

POND (Code 378)

1. SCOPE

The work shall consist of furnishing all equipment and materials and performing all operations in connection with the construction of the pond as shown on the drawings and as staked in the field.

2. MATERIALS

Principle Spillway.

Corrugated steel pipe and fittings shall be metallic zinc-coated, aluminum-coated or aluminum-zinc alloy-coated. Pipe and fittings shall conform to the requirements of ASTM A742, A760, A761, A762, A849, A875, A885 and A929 for the specified type. See NRCS, National Engineering Handbook (NEH), Part 642, Material Specification 551.

Aluminum corrugated pipe and fittings shall conform to the requirements of ASTM B745, B746, or B790 for the specified pipe sheet thickness, shape type, and fabrication methods. Bituminous coatings, when specified, shall conform to the requirements of ASTM A849. See NRCS, NEH, Part 642, Material Specification 552.

Corrugated polyethylene tubing and fittings shall conform to the requirements of ASTM F667, ASTM F894, and AASHTO M294.

Other pipe materials shall conform to appropriate specifications.

Granular drain and/or filter material shall meet gradation as specified. Aggregates shall be composed of clean, hard, durable, mineral particles free from organic matter, clay balls, soft particles, or other substances that would interfere with the free-draining properties of the aggregates. The borrow site and/or gradation analyses shall be approved by the NRCS technician prior to hauling. Storage and handling methods shall prevent

segregation of particle sizes or contamination by mixing with other material.

3. CONSTRUCTION REQUIREMENTS

General. The work shall be constructed to the lines, grades and elevations shown on the drawings or staked in the field. Bottom and top widths, minimum depths, and required elevations shown on the drawings shall be equaled or exceeded. Slopes shall be uniform and shall conform to the drawings. The design cross section, including overfill, shall plot within the actual constructed cross section. The completed job shall present a workmanlike finish. Construction operations shall be carried out so that erosion and air and water pollution are minimized and held within legal limits.

Installation.

Fill Placement.

Drainfill and/or Filter Diaphragm. Granular drain and/or filter material shall be kept from being contaminated by adjacent soil materials during placement by either placing it in a cleanly excavated trench or by keeping the filter/drain at least 1 foot above the adjacent earthfill.

Selected drain, filter and backfill material shall be placed around structures, pipe conduits, and anti-seep collars at about the same rate on all sides to prevent damage from unequal loading. Foundation and embankment drains as well as filter diaphragms, if required, shall be placed to the lines and grades shown on the drawings.

Earthfill. Fill material shall be placed and spread beginning at the lowest point of the foundation and then bringing it up in horizontal layers of thickness as specified. The fill shall be constructed in continuous horizontal layers. If openings or sectionalized

fills are required, the slope of the bonding surfaces between the embankment in place and the embankment to be placed shall not be steeper than a ratio of three horizontal to one vertical. The bonding surface shall be treated the same as that specified for the foundation to insure a good bond with the new fill.

The distribution and gradation of materials shall be such that no lenses, pockets, streaks, or layers of materials shall differ substantially in texture or gradation from the surrounding material. If it is necessary to use materials of varying texture and gradation, the more impervious material shall be placed in the center and upstream parts of the fill. If zoned fills of substantially differing materials are specified, the zones shall be placed according to lines and grades shown on the drawings.

Moisture Control. The moisture content of the fill material shall be adequate for obtaining the required compaction or as specified. Material that is too wet shall be dried to meet this requirement, and material that is too dry shall be wetted and mixed until the requirement is met.

Compaction. Construction equipment shall be operated over each layer of fill to insure that the required compaction is obtained. Special equipment shall be used if needed to obtain the required compaction.

If a minimum density is specified, each layer of fill shall be compacted as necessary to obtain that density.

Fill adjacent to structures, pipe conduits, and drainfill or anti-seep collars shall be compacted to a density equivalent to that of the surrounding fill by hand tamping or by using manually-directed power tampers or plate vibrators. Fill adjacent to concrete structures shall not be compacted until the concrete has had time to gain enough strength to support the load.

Principal Spillway.

Anti-seep collars, if required, shall be of materials compatible so that they are watertight. The pipe shall be installed according to the manufacturer's instructions. It shall be firmly and uniformly bedded throughout its length and installed to the lines and grades shown on the drawings.