



United States Department of Agriculture



# Delaware Conservation Practice Guide



Delaware

Natural  
Resources  
Conservation  
Service

[www.de.nrcs.usda.gov](http://www.de.nrcs.usda.gov)

# Delaware Conservation Practice Guide

The Delaware Conservation Practice Guide provides a comprehensive outline of all current practice standards within the state. This document is not to be used as technical guidance or policy. NRCS practices shall be applied according to current Conservation Practice Standards available in the Field Office Technical Guide, Section IV ([http://efotg.sc.egov.usda.gov/efotg\\_locator.aspx?map=](http://efotg.sc.egov.usda.gov/efotg_locator.aspx?map=)).

For information on the USDA Natural Resources Conservation Service in Delaware visit [www.de.nrcs.usda.gov](http://www.de.nrcs.usda.gov) or follow us on Twitter at [http://twitter.com/NRCS\\_DE](http://twitter.com/NRCS_DE).



Corn grows in a field of residue where a no-till planting method was used to improve soil health and save energy and money.

## Note to the Reader:

Conservation practices may change periodically as new practices are added or obsolete practices are removed. If you are interested in addressing a resource concern with a practice that is not included in this guide, please contact your local USDA Service Center.

A certified conservation planner will work with you to identify and address all of the resource concerns on your operation--ensuring balance between your economic goals and the needs of the environment.

USDA contacts by county:

### **Kent County - USDA Service Center**

800 Bay Road, Suite 2  
Dover, DE 19901  
302-741-2600 ext. 3

### **New Castle County - USDA Service Center**

2430 Old County Road  
Newark, DE 19702  
302-832-3100 ext. 3

### **Sussex County - USDA Service Center**

21315 Berlin Road, Unit #3  
Georgetown, DE 19947  
302-856-3990 ext. 3

### **Delaware NRCS State Office**

1221 College Park Drive, Suite 100  
Dover, DE 19904  
302-678-4160

# INDEX

<b>Code</b>	<b>Practice</b>	<b>Page</b>
472	Access Control	1
560	Access Road	1
309	Agrichemical Handling Facility	1
591	Amendments for the Treatment of Agricultural Waste	2
316	Animal Mortality Facility	2
314	Brush Management	2
672	Building Envelope Improvement	3
372	Combustion System Improvement	3
317	Composting Facility	3
327	Conservation Cover	4
328	Conservation Crop Rotation	4
340	Cover Crop	4
342	Critical Area Planting	5
605	Denitrifying Bioreactor	5
356	Dike	5
362	Diversion	6
554	Drainage Water Management	6
368	Emergency Animal Mortality Management	6
374	Farmstead Energy Improvement	7
382	Fence	7
386	Field Border	7
393	Filter Strip	8
512	Forage and Biomass Planting	8
511	Forage Harvest Management	8
666	Forest Stand Improvement	9
410	Grade Stabilization Structure	9
412	Grassed Waterway	9
561	Heavy Use Area Protection	10
422	Hedgerow Planting	10
315	Herbaceous Weed Control	10
325	High Tunnel System	11
595	Integrated Pest Management	11
430	Irrigation Pipeline	11
441	Irrigation System, Microirrigation	12
442	Irrigation System, Sprinkler	12
449	Irrigation Water Management	12
670	Lighting System Improvement	13
468	Lined Waterway or Outlet	13
516	Livestock Pipeline	13
484	Mulching	14
590	Nutrient Management	14
500	Obstruction Removal	14
319	On-Farm Secondary Containment Facility	15





### **Access Control - 472**

#### ***Practice Description***

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

#### ***Purpose***

This practice may be applied to achieve and maintain desired resource conditions by monitoring and managing the intensity of use by animals, people, vehicles, and/or equipment.



### **Access Road - 560**

#### ***Practice Description***

An access road is an established route for equipment and vehicles.

#### ***Purpose***

This practice may be applied to provide a fixed route for vehicular travel for resource activities involving the management of timber, livestock, agriculture, wildlife habitat, and other conservation enterprises.



### **Agrichemical Handling Facility - 309**

#### ***Practice Description***

A facility with an impervious surface to provide an environmentally safe area for the handling of on-farm agrichemicals.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Store, mix, load, and clean-up agrichemicals;
- Retain incidental spillage or leakage; and
- Reduce pollution to surface water, ground water, air, and/or soil.



### **Amendments for Treatment of Agricultural Waste - 591**

#### ***Practice Description***

The use of chemical or biological additives to change the properties of manure, process wastewater, contaminated storm water runoff and other wastes.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Facilitate the management, handling and processing of manure and waste;
- Reduce risk associated with the spread and contamination from pathogens;
- Improve or protect air quality;
- Improve or protect water quality; and
- Improve or protect animal health.



### **Animal Mortality Facility - 316**

#### ***Practice Description***

An on-farm facility for the treatment or disposal of animal carcasses due to routine mortality.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Reduce pollution impacts to surface water and groundwater resources;
- Reduce the impact of odors; and
- Decrease the spread of pathogens.



### **Brush Management - 314**

#### ***Practice Description***

The management or removal of woody (non-herbaceous or succulent) plants including those that are invasive and/or noxious.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Create the desired plant community consistent with the ecological site;
- Restore or release desired vegetative cover to protect soil, control erosion, reduce sedimentation, improve water quality, or enhance stream flow;
- Maintain, modify, or enhance fish and wildlife habitat;
- Improve forage accessibility, quality, and quantity for livestock and wildlife;
- Manage fuel loads to achieve desired conditions; and
- Control pervasive plant species to a desired level of treatment that will ultimately contribute to creation or maintenance of an ecological site description “steady state,” addressing the need for forage, wildlife habitat, and/or water quality.



### **Building Envelope Improvement - 672**

#### ***Practice Description***

Modification or retrofit of the building envelope of an existing agricultural structure.

#### ***Purpose***

This practice may be applied to reduce energy use by regulating heat transfer.



### **Combustion System Improvement - 372**

#### ***Practice Description***

Installing, replacing, or retrofitting agricultural combustion systems and/or related components or devices for air quality and energy efficiency improvement.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Improve air quality by addressing the air quality resource concerns for particulate matter and ozone precursors by mitigating actual or potential emissions of oxides of nitrogen and/or fine particulate matter; and/or
- Improve the energy efficiency of agricultural combustion systems.



### **Composting Facility - 317**

#### ***Practice Description***

A structure or device to contain and facilitate the controlled aerobic decomposition of manure or other organic material by micro-organisms into a biologically stable organic material that is suitable for use as a soil amendment.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Reduce the pollution potential and improve the handling characteristics of organic waste solids;
- Produce a soil amendment that adds organic matter and beneficial organisms;
- Improve or protect water quality; and
- Provide slow-release plant-available nutrients, and improves soil condition.



**Conservation  
Cover - 327**

***Practice Description***

Establishing and maintaining permanent vegetative cover.

***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce sheet, rill, and wind erosion and sedimentation;
- Reduce ground and surface water quality degradation by nutrients, and surface water quality degradation by sediment;
- Reduce emissions of particulate matter (PM), PM precursors, and greenhouse gases;
- Enhance wildlife, pollinator, and beneficial organism habitat; and
- Improve soil health.



**Conservation Crop  
Rotation - 328**

***Practice Description***

A planned sequence of crops grown on the same ground over a period of time (i.e., the rotation cycle).

***Purpose***

This practice may be applied to support one or more of the following purposes:

- Reduce sheet, rill, and/or wind erosion;
- Maintain or increase soil health and organic matter content;
- Reduce water quality degradation due to excess nutrients;
- Improve soil moisture efficiency;
- Reduce plant pest pressures;
- Provide feed and forage for domestic livestock; and
- Provide food and cover for wildlife, including nesting habitat and pollinator forage.



**Cover Crop - 340**

***Practice Description***

Grasses, legumes, and forbs planted for seasonal vegetative cover.

***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce erosion from wind and water;
- Maintain or increase soil health and organic matter content;
- Reduce water quality degradation by utilizing excess soil nutrients;
- Suppress excessive weed pressures and break pest cycles;
- Improve soil moisture use efficiency; and
- Minimize soil compaction.



### **Critical Area Planting - 342**

#### ***Practice Description***

Establishing permanent vegetation on sites that have, or are expected to have, high erosion rates, and on sites that have physical, chemical, or biological conditions that prevent the establishment of vegetation with normal practices.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Stabilize areas with existing or expected high rates of soil erosion by wind or water;
- Stabilize stream and channel banks, ponds, and other shorelines; and
- Stabilize coastal areas, such as sand dunes, and riparian areas.



### **Denitrifying Bioreactor - 605**

#### ***Practice Description***

A structure that uses a carbon source to reduce the concentration of nitrate nitrogen in subsurface agricultural drainage flow via enhanced denitrification.

#### ***Purpose***

This practice is applied to achieve the following purpose:

- Improve water quality by reducing the nitrate nitrogen content of agricultural drainage flow.



### **Dike - 356**

#### ***Practice Description***

A barrier constructed of earth or manufactured materials

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Protect people and property from floods; and/or
- Control water level in connection with crop production; fish and wildlife management; or wetland maintenance, improvement, restoration, or construction.



### **Diversion - 362**

#### ***Practice Description***

A channel generally constructed across the slope with a supporting ridge on the lower side.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Break up concentrations of water on long slopes, on undulating land surfaces, and on land that is generally considered too flat or irregular for terracing;
- Divert water away from farmsteads, agricultural waste systems, and other improvements;
- Collect or direct water for storage, water-spreading or water-harvesting systems;
- Protect terrace systems by diverting water from the top terrace where topography, land use, or land ownership prevents terracing the land above;
- Intercept surface and shallow subsurface flow;
- Reduce runoff damages from upland runoff;
- Reduce erosion and runoff on urban or developing areas and at construction or mining sites;
- Divert water away from active gullies or critically eroding areas; and
- Supplement water management on conservation cropping or stripcropping systems.



### **Drainage Water Management - 554**

#### ***Practice Description***

The process of managing water discharges from surface and/or subsurface agricultural drainage systems.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Reduce nutrient, pathogen, and/or pesticide loading from drainage systems into downstream receiving waters;
- Improve productivity, health, and vigor of plants;
- Reduce oxidation of organic matter in soils;
- Reduce wind erosion or particulate matter (dust) emissions; and
- Provide seasonal wildlife habitat.



### **Emergency Animal Mortality Management - 368**

#### ***Practice Description***

A means or method for the management of animal carcasses from catastrophic mortality events.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Reduce impacts to surface water and groundwater resources;
- Reduce the impact of odors; and
- Decrease the spread of pathogens.



### **Farmstead Energy Improvement - 374**

#### ***Practice Description***

Development and implementation of improvements to reduce, or improve the energy efficiency of on-farm energy use.

#### ***Purpose***

This practice may be applied to reduce energy use.



### **Fence - 382**

#### ***Practice Description***

A constructed barrier to animals or people.

#### ***Purpose***

This practice may be applied to control the movement of animals and/or people, including vehicles.



### **Field Border - 386**

#### ***Practice Description***

A strip of perennial vegetation established at the edge or around the perimeter of a field.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce erosion from wind and water;
- Protect soil and water quality;
- Provide wildlife food and cover, and habitat for pollinators or other beneficial organisms;
- Increase carbon storage; and
- Improve air quality.



### **Filter Strip - 393**

#### ***Practice Description***

A strip or area of herbaceous vegetation that removes contaminants from overland flow.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce suspended solids (e.g., sediment, particulate organic matter) and associated contaminants in runoff;
- Reduce dissolved contaminant loadings (e.g., nutrients, pesticides) in runoff; and
- Reduce suspended solids and associated contaminants in irrigation tailwater.



### **Forage and Biomass Planting - 512**

#### ***Practice Description***

Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Maintain or improve livestock nutrition and/or health;
- Provide or increase forage supply during periods of low forage production;
- Reduce soil erosion and improve water quality; and
- Produce feedstock for biofuel or energy production.



### **Forage Harvest Management - 511**

#### ***Practice Description***

The timely cutting and removal of forages from the field as hay, green-chop, or ensilage.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Optimize yield and quality of forage at the desired levels;
- Promote vigorous plant re-growth;
- Manage for the desired species composition;
- Forage plant biomass as a soil nutrient uptake tool;
- Control diseases, insects, and weeds; and
- Maintain and/or improve wildlife habitat.



### **Forest Stand Improvement - 666**

#### ***Practice Description***

The manipulation of species composition, stand structure and stocking by cutting or killing selected trees and understory vegetation.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Increase the quantity and quality of forest products by manipulating stand density and structure;
- Timely harvest of forest products;
- Development of renewable energy systems;
- Initiate forest stand regeneration;
- Reduce wildfire hazard;
- Improve forest health reducing the potential of damage from pests and moisture stress;
- Restore natural plant communities;
- Achieve or maintain a desired native understory plant community for special forest products, grazing, and browsing;
- Improve aesthetic and recreation, values;
- Improve wildlife habitat;
- Alter water yield; and
- Increase carbon storage in selected trees.



### **Grade Stabilization Structure - 410**

#### ***Practice Description***

A grade stabilization structure is a structure used to control the grade in natural or constructed channels.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Stabilize grade;
- Reduce erosion; and
- Improve water quality.



### **Grassed Waterway - 412**

#### ***Practice Description***

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.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Convey runoff from terraces, diversions, or other water concentrations without causing erosion or flooding;
- Prevent gully formation; and
- Protect/improve water quality.



### **Heavy Use Area Protection - 561**

#### ***Practice Description***

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

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Provide a stable, non-eroding surface for areas frequently used by animals, people, or vehicles; and/or
- Protect or improve water quality.



### **Hedgerow Planting - 422**

#### ***Practice Description***

Establishment of dense vegetation in a linear design to achieve a natural resource conservation purpose.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Provide food, cover, and travel corridors for terrestrial wildlife;
- Provide pollinator habitat;
- Provide food, cover, and shade for aquatic organisms that live in adjacent watercourses;
- Intercept airborne particulate matter or to reduce chemical drift and odor movement;
- Provide visual screens and barriers to noise and dust;
- Provide substrate for beneficial insects as a component of integrated pest management;
- Create a living fence;
- Delineate boundaries; and
- Increase carbon storage in biomass and soils.



### **Herbaceous Weed Control - 315**

#### ***Practice Description***

The removal or control of herbaceous weeds including invasive, noxious, and prohibited plants.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Enhance accessibility, quantity, and quality of forage and/or browse;
- Restore or establish native or other desired plant communities and wildlife habitats;
- Protect soil and control erosion;
- Reduce fine-fuels fire hazard and improve air quality; and
- Control pervasive plant species to a desired level of treatment that will ultimately contribute to creation or maintenance of an ecological site description “steady state,” addressing the need for forage, wildlife habitat, and/or water quality.



### **High Tunnel System - 325**

#### ***Practice Description***

An enclosed polyethylene, polycarbonate, plastic, or fabric-covered structure that is used to cover and protect crops from sun, wind, excessive rainfall, or cold, to extend the growing season in an environmentally safe manner.

#### ***Purpose***

This practice may be applied to improve plant health and vigor.



### **Integrated Pest Management - 595**

#### ***Practice Description***

A site-specific combination of pest prevention, pest avoidance, pest monitoring, and pest suppression strategies.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Prevent or mitigate pesticide risks to water quality through leaching, solution runoff, and adsorbed runoff;
- Prevent or mitigate pesticide risk through drift and volatilization;
- Prevent or mitigate pesticide risk to pollinators and other beneficial species through direct contact; and
- Prevent or mitigate cultural, mechanical, and biological pest suppression risk.



### **Irrigation Pipeline - 430**

#### ***Practice Description***

A pipeline and appurtenances installed to convey water for storage or application, as part of an irrigation water system.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Convey water from a source of supply to an irrigation system or storage reservoir;
- Reduce energy use; and
- Develop renewable energy systems (i.e., in-pipe hydropower).



### **Irrigation System, Microirrigation - 441**

#### ***Practice Description***

An irrigation system for frequent application of small quantities of water on or below the soil surface: as drops, tiny streams or miniature spray through emitters or applicators placed along a water delivery line.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Efficiently and uniformly apply irrigation water and maintain soil moisture for plant growth;
- Prevent contamination of ground and surface water by efficiently and uniformly applying chemicals;
- Establish desired vegetation; and
- Reduce energy use.



### **Irrigation System, Sprinkler - 442**

#### ***Practice Description***

A distribution system that applies water by means of nozzles operated under pressure.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Efficiently and uniformly apply water on irrigated lands;
- Improve plant condition, productivity, health and vigor;
- Prevent the entry of excessive nutrients, organics and other chemicals in surface and ground water;
- Improve condition of soil contaminated with salts and other chemicals;
- Reduce particulate matter emissions to improve air quality; and
- Reduce energy use.



### **Irrigation Water Management - 449**

#### ***Practice Description***

The process of determining and controlling the volume, frequency, and application rate of irrigation water.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Improve irrigation water use efficiency;
- Minimize irrigation induced soil erosion;
- Decrease degradation of surface and groundwater resources;
- Manage salts in the crop root zone;
- Manage air, soil, or plant micro-climate; and
- Reduce energy use.



### **Lighting System Improvement - 670**

#### ***Practice Description***

Complete replacement or retrofitting of one or more components of an existing agricultural lighting system.

#### ***Purpose***

This practice may be applied to reduce energy use.



### **Lined Waterway or Outlet - 468**

#### ***Practice Description***

A waterway or outlet having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, or other permanent material.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Provide for safe conveyance of runoff from conservation structures or other water concentrations without causing erosion or flooding;
- Stabilize existing and prevent future gully erosion; and
- Protect and improve water quality.



### **Livestock Pipeline - 516**

#### ***Practice Description***

A pipeline and appurtenances installed to convey water for livestock or wildlife.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Convey water to points of use for livestock or wildlife;
- Reduce energy use; and
- Develop renewable energy systems.



### **Mulching - 484**

#### ***Practice Description***

Applying plant residues or other suitable materials produced off site, to the land surface.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Provide erosion control;
- Conserve soil moisture;
- Facilitate the establishment of vegetative cover;
- Reduce energy use associated with irrigation;
- Improve soil health; and
- Reduce airborne particulates.



### **Nutrient Management - 590**

#### ***Practice Description***

Managing the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments.

#### ***Purpose***

This practice may be applied to manage the amount (rate), source, placement (method of application), and timing of plant nutrients and soil amendments to:

- Budget, supply, and conserve nutrients for plant production;
- Minimize agricultural nonpoint source pollution of surface and groundwater resources;
- Properly utilize manure or organic by-products as a plant nutrient source;
- Protect air quality by reducing odors, nitrogen emissions (ammonia, oxides of nitrogen), and the formation of atmospheric particulates; and
- Maintain or improve the physical, chemical, and biological condition of the soil.



### **Obstruction Removal - 500**

#### ***Practice Description***

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

#### ***Purpose***

This practice may be applied to safely remove and dispose of unwanted obstructions in order to apply conservation practices or facilitate the planned land use.



### **On-Farm Secondary Containment Facility - 319**

#### ***Practice Description***

A permanent facility designed to provide secondary containment of oil and petroleum products used on-farm.

#### ***Purpose***

This practice may be applied to achieve one or more of the following purposes:

- Control accidental release of oil and petroleum products to prevent contamination of groundwater and surface waters; and/or
- Provide measures for a safe, effective and timely manner for clean-up of a spill or leak.



### **Pond - 378**

#### ***Practice Description***

A water impoundment made by constructing an embankment or by excavating a pit or dugout.

In this standard, ponds constructed by the first method are referred to as embankment ponds, and those constructed by the second method are referred to as excavated ponds. Ponds constructed by both the excavation and the embankment methods are classified as embankment ponds if the depth of water impounded against the embankment at the auxiliary spillway elevation is 3 feet or more.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Provide water for livestock, fish and wildlife, recreation, fire control, develop renewable energy systems; and/or
- Maintain or improve water quality.



### **Prescribed Grazing - 528**

#### ***Practice Description***

Managing the harvest of vegetation with grazing and/or browsing animals.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Improve or maintain desired species composition and vigor of plant communities;
- Improve or maintain quantity and quality of forage for animal health and productivity;
- Improve or maintain surface and/or subsurface water quality and quantity;
- Improve or maintain riparian and watershed function;
- Reduce soil erosion, and maintain or improve soil condition;
- Improve or maintain the quantity and quality of food and/or cover available for wildlife; and
- Manage fine fuel loads to achieve desired conditions.



### **Pumping Plant - 533**

#### ***Practice Description***

A facility that delivers water at a designed pressure and flow rate. Includes the required pump(s), associated power unit(s), plumbing, appurtenances, and may include on-site fuel or energy source(s), and protective structures.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Deliver water for irrigation, watering facilities, wetlands, or fire protection;
- Remove excessive sub-surface or surface water;
- Provide efficient use of water on irrigated land;
- Transfer animal waste as part of a manure transfer system;
- Improve air quality; and
- Reduce energy use.



### **Residue and Tillage Management, No-Till - 329**

#### ***Practice Description***

Limiting soil disturbance to manage the amount, orientation, and distribution of crop and plant residue on the soil surface year-round.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce sheet, rill, and wind erosion;
- Maintain or improve soil quality and organic matter content;
- Reduce tillage-induced particulate emissions;
- Reduce energy use;
- Increase plant-available moisture; and
- Provide food and escape cover for wildlife.



### **Residue and Tillage Management, Reduced Tillage - 345**

#### ***Practice Description***

Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year round, while limiting the soil-disturbing activities used to grow and harvest crops in systems where the field surface is tilled prior to planting.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce sheet, rill, and wind erosion;
- Maintain or improve soil quality and organic matter content;
- Reduce tillage-induced particulate emissions;
- Reduce energy use; and
- Increase plant-available moisture.



### **Riparian Forest Buffer - 391**

#### ***Practice Description***

An area of predominant trees and/or shrubs located adjacent to and up-gradient from water courses or water bodies.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Reduce excess amounts of sediment, organic material, nutrients, pesticides, and other pollutants in surface runoff and reduce excess nutrients and other chemicals in shallow groundwater flow;
- Create or improve riparian habitat and provide a source of detritus and large woody debris for fish and other aquatic organisms;
- Create shade to lower or maintain water temperatures to improve habitat for aquatic organisms;
- Reduce pesticide drift entering the water body;
- Restore riparian plant communities; and
- Increase carbon storage in plant biomass and soils.



### **Riparian Herbaceous Cover - 390**

#### ***Practice Description***

Grasses, sedges, rushes, ferns, legumes, and forbs tolerant of intermittent flooding or saturated soils, established or managed as the dominant vegetation in the transitional zone between upland and aquatic habitats.

#### ***Purpose***

- This practice may be applied for one or more of the following purposes:
- Provide food and cover for wildlife and aquatic organisms;
  - Improve and maintain water quality;
  - Establish and maintain habitat corridors;
  - Increase water storage on floodplains;
  - Reduce erosion and improve stability on streambanks and shorelines;
  - Increase net carbon storage in the biomass and soil;
  - Enhance pollen, nectar, and nesting habitat for pollinators;
  - Restore, improve, or maintain the desired plant communities;
  - Dissipate stream energy and trap sediment; and
  - Enhance streambank protection as part of streambank soil bioengineering practices.



### **Roof Runoff Structure - 558**

#### ***Practice Description***

A structure that will collect, control and convey precipitation runoff from a roof.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Protect surface water quality by excluding roof runoff from contaminated areas;
- Protect a structure foundation from water damage or soil erosion from excess water runoff;
- Increase infiltration of runoff water; and
- Capture water for other uses.



### **Roofs and Covers - 367**

#### ***Practice Description***

A rigid, semi rigid, or flexible manufactured membrane, composite material, or roof structure placed over a waste management facility, agrichemical handling facility, or an on-farm secondary containment facility.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Protect clean water from dilution in waste water in an existing or planned animal waste handling or storage area;
- Improve waste management and utilization to protect nearby surface water quality;
- Capture biogas emissions from an existing or planned animal waste storage facility to reduce the net effect of greenhouse gas emissions, improve air quality, and reduce odor as a result of:
  - biological treatment with composite cover material,
  - combustion by flare,
  - combustion by engine generator for energy production; and
- Protect clean water by excluding it from a chemically contaminated area.



### **Sediment Basin - 350**

#### ***Practice Description***

A basin constructed with an engineered outlet, formed by an embankment or excavation or a combination of the two.

#### ***Purpose***

This practice may be applied to capture and detain sediment laden runoff, or other debris for a sufficient length of time to allow it to settle out in the basin.



### **Shallow Water Development and Management - 646**

#### ***Practice Description***

The inundation of lands to provide habitat for fish and/or wildlife.

#### ***Purpose***

This practice may be applied to provide habitat for wildlife such as shorebirds, waterfowl, wading birds, mammals, fish, reptiles, amphibians and other species that require shallow water for at least a part of their life cycle.



### **Spring Development - 574**

#### ***Practice Description***

Collection of water from springs or seeps to provide for livestock and wildlife.

#### ***Purpose***

This practice may be applied to improve the quantity and/or quality of water for livestock and wildlife.



### **Stream Crossing - 578**

#### ***Practice Description***

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

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Provide access to another land unit;
- Improve water quality by reducing sediment, nutrient, organic, and inorganic loading of the stream; and
- Reduce streambank and streambed erosion.



### **Streambank and Shoreline Protection - 580**

#### ***Practice Description***

Treatment(s) used to stabilize and protect banks of streams or constructed channels, and shorelines of lakes, reservoirs, or estuaries.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Prevent the loss of land or damage to land uses, or facilities adjacent to the banks of streams or constructed channels, shoreline of lakes, reservoirs, or estuaries including the protection of known historical, archaeological, and traditional cultural properties;
- Maintain the flow capacity of streams or channels;
- Reduce the offsite or downstream effects of sediment resulting from bank erosion; and
- Improve or enhance the stream corridor for fish and wildlife habitat, aesthetics, recreation.



### **Structure For Water Control - 587**

#### ***Practice Description***

A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation or measures water.

#### ***Purpose***

The practice may be applied as a management component of a water management system to control the stage, discharge, distribution, delivery or direction of water flow.



### **Subsurface Drain - 606**

#### ***Practice Description***

A conduit installed beneath the ground surface to collect and/or convey excess water.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Remove or distribute excessive soil water; and/or
- Remove salts and other contaminants from the soil profile.



### **Trails and Walkways - 575**

#### ***Practice Description***

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.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- 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; and/or
- Provide trails/walkways for recreational activities or access to recreation sites.



**Tree/Shrub  
Establishment - 612**

***Practice Description***

Establishing woody plants by planting seedlings or cuttings, direct seeding, or natural regeneration.

***Purpose***

This practice may be applied for one or more of the following purposes:

- Provide forest products such as timber, pulpwood, etc.;
- Provide wildlife habitat;
- Provide long-term erosion control and improvement of water quality;
- Treat waste;
- Store carbon in biomass;
- Reduce energy use;
- Develop renewable energy systems;
- Improve or restore natural diversity; and
- Enhance aesthetics.



**Tree/Shrub Site  
Preparation - 490**

***Practice Description***

Treatment of areas to improve site conditions for establishing trees and/or shrubs.

***Purpose***

This practice may be applied for one or both of the following purposes:

- Encourage natural regeneration of desirable woody plants; and/or
- Permit artificial establishment of woody plants.



**Underground  
Outlet - 620**

***Practice Description***

A conduit or system of conduits installed beneath the surface of the ground to convey surface water to a suitable outlet.

***Purpose***

This practice may be applied to carry water to a suitable outlet from terraces, water and sediment control basins, diversions, waterways, surface drains, other similar practices or flow concentrations without causing damage by erosion or flooding.



**Upland Wildlife  
Habitat  
Management - 645**

***Practice Description***

Provide and manage upland habitats and connectivity within the landscape for wildlife.

***Purpose***

This practice may be applied to manage food, cover, and/or shelter in proper amounts, locations, and times to sustain wild animals that inhabit uplands during a portion of their life cycle.



**Waste Facility  
Closure - 360**

***Practice Description***

The decommissioning of facilities, and/or the rehabilitation of contaminated soil, in an environmentally safe manner, where agricultural waste has been handled, treated, and/or stored and is no longer used for the intended purpose.

***Purpose***

This practice may be applied to support one or more of the following purposes:

- Protect the quality of surface water and groundwater resources;
- Mitigate air emissions;
- Eliminate a safety hazard for humans and livestock; and
- Safeguard the public health.



**Waste Storage  
Facility - 313**

***Practice Description***

A waste storage impoundment made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a structure.

***Purpose***

This practice may be applied to temporarily store wastes such as manure, wastewater, and contaminated runoff as a storage function component of an agricultural waste management system.



### **Waste Transfer - 634**

#### ***Practice Description***

A system using structures, pipes or conduits installed to convey wastes or waste byproducts from the agricultural production site to storage/treatment or application.

#### ***Purpose***

This practice may be applied to transfer agricultural waste material associated with production, processing, and harvesting to a:

- Storage facility,
- Treatment facility,
- Handling or loading area, or
- Agricultural land for agronomic application.



### **Water and Sediment Control Basin - 638**

#### ***Practice Description***

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.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Reduce watercourse and gully erosion;
- Trap sediment; and
- Reduce and manage onsite and downstream runoff.



### **Water Well - 642**

#### ***Practice Description***

A hole drilled, dug, driven, bored, jetted or otherwise constructed into an aquifer for water supply.

#### ***Purpose***

This practice may be applied to provide access to a groundwater supply suitable for livestock watering, fire control, wildlife, and other agricultural uses.



### **Watering Facility - 614**

#### ***Practice Description***

A watering facility is a means of providing drinking water to livestock or wildlife.

#### ***Purpose***

This practice may be applied to support one or more of the following purposes:

- Supply daily water requirements;
- Improve animal distribution; and
- Provide a water source that is an alternative to a sensitive resource.



### **Wetland Restoration - 657**

#### ***Practice Description***

The return of a wetland and its functions to a close approximation of its original condition as it existed prior to disturbance on a former or degraded wetland site.

#### ***Purpose***

- This practice may be applied to restore wetland function, value, habitat, diversity, and capacity to a close approximation of the pre-disturbance conditions by restoring:
- Conditions conducive to hydric soil maintenance;
  - Wetland hydrology (dominant water source, hydroperiod, and hydrodynamics);
  - Native hydrophytic vegetation (including the removal of undesired species, and/or seeding or planting of desired species); and
  - Original fish and wildlife habitats.



### **Wetland Wildlife Habitat Management - 644**

#### ***Practice Description***

Retaining, developing, or managing, wetland habitat for wetland wildlife.

#### ***Purpose***

This practice may be applied to maintain, develop, or improve wetland habitat for waterfowl, shorebirds, furbearers, or other wetland dependent or associated flora and fauna.



### **Windbreak/Shelterbelt Establishment - 380**

#### ***Practice Description***

Windbreaks or shelterbelts are single or multiple rows of trees or shrubs in linear configurations.

#### ***Purpose***

This practice may be applied for one or more of the following purposes:

- Provide shelter for structures, animals, and people;
- Improve air quality by reducing and intercepting airborne particulate matter, chemicals, and odors;
- Provide noise screens;
- Provide visual screens;
- Reduce energy use;
- Reduce wind erosion;
- Protect plants from wind related damage and alter the microenvironment for enhancing plant growth;
- Improve irrigation efficiency;
- Manage snow deposition;
- Enhance wildlife habitat;
- Increase carbon storage in biomass and soils; and
- Delineate property and field boundaries.

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Delaware  
• November 2016

