SECTION 508 - CEMENT RUBBLE MASONRY

508.01 Description. This section describes constructing cement rubble masonry.

508.02 Materials.

- Structural Concrete 601
- Portland Cement 701.01
- Fine Aggregate for Concrete 703.01
- Water 712.01

Stones shall be clean, hard, sound, and durable. Except stones for filling voids, stones shall have thickness of not less than 6 inches and width of not less than 1-1/2 times the thickness, but not less than 12 inches. Except headers, stones shall have length of not less than 1-1/2 times its width.

Face stones shall have volume of not less than 0.75 cubic foot, and heart stones shall have volume of not less than 0.5 cubic foot.

Mortar shall consist of 1 part cement to 2 parts of fine aggregate or sand by volume. Water shall be added to make mortar easy to handle and spread with trowel. Mortar shall be prepared by mixing fine aggregate and cement in a tight container or mixing machine until mixture assumes uniform color. As mixing continues, water shall be added until proper consistency is attained. Mortar that has not been placed within 30 minutes after water has been added will be rejected. Retempering of mortar will not be allowed.

Mortar for pointing shall consist of 1 part cement to 1 part fine aggregate or sand by volume.

508.03 Construction. Excavate and backfill in accordance with Section 206 - Excavation and Backfill for Drainage Facilities.

Prepare foundation bed to be firm and normal to, or in steps normal to, face of wall. Compact foundation bed to minimum 90 percent compaction. Clean bearing surface of foundation masonry and adjust moisture to saturated, surface dry condition when mortar bed is spread. Clean and saturate stone with water before setting. Clean and moisten bed to receive mortar. Set face stones in random bond. Uniformly distribute stones by size, weathering, color, or texture. Use large stones at corners. Use large, flat stones for bottom courses. Use selected stones, roughly squared and pitched to lines at angles and ends of walls. Grade stones to decrease in size from bottom to top of work.

Bed stones fully in mortar. Overlap stones at joints at least 6 inches and form
firm bond.

Distribute headers uniformly throughout walls of structures to form at least 1/5 of exposed faces. Extend headers at least 12 inches through face wall into backing. Where wall is less than 24 inches in thickness, extend headers through wall from front face to back face.

Build interior of walls so stones are bonded without open spaces. Make horizontal joints in face not more than 1 inch in thickness and vertical joints not more than 2 inches in width. Bed face stones without spalls. Construct weep holes in wall where indicated in the contract documents. After mortar has set, loose stone and surrounding mortar shall be removed and relaid with fresh mortar.

Finish wall with 2-inch mortar capping. Mortar capping consists of 1 part cement to 2 parts fine aggregate or sand.

Use Class A concrete for copings and back walls. Make copings in sections. Extend at least full width of wall, not less than 8 inches thick, and in sections from 5 feet to 8 feet long. Cast-in-place or mold sections and set in full mortar beds.

After laying stones, clean exposed joints thoroughly of mortar to depth of 1 inch. Wet exposed joints and point with mortar for pointing. Cure pointed masonry and mortar capping for not less than 3 days after completion of wall.

**508.04 Measurement.** Cement rubble masonry will be paid on a lump sum basis. Measurement for payment will not apply.

**508.05 Payment.** The Engineer will pay for accepted cement rubble masonry on a contract lump sum basis. Payment will be full compensation for work prescribed in this section and the contract documents.

The Engineer will pay for the following pay item when included in the proposal schedule:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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</thead>
<tbody>
<tr>
<td>Cement Rubble Masonry</td>
<td>Lump Sum</td>
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</table>

The Engineer will pay for excavation and backfill in accordance with and under Section 206 - Excavation and Backfill for Drainage Facilities.

**END OF SECTION 508**