Section 02611

REINFORCED CONCRETE PIPE

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Reinforced concrete pipe for sanitary sewers and storm sewers.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

1. No separate payment will be made for reinforced concrete pipe under this Section. Include cost in unit price Work as specified in following Sections:

   a. Section 02426 - Sewer Line in Tunnels.

   b. Section 02531 - Gravity Sanitary Sewers.

   c. Section 02631 - Storm Sewers.

2. Refer to Section 01270- Measurement and Payment for unit price procedures.

B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for Work in this section is included in total Stipulated Price.

1.03 REFERENCES

A. ASTM C 76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.

B. ASTM C 443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe Using Rubber Gaskets.

C. ASTM C 497 - Standard Test Method for Concrete Pipe, Manhole Sections, or Tile.

D. ASTM C 506 - Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain and Sewer Pipe

E. ASTM C 655 - Standard Specification for Reinforced Concrete D-load Culvert, Storm Drain and Sewer Pipe.

F. ASTM C 877 - Standard Specification for External Sealing Bands for Noncircular Concrete Sewer, Storm Drain, and Culvert Pipe.

1.04 SUBMITTALS

A. Conform to requirements of Section 01330 - Submittal Procedures.

B. Submit complete product data for pipe, fittings and gaskets for approval. Indicate conformance to appropriate reference standards.

C. Submit certificates by testing laboratory, hired and paid by manufacturer, that concrete pipes meet applicable standards when tested in accordance with ASTM C 497.

D. For jacking pipe, submit drawings and data describing grouting port design and closure procedures when required by Section 02431 - Tunnel Grout, including liner repair, as applicable.

PART 2 P R O D U C T S

2.01 REINFORCED CONCRETE PIPE

A. Conform circular reinforced concrete pipe to requirements of ASTM C 76, for Class III wall thickness. Conform rubber gasket joints for sanitary sewers and storm sewers and tongue and groove for roadside ditch culverts to ASTM C 443.

B. Conform reinforced concrete arch pipe to requirements of ASTM C 506 for Class A-III. Joints shall conform to ASTM C 877.

C. Reinforced concrete elliptical pipe, either vertical or horizontal, shall conform to requirements of ASTM C 507 for Class VE-III for vertical or Class HE-III for horizontal. Use rubber gasket joints conforming to ASTM C 877.

D. Conform reinforced concrete D-load pipe requirements of ASTM C 655.

2.02 GASKETS

A. When no contaminant is identified, furnish rubber gasket conforming to ASTM C 443 for circular reinforced concrete pipe and rubber gasket conforming to ASTM C 877 for reinforced concrete elliptical pipe.

B. Use the following gasket materials for pipes to be installed in potentially contaminated areas, especially where free product is found near elevation of proposed sewer:

CONTAMINANT	GASKET MATERIAL REQUIRED
Petroleum (diesel, gasoline)	Nitrile Rubber
Other Contaminants	As recommended by pipe manufacturer

2.03 LINERS FOR SANITARY SEWER PIPE

A. Reinforced concrete pipe for sanitary sewers shall be PVC lined and conform to Section 02427 - Plastic Liner for Large Diameter Concrete Sewers and Structures.

B. Reinforced concrete pipes to be installed in potentially contaminated areas shall have liners recommended by manufacturer as resistant to contaminants identified in Phase II Environmental Site Assessment Report.

2.04 SOURCE QUALITY CONTROL

A. Representatives of City Engineer will inspect manufacturer's plant and casting operations as deemed necessary.

PART 3 E X E C U T I O N

3.01 INSTALLATION

A. Conform to requirements of following Sections, as applicable:

1. Section 02448 - Pipe and Casing Augering for Sewers.

2. Section 02531 - Gravity Sanitary Sewers.

3. Section 02631 - Storm Sewers.

4. Section 02441 - Micro-tunneling and Pipe-Jacked Tunnels.

B. Install reinforced concrete pipe in accordance with manufacturer's recommendations.

END OF SECTION