

ADDENDUM 1
Richland Public Housing
Water Meter Installation

1. What size are the meters that the Housing Authority will be providing, $\frac{3}{4}$ " or 1"?

The meters are $\frac{3}{4}$ "

2. What type of meter is the 4"?

The 4" meter is a bronze Compound Series meter. This meter also requires a Plate Strainer as part of the installation that is also furnished by the Housing Authority. A diagram and instructions of the required installation is included with this Addendum. The original location of the meter is being changed, see the attached drawing for the new location, the cross hatched box is the new location. Due to the length of the meter assembly and the new location the meter assembly will need to be installed above ground with a 4" concrete pad underneath and a locked cage covering the meter assembly. The existing 4" valve shall be eliminated.

3. Is RHASNC inspection or is the city issuing permits and doing inspections?

The Yuba City Building Department should be contacted for permitting information.

4. Was the pre-bid walk mandatory?

No, one of the funding sources does not allow mandatory pre-bid meetings.

As part of the preconstruction meeting the awarded contractor (or project supervisor) will be required to attend a manufacturer's meter installation training. This training will be 1-2 hours in length and held at the office of the Regional Housing Authority of Sutter and Nevada Counties.

INSTALLATION

Procedures for installing Recordall Compound Series meters are essentially the same for all meter sizes. Any special instructions required for the installation or connection of accessory devices such as AMR/AMI technologies or strainers is provided in the literature for those devices. [Figure 1](#) shows a recommended meter installation.

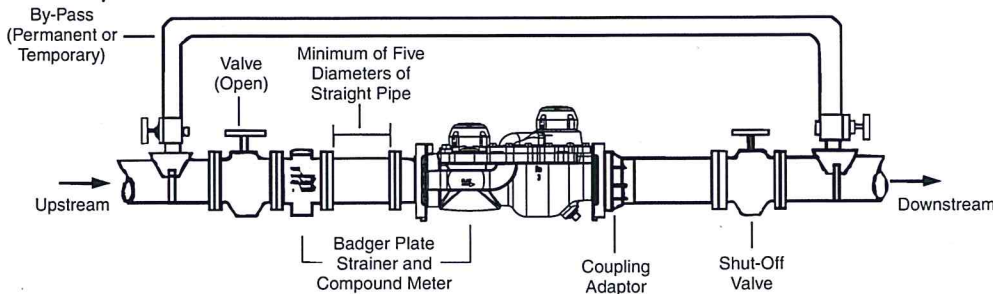


Figure 1: Recommended meter installation

Preinstallation Considerations

Before proceeding any further with the installation, first read the instructions in the paragraphs immediately following to become familiar with the requirements and procedures involved.

NOTE: The Recordall Compound Series meters are designed for operation in HORIZONTAL piping arrangements.

- Be sure that the meter flow range and size of the meter coincide with the intended service and demand for water.

CAUTION

THE LIFE OF THE COMPOUND METER WILL BE CURTAILED IF OPERATED AT FLOW RATES HIGHER THAN SPECIFIED.

- The meters are designed for use in cold water service (up to 120° F or 27° C) within the applicable flow requirements for compound meters. For use with water at higher temperatures, consult your Badger Meter representative or nearest Badger Meter regional sales office.
- If solid material is present in the water to be metered, a strainer must be installed in the service piping upstream of the meter. The strainer, in addition to protecting the meter from debris in the line, minimizes the effect of velocity profile distortions or turbulence caused by changes in pipe direction or valving resulting in more accurate registration. Contact your Badger Meter representative for information on Recordall Plate Strainers.
- Avoid locating the meter in close quarters. Allow sufficient space to permit access for meter reading, testing, and maintenance.
- Because of the need to test large meters periodically to verify their performance, it is recommended that a bypass system be incorporated into the piping arrangement. This will also provide a means of performing periodic cleanout and routine maintenance without interrupting service to the customer. A test port is incorporated in the meter housing and can be used for field accuracy testing.
- The Recordall Compound Series meter is accuracy and pressure tested prior to shipment, therefore no field adjustments are required. As turbine performance is directly related to the flow conditions of the water stream entering the meter, upstream fittings and piping changes can adversely affect flow registration. For valid registration and proper performance, consider the following installation considerations:
 - ◇ When installing the meter with a Badger Meter Plate Strainer, a minimum of 5 pipe diameters of straight, unobstructed pipe is required upstream of the meter. (A minimum of 10 pipe diameters of straight unobstructed pipe is required upstream of a meter installed without a plate strainer. The deletion of a strainer, however, is not recommended.) This allows for dampening of velocity profile distortions caused by items such as elbows, pumps and dirt traps upstream of the meter. Where spiral flows are created by three dimensional elbows or rotary pumps, use additional distance to dampen the effect. If a basket or Y-type strainer is used, place it 5 to 10 pipe diameters upstream of the meter to dampen velocity profile distortions created by this design.

- ◇ Do not install check valves or pressure reducing devices upstream of the meter.
- ◇ Valves immediately upstream of the meter should only be fully-open gate valves. Butterfly valves are acceptable if they are 5 pipe diameters or more upstream from the meter. Downstream, fully open gate or butterfly valves can be used.
- ◇ Unweighted check valves should not be located closer than 3 pipe diameters downstream of the meter.
- ◇ Externally weighted check valves and pressure reducing devices should not be located closer than 5 pipe diameters of the meter.
- ◇ When installing a compound meter and plate strainer of a size smaller than the pipe installation, to reduce the effect of jetting caused by the increase in flow velocity, a minimum of 5 pipe diameters of pipe equal in size to the meter, is required upstream of the meter. Additional length is required if a sharp contraction or an eccentric reducer, rather than a concentric, tapered reducer is used.

Installing the Meter

Overall dimensions and laying lengths of each meter size are listed in the *Recordall Compound Series Meter Product Data Sheet*. Review the dimensional requirements, choose an installation point in the piping, and proceed as follows:

1. Measure precisely the overall length of the meter with gaskets attached to the inlet and outlet flange connections.
2. Provide proper gap length in service piping.
3. Install meter in the pipeline so that the flow arrow on the meter housing points in the same direction as water flow.
4. With meter and gaskets in place, tighten flange connection bolts.
5. To relieve possible strain on the piping, position a meter support under the meter housing where appropriate.

