

PAX RIVER Utility SOP – Preconstruction Handout

Completed Utility Connection Permit Application Required

Dig Permits / Outage Coordination / System Tie Ins

- Must be coordinated through Utilities

Domestic Water & Sewer

- All connections & disconnections to/from any water system shall be coordinated through PW Utilities.
- All domestic water services shall have at least 10' separation from the fire main prior to entering the facility.
- All buried water/sewer lines shall have a tracer wire placed in ditch line for future location purposes.
- Water line valve boxes and sewer clean outs shall be raised to grade where new lines are installed or existing lines are tapped.
- Backflow Prevention located on a domestic water main is NOT a requirement, unless chemical laboratories are within the building. In which case, a Reduced Pressure Principle Assembly will be required per the National Standard Plumbing Code 10.5.9.
- Utilities shall provide and review all specs for Backflow Prevention Assemblies being proposed for utilization.
- Installation of all Backflow Preventers shall be done by a licensed plumber having a current license and certification in Backflow Prevention and Cross Connection Control from the State or Local Authority.
- A Government appointed Representative licensed in Backflow Prevention must be notified before pressurizing Potable water mains.
- All Backflow Prevention shall be tested and certified by a Government certified tester or performed by an outside certified tester. All paperwork and a copy of the certification must be turned into government for approval.
- Backflow Prevention Certifications shall be performed within 48 hours of pressurizing system by a Government certified tester.
- Sanitize new work according to the National Standard Plumbing code.
- Sewer lines shall have clean outs placed in systems where new lines are added or tie-ins occur.

Fire Sprinkler

- If domestic water system is used for a Fire Sprinkler System a Backflow Prevention Assembly will be required per the National Standard Plumbing Code 10.5.9.
- Utilities shall provide and review all specs for Backflow Prevention Assemblies being proposed for utilization.

- Certification of Backflow Preventer shall be completed **BEFORE A HYDROSTATIC TEST** is performed on the fire system.
- Potable water mains used for fire suppression shall be flowed and purged of debris at the pipe flange inside the building, before Backflow Prevention is installed.
- All Backflow Prevention shall be tested and certified by a Government certified tester or performed by an outside certified tester. All paperwork and a copy of the certification must be turned into government for approval.
- Backflow Prevention Certifications shall be performed within 48 hours of pressurizing system by a Government certified tester.
- When retrofitting existing fire systems with Backflow Prevention, a system hydraulic study must be performed. This is to ensure proper operation of the fire system with the drop in pressure from the new device. (NAVFAC Washington's Fire Protection Engineer shall review calculations).

Electrical

- Southern Maryland Electric Coop----- SMECO.
- Site plan, panel schedule and riser diagram required to engage SMECO.
- Inspection letter from contractor to government required to energize service.
- Contractor is responsible to obtain meter back from SMECO (SMECO will install meter when service is energized).
- Temporary electrical service shall be coordinated between contractor, SMECO and the Government. All fees associated with the temporary service will be the responsibility of the contractor.
- Contractor is responsible for clearing all right of ways for SMECO.
- Contractor is responsible for saw cutting all concrete and asphalt for SMECO right of ways.
- Contractor required to follow SMECO's Handbook "Commercial Customer and Developers Handbook" Rev.2—August 2010 for all specifications on sizing CT cabinets, height requirements, meter back locations, wire length and conduit installation.

Metering

- All new or renovated Facilities shall have electric and water meters installed.
- Utilities shall provide and review all specs for water meters being proposed for utilization.

Water Meter

- Install Y strainer downstream of water meter.
- New potable water pipe installations shall be flowed and purged of debris before building being pressurized.
- Sanitize new work according to the National Standard Plumbing code.
- Water Meter Spec's are listed below

Water Meter Specifications

NAVFAC Washington
NAS Patuxent River Detachment
Public Works Department

Utilities Energy and Management Branch

307-757-4787

Water Meters

Water meters shall be installed inside the mechanical room of the facility. Meters shall be industrial/commercial cold water turbine meters that meet or exceed AWWA C701 standards. Water meters shall have a by-pass consisting of three gate or ball valves as appropriate.

All water meters shall have a non-resettable remote reader connected to them and the remote reader shall be mounted on the exterior wall (outside) of the facility, 5^{1/2} to 6 feet above grade. With “hot boxes” the remote reader is to be mounted on an exterior wall (outside) of the “hot box.”

All remote readers must be of the odometer or LCD type. Remote readers must be readable visually. No remote readers are acceptable that require the use of any form of instrument/tool to read the remote reader.

Meters are to meet or exceed AWWA C701 Class II standards. Register flow to be in U.S. gallons.

Meter size is to be determined in accordance with the below table:

<u>Maximum Flow Rate</u> (gallons per minute)	<u>Meter Size</u>
200 GPM	1.5”
250 GPM	2”
550 GPM	3”
1250 GPM	4”
2500 GPM	6”
4500 GPM	8”
7000 GPM	10”
8800 GPM	12”

Remote readers shall be addressed/programmed with a multiple/GPC (gallons per contact) of 10, 100 or 1000, whichever is appropriate with the facilities’ projected manning, operations and water consumption.

Additionally a strainer shall be installed in the water line prior to the meter, unless an integral strainer is part of the meter assembly. If a non-integral strainer is used, its location must conform to the following guidelines as do placement of all valves, tees and elbows prior to and after each meter:

The number of inches of clear/straight water line prior to the meter shall be ten (10) times the water line diameter and the number of inches of clear/straight water line after the meter shall be five (5) times the diameter of the water line.

Examples:

Prior to water meter: water line size 3", $3" \times 10 = 30"$. Must be at least 30" of straight and obstruction free water line prior to water reaching the meter.

After the water meter: water line size 3", $3" \times 5 = 15"$. Must be at least 15" of straight and obstruction free water line after the meter.

No meter boxes or pits are allowed. All water meters shall be inside the facility mechanical room where the water service enters the building. There are no exceptions to this requirement, all meters must be inside the facility and readily accessible.

Use of "Hot Boxes." On occasion a "hot box" may be required due to there being physically no building involved in the work. In such instances the requirements previously spelled out above for water meters and remote readers remain applicable to the use of a "hot box."

Electric Meter Back

- Shall follow all SMECO specifications for installation.

Natural Gas or Propane

- A minimum of a 2 inch line rated at 2 psi shall be installed from meter throughout the inside of the building with MAXTROL devices located at each piece of equipment to regulate pressure at equipment.
- All gas piping shall be installed and inspected in accordance to codes listed in UFGS-Section 15195N, MIL HNDBK 1003/8, NFPA 54 National Fuel Gas Codes, and ANSI B31.8 as applicable.
- Prior to gas service being energized by installation contractor the following shall be performed:
 - 1) Request PW Gas Equipment Inspection from PW Utility Branch
 - 2) System Pressure test shall be performed and witnessed by a PW representative in accordance with NFPA 54, The National Gas Code.

- Installation contractor will activate service to equipment.
 - 1) A soap test shall be performed on any fittings not previously included in pressure test.
- At conclusion of all testing the following shall be accomplished:
 - 1) Installation contractor and a PW representative shall sign and post certification form
 - 2) A copy of the inspection form will be forwarded to and retained by the PW utility branch.
 - 3) Gas inspection form shall be on a letter head with facility address and ROICC contact information.
- All Gas lines after meter shall be painted yellow for identification.
- All gas valves to be marked as to what unit they are serving.
- Concrete Pad requirements for gas meters:
 - 1) Large commercial dual regulator meters require a minimum of a 4ft by 4ft concrete pad.
 - 2) Commercial single regulator meter require a minimum of a 3ft by 3ft concrete pad.
 - 3) No deviations accepted unless agreed upon between the Government and the Gas Company.
- Gas Company must witness the facility's piping being purged with nitrogen before gas is turned on.
- Contractor is responsible to plumb the exterior flange to the gas meter.