

ITEM 202.1991 12 - CANAL STRUCTURAL CONCRETE REMOVAL (NON-EXPLOSIVE)

ITEM 202.1992 12 - CANAL STRUCTURAL CONCRETE REMOVAL (EXPLOSIVES ALLOWED)

1. DESCRIPTION:

1.01 This work shall consist of structural concrete removal to pay limits shown on the Plans, or to sound surfaces determined by the Engineer. Unless otherwise indicated on the Plans, all removed material shall become the property of the Contractor and shall be removed from the work site.

1.02 Surfaces against which concrete will be placed shall be cleaned.

2. MATERIALS:

2.01 Not Specified

3. CONSTRUCTION DETAILS:

3.01 All equipment and procedures shall be subject to the Engineer's approval.

3.02 Hoe rams shall not exceed the 540 J (four hundred foot pound) energy class. Breaker heads shall not exceed 180 kg (400 pounds) in mass.

3.03 Chipping hammers shall have a mass of no more than 41 kg (90 pounds) with the bit and muffler removed. All bits shall be sharp, chisel-point bits.

3.04 Care shall be exercised in removing concrete so as not to damage material designated to remain in place. Removal shall be to the pay limits shown on the plans or as determined by the Engineer.

3.05 Saw-cutting of concrete shall be performed only where indicated on plans or where ordered by the Engineer. Unless shown otherwise on the plans, sawcut depths shall be to a minimum of 80% of the removal depth for removals up to 380 mm (15"). For removal depths greater than 380 mm (15"), the minimum sawcut depth shall be 300 mm (12").

3.06 The use of hoe ram equipment is permissible, subject to the limitations noted in paragraph 3.02. Permission to use this equipment may be withdrawn at any time. If in the opinion of the Engineer, material designated to remain in place is being damaged by the Contractor's operations, or micro cracks or excessive vibrations are being created by the work, the Engineer will immediately order the removal of the equipment.

Work will then proceed by means of either lighter hammers or hand-held equipment allowed by this item. The Engineer will be the final judge of excessive vibrations. No additional payment or extension of time will be granted as a result of the Contractor being required to complete the work with hand-held equipment.

3.07 If the contract allows, the Contractor shall be permitted to use explosives, subject to all applicable provisions of §107-05, Safety and Health Requirements, of the Standard Specification relating to explosives and blasting.

3.08 In addition, a work plan showing blasting areas, drill-hole patterns, and loading details shall be submitted to the Engineer for approval ten (10) working days prior to commencement of drilling. Approval of the work plan will not relieve the Contractor from full responsibility for any liability for damage caused by use of explosives.

3.09 Concrete may also be removed by grinding or with wire cutting equipment.

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3. CONSTRUCTION DETAILS: (cont'd)

- 3.10 After concrete removal has been performed, all remaining concrete surfaces which require cleaning, shall be thoroughly blast-cleaned in accordance with the requirements of §584-03A.
- 3.11 Immediately prior to concrete placement or form erection, the existing concrete shall be cleaned by either water, air or vacuum cleaning as directed by the Engineer. All water, air-blowing, and vacuum cleaning equipment shall perform such that no oil, or other bond-breaking material, is left upon the cleaned surface.
- 3.12 The Contractor shall dispose of all concrete that is removed. If an on-site disposal area is designated on the plans, the disposal shall be made at that location and in accordance with the plan provisions. If no on-site disposal area is indicated on the plans, the Contractor shall provide for the disposal of concrete debris off-site in accordance with all local, State, and Federal regulations.

4. METHOD OF MEASUREMENT:

- 4.01 The work shall be measured as the number of cubic meters of concrete removed and disposed of. The quantity will be computed from payment limits shown on the plans. Additional concrete removal beyond the payment limits shown on the plans will not be measured for payment unless such removal is authorized by the Engineer prior to its removal.

5. BASIS OF PAYMENT:

- 5.01 The unit price bid per cubic meter shall include the cost of all labor, materials, and equipment necessary to complete the work.