COACHELLA VALLEY WATER DISTRICT
POST OFFICE BOX 1058
COACHELLA, CALIFORNIA 92236

STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF
WELL HEAD METER ASSEMBLIES

Engineering Department
December 2008
Standard Specification for the Construction of Well Head Meter Assemblies

Submitted by: Carrie Oliphant
Carrie Oliphant
Engineering Manager

Reviewed by: Mark L. Johnson
Mark L. Johnson
Director of Engineering

Approved by: Steve Robbins
Steve Robbins
General Manager-Chief Engineer

DECEMBER 2008
COACHELLA VALLEY WATER DISTRICT

Well Head Meter Specifications

This specification covers the materials, equipment and installation work necessary to specify, furnish, fabricate, install and test well head flow metering devices.

1.1 The meter is required to be of the direct drive propeller or paddle type. The propeller type meter shall have a minimum of 3 vanes within the flanged flow tube and be constructed with a magnetic drive with a sealed housing for 150 psi working pressure. The paddle type meter shall be an insertion type with a non-magnetic paddle wheel as the only moving part. The digital flow meter register shall read in units of cubic feet per second (cfs) or gallons per minute (gpm) and will be equipped with a six digit totalizer reading in units of acre-feet. The meter will comply with all applicable provisions of the C700 series American Water Works Association (AWWA) Standards and will be accurate to within a range of 2 percent.

1.2 The meter will be installed per CVWD Drawing Nos. Irr. 101 A or B and shall be from one of the following District-approved manufacturers with the corresponding model number:

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Manufacturer</th>
<th>Model No.</th>
<th>Remote Read Model*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water Specialties</td>
<td>ML-04-D</td>
<td>FC-100</td>
</tr>
<tr>
<td>2</td>
<td>McCrometer</td>
<td>MW500 Series w/ Electronic Register</td>
<td>FC-100</td>
</tr>
<tr>
<td>3</td>
<td>Badger/Data Industrial</td>
<td>SDI Series (Stainless Steel)</td>
<td>SDI0xxB22-0200</td>
</tr>
</tbody>
</table>

*Where applicable
x Dependent on connection and pipe size
1.3 The meter shall be installed per the manufacturer's recommendations and is required to match flow ranges outlined below:

**Flow Ranges, GPM**

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Flow range Minimum</th>
<th>Flow range Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-inch</td>
<td>55</td>
<td>500</td>
</tr>
<tr>
<td>6-inch</td>
<td>120</td>
<td>1,200</td>
</tr>
<tr>
<td>8-inch</td>
<td>150</td>
<td>1,500</td>
</tr>
<tr>
<td>10-inch</td>
<td>180</td>
<td>2,000</td>
</tr>
<tr>
<td>12-inch</td>
<td>200</td>
<td>3,000</td>
</tr>
<tr>
<td>14-inch</td>
<td>300</td>
<td>4,000</td>
</tr>
</tbody>
</table>

1.4 Volumetric testing of all meters is required to be performed and approved by the manufacturer prior to shipment. The complete meter head assembly will be accuracy tested in the same pipe size and same tube that the meter will be mounted in. The test will be at the minimum, maximum and intermittent manufacturer's specified flow ranges of the meter. The amount of water used to conduct the test must be left on the totalizer. Prior to shipping, a tag is required to be attached to the meter showing the totalizer reading after the test.
MAINTAIN A MINIMUM OF 5 X PIPE DIAMETER UPSTREAM OF METER. (REQUIRED)

DISTRICT APPROVED WATER METER

MAINTAIN A MINIMUM OF 1 X PIPE DIAMETER DOWNSTREAM OF METER (REQUIRED)

A DOWNSTREAM VALVE OR ISOLATING POINT WILL BE REQUIRED AT 1 X DIAMETER DISTANCE FROM WATER METER.

PIPE SUPPORT

PROVIDE APPROPRIATE FLEXIBLE CONNECTIONS FOR METER INSTALLATION AND REMOVAL.

CHECK VALVE

COACHELLA VALLEY COUNTY WATER DISTRICT

SCHEMATIC FLOW METER INSTALLATION
(Above ground)
(Not to scale)
INSTALL REMOTE READ IN METER BOX WITH LOCKING LID (BROOKS 3 SERIES)

INSTALL SPRING ASSISTED LID (BROOKS 45 SERIES) WITH LOCKING LID

3.5' UTILITY BOX AND TOP SECTION

VALVE CAN PER STD. W-17A

CML/CNC, D.L.P., PVC C905 OR APPROVED EQUAL

RESILIENT WEDGE GATE VALVE

RESILIENT WEDGE GATE VALVE

PROVIDE 12" DIA HOLE W/ PVC SLEEVE TO SERVE AS SUMP

12" THICK BASE (1" GRAVEL)

5D

12'-45" (TYPICAL)

1' MIN.

30'-4 TYPICAL BELOW GROUND FLOW METER INSTALLATION

POLYETHYLENE WRAPPED AS NECESSARY

CML/CNC, D.L.P., PVC C905 OR APPROVED EQUAL

PIPE LINED & COATED PER CVWD TC-II-9.3

17+"

LINE METER BOX BROOKS 45 SERIES

IF CML/CNC OR D.I. PIPE SELECTED, WRAP PIPE IN 8 MIL POLYETHYLENE

COACHELLA VALLEY WATER DISTRICT

SCHEMATIC FLOW METER INSTALLATION
(BELOW GROUND)
(NOT TO SCALE)

Drawn: CARLOS PEREZ
Checked: MICHAEL SCHAEFER
Submitted: Director of Engineering
Approved: Gen. Eng. - Chief Engineer
Date: 

REVISION

Date: 
By: 
Approved:

DRAWING
Irr. 101 B