

Conservation Practice Standard Overview

Access Control (472)

Access control includes temporary or permanent exclusion of animals, people, vehicles, and/or equipment from an area.

Practice Information

Controlling access is often used to protect, maintain, or improve the quantity and quality of natural resources in an area. The purpose also includes aesthetic resources as well as human health and safety.

Access control can play a role in establishing, protecting, and maintaining vegetation, and is often essential to conserving the other natural resources.

The barriers constructed for access control must be adequate to prevent intrusion of the target animals, vehicles, or people. Barriers are usually fences, but may also be natural and artificial structures such as logs, boulders, earth fill, gates, signs, or similar structures.



Common Associated Practices

Access Control (472) is commonly applied with conservation practices such as Prescribed Grazing (528), Tree/Shrub Establishment (612), Vegetative Treatment Area (635), and Wetland Creation (658).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Animal Mortality Facility (316)

An animal mortality facility is an on-farm facility for the treatment or disposal of livestock and poultry carcasses for routine and catastrophic mortality events.

Practice Information

An animal mortality facility is designed to reduce the impacts to soil and groundwater resources, reduce the impacts of odors, and decrease the spread of pathogens associated with animal mortality.

The on-farm methods for disposal of routine animal mortality are composting and incineration/gasification. Routine mortality can also be rendered off-site (at the producer's expense). An animal mortality facility can include a refrigeration unit to store the mortality until it is removed for rendering or until it is incinerated or gasified.

Disposal of mortality from catastrophic events can be done by composting or burial, however, State laws may affect use of these techniques. Disease-related catastrophic mortality disposal must be performed under the guidance of State or Federal authorities.

Design information for this practice includes site location, design sizing, storage period, and safety/biosecurity features. It may also include fabricated structure criteria.

This practice has a minimum expected life of 15 years. Operation requirements for the facility depend on the type of facility chosen



by the producer and will include provisions for proper disposal of residual material. Routine maintenance is needed to ensure that the facility operates as designed.

Common Associated Practices

An Animal Mortality Facility (316) is commonly applied with practices such as Diversion (362), Roofs and Covers (367), Composting Facility (317), and Critical Area Planting (342). Disposal of composted material and by-products from incineration or gasification will be performed in accordance with the Nutrient Management (590) practice.

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Contour Buffer Strips (332)

Contour buffer strips are strips of perennial grass alternated with wider cultivated strips that are farmed on the contour. Vegetation in strips consists of adapted species of grasses or a mixture of grasses and legumes.

Practice Information

Contour buffer strips slow runoff water, trap sediment, and reduce erosion. Sediments, nutrients, pesticides, and other potential pollutants are filtered out as water flows through the grass strips. The grass strips also provide food and cover for wildlife.

The practice is more difficult to establish on undulating to rolling topography because of the difficulty of maintaining parallel strip boundaries across the hill slope or staying within row-grade limits.

The effectiveness of contour buffer strips is dependent on several variables such as steepness, soil type, crops grown, strip widths, management, and climatic factors.



Common Associated Practices

Contour Buffer Strips (332) are commonly applied with practices such as Grassed Waterway (412), Integrated Pest Management (595), Residue and Tillage Management, No-Till (329), and Residue and Tillage Management, Reduced Till (345).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Cover Crop (340)

Cover crop is growing a crop of grass, small grain, or legumes primarily for seasonal protection and soil improvement.

Practice Information

Cover and green manure crops are grown on land where seasonal or long-term benefits of a cover crop are needed.

This practice is used to control erosion, add fertility and organic material to the soil, improve soil tilth, increase infiltration and aeration of the soil, and improve overall soil health. The practice is also used to increase populations of bees for pollination purposes. Cover and green manure crops have beneficial effects on water quantity and quality. Cover crops have a filtering effect on movement of sediment, pathogens, and dissolved and sediment-attached pollutants.

Operation and maintenance of cover crops include: controlling weeds by mowing or by using other pest management techniques, and managing for the efficient use of soil moisture by selecting water-efficient plant species and terminating the cover crop before excessive transpiration. Use of the cover crop as a green



manure crop to cycle nutrients will impact when to terminate the cover to match release of nutrient with uptake by following cash crop.

Common Associated Practices

Cover Crop (340) is commonly applied with practices such as Conservation Crop Rotation (328); Residue and Tillage Management, No Till (329); Residue and Tillage Management, Reduced Till (345); Nutrient Management (590), and Integrated Pest Management (595).

For further information, contact your local NRCS field office.





Conservation Practice Standard Overview

May 2016

Diversion (Code 362)

A diversion is an earthen channel that is installed across a slope with a supporting ridge on the downhill side.

Practice Information

The primary purpose of a diversion is to direct excess water in a new direction for use or safe disposal. Uses include interception of concentrated water that is flowing down long slopes; collection of water for storage; diversion of water away from gullies, farmsteads, or animal waste systems; and supplementing water management on conservation cropping systems.



The design criteria for a diversion depend on its purpose. Diversions that divert water away from buildings, roads, or animal waste systems will be larger than ones used to protect agricultural land.

A diversion can be parabolic, V-shaped, or trapezoidal in cross-section. The ridge located on the downhill side will typically be about 4-feet wide at the top and will have stable side slopes. The channel and ridge will be vegetated in most cases. If needed for erosion protection, the channel may be lined with gravel, concrete, or similar material.

The diversion must outlet into a stable channel such as a grassed waterway, a lined waterway, a grade stabilization structure, an underground outlet, or a stable water course. The location of a diversion is determined by outlet conditions, topography, land use, farming operations, and soil type.

Maintenance requirements include regular inspections, removal of sediment, repair and revegetation of eroded areas and outlets, and regrading the diversion to maintain the planned capacity.

Common Associated Practices

Diversion (Code 362) is commonly applied with practices such as Grassed Waterway (Code 412), Terrace (Code 600), Waste Storage Facility (Code 313), or Underground Outlet (Code 620).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Fence (382)

A fence is a constructed barrier to livestock, wildlife, or people.

Practice Information

This practice may be applied to any area where livestock and/or wildlife control is needed, or where access to people is to be regulated.

A wide variety of fences exist, however, fencing material and construction quality is always designed and installed to assure the fence will meet the intended purpose. The standard fence is constructed of either barbed or smooth wire suspended by posts with support structures. Other types include woven wire for small animals, electric fence, and suspension fences which are designed with heavy, but widely spaced posts and support structures.

Things to consider when planning a fence:

- avoid irregular terrain as much as possible
- impact on wildlife movement with regard to
- State and local laws
- livestock handling, watering, and feeding requirements



Operation and maintenance for fence include regular inspections after storms and other disturbance events. Maintain and repair fence as needed, including tree/limb removal and water-gap replacement.

Common Associated Practices

Fence (382) is commonly applied with conservation practices such as Prescribed Grazing (528), and Use Exclusion (472).

For further information, contact your local NRCS field office.



United States
Department of
Agriculture

Conservation Practice Standard Overview

September 2016

Field Border (Code 386)

Field borders are strips of permanent vegetation (grasses, legumes, forbs, or shrubs) established on one or more sides of a field.

Practice Information

The field containing the border is usually, but not necessarily, cropland. The border is generally converted from cropland but may be created by removing large trees at the edge of woodland, leaving a transition zone of herbaceous and small woody plants.

Field borders are functional and aesthetically pleasing. They are multipurpose practices that will serve one or more of the following functions:

- reduce wind and water erosion
- protect soil and water quality
- assist in management of harmful insect populations
- provide wildlife food and cover
- provide tree or shrub products
- increase carbon storage in biomass and soils
- improve air quality

The above functions should be considered when selecting the plant species for this practice.

Common Associated Practices

Field Border (Code 386) is commonly applied with conservation practices such as Conservation Crop Rotation (Code 328), any of the Residue and Tillage Management practices (Codes 329 and 345), Early Successional Habitat Development/Management (Code 647), and Upland or Wetland Wildlife Habitat Management (Codes 645, 644).

For further information, contact your local NRCS field office.



Natural Resources Conservation Service

Helping People Help the Land

USDA is an equal opportunity provider, employer, and lender.

Conservation Practice Standard Overview

Grassed Waterway (412)

A grassed waterway is a shaped or graded channel that is established with suitable vegetation to convey surface water at a non-erosive velocity using a broad and shallow cross section to a stable outlet.

Practice Information

Waterways are constructed to convey runoff from concentrated-flow areas, terraces, or diversions where erosion control is needed. Waterways can be used to control gullies and/or improve the water quality of downstream water bodies by reducing the sediment carried by runoff water.

Grassed waterways are usually parabolic or trapezoidal in shape and are designed to allow farm equipment to cross without damaging the waterway or the equipment.

When possible, species of vegetation should be selected that can serve multiple purposes, such as benefiting wildlife, while still meeting the basic criteria needed for providing a stable conveyance for runoff. Tall bunch grasses and perennial forbs may also be planted along waterway margins to improve wildlife habitat. Including diverse legumes or other forbs that provide pollen and nectar will have the added benefit of providing habitat for native bees.

This practice has a minimum expected life of 10 years. Some maintenance will be needed to maintain the waterway capacity, vegetative cover, and outlet stability. This will include



mowing (or controlled grazing), fertilizing, and sediment removal. Most of the damage that occurs to grassed waterways is caused by equipment or herbicides and can be avoided by careful management. Vegetation that is damaged by machinery, herbicides, or erosion must be repaired promptly.

Common Associated Practices

Grassed Waterway (412) is commonly applied with conservation practices such as Terrace (600), Diversion (362), Critical Area Planting (342), and other erosion control practices.

For further information, contact your local NRCS field office.



Conservation Practice Standard Overview

Heavy Use Area Protection (561)

Heavy Use Area Protection (HUAP) is a way to stabilize a ground surface that is frequently and intensively used by people, animals, or vehicles.

Practice Information

This practice is installed to protect and improve water quality by providing a stable, non-eroding surface for areas frequently used by animals, people, or vehicles.

Commonly used surface treatments include concrete, bituminous concrete, and gravel. In some places, it may be necessary to provide a roofed structure over the treated surface to achieve the desired resource protection.

This practice is often used to provide surface stability in areas where concentration of livestock is causing a resource concern. This includes feeding areas, portable hay rings, watering facilities, feeding troughs, and mineral areas. In these areas, provision must be made for the collection, storage, utilization, and treatment of manure and contaminated runoff.

It can also be used to make recreation areas accessible to people with disabilities.

This practice has a minimum expected life of 10 years. Maintenance requirements for the practice will depend upon the type of surface chosen by the producer and its intended use.



Routine maintenance will be needed to ensure that the facility operates as designed.

Common Associated Practices

Heavy Use Area Protection (561) may be installed as a stand-alone practice or may be applied with conservation practices to control surface water such as Diversion (362), Filter Strip (393), or Vegetated Treatment Area (635). It may also be necessary to use Access Control (472) or Fence (382) to modify traffic patterns around the area. Other commonly associated conservation practices include Roofs and Covers (367), Waste Storage Facility (313), Prescribed Grazing (528), and Watering Facility (614).

For further information, contact your local NRCS field office.



Conservation Practice Standard Overview

Prescribed Grazing (528)

Prescribed grazing involves managing the harvest of vegetation with grazing and/or browsing animals.

Practice Information

In grazing, the animal type, animal number, grazing distribution, length of grazing and/or browsing periods, and timing of use is managed to provide grazed plants sufficient recovery time to meet planned objectives.

Adjusting the intensity, frequency, timing, and duration of grazing and/or browsing impacts plant communities and the associated resources, including animals. Managing for weed and pest control or drought management may be the focus of the grazing plan.

Monitoring the land resource on a regular basis insures that objectives are being met or changed to meet objectives on the land.



Common Associated Practices

Prescribed Grazing (528) is commonly applied with conservation practices, such as Brush Management (314), Pasture Planting (512) or Range Planting (550), and Fence (382).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Riparian Forest Buffer (391)

A riparian forest buffer is an area of trees and/or shrubs located adjacent to a body of water. The vegetation extends outward from the water body for a specified distance necessary to provide a minimum level of protection and/or enhancement.

Practice Information

This practice applies to areas adjacent to permanent or intermittent streams, lakes, ponds, wetlands, and areas associated with groundwater recharge.

The riparian forest buffer is a multipurpose practice designed to accomplish one or more of the following:

- Create shade to lower water temperatures and improve habitat for aquatic animals.
- Provide a source of debris necessary for healthy robust populations of aquatic organisms and wildlife.
- Act as a buffer to filter out sediment, organic material, fertilizer, pesticides, and other pollutants that may adversely impact the water body, including shallow groundwater.

Dominant vegetation consists of existing or planted trees and shrubs suited to the site and purpose(s) of the practice. Grasses and forbs that come in naturally further enhance the



wildlife habitat and filtering effect of the practice. Headcuts and streambank erosion should be assessed and treated appropriately before establishing the riparian forest buffer. Specifications for each installation are based on a thorough field investigation of each site.

Common Associated Practices

Riparian Forest Buffer (391) is commonly applied with conservation practices such as Riparian Herbaceous Cover (390), Stream Habitat Improvement and Management (395), Streambank and Shoreline Protection (580), and Tree/Shrub Establishment (612).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Roof Runoff Structure (558)

A roof runoff structure is made of various components that will collect, control and convey precipitation runoff from a roof.

Practice Information

The practice applies where roof runoff from precipitation needs to be diverted away from structures or contaminated areas. Roof runoff water that becomes contaminated by contact with animal waste has to be stored and then transported to the field for land application. Diverting clean water away from animal waste concentration areas reduces the amount of liquid that must be stored and utilized.

Uncontrolled roof runoff can also cause soil erosion. Collecting the runoff and transporting it to a stable outlet will reduce soil erosion and improve water quality.

Roof runoff water can also be collected and used for other purposes. Nonpotable water can be used for irrigation. Potable water storage structures must be constructed of materials and in a manner that will not increase the contamination of the stored water. Roof runoff that is collected and stored for potable use must be treated prior to consumption. It must be tested periodically to assure that adequate quality is maintained. The use of roof runoff water for livestock water must be evaluated on an individual basis.



Components of this practice can include gutters, downspouts, rock-filled trenches or pads, and subsurface drains or outlets.

This practice has a minimum expected life of 15 years. Roof runoff structures must be kept clean and free of obstructions that reduce flow. Maintenance requirements include regular inspections and repair of damaged components.

Common Associated Practices

Roof Runoff Structure (558) can be applied to new or existing roofs. It is commonly applied with conservation practices, such as Waste Storage Facility (313) and Composting Facility (317).

For further information, contact your local NRCS field office.



Conservation Practice Standard Overview

Waste Treatment Lagoon (359)

A waste treatment lagoon is an impoundment made by excavation or earth fill to provide storage for biological treatment of animal or other agriculture waste.

Practice Information

The purpose of this practice is to store and biologically treat organic waste, reduce pollution, and protect water quality.

The three general types of waste treatment lagoons are:

- Anaerobic—require less surface area than naturally aerobic lagoons, but may give off offensive odors
- Naturally aerobic—require more surface area, but are relatively odor free
- Mechanically aerated—comparable in size to anaerobic lagoons, but require energy for aeration

Waste treatment lagoons are located as near the source of waste as possible but as far from human dwellings as possible. The location should also be where prevailing winds will carry odors away from residences and public areas.

To improve efficiency and reduce sludge buildup, solids should be removed from the waste before it enters the lagoon. A solids trap or separator should be installed between the waste source and the lagoon.



Operation and maintenance requirements will include periodic inspections with prompt repair or replacement of damaged components. The waste will be removed from the lagoon and utilized at locations, times, rates, and volume in accordance with the overall waste management system plan.

Common Associated Practices

Waste Treatment Lagoon (359) is commonly applied with conservation practices such as Solid/Liquid Waste Separation Facility (632), Waste Utilization (633), and Nutrient Management (590).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Spring Development (574)

A spring development is a way of collecting water from a spring or seep so it can be used for livestock, wildlife, or other agricultural uses.

Practice Information

A spring development can be installed where a spring or seep will provide a dependable supply of suitable water for the planned use.

Springs are developed by removing obstructions to the flow and collecting the water. The type of collection system used for the spring development is dependent upon the type of spring and site geology. Collection systems generally consist of a restrictive barrier that forces water to collect in a perforated pipe that flows to an outlet.

It may also be necessary to provide a means of storing the water if flow from the spring is not sufficient to meet the peak demand of the intended use. A spring box can be made of concrete, plastic, galvanized steel, or naturally rot-resistant wood. The spring box also functions as a sediment trap.

Installation of a spring development may have an effect on the nearby plant and wildlife communities. Consider options to minimize any adverse impacts.

This practice has a minimum expected life of 20 years. Operation and maintenance of a



spring development includes periodic removal of sediment from the spring box, keeping outlets and overflow pipes clear, and repairing rodent damage and erosion from overflow pipes. It also includes keeping surface water diverted away from the spring.

Common Associated Practices

Spring Development (574) is commonly applied with conservation practices, such as Livestock Pipeline (516) and Watering Facility (614). It can also be used with some irrigation practices.

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Stream Crossing (578)

A stream crossing is a stabilized area or a structure constructed across a stream to provide a travel way for people, livestock, equipment, or vehicles.

Practice Information

Stream crossings can be used to provide access to another land unit, improve water quality by reducing sediment and nutrient loading of the stream, or reduce streambank and streambed erosion. This practice applies where an intermittent or perennial water course exists and a ford, bridge, or culvert-type crossing is needed.

A ford crossing is best suited for a wide, shallow watercourse with a firm streambed. Typical materials used for a ford crossing are concrete or rock. Ford crossings have the least detrimental effect on water quality when their use is infrequent. If the stream crossing will be used often, as in a dairy operation, a bridge or culvert crossing should be used.

Culverts and bridges work best on sites where the stream channel is relatively narrow or where the banks are steep. Bridges that fully span the stream are preferred where excessive sediment flows or large woody debris is expected. Culvert crossings are usually more economical to install than bridges. However, culverts have some potential to impede passage of fish and other aquatic organisms. This issue is addressed by placing the bottom of at least one culvert at an elevation that is 6 inches below the existing stream bottom.



Evaluate the need for safety features such as guard rails and reflectors on culvert or bridge crossings, and water-depth signage on ford crossings.

This practice has a minimum expected life of 10 years. Operation and maintenance requirements include inspection of the site after storm events, repair of damaged components, removal of debris accumulations, and replacement of surfacing stone, as needed.

Common Associated Practices

Stream Crossing (578) is commonly applied with conservation practices such as Animal Trails and Walkways (575), Access Road (560), and Fence (382).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Stripcropping (585)

Stripcropping is growing crops in a systematic arrangement of strips in a field to reduce soil erosion, reduce particulate emissions into the air, and improve water quality.

Practice Information

This practice is used on cropland and certain recreation and wildlife lands where field crops are grown. The crops are arranged so that a strip of grass or close-growing crop is alternated with a clean tilled strip or a strip with less protective cover. Generally, the strip widths are equal across the field. On sloping land where sheet and rill erosion are a concern, the strips are laid out on the contour or across the general slope. Where wind erosion is a concern, the strips are laid out as close to perpendicular as possible to the prevailing erosive wind direction.

In addition to its primary purpose of reducing soil erosion and improving water quality, the practice is also effective in increasing infiltration and available soil water, and improving wildlife habitat.



Common Associated Practices

Strip Cropping (585) is commonly applied with conservation practices such as Conservation Crop Rotation (328), Cover Crop (340), Residue Management (329, 345, and 346), Nutrient Management (590), Pest Management (595), and Grassed Waterway (412).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Trails and Walkways (575)

A trail is a constructed path with a vegetated or earthen surface. A walkway is a constructed path with an artificial surface. A trail/walkway is used to facilitate the movement of animals, people, or off-road vehicles.

Practice Information

This practice is used where there is a need to:

- Provide or improve animal access to forage, water, working/handling facilities, or shelter;
- Facilitate improved grazing efficiency and distribution;
- Protect ecologically sensitive, erosive, or potentially erosive sites;
- Provide pedestrian or off-road vehicle access to agricultural, construction, or maintenance operations; or
- Provide trails/walkways for recreational activities or access to recreation sites.

The trail or walkway will be designed to accommodate the expected frequency of use and the type of user. It will also have a surface that matches the usage. An infrequently used trail can be vegetated with grass. A walkway that is used daily would have a hardened surface. If it is necessary to locate the walkway in a wet area, an elevated boardwalk could be used.



This practice has a minimum expected life of 10 years. Maintenance of a trail or walkway can include periodic grading or reshaping to maintain the designed grade or dimensions, replacement of surface materials, reseeding damaged vegetation, and removal of manure accumulations.

Common Associated Practices

Trails and Walkways (575) is almost always installed in conjunction with conservation practice Fence (382) when used to facilitate livestock movement. It is often applied with Prescribed Grazing (528) to complement a rotational grazing system. Other commonly applied conservation practices are Critical Area Planting (342), Heavy Use Area Protection (561), and Stream Crossing (578).

For further information, contact your local NRCS field office.





Conservation Practice Standard Overview

May 2016

Tree/Shrub Establishment (Code 612)

Tree/shrub establishment involves planting seedlings or cuttings, seeding, or creating conditions that promote natural regeneration.

Practice Information

Trees and shrubs can be established for a variety of purposes. Conservation benefits may include, but are not limited to—

- establishing forest cover
- enhancing wildlife habitat
- controlling erosion
- improving water quality
- capturing and storing carbon
- conserving energy



Species selection, site preparation, planting date and method, and tree spacing will vary depending on the planned purpose and site conditions. Once planted, trees and shrubs need to be inspected periodically and protected from insects, diseases, competing vegetation, fire, and damage from livestock or wildlife.

Depending on the site, supplemental water may be required to ensure survival during the establishment period, typically 1 to 3 years. Periodic applications of nutrients may be needed to maintain plant vigor.

Common Associated Practices

Tree/Shrub Establishment (Code 612) is commonly associated with conservation practices such as Tree/Shrub Site Preparation (Code 490), Mulching (Code 484), Forest Trails and Landings (Code 655), Upland Wildlife Habitat Management (Code 645), Critical Area Planting (Code 342), Brush Management (Code 314), Herbaceous Weed Control (Code 315), Integrated Pest Management (Code 595), and Access Control (Code 472).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Vegetated Treatment Area (635)

An area of permanent vegetation used for agricultural wastewater treatment.

Practice Information

Vegetated treatment areas are used to improve water quality by reducing loading of nutrients, organics, pathogens, and other contaminants associated with animal manure and other wastes and wastewater by treating agricultural wastewater and runoff from livestock holding areas. More than one treatment strip may be needed.

For the wastewater treatment strip to work properly, discharge to and through it must be in the form of sheet flow so that the discharge does not concentrate into channels. Some means, such as a ditch, curb, or gated pipe, is provided to disperse concentrated flow and ensure sheet flow across the width of the treatment strip.

Permanent herbaceous vegetation, consisting of a single species or a mixture of grasses, legumes, and/or other forbs adapted to the soil and climate, is established in the treatment strip. The vegetated treatment area must receive regular maintenance for it to operate as planned.



Common Associated Practices

Vegetated Treatment Area (635) is commonly applied with conservation practices such as Waste Storage Facility (313), Waste Utilization (633), Heavy Use Area Protection (561), Critical Area Planting (342), Nutrient Management (590), and Solid/Liquid Separation Facility (632).

For further information, contact your local NRCS field office.



Conservation Practice Standard Overview

Vegetative Barrier (601)

Vegetative barrier is a permanent strip of stiff, dense vegetation established along the general contour of slopes .

Practice Information

Vegetative barriers are used to reduce sheet and rill erosion, manage water flow, stabilize steep slopes, and trap sediment.

This practice applies to all eroding areas, including cropland, grazing land, forest land, farmsteads, mined land, and construction sites. A suitable outlet is needed below the barrier. Barriers are most effective on slopes of less than 10 percent.

Recommended plant species must be adapted to local soil and climate conditions; be easily established, long-lived, and manageable.

Common Associated Practices

Vegetative Barrier (601) is commonly applied with conservation practices such as Integrated

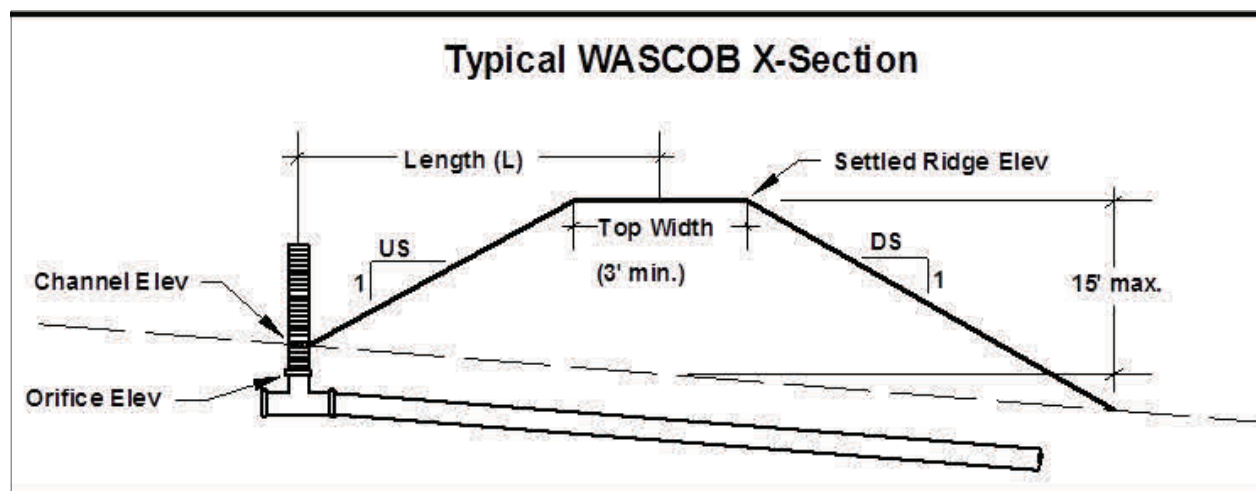


Pest Management (595), Nutrient Management (590), Crop Rotation (328), and Residue Management Practices.

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Water and Sediment Control Basin (638)



A water and sediment control basin, (WASCOB), is an earth embankment or a combination ridge and channel constructed across the slope of minor watercourses to form a sediment trap and water detention basin with a stable outlet.

Practice Information

This practice improves the farmability of sloping land, reduces erosion, traps sediment, reduces and manages runoff, and improves water quality. WASCOBs are constructed across small drainageways where they intercept runoff. The runoff is detained in the basin where sediment is allowed to settle out. The runoff is slowly released through an outlet. WASCOBs generally use an underground outlet that carries the runoff in a pipe to a receiving stream or ditch.

This practice is applied where the topography is generally irregular or undulating, and water concentrates and causes gullies to form. Therefore, contour farming, strip cropping, terraces, and other practices that involve farming on the contour may not be suitable on fields where this practice is used.

The operation and maintenance of WASCOBs includes conducting periodic inspections, prompt repair or replacement of any damaged components, removal of accumulated sediment, and regular maintenance of inlets and outlets.

Common Associated Practices

Sheet and rill erosion may continue to be a problem following installation of water and sediment control basins so additional practices are needed to protect the sloping upland areas of the fields. Water and Sediment Control Basin (638) is commonly applied with conservation practices such as Conservation Crop Rotation (328), Residue and Tillage Management (329, 345, 346), and Cover Crop (430). Critical Area Planting (342), Filter Strip (393), and Nutrient Management (590) are often applied to protect down-slope water quality.

For further information, contact your local NRCS field office.



Conservation Practice Standard Overview

May 2016

Waste Storage Facility (Code 313)

An agricultural waste storage impoundment or containment made by constructing an embankment, excavating a pit or dugout, or by fabricating a structure.

Practice Information

The waste storage facility provides temporary storage of manure, agricultural by-products, wastewater, and/or contaminated runoff. The facility allows agricultural operation management flexibility for waste utilization. Storage structure types include liquid waste storage ponds or tanks, and solid waste stacking structures.

Facility planning should incorporate environmental concerns, economics, the overall waste management system plan, and safety and health factors.

The design of waste storage structures depends on the intended storage period; the site location; Federal, State, and local laws and regulations; waste type and production rate; equipment limitations; and safety concerns.

An operation and maintenance plan is developed to specify requirements for emptying the storage facility. The plan specifies timing, rates, and volume of waste applications. For ponds, the plan also includes requirements for timely removal of waste material to accommodate subsequent storms.

Common Associated Practices

Waste Storage Facility (Code 313) is commonly applied with conservation practices such as Manure Transfer (Code 634), Pond Sealing or Lining, Compacted Soil Treatment (Code 520), Pond Sealing or Lining, Flexible Membrane (Code 521a) or Pond Sealing or Lining, Concrete (Code 522), Composting Facility (317), Nutrient Management (590), and Waste Utilization (633).

For further information, contact your local NRCS field office.



Conservation Practice Standard Overview

Waste Treatment (629)

Waste treatment is the mechanical, chemical, or biological treatment of agricultural waste.

Practice Information

The waste treatment practice is used to:

- Improve ground and surface water quality by reducing the nutrient content, organic strength, and/or pathogen levels of agricultural waste.
- To improve air quality by reducing odors and gaseous emissions.
- To produce value-added by-products.
- To facilitate desirable waste handling, storage, or land application alternatives.

This practice applies where a new technology can be used to manage the form and characteristics of agricultural waste to prevent the waste from becoming a nuisance or a hazard, or where changing the form or composition provides additional utilization alternatives. This practice will be part of a Agricultural Waste Management System Plan.

This practice has a minimum expected life of 10 years. Operation and maintenance of the



facility will depend upon the type of system that is selected.

Common Associated Practices

Waste Treatment (629) can be applied with conservation practices such as Waste Storage Facility (313) and Waste Transfer (634).

For further information, contact your local NRCS field office.

Conservation Practice Standard Overview

Windbreak/Shelterbelt Establishment (380) or Renovation (650)

Windbreaks or shelterbelts are single to multiple rows of trees and possibly shrubs planted in a linear fashion. They are established upwind of the areas to be protected. Renovating a windbreak may involve removing, releasing, or replacing selected trees and shrubs or rows of trees or shrubs.

Practice Information

Windbreaks and shelterbelts are primarily used to reduce soil erosion from wind; protect crops, livestock, and farmsteads from wind and related microclimate effects; control snow deposition; and improve air quality by intercepting drifting chemicals and odors.

Windbreak/shelterbelt establishment involves the planting of vegetation to serve the purposes noted above. The effectiveness of a windbreak or shelterbelt is dependent on the height of the mature plants. Therefore, it may take 20 years or more for the practice to become fully functional.

Windbreak/shelterbelt renovation involves widening, partial replanting, removing, and replacing selected trees and shrubs to improve an existing windbreak or shelterbelt. A period of years may also be needed for proper renovation.



These practices can be applied in any area where there is sufficient linear length to establish the windbreak on the lee side of the area to be protected. It is important during planning to consider the dominant wind direction during weather events that cause damage

Common Associated Practices

Windbreak/Shelterbelt Establishment (380) or Renovation (650) are commonly applied with conservation practices such as Conservation Crop Rotation (328), Cover Crop (340), Residue Management (344), Tree/Shrub Site Preparation (490), Tree/Shrub Establishment (612), Tree/Shrub Pruning (660), and Upland Wildlife Habitat Management (645).

For further information, contact your local NRCS field office.