

SECTION 31 24 00.01
BORROW

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Borrow
- B. Related Specification Sections include, but are not necessarily limited to:
 - 1. Division 01 – General Requirements.
 - 2. Section 31 23 00 – Earthwork

1.2 MEASUREMENT AND PAYMENT

- A. No separate payment will be made for this item. Include the cost in associated items for this project.

1.3 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. ASTM International (ASTM):
 - a. C136 - Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - b. D1140 – Standard Test Methods for Determining the Amount of Material Finer than 75- μ m (No. 200) Sieve in Soils by Washing.
 - c. D2216 - Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil, and Rock by Mass.
 - d. D4221 – Standard Test Method for Dispersive Characteristics of Clay Soil by Double Hydrometer.
 - e. D4318 - Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
 - f. D6572 – Standard Test Methods for Determining Dispersive Characteristics of Clayey Soils by the Crumb Test.

1.4 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 – Submittals.
- B. Submit location and description of proposed borrow area for approval.
- C. Submit material samples for testing.

1.5 WARRANTY (NOT USED)

PART 2 - PRODUCTS

2.1 SOIL MATERIAL

- A. Borrow material used for embankment shall be free of lumps greater than 2 inches, rocks larger than 2 inches, organic material, chemical waste or other contamination, and debris. Take borrow material from sources approved by Owner's Representative.
- B. Use Class IV non-dispersive, inorganic, lean clay with a maximum liquid limit of 49, 60 to 85% passing #200 sieve, and plasticity index between 15 and 30 or clayey soils treated with lime to meet plasticity criteria.
- C. If borrow material is required, Atterberg limit (LL, PL, PI, % passing 200) and soil dispersion crumb tests shall be performed for borrow backfill material for review and approval prior to placement of borrow backfill in areas shown in drawings. If crumb testing indicates potential dispersive material, material may be subject to double hydrometer testing before approval of material for use as backfill.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Notify Owner's Representative and testing laboratory 5 days in advance of opening borrow source to permit obtaining samples for qualification testing. When material does not meet specification requirements, locate another source of borrow.
- B. Clear approved source area of trees, stumps, brush, roots, vegetation, organic matter, and other unacceptable material before excavation.

3.2 TESTS

- A. Test and analyze soil materials in accordance with ASTM D 4318, ASTM D 2216, ASTM D 1140, and ASTM D 6572 under provisions of Section 01 45 29 - Testing Laboratory Services.

3.3 EXCAVATION

- A. Provide adequate drainage of surface water, so that surface water run off does not enter borrow pit excavation.

3.4 HAULING

- A. Use covered trucks.

3.5 EMBANKMENT

- A. Conform to requirements of Section 31 23 00 – Earthwork.

3.6 OWNER TRAINING (NOT USED)

END OF SECTION