



NEW MEXICO
FINANCE AUTHORITY

June 28, 2024

Jorge Medrano
Environmental Engineer, DWSRF Team
Environmental Protection Agency
Via email dwsrfwaiver@epa.gov

Dear Mr. Medrano,

A Drinking Water State Revolving Loan Fund project funded by an EPA Base Capitalization Grant (FFY21/ FS996925-24) is requesting a waiver on the American Iron and Steel requirement for the Drinking Water State Revolving Loan Fund. The State of New Mexico, on behalf of the community, is requesting a waiver based on eligible conditions set forth in the AIS final guidance memo 3-20-2014 (AIS Memo).

The AIS Memo states “The assistance recipient may receive a waiver at any point before, during, or after the bid process, if one or more of three conditions is met:

1. Applying the American Iron and Steel requirements of the Act would be inconsistent with the public interest;
2. Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
3. Inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.”

The community would like to apply for a waiver based on the second eligibility, Iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality. NMFA requested an AIS compliant product search on three parts, one was not found domestically.

NMFA is requesting a waiver for a 3-inch Molded Butt Weld Mechanical Joint Adapter.

A distributor was located for the other two parts:

- 1) 3-inch Mechanical Joint Adapter Accessory [REDACTED]
- 2) Cast Iron Yard Hydrants [REDACTED]

The two joint adapters are needed to allow the project to initiate construction. The yard hydrants will not be needed until near the substantial completion date (90 days after the project start date). The substantial completion date is scheduled for August 11, 2024 but the HDPE fittings are required to start the project. The original Notice to Proceed had the project commencing on May 13, 2024. The HDPE Fittings are delaying the project initiation.



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The New Mexico Finance Authority, on behalf of the community Chippeway Park, requests a waiver on Iron and steel products that are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality for the 3-inch Molded Butt Weld Mechanical Joint Adapter for HDPE fittings.

Please direct follow up questions to Todd Johansen (tjohansen@nmfa.net or 505-240-3467).

Thank you for your consideration.

Sincerely,

Todd Johansen

Todd Johansen
Senior Program Administrator

Attachments:

Email to M. Finney from Leslie Corcell on no AIS compliant part.

Project Specifications

Waiver part specifications

This waiver request was submitted to the EPA by the state of New Mexico and applies only to the project in the subject line. All supporting correspondence and/or documentation from contractors, suppliers or manufacturers included as a part of this waiver request was done so by the recipient to provide an appropriate level of detail and context for the submission. There may be documents with project diagrams, schedules, and supplier correspondence in formats that do not meet the Federal accessibility requirements for publication on the Agency's website. Hence, these exhibits have been omitted from this waiver publication. They are available upon request by emailing DWSRFWaiver@epa.gov.

- B. Block individual and stockpiled pipe lengths to prevent moving.
- C. Do not place pipe or pipe materials on private property without prior authorization, or in areas obstructing pedestrian or vehicular traffic.
- D. Store polyethylene materials out of sunlight.
- E. Flexible pipe shall be braced as required to maintain roundness of +/- 1% during shipping and handling.
- F. Prior to shipment and again prior to installation, all materials shall be visually inspected for damage, including coatings and surfaces. Any damaged materials shall be repaired to original standards or replaced.

1.8 FIELD MEASUREMENTS

- A. Verify field measurements prior to fabrication.

PART 2 PRODUCTS

2.1 WATER PIPING AND FITTINGS

- A. High Density Polyethylene: IPS SDR-11 pipe. Must be NSF-61 approved,
 - 1. Minimum pressure rating: 150 psi.
 - 2. Joints: Compression fittings, compatible with heavy-duty copper service fittings.

- B. Polyethylene Pipe: AWWA C901 and ASTM D3035 for sizes up to 3" diameter; AWWA C906 and ASTM F714 for sizes 4" diameter and above.
 - 1. Each production lot of pipe shall be tested for melt index, density, percent carbon, dimensions and ring tensile strength.
 - 2. Polyethylene pipe and fittings shall be PE4710 high-density polyethylene meeting ASTM D3350 cell classification 44547C. The material shall be listed and approved for potable water in accordance with NSF Standard 61.
 - 3. Four permanent co-extruded, equally spaced, blue color stripes in outside surface of pipe.
 - 4. Molded fittings in accordance with ASTM D3261, and tested in accordance with AWWA C906.
 - 5. Fabricated fittings shall be made by heat fusion joining specially machined shapes cut from pipe, polyethylene sheet stock or molded fittings; rated for internal pressure service at least equal to the full service pressure rating of the mating pipe; and tested in accordance with AWWA C906.
 - 6. Polyethylene flange adapters made with sufficient through-bore to be clamped in a butt fusion-joining machine without use of a stub-end holder, as per pipe manufacturer's instructions.
 - 7. All HDPE fabricated MJ adapters shall have steel stiffeners.

8. HDPE pipe and fittings shall have a working pressure (as set forth in ASTM F714) of not less than 200 psi for DR 11, not less than 160 psi for DR 13.5, not less than 138 psi for DR 15.5, and not less than 125 psi for DR 17, with a recurring surge pressure allowance (total pressure) of 1.50 times working pressure and occasional surge allowance (total pressure) of 2.00 times working pressure (surge allowances shall be based on AWWA C906 and/or AWWA M55).
9. Nominal sizes indicated on Drawings for both pipe and fittings denote iron pipe size (IPS) unless otherwise noted.
10. All HDPE pipe and fittings shall be manufactured of PPI listed materials.
11. Pre-fabricated HDPE mitered bends and other fittings shall have internal weld bead completely removed prior to installation, using approved method for weld bead removal.

2.2 TAPPING SLEEVES, TEES AND VALVES

A. Tapping Sleeves and Saddles:

1. [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
g. Substitutions: Approved equal.
2. For taps 2-inches or smaller, use nylon coated ductile iron tapping saddles with dual compression straps.
3. For taps larger than 2-inches, use fusion-bonded epoxy-coated steel.
4. All saddles shall be specifically designed for use on the type of piping that is being tapped.
5. All bands, straps, bolts, nuts and washers shall be SS 304. All bolts shall be provided by manufacturer especially for use with their respective components.
6. Saddle Working pressure rating: 350 psi.
7. Sleeve Working pressure rating: 175 psi.
8. Tapped Outlet: FNPT or as indicated on Drawings.
9. All pipe taps shall be made with an engineer approved "tapping machine".
10. Refer to Section 31 12 16 for specification on gate valve to install as tapping valve on sleeve.

B. HDPE Branch Saddle Reducing Tees:

1. For use on all HDPE pipe.
2. Shall be factory-fused and tested in accordance with AWWA C906.
3. Shall be constructed of same HDPE material with the same inner diameter as the pipe to which the tee is joined.
4. Entire unit shall be rated to the same pressure as the pipe to which the tee is joined.

C. Tapping Valves:

1. [REDACTED]
[REDACTED]
[REDACTED]

-
-
- d. Or approved equal
- e. Substitutions: Section 01 00 00 - Product Requirements.
- 2. AWWA C509, resilient wedge tapping valve with non-rising stem. Inlet flanges shall conform to ANSI B16.1, Pressure Rating of 350 psi and MSS SP-60. Mechanical joint outlets shall conform to AWWA C111.

2.3 UNDERGROUND PIPE MARKERS

- A. Furnish materials in accordance with the following, as well as the New Mexico Standard Specifications for Public Works Construction, with latest revisions. The most stringent requirement shall apply.
- B. Tracer Wire: 12 AWG, Solid Copper, Single Conductor, 30 volts, ■ wire or equal, for underground installation.
- C. Underground Utility Marking Tape: Bright colored, continuously printed, minimum 6 inches wide by 4-mil thick, manufactured for direct burial service, imprinted with "BURIED WATER SERVICE" (or similar wording) in large letters, on blue tape in conformance with APWA color code specifications for underground tape systems. The tape shall be constructed of material that is impervious to alkalis, acids, chemical reagents, and solvents found in the soils.
- D. Splice Connectors: ■ pre-filled with silicone or engineer approved equal.

2.4 ABOVEGROUND PIPE MARKERS

- A. Carsonite marker posts, blue, with Owner-specified decals furnished and installed by the Contractor, as per corresponding detail in the Drawings.

2.5 PIPE SUPPORTS AND ANCHORING

- A. Metal for pipe support brackets: ASTM A123/A123M, galvanized structural steel thoroughly coated with bituminous paint.
- B. Metal tie rods and clamps or lugs: Galvanized steel sized in accordance with NFPA 24 thoroughly coated with bituminous paint.

2.6 BEDDING AND BACKFILL MATERIALS

- A. Bedding: Fill Type as specified in Section 31 23 23.
- B. Soil Backfill from Above Pipe to Finish Grade: Soil Type as specified in Section 31 23 23. Subsoil with no rocks over 6 inches in diameter, frozen earth or foreign matter.

2.7 BOLTS AND NUTS

- A. Zinc-plated or fluoropolymer coated bolts and nuts shall be used for the installation of pipelines up to 500 mm (20") diameter and shall be carbon steel conforming to ASTM A307, Grade A, unless otherwise indicated on the approved drawings. Bolts and nuts shall have standard ANSI B1.1, Class 2A coarse threads.
- B. Stainless steel bolts and nuts shall be used for the installation of pipelines 600 mm (24") diameter and larger and for submerged flanges. Bolts and nuts shall be Type 316 stainless steel conforming to ASTM A193, Grade B8M for bolts, and Grade 8M for nuts.
- C. All bolt heads and nuts shall be hexagonal, except where special shapes are required. Bolts shall be of such length that not less than 6.4 mm (¼") or more than 12.7 mm (½") shall project past the nut in tightened position.

2.8 ACCESSORIES

- A. Concrete for Thrust Restraints: Conform to Section 03 05 00, with minimum compressive strength of 3,000 psi.
- B. Steel rods, bolt, lugs and brackets: ASTM A36/A36M or ASTM A307 carbon steel.
- C. Field-applied Roskote coal tar epoxy coating on all buried steel bolts on all fittings and valves.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 00 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify existing utility water main size, location, and invert, are as indicated on Drawings.

3.2 PREPARATION

- A. Pre-Construction Site Photos:
 - 1. If required in the Contract Documents, take photographs or videotape along centerline of proposed pipe trench; minimum one photograph for each 50 feet of pipe trench.
 - 2. Show mailboxes, curbing, lawns, driveways, signs, culverts, and other existing site features that may potentially be impacted by the construction work.
 - 3. Include project description, date taken and sequential number on back of each photograph.
- B. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, remove burrs. Use only equipment specifically designed for pipe cutting. The use of chisels or hand saws will not be permitted. Grind edges smooth with beveled end for push-on connections.

- C. Remove scale and dirt on inside and outside before assembly.
- D. Prepare pipe connections to equipment with flanges or unions.
- E. Excavate pipe trench in accordance with Section 31 23 17 for Work of this Section. Hand trim excavation for accurate placement of pipe to elevations indicated on Drawings.

3.3 TRENCHING AND BACKFILL

- A. Excavate trenches in accordance with Section 31 23 17, including dewatering of excavations as required, to maintain dry conditions and preserve final grades at bottom of excavation.
- B. Place bedding and trench backfill material in accordance with Section 31 23 23.

3.4 INSTALLATION - PIPE

- A. Install pipe in accordance with AWWA C605. Use only lubricants supplied by the pipe manufacturer and apply in accordance with manufacturer's recommendations. Clean the gasket, bell, groove and spigot immediately prior to connecting pipe joints.
- B. Handle and assemble pipe in accordance with manufacturer's instructions and as indicated on Drawings. Inspect each pipe and fitting prior to lowering into trench to ensure there is no damage to the pipe, fitting or coatings. Repair any damage prior to installation. Clean ends of pipe and remove foreign material from inside of pipe and fittings.
- C. Steel Rods, Bolt, Lugs, and Brackets: Coat buried steel with one coat of coal tar coating before backfilling.
- D. Maintain 10 foot horizontal separation of water main from sewer piping in accordance with local code.
- E. PVC pipe deflections may be made either at joints or by pipe bending.
 - 1. Deflection both at joints and by pipe bending shall not exceed maximum deflection recommendations by the pipe manufacturer or AWWA C605. In the case of a discrepancy between these recommendations, the smaller maximum deflection value shall apply.
- F. Install ductile iron piping and fittings to AWWA C600.
- G. Weld pipe in accordance with AWWA C206. Weld joints in accordance with AWWA C205.
- H. Flanged Joints: Not to be used in underground installations except within approved underground structures.

- I. Horizontal and vertical deflections in HDPE pipe may be accomplished by pipe bending, provided that:
 - 1. Such bends meet the minimum bending radius recommended by the pipe manufacturer and AWWA (in case of discrepancy, the longer of the two radii shall be used).
 - 2. In the case of horizontal bends, the pipe must remain within the established permanent right-of-way.
- J. Center HDPE pipe within the trench to the extent possible. HDPE pipe shall be allowed to “snake” laterally within the trench, provided that:
 - 1. Such lateral deflection remains within manufacturer’s recommended limits.
 - 2. Minimum clearances between the pipe, other pipes, and trench walls are met.
 - 3. Adequate side clearance is provided on both sides of the pipe to allow for placement of soil cement slurry or placement and compaction of embedment material, and to eliminate voids in the pipe haunch area.
- K. Install pipe with no high points. If unforeseen field conditions arise which necessitate high points, increase pipe bury depth or install air release valves as directed by Engineer.
- L. Install pipe to have bearing along entire length of pipe. Excavate bell holes to permit proper joint installation. Do not lay pipe in wet or frozen trench.
- M. Prevent foreign material from entering pipe during placement.
- N. Install pipe to allow for expansion and contraction without stressing pipe or joints.
- O. Close pipe openings with watertight plugs during work stoppages.
- P. Install access fittings to permit disinfection of water system performed under Section 33 13 00.
- Q. Establish elevations of buried piping with not less than 4 foot of cover. Measure depth of cover from final surface grade to top of pipe barrel.
- R. Install tracer wire continuous, taped to top of pipeline at regular intervals not exceeding 24”; coordinate with Sections 31 23 17 and 31 23 23. Continuity of tracer wire shall be tested periodically as indicated by Engineer, and prior to final acceptance of work. Any segment of tracer wire that fails the continuity test shall be repaired or replaced by Contractor at no additional cost to Owner.
- S. Expose tracer wire at every surface penetration (i.e. valves, hydrants, vaults, etc.). Protect wire ends with wire caps and protect from corrosion. Provide extra length of tracer wire at each structure, so tracer wire can be pulled 3 feet out top of structure for connection to detection equipment.
- T. Install underground utility marking tape continuous, buried 18 inches directly above pipe. Coordinate with Section 31 23 17 and 31 23 23.

- U. Install heat trace, if applicable, and pipe insulation on all exposed pipes. Completely seal all insulation with vinyl tape.

3.5 JOINING POLYETHYLENE PIPE

- A. Allow all HDPE pipe to acclimate to sub-surface soil temperature prior to connecting pipe to any fitting or appurtenance.
- B. Heat Fusion Joining: Joints between plain end pipes and fitting shall be made by butt fusion. Joints between the main and saddle branch fittings shall be made using saddle fusion. Either procedure used must be recommended by the pipe and fitting manufacturer.
- C. Polyethylene pipe and fittings may be joined together or to other materials by means of:
 1. Flanged connections (flange adapters and back-up rings);
 2. Mechanical coupling designed for joining polyethylene pipe or for joining polyethylene pipe to another material;
 3. MJ adapters; or
 4. Electrofusion.
- D. Mechanical bolted joining may be used where the butt fusion method cannot be used. Flange joining will be accomplished by using a HDPE flange adapter with a ductile iron back-up ring. Mechanical joint joining will be accomplished using either a molded mechanical joint adapter or an ID stiffener and restraint. Either mechanical joint joining method will have a ductile iron mechanical joint gland.
- E. ID Stiffener and Restraint: A stiffener shall be installed in the bore of the polyethylene pipe when an OD compression mechanical coupling is used and when connecting plain end PE pipe to a mechanical joint pipe, fitting or appurtenance. External clamp and tie rod restraint shall be installed where PE pipe is connected to the socket of a mechanical joint pipe, fitting or appurtenance except where an MJ adapter is used.
- F. Mechanical Joint and Flange Installation: Mechanical joint and flange connections shall be installed in accordance with the manufacturer's recommended procedure. MJ adapter and flanges shall be centered and aligned to the mating component before assembling and tightening bolts. In no case shall MJ gland or flange bolts be used to draw the connection into alignment.
- G. Mechanical couplings shall be fully pressure rated and fully thrust restrained such that when installed in accordance with manufacturer's recommendations, a longitudinal load applied to the mechanical coupling will cause the pipe to yield before the mechanical coupling disjoins. External joint restraints shall not be used in lieu of fully restrained mechanical couplings.
- H. Do not perform fusions during adverse weather conditions, including high wind, any amount of blowing dust or precipitation events. Protect exposed pipe faces after facing and surface preparation from blowing dust. Engineer shall have the right to shut down fusing operations if weather conditions are not suitable or if weld quality is suspect. Contractor shall not be entitled to additional compensation for any such additional testing

or shut-downs; however, shut-downs required by the Engineer through no fault of the Contractor (i.e. due to weather) shall be considered excused weather delays.

1. In the event of inclement weather, a tent, shelter, weld screen may be used to protect the fusion environment from dust, precipitation and heater plate variance. Any such enclosures must be approved by the Engineer. Engineer reserves the right to reject such enclosures and shut down operations if the enclosures do not adequately protect the pipe faces or fusion environment.
- I. HDPE pipe may be welded into strings (“tie-in joining”) and dragged into place, provided that pipe manufacturer’s recommendations for maximum length, dragging velocity and other criteria are met.
 - J. All HDPE pipe butt fusions shall be performed in accordance with PPI Technical Report TR-33 and ASTM F2620 (latest edition). To the extent that these standards allow for accelerated cooling of HDPE butt fusion welds using chilled air, such methods may be used. However, all welds must be made in strict accordance with PPI and ASTM standards.
 - K. Internal weld beads from all HDPE welds (on both pipe and fittings) shall be completely removed prior to installation, using Engineer-approved method for weld bead removal.
 - L. Protect HDPE at all times during handling, storage, transport, cutting and fusion from oil contamination.
 - M. Polyethylene pipe fusion machine data loggers:
 1. All polyethylene pipe fusion machines shall be equipped with data loggers to record, at a minimum, joint temperature, pressure and time.
 2. Data loggers shall be used during all joint fusions.
 3. The Contractor shall provide data on any and all fusion joints upon request of the Owner or Engineer.

3.6 INSTALLATION - TAPPING SLEEVES AND GAUGES

- A. Install tapping sleeves and gauges in accordance with Drawings and in accordance with manufacturer’s instructions.

3.7 THRUST RESTRAINTS

- A. Install tie rods, clamps, setscrew retainer glands, or restrained joints. Protect metal restrained joint components against corrosion by applying a bituminous coating, or by concrete mortar encasement of metal area. Do not encase pipe and fitting joints to flanges.
- B. Install thrust blocks or restrained fittings in accordance with Drawings and in accordance with manufacturer’s instruction.
- C. Install thrust blocks, tie rods, and joint restraint at dead ends of water main.

3.8 BACKFILLING

- A. Backfill trenches for piping in accordance with Section 31 23 23.

3.9 DISINFECTION OF POTABLE WATER PIPING SYSTEM

- A. Flush and disinfect system in accordance with Section 33 13 00.

3.10 FIELD QUALITY CONTROL

- A. Section 01 00 00 - Execution Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Perform pressure test on potable water distribution system in accordance with applicable standards:
 - 1. PVC Pipe: AWWA C605.
 - 2. Ductile Iron Pipe: AWWA C600.
 - 3. HDPE Pipe: ASTM F2164.
 - 4. Steel Pipe: AWWA C200.
- C. Hydrostatic pressure for testing shall be 1.5 times the designed working pressure at the lowest point in the line section being tested, or 150 psi minimum pressure, whichever is greater. In the event it is not possible to measure the pressure at the lowest point directly, this pressure may be calculated by measuring the pressure elsewhere within the section and calculating the pressure based on elevation difference.
 - 1. Warning: Safety is of paramount importance when conducting hydrostatic pressure leak test due to possibility of sudden violent rupture or failure.
 - 2. In no case shall the test pressure exceed the manufacturers' recommended maximum safe test pressure for the pipe or fittings.
 - 3. Under no circumstances shall HDPE pipe be maintained at test pressure (1.5 times design working pressure) for more than 8 hours. If the test is not completed within this time, the system shall be depressurized and allowed to "relax" for a minimum of 8 hours before commencing the next test sequence.
 - 4. For all pipe other than HDPE, maintain pressure in the pipeline for 24 hours prior to starting the test, then test the pipeline for 96 hours or until accepted by the Engineer.
 - 5. No observable leakage is allowed. Measurable leakage must be within the maximum allowable limits set forth by applicable AWWA and ASTM standards.
 - 6. Any leaks detected during testing shall be repaired. After repairs are completed, another full duration test shall be performed on the section of the pipeline to which the repairs were made.
 - 7. HDPE pipe: Add make-up water as necessary to maintain maximum test pressure for 4 hours.
 - 8. HDPE test phase: Pressurize pipe and reduce pressure by 10 psi and monitor pressure for 1 hour. Do not increase pressure or add make-up water.
 - 9. HDPE pass/fail criteria: If no visual leakage is observed and pressure during the test phase remains steady (within 5% of test pressure) for the 1 hour test phase period, a passing test is indicated.
- D. Qualifications of polyethylene fusion personnel:
 - 1. Prior to production of heat fusion joints, the heat fusion joint machine operator shall be certified by the machine manufacturer or representative thereof who is approved by the Engineer.

2. Each fusion machine operator shall receive training on the use of the specific fusion machine and the bonding procedure and shall perform at least one pipe-to-pipe bond and one pipe-to-fitting bond (if used) on each machine they are required to use. All bonds made as part of operator certification shall be visually inspected and tested in accordance with the fusion quality testing specifications set forth in this section.
 3. A fusion machine operator's qualification shall remain in effect for a period of six months from the date of qualification. The entity certifying an operator's qualifications shall retain the ability to revoke an operator's qualification if it is determined that there is a specific reason to question the operator's ability to make joints that meet project specifications.
- E. Fusion Quality Testing on Polyethylene pipe: The Contractor shall verify field fusion quality by making and testing a trial fusion as follows:
1. Frequency: Minimum of once per fusion machine and crew per day, and a maximum of 20% of welds, or at any other time requested by the Owner or Engineer. Changes in weather during course of day, including increase in wind velocity or blowing dust, precipitation events or severe changes in temperature, may require additional tests at the discretion of the Engineer. Changes to fusion machine shall also require additional tests.
 2. Procedure: The trial fusion shall be allowed to cool completely; then test straps shall be cut out and bent strap tested in accordance with ASTM F2620. If the bent strap test of the trial fusion fails at the joint, the field fusions represented by the trial fusion shall be rejected. The Contractor, at his expense, shall make all necessary corrections to equipment, set-up, operation, and fusion procedure, and shall re-make the rejected fusions.
 3. Rejection of fusion joints:
 - a. Any joint that exhibits a yield point lower than that of the unfused pipe or that fails in a brittle mode is considered unacceptable.
 - b. If the tensile impact test of the trial fusion fails, all field fusions represented by the trial fusion shall be rejected. Contractor, at his expense, shall make all necessary corrections to equipment, set-up, operation, and fusion procedure, and shall re-make the rejected fusions. In the event that some or all of the rejected joints are already installed, Contractor shall remove and re-install the pipe at no additional cost to Owner.
- F. Testing of field welds on steel pipe and fittings shall be by ultrasonic or radiographic method in accordance with AWS D1.1.
1. The Engineer reserves the right to demand evidence of welder's certification for all personnel performing field welding of steel pipe and fittings.
- G. Thermal contraction and expansion of HDPE pipe:
1. Engineer reserves the right to unbolt any flange or mechanical joint attached to HDPE pipe (including all valve assemblies) to check for tensile or compressive loading due to thermal contraction or expansion of the HDPE pipe. Excessive tension, indicated by pull-back of the HDPE end, or excessive compression of the flange shall be cause for the Contractor to excavate the HDPE pipe, lengthen or shorten the pipe as necessary, and re-bury. Contractor shall not grout the pipe

penetrations of valve vaults until authorized by the Engineer, to allow for proper testing. Refer to Section 33 12 16 - Water Utility Valves.

- H. When tests indicate Work does not meet specified requirements, remove Work, replace and retest at no additional cost to the Owner.
- I. Contractor shall not connect to existing system until all testing and disinfection is complete and shall obtain written permission from the Owner to proceed with connection to the existing system.

END OF SECTION