

Section 02314

EXCAVATION FOR DITCHES,
CHANNELS AND DETENTION FACILITIES

PART 1 GENERAL

1.01 SUMMARY

- A. This section specifies requirements for furnishing all labor, equipment, material, and performing all operations necessary for ditch or pond excavation including: grading berms, disposal of excavated material, and all other related work.

1.02 MEASUREMENT

- A. Ditch and/or pond excavation has been measured by method of average end areas.
- B. Existing Conditions
 - 1. Design survey cross-sections used by Engineer for Plan preparation establishes existing conditions and in-place volumes of material.
 - 2. Notify Engineer in writing prior to excavation, if suspect differences between quantities and conditions shown on Plans and actual conditions in field. Provide surveyed cross-sections, tied to baseline verifying such discrepancies. Engineer will review such new data, verify it, if necessary, and recalculate and adjust earthwork quantities, if necessary.
- C. Calculations of earthwork quantities are from existing conditions to design finished grade of ditch or pond side slopes and bottom sections, as shown on Plans. Over-excavation for placement of topsoil shall be considered incidental to earthwork.
- D. Excavation in areas of riprap, concrete ditch or pond lining, or other protective linings is measured to top of such protective linings, where top of protective lining is, by definition, at finished grade line of ditch or pond (either side slope or channel bottom). Any excavation required below design finished grade for placement of such protective linings is considered structural excavation and is to be included in cost of related protective lining.
 - 1. Final Measurements
 - a. Survey and submit for approval final cross-sections after ditch or pond is excavated and topsoil has been placed. These final measurements will be for purpose of checking that ditch or pond construction is to line and grade and within

specified tolerances. No adjustments in bid quantity of excavation will be made based on these final measurements.

- b. Surveyed cross-sections are to be at 100-foot intervals.

1.03 PAYMENT

A. Payment will be based on quantity of excavation.

B. Excavation

1. Payment for ditch and pond excavation will be based on unit price per cubic yard of excavation, as bid, and such payment shall be full compensation for furnishing all labor, equipment, materials, supplies, supervision, and permits required to complete all items of excavation, hauling, disposal, embankment, grading and final dressing, as specified.
2. Payment for reconstruction of roadside ditch is on a linear foot basis.
3. Payment for construction of roadside ditch is on a linear foot basis.
4. Payment for reconstruction of drainage ditch is on a cubic yard basis.
5. Payment for construction of drainage ditch is on a cubic yard basis.
6. No compensation will be made for over-excavation beyond design channel sections.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 STRIPPING OF TOPSOIL

- A. Areas to be excavated shall be stripped to a depth of four (4) inches below natural ground to remove topsoil, vegetation and organic matter.
- B. Stripped topsoil shall be stockpiled on-site for placement on all disturbed areas, except channel bottom.

3.02 DITCH/POND EXCAVATION

- A. Ditch and/or pond shall be excavated to the lines, grades, bottom width, and side slopes as shown on the Plans.

- B. Contractor shall not cast or place excavated material, either temporarily or permanently on the top-of-bank (berm).
- C. Temporary shelves cut into side slopes will be allowed. However, such temporary shelves shall not extend into final basin side slopes, without approval of Engineer.

3.03 TOLERANCES

- A. Ditch and/or pond shall be excavated to design flow line and side slopes, as a minimum.
- B. Over-excavation of up to 6-inch is acceptable. Over-excavation beyond that limit shall be filled. No extra payment shall be made for over-excavation, or for fill required to return to grade.
- C. Over-excavation or poor grading which results in standing water in proposed ditches or pond bottom will not be acceptable, and shall be corrected. Over-excavation in existing ditches which results in an increase in standing water in ditch bottom will not be acceptable, and shall be corrected.

3.04 FILL (Embankment)

- A. Where fill is to be placed, sub grade shall be prepared by clearing and grubbing, stripping all grass and other vegetative cover, removing trash and debris, and other objectionable materials.
- B. Fill shall be placed in horizontal 1 ft. (maximum) lifts (loose) and compacted to 95% density, per ASTM D698 (Standard Proctor), within 2% (") of optimum moisture content.
- C. When fill is placed against existing material, such as in channel side slopes, place fill in a manner to prevent formation of a seam at interface. Cut a minimum of 1 foot into existing (undisturbed) material in a "stair step" fashion, as each lift of fill is placed, blend fill material with an in-situ material to provide a uniform transition.

3.05 DISPOSAL OF EXCAVATED MATERIAL

- A. Excess Excavated Material. Excess excavated material shall be stockpiled on site at a location identified by owners.

3.06 TOPSOIL

- A. Topsoil shall be placed in accordance with Section 02911 - Topsoil, and Section 02921 - Hydro-mulch Seeding.

END OF SECTION