

# Special Specification 5093

## Stone Masonry (Rock Wall)



### 1. DESCRIPTION

- 1.1. This Item will govern for the construction and repair work of stone masonry wall composed of approved stone and lime-cement mortar on a concrete footing.

### 2. MATERIALS

Unless otherwise shown on the plans, the Contractor will supply materials, or reuse material in good condition for repair work.

- 2.1. **Rubble Stone and Roughly Squared Stone.** Use Sand Stone native to the area, free from structural defects, light grey to brownish grey in color, and will be clean of earth, clay, oil or other foreign substances. Stones will be no less than 2" or greater than 12" on any sides or match the type and thickness for repair work.
- 2.2. **Concrete.** Use Class A Concrete that meets the requirements of Item 421, "Hydraulic Cement Concrete."
- 2.3. **Cement.** Use Type II or Type III hydraulic cement that meets the requirements of DMS-4600, "Hydraulic Cement."
- 2.4. **Sand.** Use sand free of deleterious or organic matter and meets the grading requirements for Grade 1 Fine Aggregate, Item 421, "Hydraulic Cement Concrete", Section 421.2.6.2.
- 2.5. **Lime.** Use hydrated lime meeting the requirements of A.S.T.M. C-207, Type S.
- 2.6. **Water.** Use mixing water that meets the requirements of Item 421 "Hydraulic Cement Concrete," Section 421.2.5.
- 2.7. **Excavation and Backfill for Structures.** Excavate and backfill in accordance with Item 400, "Excavation and Backfill for Structures."
- 2.8. **Reinforcing Steel.** Use reinforcing steel meeting the requirements of Item 440, "Reinforcement for Concrete."

### 3. CONSTRUCTION METHODS

- 3.1. **General.** Submit samples of the stone which show the complete color range to the Engineer for approval.
- Verifying all dimensions incidental to this work and promptly report any discrepancies to the Engineer.
- Construct the stone masonry wall in accordance with these specifications, in conformity with the form, dimensions, and design shown on plans, and to the lines and grades established by the Engineer.
- 3.2. **Mortar.** Mix mortar in the proportions by volume of 1 part Portland cement, 1 part hydrated lime, and 4 parts of sand; or, 1 part of Type II masonry cement and 3 parts of sand.
- 3.2.1. Provide a water content in the mortar mix required to obtain a workable plastic mortar. Mix the mixture for a minimum period of 3 minutes in a drum type batch mixer and used within 1 hr. after mixing. Discard mortar

not used within that time (re-tempering is not be permitted). Clean the mortar boxes at the end of each day's work.

- 3.3. **Footing.** Construct a reinforced concrete footing to the dimensions shown on the plans. Provide a wood float finish on the footing. Attain at least 24 hours prior to any masonry being placed on it. No curing or strength testing of the footing will be required.
- 3.4. **Workmanship.** Stone masonry must be set by an installer with a minimum of five (5) years of experience in the successful installation of the type of stone specified. Clean, sponge, and drench each stone with clean water just before setting. Set each stone in a full bed of plastic mortar.
- 3.4.1. Face joints of Random Rubble Stone may vary from 1/2 in. to 2 in. in thickness. Face joints of Roughly Squared Stone may vary from 1/4 in. to 1/2 in. in thickness. Raked out joints 3/4 in. deep for face pointing. Provide uniform joints. Where necessary to prevent crushing mortar, small lead pads the thickness of the joint and set 1 in. back of the face may be used. Do not use wood wedges. For joints not pointed at the time the stone is laid, thoroughly wet the joint with clean water and fill with mortar. Completely drive the mortar into the joints. Finish the mortar with an approved pointing tool. Keep the wall wet while the pointing is being done.
- 3.4.2. After the pointing is completed and the mortar set, clean all showing surfaces of loose mortar and cement stains. Just prior to the completion of the contract, clean the showing surfaces again in a manner satisfactory to the Engineer.

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#### 4. MEASUREMENT

- 4.1. This Item will be measured by the sq. ft. of surface area or by the cu. yd., complete in place. The coping, concrete footing, barbed wire and material required for barbed wire installation are not include in the measurement of the stone wall, but will be subsidiary to this Item. Only accepted work will be included, and the dimensions used for measurement will be those shown on the plans or ordered in writing by the Engineer.

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#### 5. PAYMENT

- 5.1 The work performed and materials furnished, when required, in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Stone Masonry (Rock Wall)." This price will be full compensation for furnishing and hauling all materials; for all freight involved; for preparing and placing all materials, including concrete and reinforcement for footing and stone masonry wall; and for all labor, tools, equipment, anchoring appurtenances, and incidentals necessary to complete the work.