

DIVISION 3 - CONCRETE

031100	CONCRETE FORMWORK – CIVIL SITEWORK
032100	CONCRETE REINFORCEMENT – CIVIL SITEWORK
033053	CAST-IN-PLACE CONCRETE – CIVIL SITEWORK

SECTION 03 11 00

CONCRETE FORMWORK (CIVIL SITEWORK)

PART 1 - GENERAL

1.1 Scope: This Section includes the furnishing of all labor, materials, tools and equipment, and perform all operations necessary for formwork for Portland Cement concrete.

1.2 Storage and Handling:

- A. Forms shall be stored in a neat and orderly fashion and protected from damage.
- B. If any form is deemed by the ENGINEER to be unfit for use, it shall be removed from the job.
- C. Forms shall be cleaned and stacked immediately after stripping from concrete.

1.3 Reference Standard: Conform to the following Sections of the State of Louisiana, Department of Transportation and Development, "Louisiana Standard Specifications for Roads and Bridges", 2006 Edition, except as modified herein.

- Section 601 - Portland Cement Concrete Pavement
- Section 706 - Concrete Walks, Drives and Incidental Paving
- Section 707 - Curbs and Gutters
- Section 805 - Structural Concrete
- Section 901 - Portland Cement Concrete

All references made therein to Measurement and Payment are deleted.

PART 2 - PRODUCTS

2.1 General: Materials shall conform to applicable provisions of Sections or Subsections referred to in the Reference Standard.

PART 3 - EXECUTION

3.1 General: All work related to this Section shall conform to the applicable provisions contained in the Reference Standard.

- END OF SECTION -



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SECTION 03 21 00

CONCRETE REINFORCEMENT (CIVIL SITEWORK)

PART 1 - GENERAL

1.1 Scope: This Section includes furnishing of all labor, materials, tools and equipment, and perform all operations necessary for concrete reinforcement work as indicated on the Drawings and as directed by the ENGINEER.

1.2 Reference Standard: Work shall conform to the following Sections of the State of Louisiana, Department of Transportation and Development, "Louisiana Standard Specifications for Roads and Bridges", 2000 Edition, except as may be modified herein:

Section 806 - Reinforcement

Section 1009-Reinforcing Steel and Wire Rope

All references made therein to measurement and payment are deleted.

1.3 Submittals: Submittals consisting of mill certificates and steel bending fabrication drawings and bar tests shall be provided in accordance with Section 01 33 00 – Submittal Procedures.

PART 2 - PRODUCTS

2.1 General: Reinforcement shall conform to Subsection 1009 of the Reference Standard, except that all reinforcement shall be Grade 60.

PART 3 - EXECUTION

3.1 General: All work related to this Section shall conform to the applicable provisions contained in the Reference Standard.

- END OF SECTION -

SECTION 03 30 53CAST-IN-PLACE CONCRETE (CIVIL SITEWORK)PART 1 - GENERAL

1.1 Scope: This Section covers all operations necessary for cast-in-place concrete work as indicated on the Drawings and specified herein.

1.2 Reference Standard: Work shall conform to the following Sections of the State of Louisiana, Department of Transportation and Development, "Louisiana Standard Specifications for Roads and Bridges", 2006 Edition, except as may be modified herein:

Section 601 -	Portland Cement Concrete Pavement
Section 706 -	Concrete Walks, Drives and Incidental Paving
Section 707 -	Curbs and Gutters
Section 805 -	Structural Concrete
Section 901 -	Portland Cement Concrete

All references made therein to Measurement and Payment are deleted.

1.3 Submittals: Submit product data in accordance with provisions of Section 01 33 00-Submittal Procedures.

PART 2 - PRODUCTS

2.1 General: Material for Portland Cement concrete shall conform to the applicable sections and subsections for the Reference Standard.

2.2 Portland Pozzolan Cement: No Portland Pozzolan cement shall be used for any structure for this project.

2.3 Non-Shrink Cement Grout: Non-shrink cement grout shall consist of cement, aggregate and additives formulated to meet the following volume change requirements. Early volume change (within 24 hours) as tested by ASTM C827 shall be limited to zero (0) percent shrinkage and four (4) percent maximum expansion. Long term volume change of hardened non-shrink cement grout (after 1 day for cure) shall conform to the Corps or Engineers Specification for Non-Shrink Grout, CRD-C621-82B. Shrinkage shall be zero (0) percent and expansion limited to a maximum of 0.4 percent volume change. Cement additives required to meet this specification shall be recommended by the grout manufacturer but shall be non-staining and non-metallic. Grout shall be equal to "Five Star" cement products manufactured by the U.S. Grout Corporation.

2.4 Non-Shrink Epoxy Grout: Non-shrink epoxy grout shall meet plastic volume changes within the first four (4) hours of zero (0) percent shrinkage and four (4) percent maximum expansion as tested by ASTM C827. Restrained hardened epoxy grout shall have zero (0)

percent shrinkage as tested by ASTM C537. Epoxy grout shall have zero (0) percent expansion in volume change after set under constant temperature conditions. Epoxy grout shall be 100 percent solids formulated with resin, hardener and aggregate as recommended by the manufacturer. Epoxy grout shall be equal to “Five Star” epoxy products manufactured by the U.S. Grout Corporation.

PART 3 - EXECUTION

3.1 General: All work related to this Section shall conform to the applicable provisions contained in the Reference Standard.

3.2 Concrete Compressive Strength: The average compressive strength in 28 days of Portland Cement concrete shall be as follows:

Item	28 Day Compressive Strength (PSI)	Structural Class/Pavement Type
Drive Repairs	3,500*	A
Incidental Paving (Walk Repairs), Fence/Post Footings, Drain Outfall	3,000	M

*3,500 psi acceptable in lieu of LADOTD specified 3,800 psi.

- END OF SECTION -