

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD  
ARIZONA**

**OBSTRUCTION REMOVAL  
(Ac.)**

**CODE 500**

**DEFINITION**

Removal and disposal of buildings, structures, other works of improvement, vegetation, debris or other materials.

*The owner is responsible for securing necessary permits and water rights, complying with all laws and regulations, and meeting legal requirements applicable to the installation, operation, and maintenance of this practice and associated structures.*

**PURPOSE**

To safely remove and dispose of unwanted obstructions in order to apply conservation practices or facilitate the planned land use.

Remove obstructions by demolition, excavation or other means required for removal. Dispose of all debris from the obstruction removal so that it does not impede subsequent work or cause onsite or offsite damage.

**CONDITIONS WHERE PRACTICE APPLIES**

On any land where existing obstructions interfere with planned land use development, public safety or infrastructure. This standard is not intended for the removal of obstructions from aquatic environments.

Dispose of inorganic materials such as rock piles, boulders, stones, concrete or masonry structures and metal or concrete fence posts by reusing, removal or burial at approved locations.

**CRITERIA**

*Conservation Practices shall be designed on an individual basis to meet site conditions and functional requirements. They shall be part of an approved and overall engineering plan for irrigation, drainage, wildlife, recreation, channel improvement, or similar purposes.*

Dispose of organic materials such as wooden fence posts, woody vegetation, and woody building materials by removal to an approved landfill or recycling center, burial at an approved location or burning. If burning is used, implement appropriate smoke management to protect public health and safety.

*Design and implementation of subsidiary components and/or structures shall meet all applicable Natural Resource Conservation Service (NRCS) standards. The criteria for the design of any components not specifically addressed in NRCS practice standards or specifications shall be consistent with sound engineering principles and/or manufacturer recommendations.*

Dispose of trash and non-woody building materials in an approved landfill or recycling center.

When removing buildings or other facilities, ensure that all utilities, such as gas and electric, have been shut off and disconnected from the structure(s) before beginning demolition.

**Laws and Regulations.** Plan, design, and implement obstruction removal to comply with all federal, state, Tribal and local laws and regulations. *Laws and regulations of particular concern include those involving water rights, land use, pollution control, property easements, wetlands, preservation of cultural resources, and endangered species.*

Prior to any work contact utility companies or the state one call system to identify the location of utility lines in the construction area and to arrange the shut off of utilities if necessary.

The removal of obstructions can expose toxic or polluted materials. If toxic or polluted materials are expected to be found during the obstruction removal, specify appropriate handling and disposal criteria in the plans and specifications

When removing obstructions that contain chromate copper arsenate (CCA) treated wood, do not burn the wood. Burning of CCA treated wood can release toxic amounts of arsenic into the air and ash that are very harmful to human and animal health. CCA treated wood should be buried in an approved landfill.

Reshape and regrade all areas disturbed by the obstruction removal so that they blend with the surrounding land features and conditions. Any foundations or below ground portions of the obstruction that remain in place shall have sufficient soil cover to meet the requirements of the planned land use. Compact fill areas according to site specific requirements.

Revegetate or otherwise protect from erosion disturbed areas as soon as possible after construction. Refer to NRCS Conservation Practice Standard 342, Critical Area Planting for seedbed preparation, seeding, fertilizing, and mulching requirements.

### **Investigations, Surveys and Design**

**Criteria.** Documentation requirements will be as outlined below, in addition to the documentation requirements of the practice components used in the system.

*Make a preliminary site assessment, investigation or reconnaissance to the complexity and extent of the obstructions and document the rationale for removing the obstruction.*

1. *Identify the location, type, and extend of obstruction removal.*
2. *Verify appropriate state or local laws for permitting and approval requirements and notify landowner of his/her responsibilities.*
3. *Verification or certification of used materials (if any).*

*To adequately plan and layout this practice, a detailed topographic survey is required, that adequately details:*

1. *An accurate topographic survey of the proposed location shall be taken and shall extend a minimum of 50 feet beyond the limits of the proposed site;*
2. *The survey shall show the location of any existing buildings, wells, buried pipelines, ditches, channels, etc.;*
3. *Location of underground or overhead utilities or markers;*

4. *A permanent benchmark(s) shall be set and described. Preferably, the elevations and coordinates should be based on a local (assumed) or coordinate system (State or grid) and clearly stated on the plan. Datum may be in the form of Northing and Easting coordinates, or Longitude and Latitude.*

*The design of a practice is the application of Field Office Technical Guide practice standards, using experience and judgment in the development of a solution to the problem or the objective. All computations and decisions made during the design of a practice are to be checked by another qualified individual and appropriate notations made. Design computations, calculations or analysis shall meet the following criteria:*

1. *Locate on a plan map or aerial photograph of the limits or extents of the obstruction removal. Describe the type and extent of the removal;*
2. *Subsidiary and applicable components shall be designed in accordance with applicable conservation practice standards (i.e., pipelines shall meet the requirements of Conservation Practice 430, Irrigation Pipeline, etc.);*
3. *Construction material estimates (material volume computations), includes estimates of materials to be removed.*

**Installation and Basis of Acceptance.** For construction that does not meet State, OSHA, or Tribal criteria or requirements where deficient construction materials were used, NRCS may consider a waiver request for approval of construction after it has received a signed and sealed construction and/or material exemption from a licensed engineer. Required exemption shall be for installation of materials that do not meet minimum quality criteria as found in applicable Standards, Specifications, ASTM's, AWWA standards, etc.

*Contractors performing work under this practice shall abide by all Federal, State or Tribal laws or criteria, and must be licensed by the state board of technical registers where the work is being implemented.*

### **CONSIDERATIONS**

The recycling or reuse of materials should be considered as the first option for disposal of

materials from obstruction removal. Most woody debris can be recycled into mulch or other products. Recycling or other environmentally friendly options exist for the disposal of many other materials as well.

Demolition activities can generate large amounts of dust. Where necessary, use dust suppression techniques such as spraying water on the removal site to suppress dust.

Obstruction removal can result in the disturbance of large areas that are subject to erosion during the demolition process. Where necessary include provisions in the plans to control erosion and offsite sedimentation.

Obstruction removal often involves heavy equipment working in environmentally sensitive areas. Ensure that servicing and refueling of equipment is done in a manner that minimizes spills and volatilization.

Demolition of structures and the removal of debris can be a hazardous undertaking. This is especially true for the removal of downed and tangled trees. This type of work should be done by well qualified personnel with proper equipment following appropriate safety procedures.

Old buildings, structures and trees can provide habitat for wildlife. The potential for use by and presence of at-risk species should be considered and addressed prior to any obstruction removal activity. The presence of roosting birds and bats may also pose a health and safety hazard to workers that should be considered.

## PLANS AND SPECIFICATIONS

*Use Arizona drawing templates to the extent possible. These may be supplemented by additional drawings or specification notes on the drawings to provide full installation instructions.*

*Construction plans shall include all components needed for the safe operation of the proposed improvements such as railing, fencing, or warning signs as appropriate. The plans shall address operations near existing utilities, trench excavations and any other items related to construction of the structure that may pose a safety risk to those involved.*

*Preparation of plans and specifications for obstruction removal will be guided by the National Engineering Handbook, Part 650, the Engineering Field Handbook, Chapter 5, and shall be in accordance with the National Engineering Manual, Parts 541 and 542, shall be prepared for specific field site, shall be prepared in accordance with the criteria of this standard and that describe the requirements for applying the practice according to this standard. Plans and specifications for this practice can be included in the plans and specifications for the practice it supports. As a minimum, the plans and specifications shall include:*

- *Project location map, including section, township and range, North arrow, cooperator/owner acknowledgement and certification signature blocks, engineering job class (cover sheet);*
- *References that the owner/cooperator are responsible for all permits, rights-of-way, easements and the contact, coordination and location determination of any existing utilities or clearances (buried utility disclaimer);*
- *If applicable, a map showing the location of the practice(s) or system in reference to a known or established benchmark or reference point with the location, description and elevation clearly shown. Topographical features and/or controls shall be shown, showing tie in with existing or other planned practices;*
- *Field surveys and notes, soil investigations or geologic soil boring locations and soil classifications, earthwork or material estimates/quantities (foundation or subgrade preparation and requirements);*
- *Overall system or plan view (showing the location and extents of the obstruction removal; details and location for the disposal of materials from the site; details of how the site will be stabilized after construction; vegetative, fence and signage requirements, if required; construction/installation criteria, State and Federal [OSHA] safety requirements, etc.), type, quality and quantity as necessary;*
- *Construction notes or specifications to clarify a component and furnish directions or site specific requirements for obstruction removal;*
- *Use Arizona Construction and Material Specifications for each item of work and material, as applicable and available. Additional specifications may need to be written to provide full material and installation instructions. Fill in blanks and add or delete items from the*

*specifications to make them fit the job as needed.*

*All designs completed by non-NRCS personal shall meet minimum State licensing board requirements and NRCS requirements and criteria as outlined in the General Manual, the National Engineering Manual (including Arizona Supplements), and the National Engineering Handbook.*

**ONCE ALL PARTIES HAVE ACCEPTED AND SIGNED THE PLANS AND SPECIFICATIONS, NO CHANGES SHALL BE MADE TO THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF NRCS.**

## **OPERATION AND MAINTENANCE**

Prepare an operation and maintenance (O&M) plan, *specific to each site*, for the *landowner, operator or individual responsible for operation and maintenance and shall be commensurate with the size and complexity of the project. The plan shall be consistent with the purposes of the practice, its intended life, safety requirements and the criteria for its design.* O&M for this practice may be addressed in the O&M plans for the practice it supports.

The minimum requirements to be addressed in the operation and maintenance plan are:

- Periodic checking to ensure the site remains stable after the obstruction removal.
- When disposal of debris occurs on site, periodic checking to ensure that the disposal site remains stable.
- Repair any problems as soon as possible.
- *Fences and/or warning signs shall be maintained to prevent unauthorized human or livestock entry.*
- *The practice should be inspected periodically and especially after storm events to determine whether it is functioning properly or if repairs are needed.*
- *Immediately repair any damage resulting from vandalism, vehicles, or livestock.*

## **REFERENCE**

- U. S. Department of Labor. Occupational Safety and Health Administration. Safety and Health Regulations for Construction, 29 CFR 1926. U. S. Washington, DC.