

SECTION 2.07 BORROW

2.07.01--Description: When the amount of usable material excavated within the limits of the work contracted for is not sufficient to form the embankments and other features of the work additional material shall be furnished by the Contractor from borrow pits obtained by him at his expense and located beyond the limits of the highway. This material shall be known as borrow. Borrow shall include the furnishing, removing and satisfactory placing of the additional material necessary to complete the embankments and other features of the work.

Stockpiled hydraulically dredged and/or reclaimed waste material containing no more than 25 percent of glass or clinker by mass and no more than 2 percent by mass of asphalt cement may be used for part or all borrow requirements. Stockpiles shall be placed at locations arranged for and provided by the Contractor at his expense and will not be allowed within the highway limits except at locations and under conditions stipulated by the Engineer. All permits, easements, rights or other requirements related to dredging and stockpiling shall be the obligation and responsibility of the Contractor.

2.07.02--Materials: Borrow, excluding hydraulically dredged borrow, shall conform to all the requirements of Article 2.02.03 for performance when incorporated in embankments for roadways. For purposes other than embankments for roadways, it shall be of a satisfactory quality as determined by the Engineer for the purpose intended. Hydraulically dredged borrow shall contain not more than 20 percent by dry mass of material passing the 75 μ m sieve when placed in the embankment.

2.07.03--Construction Methods: Borrow will be permitted only to the extent necessary to complete the embankments and similar details and only after all usable material from the excavation has been placed. With the approval of the Engineer, the Contractor may be permitted to place borrow before the excavation is completed; but he will be held responsible for the proper placing of all suitable excavated material, and no payment will be allowed for any borrow placed in lieu of suitable excavated material. This permission may be revoked by the Engineer at any time if in his opinion satisfactory progress is not maintained on other operations.

The Contractor shall notify the Engineer at least 5 days prior to obtaining material from any borrow pits so that an examination may be made of the fitness of the material and so that the necessary measurements may be taken. The limits of the proposed borrow pit shall be shown to the Engineer; and prior to the taking of measurements, the Contractor shall be required to clear the area of all unsuitable material. No payment will be made for any material removed outside of the area measured or which was not used in the work. No excavation shall be made within the confines of a borrow pit after the engineers have taken their original measurements, other than for material to be used in the formation of embankments or elsewhere as shown on the plans or as directed by the Engineer; except that material may be taken for contract items other than borrow with the permission of the Engineer under terms and conditions set forth in writing.

If the Contractor elects to obtain borrow from a commercial pit, it will be necessary for him to have a section of the pit set off for his use solely, so that the amount of material removed may be accurately determined. During the period between the original and the final measurements and release by the Engineer, no material shall be taken from a measured borrow pit except by the Contractor--and by him only--for use in the work under this contract. Borrow pits shall be excavated to regular lines as staked, so as to permit accurate measurements, and shall be drained and left in a neat condition as directed.

If the Contractor elects to obtain borrow from a stockpile of reclaimed waste, he shall obtain approval from the Engineer prior to removing any material from the stockpile to the job site. Once the stockpiles have been tested and approved, no additional material shall be added to them.

If the Contractor uses hydraulically dredged material, he shall, at his expense, employ effective dust control measures so that the public will not be adversely affected by dust from stockpiled material or such material in transit. The Contractor shall also provide and maintain at his expense effective and adequate drainage for all dredging and stockpiling operations at all times, and he shall be solely responsible for all damages which result

from dredging and stockpiling and for the continuing maintenance and final restoration of all drainage facilities affected by his operations.

Stockpiles of hydraulic material shall be reserved for exclusive use of the State and be placed so as to be readily measured, and no area shall be reused for stockpiling prior to its being re-measured by the Engineer. Dredging to a stockpile and removing material there from simultaneously is expressly prohibited.

Borrow shall be placed where directed and in accordance with the provisions for the formation of embankments of Article 2.02.03.

2.07.04--Method of Measurement: Except as provided under (a), (b), (c), (d) and (e) below, the amount of borrow to be paid for will be determined taken before and after the borrow material has been excavated from the pit or stockpile. Measurements of stockpiles will not be taken until they are firm and can be measured safely and accurately.

(a) If, in the opinion of the Engineer, cross-sections of the stockpiled hydraulically dredged material will not indicate the true volume removed for borrow, supplementary measurements will be taken. This may involve the use of settlement platforms, trenches, test holes or other methods or any combinations thereof. The data so derived will be applied in the adjustment of the computation of the quantity for payment.

(b) At the request of the Engineer or with the written permission of the Engineer, borrow may be measured by the cubic contents of the vehicles used for transportation less a ten percent shrinkage factor for earth or less an agreed upon shrinkage factor for rock to be determined by the Engineer.

(c) At the request of the Engineer or with the written permission of the Engineer, borrow may be measured by mass and such mass will be converted to cubic meters on the basis of 1900 kg/m^3 .

(d) At the request of the Engineer or with the written permission of the Engineer, the volume of borrow used to construct embankment may be measured in place. The shrinkage factor for earth shall be ten percent. The swell factor for rock shall be determined by the Engineer.

(e) At the request of the Engineer or with the written permission of the Engineer, the Contractor may remove material from the borrow pit for purposes other than the formation of embankments, in which event the method of adjusting borrow measurements will be stated in the authorization.

2.07.05--Basis of Payment: Payment will be at the contract unit price per cubic meter for "Borrow" complete in place, which price shall include furnishing and placing the material and all equipment, tools and labor necessary thereto.

No payment will be allowed for "Borrow" until all excavation has been placed in embankments except under the following conditions: If the Contractor has secured the permission of the Engineer to place borrow before the excavation is complete, as provided for in Paragraph 1 of Article 2.07.03, payment for such borrow material may be made at the discretion of the Engineer, before completion of the excavation. A request for such payment shall be made by the Contractor in writing, and he shall certify therein that he waives payment for any borrow placed in lieu of suitable excavated material.

Deductions will be made from borrow measurements for any materials wasted from the cuts or placed in embankments outside of the cross-sections, except when unsuitable material is ordered wasted by the Engineer.

Pay Item	Pay Unit
Borrow	m^3