

Town of Howey in the Hills

Water System Material Standards

PVC Water Pipe

PVC Bell and Spigot pipe for potable water lines 4-24 inch shall meet AWWA- C900 with a minimum of DR18. Fire lines will be a minimum of DR14. Pipe shall be domestic only and manufactured by National Pipe and Plastics or Town approved equal. Mains shall be installed at a minimum of 36" of bury depth and preferably 42" of bury depth and be installed per manufacturer's instructions.

Locator Wire

Tracer wire for open-trench applications shall be a 10 gauge solid, Pro Trace HF-CCS PE30. Tracer wire shall be copper clad steel conductor with a minimum break load of 448 LBS (or 55,000 PSI) and shall be extruded with a 30 mil HDPE coating color coded to match the pipe installed. Tracer wire shall be manufactured by Proline Safety Products or Town approved equal.

Tracer wire for directional drilling installation shall be a 8 gauge solid, Pro Trace HDD-CCS PE45. Tracer wire shall be copper clad steel conductor with a minimum break load of 2,150 lbs. (or 165,800 PSI) and shall be extruded with a 45 mil HDPE coating color coded to match the pipe installed. Tracer wire shall be manufactured by Proline Safety Products or Town approved equal.

Wire connector shall be a one mechanical connector that is injection molded from polycarbonate and features a threaded screw with a break away nut system. Connector shall be pre-filled with an anti-oxide compound to make it water and corrosion proof. Connector shall be Tracer-Lock DB Connector as manufactured by Proline Safety products or Town approved equal.

All potable and fire mains shall be installed with locating products detailed above.

Air Valves

Air valves sizes 1" and 2" for potable water applications shall be 304 stainless steel with solid HDPE internal floats. Valve shall have nominal orifice, meaning the inlet is the same size as the outlet. Valve shall be manufactured Vent O Mat model RBX or Town approved equal.

Air release valves shall be installed per Town or design engineer's instructions.

Tapping Sleeves

Tapping Sleeves shall be fabricated of 304 Stainless Steel with a stainless steel flange. Sleeve hardware must consist of 304 stainless steel bolts and 316 stainless steel nuts with double fluoropolymer coating to prevent galling. Sleeves shall be designed to be universal for use with Steel, Cast Iron, Ductile Iron, PVC, High Density Polyethylene, Asbestos Cement, and copper main conductor pipe materials. Gaskets shall be a one piece matte gasket with integrated aperture seal and circumferential seal beads for a 360 degree seal. Gaskets material shall be Nitrile Butadiene Rubber (NBR) Approved NSF-61. Sleeve must be tested and approved to

accommodate a full beam break/360 degree break. Sleeves shall be Total Piping Solutions Triple Tap or Town approved equal. Tapping sleeve shall be installed per manufacturer's instructions.

Fire Hydrants

All Fire Hydrants must conform to ANSI/AWWA Standard C502, Underwriters Laboratories Standard UL246 listed, and Factory Mutual 1510 approved and provided with 10 year limited warranty. Hydrants shall be permanently lubricated with food grade grease and have lower valve plate and inlet shoe fusion bonded epoxy coated per ANSI/AWWA C550 with a NSF61 certification. Bonnet shall only have 4 bolts to allow for easy service. Capacity shall be a full 5 1/4" valve opening. Inlet connection shall be 6" mechanical joint. Nozzle standpipe configuration shall have two 2 1/2" hose ports and one 4 1/2" pumper port with open left design. Fire Hydrants shall be red in color and by EJ WaterMaster 5CD250 or Town approved equal. Installation shall be per manufacturer's instructions.

Valves

All Mainline Valves (MJ x MJ) and Tapping Valve (Flg. x MJ) shall be manufactured and tested to meet the requirements of ANSI/AWWA C515. Valves shall meet or exceed the requirements of Underwriters Laboratories Standard UL262. The rated working pressure of the valve shall be 250 psi. All valve component castings shall originate in the United States. The body, bonnet, and seal plate shall be made of ductile iron. The wedge shall be made of ductile iron and shall be totally encapsulated in rubber. No paint shall be allowed in the wedge. This rubber coating shall be permanently bonded to the ductile iron wedge casting and shall meet ASTM D429 tests for rubber to metal bonding. The stem and stem nut shall be made of high strength manganese bronze. All fasteners shall be stainless steel. The body, bonnet, and seal plate shall be epoxy coated in accordance with ANSI/AWWA C550. This coating shall be on the interior and the exterior of the valve. The manufacturer's name, valve size, year of manufacture, pressure rating ("250W"), C515, and "DI" shall be cast on the valve. Each valve shall be tested in accordance with ANSI/AWWA C515 and UL262. This shall include hydrostatic pressure testing at 500 psi. All Mainline Valves shall be EJ, Flowmaster Resilient Seated Gate Valve or Town approved equal. Installation shall be per manufacturer's instructions.

Service Saddles

Service saddle shall be fabricated of a single panel 304 stainless steel band with a spin-extruded threaded outlet. Sleeve shall be equipped with an isolation boot that prevents metal band contact with the pipe and reduces the potential for corrosion when used on ferrous pipe materials. Saddle shall be designed to be universal for use on Steel, cast iron, ductile iron, PVC, HDPE, and Asbestos cement conductor pipes. Saddles shall be Total Piping Solutions T3 or Town approved equal. Service saddles shall be installed per manufacturer's instructions.

Ductile Iron MJ Compact Fittings

Ductile Iron MJ Compact Fittings meet or exceed ANSI/AWWA C153/A.21.53. They shall be cement lined and have asphaltic seal coat inside and out in accordance with ANSI/AWWA C104/A21.4 and as referenced in ANSI/AWWA C153/A.21.53. Installation shall be per ANSI/AWWA C600 and C111 when using DIP and per C150/C151 when using PVC pipe. MJ Compact Fittings shall be manufactured by Union/Tyler, Star Pipe Products, or SIP.

Restraints

Mechanical Joint Wedge Action Joint Restraints shall be utilized on all MJ connections. Gland shall be made from high strength ductile iron per ASTM A536 Grade 65-45-12 and must be compatible with all Mechanical Joints conforming to ANSI/AWWA C111/A21.11. Install shall be per manufacturer's instructions. Mechanical Joint Wedge Action Joint Restraints shall be manufactured by Ford Meter Box, Ebba Iron, Star Pipe Products, or Tyler/Union. Restraints shall be installed per manufacturer's instructions.

Water Service Tubing

All water service tubing shall be Endotrace-Endopure 200 PSI SDR9 PE3408 CTS OD service tubing with factory installed 10ga. Tracer wire manufactured by Endot Industries, Inc. Tubing shall be blue in color for potable water services and purple for reclaimed water services and utilized as follows:

Single 1" service – 1" Size

Dual 1" service – 1 ½" Size

Single 1 ½" service – 1 ½" Size

Single 2" service – 2" Size

Service tubing shall be installed per manufacturer's instructions.

Water Service Fittings

All water service fittings shall lead free with all brass that comes into contact with potable water to conform to AWWA Standard C800 (ASTM B584, UNS C89833). Brass components that do not come into contact with potable water must conform to AWWA Standard C800 (ASTM B62 and ASTM B584, UNS C83600, 85-5-5-5). All water service fittings shall be manufactured by The Ford Meter Box Company, Inc. as detailed below:

Single 1" Meter Service:

Corporation Stop - Ford, #FB1100-4-NL, 1" Ball Corp Stop, MIP x PJ/CTS

Curb Stop – Ford, #B43-444W-NL, 1" Curb Stop, PJ/CTS x Meter Nut with Lock Wing

Dual 1" Meter Service:

Corporation Stop - Ford, #FB1100-6-NL, 1 1/2" Ball Corp Stop, MIP x PJ/CTS

Dual Branch Piece – Ford, #U48-64-9-NL, 1 ½"x1"x1" Branch Piece, PJ/CTS x MIP x MIP

Curb Stops (2) – Ford, #B13-444W-NL, 1" Curb Stop, FIP x Meter Nut with Lock Wing

Single 1 ½" Meter Service:

Corporation Stop - Ford, #FB1100-6-NL, 1 1/2" Ball Corp Stop, MIP x PJ/CTS

Curb Stop – Ford, #B41-666W-NL, 1 ½" Curb Stop, PJ/CTS x FIP with Lock Wing

Single 2" Meter Service:

Corporation Stop - Ford, #FB1100-7-NL, 2" Ball Corp Stop, MIP x PJ/CTS

Curb Stop – Ford, #B41-777W-NL, 2" Curb Stop, PJ/CTS x FIP with Lock Wing

The following material will be installed by the Town of Howey In The Hills:

Neptune R900i Radio Frequency Water Meters – Neptune Technology Group, Inc.

DFW-Rotec Heavy Duty HDPE Meter Boxes – DFW Industries

Meter Installation Hardware and Backflow Prevention Devices