

Town of Flower Mound Large Water Meter Installation Policy

§70-58. Residential and Commercial water meters 2-inch – 6-inch Compound and/or 3-inch – 6-inch HP Turbine water meters.

- (a) The Town of Flower Mound has implemented a water meter installation procedure, which provides for the installation of water meters by individual contractors and/or builders. This procedure requires all contractors and/or builders engaged in new construction of residential or commercial building to install water meters using their own labor resources.
- (b) Notice of Non-Compliance
 - (1) All contractors and/or builders are hereby notified that during the entire construction process, all installation procedures shall be followed. If any procedure is violated at any time during the construction process, an employee of the Town of Flower Mound may issue a warning notifying the contractor and/or builder of the violation. The contractor and/or builder will then have three (3) business days to have the violation corrected. If the violation is not corrected within three (3) business days it shall result in all inspections of that contractor and/or builder to be suspended, until such problem is corrected.
- (c) Town Supplied Water Meter Materials
 - (1) Compound meters two-inches (2") and larger or three-inch (3") and larger HP-Turbine meters are supplied with the following materials:
 - (a) Two flange gaskets;
 - (b) Four nuts and four bolts for large meters under 4 inches; and
 - (c) Six nuts and six bolts for large meters over 6 inches.
 - (2) All materials supplied with the water meter must be used in conjunction with the installation of the water meter. It is the contractor and/or builder(s) responsibility to supply all other materials required in the installation of the water meter. At no time shall any foreign brass products be allowed on the Town's water system. See the Town's "Construction Standards" for a list of approved manufactures.
- (d) Damaged or Destroyed Water Meters
 - (1) If a water meter is installed backwards, the contractor and/or builder must have the water meter reinstalled in the correct position at their expense within three (3) business days. The account will be billed the negative usage and a trip charge, and an administrative fee will be billed to the account as set forth in the fee

schedule found in Appendix A of the Code of Ordinances. The Town has the right to lock the service until the repairs are made.

- (2) If a water meter freezes during cold weather and is non-functional it shall be the contractor and/or builder(s) responsibility to purchase a new water meter from the Town and have it installed at their expense. The water meter fee schedule is as set forth in the fee schedule found in Appendix A of the Code of Ordinances. The Town has the right to lock the service until the repairs are made.
 - (3) If a water meters data logger register(s) is damaged or destroyed during the construction process, the contractor and/or builder shall be billed the cost of the register, labor charge, trip charge, and an administrative fee as set forth in the fee schedule found in Appendix A of the Code of Ordinances. If the water meter is damaged beyond repair, it is the responsibility of the contractor and/or builder to purchase and install a new water meter from the Town at their expense. The Town has the right to lock the service until the repairs are made.
 - (4) Prior to purchasing a replacement water meter(s) that has been damaged or destroyed, the contractor and/or builder must return the damaged or destroyed water meter(s) to the Meter Services Division before a new water meter(s) is issued. The Town does not allow refurbished and/or repaired meters to be installed while under construction and/or prior to the certificate of occupancy.
 - (5) All water meters purchased by contractor(s) and/or builder(s) for new construction are the sole property of the Town of Flower Mound and must remain at the address to which the meter is assigned. Water meters in this class size take approximately 45 plus days after the order is received to be delivered.
- (e) Water Meter Vault Requirements
- (1) The Town of Flower Mound requires all vaults to be pre-fabricated and all walls shall be a monolithic pour with no seams or extensions. All side walls shall be 6-inches thick with 4,500 psi concrete reinforced with #4 re-bar on 8-inch centers both ways. All vaults shall be Park, Brooks, and American and/or approved equal. These are minimum specifications.
 - (2) The bottom of the vault shall be 6 inches thick with 4,500 psi concrete with #4 re-bar on 12-inch centers both ways. A 4-inch deep with a 12 inch x 12-inch sump with a cast iron grate shall be installed on the bottom of the slab. A 4-inch cushion of sand shall be installed under the slab.
 - (3) The vault shall not be installed in any drive or parking area and must be located in a utility easement dedicated to the Town of Flower Mound. The top of the vault shall match the surrounding surface elevation (example – curb or sidewalk).
 - (4) The lid shall be a J-4AL Bilco door (3-feet x 3-feet) for 2-inch – 4-inch meter vaults and JD-2AL Bilco (4-feet x 4-feet) door for 6-inch – 8-inch meter vaults. The design

loads for the lid shall consist of dead, live, impact loads, and in addition loads due to water table and any other loads which may be imposed upon the structure. Live loads shall be for H-20 per AASHTO standard specifications for highway bridges. Design wheel load shall be 16 kips. The live load shall be that which produces the maximum shear and bending movements in the structure. The lids shall be equipped with a hold-open mechanism and flush locking devices. The access door must have (2) 2-inch holes drilled 6-inches apart in the center of the lid for AMR reading devices. The aluminum must be protected from the concrete during casting.

- (5) All vaults must have a galvanized steel ladder with Bilco Ladder-up Safety posts. The ladder must be in line with the access lid for easy entrance in to the vault for repairs and/or testing.
- (6) All piping inside the vault must be ductile iron pipe with flanged fittings. Town Standards – American National Standard for ductile iron AWWA standard C151 (ANSI A21.51).
- (7) The contractor shall make the by-pass and meter test tap inside of the vault. The by-pass line must be the same pipe size as the main line. If the service is strictly to be used as irrigation, a by-pass will not be necessary. The test tap must be installed at least 2 pipe diameters down-stream from the meter and all test taps shall be 2-inches and the contractor shall install an approved service saddle with non-lead brass nipple and non-lead brass gate valve. The test tap gate valve must have a threaded end discharge pipe.
- (8) The main line and by-pass gate valves shall be resilient wedge. All main line and by-pass valves shall be flanged on both ends and have hand wheels. All gate valves must be one of the approved manufactures listed in the Towns “construction standards” or approved equal.
- (9) The contractor shall have a choice of having link seal or wall sleeves (model WS-6-28-5-6 for 3-inch pipe; model WS-8-32-5-6 for 4-inch pipe; model WS-10-38-5-6 for 6-inch pipe; model WS-12-37-5-6 for 8-inch pipe. The above mentioned wall sleeves shall use the following Link Seal: for a 3-inch pipe – 5 #LS325-C; for 4-inch pipe-5 #LS400-C; for 6-inch pipe-7 #LS400-C; for 8-inch pipe-9 #LS400-C. Breaking the wall with a jackhammer or using a pre-cast knockout panels is not permitted.
- (10) Pipe and fittings shall be constructed a minimum of 1-foot above the vault floor and there shall be a minimum of 2-feet from the side walls. The by-pass tees shall be a minimum of 1-foot from the side wall. There shall be a concrete and/or galvanized steel support under each valve.
- (11) Minimum depth of any vault shall be 4-foot 6-inches.

- (12) The contractor and/or builder must purchase the water meter from the Town. All other parts will be supplied by the contractor at the contractor's expense.
- (13) Documentation shall be provided to the Town's Engineering Department showing that the vault meets the required specs listed above.
- (14) Vault detail – W-12 Town Construction Standards.
- (15) Water meter vault sizes.

(a) Vault sizes are: length x width x height

(1) 2" compound meter w/2" by-pass	6', 0" x 6', 0" x 6', 0"
(2) 3" compound meter w/3" by-pass	9', 0" x 6', 0" x 6', 0"
(3) 3" HP Turbine meter	6', 0" x 6', 0" x 6', 0"
(4) 4" compound meter w/4" by-pass	9', 0" x 6', 0" x 6', 0"
(5) 4" HP Turbine meter	6', 0" x 6', 0" x 6', 0"
(6) 6" compound meter w/6" by-pass	13', 0" x 7', 0" x 6', 0"
(7) 6" HP Turbine meter	9', 0" x 6', 0" x 6', 0"

(f) Setting and Putting the Water Meter into Service Requirements.

- (1) After the water meter is purchased, the contractor and/or builder(s) are required to set the water meter(s) within ten (10) working days. After ten (10) working days, if the water meter(s) is not installed, Town personnel may ask the contractor and/or builder to return any such meter(s) to the Customer Service Department until the meter(s) is ready to be installed.
- (2) When installing a Tru/Flo Compound or an HP Turbine meter, the following installation instructions shall be followed:
 - (a) The meter manufacturer along with the Town requires that all Tru/Flo Compound and/or HP Turbine meters be installed with a plate strainer at the meter inlet. The strainer, in addition to protecting the meter from debris in the line, also corrects the velocity profile of the flow to the meter.
 - (b) Install the Tru/Flo Compound and/or HP Turbine water meter horizontally with all registers facing upwards.
 - (c) Do not install pressure reducing or check valves before the inlet-side of the water meter.
 - (d) Do not open or connect any service pipe to the plugs located on the side of the Tru/Flo Compound water meter. These plugs are designed for the multi-jet meter low flow, allowing factory installation of a low flow water meter.

- (e) When installing a TRU/FLO Compound and/or HP Turbine meter, normal good piping practice should always be followed. In particular, all gaskets should be centrally located on their flanges with no overlap or interference with the pipe diameter. This is particularly important at the inlet connection to the meter where a gasket protruding into the flow stream will cause unpredictable velocity conditions.
 - (f) Caution should be exercised to avoid air in the line, sudden flow surges, or excessive flow rates since these conditions may cause severe damage to the meter.
 - (g) Water meters shall be installed at the address indicated on the water meter to prevent billing errors. If a water meter is installed at the wrong location, an administrative fee and a trip charge as set forth in Appendix A of the Code of Ordinances will be charged to the contractor and/or builder(s) account for correcting the information in the Town's billing system for each address.
 - (h) Any contractor and/or builder found to be installing water meters not purchased through the Town shall be in violation of Section 70-59, entitled, "Town-issued water meter(s) mandatory." The meter(s) will be confiscated, the contractor and/or builder will be billed for the consumption that has registered on the meter, using a starting read of ten (10) and all inspections for said contractor and/or builder may be halted until such violation is corrected and a penalty fee will be assessed for each occurrence as set forth in the fee schedule found in Appendix A of this Code.
 - (i) Streets with or without curbs must be marked with a straight saw-cut and painted blue at each service location to include domestic and irrigation meters.
- (g) Before Operation
- (1) Before putting the TRU/FLO Compound meter in service follow these steps:
 - (a) Before opening the valve at the main, make sure the by-pass, inlet and outlet valves are in the "fully closed" position.
 - (b) Slowly open the valve at the main and let it pressurize the service line from the main to the in-let valve on the water meter.
 - (c) Before opening the inlet valve, turn air bleed on meter cover counter-clockwise one to two turns.
 - (d) With outlet-side gate valve closed, SLOWLY open inlet-side valve to pressurize meter.
 - (e) Close air bleed screw (clockwise) when air is completely vented and no "spitting" occurs.

- (f) SLOWLY open outlet-side gate valve until downstream is pressurized.
- (2) After installation, it is important that the upstream (inlet) valve be put in the “full open” condition during service. A partially throttled upstream valve will cause flow profile distortion which will adversely affect meter accuracy. All throttling should be done ONLY on the downstream (outlet) side of the meter.
- (3) Before leaving the site, check for any possible leaks. If any leaks are discovered, shut the inlet-side valve down followed by the outlet-side valve slowly and make the necessary repairs.
- (4) At all times during the construction process the water meter vault shall be clean and free of debris.
- (5) If at any time during the construction process the water meter registers any negative usage, the contractor and/or builder will be required to install a backflow preventer device after the meter vault and before any usable water source at their expense.
- (h) Looped and/or multiple water source connections.
 - (1) All residential and/or commercial facilities that require two different sources of water or are on a looped system shall install a back flow preventer after the meter.
 - (a) The back flow preventer shall be installed after the water meter and before the two water sources are connected – this will prevent any reverse flows along with any cross contamination of the Town’s water system.
 - (b) The back flow preventer shall not be installed within 2 feet of the meter vault.
 - (c) The back flow preventer shall be owned, operated, and tested annually by the facility at their expense.