be acceptable, record all meter account information provided by the developer and padlock the curb stop in the off position until all District conditions of approval for the project are met.

## **PART 2 - MATERIALS**

### **A. General**

1. All meters shall be new and of current manufacture design.
2. All parts of the meters of the same size and model shall be interchangeable.
3. The serial number of each meter shall be imprinted on the register box cover, and the main case.

### **B. Registers**

1. The registers on all meters shall have straight reading dials with full sweep test circles.
2. All registers are to be calibrated to read in cubic feet x 100.

### **C. Remote Reading Device**

1. All meters in boxes or vaults shall be equipped with touch-read registers per the VWD Approved Material List, latest edition. Meters placed outside, above ground are not required to be equipped with touch-read registers unless specified.

### **D. Meters**

1. Displacement meters shall conform to the requirements of AWWA C700, latest revision.
2. Turbine meters shall conform to the requirements of AWWA C701 Class II, latest revision.
3. Compound meters shall conform to the requirements of AWWA C702, latest revision.
4. Propeller meters shall conform to the requirements of AWWA C704, latest revision.

### **E. Precast Vaults and Boxes**

Precast meter vaults and boxes shall conform to Section 03462 and the VWD Approved Material List, latest edition.

### **F. Copper, Brass, and Bronze Pipe, Fittings, and Appurtenances**

All service connection and by-pass piping shall conform to Section 15057 and the VWD Approved Material List, latest edition.

G. Ductile-Iron Pipe and Fittings

All piping for meter assemblies 3-inch and larger shall conform to Section 15056 and the VWD Approved Material List, latest edition.

H. Manual Valves

1. All valves shall conform to Section 15100 and the VWD Approved Material List, latest edition.
2. All valves on by-pass lines shall be lockable in the closed position. On 3-inch and larger by-pass lines, resilient seat gate valves with hand wheels and a chain and lock are permitted.

**PART 3 - EXECUTION**

A. Meter Installations

1. All residential and irrigation meters shall be installed by the contractor per VWD standard drawings W-6, W-7, or W-8, as applicable.
2. All 3-inch and larger meter installations shall conform with VWD standard drawings W-9 or W-11.

B. Excavation and Backfill

Excavation and backfill for the meter installation shall be in accordance with Section 02200.

C. Service Piping

1. All piping for service lines and by-pass lines up to 2-inch shall be installed in conformance with Section 15057 and the applicable standard drawing.
2. The piping for all service installations 3-inch and larger shall be in accordance with Section 15056 and the applicable standard drawing.

D. Test Tap

On services 6 inches and larger, a 2-inch service saddle or welded coupling and corporation stop shall be installed on the spool downstream of the meter, per VWD standard drawing W-11. The tap shall be located a minimum of three (3) pipe diameters downstream of the meter. On propeller meter installations, the location of the test tap will be determined by the District representative.

E. Meter Vaults and Boxes

All precast concrete meter vaults and boxes shall be installed in accordance with Section 03462 and the VWD standard drawings W-6, W-7, W-8, W-9, or W-12, as applicable.

F. Concrete Work

All thrust blocks, foundations, and supports shall be of the sizes shown in the applicable standard drawings and conform to Section 03300.

G. Valves

All valves installed shall conform to Section 15100 and the VWD Approved Material List, latest edition.

H. Painting and Coating

1. All exposed and buried piping shall be painted or coated in accordance with Section 09900. Manufacturer and color per the VWD Approved Material List, latest edition
2. The meter reading lids on all recycled water services shall be painted in accordance with Section 09900.

**END OF SECTION**