

MATERIALS AND INSTALLATION DETAILS

MATERIALS:

Materials and installation shall conform to Missouri Construction Specification 378, Water Supply System for Earth Dams. Pipe pushed through the dam shall be minimum 1 1/2 inch nominal pipe size galvanized steel pipe. Weight class or wall thickness shall be as required to permit the pipe to be pushed through the dam without excessive bending. A driving point would be desirable. Outside diameter of driving point shall not exceed outside diameter of pipe.

Sand for seepage control shall be concrete sand meeting the requirements for Fine Concrete Aggregate shown in ASTM C-33 or Section 1005 of Missouri Standard Specification for Highway Construction. The gravel filter shall meet gradation 7 or 8 in ASTM C-33 or gradation B or E of Section 1005 of Missouri Standard Specification for Highway Construction. The rock riprap outlet shall be hard durable rock reasonably well graded with 50 percent being 6 inches or larger with maximum size of 12 inches.

INSTALLATION OPTION 1:

Lower pool to 5' below normal water surface. Excavate pipe trench as needed to install water supply pipe all the way to valve/tank location. Except for inlet section in pool area being constructed of steel pipe, all other pipe may be plastic. Good backfill with compacted friable soil material will be required to prevent piping around pipe.

INSTALLATION OPTION 2:

Starting at a point 5' below normal water level on upstream face of dam, trench downstream to a point at about upstream top of dam. Install this portion of pipe including inlet section. Measures will need to be taken to ensure the desired grade is maintained. Backfill with soil from dam side out for a depth of about 2' above pipe. Fill remaining part of trench with a mixture of rock and soil material as needed to make a strong water tight backfill.

Excavate downstream trench as needed to install water supply pipe all the way to valve/tank location. Good backfill with compacted friable soil material will be required to prevent piping. Doing this work when pool is at its lowest level will simplify this work.

INSTALLATION OPTION 3:

Excavate access trench from downstream toe of dam to a point 0.17B downstream of centerline of dam. Push steel pipe through remaining part of dam as needed. Install the shutoff valve at the point 0.17B downstream of C of dam in lieu of further downstream.

Excavate trench as needed to install rest of water supply pipe to tank location. This portion of pipe may be plastic pipe. Backfill trench with concrete sand a minimum of 3 times diameter of pipe or 12 inches all around water supply pipe which ever is greater from valve to outlet near tank. The outlet shall consist of 2' length of gravel and 2' length of rock riprap at outlet. The cross section of gravel and rock riprap will be similar to sand cross section.

INLET DETAILS:

Cap or close off end of pipe and drill series of 1/4" holes in at least 4' of pipe. Secure to a post driven in the pool area if possible or to a substantial weight and suspend 5' below the water surface with a durable floatation device.