Access Control

Code: 472

Reporting Unit: Acre

Definition:

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

Purpose:

Achieve and maintain desired resource conditions by monitoring and managing the intensity of use by animals, people, vehicles, and/or equipment in coordination with the application schedule of practices, measures, and activities specified in the conservation plan.

Conditions Where Practice Applies:

This practice applies on pasture and grazed range only.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Animal exclusion from sensitive areas (FI)	ac	$16.56	$17.04
This is for facilitating exclusion of animals to protect or enhance natural resource values and/or to allow for fuel loads to accumulate to address other resource issues. Control will be by permanent or temporary electric fencing. Any need for permanent fencing will be planned and installed using CP 382, Fence. Clearing of brush and trees is not necessary.			

Limitations:

Documentation:

Annually conduct a review and certify practice compliance on the conservation plan or assistance notes.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Access Road

Code: 560

Reporting Unit: Feet

Definition:

A travel-way for equipment and vehicles constructed as part of a conservation plan.

Purpose:

To provide a fixed route for vehicular travel for resource activities involving the management of timber, livestock, agriculture, wildlife habitat, and other conservation enterprises while protecting the soil, water, air, fish, wildlife, and other adjacent natural resources.

Conditions Where Practice Applies:

Where access is needed from a private or public road or highway to a land use enterprise or conservation measure, or where travel ways are needed in a planned land use area. Access roads range from seasonal use roads, designed for low speed and rough driving conditions, to all-weather roads heavily used by the public and designed with safety as a high priority. Some roads are only constructed for a single purpose; i.e., control of forest fires, logging and forest management activities, access to remote recreation areas, or access for maintenance of facilities.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
New 6 inch gravel road with Geotextile, less than 2.5 Ft. Construction of an earth road with compacted gravel surface and an average embankment height of less than 2.5 feet, over woven geotextile fabric on weak bearing capacity soils. The installation includes excavation, shaping, grading, and all equipment, labor, and incidental materials necessary as required by the design. Payment will be for the linear feet of road constructed.	ft	$9.77	$13.83
New 6 inch gravel road without Geotextile, Less than 2.5 Ft. Construction of an earth road with compacted gravel surface and an average embankment height of less than 2.5 feet. The installation includes excavation, shaping, grading, and all equipment, labor, and incidental materials necessary as required by the design. Payment will be for the linear feet of road constructed.	ft	$6.44	$9.13
New 6 inch gravel road without Geotextile, 2.5 ft. or higher Construction of an earth road with compacted gravel surface and an average embankment height of 2.5 feet or more. The installation includes excavation, shaping, grading, and all equipment, labor, and incidental materials necessary as required by the design. Payment will be for the linear feet of road constructed.	ft	$10.37	$14.69

Limitations:

1. Financial assistance is available from the access point to the conservation measure.

Documentation:

Field notes associated with measurement of road length. Completed table of quantities on as-built plan for waste system.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Anaerobic Digester

Code: 366

Reporting Unit: Number

Definition:

A component of a waste management system that provides biological treatment in the absence of oxygen.

Purpose:

For the treatment of manure and other by-products of animal agricultural operations for one or more of the following reasons:

- Capture biogas for energy production
- Manage odors
- Reduce the net effect of greenhouse gas emissions
- Reduce pathogens

Conditions Where Practice Applies:

This practice applies where:

- Biogas production and capture are components of a planned animal waste and byproduct(s) management system
- Sufficient and suitable organic feedstocks are readily available
- Existing facilities can be modified to the requirements of this standard or for new construction
- The operator has the interest and skills to monitor and maintain processes or contracts with a consultant to provide these services

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Covered Lagoon/Holding Pond A piping and collection system for biogas and controls for operating a digester system for a covered lagoon/holding pond (does not include the earthen storage facility or the associated cover). It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$65.04	$92.13
Small Complete Mix less than 1000 AU A complete-mix anaerobic digester consisting of a pre-fabricated, glass-fused metal tank; cast-in-place concrete; or similar storage tank designed for less than 1,000 animal units. It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$430.58	$609.98
Medium Complete Mix 1000-2500 AU A complete-mix anaerobic digester consisting of a pre-fabricated, glass-fused metal tank; cast-in-place concrete; or similar storage tank designed for 1,000-2,500 animal units. It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$412.99	$585.07
Large Complete Mix greater than 2,500 AU A complete-mix anaerobic digester consisting of a pre-fabricated, glass-fused metal tank; cast-in-place concrete; or similar storage tank designed for more than 2,500 animal units. It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$281.54	$398.85
Small Plug Flow less than 1000 AU A plug-flow anaerobic digester consisting of a pre-fabricated, glass-fused metal tank; cast-in-place concrete; or similar storage tank designed for less than 1,000 animal units. It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$791.84	$1,121.77

Medium Plug Flow 1000-2000 AU A plug-flow anaerobic digester consisting of a pre-fabricated, glass-fused metal tank; cast-in-place concrete; or similar storage tank designed for 1,000-2,000 animal units. It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$617.56	$874.87
Large Plug Flow greater than 2000 AU A plug-flow anaerobic digester consisting of a pre-fabricated, glass-fused metal tank; cast-in-place concrete; or similar storage tank designed for more than 2,000 animal units. It provides biological treatment of the waste in the absence of oxygen. The measurement for payment will be the number of AUs (1,000 lb animal equivalents) used for design.	ani unt	$524.46	$742.98

Limitations:

Documentation:

Completed table of quantities on as-built plan showing designed or approved storage volume. Form KS-ENG-16, Waste Management Inspection Report.

Maintenance:

Practice will be maintained for a lifespan of 25 years following installation.

Animal Mortality Facility

Code: 316

Reporting Unit: Number

Definition:

An on-farm facility for the treatment or disposal of livestock and poultry carcasses.

Purpose:

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- Decrease nonpoint source pollution of surface and groundwater resources
- Reduce the impact of odors that result from improperly handled animal mortality
- Decrease the likelihood of the spread of disease or other pathogens that result from the interaction of animal mortality and predators
- Provide contingencies for normal and catastrophic mortality events

Conditions Where Practice Applies:

This practice applies where animal carcass treatment or disposal must be considered as a component of a waste management system for livestock or poultry operations. It applies where on-farm carcass treatment and disposal are permitted by federal, state, and local laws, rules, and regulations. It also applies where a waste management system plan as described in the National Engineering Handbook (NEH), Part 651, Agriculture Waste Management Field Handbook (AWMFH), has been developed that accounts for the end use of the product from the mortality facility. This practice includes disposal of both normal and catastrophic animal mortality; however, it does not apply to catastrophic mortality resulting from disease.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Extra Large Animal - Daily Death Loss	Lb/Day	$140.52	$199.07
Installation of a concrete pad for static pile composting of normal mortality from operations with extra large animals, typically over 300 lb. (Dairy, Beef, etc.). Area is sized to accommodate compost piles or windrows, with area provided for access by equipment to turn piles as needed. Sufficient carbon based bulking material is added to allow natural aeration and a proper C:N ratio. Piles are typically turned at least once to enter another heat cycle prior to final utilization, typically land application. Site to be located out of drainage areas, off-site water diverted and any runoff to spread out into a grassed area or vegetated treatment area as per regulations.			
Incineration, Less than 50 CF Chamber	cu ft	$169.84	$240.61
A facility consisting of a concrete base and manufactured Type IV incinerator designed to handle 350 lb of average daily mortality for the species and size of the operation. The facility shall use high temperature (> 1300 degrees F) incineration with a secondary combustion or afterburner chamber prior to flue discharge. The volume for payment will be the actual chamber size obtained from manufacturer's product literature.			
Incineration, 50-100CF chamber	cu ft	$153.19	$217.02
A facility consisting of a concrete base and manufactured Type IV incinerator designed to handle 350 to 850 lb of average daily mortality for the species and size of the operation. The facility shall use high temperature (> 1300 degrees F) incineration with a secondary combustion or afterburner chamber prior to flue discharge. The volume for payment will be the actual chamber size obtained from manufacturer's product literature.			
Incineration, More than 100 CF Chamber	cu ft	$80.82	$114.49
A facility consisting of a concrete base and manufactured Type IV incinerator designed to handle a single mortality of 1,200 to 1,500 lb. The facility shall use high temperature (> 1300 degrees F) incineration with a secondary combustion or afterburner chamber prior to flue discharge. The volume for payment will be the actual chamber size obtained from manufacturer's product literature.			

Invessel Rotary Drum, less than 700 CF A facility consisting of a concrete base and horizontal rotary drum designed to compost 250 to 600 lb of average daily mortality. The volume for payment will be the interior volume of the rotary drum in cubic feet as per manufacturer's product literature.	cu ft	$60.57	$85.81
Invessel Rotary Drum, greater than or equal to 700 CF A facility consisting of a concrete base and horizontal rotary drum designed to compost 600 to 1,000 lb of average daily mortality. The volume for payment will be the interior volume of the rotary drum in cubic feet as per manufacturer's product literature.	cu ft	$32.73	$46.37
Static pile, Concrete Bin(s) A facility consisting of a concrete slab and walls that form two or more bins and alleys. The area for payment will be the square feet of the structure including bins and alleys, but not including approach slabs.	sq ft	$12.25	$17.35
Static pile, Concrete Bin(s) with hydrant A facility consisting of a concrete slab and walls that form two or more bins and alleys, including a hydrant and up to 200 LnFt of pipe. The area for payment will be the square feet of the structure including bins and alleys, but not including approach slabs.	sq ft	$12.87	$18.23
Static pile, Concrete Pad A facility consisting of a concrete pad to compost animal mortality in a static windrow or single pile. The area for payment will be the square feet of the concrete pad.	sq ft	$2.68	$3.79
Static pile, Concrete Pad with hydrant A facility consisting of a concrete pad to compost animal mortality in a static windrow or single pile, including a hydrant and up to 200 LnFt of pipe. The area for payment will be the square feet of the concrete pad.	sq ft	$2.78	$3.94
Static pile, Earthen pad A facility consisting of an impervious earthen pad to compost animal mortalities in a static windrow or single pile. The area for payment will be the square feet of the earthen pad.	sq ft	$0.26	$0.37
Static pile, Earthen pad with hydrant A facility consisting of an impervious earthen pad to compost animal mortalities in a static windrow or single pile, including a hydrant and up to 200 LnFt of pipe. The area for payment will be the square feet of the earthen pad.	sq ft	$0.34	$0.48
Static pile, Wood Bin(s) A facility consisting of a concrete slab and wood walls that form two or more bins and alleys. The area for payment will be the square feet of the structure including bins and alleys, but not including approach slabs.	sq ft	$9.14	$12.95
Static pile, Wood Bin(s) with hydrant A facility consisting of a concrete slab and wood walls that form two or more bins and alleys, including a hydrant and up to 200 LnFt of pipe. The area for payment will be the square feet of the structure including bins and alleys, but not including approach slabs.	sq ft	$9.97	$14.13

Limitations:

Documentation:

Completed table of quantities on as-built plan showing designed or approved area or number installed and Form KS-ENG-16, Waste Management Inspection Report.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Brush Management

Code: 314

Reporting Unit: Acre

Definition:

Removal, reduction, or manipulation of non-herbaceous plants.

Purpose:

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

- Restore natural plant community balance
- Create the desired plant community
- Reduce competition for space, moisture, and sunlight between desired and unwanted plants
- Manage noxious woody plants
- Restore desired vegetative cover to protect soils, control erosion, reduce sediment, improve water quality, and enhance stream flow
- Maintain or enhance wildlife habitat including that associated with threatened and endangered species
- Improve forage accessibility, quality, and quantity for livestock
- Protect life and property from wildfire hazards
- Improve visibility and access for handling livestock

Conditions Where Practice Applies:

On all lands except active cropland where the removal, reduction, or manipulation of woody (non-herbaceous or succulent) plants is desired. This practice will not be used for removal of woody vegetation by prescribed fire (use CP 338, Prescribed Burning) or removal of woody vegetation to facilitate a land use change (use CP 460, Land Clearing).

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Chemical - Ground Applied Apply brush management on rangeland, grazed forest, or pasture through the use of broadcast application of material using low cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands. Typical unit is 160 acres.	ac	$16.07	$22.77
Chemical, Aerial Applied Apply brush management on rangeland, grazed forest, or pasture through the use of broadcast aerial application of material with low cost chemical(s) to reduce or remove undesirable deciduous species (brush) in uplands and other areas not in or directly adjacent to streams, ponds, or wetlands. Typical unit is 160 acres.	ac	$16.74	$23.71
Chemical, Foliar Spot Treatment Apply foliar chemical brush management techniques (aerial fixed-wing or ground rig) on isolated upland areas within an 80-acre planning unit (not directly adjacent to streams, ponds or wetlands) associated with rangeland (may include grazed forest, pasture, or other land uses) to control undesirable deciduous species in order to improve ecological/range site conditions. Treatment is applied to a 10-acre isolated area (not adjacent to a stream, wetland or pond), using broadcast/aerial herbicide(s) application, on the entire 10 acres to reduce or remove trees and/or brush which are not appropriate for the site(s). Foliar application of material using the most effective, low-cost chemical(s).	ac	$24.51	$34.72
Chemical, Individual Plant Treatment This scenario is for the implementation of brush management on range, pasture or native pasture using individual plant treatment (IPT). The typical method of control is application of herbicides (basal or foliar location) on selected individual plants.	ac	$21.35	$30.25

Mechanical and Chemical, Heavy Infestation Removal of woody vegetation on gently sloping terrain with moderately deep to deep soils. The practice requires the felling and piling of trees and brush using a mechanical cutter, chopper, or other light equipment and applying herbicide to cut stump resprouting tree/brush species, as necessary, in order to improve ecological site conditions. Brush density has met or exceeded heavy or high infestation levels (averaging greater than 15% canopy depending upon species) based on ecological site potential as determined by state-specific criteria. Typical unit is 10 acres.	ac	$193.61	$274.27
Mechanical and Chemical, Low Infestation Removal of woody vegetation on gently sloping to moderately deep to deep soils. The practice requires the felling of trees and brush using a mechanical cutter, chopper, or other light equipment and applying herbicide to cut stump resprouting tree/brush species, as necessary, in order to improve ecological site conditions. Brush density has met or exceeded low or light infestation levels (1-5% canopy depending upon species) based on ecological site potential as determined by state specific criteria. Typical unit is 80 acres.	ac	$29.61	$41.95
Mechanical and Chemical, Medium Infestation Removal of woody vegetation on gently sloping terrain with moderately deep to deep soils. The practice requires the felling and piling of trees and brush using a mechanical cutter, chopper, or other light equipment and applying herbicide to cut stump resprouting tree/brush species, as necessary, in order to improve ecological site conditions. Brush density has met or exceeded medium or moderate infestation levels (averaging 6-15% canopy depending upon species) based on ecological site potential as determined by state specific criteria. Typical unit is 80 acres.	ac	$75.21	$106.54
Mechanical, Hand tools Using hand tools, such as axes, shovels, hoes, nippers, brush pullers, and chainsaws to remove or cut off woody plants at or below the root collar. Typical area is moderate rolling to gentle sloping, moderately deep to deep soils that have stands of woody and non-herbaceous species that are in the early phases of invasions. Typical unit is 80 acres.	ac	$30.00	$42.50
Split-method event series The practice entails the control of woody vegetation by treating it up to three times during the multi-year treatment period in order to improve ecological site condition. The brush can be treated with the same method or by a combination of methods. Woody vegetation needs to be treated at least twice in order to fully control it. Generally, herbicide volumes are reduced as the last treatment will kill resprouting stems or those which survived the first treatment or newly sprouted seedlings. Brush density has exceeded desired levels based on ecological site potential.	ac	$108.30	$153.43

Limitations:

1. Broadcast and aerial treatment will be eligible only where mechanical or spot treatments are not practical. If broadcast or aerial treatment is planned, justification will be documented in the producer's case file.
2. Where there is a concern with resprouting species (identified in CP 314, Brush Management, tables 1 and 2) the number of chemical broadcast treatments are to be determined by the planner but shall not exceed two treatments to be eligible for financial assistance.

Documentation:

Form KS-ECS-314, Brush Management.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Composting Facility

Code: 317

Reporting Unit: Number

Definition:

A facility to process raw manure or other raw organic by-products into biologically stable organic material.

Purpose:

To reduce the pollution potential of organic agricultural wastes to surface and ground water.

Conditions Where Practice Applies:

This practice applies where organic waste material is generated by agricultural production or processing; a composting facility is a component of a planned agricultural waste management system; a composting facility can be constructed, operated, and maintained without polluting air and/or water resources; there is a need to improve air quality by reducing the emissions of odorous gases; and the facility is operated as a component of an agricultural management system.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Composter, open lot, earth floor A composting facility consisting of a compacted and leveled area for composting manure and bedding. The area for payment will be the square feet of area utilized as a composting facility.	sq ft	$0.23	$0.32
Composter, structure facility with concrete floor and walls A composting facility consisting of a reinforced concrete floor and walls constructed of reinforced concrete or modular block for composting manure and bedding. The area for payment will be the square feet of floor area of the facility including walls but not approach slabs.	sq ft	$7.99	$11.33
Composter, structure facility with concrete floor and wood walls A composting facility consisting of a reinforced concrete floor and walls constructed of treated lumber for composting manure and bedding. The area for payment will be the square feet of floor area of the facility including walls but not approach slabs.	sq ft	$7.71	$10.93
Composting Drum Manure, litter and other agricultural by-products are collected and stored in a compost drum until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. The composting facility consists of a composing drum installed on a concrete slab. Water quality concerns and disease vectors resulting from improper waste disposal are addressed by providing a dedicated facility for storage and treatment, and a compost product that can be used in multiple ways including land application for enrichment of crop ground is created. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces. The drum system may be a part of a waste separation system where composted solids are reused as bedding, as soil amendment, or sold off farm.	cu ft	$96.06	$136.08

Limitations:

1. Practice must be part of a Nutrient Management Plan that is developed prior to payment. For imported waste, the payment is limited to the storage needed for the contracted waste.

Documentation:

Completed table of quantities on as-built plan showing designed or approved area. Form KS-ENG-16, Waste Management System Inspection Report.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Conservation Crop Rotation

Code: 328

Reporting Unit: Acre

Definition:

Growing crops in a recurring sequence on the same field.

Purpose:

This practice may be applied as part of a conservation management system to support one or more of the following:

- Reduce sheet and rill erosion
- Reduce soil erosion from wind
- Maintain or improve soil organic matter content
- Manage the balance of plant nutrients
- Improve water use efficiency
- Manage saline seeps
- Manage plant pests (weeds, insects, and diseases)
- Provide food for domestic livestock
- Provide food and cover for wildlife

Conditions Where Practice Applies:

This practice applies to all land where crops are grown, except this standard does not apply to pastureland, hay land, or other land uses where crops are grown occasionally only to facilitate renovation or re-establishment of perennial vegetation.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Basic Rotation Organic and Non-Organic	ac	$3.44	$4.87
This practice payment is provided to the producer for the time needed to plan and implement the logistic of changing the rotation to effectively implement a conservation crop rotation on a typical 200 cropland farm. No foregone income. Cost represents typical situations for conventional and organic producers.			

Limitations:

1. This practice will be implemented a minimum of three (3) years. Payment will be made upon annual implementation of the practice.
2. Payment will not exceed $30,000 per contract for this practice except where irrigated cropland is being converted to dryland cropland.

Documentation:

Producer self-certification permitted.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Constructed Wetland

Code: 656

Reporting Unit: Acre

Definition:

An artificial ecosystem with hydrophytic vegetation for water treatment.

Purpose:

For treatment of wastewater and contaminated runoff from agricultural processing, livestock, and aquaculture facilities, or for improving the quality of storm water runoff or other water flows lacking specific water quality discharge criteria.

Conditions Where Practice Applies:

Constructed wetlands for the purpose of wastewater treatment apply where a constructed wetland is a component of an agricultural wastewater management system. Constructed wetlands for the purpose of water quality improvement apply where wetland effluent is not required to meet specific water quality discharge criteria. This standard should not be used in lieu of NRCS CPs 657, Wetland Restoration; 658, Wetland Creation; or 659, Wetland Enhancement, when the main purpose is to restore, create, or enhance wetland functions other than wastewater treatment or water quality improvement.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Medium, 0.5 ac or less Installation of a constructed wetland, not exceeding 0.5 acre in size, to filter the wastewater from a confined animal operation. The installation includes the earthwork; native and/or organic wetland vegetation establishment; and soil, water, and plant tissue sampling as required by the operation plan. The area for payment will be the acres of wetland constructed as designed.	ac	$9,572.26	$13,560.70
Large, 0.5 to 1.0 ac. Installation of a large constructed wetland, greater than 0.5 acres in size, to filter the wastewater from a confined animal operation. The installation includes the earthwork; native and/or organic wetland vegetation establishment; and soil, water, and plant tissue sampling as required by the operation plan. The area for payment will be the acres of wetland constructed as designed.	ac	$6,773.48	$9,595.77
Large, more than 1.0 ac. Installation of a large constructed wetland, greater than 1.0 acre in size, to filter the runoff from cropland. The installation includes the earthwork and native and/or organic wetland vegetation establishment. The area for payment will be the acres of wetland constructed as designed.	ac	$5,336.68	$7,560.30

Limitations:

Documentation:

The area used in design of wetland and completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Contour Buffer Strips

Code: 332

Reporting Unit: Acre

Definition:

Narrow strips of permanent, herbaceous, vegetative cover established across and down the slope with wider cropped strips.

Purpose:

- To reduce sheet and rill erosion
- To reduce transport of sediment and other water-borne contaminants downslope, on-site, or off-site
- To enhance upland wildlife habitat

Conditions Where Practice Applies:

This practice applies on cropland.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Introduced Species, Foregone Income (Organic and Non-Organic) Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. This practice applies to all cropland. Practice includes seedbed prep and planting of native species. The area of the contour grass strip is taken out of production. This applies to both organic and non-organic.	ac	$211.81	$240.11
Native Species, Foregone Income (Organic and Non-organic) Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are organically or non-organically farmed on the contour. This practice applies to all cropland. Practice includes seedbed prep and planting of native species. The area of the contour grass strip is taken out of production.	ac	$212.49	$241.07
Wildlife/Pollinator, Foregone Income (Organic and Non-Organic) Narrow strips of permanent, herbaceous vegetative cover established around the hill slope and alternated down the slope with wider cropped strips in between that are farmed on the contour. This practice applies to all cropland. Practice includes seedbed prep and planting of mainly pollinator friendly species. The area of the field border is taken out of production. This applies to organic and no-organic.	ac	$300.15	$365.26

Limitations:

Documentation:

Form KS-ECS-4, Grass Seeding.

Maintenance:

Practice will be maintained for a lifespan of five years following installation.

Cover Crop

Code: 340

Reporting Unit: Acre

Definition:

Grasses, legumes, forbs, or other herbaceous plants established for seasonal cover and conservation purposes.

Purpose:

- Reduce erosion from wind and water
- Increase soil organic matter content
- Capture and recycle or redistribute nutrients in the soil profile
- Promote biological nitrogen fixation
- Increase biodiversity
- Suppress weeds
- Provide supplemental forage
- Manage soil moisture
- Reduce particulate emissions into the atmosphere
- Minimize and reduce soil compaction

Conditions Where Practice Applies:

On all lands requiring vegetative cover for natural resource protection.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Cover Crop - Basic and organic/non-organic	ac	$50.13	$71.01
Typically a small grain or legume (may also use forage sorghum, radishes, turnips, buckwheat, etc.) will be planted as a cover crop immediately after harvest of a row crop, and will be followed by a row crop that will utilize the residue as a mulch. This scenario assumes that seed will be planted with a drill. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will be terminated using an approved herbicide prior to planting the subsequent crop.			
Cover Crop Multiple Species Organic and Non-Organic	ac	$58.78	$83.27
Typically the multi-species cover crop (two or more species) mix includes a small grain, a legume, and may include other species such as forage sorghum, radishes, turnips, buckwheat, etc.). This mix will address all the purposes of the Cover Crop (340) standard. Typically the cover crop is seeded immediately after harvest of a row crop, but may be inter-seeded into a row crop using a broadcast seeder, drill, or similar device. The cover crop will be followed by another row crop and will utilize the residue as a mulch. The cover crop should be allowed to generate as much biomass as possible without delaying planting of the following crop. The cover crop will be terminated using an approved herbicide or tillage prior to planting the subsequent crop and terminated per the NRCS Cover Crop Termination Guidelines.			

Limitations:

1. Payment will not exceed $30,000 per contract for this practice.

Documentation:

Form KS-ECS-6, Cover Crop Seeding, and/or Form KS-ECS-4, Grass Seeding.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Critical Area Planting

Code: 342

Reporting Unit: Acre

Definition:

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:

- Stabilize areas with existing or expected high rates of soil erosion by water
- Stabilize areas with existing or expected high rates of soil erosion by wind
- Rehabilitate and revegetate degraded sites that cannot be stabilized through normal farming practices
- Stabilize other highly erosive areas, such as sand dunes and riparian areas

Conditions Where Practice Applies:

This practice applies to highly disturbed areas such as active or abandoned mined lands; urban conservation sites; road construction areas; conservation practice construction sites; areas needing stabilization before or after natural disasters such as floods, hurricanes, tornados, and wildfires; and other areas degraded by human activities or natural events.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Native and Introduced Vegetation - Moderate Grading Establishment of permanent vegetation (native and introduced) on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for grading and shaping of small gullies, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.	ac	$372.21	$527.30
Native or Introduced Grass/legume mix-heavy grading (Organic and Non-organic) Establishment of permanent vegetation on a site that is void or nearly void of vegetation due to a natural or human disturbance. Costs include a dozer for grading and shaping of moderate to severe gullies, seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.	ac	$609.15	$862.96
Vegetation-normal tillage (Organic and Non-Organic) Establishment of permanent vegetation (Native and Introduced) on a site (both organic and non-organic) that is void or nearly void of vegetation due to a natural occurrence or a newly constructed conservation practice. Costs include seedbed preparation with typical tillage implements, grass/legume seed, companion crop, and fertilizer and lime with application.	ac	$140.08	$198.45

Limitations:

Documentation:

Form KS-ECS-4, Grass Seeding or Form KS-ECS-5, Tree/Shrub Planting.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Dike

Code: 356

Reporting Unit: Feet

Definition:

A barrier constructed of earth or manufactured materials.

Purpose:

- To protect people and property from floods
- To control water level in connection with crop production; fish and wildlife management; or wetland maintenance, improvement, restoration, or construction

Conditions Where Practice Applies:

All sites that are subject to damage by flooding or inundation and where it is desired to reduce the hazard to people and to reduce damage to land and property. Sites where water level control is desired. The Dike CP does not apply to sites where the NRCS CPs 378, Pond; 638, Water and Sediment Control Basin; 362, Diversion; or 600, Terrace, are appropriate. Dikes used to reduce flooding are normally constructed adjacent and/or parallel to a stream, river, wetland, or water body and are not constructed across the stream, river, or water body. Dikes used to control water levels usually have small interior drainage areas in relation to the surface area of the regulated water level.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Wetland Dike	CuYd	$2.86	$4.05
Construction of an earthen embankment to control water level for wetlands or shallow water development. The volume for payment will be the cubic yards of earthfill in the embankment.			

Limitations:

Documentation:

Form KS-ENG-4, Earthwork Computation Sheet or Storage Terrace Worksheet.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Diversion

Code: 362

Reporting Unit: Feet

Definition:

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

Purpose:

This practice may be applied as part of a resource management system to support 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 water-spreading or water-harvesting systems
- Increase or decrease the drainage area above ponds
- 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
- Supplement water management on conservation cropping or stripcropping systems

Conditions Where Practice Applies:

This practice applies to all cropland and other land uses where surface runoff water control and or management is needed. It also applies where soils and topography are such that the diversion can be constructed and a suitable outlet is available or can be provided.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Diversion	CuYd	$2.06	$2.92
A diversion installed with a ridge and channel to divert runoff away from farmsteads, gullies, critical erosion areas, construction areas, animal feeding operations, or other sensitive areas. The volume for payment is the cubic yards of excavation in the installed diversion. For installations documented with Form KS-ENG-8, the cubic yards of excavation for each diversion may be computed by multiplying the cubic yards of earthfill by the cut-fill ratio.			

Limitations:

Documentation:

Forms KS-ENG-8, Diversion - 362 (Gradient) and KS-ENG-36, Diversion - 362 (Level); checkout notes; completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Fence

Code: 382

Reporting Unit: Feet

Definition:

A constructed barrier to animals or people.

Purpose:

This practice facilitates the accomplishment of conservation objectives by providing a means to control movement of animals and people, including vehicles.

Conditions Where Practice Applies:

This practice may be applied on any area where management of animal or human movement is needed.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Barbed Wire, Multi-strand Installation of a fence will allow for implementation of a grazing management plan that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, and reduction of noxious and invasive weeds. Constructed using fencing materials rather than a pre-manufactured gate. The fence is typically 4 strands over 3/4 of a mile (3,960 feet).	ft	$1.04	$1.47
Barbed Wire, Multi-strand with Fence Markers Installation of a fence will allow for implementation of a grazing management plan that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Constructed using fencing materials rather than a pre-manufactured gate. The fence is typically 4 strands with wildlife markers, over 3/4 of a mile (3,960 feet).	ft	$1.11	$1.58
Barbed Wire, Multi-strand with fence markers, difficult terrain Installation of a fence will allow for implementation of a grazing management plan that provides adequate rest and recovery periods, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Constructed using fencing materials rather than a pre-manufactured gate. The fence is typically 4 strands with wildlife markers installed on rugged land or where site conditions require longer time to install the fence than the typical scenario. Some of the sites that may be considered as difficult terrain are steep slopes, badlands, or rocky soils.	ft	$1.30	$1.84
Barbed Wire, Multi-strand, difficult terrain Installation of a fence will allow for implementation of a grazing management plan that provides adequate rest and recovery periods, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Constructed using fencing materials rather than a pre-manufactured gate. Installed on rugged land or where site conditions require longer time to install the fence than the typical scenario.	ft	$1.22	$1.73
Electric, high tensile with energizer Installation of a fence will allow for implementation of a grazing management plan that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Includes 3 strands of high-tensile wire with energizer.	ft	$0.62	$0.88
Electric, high tensile with energizer and fence markers Installation of a fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Includes 3 strands of high-tensile wire with energizer and wildlife markers.	ft	$0.70	$1.00

Protective Fence A barrier (fence) installed on an NRCS-constructed waste storage system site per an approved engineering design. Permanently installed fence built to (1) keep humans away from waste ponds and lagoons, (2) protect sensitive areas (riparian areas, wetlands, springs, etc.) from heavy livestock pressure, or (3) protect newly-installed conservation practices vulnerable to livestock damage. Heavy-grade fence materials and close post spacing are required.	ft	$1.15	$1.62
Woven Wire Installation of a fence will allow for implementation of a grazing management plan that promotes adequate rest and recovery periods, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Woven wire is typically used in applications with sheep, goats, hogs, wildlife exclusion, shelterbelt/tree protection, etc. Constructed using fencing materials rather than a pre-manufactured gate. Includes 32" woven wire with 2 strands of barbed wire.	ft	$1.30	$1.84
Woven Wire, with fence markers Installation of a fence will allow for implementation of a grazing management plan that promotes an adequate rest and recovery period, protection of sensitive areas, improved water quality, and reduction of noxious and invasive weeds. Woven wire is typically used in applications with sheep, goats, hogs, wildlife exclusion, shelterbelt/tree protection, etc. Constructed using fencing materials rather than a pre-manufactured gate. Includes 32" woven wire with 2 strands of barbed wire and wildlife markers.	ft	$1.38	$1.95

Limitations:

1. For relocation of an AFO, the amount of fence planned for financial assistance will not exceed the amount of fence in the AFO being closed out. Financial assistance is not available for fencing of new or expanding facilities except when needed to support core practices to treat the resource concern.

Documentation:

Form KS-ECS-382, Fence - 382, and producer self-certification.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Field Border

Code: 386

Reporting Unit: Acre

Definition:

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

Purpose:

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

- Reduce erosion from wind and water
- Protect soil and water quality
- Manage pest populations
- Provide wildlife food and cover
- Increase carbon storage
- Improve air quality

Conditions Where Practice Applies:

This practice is applied at the edge or around the perimeter of fields. Its use can support or connect other buffer practices within and between fields. This practice may also apply to recreation land or other land uses where agronomic crops including forages are grown.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Field Border, Introduced Species A strip of permanent vegetation established at the edge or around the perimeter of an agricultural field. Practice includes seedbed prep and planting of introduced species.	ac	$52.20	$73.95
Field Border, Native Species A strip of permanent vegetation established at the edge or around the perimeter of an agricultural field. Practice includes seedbed prep and planting of organic seed for herbaceous species.	ac	$74.68	$105.80
Field Border, Pollinator A strip of permanent vegetation established at the edge or around the perimeter of a field. This practice may also apply to recreation land or other land uses where agronomic crops including forages are grown. Practice includes seedbed prep and planting of pollinator friendly species.	ac	$109.11	$154.58

Limitations:

Documentation:

Form KS-ECS-4, Grass Seeding.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Filter Strip

Code: 393

Reporting Unit: Acre

Definition:

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

Purpose:

- Reduce suspended solids and associated contaminants in runoff
- Reduce dissolved contaminant loadings in runoff
- Reduce suspended solids and associated contaminants in irrigation tail water

Conditions Where Practice Applies:

Filter strips are established where environmentally sensitive areas need to be protected from sediment, other suspended solids, and dissolved contaminants in runoff.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Filter Strip, Introduced species	ac	$105.37	$149.27
A strip or area of herbaceous vegetation that removes contaminants from overland flow. Practice includes seedbed prep and planting of introduced species.			
Filter Strip, Native species	ac	$100.42	$142.26
A strip or area of herbaceous vegetation that removes contaminants from overland flow. Practice includes seedbed prep and planting of native species.			

Limitations:

Documentation:

Form KS-ECS-393, Filter Strip - 393

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Forage and Biomass Planting

Code: 512

Reporting Unit: Acre

Definition:

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

Purpose:

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

Conditions Where Practice Applies:

This practice applies to all lands suitable to the establishment of annual, biennial, or perennial species for forage or biomass production. This practice does not apply to the establishment of annually planted and harvested food, fiber, or oilseed crops.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Bermuda Grass Establishment-Sprigging with fertilizer Sprigging new grasses for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health. This practice may be utilized for organic or regular production. This scenario includes fertilizer, sprigs, equipment, and labor for seedbed preparation, tillage, sprigging, and spreading.	ac	$102.47	$145.16
Bermuda Grass Establishment-Sprigging with fertilizer and lime Sprigging new grasses for the purpose of providing forage, increasing plant diversity, soil quality and fertility, and plant health. This practice may be utilized for organic or regular production. This scenario includes fertilizer, sprigs, equipment, and labor for seedbed preparation, tillage, sprigging, and spreading.	ac	$133.27	$188.80
Introduced Perennial & Native Grass Mix Establish or reseed adapted introduced grasses and at least one native species to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of grasses for pasture, hay land, and wildlife openings. Native grass species, which have a significantly greater cost than introduced species, comprise one third of the grass mixture. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding.	ac	$46.69	$66.15
Introduced Perennial & Native Grass Mix, foregone income Establish or reseed adapted introduced grasses and at least one native species to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of grasses for pasture, hay land, and wildlife openings. Native grass species, which have a significantly greater cost than introduced species, comprise one third of the grass mixture. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn; foregone income included.	ac	$71.00	$90.46

Introduced Perennial Grasses with lime application	ac	$69.64	$98.66
Establish or reseed adapted perennial introduced grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hay land, and wildlife openings. Includes a lime application. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding.			
Introduced Perennial Grasses-Legume	ac	$32.23	$45.66
Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding.			
Introduced Perennial Grasses-Legume, foregone income	ac	$56.54	$69.97
Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn; foregone income included.			
Introduced Perennial Grasses-Legumes on irrigated cropland	ac	$44.74	$63.38
Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding.			
Introduced Perennial Grasses-Legumes on irrigated cropland, forgone income	ac	$77.16	$95.80
Establish or reseed adapted perennial introduced grasses and legumes to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial introduced grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn; foregone income included.			
Native Perennial Grasses, 1 species	ac	$61.16	$86.64
Suitable species are established to improve forage quality and quantity and reduce soil erosion on cropland, hay land, pasture, and/or biomass production. Used for either conventional or no-till seeding of perennial native warm season grasses for pasture, hay land, and wildlife openings.			
Native Perennial Grasses, 1 species, forgone income	ac	$85.47	$110.95
Establish or reseed adapted perennial native warm-season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm-season grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn; foregone income included.			

Native Perennial Grasses, multi species	ac	$148.82	$210.82
Establish or reseed adapted perennial native warm-season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm-season grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding.			
Native Perennial Grasses, multi species, forgone income	ac	$173.13	$235.13
Establish or reseed adapted perennial native warm-season grasses to improve or maintain livestock/wildlife nutrition and health, extend the length of the grazing season, and provide soil cover to reduce erosion. Used for either conventional or no-till seeding of perennial native warm-season grasses for pasture, hay land, and wildlife openings. This practice may be utilized for organic or regular production. This scenario includes seed, equipment, and labor for seedbed preparation, tillage, and seeding. The land being seeded was previously cropland with a typical rotation of wheat and corn; foregone income included.			
PP Interseed Legumes	ac	$134.52	$190.57
Interseed legumes and/or forbs into an existing grass stand for the purpose of increasing plant diversity, soil quality and fertility, plant health, and enhancing the quality of forage. Scenario is appropriate for conventional production. Payment includes seed, seeding, and fertilizer for interseeding establishment.			

Limitations:

Documentation:

Form KS-ECS-4, Grass Seeding.

Maintenance:

Practice will be maintained for a lifespan of five years following installation.

Forage Harvest Management

Code: 511

Reporting Unit: Acre

Definition:

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

Purpose:

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

Conditions Where Practice Applies:

This practice applies to all land uses where machine-harvested forage crops are grown.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Improved Forage Quality	ac	$2.17	$3.07
Improved cultural practices and recordkeeping result in better forage quality and better livestock performance.			

Limitations:

1. Payment will not exceed $30,000 per contract for this practice except where irrigated cropland is being converted to dryland cropland.

Documentation:

Form KS-ECS-23, Vegetative Management, or Producer Self-Certification Guidance Sheet.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Grade Stabilization Structure

Code: 410

Reporting Unit: Number

Definition:

A structure used to control the grade and head cutting in natural or artificial channels.

Purpose:

To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advance of gullies, and to enhance environmental quality and reduce pollution hazards.

Conditions Where Practice Applies:

This standard applies to areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. The practice applies to all types of structures, including a combination of earth embankments and principal spillways and full-flow or detention-type structures. This practice also applies to channel side-inlet structures installed to lower the water from a field elevation, a surface drain, or a waterway to a deeper outlet channel. Structures include drop inlets, hood and canopy inlets, chutes, and drop spillways and toewalls.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Concrete Block Chute Installation using small concrete masonry units to form a chute or drop structure. The area for payment is the square feet of surface area of the installed blocks and includes earthwork, geotextile, and bedding. For small blocks, the area is calculated using the surface area of an single block times the number of blocks.	sq ft	$3.79	$5.38
Concrete Box Drop Installation of a concrete box drop or concrete terrace outlet structure including all associated items using standard approved designs. The volume for payment will be the cubic yards of concrete installed in the structure not including aprons or curbs.	CuYd	$539.33	$764.06
Drop Structure, Metal Installation of a straight, semicircular, or box drop metal structure to form a drop structure. The quantity for payment is the area of metal used to construct the headwalls and weir.	sq ft	$23.50	$33.29
Embankment, No PS A grade stabilization structure consisting of an embankment dam without a PS pipe, a low flow tube of 6 inches or less, and other appurtenances. The volume for payment will be the cubic yards of embankment, which includes the earthfill in the cutoff trench.	CuYd	$3.04	$4.31
Embankment, Pipe <24' A grade stabilization structure consisting of an embankment, principal spillway pipe with diameter smaller than 24", drop inlet, and other appurtenances. The volume for payment will be the cubic yards of embankment, which includes the earthfill in the cutoff trench.	CuYd	$3.59	$5.09
Embankment, Pipe >=24' A grade stabilization structure consisting of an embankment, principal spillway pipe with a diameter 24" or greater, drop inlet, and other appurtenances. The volume for payment will be the cubic yards of embankment, which includes the earthfill in the cutoff trench.	CuYd	$3.12	$4.42
Gabion Rock Drop Structures Installation of a chute or drop structure formed by gabion mattresses or baskets. The volume for payment will be the cubic yards of rock used in the baskets or mattresses installed and includes all bedding and other materials.	CuYd	$98.38	$139.38

Modular Concrete Block Drop Installation using large modular concrete blocks to form a chute or drop structure. The volume for payment is the cubic yards of the installed blocks and includes earthwork, geotextile, and bedding. The volume is calculated using the volume of a single block (using nominal block dimensions) times the number of blocks.	CuYd	$118.50	$167.87
Rock Chute Installation of a chute structure constructed of rock riprap with a geotextile base. The volume for payment will be the cubic yards of rock installed and includes all bedding and other materials.	CuYd	$39.61	$56.12
Sheet Pile Weir Drop Installation of a structure composed of sheet pile to form a drop structure. The area for payment is the square feet of surface area of the installed sheet piling.	sq ft	$32.20	$45.62

Limitations:

Documentation:

Forms KS-ENG-41, Grade Stabilization Structure - 410 (Concrete Terrace Outlet Structure); KS-ENG-443(JS), Concrete Block Lined Chute; KS-ENG-445, Reinforced Concrete Box Drop Spillway; KS-ENG-400, Pond Cover Sheet; Precast Concrete Block Field Sheet; and completed table of quantities on as-built plan for gabion structures, sheet pile weir structures, and rock chutes.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Grassed Waterway

Code: 412

Reporting Unit: Acre

Definition:

A natural or constructed channel that is shaped or graded to required dimensions and established with suitable vegetation.

Purpose:

This practice may be applied as part of a conservation management system to support one or more of the following purposes:

- To convey runoff from terraces, diversions, or other water concentrations without causing erosion or flooding
- To reduce gully erosion
- To protect/improve water quality

Conditions Where Practice Applies:

In areas where added water conveyance capacity and vegetative protection are needed to control erosion resulting from concentrated runoff and where such control can be achieved by using this practice alone or combined with other conservation practices.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Waterway, less than 25 ft2	ac	$1,504.59	$2,579.30
Shaping and/or grading of a grassed waterway (all sizes) to the design dimensions. The area for payment will be the acres of waterway shaped and includes topsoil stockpile and placement.			

Limitations:

Documentation:

Forms KS-ENG-39a, 412 (Trapezoidal) Check Out; KS-ENG-40a, Grassed Waterway (Parabolic) Check Out; completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Heavy Use Area Protection

Code: 561

Reporting Unit: Acre

Definition:

The stabilization of areas frequently and intensively used by people, animals, or vehicles by establishing vegetative cover, surfacing with suitable materials, and/or installing needed structures.

Purpose:

- To provide a stable, non-eroding surface for areas frequently used by animals, people, or vehicles
- To protect and improve water quality

Conditions Where Practice Applies:

This practice applies to urban, agricultural, recreational, or other frequently and intensively used areas requiring treatment to address one or more resource concerns.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Reinforced Concrete with sand or gravel foundation	CuYd	$184.22	$260.98
Installation of reinforced concrete on a sand or gravel base to protect areas that are frequently and intensively used by people, animals, or vehicles. The installation includes all materials, equipment, and labor to install the protection. The volume for payment will be cubic yards of concrete installed as required by the design.			
Rock/Gravel	CuYd	$10.29	$14.57
Installation of rock and/or gravel to protect areas that are frequently and intensively used by people, animals, or vehicles. The installation includes all materials, equipment, and labor to install the protection. The volume for payment will be the cubic yards of rock and/or gravel applied.			
Rock/Gravel on Geotextile	CuYd	$26.10	$36.98
Installation of rock and/or gravel on a geotextile fabric to protect areas that are frequently and intensively used by people, animals, or vehicles. The installation includes all materials, equipment, and labor to install the protection. The volume for payment will be the cubic yards of rock and/or gravel applied.			

Limitations:

1. Practice is eligible for the purpose of providing suitable livestock entry points to water bodies. Permanent fencing is required in this practice to exclude livestock access from unsuitable entry points to the water body.
2. CP 614, Watering Facility, includes aprons around tanks and CP 561, Heavy Use Area Protection, will not be scheduled as a complementary practice.
3. Practice is eligible for the purpose of providing a stable, non-eroding surface for seasonal feeding areas. Under this purpose, CP 561, Heavy Use Area Protection, is subject to a $15,000 payment cap per contract item.

Documentation:

Form KS-ENG-10, Job Sheet; completed table of quantities on as-built plans; Seasonal Feeding Areas Worksheet (contact your area engineer).

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Herbaceous Weed Control

Code: 315

Reporting Unit: Acre

Definition:

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

Purpose:

- Enhance accessibility, quantity, and quality of forage and/or browse
- Restore or release native or create desired plant communities and wildlife habitats consistent with the ecological site
- Protect soils and control erosion
- Reduce fine-fuels fire hazard and improve air quality

Conditions Where Practice Applies:

This practice applies to all lands except active cropland where removal, reduction, or manipulation of herbaceous vegetation is desired. This practice does not apply to removal of herbaceous vegetation by prescribed fire (use CP 338, Prescribed Burning) or removal of herbaceous vegetation to facilitate a land use change (use CP 460, Land Clearing).

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Biological, Insects Management of herbaceous plant species through the use of biological control agents (insects) on undesired, noxious, or invasive herbaceous species. Typical area is moderate rolling to gentle sloping, moderately deep to deep soils that have stands of herbaceous weed species that exceed the desirable ecological site condition or that are identified as noxious or invasive. This scenario is an alternative for traditional or organic producers.	ac	$2.86	$4.05
Chemical, Aerial The scenario entails the eradication of vegetation by use of weed treatment using airplane or helicopter to apply chemicals, in order to eliminate noxious weeds, promote forage productivity, and improve ecological condition.	ac	$15.30	$21.67
Chemical, Ground Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forage conditions for domestic livestock or wildlife. The practice entails the eradication of vegetation by use of weed treatment using ground equipment to apply chemicals in order to eliminate noxious weeds, promote forage productivity, and improve ecological condition.	ac	$15.64	$22.15
Chemical, Tree Establishment - Banding Tree establishment in which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve the health and vigor of the stand. The practice entails the management of undesirable plants (including invasive and non-invasive species) with a post-emergent selective herbicide for the establishment of a tree planting on four acres. Broadcast or spot treatment application of a narrow band of herbicide (2-4 feet wide) along the tree row. In order to receive payment, the landowner, at a minimum, must utilize and maintain IPM principles using scouting, biological, and/or low risk pesticides.	ac	$25.75	$36.48
Chemical, Tree Establishment - Post-emergent Herbicide Tree establishment in which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve the health and vigor of the stand. The practice entails the management of undesirable plants (including invasive and non-invasive species) with a post-emergent selective herbicide for the establishment of a tree planting on four acres. In order to receive payment, the landowner, at a minimum, must utilize and maintain IPM principles using scouting, biological, and/or low risk pesticides.	ac	$32.10	$45.48

Mechanical Removal of light infestations of herbaceous weeds on gently sloping terrain with moderately deep to deep soils. The practice entails the removal of herbaceous weeds by the use of a mower, bush hog, disc, or other light equipment in order to reduce fuel load and improve the ecological site condition. Weeds have exceeded desired levels based on ecological site potential. For organic and non-organic farms.	ac	$9.20	$13.03
Mechanical, Tree Establishment Land unit on which weed control would be beneficial to set back the plant community succession, improve the ecological condition, and improve stand establishment of herbaceous or deciduous plantings. The practice entails the eradication of vegetation by use of weed treatment, through tillage, to eliminate undesirable weeds, promote stand establishment, and improve ecological condition and wildlife habitat.	ac	$121.24	$171.76
split-method and event series The scenario entails the control of herbaceous vegetation by treating it up to three times during the multi-year treatment period in order to improve ecological site condition. The vegetation can be treated with the same method or by a combination of methods. Vegetation needs to be treated at least twice in order to fully control it. Generally, herbicide volumes are reduced as the last treatment will kill resprouting stems or those which survived the first treatment or newly sprouted seedlings. Density has exceeded desired levels based on ecological site potential.	ac	$89.28	$126.48

Limitations:

1. Broadcast and aerial treatment will be eligible only where mechanical or spot treatments are not practical. If broadcast or aerial treatment is needed, justification will be documented in the producer's case file.
2. Where the resprouting of Sericea Lespedeza is a concern, two chemical broadcast treatments shall be scheduled, one in the first year and another in the third year. Only two treatments are eligible for financial assistance for the lifespan of the practice. Practice will be maintained for the lifespan following the last treatment.

Documentation:

Form KS-ECS-315, Herbaceous Weed Control.

Maintenance:

Practice will be maintained for a lifespan of five years following installation.

Lined Waterway or Outlet

Code: 468

Reporting Unit: Feet

Definition:

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

Purpose:

This practice may be applied as part of a resource management system 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 erosions
- Protect and improve water quality

Conditions Where Practice Applies:

This practice applies if the following or similar conditions exist:

- Concentrated runoff, steep grades, wetness, prolonged base flow, seepage, or piping is such that a lining is needed to control erosion
- Use by people or animals preclude vegetation as suitable cover
- Limited space is available for design width, which requires higher velocities and lining
- Soils are highly erosive or other soil or climatic conditions preclude using vegetation only

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Articulated Concrete Block Installation of articulated concrete block lining in the flow portion of a waterway. The area for payment will be the area covered by the installed concrete blocks. The payment includes the excavation required to shape the waterway, geotextile, and a clean sand or gravel subgrade.	sq ft	$4.31	$6.11
Concrete Installation of a concrete lining in the flow portion of a waterway. The area for payment will be the area covered by the installed concrete. The payment includes the excavation required to shape the waterway and a clean sand or gravel subgrade.	sq ft	$2.99	$4.24
Rock Lined, 12 in Installation of a well-graded, 12-inch thick rock riprap lining in the flow area of a waterway. The area for payment will be the area covered by the installed rock, including the bedding material, and also includes the excavation required to shape the waterway.	sq ft	$1.79	$2.53
Rock Lined, 24 in Installation of a well-graded, 24-inch thick rock riprap lining in the flow area of a waterway. The area for payment will be the area covered by the installed rock, including the bedding material, and also includes the excavation required to shape the waterway.	sq ft	$3.95	$5.60
Splash Pad Installation of a vegetated splash pad at pipe outlets into streams. The area for payment will be the area covered by the installed splash pad. The splash pad may be constructed of various materials including riprap, gravel, transition mats, or turf reinforcement mats.	sq ft	$3.85	$5.45
Turf Reinforced Matting, High Stress Installation of a permanent turf reinforcement mat in the flow area of a waterway, with an allowable stress of at least 12 pounds per square foot in the fully vegetated condition. The area for payment will be the area covered by the installed mat and the payment includes the earthwork required to shape the waterway.	sq ft	$1.43	$2.03

Turf Reinforced Matting, Moderate Stress	sq ft	$1.12	$1.58
Installation of a permanent turf reinforcement mat in the flow area of a waterway, with an allowable stress of less than 12 pounds per square foot in the fully vegetated condition. The area for payment will be the area covered by the installed mat and the payment includes the earthwork required to shape the waterway.			

Limitations:

Documentation:

Forms KS-ENG-10, Job Sheet; KS-ENG-39a, 412 Grassed Waterway (Trapezoidal) Checkout; KS-ENG-40a, 412 Grassed Waterway (Parabolic) Checkout; complete table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Livestock Pipeline

Code: 516

Reporting Unit: Feet

Definition:

Pipeline having an inside diameter of 8 inches or less.

Purpose:

To convey water from a source of supply to points of use for livestock, wildlife, or recreation.

Conditions Where Practice Applies:

Where it is desirable or necessary to convey water in a closed conduit from one point to another.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Backhoe, 2' dia. or less	ft	$2.95	$4.18
Installation of a pipeline, 2-inch diameter or smaller, in rocky conditions or as a water supply line from an embankment pond. Trencher installation is not possible due to site conditions. The payment includes installation, all materials, appurtenances, and labor required to construct and install the pipeline. The pipeline may be constructed of any approved material such as PE, PVC, or similar pipe meeting the design pressure requirements. The length for payment will be the measured length of the installed pipeline.			
Backhoe, greater than 2' dia.	ft	$3.72	$5.27
Installation of a pipeline greater than 2-inch diameter in rocky conditions or as a water supply line from an embankment pond. Trencher installation is not possible due to site conditions. The payment includes installation, all materials, appurtenances, and labor required to construct and install the pipeline. The pipeline may be constructed of any approved material such as PE, PVC, or similar pipe meeting the design pressure requirements. The length for payment will be the measured length of the installed pipeline.			
Boring, any diameter	ft	$36.46	$51.65
Installation of a buried pipeline with any diameter by boring through road bed or under streams. The payment includes installation, all materials, appurtenances, and labor required to construct and install the pipeline. The pipeline may be constructed of any approved material such as PE, PVC, or similar pipe meeting the design pressure requirements. The length for payment will be the measured length of the installed pipeline by boring.			
Standard Installation, 2' dia. or less (KS/NE)	ft	$1.44	$2.04
Installation of a buried pipeline with a diameter of 2" or less installed at a depth that will protect the pipeline from freezing. The payment includes installation, all materials, appurtenances, and labor required to construct and install the pipeline. The pipeline may be constructed of any approved material such as PE, PVC, or similar pipe meeting the design pressure requirements. The length for payment will be the measured length of the installed pipeline.			
Standard Installation, greater than 2' dia.	ft	$2.30	$3.26
Installation of a buried pipeline with a diameter greater than 2" installed at a depth that will protect the pipeline from freezing. The payment includes installation, all materials, appurtenances, and labor required to construct and install the pipeline. The pipeline may be constructed of any approved material such as PE, PVC, or similar pipe meeting the design pressure requirements. The length for payment will be the measured length of the installed pipeline.			

Limitations:

Documentation:

Forms KS-ENG-24, Pipeline - 516 (Livestock); Completed table of quantities on as-built plan; KS-ENG-408, Water Supply Line; KS-ENG-418, Siphon Supply Line.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Mulching

Code: 484

Reporting Unit: Acre

Definition:

Applying plant residues or other suitable materials produced offsite to the land surface.

Purpose:

- Conserve soil moisture
- Moderate soil temperature
- Provide erosion control
- Suppress weed growth
- Facilitate the establishment of vegetative cover
- Improve soil condition
- Reduce airborne particulates

Conditions Where Practice Applies:

This practice applies to all lands where mulches are needed. This practice may be used alone or in combination with other practices.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Erosion Control Blanket Installation of erosion control blanket on critical areas with steep slopes, grassed waterways, or diversions. Blanket is typically made of coconut coir, wood fiber, or straw, and is typically covered on both sides with polypropylene netting. Used to help control erosion and establish vegetative cover.	sq ft	$0.15	$0.19
Hydro-mulching Installation of mulch through hydraulic methods on critical areas with steep slopes, grassed waterways, or diversions. The mulch is comprised of wood cellulose fiber pulp and may include seed, fertilizer, and other approved materials. Mulch is typically applied at a rate of 1,500 pounds per acre as a slurry by using hydroseeding methods. Used to help control erosion and establish vegetative cover.	ac	$1,282.18	$1,816.42
Natural Material - Straw Application of straw mulch or other state-approved natural material to reduce erosion and facilitate the establishment of vegetative cover. Mulch provides full coverage and is typically used with critical area planting. Two tons per acre of straw is applied and anchored with light tillage equipment, treader, knifed in, etc.	ac	$272.00	$385.34
Tree and Shrub - Rolls Barrier fabric or other suitable natural or synthetic mulch is installed with a new tree and shrub planting. Typically used to retain soil moisture, control soil temperature, and minimize erosion by providing cover during the installation of conservation practices. Two 300-foot tree rows will use barrier fabric to conserve moisture. Rate is per linear foot (300' roll x 2 = 600') and 3 staples/pins per tree.	ft	$0.47	$0.57
Tree and Shrub - Squares Barrier fabric or other suitable natural or synthetic mulch is installed with a new tree and shrub planting. Typically used to retain moisture during the installation of conservation practices. Rate is per tree/shrub and assumes 1 square yard of barrier fabric and 5 staples/tree.	Ea	$1.87	$2.24

Limitations:

Documentation:

KS-ECS-23, Vegetative Management.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Nutrient Management

Code: 590

Reporting Unit: Acre

Definition:

Managing the right amount of plant nutrients and soil amendments applied at the right rate at the right time and with the right placement (known as the 4 R's of nutrient management).

Purpose:

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

Conditions Where Practice Applies:

This practice applies to all lands where plant nutrients and soil amendments are applied.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Adaptive NM	Ea	$1,107.81	$1,569.40
The practice scenario is for the implementation of nutrient management on a small plot, as detailed in outlined in Agronomy Technical Note 7 - Adaptive Nutrient Management. Scenario includes implementing replicated strip trials on a field plot to evaluate, identify and implement various nutrient use efficiency improvement methods for timing, rate, method of application, or source of nutrients.			
Basic NM (Non-Organic/Organic)	ac	$1.79	$2.63
This scenario describes the implementation of a basic nutrient management system on 40 or more acres of cropland or hayland where there is no manure application. Scenario is applicable on non-organic and organic land. Payment for implementation is to defray the costs of soil testing, analysis, and implementation of the nutrient management plan and recordkeeping. Records demonstrating implementation of the 4 R's of NM will be required.			
Basic NM with Manure and/or Compost (Non-Organic/Organic)	ac	$3.20	$4.53
This scenario describes the implementation of a basic nutrient management system 40 or more acres of cropland or hayland where manure and/or compost is utilized either alone or in conjunction with commercial fertilizer. Scenario is applicable on non-organic and organic land. Payment for implementation is to defray the costs of soil testing, manure and/or compost analysis, and implementation of the nutrient management plan and recordkeeping. Records demonstrating implementation of the 4 R's of NM will be required.			
Basic NM with Manure Injection or Incorporation	ac	$13.28	$18.81
This scenario describes the implementation of a basic nutrient management system on 40 or more acres of cropland or hayland where all applied nutrient sources (nitrogen, phosphorus, and potassium) are either incorporated using tillage at least 3-4 inches deep or injected into the soil at least 3-6 inches deep (exceptions for incorporation or injection include: established close grown crops such as wheat or perennial crops such as hay or pasture). This scenario is applicable on non-organic and organic land for all nutrient sources (manure, compost, commercial fertilizers, and organic sources of nutrients). Micro-nutrients may be surface applied. Payment for implementation is to defray the costs of soil testing, manure analysis, incorporation or injection of all nutrients, and the implementation of the nutrient management plan and recordkeeping. Records demonstrating implementation of the 4 R's of NM will be required.			

NM grid/zone soil sampling, variable rate, soil nitrate/plant tissue test (Non-Organic/Organic) This scenario takes a conventional cropping system where either no nutrient management or only a very basic level of nutrient management is being practiced and improves it to minimize agricultural nonpoint source pollution of surface and groundwater. The nutrient management system includes such items as split applications, variable rate applications, additional nutrient tests including PSNT (pre-side dress nitrogen test), CSNT (corn stalk nitrate test), and PPSN (pre-plant soil nitrate test), chlorophyll meters, and/or spectral analysis may be used to further refine nutrient applications. Payment for implementation is to defray the costs of grid or zone soil testing, additional testing and analysis, equipment, implementation of the NMP and recordkeeping. Typical treatment area is 40 acres.	ac	$12.62	$17.88
NM Nitrification/Urease Inhibitors, variable rate, grid/zone soil sampling, soil nitrate/plant tissue test (Non-Organic/Organic) This scenario takes a conventional cropping system where either no nutrient management or only a very basic level of nutrient management is being practiced and improves it to address air quality (reduce emissions for N fertilizer) and/or minimize agricultural nonpoint source pollution of surface and groundwater. The nutrient management system includes such items as split applications, variable rate applications, nitrification or urease inhibitors, additional nutrient tests including PSNT (pre-side dress nitrogen test), CSNT (corn stalk nitrate test), and PPSN (pre-plant soil nitrate test), chlorophyll meters, and/or spectral analysis may be used to further refine nutrient applications. Payment for implementation is to defray the costs of grid or zone soil testing, additional testing and analysis, nitrification or urease inhibitors, equipment, implementation of the NMP and recordkeeping. Typical treatment area is 40 acres.	ac	$18.08	$25.62

Limitations:

1. Practice will be implemented a minimum of three (3) years. Payment will be made upon annual implementation of the practice.
2. Payment will not exceed $30,000 per contract for this practice.

Documentation:

Form KS-ECS-590, Nutrient Management - 590, or Producer Self-Certification Guidance Sheet.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Pond

Code: 378

Reporting Unit: Number

Definition:

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 three feet or more.

Purpose:

Provide water for livestock, fish, and wildlife; recreation; fire control; and other related uses and to maintain or improve water quality.

Conditions Where Practice Applies:

This standard establishes the minimum acceptable quality for the design and construction of low-hazard ponds where failure of the dam will not result in loss of life; damage to homes, commercial or industrial buildings, main highways, or railroads; or in interruption of the use or service of public utilities. The product of the storage times the effective height of the dam is less than 3,000. Storage is the volume, in acre-feet, in the reservoir below the elevation of the crest of the auxiliary spillway. The effective height of the dam is the difference in elevation, in feet, between the auxiliary spillway crest and the lowest point in the cross section taken along the centerline of the dam. If there is no auxiliary spillway, the top of the dam is the upper limit. The effective height of the dam is 35 feet or less.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Embankment Pond with less than 24' Pipe An embankment pond that requires a principal spillway, less than 24" diameter, as part of the design. The volume for payment will be the cubic yards of earthfill in the embankment, including the earthfill in the cutoff trench. The payment covers all excavation, pipe, and other items required by the design.	CuYd	$3.59	$5.09
Embankment Pond with greater than or equal to 24' Pipe An embankment pond that requires a principal spillway, minimum 24" diameter, as part of the design. The volume for payment will be the cubic yards of earthfill in the embankment, including the earthfill in the cutoff trench. The payment covers all excavation, pipe, and other items required by the design.	CuYd	$3.12	$4.42
Embankment Pond, No Principal Spillway A small embankment pond that does not require a principal spillway. The volume for payment will be the cubic yards of earthfill in the embankment, including the earthfill in the cutoff trench. The payment covers all excavation, trickle tube, and other items required by the design.	CuYd	$3.04	$4.30
Excavated Pond A small excavated pond where the excavated material is placed in a spoil pile, not in a designed embankment. The volume for payment is the cubic yards of excavation in the pond.	CuYd	$1.56	$2.21
Excavated Pond with Embankment A small excavated pond with the excavated material placed in a designed embankment. The payment covers all earthfill, trickle tube, and other items required by the design. The volume for payment will be the cubic yards of excavation in the pond.	CuYd	$1.95	$2.76

Limitations:

1. This practice is subject to a $7,500 per number payment cap.

Documentation:

Forms KS-ENG-3, Pond (Water Supply); KS-ENG-4, Earthwork Computation Sheet; KS-ENG-4a, Fill; KS-ENG-4b, Fill (Stakeout); KS-ENG-4c, Cut; KS-ENG-6, Pond - 378 (Excavated Pond or Pit); KS-ENG-15, Earth Dam Inspection Report; KS-ENG-400, Pond Cover Sheet; Completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Prescribed Burning

Code: 338

Reporting Unit: Acre

Definition:

Controlled fire applied to a predetermined area.

Purpose:

- Control undesirable vegetation
- Prepare sites for harvesting, planting, or seeding
- Control plant disease
- Reduce wildfire hazards
- Improve wildlife habitat
- Improve plant production quantity and/or quality
- Remove slash and debris
- Enhance seed and seedling production
- Facilitate distribution of grazing and browsing animals
- Restore and maintain ecological sites

Conditions Where Practice Applies:

This practice applies on all lands as appropriate.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Herbaceous Fuel - Standard Applying a prescribed burn according to a designed burn plan and CP 338, Prescribed Burning. This scenario is based on the following conditions: where the terrain of the majority of the area to be burned is less than 15% slopes with herbaceous and/or low volatile herbaceous fuels with limited high volatile fuels. Burned firebreaks used to achieve total firebreak width are part of these burns. Constructed firebreak cost is not included in cost of burn (refer to CP 394, Firebreak, and cost scenarios).	ac	$4.88	$6.92
Herbaceous Fuel, Small Acreage Applying a prescribed burn according to a designed burn plan and CP 338, Prescribed Burning. This scenario is based on a burn area of less than 160 acres and applies under the following conditions: where the terrain of the majority of the area to be burned is less than 15% slopes with herbaceous and/or low volatile woody fuel with no high volatile fuels. Burned firebreaks used to achieve total firebreak width are part of these burns. Constructed firebreak cost is not included in the cost of the burn (refer to CP 394, Firebreak, and cost scenarios).	ac	$12.88	$18.25
Level Terrain, Herbaceous Fuel Non-Volatile This scenario is based on a burn area of less than 320 acres and applies under the following conditions: where the terrain of the majority of the area to be burned < 15% slopes with herbaceous and/or low volatile woody fuel with no high volatile fuels. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios.)	ac	$5.19	$7.35
Level Terrain, Volatile or woody fuels This scenario is based on a burn area of less than 320 acres and applies under the following conditions: where the terrain of the majority of the area to be burned < 15% slopes with herbaceous and low volatile woody fuel with high volatile woody fuels less than 4ft tall. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios.)	ac	$7.12	$10.09

Site Preparation	ac	$28.93	$40.99
Treating areas to encourage natural seeding or to permit reforestation by planting or direct seeding. Burning is utilized to eliminate existing competition and debris, reduce forest fuel, and to prepare the site for planting or seeding. Burning a cutover site helps prepare the site for replanting. Burn should expose a portion of bare soil for planting. Objectives of a site preparation burn may dictate timing and burn intensity.			
Steep Terrain, Herbaceous Fuel	ac	$9.38	$13.29
This scenario is based on a burn area 320 acres and applies under the following conditions: where the terrain of the majority of the area to be burned > 15% slopes with herbaceous and/or low volatile woody fuel with no high volatile fuels. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios.)			
Steep Terrain, Volatile or Woody fuels	ac	$11.65	$16.51
This scenario is based on a burn area of 320 acres and applies under the following conditions: where the terrain of the majority of the area to be burned > 15% slopes with herbaceous and low volatile woody fuel with high volatile woody fuels greater than 4 feet tall, but fire is still a ground fire carried by fine fuel. Burned firebreaks used to achieve total firebreak width are part of these burns. (Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios.)			

Limitations:

Documentation:

Form KS-ECS-338, Prescribed Burn, or Producer Self-Certification Guidance Sheet.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Prescribed Grazing

Code: 528

Reporting Unit: Acre

Definition:

Managing the harvest of vegetation with grazing animals.

Purpose:

This practice may be applied as part of a conservation management system to achieve one or more of the following:

- Improve or maintain desired species composition and vigor of plant communities
- Improve or maintain quantity and quality of forage for grazing and browsing animals' health and productivity
- Improve or maintain surface and/or subsurface water quality and quantity
- Improve or maintain riparian and watershed function
- Reduce accelerated soil erosion and maintain or improve soil condition
- Improve or maintain the quantity and quality of food and/or cover available for wildlife
- Promote economic stability through grazing sustainability

Conditions Where Practice Applies:

This practice applies to all lands where grazing animals are managed except cropland.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Habitat Mgt. Standard Development and implementation of a grazing schedule that will enhance habitat components for the identified wildlife species of concern.	ac	$11.16	$15.81
Livestock Deferment (FI) Defer livestock grazing for a 12-month period to allow for regrowth and recovery to occur on a 40-acre grazed range unit where a plant or animal resource concerns exists. Complete livestock exclusion is required during the specified time period. Deferment may be necessary on whole units or portions of units as determined by appropriate assessment. Includes foregone income.	ac	$16.56	$17.04
Pasture Standard Design and implementation of a grazing system that will enhance pasture condition and ecosystem function as well as optimize efficiency and economic return through monitoring (e.g., photo points, stubble height after grazing) and record keeping.	ac	$7.08	$10.03
Range Standard Design and implementation of a grazing system that will enhance rangeland health and ecosystem function as well as optimize efficiency and economic return through monitoring (e.g., photo points, stubble height after grazing) and record keeping.	ac	$4.05	$5.74
Range, 30-73% Rest Design and implementation of a grazing system that will enhance pasture condition and ecosystem function by providing rest to the pastures during the growing season (30-73% rest) as well as optimize efficiency and economic return through monitoring (e.g., trend, composition, production) and record keeping.	ac	$6.70	$9.49
Range, Greater than 73% Rest Design and implementation of a grazing system that will enhance pasture condition and ecosystem function by providing maximum rest to the pastures during the growing season (greater than 73% rest) as well as optimize efficiency and economic return through monitoring (e.g., trend, composition, production) and record keeping.	ac	$8.44	$11.96

Targeted Grazing	ac	$19.14	$27.12
Management of woody non-herbaceous plant species through the use of off farm rented livestock (goats, sheep, llamas, etc.) that are closely herded by off farm livestock owner to concentrate grazing on targeted shrubs. Typical area is moderate rolling to gentle sloping, moderately deep to deep soils that have dense stands of woody non-herbaceous species that exceed the desirable ecological site condition. This scenario is an alternative for organic producers.			

Limitations:

1. Practice will be implemented a minimum of 3 years. Payment will be made upon annual implementation of the practice except Livestock Deferment, which may be implemented one or more years to address resource concerns.
2. Livestock Deferment scenario requires two (2) years of CP 528, Prescribed Grazing, after implementation.
3. Payment will not exceed $30,000 per contract for this practice.

Documentation:

Form KS-ECS-528, Prescribed Grazing, or Producer Self Certification Guidance Sheet.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Pumping Plant

Code: 533

Reporting Unit: Number

Definition:

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

Purpose:

This practice may be applied as part of a resource management system to achieve one or more of the following purposes:

- Delivery of water for irrigation, watering facilities, wetlands, or fire protection
- Removal of excessive subsurface or surface water
- Provide efficient use of water on irrigated land
- Transfer of animal waste as part of a manure transfer system
- Improve air quality
- Reduce energy use

Conditions Where Practice Applies:

This practice applies where conservation objectives require the addition of energy to pressurize and transfer water to maintain critical water levels in soils, wetlands, or reservoirs; transfer wastewater; or remove surface runoff or groundwater.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Livestock, Manure Transfer Installation of a waste transfer pump and accessories to move manure from storage location to manure distribution site/equipment. The payment includes all materials and installation. The number for payment will be each pump installed.	Ea	$9,689.74	$13,727.13
Livestock, w/ Pressure Tank, Low HP Installation of a submersible electric-powered pump, up to 1.5 HP, in a well or structure as part of a water delivery system that includes a pressure tank to control pressures. Installation includes drop pipe, pump, pressure tank, and all necessary materials and appurtenances. The number for payment will be each pump installed.	Ea	$2,572.11	$3,643.83
Livestock, With Pressure Tank, High HP Installation of a submersible electric-powered pump, greater than 1.5 HP, in a well or structure as part of a water delivery system that includes a pressure tank to control pressures. Installation includes drop pipe, pump, pressure tank, and all necessary materials and appurtenances. The HP for payment will be the minimum power of the pump required by the design.	HP	$1,179.53	$1,671.00
Livestock, without Pressure Tank (HP) Installation of a submersible electric-powered pump in a well or structure as part of a water delivery system that does not include a pressure tank to control pressures. Installation includes drop pipe, pump, and all necessary materials and appurtenances. The HP for payment will be the minimum power of the pump required by the design.	HP	$835.41	$1,183.50
Solar-Powered Pump Installation of a submersible solar-powered pump greater than 0.80 and less than 1.60 HP in a well or a live stream. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all necessary materials and appurtenances. The number for payment will be each pump installed.	Ea	$6,284.71	$8,903.34
Solar-Powered Pump, 0.5 hp Installation of a submersible solar-powered pump less than 0.80 HP in a well or a live stream. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all necessary materials and appurtenances. The number for payment will be each pump installed.	Ea	$3,634.47	$5,148.84

Solar-Powered Pump, 2 hp Installation of a submersible solar-powered pump greater than 1.6 HP in a well or a live stream. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all necessary materials and appurtenances. The number for payment will be each pump installed.	Ea	$11,536.69	$16,343.64
Wind Turbine-Powered Pump, 1.5 hp Installation of a submersible pump powered by a wind turbine in a well or a live stream. The installation includes the pump, wiring, drop pipe, wind turbine, mounts, inverter, and all appurtenances. The number for payment will be each pump installed.	Ea	$2,153.41	$3,050.67
Windmill-Powered Pump Installation of a windmill and pump system to supply a reliable water source for livestock and/or wildlife. The installation includes the tower, concrete footings, wheel blade unit, sucker rod, down pipe, gear box, pump, plumbing, well head protection concrete pad, and all other necessary materials and appurtenances. The number for payment will be each windmill and pump system installed.	Ea	$4,216.33	$5,973.14

Limitations:

1. Practice is eligible for a pump for livestock waste transfer or a solar pump to be used for the purpose of pumping water from a water body in order to remove livestock from the water body (e.g., pond or stream). Practice is also eligible on new wells.
2. Only new windmills are eligible for financial assistance.

Documentation:

Form KS-ENG-10, Job Sheet; Completed table of quantities on as-built plans; Pumping plant evaluation and recommendations.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Range Planting

Code: 550

Reporting Unit: Acre

Definition:

Establishment of adapted perennial vegetation such as grasses, forbs, legumes, shrubs, and trees.

Purpose:

- Restore a plant community similar to its historic climax or the desired plant community
- Provide or improve forages for livestock
- Provide or improve forage, browse, or cover for wildlife
- Reduce erosion by wind and/or water
- Improve water quality and quantity
- Increase carbon sequestration

Conditions Where Practice Applies:

On rangeland, native or naturalized pasture, grazed forest, or other suitable location where the principal method of vegetation management will be with herbivores. This practice shall be applied where desirable vegetation is below the acceptable level for natural reseeding to occur, or where the potential for enhancement of the vegetation by grazing management is unsatisfactory.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Native -Wildlife or Pollinator Establishment of a mixture of predominantly native adapted perennial species on a rangeland unit to improve wildlife habitat, benefit pollinators and beneficial insects, improve forage condition, and/or reduce erosion. Seed mix of predominantly native species is chosen to specifically benefit wildlife (e.g., big game species, sage grouse, lesser prairie-chicken) or pollinators (e.g., inclusion of 5-10 forb species) based on range conditions and availability of seed. For pollinator habitat, consideration is given to selecting plants that bloom sequentially throughout the growing season where feasible. Planting by preparing a seedbed with moderate to heavy tillage (e.g., ripping and heavy disk) and seeding with a no-till drill, range drill, or broadcasting.	ac	$64.13	$90.85
Native, Heavy Prep Establishment of a mixture of native adapted perennial species on a grazed land unit to improve forage condition, improve wildlife habitat, and/or reduce erosion. Seed mix of native species is chosen based on range conditions and availability of seed. Planting by preparing a seedbed with moderate to heavy tillage (e.g., ripping and heavy disk) and seeding with a no-till drill, range drill, or by broadcasting.	ac	$158.89	$225.10
Native, Heavy Prep (FI) Establishment of a mixture of native adapted perennial species on a grazed land unit to improve forage condition, improve wildlife habitat, and/or reduce erosion. Seed mix of native species is chosen based on range conditions and availability of seed. Planting by preparing a seedbed with moderate to heavy tillage (e.g., ripping and heavy disk) and seeding with a no-till drill, range drill, or by broadcasting.	ac	$183.20	$249.41
Native, Standard Prep Establishment of a mixture of native adapted perennial species on a grazed land unit to improve forage condition, improve wildlife habitat, and/or reduce erosion. Seed mix of native species is chosen based on range conditions and availability of seed. Planting by preparing a seedbed with light to moderate tillage and seeding with a no-till drill, range drill, or by broadcasting.	ac	$148.82	$210.82

Native, Standard Prep (FI) Establishment of a mixture of native adapted perennial species on a grazed land unit to improve forage condition, improve wildlife habitat, and/or reduce erosion. Seed mix of native species is chosen based on range conditions and availability of seed. Planting by preparing a seedbed with light to moderate tillage and seeding with a no-till drill, range drill, or by broadcasting.	ac	$173.13	$235.13
Native, Wildlife, or Pollinator (FI) Establishment of a mixture of predominantly native adapted perennial species on a grazed land unit to improve habitat for pollinators, beneficial insects, and wildlife species. Seed mix of predominantly native species is chosen to specifically benefit wildlife (e.g., big game species, sage grouse, lesser prairie-chicken) or pollinators (i.e., inclusion of 5-10 forb species) based on range conditions. For pollinator habitat, consideration is given to selecting plants that bloom sequentially throughout the growing season, where feasible. For honeybee foraging habitat, species are selected which will be in bloom when hives are in the area. Planting by preparing a seedbed with moderate to heavy tillage (e.g., ripping and heavy disk) and seeding with a no-till drill, range drill, or by broadcasting. Includes foregone income.	ac	$206.75	$282.77
Non Native, Heavy Prep (FI) Establishment of a mixture of predominantly non-native adapted perennial species on a grazed land unit to improve forage condition, improve wildlife habitat and/or reduce erosion. Seed mix of predominantly non-native species is chosen based on range conditions and availability of seed. Planting by preparing a seedbed with moderate to heave tillage (e.g., ripping and heavy disk) and seeding with a no-till drill, range drill, or by broadcasting.	ac	$81.32	$105.07
Non Native, Standard Prep (FI) Establishment of a mixture of predominantly non-native adapted perennial species on a grazed land unit to improve forage condition, improve wildlife habitat and/or reduce erosion. Seed mix of predominantly non-native species is chosen based on range conditions and availability of seed. Planting by preparing a seedbed with a light to moderate tillage and seeding with a no-till drill, range drill, or by broadcasting.	ac	$71.24	$90.80
Non Native, Wildlife, or Pollinator (FI) Establishment of a mixture of adapted perennial species on a grazed land unit to improve habitat for pollinators, beneficial insects, and wildlife species. Seed mix of predominantly non-native species is chosen to specifically benefit wildlife (e.g., big game species, sage grouse, lesser prairie-chicken) or pollinators (e.g., inclusion of 5-10 forb species) based on range conditions. For pollinator habitat, consideration is given to selecting plants that bloom sequentially throughout the growing season, where feasible. For honeybee foraging habitat, species are selected which will be in bloom when hives are in the area. Planting by preparing a seedbed with moderate to heavy tillage (e.g., ripping and heavy disk) and seeding with a no-till drill, range drill, or by broadcasting.	ac	$144.25	$188.15

Limitations:

Documentation:

Form KS-ECS-4, Grass Seeding.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Residue and Tillage Management, No-Till

Code: 329

Reporting Unit: Acre

Definition:

Managing the amount, orientation, and distribution of crop and other plant residue on the soil surface year-round while limiting soil disturbing activities to only those necessary to place nutrients, condition residue, and plant crops.

Purpose:

- Reduce sheet and rill erosion
- Reduce wind erosion
- Improve soil organic matter content
- Reduce CO2 losses from the soil
- Reduce soil particulate emissions
- Increase plant-available moisture
- Provide food and escape cover for wildlife

Conditions Where Practice Applies:

This practice applies to all cropland and other land where crops are planted. This practice includes planting methods commonly referred to as no-till, strip-till, direct seed, zero-till, slot-till, or zone-till. Approved implements are no-till and strip-till planters, certain low soil disturbance drills and air seeders, strip-type fertilizer and manure injectors and applicators, in-row chisels, and similar implements that only disturb strips and slots. All others are considered to be full-width or capable of full disturbance and, therefore, not compatible.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
No-Till/Strip-Till	ac	$12.20	$17.28
This practice typically involves conversion from a clean-tilled (conventional tilled) system to no-till or strip-till system on 100 acres of cropland. This involves managing the amount, orientation and distribution of crop and other plant residue on the soil surface year round while limiting soil-disturbing activities used to establish and harvest crops. The no-till/strip-till system includes non-tillage types of weed control and may also include a period of no till fallow. System is applicable in both irrigated and non-irrigated fields organic and non-organic operations.			

Limitations:

1. This practice will be implemented a minimum of 3 years. Payment will be made upon annual implementation of the practice.
2. Payment will not exceed $30,000 per contract for this practice.

Documentation:

Producer Self-Certification Guidance Sheet.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Residue and Tillage Management, Reduced Till

Code: 345

Reporting Unit: Acre

Definition:

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 crops in systems where the entire field surface is tilled prior to planting.

Purpose:

- Reduce sheet and rill erosion
- Reduce wind erosion
- Reduce soil particulate emissions
- Maintain or improve soil condition
- Increase plant-available moisture
- Provide food and escape cover for wildlife

Conditions Where Practice Applies:

This practice applies to all cropland and other land where crops are planted.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Residue and Tillage Management, Reduced Till	ac	$12.96	$18.36
This practice includes tillage methods commonly referred to as mulch tillage, vertical tillage, chiseling and disking, or the use of high disturbance drills without additional tillage. It applies to stubble mulching on summer-fallowed land, to tillage for annually planted crops, to tillage for planted crops and to tillage for planting perennial crops. All residue shall be uniformly spread or managed over the surface throughout the critical erosion period(s). All residue shall be uniformly distributed over the entire field and not burned or removed. These periods of intensive tillage have led to excessive soil loss, often above the soil loss tolerance (T), due to the loss of crop residue on the soil surface. The NRCS erosion prediction model(s) will be used to review the farming operations and determine the amount of surface residue to manage throughout the rotation to keep soil loss below T. The producer will adopt a reduced till system to meet one or more of the practice purposes.			

Limitations:

1. This practice will be implemented a minimum of 3 years. Payment will be made upon annual implementation of the practice.
2. Payment will not exceed $30,000 per contract for this practice.

Documentation:

Producer Self-Certification Guidance Sheet.

Maintenance:

Practice will be maintained for a lifespan of one year following installation.

Riparian Forest Buffer

Code: 391

Reporting Unit: Acre

Definition:

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

Purpose:

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

Conditions Where Practice Applies:

Riparian forest buffers are applied on areas adjacent to permanent or intermittent streams, lakes, ponds, and wetlands. They are not applied to stabilize streambanks or shorelines.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Bare-root, machine planted (FI)	ac	$937.40	$1,198.45
Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and provide other associated benefits. The buffer will be located adjacent to, and up-gradient from, a watercourse or water body, extending a minimum of 35 feet wide. The planting will consist of machine planted bareroot shrubs, evergreen, and deciduous trees in rows. Area will be planted using 3 rows and will use each of the woody plant types. Spacing between plants in each row: shrubs will be 6', evergreen tree spacing will be 12', and deciduous tree spacing will be 15'. Tree rows will be 15' apart. A total tree row length of 3,000'. Tree shelters will be placed on the hardwoods and evergreens. Includes foregone income.			
Direct Seeding (FI)	ac	$632.64	$769.49
Establish a buffer of trees and/or shrubs to restore riparian plant communities and associated benefits. The buffer will be located adjacent to, and up-gradient from, a watercourse or water body, extending a minimum of 35 feet wide and 3,000 feet long. The planting will consist of trees or shrubs planted through direct seeding. Planting rate will be approximately 3,000 seeds per acre. Includes foregone income.			
Small container, machine planted (FI)	ac	$1,475.94	$1,961.38
Establish a buffer of trees and/or shrubs into a suitably prepared site to restore riparian plant communities and other associated benefits. The buffer will be located adjacent to, and up-gradient from, a watercourse or water body, extending a minimum of 35 feet wide. The planting will consist of machine planted containerized shrubs, evergreen, and deciduous trees in rows. Area will be planted using 3 rows. Spacing between plants in-rows: shrub spacing will be 6', evergreen tree spacing will be 12', and deciduous tree spacing will be 15'. Tree rows will be 15' apart. Tree row is a total length of 3,000'. Tree shelters will be placed on hardwoods and evergreens. Includes foregone income.			

Limitations:

Documentation:

Form KS-ECS-5, Tree/Shrub Planting.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Roof Runoff Structure

Code: 558

Reporting Unit: Number

Definition:

Structures that collect, control, and transport precipitation from roofs.

Purpose:

Improve water quality, reduce soil erosion, increase infiltration, protect structures, and/or increase water quantity.

Conditions Where Practice Applies:

Where roof runoff from precipitation needs to be:

- Diverted away from structures or contaminated areas
- Collected, controlled, and transported to a stable outlet
- Collected and used for other purposes such as irrigation or animal watering facility

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Roof Gutter	ft	$2.63	$3.73
Installation of rain gutters on a rigid roof or cover to collect, control, and transport clean water runoff away from the waste stream. The installation includes gutters, downspouts, and installation hardware as required by the design. The length for payment will be the linear feet of roof where gutters are installed.			

Limitations:

Documentation:

Form KS-ENG-10, Job Sheet; Completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Roofs and Covers

Code: 367

Reporting Unit: Number

Definition:

A rigid, semi-rigid, or flexible manufactured membrane, composite material, or roof structure placed over a waste management facility.

Purpose:

Cover a waste facility for water quality improvement, air quality improvement, and capture of biogas for energy production.

Conditions Where Practice Applies:

This practice applies where:

• Exclusion of precipitation from an outdoor animal management area, waste storage facility, or waste treatment facility will improve management of an existing or planned animal waste handling system or eliminate a pollution concern

• Capture and controlled release of emissions from an existing or planned animal waste management, storage, or treatment system will improve air quality and/or reduce the net effect of greenhouse gas emissions

• Bio-treatment of emissions from an existing or planned waste storage or treatment facility will improve air quality and/or reduce the net effect of greenhouse gas emissions

• Biogas production and capture for energy are components of an existing or planned waste management system

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Flex Membrane w/Flare A fabricated rigid, semi-rigid, or flexible membrane over a waste storage or treatment facility. The membrane will cover the entire surface of a waste storage or treatment facility (e.g., waste treatment lagoon or anaerobic digester). Cover will exclude precipitation and/or capture biogas for controlled release for flaring or anaerobic digestion. The area for payment will be the square feet of the covered area and includes the flare to convert methane to carbon dioxide.	sq ft	$1.64	$2.32
Flexible Membrane Cover Only A fabricated rigid, semi-rigid, or flexible membrane over a waste storage or treatment facility. The membrane will cover the entire surface of a waste storage or treatment facility (e.g., waste treatment lagoon or anaerobic digester). Cover will exclude precipitation and/or capture biogas for controlled release for flaring or anaerobic digestion. The area for payment will be the square feet of the covered area and does not include the flare to convert methane to carbon dioxide.	sq ft	$0.64	$0.91
Hoop Structure Roof A flexible membrane or fabric-like roof placed on steel truss, hoop-like supports and supporting foundation. The area for payment will be the square feet of the covered area.	sq ft	$1.74	$3.20
Timber or Steel Sheet Roof A timber-framed structure without enclosing sidewalls with a timber or steel "sheet" roof and supporting foundation. The area for payment will be the square feet of the covered area.	sq ft	$2.56	$4.70

Limitations:

Documentation:

Completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Sediment Basin

Code: 350

Reporting Unit: Number

Definition:

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

Purpose:

Capture and detain sediment-laden runoff or other debris for a sufficient length of time to allow it to settle out in the basin.

Conditions Where Practice Applies:

This practice applies where physical conditions or land ownership preclude treatment of a sediment source by the installation of erosion-control measures to keep soil and other material in place or where a sediment basin offers the most practical solution to the problem.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Embankment Basin A sediment basin constructed with a low hazard class earthen embankment to capture sediment and slowly release water. The sediment basin is created by a compacted earth embankment and impounds more than 3 feet of water against the embankment. The volume for payment will be the embankment volume of the constructed basin.	CuYd	$2.36	$3.35
Excavated Basin A sediment basin constructed by a combination of excavation and earthfill to capture sediment and slowly release water. The sediment basin impounds 3 or less feet of water against an embankment or spoil. The volume for payment will be the excavated volume of the constructed basin.	CuYd	$2.77	$3.92

Limitations:

Documentation:

Forms KS-ENG-10, Job Sheet; KS-ENG-452, Sediment Basin Details; completed table of quantities on as-built plan; KS-ENG-4a, Earthwork Computation Sheet- Fill.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Spring Development

Code: 574

Reporting Unit: Number

Definition:

Collection of water from springs or seeps to provide water for a conservation need.

Purpose:

Improve the quantity and/or quality of water for livestock, wildlife, or other agricultural uses.

Conditions Where Practice Applies:

In areas where a spring or seep will provide a dependable supply of suitable water for the planned use.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Spring, > 50 ft Collection Installation of a spring development with 50 or more feet of collection pipe. The installation includes all excavation, gravel backfill, collector pipe, delivery pipe, storage facility (spring box) if required, and all other materials as required by the design. The number for payment will be each spring development installed.	Ea	$3,086.60	$4,372.68
Spring, up to 50 ft Collection Installation of a spring development with less than 50 feet of collection pipe. The installation includes all excavation, gravel backfill, collector pipe, delivery pipe, storage facility (spring box) if required, and all other materials as required by the design. The number for payment will be each spring development installed.	Ea	$2,019.53	$2,861.00

Limitations:

Documentation:

Form KS-ENG-10, Job Sheet; Spring Development Job Sheet.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Stream Crossing

Code: 578

Reporting Unit: Number

Definition:

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

Purpose:

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

Conditions Where Practice Applies:

This practice applies to all land uses where an intermittent or perennial watercourse exists and a ford, bridge, or culvert-type crossing is desired for livestock, people, and/or equipment.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Bridge Installation of a bridge to allow stream flows to cross under an access road or animal trail. The installation includes dewatering; acquiring and installing abutments, girders, and decking with necessary hardware; backfilling abutments; armoring with geotextile and riprap; and all other materials as required by the design. The area for payment will be the square feet of bridge deck installed as designed.	sq ft	$25.87	$36.65
Culvert installation Installation of a new culvert to allow stream flows to cross under an access road or animal trail. The installation includes dewatering, site preparation and removing any old crossing, acquiring and installing culvert pipe with gravel bedding and fill (compacted), building headwalls, and all other materials as required by the design. The unit for payment will be diameter inch feet (DiaInFt) which is the diameter of the culvert in inches multiplied by the length of the culvert in feet. (Example: 24" diameter culvert that is 50' long equals 1200 diameter inch feet; 24" x 50' = 1200 DiaInFt)	DiaInFt	$1.74	$2.47
Low water crossing, concrete block Installation of a hardened or low water stream crossing using articulated concrete block mats. The installation includes site preparation; dewatering; acquiring and installing concrete block mats, and geotextile; and all materials required by the design. The area for payment will be the square feet of concrete block mat surface area of the crossing installed as designed.	sq ft	$4.63	$6.56
Low water crossing, concrete slab Installation of a hardened or low water stream crossing using cast-in-place concrete or preformed concrete slabs. The installation includes site preparation, dewatering, acquiring and installing concrete, and all materials required by the design. The area for payment will be the square feet of concrete surface area of the crossing installed as designed.	sq ft	$4.44	$6.29
Low water crossing, geocell Installation of a hardened or low water stream crossing using geocell mats filled with rock. The installation includes site preparation; dewatering; acquiring and installing geocell mats, rock, and geotextile; and all materials required by the design. The area for payment will be the square feet of geocell mat surface area of the crossing installed as designed.	sq ft	$3.17	$4.48

Low water crossing, rock armor	sq ft	$2.48	$3.52
Installation of a hardened or low water stream crossing using rock or concrete rubble riprap. The installation includes site preparation; dewatering; acquiring and installing gravel, geotextile, rock riprap, concrete rubble, and fine sand; and all materials required by the design. The area for payment will be the square feet of surface area of the crossing installed as designed.			

Limitations:

Documentation:

Form KS-ENG-10, Job Sheet; Completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Structure for Water Control

Code: 587

Reporting Unit: Number

Definition:

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.

Conditions Where Practice Applies:

This practice applies wherever a permanent structure is needed as an integral part of a water control system to serve one or more of the following functions:

• Convey water from one elevation to a lower elevation within, to, or from a water conveyance system such as a ditch, channel, canal, or pipeline designed to operate under open channel conditions. Typical structures are drops, chutes, turnouts, surface water inlets, head gates, pump boxes, and stilling basins.

• Control the elevation of water in drainage or irrigation ditches. Typical structures are checks, flashboard risers, and check dams.

• Control the division or measurement of irrigation water. Typical structures are division boxes and water measurement devices.

• Keep trash, debris, or weed seeds from entering pipelines. Typical structure is a debris screen.

• Control the direction of channel flow resulting from tides and high water or backflow from flooding. Typical structures are tide and water management gates.

• Control the water table level, remove surface or subsurface water from adjoining land, flood land for frost protection, or manage water levels for wildlife or recreation. Typical structures are water level control structures, flashboard risers, pipe drop inlets, and box inlets.

• Convey water over, under, or along a ditch, canal, road, railroad, or other barriers. Typical structures are bridges, culverts, flumes, inverted siphons, and long-span pipes.

• Modify water flow to provide habitat for fish, wildlife, and other aquatic animals. Typical structures are chutes, cold water release structures, and flashboard risers.

• Provide silt management in ditches or canals. Typical structure is a sluice.

• Supplement a resource management system on land where organic waste or commercial fertilizer is applied.

• Create, restore, or enhance wetland hydrology.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Commercial Inline Flashboard Riser	DiaInFt	$2.06	$2.93
Installation of an inline water control structure where the water surface elevation is controlled by addition or removal of slats or "stoplogs." The installation includes the structure, inlet and outlet pipes, bar guard, excavation, backfill, and all materials required by the design. The unit for payment will be the inch feet (InFt) of the installation which is the stoplog weir length in inches multiplied by the inlet and outlet length in feet. (Example: Structure width is 16" and inlet and outlet pipe combined length is 80'; 16" x 80' = 1280 InFt)			
Culvert <30 inches CMP	DiaInFt	$2.56	$3.63
Installation of a new corrugated metal pipe (CMP) culvert less than 30 inches in diameter to convey water under roads or other barriers. The installation includes site preparation, acquiring and installing culvert pipe with gravel bedding and fill (compacted), riprap protection of side slopes, and all materials required by the design. The unit for payment will be diameter inch feet (DiaInFt) which is the diameter of the culvert in inches multiplied by the length of the culvert in feet. (Example: Culvert diameter is 24" and culvert length is 50'; 24" x 50' = 1200 DiaInFt)			

Culvert <30 inches HDPE	DiaInFt	$2.24	$3.18
Installation of a new HDPE culvert less than 30 inches in diameter to convey water under roads or other barriers. The installation includes site preparation, acquiring and installing culvert pipe with gravel bedding and fill (compacted), riprap protection of side slopes, and all materials required by the design. The unit for payment will be diameter inch feet (DiaInFt) which is the diameter of the culvert in inches multiplied by the length of the culvert in feet. (Example: Culvert diameter is 24" and culvert length is 50'; 24" x 50' = 1200 DiaInFt)			
Earth Check	Ea	$419.02	$593.62
Installation of a small earthfill embankment constructed in active minor gullies located near the upper end of a watershed. The installation includes excavation, earthfill, turf reinforcement mat, and all materials required by the design. The number for payment will be each structure installed as designed.			
Rock Check	Ea	$633.02	$896.78
Installation of a small weir structure constructed with rock riprap or concrete rubble in active minor gullies located near the upper end of a watershed. The installation includes excavation, acquiring and installing the rock or concrete rubble, and all materials required by the design. The number for payment will be each structure installed as designed.			
Slide Gate - Flood Dike	ft	$30.67	$43.45
Installation of slide gate valve (screw activated) and corresponding pipe through an embankment to provide a means to control water levels upstream of the embankment. The installation includes site preparation, acquiring and installing the pipe and gate valve, and all materials required by the design. The length for payment will be the feet of pipe installed.			

Limitations:

Documentation:

Form KS-ENG-10, Job Sheet; Completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Terrace

Code: 600

Reporting Unit: Feet

Definition:

An earth embankment or a combination ridge and channel constructed across the field slope.

Purpose:

This practice is applied as part of a resource management system for one or more of the following purposes:

- Reduce erosion by reducing slope length
- Retain runoff for moisture conservation

Conditions Where Practice Applies:

This practice applies where soil erosion caused by water and excessive slope length is a problem, excess runoff is a problem, there is a need to conserve water, the soils and topography are such that terraces can be constructed and reasonably farmed, and a suitable outlet can be provided.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Non-Storage - Broadbase Installation of a gradient terrace system or a level terrace system with channels less than 30-feet wide utilizing a broad-base cross section. The length for payment will be the feet of terraces installed.	ft	$1.09	$1.54
Non-Storage - Grass Back Installation of a terrace system with relatively flat front slopes and steep back slopes that may be planted to permanent vegetation on average slopes greater than 8%. The length for payment will be the feet of terraces installed.	ft	$2.06	$2.92
Storage - Level or Flat Channel Installation of a level storage terrace system with flat channels 30 or more feet wide, a parallel terrace system, or a storage terrace system with underground outlets. The length for payment will be the feet of terraces installed.	ft	$1.34	$1.89

Limitations:

Documentation:

Form KS-ENG-1, Terrace - 600; Completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Trails and Walkways

Code: 575

Reporting Unit: Feet

Definition:

Established lanes or travel ways that facilitate animal movement.

Purpose:

Provide or improve access to forage, water, working/handling facilities, and/or shelter; improve grazing efficiency and distribution, and/or; protect ecologically sensitive, erosive, and/or potentially erosive sites.

Conditions Where Practice Applies:

On lands where control of animal movement is needed to facilitate access, improve grazing, prevent erosion, and/or protect ecologically sensitive areas.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Earthfill Walkway, 4 Ft high or less Construction of an earth lane or travel way and an average embankment height not exceeding 4 feet. The installation includes excavation, shaping, grading, and all equipment, labor, and incidental materials necessary as required by the design. Payment will be for the linear feet of walkway constructed.	ft	$6.77	$9.59
Earthfill Walkway, Higher than 4 Ft. Construction of an earth lane or travel way and an average embankment height exceeding 4 feet. The installation includes excavation, shaping, grading, and all equipment, labor, and incidental materials necessary as required by the design. Payment will be for the linear feet of walkway constructed.	ft	$15.15	$21.46

Limitations:

Documentation:

Form KS-ENG-10, Job Sheet; Completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Tree/Shrub Establishment

Code: 612

Reporting Unit: Acre

Definition:

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

Purpose:

Establish woody plants for: forest products such as timber, pulpwood, and energy biomass; wildlife habitat; long-term erosion control and improvement of water quality; treating waste; storing carbon in biomass; energy conservation; improving or restoring natural diversity; or enhancing aesthetics.

Conditions Where Practice Applies:

Tree/shrub establishment can be applied on any appropriately prepared site where woody plants can be grown. Use other CPS for specialized tree/shrub establishment situations; CPs 391, Riparian Forest Buffer; 311, Alley Cropping; 380, Windbreak/Shelterbelt Establishment; 342, Critical Area Planting; 422, Hedgerow Planting.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
High Density planting This practice applies to forestlands that are being actively managed. Tree seedlings are planted after the site has been prepared for seedling establishment and growth. Forest site productivity is high or very high and dense planting is planned. Larger containerized seedlings are planted. Terrain conditions allow for mechanical tree planting.	ac	$295.48	$418.60
Individual tree - hand planting Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs under planting, or the previously planted seedling tree stocking level is below desirable conditions. Wildlife habitat is degraded by loss of forest conditions.	Ea	$0.60	$0.85
Individual tree - hand planting w/browse protection Tree seedlings will be hand planted in the forested area where few or no forest trees are growing, the existing stand of trees needs under planting, or the previously planted seedling tree stocking level is below desirable conditions. Seedlings are protected from wildlife browsing. Wildlife habitat is degraded by loss of forest conditions.	Ea	$4.04	$4.85
Trees, Machine planted - no tubes This practice involves planting tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium-density planting rate. Typical scenario will consist of 1,000 feet of trees. Terrain is moderately sloping and will be planted with a mechanical tree planter. Smaller size seedlings (1-0) are planted.	Ea	$1.68	$2.38
Trees, Machine planted with tubes for animal protection This practice involves planting tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium-density planting rate. Typical scenario will consist of 1,000 feet of trees with tubes for animal protection. Terrain is moderately sloping and will be planted with a mechanical tree planter. Smaller size seedlings (1-0) are planted.	Ea	$5.73	$8.12

Trees, Machine planted with tubes for animal protection, supplemental water for establishment	Ea	$9.34	$13.24
Tree planting in an area where supplemental water is needed for successful establishment. Generally these areas would be considered arid or drought-stricken, but other factors may contribute to requiring supplemental water. This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium-density planting rate. Typical scenario will consist of 1,000 feet of trees with tubes for animal protection. Terrain is moderately sloping and will be planted with a mechanical tree planter. Smaller size seedlings (1-0) are planted.			
Trees, Machine planted, no tubes, supplemental water for establishment	Ea	$5.30	$7.50
Tree planting in an area where supplemental water is needed for successful establishment. Generally these areas would be considered arid or drought-stricken, but other factors may contribute to requiring supplemental water. This practice involves planting of tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will handle a medium-density planting rate. Typical scenario will consist of 1,000 feet of trees. Terrain is moderately sloping and will be planted with a mechanical tree planter. Smaller size seedlings (1-0) are planted.			

Limitations:

Documentation:

Kansas Forestry Tech Note KS-9

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Underground Outlet

Code: 620

Reporting Unit: Feet

Definition:

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

Purpose:

To carry water to a suitable outlet from terraces, water and sediment control basins, diversions, waterways, surface drains, or other similar practices without causing damage by erosion or flooding.

Conditions Where Practice Applies:

This practice applies where disposal of surface water is necessary; an outlet is needed for a terrace, diversion, water and sediment control basin, or similar practice; but a surface outlet is impractical because of stability problems, topography, climatic conditions, land use, or equipment traffic, and the site is suitable for an underground outlet.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
4 inch - 6 inch PVC or DW w Riser Installation of 4" to 6" diameter plastic pipe as the underground outlet for a terrace system. The installation includes excavation, backfill, inlet, outlets, connections, rodent guard, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$3.34	$5.01
6 inch or smaller Single Wall PE w Riser Installation of single wall PE or similar pipe, 4" to 6" diameter, as the underground outlet for a terrace system. The installation includes excavation, backfill, inlet, outlets, connections, rodent guard, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$2.12	$3.19
6 inch - 10 inch PVC or DW w Canopy Installation of 6" to 10" diameter pressure type pipe with a canopy inlet or riser inlet as the underground outlet for a single terrace, diversion, or WASCOB. The installation includes excavation, backfill, outlets, connections, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$10.11	$15.16
8 inch - 10 inch PVC or DW w Riser Installation of 8" to 10" diameter plastic pipe as the underground outlet for a terrace system. The installation includes excavation, backfill, inlet, outlets, connections, rodent guard, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$7.80	$11.71
12 inch - 18 inch PVC or DW w Canopy Installation of 12" to 18" diameter pressure type pipe with a canopy inlet or riser inlet as the underground outlet for a single terrace, diversion, or WASCOB. The installation includes excavation, backfill, outlets, connections, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$15.46	$23.19
12 inch - 18 inch PVC or DW w Riser Installation of 12" to 18" diameter plastic pipe as the underground outlet for a terrace system. The installation includes excavation, backfill, inlet, outlets, connections, rodent guard, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$11.81	$17.72
Over 18 inch PVC or DW w/ Riser Installation of plastic or corrugated metal pipe, larger than 18" in diameter, as the underground outlet for a terrace system, diversion, or WASCOB. The installation includes excavation, backfill, inlet, outlets, connections, rodent guard, and all materials and labor. The length for payment will the linear feet of pipe installed.	ft	$20.84	$31.25

Limitations:

Documentation:

Form KS-ENG-19, Underground Outlet - 620, Storage Terrace Worksheet; completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Vegetative Treatment Area

Code: 635

Reporting Unit: Acre

Definition:

An area of permanent vegetation used for agricultural wastewater treatment.

Purpose:

To improve water quality by reducing loading of nutrients, organics, pathogens, and other contaminants associated with livestock, poultry, and other agricultural operations.

Conditions Where Practice Applies:

Where a vegetated treatment area can be constructed, operated, and maintained to treat contaminated runoff from such areas as feedlots, compost areas, barnyards, and other livestock holding areas, or to treat process wastewater from agricultural operations.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Concrete Curb with major shaping Installation of a VTA using a concrete curb as the distribution device. The installation includes the land grading, concrete curb, and all materials and labor. Requires considerable grading and shaping on a small area (at least 3,000 CuYd/acre). The area for payment is the acres of shaped area in the VTA.	ac	$7,055.28	$9,994.99
Concrete Curb, with or without flow spreaders Installation of a VTA using a concrete curb as the distribution device. The installation includes the land grading, concrete curb, and all materials and labor. The area for payment is the acres of shaped area in the VTA.	ac	$2,458.04	$3,482.23
Gated Pipe with major shaping Installation of a VTA using a gated pipe as the distribution device. The installation includes the land grading, gated pipe, and all materials and labor. Requires considerable grading and shaping on a small area (at least 3000 cy/ac). The area for payment is the acres of shaped area in the VTA.	ac	$6,924.01	$9,809.02
Gated Pipe, with or without flow spreaders Installation of a VTA using a gated pipe as the distribution device. The installation includes the land grading, gated pipe, and all materials and labor. The area for payment is the acres of shaped area in the VTA.	ac	$1,383.35	$1,959.74
Minor Shaping Installation of a vegetated filter strip without any distribution device. The area for payment will be the acres of vegetated filter strip.	ac	$867.40	$1,228.82

Limitations:

Documentation:

Completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Waste Facility Closure

Code: 360

Reporting Unit: Number

Definition:

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:

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

Conditions Where Practice Applies:

This practice applies to agricultural waste facilities or livestock production sites that are no longer needed as a part of a waste management system and are to be permanently closed or converted for another use. These facilities include liquid/dry waste storage facilities, confined animal housing, feedlots, livestock yards, or composting facilities.

This practice applies where impoundments that are to be converted to fresh water storage meet current NRCS standards.

Where structures that include agricultural waste storage (such as confined animal housing) are to be decommissioned, this practice will apply to the removal of the waste and rehabilitation of soil within the facility.

This practice applies to remediation of soil contaminated by agricultural wastes that have been stored on-site.

It does not apply to sites contaminated by materials that require the issuance of a hazardous waste permit (such as fuel or pesticides).

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Decomissioning of Concrete Waste Storage Structure Decommission or close an inactive or abandoned concrete storage facility by demolition of the concrete, removal of the concrete, and filling the storage area with earthfill as required. The volume for payment will be the cubic feet of storage in the existing structure.	cu ft	$0.11	$0.16
Earthen Waste Impoundment Closure Close an inactive or abandoned waste storage pond or impoundment by removing accumulated sludge and filling the pond to surrounding ground levels. This activity includes both excavated and embankment ponds as the existing facility. The volume for payment will be the cubic feet of storage in the existing structure after the sludge is removed.	cu ft	$0.06	$0.09
Liquid Waste Impoundment Conversion to Fresh Water Storage Convert an existing waste storage pond or impoundment to a fresh water pond by removing accumulated sludge and soil materials. This activity includes both excavated and embankment ponds as the existing facility. The volume for payment will be the cubic feet of storage in the existing structure after the sludge is removed.	cu ft	$0.03	$0.05

Limitations:

Documentation:

Field notes and calculations showing approved volumes, completed table of quantities on as-built plan, and soils test for nitrates.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Waste Separation Facility

Code: 632

Reporting Unit: Number

Definition:

A filtration or screening device, settling tank, settling basin, or settling channel used to partition solids and/or nutrients from a waste stream.

Purpose:

To partition solids, liquids, and/or their associated nutrients to:

- Improve or protect air quality
- Improve or protect water quality
- Improve manure handling methods or serve as a pre- or post-treatment for other processes

Conditions Where Practice Applies:

This practice applies where the waste separation facility will:

- Remove solids from a liquid waste stream as a primary treatment process and facilitate further treatment processes
- Reduce problems associated with solids accumulation in liquid storage facilities
- Reduce solids content in waste streams so liquids can be recycled for other uses
- Reduce solids content in a waste stream to better facilitate land application of liquids using irrigation techniques
- Assist with partitioning nutrients in the waste stream to improve handling and application of nutrient management

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Concrete Sand Settling Lane Installation of a concrete lane with curbs to separate solids, mainly sand, from the liquid stream from a confinement facility. The area for payment will be the square feet of area in the facility.	sq ft	$4.18	$5.92
Concrete Settling Structure with picket screen outlet Installation of a concrete settling basin or sump, with appurtenances, to separate solids from the liquid stream from waste producing areas. The volume for payment will be the cubic feet of storage in the facility at the design storage level without freeboard.	cu ft	$1.74	$2.47
Earthen Settling Structure with picket screen outlet An earthen structure, such as a basin or a terrace or dike like structure, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility. A concrete pad should be installed on the bottom of the basin and around outlet structures to facilitate cleanout. Removes as portion of the solids with a picket screen outlet to facilitate waste handling and to address water quality concerns. The volume for payment will be the cubic feet of storage in the facility at the design storage level without freeboard.	cu ft	$0.19	$0.26
Earthen settling structure with pipe outlet Installation of an earthen settling basin to separate solids from the liquid stream from waste producing areas. The volume for payment will be the cubic feet of storage in the facility at the design storage level without freeboard.	cu ft	$0.16	$0.23
Mechanical Separator Installation of a mechanical separator to remove solids from the liquid-waste stream. The installation includes site preparation, base, and all materials and labor to install the system as designed. The number for payment will be each system installed.	Ea	$20,298.75	$28,756.56

Limitations:

Documentation:

Forms KS-ENG-10, Job Sheet; KS-ENG-452, Sediment Basin Details; completed table of quantities on as-built plan; KS-ENG-4a, Earthwork Computation Sheet - Fill; Storage Terrace Spreadsheet.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Waste Storage Facility

Code: 313

Reporting Unit: Number

Definition:

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

Purpose:

To temporarily store wastes such as manure, wastewater, and contaminated runoff as a storage function component of an agricultural waste management system.

Conditions Where Practice Applies:

- Where the storage facility is a component of a planned agricultural waste management system.
- Where temporary storage is needed for organic wastes generated by agricultural production or processing.
- Where the storage facility can be constructed, operated, and maintained without polluting air or water resources.
- Where site conditions are suitable for construction of the facility.
- To facilities utilizing embankments with an effective height of 35 feet or less where damage resulting from failure would be limited of farm buildings, agricultural land, or township and country roads.
- To fabricated structures including tanks, stacking facilities, and pond appurtenances.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Bedded Pack - Concrete Floor and Concrete Walls A solid storage facility to store manure and bedding. It also includes a composted bedded pack facility. The facility has a reinforced concrete floor with walls constructed of reinforced concrete or modular blocks. The area for payment will be the total floor area of the structure including the wall area. It also includes picket fence if required by the design.	sq ft	$5.60	$7.94
Bedded Pack - Concrete Floor and Wood Walls A solid storage facility to store manure and bedding. It also includes a composted bedded pack facility. The facility has a reinforced concrete floor with walls constructed of pressure-treated wood. The area for payment will be the total floor area of the structure including the wall area. It also includes picket fence if required by the design.	sq ft	$4.15	$5.88
Buried Concrete Tank, Less than 14,999 c.f. of storage A liquid storage facility consisting of a cast-in-place concrete tank that has a design storage volume less than 14,999 cubic feet that is totally or partially buried. The tank can have an open top or be under an animal facility with a top cover of either slats or solid concrete lid/floor. The volume for payment will be the cubic feet of storage at the design storage level without freeboard.	cu ft	$1.84	$2.60
Buried Concrete Tank, Between 15,000 to 110,000 c.f. of storage A liquid storage facility consisting of a cast-in-place concrete tank that has a design storage volume from 15,000 to less than 110,000 cubic feet that is totally or partially buried. The tank can have an open top or be under an animal facility with a top cover of either slats or solid concrete lid/floor. The volume for payment will be the cubic feet of storage at the design storage level without freeboard.	cu ft	$1.27	$1.79
Buried Concrete Tank, Greater than 110,000 c.f. of storage A liquid storage facility consisting of a cast-in-place concrete tank that has a design storage volume of 110, 000 cubic feet or greater. The tank can have an open top or be under an animal facility with a top cover of either slats or solid concrete lid/floor. The volume for payment will be the cubic feet of storage at the design storage level without freeboard.	cu ft	$1.14	$1.61

Dry Stack - Concrete floor and concrete walls A solid storage facility to store manure and bedding. The facility has a reinforced concrete floor with side walls constructed of reinforced concrete or modular blocks. The area for payment will be the total floor area of the structure including the wall area. It also includes picket fence if required by the design.	sq ft	$4.74	$6.72
Dry Stack - Concrete floor and no walls A solid storage facility to store manure and bedding. The facility has a reinforced concrete floor without side walls. The area for payment will be the total floor area of the structure. It also includes picket fence if required by the design.	sq ft	$3.36	$4.77
Dry Stack - Concrete floor and Wood walls A solid storage facility to store manure and bedding. The facility has a reinforced concrete floor with walls constructed of pressure-treated wood. The area for payment will be the total floor area of the structure including the wall area. It also includes picket fence if required by the design.	sq ft	$4.07	$5.76
Embankment Storage Pond A waste storage pond constructed by a combination of excavation and earthfill with more than 3 feet of fill in the embankment. The volume for payment of this structure will be the cubic feet of storage in the pond at the design storage level without freeboard.	cu ft	$0.05	$0.07
Excavated Storage Pond A waste storage pond constructed by excavating a pond with a small berm around the pond, normally 3 feet or less high. The volume for payment will be the cubic feet of storage in the pond at the design storage level without freeboard.	cu ft	$0.09	$0.13
Steel or Concrete Above Ground Storage Structure A liquid storage facility consisting of an above-ground circular glass-lined steel or concrete structure. The volume for payment will be the cubic feet of storage at the design storage level without freeboard.	cu ft	$1.56	$2.21

Limitations:

Documentation:

Completed table of quantities on as-built plan; Form KS-ENG-16, Waste Management System Inspection Report.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Waste Transfer

Code: 634

Reporting Unit: Number

Definition:

A system using structures, conduits, or equipment to convey by-products (wastes) from agricultural operations to points of usage.

Purpose:

Transfer agricultural material associated with production, processing, and/or harvesting through a hopper or reception pit, a pump (if applicable), a conduit, and/or hauling equipment to a storage/treatment facility, a loading area, and/or agricultural land for final utilization as a resource.

Conditions Where Practice Applies:

The transfer component is a part of a planned waste management or comprehensive nutrient management system. Material generated by livestock production or agricultural product processing and a conveyance system is necessary to transfer the byproducts from the source to a storage/treatment facility and/or a loading area, and/or from storage/treatment to an area for utilization. This includes hauling nutrients from one geographical area with excess nutrients to a geographical area that can utilize the nutrients in an acceptable manner. This practice does not include land application or other use of manure. Criteria for land application of manure are included in CPs 590, Nutrient Management, or 633, Waste Recycling.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Concrete Channel Installation of a concrete chute from a basin to a storage pond. The installation includes all required excavation, backfill, steel reinforcement, a wood picket structure, and all materials and labor. The area for payment will be the square feet of area covered by the concrete chute.	sq ft	$6.56	$9.29
Gravity flow, less than or equal to 18' diameter conduit Installation of an 18" diameter or smaller pipe using gravity flow conditions to convey water containing animal wastes. The pipe length is typically less than 100' and the installation includes excavation, backfill, inlet structure, outlet structure, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$15.90	$22.53
Gravity flow, greater than 18' diameter conduit Installation of a pipe larger than 18" in diameter using gravity flow conditions to convey water containing animal wastes. The pipe length is typically less than 100' and the installation includes excavation, backfill, inlet structure, outlet structure, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$26.58	$37.66
Pressure flow, less than or equal to 6' diameter conduit Installation of high pressure (160 psi) pipe, 6" diameter, with gaskets to transfer wastes from a waste storage pond to an irrigation or distribution system. The pipes may also be used to transfer wastes within the waste treatment system. The installation includes excavation, backfill, fittings, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$8.10	$11.47
Pressure flow, 8' diameter conduit Installation of high pressure (160 psi) pipe, 8" diameter, with gaskets to transfer wastes from a waste storage pond to an irrigation or distribution system. The pipes may also be used to transfer wastes within the waste treatment system. The installation includes excavation, backfill, fittings, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$11.60	$16.43

Pressure flow, 10' diameter conduit Installation of pressure pipe, 10" diameter, with gaskets to transfer wastes from a waste storage pond to an irrigation or distribution system. The pipes may also be used to transfer wastes within the waste treatment system. The installation includes excavation, backfill, fittings, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$15.75	$22.31
Pressure flow, 12' or greater diameter conduit Installation of pressure pipe, 12" diameter or larger, with gaskets to transfer wastes from a waste storage pond to an irrigation or distribution system. The pipes may also be used to transfer wastes within the waste treatment system. The installation includes excavation, backfill, fittings, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$23.34	$33.07
Pressure or gravity flow conduit that includes one boring under roadway Installation of pressure pipe with gaskets to transfer wastes from a waste storage pond to an irrigation or distribution system. The pipes may also be used to transfer wastes within the waste treatment system. The installation includes excavation, backfill, fittings, and all materials and labor. The length for payment will be the feet of installed pipe.	ft	$18.37	$26.02

Limitations:

1. This practice is subject to a $35,000 per number payment cap.

Documentation:

Completed table of quantities on as-built plan; Forms KS-ENG-23, Irrigation Pipeline - Code 430, Storage Terrace Worksheet; KS-ENG-19, Underground Outlet - 620; KS-ENG-449a, Concrete Chute Inlet Structure (Plan View).

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Waste Treatment

Code: 629

Reporting Unit: Number

Definition:

The mechanical, chemical, or biological treatment of agricultural waste.

Purpose:

To use manure and waste treatment facilities to improve water quality and air quality by:

- Reducing the nutrient content, organic strength, and/or pathogen levels of manure and agricultural waste
- Reducing odors and gaseous emissions
- Facilitating desirable waste handling and storage
- Producing value-added by-products that facilitate manure and waste utilization

Conditions Where Practice Applies:

This practice applies where there is a need to implement waste treatment technologies that are not within the scope of other NRCS conservation practice standards and that are sufficiently developed for incorporation into a manure or agricultural waste management system. This includes new or unique components or processes.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Milking Parlor Waste Dosing System and Organic Bed	Gal/Day	$25.03	$35.46
Installation of a dosed treatment system with an organic bed for milking parlor wastewater. The purpose of the practice is to address resource concerns related to water quality degradation due to (excess nutrient, salts and pathogens).			
Pathogen Removal System	gpm	$55.85	$79.12
Installation of a reclamation system to treat and recycle water collected from the overflow of livestock watering facilities. The associated pipelines, collection manholes, pumping plants, and other items are covered by other conservation practices. The portion of the system covered by this scenario includes sand media filters, a pathogen removal system (such as an ultraviolet light treatment unit, chlorination, or ozone system), and a small building to house the treatment facility. The complete system collects overflows from multiple feedlot watering facilities (where overflow is used to prevent winter freeze-up), filters and disinfects the water to a quality suitable for livestock consumption, and then conveys the treated water back into the livestock water supply system. The quantity for payment will be the design flow rate in gallons per minute.			
Swine Waste, Phosphorus Reduction System	gpm	$384.12	$544.17
Installation of a mechanical system to remove phosphorus from the waste stream as part of a CNMP. The installation includes site preparation, base, and all materials and labor to install the system as designed. Payment will be based on the waste stream design flow rate in gallons per minute treated by the installed system.			

Limitations:

Documentation:

Completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Waste Treatment Lagoon

Code: 359

Reporting Unit: Number

Definition:

A waste treatment impoundment made by constructing an embankment and/or excavating a pit or dugout.

Purpose:

To biologically treat waste, such as manure and wastewater, and thereby reduce pollution potential by serving as a treatment component of a waste management system.

Conditions Where Practice Applies:

- Where the lagoon is a component of a planned agricultural waste management system.
- Where treatment is needed for organic wastes generated by agricultural production or processing.
- On any site where the lagoon can be constructed, operated, and maintained without polluting air or water resources.
- To lagoons utilizing embankments with an effective height of 35 feet or less where damage resulting from failure would be limited to farm buildings, agricultural land, or township and country roads.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Embankment Lagoon	cu ft	$0.06	$0.08
A waste lagoon constructed by a combination of excavation and earthfill with more than 3 feet of fill in the embankment. The volume for payment will be the cubic feet of storage at the design storage level without freeboard.			

Limitations:

1. Operation plan for waste treatment lagoon must identify the operating levels, waste loading requirements, and treatment period for proper operation.

Documentation:

Completed table of quantities on as-built plan; Form KS-ENG-16, Waste Management System Inspection Report.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Water and Sediment Control Basin

Code: 638

Reporting Unit: Number

Definition:

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:

A water and sediment control basin may be established to:

- Improve farmability of sloping land
- Reduce watercourse and gully erosion
- Trap sediment
- Reduce and manage onsite and downstream runoff
- Improve downstream water quality

Conditions Where Practice Applies:

This practice applies to sites where:

- The topography precludes installing and farming terraces with reasonable effort
- Watercourse or gully erosion is a problem
- Sheet and rill erosion is controlled by other conservation practices
- Runoff and sediment damage land and improvements
- Soil and site conditions are suitable
- Adequate outlets can be provided

Water and sediment control basins shall not be used in place of terraces and other conservation measures. Where the ridge and/or channel extends beyond the detention basin or level embankment, use CPs 600, Terrace, or 362, Diversion, as appropriate.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
WASCOB base Installation of a WASCOB constructed to capture sediment and slowly release water. The embankment or ridge is typically 4' or less high. The volume for payment will be the cubic yards of earthfill in the embankment or ridge.	CuYd	$2.44	$3.46
WASCOB topsoil Installation of a WASCOB constructed to capture sediment and slowly release water. The embankment or ridge is typically greater than 4' high and topsoil is stockpiled and placed on the embankment during construction. The volume for payment will be the cubic yards of earthfill in the embankment or ridge.	CuYd	$2.63	$3.73

Limitations:

Documentation:

Forms KS-ENG-4a, Earthwork Computation Sheet - Fill; KS-ENG-15, Earth Dam Inspection Report; Storage Terrace Spreadsheet; completed table of quantities on as-built plan.

Maintenance:

Practice will be maintained for a lifespan of 10 years following installation.

Water Well

Code: 642

Reporting Unit: Number

Definition:

A hole drilled, dug, driven, bored, jetted, or otherwise constructed to an aquifer.

Purpose:

- Provide water for livestock, wildlife, irrigation, human, and other uses
- Provide for general water needs of farming/ranching operations
- Facilitate proper use of vegetation on rangeland, pastures, and wildlife areas

Conditions Where Practice Applies:

This practice applies on all land uses where the underground supply of water is sufficient in quantity and quality for the intended purpose. This practice applies only to production wells. Specifically excluded are any types of wells installed solely for monitoring or observation purposes, injection wells, and piezometers. The standard does not apply to pumps installed in wells; above-ground installations such as pumping plants, pipelines, and tanks; or temporary test wells. For decommissioning of wells, refer to CP 351, Water Well Decommissioning.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Shallow Well, 100 ft. deep or less Installation of a drilled well with a minimum 5-inch diameter casing and well head protection. The depth to a known water supply is 100' or less. The length for payment will be the depth of the completed well in linear feet.	ft	$42.37	$60.02
Single PVC Casing with pitless unit, greater than 100 ft. deep Single PVC Casing with pitless unit, greater than 100 feet deep. The length for payment will be the depth of the completed well in linear feet.	ft	$31.28	$44.32
Steel or Copper with pitless unit, 100 ft. or deeper Steel or Copper with pitless unit, 100 feet or deeper. The length for payment will be the depth of the completed well in linear feet.	ft	$27.54	$39.02
Well Point Installation of a shallow well without drilling. Typical construction is a well screen, pipe, and couplings driven or water jetted to a depth of 20 feet or less into a shallow water-bearing formation. The length for payment will be the linear feet of screen and pipe installed.	ft	$56.40	$79.91

Limitations:

Documentation:

Form KS-ENG-5, Water Well - 642; KDHE Form WWC-5 (Water Well Record).

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Watering Facility

Code: 614

Reporting Unit: Number

Definition:

A permanent or portable device to provide an adequate amount and quality of drinking water for livestock and or wildlife.

Purpose:

Provide access to drinking water for livestock and/or wildlife in order to meet daily water requirements and improve animal distribution.

Conditions Where Practice Applies:

This practice applies to all land uses where there is a need for new or improved watering facilities for livestock and/or wildlife.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Enclosed Storage Tank Installation of a large steel, concrete, or fiberglass tank installed on an gravel base or underground. The installation reduces pipe size and pressure requirements of the associated pipeline and includes preparation of site and all materials, appurtenances, and labor. The volume for payment will be the design volume of the installed tank.	gal	$0.97	$1.38
Fiberglass Tank on Concrete Installation of a fiberglass water tank placed on a concrete foundation with a concrete or gravel apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all required materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.	gal	$1.73	$2.45
Fiberglass Tank on Earth Installation of a fiberglass water tank placed on a gravel or compacted earth foundation with a gravel apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all required materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.	gal	$1.55	$2.19
Precast Concrete Tank Installation of a precast concrete tank placed on a gravel or compacted earth base with a gravel apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.	gal	$2.19	$3.10
Rubber Tire Tank on Concrete Installation of a rubber equipment tire with concrete plug placed on a concrete foundation with a concrete or gravel apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all required materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.	gal	$1.15	$1.63
Rubber Tire Tank on Earth Installation of a rubber equipment tire with concrete plug placed on a gravel or compacted earth foundation with a gravel apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all required materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.	gal	$0.97	$1.37

Steel Rim Tank - Bottomless	gal	$0.23	$0.32
Installation of a galvanized-steel rim installed with a flexible membrane or bentonite treated earth base with a gravel apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.			
Steel Rim Tank - Concrete Base	gal	$0.82	$1.16
Installation of a galvanized-steel rim installed in a reinforced concrete base and apron. The installation includes preparation of site, protection of entry by cattle and other larger animals, wildlife escape ramp, and all materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.			
Steel Tank	gal	$1.00	$1.42
Installation of a galvanized steel water tank set on gravel or compacted earth base with a gravel apron. The installation includes leveling of site, protection of entry by cattle and other larger animals, a wildlife escape ramp, and all required materials, appurtenances, and labor. The volume for payment will be the design volume in gallons of the installation.			
Water Fountain	Ea	$1,111.02	$1,573.94
Installation of a commercially available water fountain for livestock set on a concrete base and apron or installed in the ground as recommended by the manufacturer. The installation includes preparation of site, plumbing, and all materials, appurtenances, and labor. The number for payment will be each water fountain installed.			

Limitations:

1. This practice includes aprons around tanks and CP 561, Heavy Use Protection Area, will not be scheduled as a complementary practice.
2. For relocation of an AFO, the number of watering facilities planned will not exceed the number in the AFO being closed out. Financial assistance is not available for watering facilities for new or expanding AFO.

Documentation:

Forms KS-ENG-25, Watering Facility - 614; KS-ENG-429, Reinforced Concrete Storage Tank (Rectangular); KS-ENG-430, Reinforces Concrete Storage Tank (Circular); KS-ENG-10, Jobsheet.

Maintenance:

Practice will be maintained for a lifespan of 20 years following installation.

Wetland Enhancement

Code: 659

Reporting Unit: Acre

Definition:

The rehabilitation or re-establishment of a degraded wetland and/or the modification of an existing wetland, which augments specific site conditions for specific species or purposes, possibly at the expense of other functions and other species.

Purpose:

Provide specific wetland conditions to favor specific wetland functions and targeted species by hydrologic enhancement (depth duration and season of inundation, and/or duration and season of soil saturation) or vegetative enhancement (including the removal of undesired species, and/or seeding or planting of desired species).

Conditions Where Practice Applies:

This practice applies on any degraded or nondegraded existing wetland where the objective is specifically to enhance selected wetland functions.

This practice does not apply to the following where the intention is to:

- Treat point and nonpoint sources of water pollution (CP 656, Constructed Wetland)
- Rehabilitate a degraded wetland where the soils, hydrology, vegetative community, and biological habitat are returned to original conditions (CP 657, Wetland Restoration)
- Create a wetland on a site that historically was not a wetland (CP 658, Wetland Creation)

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Depression Sediment Removal and Ditch Plug A HGM class depressional wetland is to be enhanced. The tract size is 15 acres and the actual wetland is 10 acres. The site is a recharge depression, fed only from surface runoff.	CuYd	$1.38	$1.96
Excavation A HGM class depressional wetland is to be enhanced. The tract size is 15 acres and the actual wetland size is 10 acres. The site is a recharge depression, fed only from surface runoff.	CuYd	$1.35	$1.91
Excavation on Saturated Site A HGM class depressional wetland is to be enhanced. The tract size is 15 acres and the actual wetland size is 10 acres. The site is a recharge depression, fed only from surface runoff. The soils are saturated requiring dewatering and tracked equipment.	CuYd	$2.69	$3.82

Limitations:

Documentation:

Forms KS-ENG-4a, Earthwork Computation Sheet - Fill; KS-ENG-4c, Earthwork Computation Sheet - Cut; completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Wetland Restoration

Code: 657

Reporting Unit: Acre

Definition:

The rehabilitation of a degraded wetland or the reestablishment of a wetland so that soils, hydrology, vegetative community, and habitat are a close approximation of the original natural condition that existed prior to modification to the extent practicable.

Purpose:

To restore wetland function, value, habitat, diversity, and capacity to a close approximation of the pre-disturbance by:

- Restoring hydric soil
- Restoring hydrology (depth duration and season of inundation, and/or duration and season of soil saturation)
- Restoring native vegetation (including the removal of undesired species, and/or seeding or planting of desired species)

Conditions Where Practice Applies:

This practice applies only to natural wetland sites with hydric soils, or problem soils that are hydric, which have been subject to hydrologic or vegetative degradation, or to sites where hydric soils are covered by fill, sediment, or other deposits. This practice is applicable only where the natural hydrologic conditions, including the hydro-periods, can be approximated by modifying drainage and/or by artificial flooding of a duration and frequency similar to the original, natural conditions.

This practice does not apply:

- To treat point and nonpoint sources of water pollution (CP 656, Constructed Wetland)
- To modify an existing wetland where specific attributes are heightened by management objectives, and/or returning a degraded wetland back to a wetland but to a different type than what previously existed on the site (CP 659,Wetland Enhancement)
- To creating a wetland on a site location which historically was not a wetland (CP 658,Wetland Creation)

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Depression Sediment Removal A HGM class depressional wetland is to be restored by removing sediment. The typical size of sediment removal is 1 acre. The site is a recharge depression, fed only from surface runoff.	CuYd	$2.59	$3.67
Ditchplug - Lateral Restoration A HGM class depressional wetland is to be restored by filling in the drainage ditch. The site is a recharge depression, fed only from surface runoff.	CuYd	$5.08	$7.20
Embankment - Fill Height <= 4 feet A HGM class depressional wetland is to be restored by filling across the drainage ditch to block drainage. The site is a recharge depression, fed only from surface runoff.	CuYd	$3.81	$5.40
Fill in dugout Restoring a wetland to its original condition by filling a dugout. Typical size is approximately 1,000 CuYd and 1 1/2 acres of land restored.	CuYd	$2.27	$3.22
Sediment Removal - Saturated Site A HGM class depressional wetland is to be restored by removing sediment. The typical size of sediment removal is 1 acre. The site is a recharge depression, fed only from surface runoff. The soils are saturated requiring dewatering and tracked equipment.	CuYd	$2.80	$3.97

Limitations:

Documentation:

Forms KS-ENG-4a, Earthwork Computation Sheet - Fill; KS-ENG-4c, Earthwork Computation Sheet - Cut; completed table of quantities on as-built plans.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.

Windbreak/Shelterbelt Establishment

Code: 380

Reporting Unit: Feet

Definition:

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

Purpose:

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

Conditions Where Practice Applies:

Apply this practice on any areas where linear plantings of woody plants are desired and suited for controlling wind, noise, and visual resources. Use other tree/shrub practices when wind, noise, and visual problems are not concerns.

Payment Schedule:

Activity Description	Payment Unit	Payment Rate	
		General	HU
Hand Planted, Bare Root A single 600-foot row of bare root shrubs, conifers, hardwoods, or combination for wind protection, wildlife habitat, or snow management. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart. The scenario will include 1/3 shrubs, 1/3 hardwoods, and 1/3 conifers based on feet of trees.	Ea	$1.11	$1.57
Hand Planted, Bare Root, supplemental water for establishment Tree planting in an area where supplemental water is needed for successful establishment. Generally these areas would be considered arid or drought-stricken, but other factors may contribute to requiring supplemental water. Single 600-foot row of bareroot shrubs, conifers, hardwoods, or combination for wind protection, wildlife habitat, or snow management. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart. The scenario will include 1/3 shrubs, 1/3 hardwoods, and 1/3 conifers based on feet of trees.	Ea	$4.94	$7.00
Hand Planted, Potted A single 600-foot row of potted shrubs, conifers, hardwoods, or combination for wind protection, wildlife habitat, or snow management. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart. The scenario will include 1/3 shrubs, 1/3 hardwoods, and 1/3 conifers based on feet of trees.	Ea	$2.28	$3.24
Hand Planted, Potted, supplemental water for establishment Tree planting in an area where supplemental water is needed for successful establishment. Generally these areas would be considered arid or drought-stricken, but other factors may contribute to requiring supplemental water. Single 600-foot row of potted shrubs, conifers, hardwoods, or combination for wind protection, wildlife habitat, or snow management. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart. The scenario will include 1/3 shrubs, 1/3 hardwoods, and 1/3 conifers based on feet of trees.	Ea	$6.12	$8.67

Trees, machine planted	ft	$0.16	$0.22
Tree planting consisting of 2,500 feet of trees for wind protection, energy conservation, wildlife habitat, air quality, snow management, or to provide a visual screen. The planting may consist of shrubs, hardwood trees, conifers, or a combination. Trees and shrubs are planted with a tree-planting machine. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart in the row with rows 16 feet apart. The scenario will include 1/4 shrubs, 1/2 hardwoods, and 1/4 conifers based on feet of trees. Herbivores (deer, rabbits, etc.) are NOT expected to browse tree seedlings so tree protection is not needed.			
Trees, machine planted, supplemental water for establishment	ft	$0.62	$0.80
Tree planting in an area where supplemental water is needed for successful establishment. Generally these areas would be considered arid or drought-stricken, but other factors may contribute to requiring supplemental water. The planting consists of 2,500 feet of trees for wind protection, energy conservation, wildlife habitat, air quality, snow management, or to provide a visual screen. The planting may consist of shrubs, hardwood trees, conifers, or a combination. Trees and shrubs are planted with a tree-planting machine. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart in the row with rows 16 feet apart. The scenario will include 1/4 shrubs, 1/2 hardwoods, and 1/4 conifers based on feet of trees. Herbivores (deer, rabbits, etc.) are NOT expected to browse tree seedlings so tree protection is not needed.			
Trees, machine planted, wildlife protection	ft	$0.48	$0.68
Tree planting consisting of 2,500 feet of trees for wind protection, energy conservation, wildlife habitat, air quality, snow management, or to provide a visual screen. The planting may consist of shrubs, hardwood trees, conifers, or a combination. Trees and shrubs are planted with a tree-planting machine. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart in the row with rows 16 feet apart. The scenario will include 1/4 shrubs, 1/2 hardwoods, and 1/4 conifers based on feet of trees. Herbivore (deer, rabbits, etc.) damage is likely, so each tree must be protected with a rigid tube tree shelter.			
Trees, machine planted, wildlife protection, supplemental water for establishment	ft	$0.86	$1.21
Tree planting in an area where supplemental water is needed for successful establishment. Generally these areas would be considered arid or drought-stricken, but other factors may contribute to requiring supplemental water. Planting consists of 2,500 feet of trees for wind protection, energy conservation, wildlife habitat, air quality, snow management, or to provide a visual screen. The planting may consist of shrubs, hardwood trees, conifers, or a combination. Trees and shrubs are planted with a tree planting-machine. Shrubs will be planted with a spacing of 4 to 6 feet and hardwoods/conifers 8 to 12 feet apart in the row with rows 16 feet apart. The scenario will include 1/4 shrubs, 1/2 hardwoods, and 1/4 conifers based on feet of trees. Herbivore (deer, rabbits, etc.) damage is likely, so each tree must be protected with a rigid tube tree shelter.			

Limitations:

Documentation:

Form KS-ECS-5, Tree/Shrub Planting.

Maintenance:

Practice will be maintained for a lifespan of 15 years following installation.