

West Virginia Engineering Standard

Obstruction Removal (acre)

Definition

Removal and disposal of unwanted, unsightly or hazardous buildings, structures, vegetation, landscape features, trash, and other materials.

Purpose

To safely remove and dispose of unwanted obstructions and materials in order to apply conservation practices or facilitate planned use of abandoned mine lands, farms, ranches, construction sites, and recreation areas.

Scope

This standard applies to removal and disposal of all types of obstructions and materials that prevent or hinder installation of conservation practices or present a hazard to their use and enjoyment.

Conditions where practice applies

On land where existing obstructions interfere with planned use and development.

Federal, State, and Local Laws¹

All federal, state, and local laws, rules, and regulations governing water use, pollution abatement, health, and safety shall be adhered to. The owner or operator shall be responsible for securing all required permits or approvals and for performing all items of work in accordance with such laws and regulations. SCS employees are not to assume responsibility for procuring these permits, rights, or approvals or for enforcing laws and regulation. They may provide the landowner or operator with technical information needed to obtain the required rights or approvals to construct, operate, and maintain the practice.

Permits may be required from the following agencies when obstruction removal is performed within the boundaries of a stream or floodplain or if burning is required:

- 1. U.S. Army Corps of Engineers**
- 2. WV Dept. of Natural Resources**
- 3. WV Public Lands Corporation**

Planning considerations

Water Quantity

1. Effects upon components of the water budget, especially effects on volume and rate of runoff, infiltration, evaporation, transpiration, deep percolation, and ground water recharge.

Water Quality

1. Effects on the visual quality or downstream water resources.
2. Short-term and construction-related effects on the quality of water resources.
3. Potential uncovering or redistributing of toxic materials such as saline soils.

Design criteria

Rock piles, boulders, stones, fences, hedge rows, abandoned buildings and structures, trash, and similar obstructions that would interfere with planned use and development shall be removed. All debris such as broken concrete and masonry, structural steel and wood, stones, stumps, slash, and sterile or toxic soil material shall be disposed of so that they will not impede subsequent work or cause damage **onsite or offsite**. Disposal shall be by burning, burying, or removing to an approved land fill in an environmentally acceptable manner.

All required gully shaping shall be performed to specified dimensions and grades. **The shaping or filling of gullies will be such that the completed work will blend with the surrounding topography, will facilitate the planned land use, and will limit erosion to prevent reoccurrence of the gully.**

Gully fills and backfill of excavations for obstruction removal shall be compacted such that detrimental settlement will not occur.

The cover over buried materials shall be designed to be adequate for the planned use, treatment, and vegetation, **but will not be less than 1 ft.**

When the disturbed area will not be planted to crops and no further construction activity is planned for the area, vegetation shall be established according to the requirements of the West Virginia standard for Critical Area Planting (342) or Pasture and Hayland Planting (521).

Measures that control erosion and prevent sedimentation during construction will be incorporated into the design.

Special attention will be given to maintaining or improving habitat for fish and wildlife where applicable. Consideration of such things as creation of pools and riffles in streams, windrowing debris, and maintaining den and food trees shall be explored.

Historically or archaeologically significant and scenic values shall be identified and preserved as appropriate.

Operation and Maintenance

Obstruction Removal is normally done in preparation for, or concurrently with, other conservation practice installations. Therefore the O&M plan for obstruction removal should be incorporated within the O&M plan for those practices. Items that should be considered in the plan are:

- 1. Periodic inspections.*
- 2. Repair of eroding areas.*
- 3. Repair of settlement areas where excavations were filled or buried debris has deteriorated.*
- 4. Maintenance of vegetation, where required, by mowing, fertilization, liming, or reseeding.*

Plans and specifications

Plans and specifications for obstructions removal shall be in keeping with this standard and shall describe the requirements for applying and achieving the practice purpose.

Specifications for obstruction removal may be developed from NEH-20 specifications, West Virginia 700 Series specifications or the attached specification with the following guidelines:

1. Limits of the obstruction removal operation shall be shown on the drawings.

2. Manmade structures that are to be removed shall be designated on the drawings along with the extent of removal.

3. Trees and other structures not to be disturbed will be designated on the drawings.

4. Disposal methods and areas shall be designated on the drawings. Finished grade for disposal of excavated material shall also be shown.

5. Fill placement, compactive effort, and moisture content will be shown on the drawings if different than stated in the attached specification.

6. Vegetative requirements will be shown on the drawings or in an appropriate seeding specification.

¹ *Bold italics added by West Virginia*

Construction Specification

All trees, stumps, brush, and other woody vegetation to be removed from the designated areas shall be cut within the specified maximum distance above the ground level. Root systems shall be grubbed out of the ground and disposed of when so stated. Trees shall be felled in such a manner as to avoid damage to other trees and property that are not part of the obstruction removal operations. Structure foundations and other subsurface manmade improvements shall be removed to the extent shown.

All rock piles, boulders, stones, fences, hedgerows, abandoned buildings and structures, trash, deposition, and similar obstructions shall be removed as described on the drawings. All debris shall be disposed of by burning, burying, piling in designated disposal areas, or removing to an approved land fill. All burning shall conform to regulations in effect in the area. Material to be buried shall be compacted using available construction equipment and covered with a minimum of one foot of earth cover unless otherwise specified on the drawings.

All works of improvement and vegetation not to be disturbed or removed, as shown on the drawings, shall be protected from any disturbance or damage.

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

Measures and construction methods that prevent erosion and control sediment shall be incorporated as shown on the drawings.

If herbicide treatment is planned, the stumps and brush in the specified area shall be treated at the time of clearing according to the recommendations of the manufacturer of the herbicide specified or being used. Only herbicides designated by the U. S. Environmental Protection Agency for use around water sources shall be used.

A protective cover of vegetation shall be established on all exposed surfaces where soil and climatic conditions permit. Lime and fertilizer shall be spread at the specified rate and shall be disked into the soil to a depth of 4 inches to prepare a seedbed. Seed and mulch shall be applied at the specified rate. In some cases, temporary vegetation may be used for protection until conditions are suitable for establishment of permanent vegetation.

Where soil or climatic conditions do not permit the establishment of vegetation, and protection is needed, nonvegetative means such as mulches or gravel may be used.

All work shall be done such that the installed practice gives a completed and finished appearance.