

ITEM 10562.81 M - PRECAST REINFORCED CONCRETE CUT-OFF WALLS
ITEM 10562.82 M - PRECAST REINFORCED CONCRETE CRADLES

DESCRIPTION

This work shall consist of designing, fabricating, furnishing and installing precast reinforced concrete cut-off walls and cradles in accordance with the plans and specifications.

MATERIALS

Precast reinforced concrete units shall be fabricated in accordance with the requirements of Subsection 704-03, "Precast Concrete - General" except as noted herein.

The requirements for concrete inspection facilities, automated batching controls and recordation do not apply. The concrete batching and mixing methods and inspection facilities shall meet the approval of the Materials Bureau.

All units, regardless of function, shall be produced by a single fabricator.

Other Materials

Grout. Grout shall consist of:

Portland Cement Type 2 (701-01).....	1 part
Concrete Sand (703-07).....	3 parts
Grout shall be proportioned by weight.	

Joint Seals. These shall be impervious membrane joints, or an equivalent, specified by the unit's fabricator. The size and type of joints shall also be as specified by the unit's fabricator.

CONSTRUCTION DETAILS

1. **Design Preparation** - Prior to the fabrication of these items, the Contractor shall submit the design and details to the Engineer for review and approval.
2. **Site Preparation** - All stream protection, excavation, and drainage work required prior to the installation of the precast units, as indicated on the contract plans, will be done as required elsewhere.
3. **Inspection, Storage and Handling** - All precast units and installation materials will be inspected both upon arrival at the construction site and prior to installation to determine any damage during shipment and storage and for conformance to dimensional tolerances.

The Contractor shall handle the units with extreme care to prevent damage. Damaged units shall be repaired in a manner approved by the Engineer.

Units, which as determined by the Engineer, cannot be repaired or do not meet dimensional tolerances, will be rejected and shall be replaced with acceptable units furnished by the Contractor at no additional cost to the State.

4. **Installation of the Structure** - The Contractor shall require the precast units Manufacturer to provide technical assistance and an on site representative during installation. The Contractor shall provide the Engineer with all facilities necessary to conduct a thorough inspection of all

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the installation work. Prior to installation, the Contractor shall supply the Engineer with detailed information concerning the proposed method of installation and the construction equipment he intends to use. No work shall be performed without the Engineer's approval.

5. Joints - All dowels, joint filler material, tie rods, connectors, waterproofing strips or other sealing materials supplied by the Manufacturer, shall be furnished and installed by the Contractor in accordance with the Manufacturer's directions and as approved by the Engineer. All welding required shall be performed in accordance with the provisions of the New York State Steel Construction Manual.
6. Grouting - Grouting shall be done in the manner indicated on the contract plans.
7. Backfilling - Backfilling will be paid under a separate item. Payment lines to be used for backfilling shall be as indicated on the plans or as established in writing by the Engineer. Backfilling procedures shall be in accordance with Section 203 - Excavating and Embankment, with the following modifications:
 - A. Fill shall be placed and compacted in layers not exceeding 300 mm in depth.
 - B. Dumping for fill operations shall not be allowed any nearer than 900 mm to a plane passing vertically through the back face of any footing.
 - C. Backfill shall be placed as symmetrically as possible around the structure with differential depths of backfill on each side of the structure span units not exceeding 450 mm with respect to each other.
 - D. Compacting with hand compaction equipment shall be done for all fill within 300 mm of the structure.
 - E. The use of vibratory rollers for compaction purposes will not be permitted.
7. Sheeting/Cofferdams - Open excavations shall be kept free of water, earth, ice and snow at all times during construction. Cofferdams/sheeting shall be installed as shown on the plans, specifications and Title 29 Code of Federal Regulations, Part 1926, Safety and Health Regulations for Construction (OSHA) or as ordered by the Engineer. Cofferdams/ sheet piling will be paid under separate items. Dewatering shall be included under the various excavation items.

METHOD OF MEASUREMENT.

Measurement will be taken as the number of units installed.

BASIS OF PAYMENT.

The unit price bid for these items shall include the furnishing of all labor, materials, tools, equipment, and mounting hardware installed in place to complete the work in accordance with the contract documents and as directed by the Engineer.