



CITY OF PEMBROKE PINES
Engineering Division
Materials Review Checklist
Water and Sewer Construction

Project Name: _____

Engineer of Record: _____

Contractor: _____

Permit #: _____ **Date:** _____

The following materials and specifications have been found to be acceptable by the City of Pembroke Pines Engineering Division. Shop drawings shall not be submitted for approval if the CONTRACTOR uses products on this list. Only one (1) manufacturer per category will be allowed. The Engineer of Record and The City of Pembroke Pines Engineering Division and/or Utilities Department approve any product that is not on the checklist. Three copies of the shop drawing are required for each product seeking approval.

Shop drawings are required for all structures and non-standard items. Materials/products shall be rejected if they do not meet the City of Pembroke Pines minimum design and construction standards.

All materials shall be new and unused and in compliance with the AWWA/ANSI minimum standards. For the purpose of standardization, materials should be of like kind in order to achieve conformity with current existing City water and sewer systems.

Three (3) sets of the Materials Review Checklist and any additional shop drawings shall be stamped and signed by the Contractor and Engineer of Record as prerequisite for submittal to the City of Pembroke Pines for approval.

The CONTRACTOR is required to mark an "X" next to the selected material for each category. The list shall be completed in full. If the materials category does not apply to the required scope of construction for the project, then place an "N/A" on that line that is not applicable. For all material categories, mark with an "X", "N/A" or "refer to Attached Alternate."

Approved By:

MATERIALS REVIEW LIST - WATER DISTRIBUTION SYSTEM

All components in contact with drinking water shall meet requirements of NSF 61

PVC WATER PIPE: Class 150 (DR 18), conforming to ANSI/AWWA C900-16 OR C905-97 or Latest revision and shall have push on rubber gasket joints.

_____ J-M Pipe

_____ Diamond

DIP WATER PIPE: Class 350 wall thickness (up to 12"), Class 300 (14"-18"), conforming to ANSI/AWWA C151/a21.51-17, or latest revision, and shall be double cement lined conforming to ANSI/AWWA C104/A21.4-16 or latest revision.

_____ American Cast Iron Co.

_____ U.S. Pipe

_____ McWane/Clow

FITTINGS: ductile iron compact mechanical joint type and shall be class 350 through 24" conforming to ANSI/AWWA C153/A21.53-11, or latest revision, and class 250 in sizes 24" and larger, conforming to ANSI/AWWA C110/A21.10-08, or latest revision, complete with glands, gaskets, bolts and nuts. All fittings shall be cement lined and seal coated with the same as pipe.

_____ American Cast Iron Pipe

_____ McWane/Union Foundry

_____ U.S. Pipe

_____ Star Products

FIRE HYDRANTS: minimum 5 1/4" valve opening and shall open against the pressure and closing with the flow. Hydrants shall meet or exceed ANSI/AWWA C502-18 or latest revision and shall comply with Factory Mutual Research Corporation and Underwriters Laboratories UL246 Standard.

_____ Mueller

_____ American Flow Control

_____ McWane/Clow

_____ McWane/Kenned

GATE VALVES: gate valves for water (4"-12" in size), Gate valves shall be iron body, fully resilient seat, and bronze mounted non-rising stem, double disc, rated at 200 psi and conforming to ANSI/AWWA C509-15 or latest revision. Exposed valves shall be outside screw and yoke type.

_____ American Flow Control

_____ Mueller

_____ McWane/Clow

BUTTERFLY VALVES AND OPERATORS: butterfly valves for water (16" and up in size) shall conform to ANSI/AWWA C504-15 or latest revision standard for rubber-seated butterfly valves and shall be class 150 A or B.

_____ Mueller Company

_____ Henry Pratt Company

_____ DeZurik

_____ McWane/Clow/M&H

_____ Keystone

TAPPING VALVE: flange by mechanical iron body, fully resilient seat, bronze mounted non-rising stem, double disc, rated at 200 psi and conforming to ANSI/AWWA C509-15 or latest revision.

_____ American Flow Control

_____ McWane/Clow

_____ Mueller

TAPPING SLEEVES: ductile iron meeting ASTM A536 Grade 65-45-12, mechanical joint.

_____ American / Darling

_____ McWane/Clow/Tyler

_____ Mueller

_____ U.S. Pipe

AIR RELEASE VALVE: shall conform to AWWA C512-15 and valve body and cover shall be of cast iron construction, ASTM A126-B. All internal parts shall be of stainless steel, ASTM A240 - Type 304 for the float and ASTM A743/A744 Type 316 for the linkage. The venting orifice shall be 3/16" in diameter with brass seat or that determined by Engineer of Record. The inlet opening shall be a 2" NPT screwed connection. The overall height shall not exceed 13 inches.

_____Val-Matic

_____Apco/DeZurik

_____Golden-Anderson/VAG Group

_____Crispin

RETAINING GLAND: Retainer glands shall conform to ANSI/AWWA C111/A21.11-17 or latest revision. All glands shall be manufactured from ductile iron as listed by Underwriters Laboratories for 250 psi minimum water pressure rating.

_____Ebaa Mega Lug

_____SIGMA

_____Uni-Flange

VALVE BOX: Valve boxes for water mains and sewer force mains shall be adjustable screw type with 5 ¼ inch shaft, 18-to-24-inch extension, Cast Iron ASTM-A48 Class 30 marked "water".

_____Tyler

_____US Foundry

_____Kennedy Co/Russell Pipe & Foundry

LOCATING TAPE: 3" wide blue tape with a metallized foil core laminated between 2 layers of plastic film with the words "CAUTION WATER LINE BURIED BELOW" printed at 30" intervals along the tape is required to be placed 18" above all PVC mains or as recommended by manufacturer. 3" wide blue tape with the same words "message" is required to be placed 18" above all ductile iron pipe mains.

_____Reef Ind.

_____Presco

_____Best Materials

LOCATING WIRES – WATER / FIRE MAINS:

_____ # 6-gauge single strand copper wire (non-insulated)

LOCATING WIRES – WATER SERVICES:

_____ #12 gauge single or mult stran coated copper wire.

SERVICE SADDLE: Ductile iron epoxy or nylon coated with double stainless-steel straps. Saddles shall be manufactured in accordance with AWWA C800-14, ANSI/AWWA C111/21.11-17 and body to ASTM a 536 or latest revision. Shall conform to AWWA M23 for PVC pipe installation.

_____ Ford

_____ Mueller

_____ JCM

_____ Romac

_____ Smith-Blair / Optional 316ss

CORPORATION STOP: Corporation stops shall be manufactured in accordance with AWWA C800-14 of brass no lead alloy in accordance ASTM B584 with threaded ends.

_____ Ford

_____ Mueller

METER ANGLE STOP: Meter stops shall be the 90-degree lock wing type and shall be manufactured in accordance with AWWA C800-14 of brass no lead alloy in accordance with ASTM B584. Meter stops shall be closed button design and resilient "O" ring sealed against external leakage at the top. Stops shall be equipped with a meter coupling nut on the outlet sides.

_____ Ford

_____ Mueller

_____ McDonald

P.E. SERVICE TUBING: polyethylene (PE) tubing as described in 200 psi ANSI/AWWA C901- 20, or latest revision with a working pressure of 250 psi (DR 9). Pipe joints shall be of the compression type totally confined grip seal and coupling nut. Polyethylene shall be extruded from PE 4710 high molecular weight materials and must conform to ASTM D2737. Continuous Polytube from corporation to meter angle stop. All Poly tubing under paved areas shall be in SCH 80 PVC sleeve twice the diameter of poly tube.

_____ Endot EndoPoly

_____ Phillips Driscopipe/Ultraline

_____ JM Eagle

BLOW-OFF BOX; 10" box for blow-off assembly shall be Cast Iron ASTM-A48 Class 30 marked W"

_____ US Foundry USF 7630

MATERIALS REVIEW LIST - SEWER COLLECTION SYSTEM

RIM & COVER; casting material shall conform to specifications ASTM-A48 Class 30, Gray Cast Iron. Heavy duty round manhole, 7" frame depth with raised letters "SANITARY SEWER & CITY OF PEMBROKE PINES".

_____ US Foundry – USF420-C

WATER TIGHT INSERT: 304 SS, polyethylene or ABS watertight manhole insert. The cover body shall be manufactured to the dimensions as shown on the contract drawings to allow easy installation in the manhole frame. The insert shall be provided with a lift strap attached to the cover body.

_____ Rain Guard

_____ Rowland

PVC SDR 35 FITTINGS: non-pressure polyvinyl chloride pipe conforming to ASTM D3034-16, SDR 35, with push-on rubber gasket joints unless otherwise noted.

_____ Harco

_____ J-M

_____ NAPCO

PVC SDR 35 PIPE: non-pressure polyvinyl chloride pipe conforming to ASTM D3034-16, SDR 35, With push-on rubber gasket joints unless otherwise noted.

_____ J-M Pipe

_____ NAPCO

_____ Diamond

DUCTILE IRON PIPE: Class 350 wall thickness (up to 12"), Class 300 (14"-18"), Class 250 (20" Or greater) shall be lines conforming to DIPRA Corrosion Control recommendations with ceramic quartz epoxy Protecto 401 or approved equal. The pipe shall withstand a working pressure of 350 psi. The joints shall be bell and spigot push on type, mechanical joint or flanged. Flanged pipe shall conform to the physical and chemical requirements as set forth in the Handbook of Ductile Iron Pipe of the Cast Iron Pipe Research Association.

_____ American Cast Iron Co.

_____ U.S. Pipe

_____ McWane/Clow

MANHOLE COATING; Coal Tar Epoxy

_____ Targuard Sherwin William

SEWER TRANSMISSION SYSTEM

PUMP STATION: two vertical, close-coupled, motor driven, vacuum primed, non-clog sewage pumps; valves; internal piping; central control panel with circuit breakers; motor starters and automatic pumping level controls; heater, ventilating blower; priming pumps and appurtenances; and all internal wiring.

_____ Smith & Loveless (pump station submittal data sheet must be provided with check list.)

EMERGENCY GENERATOR: the generator shall be sized to meet the starting amperage of both pumps simultaneously. The generator shall be trailer mounted with necessary towing equipment including lights and hitch. The generator shall be supplied with the necessary plug and cable for supplying power to the pump station control panel.

_____ SUBMITT PROPOSAL

EMERGENCY BYPASS PUMP: The bypass pump shall be a minimum six (6) inch self-priming pump diesel powered, trailer mounted with necessary towing equipment including, lights and hitch. The bypass pump shall be supplied with the necessary hoses and connections to provide bypassing of the pump station. The pump shall be a Thompson Pump Model 6JSCE-DJCST-423-MC, a 6" Sound Attenuated, Compressor-Assisted, High Efficiency Pump.

_____ SUBMITT PROPOSAL

PVC C-900 PIPE: Class 150 (DR 18), conforming to ANSI/AWWA C900-16 OR C905-97 or Latest revision and shall have push on rubber gasket joints.

_____ J-M Pipe

_____ Diamond

DUCTILE IRON PIPE: Class 350 wall thickness (up to 12"), Class 300 (14"-18"), conforming to ANSI/AWWA C151/a21.51-17, or latest revision, and shall be double cement lined conforming to ANSI/AWWA C104/A21.4-16 or latest revision. Flanged pipe shall conform to the physical and chemical requirements as set forth in the M41 Manual on Ductile Iron Pipe and Fittings of the AWWA.

_____ American Cast Iron Co.

_____ U.S. Pipe/Griffin Pipe

_____ McWane/Clow

DUCTILE IRON FITTINGS: ductile iron compact mechanical joint type and shall be class 350 through 24" conforming to ANSI/AWWA C153/A21.53-11, or latest revision, and class 250 in sizes 24" and larger, conforming to ANSI/AWWA C110/A21.10-08, or latest revision, complete with glands, gaskets, bolts and nuts. All fittings shall be cement lined and seal coated with the same as pipe.

_____ American Cast Iron Pipe

_____ McWane/Union Foundry

_____ U.S. Pipe

PLUG VALVE: Plug valves shall be semi-steel body, non-lubricated, eccentric type, with resilient faced plugs, and capable of drip-tight shut off at the rated pressure if applied at either port. Valves are to be equipped with actuating nuts, cast iron hand wheels or chain operators, with galvanized steel chains, as appropriate for the installation and type of operator and conform to ANSI/AWWA C517-16 or latest revision.

_____McWane/Clow/Kennedy Valve

_____Dezurik

TAPPING VALVE: flange by mechanical iron body, fully resilient seat, bronze mounted non-rising stem, double disc, rated at 200 psi and conforming to ANSI/AWWA C509-15 or latest revision.

_____American Flow Control

_____McWane/Clow

_____Mueller

TAPPING SLEEVES: ductile iron or stainless-steel wrap around meeting ASTM A536 Grade 65-45-12, mechanical joint.

_____American-Darling

_____McWane/Clow/Tyler

_____Mueller

_____U.S. Pip

RETAINING GLAND: Retainer glands shall conform to ANSI/AWWAC111/A21.11-17 or latest revision. All glands shall be manufactured from ductile iron as listed by Underwriters Laboratories for 250 psi minimum water pressure rating.

_____ Ebba Mega Lug

_____ SIGMA

_____ Uni-Flange

LOCATING TAPE: 3" wide tape for sewage transmission main with a metallized foil core laminated between 2 layers of plastic film. The words "CAUTION FORCE MAIN BURIED BELOW" shall be printed at 30" intervals along the tape. Tape shall be placed 18" above all PVC Force mains or as recommended by manufacturer. Non-metallic tape shall be used above ductile iron pipe force mains:

_____ Reef Ind.

_____ Presco

_____ Best Materials

LOCATING WIRES:

_____ # 6-gauge copper wire single strand (non-insulated)

VALVE BOX: Valve boxes for water mains and sewer force mains shall be adjustable screw type with 5 ¼ inch shaft, 18-to-24-inch extension, Cast Iron ASTM-A48 Class 30 marked "water" or "sewer"

_____ Tyler

_____ US Foundry

_____ Kennedy Co/Russell Pipe & Foundry

AIR RELEASE VALVE: shall conform to AWWA C512-15 and valve body and cover shall be of cast iron construction, ASTM A126-B. All internal parts shall be of stainless steel, ASTM A240 - Type 304 for the float and ASTM A743/A744 Type 316 for the linkage. The venting orifice shall be 3/16" in diameter with brass seat or that determined by Engineer of Record. The inlet opening shall be a 2" NPT screwed connection. The overall height shall not exceed 13 inches.

_____ Val-Matic

_____ Apco/DeZurik

_____ Golden-Anderson/VAG Group

_____ Crispin