

**RULE NO.: R161-19.13**

**NOTICE OF PROPOSED RULE**

**POSTING DATE: April 9, 2019**

The Director of the Department of Austin Water proposes to adopt the following rule on or after May 11, 2019.

Comments on the proposed rule are requested from the public. Comments should be submitted to Mr. Eric Langhout, P.E.; Austin Water, 3907 S. Industrial Dr., Suite 236, Austin, Texas 78744, 512-972-0073, or via email at [Eric.Langhout@austintexas.gov](mailto:Eric.Langhout@austintexas.gov). To be considered, comments must be submitted before May 11, 2019, the 32nd day after the date this notice is posted. A summary of the written comments received will be included in the notice of rule adoption that must be posted for the rule to become effective.

An affordability impact statement regarding the proposed rule has been obtained and is available for inspection or copying at the address noted in the preceding paragraph.

**EFFECTIVE DATE OF PROPOSED RULE**

A rule proposed in this notice may not become effective before the effective date established by a separate notice of rule adoption. A notice of rule adoption may not be posted before May 11, 2019 (the 32nd day after the date of this notice) or after June 18, 2019 (the 70th day after the date of this notice).

If a proposed rule is not adopted on or before June 18, 2019, it is automatically withdrawn and cannot be adopted without first posting a new notice of a proposed rule.

**TEXT OF PROPOSED RULE**

A copy of the complete text of the proposed rule is available for public inspection and copying at the following locations. Copies may be purchased at the following locations at a cost of ten cents per page:

Austin Water, located at 3907 S. Industrial Dr., Suite 236, Austin, Texas, 78744. See Mr. Eric Langhout, P.E. and:

Office of the City Clerk, City Hall, located at 301 West 2nd Street, Austin, Texas.

## **BRIEF EXPLANATION OF PROPOSED RULE**

R161-19.13: Proposed revision to the UCM 2.9.3

### **Rule 4 – UCM 2.9.3**

- Section 2.9.3.B.3 – This is being changed to define AW.
- Section 2.9.3.B.5 – This is being changed so we can just use the acronym.
- Section 2.9.3.B.6 – This requirement was added to the Wastewater System and the Water System and we want to add it to Reclaimed Water System too. It is being added to ensure the proper easement width is provided if fill is added and to ensure proper minimum cover of the reclaimed water main if soil is removed above the main.

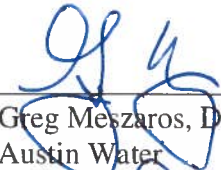
## **AUTHORITY FOR ADOPTION OF PROPOSED RULE**

The authority and procedure for adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is provided in Chapter 1-2 of the City Code. The authority to regulate construction requirements is established in Section 552.001 of the Texas Local Government Code and Title 15 of the City Code.


## CERTIFICATION BY CITY ATTORNEY

By signing this Notice of Proposed Rule R161-19.13, the City Attorney certifies the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

### REVIEWED AND APPROVED

  
\_\_\_\_\_  
Greg Meszaros, Director  
Austin Water

Date: 3/20/19

  
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Anne L. Morgan  
City Attorney

Date: 4/2/19

### 2.9.3 - Reclaimed Water Systems

#### A. Size/Capacity Determination

##### 1. General

- a. Hazen Williams Friction Coefficient  $C = 100$  for ductile iron or 120 for plastic pipe.
- b. Maximum static pressure = 120 psi.

##### 2. Peak Demand Requirements

- a. The maximum velocity shall not exceed 5 feet per second.
- b. The minimum pressure at any point in a pressure zone shall not be less than 35 psi.
- c. Mains shall be sized to accommodate max day flows of:
  - i. 8100 gallons per irrigated acre.
  - ii. 28 gallons per ton of cooling.
  - iii. Indoor use based on fixture units.

##### 3. Emergency Demand (Fire Flow) Requirements

None - fire flows are provided by the water system.

4. Plans shall include a detail of a reclaimed water identification sign. Plans shall show the posting locations for the sign.

#### B. Mains

1. Sizing of Mains - Computer modeling is preferred for sizing reclaimed water mains. However, for mains less than 16 inches in diameter other engineering calculation methods may be accepted. Standard main sizes are: 6, 8, 12, 16, 24, 30, 36, 42, and 48 inches. A 4 inch pipe size shall be considered for mains less than 200 feet in length.
2. All reclaimed water mains shall be constructed of ductile iron pipe, Pressure Class 350 minimum for pipe 12-inch diameter and smaller and Pressure Class 250 for pipe greater than 12-in diameter. For mains 12-inch diameter and smaller, PVC pipe, conforming to the requirements of AWWA C-900, DR 14 shall be acceptable. Plans shall indicate that all mains and appurtenances shall be manufactured in purple, factory painted purple or bagged in purple. Color shall match Pantone 522.
3. Mains should be located where maintenance can be accomplished with the least interference with traffic, structures, and other utilities. When mains are located outside of the right-of-way, they shall be within a dedicated utility easement. Main assignments in city streets must be coordinated with the Austin Utility Location and Coordination Committee. Assignments for lines in county roads must also be approved by the county engineer. A minimum horizontal separation distance of five (5) feet, measured from OD of pipe to OD of pipe, shall be maintained between existing or proposed reclaimed water mains and all other non-Austin Water (AW) mains in order to maintain trench integrity. A minimum horizontal separation between reclaimed water service lines and dry utility services shall be three (3) feet OD-OD.
4. The separation between water, reclaimed water and wastewater mains must comply with TCEQ rules.
5. Piping materials and appurtenances shall conform to City of Austin Standard Specifications, Standard Details, and Austin Water (AW) Standard Products List (SPL).
6. Minimum depth of cover over the uppermost projection of the pipe and all appurtenances shall comply with City of Austin Standard Details; maximum depth will be as approved by AW for the specific materials, application and conditions. If fill or embankment placed

over existing reclaimed water mains or services increases by more than 4' or results in a final depth exceeding two times the easement width if applicable, AW review and approval is required. If a cut over the existing reclaimed water mains or services results in less than minimum cover, AW approval is required.

7. For mains of 16 inches and larger, drain valves shall be placed at low points.
8. On mains 12 inches in diameter and larger, automatic air release valves will be placed at all high points. Mains larger than 16 inches shall have an automatic air release valve placed at the down-slope side of all valve locations. Air/vacuum and vacuum release valves shall be approved on a case-by-case basis. All reclaimed mains twenty-four (24) inches and larger will include an 18" outlet with blind flange installation at high points where the installation of an ARV would be necessary. In the absence of an ARV requirement, an 18" outlet with blind flange shall be placed every 2500 feet.
9. Dead-end mains shall terminate with a flushing device and flushing devices shall be installed as necessary to facilitate flushing of the system.
10. Mains shall have an approved flushing device located at the high point between main intersections.
11. Joint restraint for pipes larger than 16 inch diameter shall be by use of integral, factory joint restraint systems, or by restraint gaskets.
12. Joint restraint shall be provided for all pipe bends, reducers, and tees. When joint restraints are required in intersections, the joint restraints shall extend, at a minimum, to the point of curvature (PC) of the curb line. Notes shall be placed in both plan and profile views and shall include at a minimum the type of restraint to be utilized and the beginning and ending stations of the restraint.
13. The proximity of other utilities and structures must be taken into account when specifying the use of thrust blocking. The use of thrust blocks will be prohibited in the downtown area (Loop 1 to I35 and Lady Bird Lake to 30<sup>th</sup> Street) due to the congestion of utilities, structures and excavations in the right of way. Concrete thrust blocking may be approved on a case by case basis.
14. Connections of new reclaimed mains to existing reclaimed mains shall be made by cutting in a tee. Tapping sleeves may be allowed in lieu of cutting in a tee on a case-by-case basis. Full-body tapping sleeves shall be used. A tapping sleeve will not be allowed if the materials and conditions of the existing main preclude tapping. "Size on size" taps will not be permitted, unless made by use of an approved full bodied mechanical joint tapping sleeve. .
15. Location of mains and services in the proximity of Street Trees and Planting Zones:

"Street Tree Utility Gap/Utility Gap" refers to the area between street tree planting zones where utility services will be located.

Where Street Trees are placed within the right-of-way, root barriers shall be placed on all sides of the planting zone where AW mains and/or services are located. Root barriers shall be installed no closer than seven (7) feet from the tree trunk. Utilities shall be placed no closer than two (2) feet from the root barrier. In no circumstances shall utility infrastructure be placed within the planting zone. Where "Street Tree Utility Gaps" are located between planting zones, the gap shall be a minimum of eight (8) feet wide between root barriers. Additional width will be required to allow for multiple utilities to be placed within the "utility gap."

#### C. Valves

1. All valves twenty-four (24) inches and smaller, shall be resilient seated gate valves.

2. Valves shall be located at the intersection of two or more mains. For lines smaller than twenty-four (24) inches, typical spacing should be 500 feet in high-density areas and 1,200 feet in residential area. Mains twenty-four (24) inches and larger shall be valved at approximate 2,000 foot intervals.
3. At dead ends, gate valves shall be located one (1) pipe length ten (10-ft. minimum) from the end points of the main. The Engineer shall provide - and show drawings - complete restraint for all such valves, pipe extensions and end caps.
4. Branch piping (both new and future branches) shall be separated from the main with gate valves.
5. For all reclaimed mains, valves at intersections shall be placed at point of curvature (p.c.) of the curb line.
6. Valves shall be located so that isolating any main intersection requires closing of no more than three (3) valves.
7. The operating nut or extension of any valve shall be between eighteen (18) inches and twenty-four (24) inches below finished grade.
8. Valves with valve extensions and those at pressure zone boundaries shall be equipped with a locking type debris cap.
9. All horizontal gate valves larger than sixteen (16) inches shall have the valve actuator (gearing) located in a vault or manhole.
10. Butterfly valves shall not be allowed.
11. Valve boxes and lids shall be square, with "Reclaimed Water" indicated on the lid.
12. Reclaimed water mains shall be designed so that valves can be installed vertically unless conditions dictate otherwise.

#### D. Services

1. Reclaimed water services shall be in accordance with City of Austin Standard Details.
2. The plans shall show the locations of backflow prevention assemblies.
3. The plans shall show irrigation lines, sizes, and specify pipe color (purple). All sprinkler heads and sprinkler control box covers shall be purple.
4. The plans shall show reclaimed meter locations and specify a color (purple).
5. Services for cooling towers or interior building use shall have a separate meter.
6. Meter boxes and vaults shall be square or rectangular with "Reclaimed Water" cast into the lid.
7. Reclaimed water meters shall be placed within the public ROW or in an easement immediately adjacent to the ROW. Meters may not be located inside fences and must be accessible by vehicle. Reclaimed water meter boxes and its appurtenances are not allowed in sidewalks, paved areas, driveways, or load bearing pavement.
8. Service taps to reclaimed mains shall be separated from other taps and pipe joints by a minimum distance of 3 feet.
9. Service taps, regardless of type, shall not be made in vaults.

#### E. Easements

1. Easements for reclaimed water mains shall be a minimum of 15 feet wide, or twice the depth of the main, measured from finished grade to pipe flowline, whichever is greater. Mains shall be centered on the easement. Narrower easements may be considered where

the Engineer provides evidence, that maintenance activities will not be hindered by the reduced width.

2. Easement documents and the metes and bounds shall be reviewed and approved by AW Pipeline Engineering prior to recordation with the County. Easement recordation at the County is required prior to AW approval of construction plans.
- F. Requirements for Existing and Proposed Reclaimed Water Infrastructure beneath Circular Intersections or Other Geometric Street Features
1. Installation of Circular Intersections or Other Geometric Street Features over existing reclaimed water infrastructure.
    - a. Existing reclaimed water infrastructure may be allowed to exist beneath circular intersections or other geometric street features such as, but not limited to, modern roundabouts, medians, bulb-outs, splitter islands, channelization islands, and other types of physical roadway features. These features may contain hardscaping, landscaping, water quality features, public art, permanent structures, street furniture, or other similar amenities.
    - b. The planning and design of these features and their amenities shall include consideration for access, maintenance, protection, testing, cleaning, and operations of the reclaimed water infrastructure. Where existing reclaimed water facilities are to remain, proposed trees may be considered for inclusion provided the tree is a utility compatible species (as denoted in ECM Appendix F) and is not planted within 5 horizontal feet from any reclaimed water infrastructure. Public art, permanent structures, and other similar amenities may be considered for inclusion provided they are not located within a minimum horizontal separation of 5 feet from any reclaimed water infrastructure.
    - c. The need for relocating, replacing or protecting in place reclaimed existing water infrastructure beneath these features and their amenities shall be determined on a case-by-case basis by AW.
  2. Installation of Circular Intersections or Other Geometric Street Features in new areas of development with no existing reclaimed water infrastructure.
    - a. Proposed reclaimed water infrastructure may be placed beneath proposed circular intersections or other geometric street features such as, but not limited to, modern roundabouts, medians, bulb-outs, splitter islands, channelization islands, and other types of physical roadway features. These features may contain hardscaping, landscaping, water quality features, public art, permanent structures, street furniture, or other similar amenities.
    - b. The planning and design of these features and their amenities shall include consideration for access, maintenance, protection, testing, cleaning, and operations of AW infrastructures. Trees may be considered for inclusion provided the tree is a utility compatible species (as denoted in ECM Appendix F) and is not planted within 5 horizontal feet from any reclaimed water infrastructure. Public art, permanent structures, and other similar amenities may be considered for inclusion provided they are not located within a minimum horizontal separation of 5 feet from any reclaimed water infrastructure.
    - c. The need for alternative alignments or the inclusion of protective systems for the proposed reclaimed water infrastructure beneath these features and their amenities shall be determined on a case-by-case basis by AW.

Source: [Rule No. R161-14.05, 2-20-2014](#).