

CONSTRUCTION SPECIFICATIONS

WEST VIRGINIA

STREAM CROSSING

The crossing or access will be installed at the location and in the manner shown on the drawings and described in this specification.

Construction shall be done in such a way that chemicals, fuels, lubricants, and waste materials will not enter the flow area. Erosion, air pollution, and water pollution will be minimized and held within legal limits.

Measures and construction methods that enhance fish and wildlife values and those for erosion and sediment control shall be incorporated as shown on the drawings. In addition, the following methods or practices will be utilized to the degree possible in the construction of the crossing or access, to reduce the potential for sedimentation of the stream:

1. Divert the stream flow to one side of the channel while construction is done on the opposite side. Or, where possible, temporarily dam the channel and pipe or pump the stream flow past the construction area.
2. Perform construction activities from the bank as much as possible. Use backhoes or excavators instead of dozers and use rubber tired equipment when construction activity must be conducted in the water.
3. Build the crossing or access during the time of year when high flows are not expected and do not build the crossing or access during fish spawning season.
4. Haul all excavated material to the appropriate disposal area, grade, and seed and mulch the material as soon as possible.

When required, all trees, shrubs, brush, and debris within the construction limits will be cleared and grubbed to a depth that will permit installation of the crossing or access ramp. All

materials will be burned, buried, or piled in designated disposal areas. The clearing operation will be conducted in a manner to avoid damage to vegetation or property outside the work area and to prevent disturbance within the stream. Special attention will be given to protecting and maintaining key shade , food, and den trees when their removal is not necessary.

Excavation of the crossing or access will be completed to the line and grade shown on the drawings. All excavated material will be removed from the limits of the channel and hauled to designated waste disposal areas. If no disposal areas are designated, the excavated material will be utilized to shape the entrance areas to the crossing or ramp to provide free drainage and stability to the areas.

The bottom of excavations will be smoothed to prevent damage to the geotextile fabric. All large rocks, depressions or protruding items will be removed or filled with gravel. Geotextile fabric, of the type and grade shown on the drawings, will be laid on the finished surface in a loose fashion to allow for some movement during placement of riprap and during settlement after construction. When laps are needed in the geotextile, the two pieces of material will overlap by at least three feet. Laps will be such that the upstream or upslope panel of material is over top of the downstream or downslope panel. Repair of damaged fabric can be made by placing another piece of fabric over the damaged area. The repair panel will extend at least three ft. outside of the damaged area in all directions. The geotextile fabric will be anchored with 6 in. wire staples, on 3 ft. minimum centers, at the edges and at all laps to prevent displacement during riprap installation.

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Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [electronic Field Office Technical Guide](#).

Note: Bold italics are added or changed Information made to the National Conservation Standard by WV.

Geotextile fabric will be protected from damage or deterioration from ultraviolet sun rays. Fabric that is damaged or shows signs of deterioration because of improper storage and protection from the sun will not be used. Fabric that is brought on site will be stored in a safe, dry, shaded location. The manufacturers protective cover will be left in place until the fabric is to be used. If the manufacturers cover is not available then the fabric will be protected by covering with dark plastic or a tarp. Fabric installed in the crossing or access will be covered with riprap and gravel within 24 hours of installation.

Rock riprap shall be limestone or sandstone and will be well graded within the limits shown on the drawings. It will be dense, sound, and free from, cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to sub-rounded in shape. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

The riprap shall be placed to the required thickness in one operation. Riprap will be dumped on the geotextile with a drop of no more than three ft. and will not be pushed or rolled across the fabric. The rock will be delivered and placed in a manner that will insure the riprap in place will be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks.

Coarse aggregate surfacing material will be hard, durable limestone or sandstone aggregates meeting the grading limits shown on the drawings. It will be placed to the required thickness in one operation and in such a manner that segregation of the particle sizes will not occur. After placement the aggregate will be consolidated by traversing the entire surface of the crossing or ramp with four passes of the construction equipment.