

Section 02641

MONOLITHIC REINFORCED CONCRETE SEWERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Monolithic reinforced concrete sewers.

1.02 MEASUREMENT AND PAYMENT

- A. Unit Prices.

1. No payment will be made for monolithic reinforced concrete box sewer under this Section. Include payment in unit price for Sections 02531 - Gravity Sanitary Sewers or 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 SUBMITTALS

- A. Conform to requirements of Section 01330 - Submittal Procedures.
- B. Submit for approval, shop drawings of design and construction details for monolithic reinforced concrete box sewer.

PART 2 PRODUCTS

2.01 CONCRETE

- A. Concrete for construction of monolithic reinforced concrete sewers shall conform to requirements of Section 03315 - Concrete for Utility Construction.

2.02 REINFORCING STEEL

- A. For monolithic reinforced concrete sewer, use reinforcing steel for construction as specified in Section 03315 - Concrete for Utility Construction.

PART 3 EXECUTION

3.01 CONSTRUCTION METHODS

- A. After trench has been excavated to bottom in accordance with Section 02317 - Excavation and Backfill for Utilities, grade trench to fine graded condition and to subgrade established. Do not backfill below established grade line.
- B. Where seal slab is installed, finish top of seal slab to established subgrade.
- C. Upon completion of trench, place reinforcing steel and forms. Securely brace in proper position. Place concrete in accordance with Section 03315 - Concrete for Utility Construction.
- D. Provide stakes, grade, and batter boards for locating Work. Use grade boards of timber sized and supported as shown on Drawings. For batter boards, use 1 inch by 6 inch wood planed on four sides to truly parallel faces. Protect grade boards, batter boards, and location stakes to from being damaged or knocked out of alignment. Use sound twilled lines for setting lines and grades. Provide necessary plummets and graduated poles.

3.02 FORMS

- A. Use forms with smooth surfaces. Rigidly fix bracing, adequate to prevent deviation from established lines. Use steel forms neatly and accurately made with similar parts in each longitudinal section interchangeable with other sections. Use wooden forms of clean, sound lumber, reasonably free from knots, dressed on all sides, and neatly fitted. Use tongue and groove or ship lap material. Make form surface watertight and securely fasten to ribs or supports. Do not use forms unless clean, properly shaped, and sufficiently strong.
- B. Before placing concrete or reinforcement, coat forms with lubricants to prevent adherence of concrete.
- C. Leave wall forms in place minimum of 24 hours after concrete is placed and until concrete attained compressive strength of 1000 psi.
- D. Place structural support at center of plan for forms supporting roof slab or use standard manufactured forms not requiring center supports. Do not disturb forms and center supports until 3 days after roof slab is placed and concrete attained compressive strength of 2000 psi.
- E. Use trench sheathing for outside form for sewers with semicircular bottom. During trench excavation, place one set of rangers and struts immediately above construction joint in wall located 5-feet 9-inches above flow line and second set of rangers and struts immediately above top of sewer. Do not remove rangers and struts located 5-feet 9-inches above flow line until concrete in lower section of sewer attained strength of 2000 psi. Similarly, do not

remove bracing immediately above top of sewer until concrete in walls and top slab attained strength of 2500 psi.

3.03 JUNCTIONS AND ANGLE INTERSECTIONS

- A. Provide angles in box-type sewers according to details on Drawings.
- B. Where junctions with future sewers are to be made, leave openings in sewer walls to match outside dimensions of connecting sewer. Leave bond length of each reinforcing bar in opening for connecting with future sewer. Where sewer or stub will be built under future contract, close opening with watertight 12-inch brick bulkhead.

3.04 CONCRETE FINISHING

- A. After form removal, finish pipe interior and exposed concrete to smooth surface. Conform to requirements of Section 03315 - Concrete for Utility Construction.

END OF SECTION