

33 19 00 WATER UTILITY METERING

1. Applicability

- 1.1. The installation, construction, alteration, and repair of water utility meters, including deduct meters, on any and all University of Minnesota property in the state of Minnesota.

2. General Information

- 2.1. Ownership of the water utility system varies by Campus and location throughout the state of Minnesota. The UMN Civil Engineer shall be consulted regarding utility ownership during feasibility and/or pre-design.

3. General Water Utility Metering Information

- 3.1. Water meters and detector check valves shall be installed inside the building wall immediately after the service pipe enters the building.
 - 3.1.A. No plumbing device or plumbing fixture or any fitting that would allow non-metered water use shall be installed between the shut-off valve and the water meter.
 - 3.1.B. No water service pipe within a building ahead of a water meter shall be concealed, except that it may run a maximum of 2 feet from the building foundation beneath the lowest floor in the building. The water meter shall be placed at the point where the water service emerges from the floor.
 - 3.1.C. Exception:
 - 3.1.C.1. Duluth Campus: Does not apply for buildings fed from the interior campus distribution system.
 - 3.1.C.2. Crookston Campus: Does not apply. Buildings are not individually metered.
- 3.2. When required, deduct meters shall be furnished and installed by the contractor for cooling tower make-up and blow-down, irrigation systems, and sub-metering.
 - 3.2.A. Meters to be approved by the UMN Civil Engineer.
- 3.3. Meters shall be readily accessible at least 12" above the floor but not more than 48".
- 3.4. Meters shall be rigidly supported.
- 3.5. Spool pieces shall be provided on both sides of meters 3" and larger.
 - 3.5.A. Spool pieces shall be minimum 12".
- 3.6. Meter shall be sized for the load, not the line size.
- 3.7. All valves to be certified to NSF/ANSI 61.

4. Minneapolis Campus

- 4.1. Domestic water meters and fire meters are owned by the City of Minneapolis.
- 4.2. Minneapolis Water Department to furnish domestic water meter and fire protection by-pass meter for the contractor to install.
- 4.3. The Contractor shall coordinate and provide labor and materials required to accommodate the type of meter provided by the City.
- 4.4. All meters not furnished by the City of Minneapolis shall meet the City of Minneapolis standards, including deduct meters.

5. Saint Paul Campus

- 5.1. For building water services supplied directly by Saint Paul Regional Water Services (SPRWS) owned and operated watermains, the water meter, backflow prevention and piping design shall meet SPRWS standards.
 - 5.1.A. The Contractor shall coordinate and provide labor and materials required to accommodate the type of meter provided by SPRWS.
- 5.2. For building water services located off of a University of Minnesota owned and operated watermain, the following are required:
 - 5.2.A. All meters to be set up for remote reading with an Encoder Receiver Transmitter (ERT).
 - 5.2.A.1. Acceptable Projects: Itron 100Wplus Water Communication Module
 - 5.2.A.2. An ethernet drop is required at the meter locations.
 - 5.2.B. Meters to have a valve before and after the meter.
 - 5.2.C. Consumption to be read in units of cubic feet.
 - 5.2.D. All meters 3” and larger to have a three-valve by-pass.
 - 5.2.D.1. Exception: Fire meters
 - 5.2.E. Acceptable Products

Meter Type	Meter Size	Product
Domestic Water Meter	1” and smaller	Badger Recordall Disc Series Meter or approved equal
	1-1/2” and 2”	Badger Recordall Turbo Series meter or approved equal
	3” and larger	Badger Recordall Compound Series meter or approved equal
Fire Water Meter	Badger Recordall Fire Series Assembly with turbine by-pass meter or approved equal	

5.2.E.1. All meters not specified above but are similar or equal to be approved by the UMN Civil Engineer.

6. Duluth Campus

- 6.1. For building water supplied directly by City of Duluth / Comfort Systems (COD), the water meter, backflow prevention and piping design shall meet COD standards.
 - 6.1.A. The Contractor shall coordinate and provide labor and materials required to accommodate the type of meter provided by COD.
- 6.2. For building water located post City of Duluth meter off of a University of Minnesota owned and operated watermain, the following are required:
 - 6.2.A. Academic buildings do not need to have a meter installed.
 - 6.2.B. Auxiliary buildings shall have a meter unless subservient to an existing meter charged to the same department.
 - 6.2.C. When a meter is not required, all meter area piping shall be installed with a spool in place of the meter.

- 6.2.D. Meters to have a three-valve by-pass.
- 6.2.E. Consumption to be read in units of cubic feet.
- 6.2.F. Water meters to be a compound meter.
- 6.2.G. Meter brand to be approved by the UMD Plumbing Supervisor.

7. Crookston Campus, Morris Campus, and all other locations

- 7.1. No additional information. Refer back to Section 3.

END OF SECTION