

DIVISION 2 – SITE WORK

SECTION 02200 – GENERAL EARTHWORK

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Common Fill

The extent of common fill earthwork is indicated on the Contract Drawings and includes excavation and backfill, and fill outside of the slope area.

1.02 RELATED WORK

A. Section 02100 - Move In and Site Preparation

B. Section 02290 - Embankment Slope Construction

1.03 GENERAL EXCAVATION

The Contractor shall perform all excavation regardless of the type, nature, or condition of material encountered, as specified, shown, or required in order to accomplish the construction.

1.04 JOB CONDITIONS

- A.** A geotechnical investigation may have been performed for the Owner in order to obtain relative data concerning the character of material in and upon which the project is to be built. If an investigation has been performed, the information will be available to the Contractor for information purposes only, and is not to be considered a part of the Contract Documents. The Contractor shall satisfy himself as to the kind and type of soil to be encountered and any water conditions which might affect the construction of the project.
- B.** The location of existing utilities are shown in an approximate way only and not all utilities may be shown. The Contractor shall determine the exact location of all existing utilities prior to commencing work. The Contractor shall be fully responsible for any and all damages which might be occasioned by his failure to exactly locate and preserve any and all utilities. If utilities are to remain in place, the Contractor shall provide adequate means of support and protection during construction.
- C.** Should drawn, or incorrectly drawn piping or other utilities be encountered during excavation, the Contractor shall advise the Engineer within thirty (30) minutes of encountering the utility. The Contractor shall cooperate with the Engineer and utility companies in keeping respective services and facilities in operation to the satisfaction of the respective owners. The Owners reserve the right to perform any and all work required should the Contractor fail to cooperate with the respective companies, and back charge the Contractor for any and all expenses.
- D.** The Contractor shall provide barricades and signs in accordance with the Uniform Manual of Traffic Control Devices where applicable. The Contractor shall maintain all devices in a working manner.

PART 2 - MATERIALS

2.01 SOIL MATERIALS

A. Common Fill

Soil material for use as common fill in constructing berms and landscape features outside of the basin area shall be on-site material approved by the Engineer. Common fill soil will consist generally of excess soils not intended for use in the embankment.

The temporary construction pads shall be constructed of common fill.

B. Structural Fill

PART 3 - EXECUTION

3.01 EARTHFILL CONSTRUCTION

A. The Contractor shall construct earthfills to lines and grades shown or specified. The fill shall be placed in continuous horizontal layers not exceeding 9" in loose thickness. To achieve sufficient blending, a disc will be required during placement of any embankment fill. Where hand operated compaction equipment is used, the layers shall not exceed 6" in loose thickness.

B. The Contractor shall protect the fill against freezing when atmospheric temperature is less than ___
1. deg. F. (1 deg. C).

3.02 COMPACTION

A. The Contractor shall meet minimum percentage density specified for each area classification as follows:

Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density relationship determined in accordance with ASTM D 698.

- 1. Common Fill - ___ percent
- 2. Structural Fill ___percent

B. Control moisture content within ___% of optimum moisture content as determined by ASTM D 698. Where subgrade or layer of soil material is too dry to permit compaction to the specified density, uniformly apply water to surface of cut area, subgrade, or loosely placed layer of soil material. Mix soil and applied water by blading, discing, or other methods to achieve uniform moisture content throughout the soil mass to be compacted.

C. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

D. Testing for soil density and moisture content shall be conducted by the Engineer at an interval of one test per ___ c.y. of material placed. The cost of testing for passing tests shall be paid for by the Owner. The cost for failing tests shall be paid for by the Contractor.

3.03 GRADING

- A. The Contractor shall perform all grading to the lines and grades as shown on the Drawings and/or established by the Engineer, with 1" allowance for topsoil where specified or shown. Shape, trim, and finish slopes of channels to conform to the lines, grades, and cross-sections as shown or approved. All slopes shall be free of all exposed roots and stones exceeding ___" diameter which are loose and liable to fall. Tops of banks shall be rounded to circular curves not less than 6' in radius.
- B. Rounded surfaces shall be neatly and smoothly trimmed.

3.04 SETTLEMENT

- A. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, the Contractor shall scarify the ground surface, re-shape, and compact to required density prior to further construction.
- B. Any settlement in backfill, fill, or in structures built over the backfill or fill, which may occur within the guarantee period in the General Conditions will be considered to be caused by improper compaction methods and shall be corrected at no cost to the Owner. Any structure damaged by settlement shall be restored to their original condition by the Contractor at no cost to the Owner.

3.05 DISPOSAL OF EXCESS EXCAVATION AND WASTE MATERIALS AND SPECIAL REQUIREMENTS

- A. The Contractor shall dispose of all excess excavated material not required for fill on-site, as directed by the Engineer. Clean soil material that is not used in the basin construction will be placed around the exterior of the basin conforming to the grading as shown on the Construction Drawings. Slopes will be flattened to __:__ (horizontal to vertical) or flatter.
- B. The Contractor shall remove and be responsible for legally disposing of excess fill material not placed on-site, waste materials, trash and debris.
- C. The Contractor shall conduct all site grading operations and other construction activities to minimize erosion of site soil materials. He shall be responsible to maintain streets daily removing any spillage of dirt, rocks or debris from equipment entering or leaving the site.

END OF SECTION