

SPECIFICATIONS OF MATERIALS FOR MAINS & SERVICES

PRE-APPROVAL REQUIRED FOR PROPOSED EQUIVALENTS

Contractors must adhere to the specific materials found in this document **or obtain written MVWA approval for proposed equivalents prior to installation.**

If proposed equivalent materials are installed that are not pre-approved, the MVWA reserves the right to stop construction (and not provide water service until suitable materials are installed) or accept the work.

Contractors must supply the MVWA with a list of all material specifications (make, model, size, quantity, etc) on projects requiring As-built drawings. Refer to *MVWA As-built Drawing Requirements* for complete requirements.

MAINS & SERVICES LARGER THAN 2" DIAMETER

- (1) **WATER MAINS/SERVICES (LARGER THAN 2" DIAMETER):** Ductile Iron, C111 (push-on joint); C104 cement lining (inside) and asphaltic coatings (outside) and 2 brass wedges per joint. Class 52 per Specifications AWWA C151
- (2) **CAST COUPLINGS:** Straight Couplings; Manufacturer: Smith-Blair Series 441 or approved equal. All hardware shall be 304 SS per ASTM F593 & F594.
- (3) **FITTINGS:** Cast or Ductile Iron per Specifications AWWA C110; C153; C111 (Mechanical Joint); C104 cement lining (inside) and asphaltic coatings (outside) with two (2) each mechanical joint retainer glands and bolt kits. All hardware shall be 304 SS per ASTM F593 & F594.
- (4) **FITTINGS (HYDRANT):** In addition to "Fittings" specifications, hydrant tees shall be anchoring type; Manufacturer: Clow F-1217 or MVWA approved equal. All hardware shall be 304 SS per ASTM F593 & F594.
- (5) **HYDRANTS:** AWWA C502, C111 (mechanical joint connection - 6"); OPEN COUNTER-CLOCKWISE; all hydrant operating and cap nuts will be 1½" pentagon; 5½' bury; two (2) 2½" and one (1) 5" Storz outlet; 5¼" bottom valve opening. All hardware shall be 304 SS per ASTM F593 & F594.
 - MVWA hydrants to be painted red with yellow bonnet and nozzle caps. "UTICA" specification hydrants will have a black weather shield. Private hydrants are to be painted red.
 - Hydrant thread and operating nuts shall conform to "UTICA", "WHITESTOWN", or other threading as approved by the MVWA for the area being serviced.
 - Acceptable Models: Kennedy K-81 A or D or approved equal. No other hydrant manufacturers or models will be accepted by the MVWA.
- (6) **HYDRANT EXTENSIONS:** All components of the fire hydrant extension kit shall be designed for, and properly fit, the fire hydrant. Neither the extension kit nor any component of the kit shall diminish the operating efficiency or service life of the fire hydrant or which they are attached. All components shall conform to ANSI/AWWA C502. Fire hydrant extension kits shall include the appropriate quantity of barrels, flanges, couplings, stems or rods, gaskets, lubricant and hardware to complete the installation. All hardware shall be 304 SS per ASTM F593 & F594.

- (7) **MECHANICAL JOINT RESTRAINTS, BOLT-THROUGH (FOSTER ADAPTER):** Ductile Iron conforming to ANSI/AWWA C153/a21.53 (CURRENT REVISION). Fusion bonded epoxy coated. Mechanical Joint (MJ) valves and fittings shall be connected using a bolt-through positive restraint mechanism manufactured of ductile iron conforming to ASTM A 80-55-06. The positive restraint device shall connect the valves and/or fittings at a linear distance not to exceed one (1) inch and without attachment to pipe. The bolt-through MJ positive restraining device shall be supplied with asphaltic/epoxy coatings in accordance with ANSI/AWWA C153/A21.53 and ANSI/AWWA C104/A21.4 and sized to be used with standard mechanical joint fittings (AWWA C110 or C153) and valves. The device shall have a minimum working pressure rating of 350 psi. Manufacturer: Infact Corporation or approved equal. T-bolt hardware shall be 304 SS per ASTM F593 & F594.
- (8) **RETAINER GLANDS:** Manufacturer: Ford, Uni-Flange Wedge Action Retainer for Ductile Iron Pipe (Series 1400); EBAA "Mega Lug" (Series 1100); or approved equal (*set screw not acceptable*). All retainer glands shall include appropriate rubber & bolt kit. T-bolt hardware shall be 304 SS per ASTM F593 & F594.
- (9) **TAPPING SLEEVES & TAPPING VALVES:** Clow F-5205 and F-5093 or approved equal (furnished and installed by the MVWA per established fee schedule). All hardware shall be 304 SS per ASTM F593 & F594.
- (10) **TAPPING SLEEVES & TAPPING VALVES, FAST-STYLE:** Ford Style FAST stainless steel sleeve w/stainless steel flange and resilient wedge gate valves, or approved equal (furnished and installed by the MVWA per established fee schedule). All hardware shall be 304 SS per ASTM F593 & F594.
- (11) **VALVES:** Gate Valves (resilient wedge), AWWA C509; C515; C111 (mechanical joint); OPEN CLOCKWISE; Manufacturer: Kennedy Kenseal II or approved equal with two (2) each mechanical joint retainer glands and bolt kits. All exposed hardware shall be 304 SS per ASTM F593 & F594.
- (12) **VALVE BOXES:** Manufacturer: Bingham and Taylor or approved equal. "Buffalo" style - 5¼" diameter, 3 piece screw type, Size D with No. 6 base.

SERVICES 2" DIAMETER OR SMALLER

- (13) **WATER SERVICE:** Following service line materials for 2" and smaller (3/4" or 1" size most common):
- **COPPER TUBING:** Type K (Type L not acceptable), ASTM B88 (Use 3/4" diameter when pressure is greater than 50 psi; use 1" for pressure less than 50 psi). A compression or silver-soldered joint is allowable only if more than a full coil is necessary. Copper tubing is required from the corporation stop to the meter.
 - **HDPE:** 200 psi, no joints. HDPE is an acceptable alternative to copper tubing only from a meter chamber to the building.
 - **BRASS VALVES AND FITTINGS:** All underground brass valves and fittings in contact with soils and or aggregates shall comply with AWWA C800-21.
- (14) **BACKFLOW PREVENTER/DEVICE:** Appropriate protection as required by the MVWA Engineering Department. Application required.
- (15) **CORPORATION STOP/VALVE:** Acceptable Manufacturers/Models: AY McDonald NL-74701Q, Ford F1000-x-NL or approved equal (furnished and installed by the MVWA per established fee schedule).

- (16) **CURB BOX:** Manufacturer: Bingham and Taylor or approved equal. "Old Style" Buffalo, 2 ½" Shaft, three piece screw type, size 94E or approved equal which provides full inside diameter access to the curb stop. "Mushroom-style" (Eclipse style) not acceptable.
- (17) **CURB STOPS/VALVE:** Acceptable Manufacturers/Models: AY McDonald NL-76100Q, Ford Z44-xxx-Q-NL or approved equal installed at property line.