

NATURAL RESOURCES CONSERVATION SERVICE**SPECIFICATION GUIDE SHEET****IRRIGATION FIELD DITCH****CODE 388****SCOPE**

The work shall consist of constructing a field ditch and all associated components to the lines, grades, elevations and cross-sections as shown on the drawings or as staked in the field.

GENERAL

Installation shall be in accordance with an approved design and plan. Details of construction shown on the drawings but not included herein are considered as a part of this specification. Construction activities shall be in accordance with applicable OSHA regulations.

CONSTRUCTION OPERATIONS

Construction Operations shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits.

The owner, operator, Contractor or other persons will conduct all work and operations in accordance with proper safety codes for the type of construction being performed with due regards to the safety of all persons and property.

Levee and borrow side slopes, and the tops of levees, shall be left reasonably smooth, so there are no abrupt lumps or hollows in the surfaces. Unreasonable roughness of surfaces shall be dressed out.

Excavated and fill areas of the canal shall be to the lines and grades as shown on the drawings. Care shall be exercised to maintain the design cross section below the water surface in order to maintain channel functions as designed.

The completed job shall be workmanlike and present a good appearance.

FOUNDATION PREPARATION

The foundation area for all ditch embankments and ditch pads shall be cleared and grubbed of all trees, roots, brush, weeds, sod, loose rock or other material not suitable for the subgrade.

Clearing and disposal methods shall be in accordance with applicable state and local laws with due regard to the safety of persons and property.

PLACEMENT OF EARTHFILL

Earthfill embankments shall be constructed to the neat lines and grades shown on the plans and established at the field location.

Embankment material shall be free of brush, roots, sod large rocks or other material not suitable for making compacted fills.

Earthfills shall be compacted to a density equal to or greater than adjacent undisturbed earth.

During placement and compaction of earthfill, the moisture content of the material being placed shall be maintained such that the material will form a firm ball when squeezed in the hand.

The application of water to the earthfill material shall be accomplished at the borrow areas insofar as practicable. Water may be applied by sprinkling the material after placement on the earthfill, if necessary. Uniform moisture distribution shall be obtained by disking.

Material that is too wet when deposited on the earthfill shall either be removed or be dried to the specified moisture content prior to compaction.

If the top surface of the preceding layer of compacted earthfill or a foundation or abutment surface in the zone of contact with the earthfill becomes too dry to permit suitable

bond, it shall either be removed or scarified and moistened by sprinkling to an acceptable moisture content before placement of the next layer of earthfill.

Each lift shall not exceed six inches before compaction. Compaction shall be accomplished by one of the following methods, unless otherwise designated by the designer:

1. Two complete passes are made over the entire surface area of each lift with pneumatic or sheepsfoot rollers.
2. Two complete passes are made over the entire surface area of each lift with heavily loaded rubber-tired scrapers.
3. Track type (crawler) equipment may be used provided it is routed so the entire surface area of each lift is traversed by not less than four passes of tracks.

EXCAVATION

Excavation shall be to the neat lines and grades shown on the plans and established at the field location. The excavated surface shall be graded and smooth. Suitable excavated materials shall be used in fills and other excavated materials shall be disposed of in designated spoil areas. Excavation in borrow areas shall be at locations prescribed and to line and grades established in the field.

Limited over excavation in the channel area or overfill on the ditch banks shall be permitted if it does not interfere with the function of the ditch or related structures and if the finished section is generally smooth.

BRIDGES, CULVERTS, AND STRUCTURES

Where existing bridges are to be left without modification, the channel cross-section under the bridge shall be excavated to the same cross section as the ditch immediately above. Special precautions shall be taken to ensure any excavation under existing bridges do not impact the structural integrity of the bridge.

Where new bridges are installed, they shall not obstruct flow below the hydraulic gradient, except for piling.

Erosion and water control structures, culverts, and bridges shall be installed to the sizes, lines, and grades shown in the plans.

Structures are to be constructed of the materials and in accordance with the lines, elevations, and grades shown on the drawings or as staked in the field. Structures shall be installed in accordance with the manufacturer's recommendations or as specified in attached special specifications.

Where applicable, provision shall be made for drainage of irrigation ditches when not in use. This can usually be done by providing a capped pipe in the lower end of the irrigation ditch.

VEGETATIVE COVER

Unless otherwise specified, a protective cover of vegetation shall be established on the disturbed areas.

The planting of vegetative materials shall conform to the requirements of Conservation Practice Standard and Specification Code 342, Critical Area Planting.

BASIS OF ACCEPTANCE

The basis of acceptance shall be based on the completion of the practice to the specified lines and grades shown on the drawings and as stated in the specifications.