

02530 – SANITARY SEWER

(Last revised XX/XX/XX)

This division contains 54 pages!

SELECTED LINKS TO SECTIONS WITHIN THIS SPECIFICATION

[Part 1- General](#)

[Low Press Air Test Gravity Lines](#)

[Part 2 – Products](#)

[Low Press Air Test - RCP](#)

[Pump Station & Force Mains](#)

[Part 3 - Execution](#)

[Air/Vacuum Release Valve](#)

[Mandrel Test](#)

[PVC Pipe](#)

[Manhole Corrosion Protection](#)

[PVC Truss Pipe](#)

[Bypass Pumping](#)

[Manhole Construction](#)

[Service Connections](#)

[Concrete Encasements](#)

[Manhole Inverts](#)

[Steel Encasement Pipe](#)

[Concrete Pipe - spec](#)

[Manholes Precast - Spec](#)

[Testing](#)

[Ductile Iron Pipe - spec](#)

[Manhole Steps - Spec](#)

[Tunneling](#)

[DIP Fittings](#)

[Manhole Vent Pipes](#)

[Tunnel Liners](#)

[Force Mains - Installation](#)

[Manhole Vacuum Test](#)

[UG Damage Protection](#)

[Iron Castings](#)

[Pipe Laying](#)

[Video Inspection](#)

[KOR-N-SEAL](#)

[Pipe Separation Req'ts](#)

[Line Air Pressure Test - Table](#)

[PART 1 – GENERAL](#)

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this specification.
- B. Section 02275 – TRENCHING, BACKFILLING AND COMPACTION OF UTILITIES.

1.2 SUMMARY

- A. This section includes sanitary sewer piping and specialties for municipal sewer and services outside of building structures.

1.3 DEFINITIONS

A. GENERAL:

For the purposes of this specification, the following definitions refer to sanitary sewer collection and pressure systems that come under the authority of the [City of Jacksonville](#) as specified within this section and other sections of this manual.

- 1) **Cleanouts:** A riser pipe off of a service line that provides access to the line for the purpose of line cleaning.

- 2) **Easement:** An instrument that depicts/describes and conveys rights and privileges to the City of Jacksonville for the placement, access to and maintenance of a utility line across and/or on the property of a second party. Ownership of the land remains with the second party.
- 3) **City Engineer:** The Project Engineer or his or her authorized representative.
- 4) **Sanitary Sewer:** Exterior gravity or pressure public sanitary sewer systems.
- 5) **Force Main:** Pressure sanitary sewer systems.
- 6) **Lift/Pump Station:** A combination wetwell/pump station and Appurtenances.
- 7) **Sewer Service:** Exterior domestic sewer piping which connects to the public sewer system.

B. The following are industry abbreviation for various pipe materials:

- 1) **DIP:** Ductile Iron Pipe
- 2) **CI:** Cast Iron Pipe
- 3) **AC:** Asbestos Cement Pipe
- 4) **RCP:** Reinforced Concrete Pipe

1.4 PERFORMANCE

- A. Gravity Flow, Nonpressure Piping Pressure Ratings: At least equal to the system test pressure.
- B. Force Main Pressure Ratings: At least equal to the system operating pressure plus 50 psi, but no less than 150 psi.

1.5 SUBMITTALS

- A. Submit product data for the following. For third party projects, the developer/project Engineer shall perform all product review and make a submittal at the end of the project to the City.
 - 1) Piping Specialties
 - 2) Air & vacuum release valves and accessories
 - 3) Autodialers
 - 4) Sewage Pumps and appurtenances, operating manuals.
 - 5) Auxiliary Generators
 - 6) Alarm Devices
 - 7) Precast Concrete Manhole Castings
 - 8) Piping Paint
- B. Submit shop drawings for the following in accordance with Section 01000 *General Requirements*.

- 1) Precast Concrete Vaults and wetwells, including frames and covers, ladders, drains, access hatches, wall sleeves, valve support stands, pumps, and motors.

PART 2 – PRODUCTS

2.1 PIPE & FITTINGS

The following references provide the minimum standards as they apply to the specific item listed. In all cases, the latest revision shall apply:

2.1.1 DUCTILE IRON PIPE

Ductile iron pipe shall be manufactured in accordance with all applicable requirements of AWWA C151/ANSI A21.51 and ASTM A746, Standard Specification for Ductile Iron Gravity Sewer Pipe for 4-inch and larger diameter pipe, pressure class rated, class 200 minimum. The thickness of Ductile Iron Pipe shall be determined by considering trench load in accordance with ANSI/AWWA C150/A21.50 (Public Sewers shall be no less than 8-inch diameter).

All pipe and fittings shall be lined with SewperCoat as manufactured by Lafarge Calcium Aluminates or approved equal. SewperCoat is a calcium aluminate mortar made of fused calcium aluminate cement and fused calcium aluminate aggregates.” The thickness of the lining shall be the thickness identified on AWWA C104, Sec. 4.7, paragraph 4.7.1, latest revision but no less than 0.125 inch for 6-inch through 12-inch and 0.1875 inch for 14-inch through 24-inch pipe. The lining thickness may taper to less than the specified at the ends of the pipe. Cracks, other than closed hairline cracks and/or fine crazing shall not be acceptable. Loose areas of cement lining are not allowable. A seal coat shall be applied to the lining as identified on AWWA C104, Sec. 4.11.

Epoxy (Protecto 401) is an acceptable alternative to SewperCoat calcium aluminate mortar lining when pipe is to be used for sewer only.

Outside coat shall be a minimum of 1 mil bituminous paint according to ANSI/AWWA C151/A21.21 Section 51-8.1.

Each joint of ductile iron pipe shall be hydrostatically tested before the outside coating and inside lining are applied at the point of manufacturer to 500 psi. Testing may be performed prior to machining bell and spigot. Failure of ductile iron pipe shall be defined as any rupture or leakage of the pipe wall.

All materials used in production of the pipe are to be tested in accordance with AWWA C151 for their adequacy within the design of the pipe, and certified test results are to be provided to the City of Jacksonville upon request. All certified tests, hydrostatic and material are to be performed by an independent testing laboratory at the expense of the pipe manufacturer.