Iowa

Financial Assistance Program Scenario Booklet

List of Eligible Practices and Payment Schedule FY2024

December 20, 2023

Scenario Booklet Glossary

Practice Code Table - The table of Practices are in alphabetical order. The practice code for each has a hot link to the individual Practice Code Scenario Descriptions.

Conservation Practice Description - Each Conservation Practice has the Practice Code, PRS Unit of Measure, Definition, Purpose, and Applicability for the conservation practice from the Iowa Field Office Technical Guide.

Limitations - This area will list any limitations a conservation practice may have related to EQIP, i.e., payment limitations, planning considerations, practice requirements, etc.

Maintenance - This is the Conservation Practice Lifespan.

Payment Schedule Headers:

ID - This is a numeric identifier for internal tracking purposes.

Scenario Name - Unique name for each scenario.

Scenario and After Practice Description - For each Conservation Practice Scenario Name this column provides the **Scenario Description, After Practice Description** and may include associated practices.

Scenario Feature Measure - This provides additional description of the scenario unit, if different than the scenario unit.

Scenario Unit - Unit of measure for the scenario.

PAYMENT RATE – The payment rate is the amount of financial assistance ($/unit) available through EQIP.

EQIP – Payment rate is based on 75% of the estimated incurred costs and foregone income (if applicable) associated with practice implementation.

EQIP – HU – Payment rate is based on 90% of the estimated incurred costs and foregone income (if applicable) associated with practice implementation.

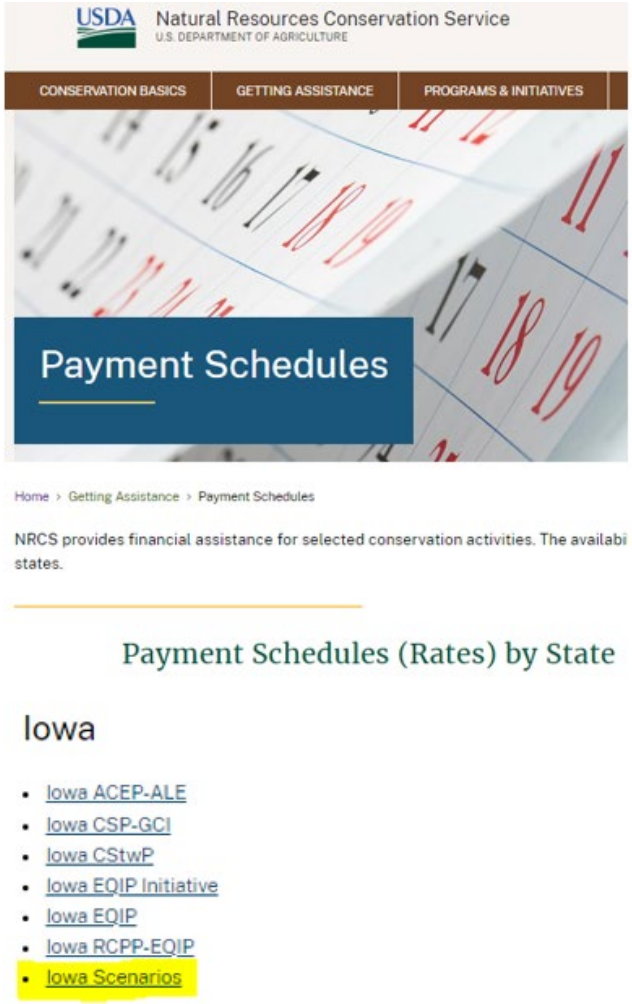
HU = Historically Underserved: Includes, Beginning Farmers/Ranchers, Limited Resource Farmers/Ranchers, Socially Disadvantaged Farmers/Ranchers, Tribal Farmers/Ranchers and Veteran Farmers/Ranchers. The payment rate is higher for HU producers on most practices. To determine if you are a HU producer go to:

Instructions for NRCS-CPA-1200, Conservation Program Application **or** Limited Resource Farmer Self Determination Tool

General Information:

- Management practices (Practices with a 1-year Lifespan) allow up to 5 years of Financial Assistance. The up to 5 years of Practice implementation is tied to the land not to the participant.
- There are 10 high priority conservation practices where the EQIP Payment Rate is 90% for local sub accounts. These include: 314 Brush Management, 327 Conservation Cover, 656 Constructed Wetland, 605 Denitrifying Bioreactor, 604 Saturated Buffer, 381 Silvopasture, 612 Tree/Shrub Establishment,658 Wetland Creation, 659 Wetland Enhancement, 657 Wetland Restoration. These payment rates are reflected in the FY2024 Cost List.

Full Payment Scenario Descriptions including the components used to support the Payment Scenario are located on the State Payment Schedules website (nationally maintained). Select Iowa Scenarios (PDF).



SUMMARY OF CHANGES TO FY2024 IOWA PAYMENT SCHEDULES

New Practices and Scenarios

Practice	*ID*	*Scenario Name*
Soil Carbon Amendment	336-115	Compost - On Site
Soil Carbon Amendment	336-116	Compost - Off Site
Soil Carbon Amendment	336-117	100% Biochar
Soil Carbon Amendment	336-118	Other Carbon Amendment
Soil Carbon Amendment	336-119	Compost - Small Areas
Soil Carbon Amendment	336-120	Compost + Biochar - Small Areas
Soil Carbon Amendment	336-121	40% Biochar-60% Compost
Soil Carbon Amendment	336-122	20% Biochar-80% Compost
Soil Carbon Amendment	336-123	60% Biochar-40% Compost
Soil Carbon Amendment	336-124	80% Biochar-20% Compost
Woody Residue Treatment	384-1	Woody residue treatment following catastrophic events
Wildlife Habitat Planting	420-81	Native Species
Wildlife Habitat Planting	420-100	Native Species with Forgone Income
Wildlife Habitat Planting	420-101	Pollinator Species
Wildlife Habitat Planting	420-102	Pollinator Species with Forgone Income
Wildlife Habitat Planting	420-103	Monarch Species Mix
Wildlife Habitat Planting	420-104	Monarch Species Mix with Foregone Income
Wildlife Habitat Planting	420-164	Interseeding Native Forbs, Pollinator or Monarch Mixes
Wildlife Habitat Planting	420-192	Very Small Acreage (<.5 ac) Planting with Seedlings
Wildlife Habitat Planting	420-193	Specialized Habitat Requirements on Cropland with Foregone Income
Wildlife Habitat Planting	420-257	Interplanting with potted plants or shrubs
Wildlife Habitat Planting	420-270	Small Planting - Pollinator Mix
Wildlife Habitat Planting	420-271	High Species Diversity on Cropland with Foregone Income
Raised Beds	812-33	Unframed Raised Bed field size < 0.10 acres Contamination or Debris Sites only
Raised Beds	812-34	Unframed Raised Bedfield size < 0.5 acres Contamination or Debris Sites only
Raised Beds	812-35	Framed Raised Bed Small Lot Contamination or Debris Sites only
Raised Beds	812-36	Framed Raised Bed < 500 sq ft Contamination or Debris Sites only
Raised Beds	812-37	Framed Raised Bed greater than or equal to 500 sq ft Contamination or Debris Sites only
Low Tunnel Systems	821-25	Low tunnel < 1000 square feet- Year 1
Low Tunnel Systems	821-26	Low tunnel management- Year 2-3
Low Tunnel Systems	821-27	Low tunnel 1000-5000 square feet, Year 1

SUMMARY OF CHANGES TO FY2024 IOWA PAYMENT SCHEDULES (continued)

New Scenarios Only

Practice	*ID*	*Scenario Name*	*Notes*
Composting Facility	317-56	Small-Medium Farm Pad	
Conservation Crop Rotation	328-104	Add crop -transition to organic	
Waste Facility Closure	360-39	Demolition of Concrete Waste Storage Structure, Total Volume of Structure Storage	replaces 360-18
Waste Facility Closure	360-41	Demolition of Concrete Waste Storage Facility, Slab Only	
Energy Efficient Agricultural Operation	374-136	Grain Dryer, <= 675 bushel capacity	replaces 374-21
Fence	382-5	Permanent High Tensile, Minimum 4 Strand, Double H bracing	replaces 382-6
Hedgerow Planting	442-28	Pollinator Habitat	
Access Control	472-38	Small Scale Farm Access Control	
Heavy Use Area Protection	561-81	Geocell and Gravel - Small Scale	
Stormwater Runoff Control	570-13	Rain Garden, greater than 750 sqft	
Nutrient Management	590-369	Nutrient Management	commercial/manure, no incorporation
Nutrient Management	590-370	Nutrient Management - Non-Organic	commercial only
Nutrient Management	590-371	Nutrient Management - Manure Incorporation	use for either incorporation or injection
Structures for Wildlife	649-55	Nesting Box, Large	use for wood duck box installations
Forest Stand Improvement	666-56	Thinning for Wildlife and Forest Health	

New CPAs, DIAs, CEMAs

Practice	*ID*	*Scenario Name*
Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	201-213	Data Collect - Discrete Sampling, Year 1, Single Parameter
Edge-of-Field Water Quality Monitoring-Data Collection and Evaluation	201-229	Data Collect - Discrete Sampling, Single Parameter, Additional Year
Feed and Forage Analysis	206-3	Feed or Forage Nutrient Composition Analysis
Soil Health Testing	216-271	Three Indicator Soil Health Measurement
Prescribed Grazing Conservation Evaluation and Monitoring Activity	219-3	Conservation, Evaluation and Monitoring Activity less than 100 acres
Prescribed Grazing Conservation Evaluation and Monitoring Activity	219-19	Conservation, Evaluation and Monitoring Activity between 101 and 500 acres
Prescribed Grazing Conservation Evaluation and Monitoring Activity	219-35	Conservation, Evaluation and Monitoring Activity between 501 and 1,500 acres
Prescribed Grazing Conservation Evaluation and Monitoring Activity	219-51	Conservation, Evaluation and Monitoring Activity between 1,501 and 5,000 acres
Prescribed Grazing Conservation Evaluation and Monitoring Activity	219-67	Conservation, Evaluation and Monitoring Activity between 5,001 and 10,000 acres
Prescribed Grazing Conservation Evaluation and Monitoring Activity	219-83	Conservation, Evaluation and Monitoring Activity greater than 10,000 acres
Soil Organic Carbon Stock Measurement	221-35	Carbon Stock Monitoring - Intensive Data Collection
Soil Organic Carbon Stock Measurement	221-51	Intensive Data Collection Carbon Monitoring 9
Soil Organic Carbon Stock Measurement	221-67	Intensive Data Collection 12 Carbon Samples
Waste Facility Site Suitability and Feasibility Assessment	226-3	Site Evaluation for Planned Storage- Non-dairy Operation
Waste Facility Site Suitability and Feasibility Assessment	226-19	Site Evaluation for Planned Storage- Dairy Operation
Evaluation of Existing Waste Storage Facility Components	227-3	Evaluation of Existing Components- small operation
Evaluation of Existing Waste Storage Facility Components	227-19	Evaluation of Existing Components-medium operation
Evaluation of Existing Waste Storage Facility Components	227-35	Evaluation of Existing Components- large operation

SUMMARY OF CHANGES TO FY2024 IOWA PAYMENT SCHEDULES (continued)

Scenarios Renumbered

Practice	*new ID*	*Scenario Name*	*previous ID*	*Notes*
Irrigation Water Management	449-125	Basic IWM < 1 acre	449-65	Unit changed to Each
Irrigation Water Management	449-126	Intermediate IWM < 1 acre	449-64	Unit changed to Each
Irrigation Water Management	449-127	Advanced IWM < 1 acre	449-74	Unit changed to Each

Scenarios Renamed

Practice	*ID*	*New Scenario Name*	*Previous Scenario Name*
Herbaceous Weed Treatment	315-79	Herbaceous Weed Treatment for One Acre or less (not to exceed 1 acre)	Herbaceous Weed Treatment for One Acre Small Farm
Irrigation System, Microirrigation	441-46	High Tunnel Surface Microirrigation, per square feet	Hoop House Surface Microirrigation
Pumping Plant	533-10	Shallow Well Pump (<= 25 ft deep)	Livestock Water, Shallow Well Pump (<= 25 ft deep)
Pumping Plant	533-11	Shallow Well Pump (<= 25ft deep) with Above Ground Pump House	Livestock Water, Shallow Well Pump (<= 25ft deep) with Above Ground Pump House
Pumping Plant	533-12	Shallow Well Pump (<= 25 ft deep) with Buried Pump House	Livestock Water, Shallow Well Pump (<= 25 ft deep) with Buried Pump House
Pumping Plant	533-13	Deep Well Pump (>25 ft deep)	Livestock Water, Deep Well Pump (>25 ft deep)
Pumping Plant	533-14	Deep Well Pump (> 25ft deep) with Above Ground Pump House	Livestock Water, Deep Well Pump (> 25ft deep) with Above Ground Pump House
Pumping Plant	533-15	Deep Well Pump (> 25 ft deep) with Buried Pump House	Livestock Water, Deep Well Pump (> 25 ft deep) with Buried Pump House
Stormwater Runoff Control	570-31	Rain Garden, 750 sqft or less	Rain Garden, small scale
Trails and Walkways	575-37	Wood Chips, Walkway, greater than 1000 sqft	Wood Chips, Walkway
Trails and Walkways	575-46	Wood Chips, Walkway, 1000 sqft or less	Wood Chips, Walkway small scale
Nutrient Management	590-316	Precision Nutrient Application	Prescription Nutrient Efficiency and Precision Application

SUMMARY OF CHANGES TO FY2024 IOWA PAYMENT SCHEDULES (continued)

Nationally or Regionally archived scenarios (includes CPAs, DIAs, CEMAs)

Practice	*ID*	*Scenario Name*
Soil Health Testing	216-150	Basic Soil Health Suite + Chemical
Soil Health Testing	216-203	Soil Health and Dynamic Soil Properties
Soil Health Testing	216-219	Basic Soil Health Suite - No Labor
Soil Health Testing	216-235	Basic Soil Health Suite + Comprehensive Chemical - No Labor
Soil Health Testing	216-251	Single Indicator - No Labor
Energy Efficient Agricultural Operation	374-21	Grain Dryer
Nutrient Management	590-1	Basic NM (Non-Organic/Organic)
Nutrient Management	590-2	Basic NM with Manure Injection or Incorporation
Nutrient Management	590-3	Basic NM (Organic/NonOrganic) greater than or equal to 0.5-10 acres
Nutrient Management	590-4	Basic NM with Manure and/or Compost (Non-Organic/Organic)

Practices No Longer Offered for Financial Assistance

Practice	Code
Short Term Storage of Animal Waste and By-Products	318
Groundwater Testing	355
Waste Treatment Lagoon	359
Air Filtration and Scrubbing	371
Amendments for Treatment of Agricultural Waste	591
Waste Treatment	629
Vegetated Treatment Area	635

SUMMARY OF CHANGES TO FY2024 IOWA PAYMENT SCHEDULES (continued)

Scenarios No Longer Offered

Practice	*ID*	*Scenario Name*	*Notes*
Agrichemical Handling Facility	309-1	Liquid Agrichemical Storage, Concrete Block Walls	
Agrichemical Handling Facility	309-2	Liquid Agrichemical Storage, Treated Timber Walls	
Agrichemical Handling Facility	309-6	Liquid Agrichemical Storage, Double walled tank	
On-Farm Secondary Containment Facility	319-9	Earthen Containment	
On-Farm Secondary Containment Facility	319-10	Corrugated Metal Wall Containment	
On-Farm Secondary Containment Facility	319-12	Modular Block Containment Wall	
Contour Buffer Strips	332-76	Wildlife/Pollinator, Foregone Income (Organic and Non-Organic)	use 332-74
Waste Facility Closure	360-2	Feedlot Closure	
Waste Facility Closure	360-18	Demolition of Concrete Waste Storage Structure, Walls <= 6 Foot	use 360-39
Roofs and Covers	367-7	Permeable Composite or Inorganic Cover	
Windbreak/Shelterbelt Establishment and Renovation	380-2	3 row windbreak, containerized planting stock, temporary irrigation	
Windbreak/Shelterbelt Establishment and Renovation	380-4	3 row windbreak, bareroot seedling planting stock, temporary irrigation	
Windbreak/Shelterbelt Establishment and Renovation	380-10	1 row windbreak, bareroot trees with temporary irrigation	
Windbreak/Shelterbelt Establishment and Renovation	380-12	1 row windbreak, bareroot shrubs with temporary irrigation	
Windbreak/Shelterbelt Establishment and Renovation	380-33	1 row windbreak, container shrubs, less than 2 gallon with temporary irrigation	
Windbreak/Shelterbelt Establishment and Renovation	380-34	1 row windbreak, container trees, less than 2 gallon with termporary irrigation	
Windbreak/Shelterbelt Establishment and Renovation	380-67	Coppicing	
Fence	382-6	Permanent High Tensile, Minimum 4 Strand, Single H brace	use 382-5
Riparian Forest Buffer	391-1	Direct Seeding	
Obstruction Removal	500-26	Removal and Disposal of Rock and or Boulders - Corn Belt	
Pasture and Hay Planting	512-10	Introduced Perennial & Native Grass Mix, foregone income	
Heavy Use Area Protection	561-3	Fly Ash on Geotextile	
Heavy Use Area Protection	561-4	Bituminous Concrete Pavement	
Heavy Use Area Protection	561-5	Winter Feeding station with gravel	
Heavy Use Area Protection	561-6	Winter Feeding Station	
Spring Development	574-10	Spring Development	
Streambank and Shoreline Protection	580-24	Bankfull Bench, Rock Toe	
Restoration of Rare or Declining Natural Communities	643-2	Habitat Monitoring and Management, Low Intensity and Complexity	use 643-3
Restoration of Rare or Declining Natural Communities	643-4	Habitat Monitoring and Management, High Intensity and Complexity	use 643-3
Wetland Wildlife Habitat Management	644-4	Habitat Monitoring and Management, High Intensity and Complexity	use 644-2 or 644-3
Wetland Wildlife Habitat Management	644-6	Development of Deep Micro-Topographic Features with Heavy Equipment.	use 644-5
Wetland Wildlife Habitat Management	644-8	Topographic Feature Creation, High	use 644-7
Early Successional Habitat Development-Mgt	647-1	Mowing	use 647-2, 647-4, or 647-17
Early Successional Habitat Development-Mgt	647-3	Mowing and Disking	use 647-2, 647-4, or 647-17

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Table of Conservation Planning Activities (CPAs), Design and Implementation Activities (DIAs) and Conservation Evaluation and Monitoring Activities (CEMAs)

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ACCESS CONTROL

Practice Code 472

Practice Units: **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 all land uses.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
472-2	Animal exclusionfrom sensitive areas	**Scenario Description:** Excluding animals from an area in order to address identified resource concerns. This is for facilitating exclusion of animals to protect or enhance natural resource values. Any need for permanent fencing will be planned and installed using the Fence practice (382). Clearing of brush and trees is not necessary. Resource concerns include Wildlife Habitat degradation, Undesirable plant productivity and health, and/or Excessive sediment in surface waters. **After Practice Description:** Sensitive areas are protected from the adverse actions of domestic and/or wild animals by excludingthem from the area. Cost represents forgone income for typical situations for conventional, organic, and transitioning to organic producers. **Associated Practices:** Prescribed Grazing (528), Pipeline (516),Water Well (642), Spring Development (574), Heavy Use Area (561), Pumping Plant (533), Watering Facility (614), Forage and Biomass Planting (512), Critical Area Planting (342), Fence (382).	Acres excluded	Acre	$52.86	$53.06
472-38	Small Scale Farm Access Control	**Scenario Description:** Restricting human, terrestrial wildlife and domestic animal access to a farm through the use of signage and other markings. Scenario is typically implemented in association with 382 Fence, Safety Fence scenario. Resource concerns include Plant productivity and health, wildlife habitat degradation, soil compaction and erosion. **After Practice Description:** The farm is protected with the installation of a safety fence through associated practice 382 Fence, and the property is now adequately marked with signs with the appropriate access control verbiage, thus securing the resources. Scenario cost is based on the installation of two large signs mounted on signposts at two main farm access points and 4 smaller plastic property marker signs attached to the fence around the perimeter.	Small Scale Farm Field	Each	$503.46	$604.15

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ACCESS ROAD

Practice Code 560

Practice Units: FEET

Definition: An established route for equipment and vehicles.

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.

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 access is needed in a planned land use area. Access roads range from single purpose, seasonal use roads, designed for low speed and rough driving conditions, to all-purpose, all-weather roads. Single purpose roads provide access to areas such as forest fire lines, forest management activities, remote recreation areas, or for maintenance of facilities.

Limitations: Access Road is only allowed for accessing Heavy Use Area Protection (561) on grazing operations with supplemental forage feeding and management of timber.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
560-1	New gravel road,6in, wet level terrain	**Scenario Description:** Newly Constructed gravel road with min. 6-inch-thick compacted gravel surface in relatively level ground inwet areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. It also improves the plant productivity, vigor and health and substantiallyreduces the chance of wild fire hazards. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include excavation, shaping, grading, surface material, vegetation of disturbed areas, and all equipment, labor and incidental materialsnecessary to install the practice. **After Practice Description:** The single lane road will be graveled to a width of 10 feet, plus 2-foot shoulders for a total width of 14 feet wide. Gravel will be a minimum of 6 inches, underlain with geotextile fabric. It is mostly in embankment less than 3 feet in height, (average 1.5 ft.) typical side slopes 2:1. A properly constructed, well defined access road will greatly reduce sheet, rill and wind erosion, eliminate compaction in land use areas where it is harmful, reduce emissions of particulate matter (PM) and PM precursors and also reduce excessive sediment in surface water by reducing uncontrolled sediment transport. Planned grades will include all dips and water bars. If clearing and grubbing of land in the alignment area is required, use Land Clearing (460). Pipe culverts installed as part of access road should be covered by either Structures for Water Control (587) or Stream Crossings (578) depending on the type of structure. Earthfill embankment above the culvert structure would still be covered by this Practice. Diversions constructed as part of access road should be covered by Diversion (362). All seeding orrevegetation of disturbed areas is provided. Dust control must beaddressed under Dust Control on Unpaved Roads and Surfaces (373).	Length of Roadway	Foot	$9.07	$10.88

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
560-2	New gravel road,6in, dry level terrain	**Scenario Description:** Newly Constructed gravel road with min. 6-inch-thick compacted gravel surface in relatively level ground indry areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. It also improves the plant productivity, vigor and health and substantiallyreduces the chance of wild fire hazards. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include excavation, shaping, grading, surface material, vegetation of disturbed areas, and all equipment, labor and incidental materialsnecessary to install the practice. **After Practice Description:** The single lane road will be graveled to a width of 10 feet, plus 2-foot shoulders for a total width of 14 feet wide. Gravel will be a minimum of 6 inches. It is mostly in embankment less than 3 feet in height, (average 1.5 ft.)typical side slopes 2:1. A properly constructed, well defined access road will greatly reduce sheet, rill and wind erosion, eliminate compaction in land use areas where it is harmful, reduce emissions of particulate matter (PM) and PM precursors and also reduce excessive sediment in surface water by reducinguncontrolled sediment transport. Planned grades will include all dips and water bars. If clearing and grubbing of land in the alignment area is required, use Land Clearing (460). Pipe culverts installed as part of access road should be covered by either Structures for Water Control (587) or Stream Crossings (578) depending on the type of structure. Earthfill embankmentabove the culvert structure would still be covered by this Practice. Diversions constructed as part of access road shouldbe covered by Diversion (362). All seeding or revegetation of disturbed areas is provided. Dust control must be addressed under Dust Control on Unpaved Roads and Surfaces (373).	Length of Roadway	Foot	$8.04	$9.65

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
560-3	New gravel road, 8in x 10ft, wet level terrain	**Scenario Description:** Newly Constructed 10-foot-wide gravel road with min. 8-inch-thick compacted gravel surface in relatively level ground in wet areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. It also improves the plant productivity, vigor andhealth and substantially reduces the chance of wild fire hazards. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include excavation, shaping, grading, surface material, vegetation of disturbed areas, and all equipment, labor and incidental materials necessary to install the practice. **After Practice Description:** The single lane road will be graveled to a width of 10 feet, plus 2-foot shoulders for a total width of 14 feet wide. Gravel will be a minimum of 8 inches, underlain with geotextile fabric. It is mostly in embankment less than 3 feet in height, (average 1.5 ft.) typical side slopes 2:1. A properly constructed, well defined access road will greatly reduce sheet, rill and wind erosion, eliminate compaction in land use areas where it is harmful, reduce emissions of particulate matter (PM) and PM precursors and also reduce excessive sediment in surface water by reducing uncontrolled sediment transport. Planned grades will include all dips and water bars. If clearing and grubbing of land in the alignment area is required, use Land Clearing (460). Pipe culverts installed as part of access road should be covered by either Structures for Water Control (587) or Stream Crossings (578) depending on the type of structure. Earthfill embankment above the culvert structure would still becovered by this Practice. Diversions constructed as part of access road should be covered by Diversion (362). All seeding or revegetation of disturbed areas is provided. Dustcontrol must be addressed under Dust Control on Unpaved Roads and Surfaces (373).	Length of Roadway	Foot	$10.66	$12.79

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
560-4	New gravel road, 8in x 12ft, wet level terrain	**Scenario Description:** Newly Constructed 12-foot-wide gravel road with min. 8-inch-thick compacted gravel surface in relatively level ground in wet areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. It also improves the plant productivity, vigor andhealth and substantially reduces the chance of wild fire hazards. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include excavation, shaping, grading, surface material, vegetation of disturbed areas, and all equipment, labor and incidental materials necessary to install the practice. **After Practice Description:** The single lane road will be graveled to a width of 12 feet, plus 2-foot shoulders for a total width of 16 feet wide. Gravel will be a minimum of 8 inches, underlain with geotextile fabric. It is mostly in embankment less than 3 feet in height, (average 1.5 ft.) typical side slopes 2:1. A properly constructed, well defined access road will greatly reduce sheet, rill and wind erosion, eliminate compaction in land use areas where it is harmful, reduce emissions of particulate matter (PM) and PM precursors and also reduce excessive sediment in surface water by reducing uncontrolled sediment transport. Planned grades will include all dips and water bars. If clearing and grubbing of land in the alignment area is required, use Land Clearing (460). Pipe culverts installed as part of access road should be covered by either Structures for Water Control (587) or Stream Crossings (578) depending on the type of structure. Earthfill embankment above the culvert structure would still becovered by this Practice. Diversions constructed as part of access road should be covered by Diversion (362). All seeding or revegetation of disturbed areas is provided. Dustcontrol must be addressed under Dust Control on Unpaved Roads and Surfaces (373).	Length of Roadway	Foot	$12.43	$14.92

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
560-5	New gravel road, 8in x 16ft, wet level terrain	**Scenario Description:** Newly Constructed 16-foot-wide gravel road with min. 8-inch-thick compacted gravel surface in relativelylevel ground in wet areas. A properly constructed, well defined access road will address resource concerns related with compaction, emissions of fugitive dust, and excessive sediment in surface water. It also improves the plant productivity, vigor andhealth and substantially reduces the chance of wild fire hazards. Short term air quality deterioration may result if proper dust control measures are not implemented during the practice installation. Costs include excavation, shaping, grading, surface material, vegetation of disturbed areas, and all equipment, labor and incidental materials necessary to install the practice. **After Practice Description:** The road will be graveled to a widthof 16 feet, plus 2-foot shoulders for a total width of 20 feet wide. Gravel will be a minimum of 8 inches, underlain with geotextile fabric. It is mostly in embankment less than 3 feet in height, (average 1.5 ft.) typical side slopes 2:1. A properly constructed, well defined access road will greatly reduce sheet, rill and wind erosion, eliminate compaction in land use areas where it is harmful, reduce emissions of particulate matter (PM) and PM precursors and also reduce excessive sediment in surface waterby reducing uncontrolled sediment transport. Planned grades will include all dips and water bars. If clearing and grubbing of land in the alignment area is required, use Land Clearing (460). Pipe culverts installed as part of access road should be covered by either Structures for Water Control (587) or Stream Crossings (578) depending on the type of structure. Earthfill embankment above the culvert structure would still be covered by this Practice. Diversions constructed as part of access road should be covered by Diversion (362). All seeding or revegetation of disturbed areas is provided. Dust control mustbe addressed under Dust Control on Unpaved Roads and Surfaces (373).	Length of Roadway	Foot	$16.18	$19.42

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AGRICHEMICAL HANDLING FACILITY

Practice Code 309

Practice Units: NUMBER

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

Purpose: To provide an environmentally-safe facility to:

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

Conditions Where Practice Applies: This practice applies where:

- The handling of agrichemicals creates significant potential for pollution of surface water, ground water, air and/, or soil, and a facility is needed to properly manage and handle the chemical;
- An adequate water supply is available for filling application equipment tanks, rinsing application equipment and chemical containers as needed for the operation;
- Soils and topography are suitable for construction.

Limitations: Contact Area Engineer before planning, design, and implementation of 309 - Agrichemical Handling Facility. Design documentation may need to be sent tothe IA Department of Agriculture and Land Stewardship for approval.

The practice is not allowed for commercial operations or for facilities that will be utilized by multiple farm operations.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
309-3	Concrete Agrichemical Handling Pad for mixing and loading	**Scenario Description:** This practice scenario is an agrichemical handling facility for mixing and loading operations. This practice addresses water quality degradation and due to mishandling, and mixing of agrichemicals where nutrients and/orchemicals are running off into surface waters or leaching into ground water. **After Practice Description:** This scenario is an agrichemical handling facility pad for mixing and loading operations. The average size of the agrichemical handling pad for mixing and loading is 16' x 60' x 6" with a semi-trailer length of 53 ft. The handling pad for mixing and loading operations is sized to contain the length of a semi-trailer or agrichemical spray tank and its volume. The concrete is sealed and sloped to a collectionsump, containment of the pad is surrounded by sloped and ramped reinforced concrete. This practice will contain agrichemicals and prevent contamination of surface and ground water resources. **Associated Practices:** Heavy Use Area Protection (561), Diversion (362), Access Road (560), Livestock Pipeline (516), Pumping Plant (533), Nutrient Management (590), Pest Management Conservation System (595), Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner (521), Roofsand Covers (367).	Square Feet of handling area	Square Feet	$10.20	$12.24
309-7	Liquid Agrichemical Storage, Lined earthen basin	**Scenario Description:** This practice scenario is an agrichemicalhandling facility for storage of liquid agrichemicals along with a mixing and loading pad. This practice addresses water quality degradation and due to mishandling, storing, and mixing of agrichemicals where nutrients and/or chemicals are running off into surface waters or leaching into ground water. **After Practice Description:** An agrichemical storage and handling facility is constructed as a lined earthen basin. The average size of the agrichemical handling facility for storage is 40' x 40' (bottom dimensions). Typical depth is 30", and earthwork balances cut/fill. Following earthwork, 4" of sand or #8bank run gravel is placed on the bottom as a liner base and sloped to a collection sump. When this scenario is used, the complete installation also includes a synthetic liner under code 521. This practice will contain agrichemicals and preventcontamination of surface and ground water resources. **Associated Practices:** Heavy Use Area Protection (561), Diversion (362), Access Road (560), Livestock Pipeline (516), Pumping Plant (533), Nutrient Management (590), Pest Management Conservation System (595), Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Liner (521), Roofsand Covers (367).	Square Feet of storage area	Square Feet	$1.44	$1.73

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ALLEY CROPPING

Practice Code 311

Practice Units: ACRE

Definition: Trees or shrubs are planted in sets of single or multiple rows with agronomic, horticultural crops or forages produced in the alleys between the sets of woody plants that produce additional products.

Purpose:

- Enhance microclimatic conditions to improve crop or forage quality and quantity.
- Reduce surface water runoff and erosion.
- Improve soil health by increasing utilization and cycling of nutrients.
- Alter subsurface water quantity or water table depths.
- Enhance wildlife and beneficial insect habitat.
- Increase crop diversity
- Decrease offsite movement of nutrients or chemicals.
- Increase carbon storage in plant biomass and soils.
- Develop renewable energy systems
- Improve air quality.

Conditions Where Practice Applies: On all cropland and hayland where trees, shrubs, crops and/or forages can be grown in combination.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
311-2	Single row bareroot plantingstock	**Scenario Description:** The crop or grass land is planted with rows of bareroot trees to increase crop diversity. Final row widthand spacing of trees within the row is based on farm equipment size, growth form of trees, light needs of annual crop or grass, and intent of the landowner. Payment includes the trees, tree planting costs and foregone income for the area of land being removed from crop production and put into trees. The resource concerns are plant condition - inadequate structureand composition. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees have been established todiversify the crop production of the field. Typically, the area planted is 10 acres on approximately 12 x 40 foot spacing. **Associated practices may include**: 490 Tree/Shrub Site Preparation, 315 Herbaceous Weed Control, 660 Tree/ShrubPruning, and 484 Mulching	Planted seedling	Each	$2.63	$2.91
311-3	Single row bareroot plantingstock with tree shelters	**Scenario Description:** The crop or grass land is planted with rows of bareroot trees to increase crop diversity. Final row widthand spacing of trees within the row is based on farm equipment size, growth form of trees, light needs of annual crop or grass, and intent of the landowner. Payment includes the trees, tree planting costs. tree shelters, and foregone income for the area ofland being removed from crop production and put into trees. Theresource concerns are plant condition - inadequate structure and composition. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees have been established todiversify the crop production of the field. Typically, the area planted is 10 acres on approximately 12 x 40 foot spacing. **Associated practices may include**: 490 Tree/Shrub Site Preparation, 315 Herbaceous Weed Control, 660 Tree/ShrubPruning, 484 Mulching	Planted seedling	Each	$8.82	$10.33

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
311-251	Single row container planting stock, less than 2 gallons with treeshelters	**Scenario Description:** The crop or grass land is planted with rows of container stock trees to increase crop diversity. Final rowwidth and spacing of trees within the row is based on farm equipment size, growth form of trees, light needs of annual crop or grass, and the intent of the landowner. Payment includes the trees, tree planting costs, tree shelters, and foregone income for the area of land being removed from crop production and put into trees. The resource concerns are plant condition - inadequate structure and composition. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees have been established todiversify the crop production of the field. Typically, the area planted is 10 acres on approximately 12 x 40 foot spacing. **Associated practices may include:** 490 Tree/Shrub Site Preparation, 315 Herbaceous Weed Control, 660 Tree/ShrubPruning and 484 Mulching.	Planted seedling	Each	$16.94	$20.08
311-253	Single row container planting stock, less than 2 gallons	**Scenario Description:** The crop or grass land is planted with rows of container stock trees to increase crop diversity. Final rowwidth and spacing of trees within the row is based on farm equipment size, growth form of trees, light needs of annual crop or grass, and intent of the landowner. Payment includes the trees, tree planting costs and foregone income for the area of land being removed from crop production and put into trees. The resource concerns are plant condition - inadequate structure and composition. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees have been established todiversify the crop production of the field. Typically, the area planted is 10 acres on approximately 12 x 40 foot spacing. **Associated practices may include:** 490 Tree/Shrub Site Preparation, 315 Herbaceous Weed Control, 660 Tree/ShrubPruning, and 484 Mulching	Planted seedling	Each	$8.57	$10.04

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ANAEROBIC DIGESTER

Practice Code 366

Practice Units: 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 byproducts of animal agriculture operations for one or more of the following reasons: capture biogas for energy production; manage odors; reduce the net effect of greenhouse gas emissions; or reduce pathogens.

Conditions Where Practice Applies: Biogas production and capture are components of a planned animal waste byproducts management system. Sufficient and suitable organic feed stocks 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.

Limitations: Contact Iowa NRCS State Environmental Engineer before planning, design, and implementation of this practice. A Comprehensive Nutrient Management Plan (CNMP) is required prior to contracting. Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal WasteStorage Facilities".

Maintenance: Practice must be maintained for a lifespan of 25 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
366-1	Anaerobic Digester	**Scenario Description:** An anaerobic digester can be partof a waste management system. It provides biological treatment of the waste in the absence of oxygen. This process for manure and other by-products of animal agricultural operations will manage odors, reduce the net effect of greenhouse gas emissions, and/or reduce pathogens. This scenario is for a generic anaerobic digester. Energy generation is not included with this scenario. **After Practice Description:** Manure and other agriculturalby-products are being treated such that odors are managed and/or pathogens are reduced. Effluent from thedigester is disposed of or utilized in a proper manner in accordance with a nutrient management plan. The typical scenario also includes items necessary to maintain mesophylic or thermophylic temperatures for bacterial activity (i.e. piping and boiler or other heat source). TypicalDesign Scenario is each. **Potential Associated Practices:** Fence (382), Critical Area Planting (342), Nutrient Management (590), Waste Transfer (634), Heavy Use Area Protection (561), Roof and Covers (367), Waste Separation Facility (632), WasteTreatment Lagoon (359), and Waste Storage Facility (313).	Each	Number	$1,433,771.11	$1,720,525.34

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ANIMAL MORTALITY FACILITY

Practice Code 316

Practice Units: NUMBER

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

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

- reduce pollution impacts to surface water and groundwater resources
- reduce the impact of odors
- decrease the spread of pathogens

Conditions Where Practice Applies: Livestock and poultry operations where routine animal carcass storage, treatment, or disposal is needed.

This standard does not apply to catastrophic animal mortality. In cases of catastrophic animal mortality, use Emergency Animal Mortality Management (368). In cases of disease related catastrophic mortality, contact the Iowa Department of Agriculture and Land Stewardship (IDALS) as their rules and regulations apply.

Where animal carcass treatment or disposal must be a component of a waste management system for livestock or poultry operations. This 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 AWMFH has been developed that accounts for the end use of the product from the mortality facility.

Limitations: Non-mortality composting will be done under Practice 317 – Composting Facility. A CNMP is required for situations where windrow composting is utilized or for a site servicing more than 1,000 live animal units. A nutrient management plan (NMP) detailing how the animal mortality waste is to be disposed of is required in all other cases.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
316-1	Incinerator	**Scenario Description:** This scenario consists of installing a manufactured Type IV incinerator. Payment includes the incinerator, fuel tank and concrete slab to support the incineratorand fuel tank. If a roof is to be included in the installation refer toPractice Standard 367 - Roofs and Covers. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogensbeing transported into surface and groundwater resources. **After Practice Description:** Animal mortality is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surfaceand groundwater resources. Proper operation results in little to no odors, complete incineration, and protection from predators tominimize pathogen survival or spreading. Included is a concrete slab to set the incinerator on and a fuel tank. Ash materials to be stored in suitable containers until land disposal as per the nutrient management plan or landfilled. **Potential Associated Practices:** Heavy Use Area Protection(561), Fence (382), Critical Area Planting (342), Access Road (560), Waste Storage Facility (313), Nutrient Management (590),Roofs and Covers (367), Critical Area Planting (342).	Pounds capacity of incinerator	Pounds per Day	$31.38	$37.65

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
316-20	Medium- High Animal Composter	**Scenario Description:** This scenario applies to composting of medium-sized animals, regardless of technology; each state is responsible for determining the size range of the animals to which this scenario applies. The typical scenario is a series of concrete bins, open on one end, on top of a concrete pad, to compost mortality in static piles with sufficient bulking material to allow natural aeration. The producer will be managing the composting with heavy equipment, requiring durable, concrete walls. Facility sizing parameters include primary and secondary composting area requirements, to allow piles to be turned at leastonce to go into another heat cycle prior to final disposal, typically land application. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Where needed, use Practice Standard 561 - Heavy Use Area Protection adjacentto the composting facility for protected access, and Practice Standard 362 - Diversion to divert surface flow away from the facility. Typical scenario design uses the process outlined in the Illinois supplement to Chapter 10 of the Ag Waste Field Handbook (IL651.1007(f)), using a volume factor of 20 cubic feet. Animals being composted are grow-finish swine at an average weight of 165 lb., and the average mortality rate (death loss) for the operation is 4%, or 87 lbs./day for a 2400-head operation with 2 turns per year. The resulting typical design has twelve bins, each 10' x 9.8' by 5'7" high (reference standard drawing IL-ENG-149). Site preparation includes topsoil removal, minimal re-grading and compaction, installing gravel or sand sub base and then concrete. **After Practice Description:** Animal mortality is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surfaceand groundwater resources. Proper operation results in little to no odors, complete composting, and protection from predators tominimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. **Potential Associated Practices:** Roofs and Covers (367), RoofRunoff Structure (558), Heavy Use Area Protection (561), Underground Outlet (620), Diversion (362), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Subsurface Drain (606).	Pounds of dead animals perday	Pounds per Day	$290.29	$348.35

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
316-21	Large Animal Composter	**Scenario Description:** This scenario applies to composting of larger animals, regardless of technology; each state is responsible for determining the size range of the animals to which this scenario applies. The typical scenario is a concrete pad sized for composting animal mortality in windrow(s), including equipment access to the material. Facility sizing parameters include primary and secondary composting area requirements to allow piles to be turned at least once to go into another heat cycle prior to final disposal, 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. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Where needed, use Practice Standard 561 - Heavy Use Area Protection adjacent to the composting facility for protected access, and Practice Standard 362 - Diversion to divertsurface flow away from the facility. Typical scenario design is Example 4 from the Ohio Livestock and Poultry Mortality Composting Manual. Animals being composted are cattle at an average weight of 1,400 lb., and the average mortality rate (death loss) for the operation is 20 lbs./day. The windrow system includes a primary and a secondary composting operation, with 30 days' worth of storage.The resulting typical design is a 25' x 60' concrete pad, 5" thick, with light reinforcement. Site preparation includes topsoil removal, minimal regrading and compaction, installing gravel or sand sub base and then concrete. An earthen berm (2' tall, 4' topwidth with 2:1 side slopes) around three sides of the facility captures any leachate. **After Practice Description:** Animal mortality is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surfaceand groundwater resources. Proper operation results in little to no odors, complete composting, and protection from predators tominimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. **Potential Associated Practices:** Roofs and Covers (367), RoofRunoff Structure (558), Heavy Use Area Protection (561), Underground Outlet (620), Diversion (362), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Subsurface Drain (606).	Pounds of dead animals perday	Pounds per Day	$493.92	$592.70

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
316-22	Small Animal Composter	**Scenario Description:** This scenario applies to composting of small animals, regardless of technology; each state is responsible for determining the size range of the animals to which this scenario applies. The typical scenario is a series of concrete bins, open on one end, on top of a concrete pad, to compost mortality in static piles with sufficient bulking material to allow natural aeration. The producer will be managing the composting with heavy equipment, requiring durable, concrete walls. Facility sizing parameters include primary and secondary composting area requirements, to allow piles to be turned at leastonce to go into another heat cycle prior to final disposal, typically land application. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Where needed, use Practice Standard 561 - Heavy Use Area Protection adjacentto the composting facility for protected access, and Practice Standard 362 - Diversion to divert surface flow away from the facility. Typical scenario design uses the Indiana NRCS composter design spreadsheet process. Animals being composted are poultry at an average weight of 3 lb., and the average mortality rate (death loss) for the operation is 4%, or 267 lbs./day for a 100,000-chicken operation with a 45-day cycle time. The resulting typical design has four bins, each 10' x 9.8' by 5'7" high (reference standard drawing IL-ENG-161. Site preparation includes topsoil removal, minimal regrading and compaction, installing gravel or sand sub base and then concrete. **After Practice Description:** Animal mortality is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surfaceand groundwater resources. Proper operation results in little to no odors, complete composting, and protection from predators tominimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. **Potential Associated Practices:** Roofs and Covers (367), RoofRunoff Structure (558), Heavy Use Area Protection (561), Underground Outlet (620), Diversion (362), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Subsurface Drain (606).	Pounds of dead animals perday	Pounds per Day	$31.36	$37.63

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
316-23	Medium - Low Animal Composter	**Scenario Description:** This scenario applies to composting of medium-sized animals, regardless of technology; each state is responsible for determining the size range of the animals to which this scenario applies. The typical scenario is a series of concrete bins, open on one end, on top of a concrete pad, to compost mortality in static piles with sufficient bulking material to allow natural aeration. The producer will be managing the composting with heavy equipment, requiring durable, concrete walls. Facility sizing parameters include primary and secondary composting area requirements, to allow piles to be turned at leastonce to go into another heat cycle prior to final disposal, typically land application. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Where needed, use Practice Standard 561 - Heavy Use Area Protection adjacentto the composting facility for protected access, and Practice Standard 362 - Diversion to divert surface flow away from the facility. Typical scenario design uses the process outlined in the Illinois supplement to Chapter 10 of the Ag Waste Field Handbook (IL651.1007(f)), using a volume factor of 10 cubic feet. Animals being composted are large poultry at an average weight of 12 lbs., and the average mortality rate (death loss) for the operationis 7%, or 108 lbs./day for a 14,500 - head operation with 3 turns per year. The resulting typical design has four bins, each 14' x 9.33' by 5' high. Site preparation includes topsoil removal, minimal re-grading and compaction, installing gravel or sand subbase and then concrete. **After Practice Description:** Animal mortality is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surfaceand groundwater resources. Proper operation results in little to no odors, complete composting, and protection from predators tominimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. **Potential Associated Practices:** Roofs and Covers (367), RoofRunoff Structure (558), Heavy Use Area Protection (561), Underground Outlet (620), Diversion (362), Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for Water Control (587), Subsurface Drain (606).	Pounds of dead animals perday	Pounds per Day	$130.41	$156.50

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ANNUAL FORAGES FOR GRAZING SYSTEMS

Practice Code 810

Practice Units: ACRES

Definition: Establish adapted and compatible species, varieties, or cultivars of annual forage species suitable for pasture or fodder.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Provide or increase forage supply during periods of low forage production or to extend the grazing season
- Provide temporary cover to reduce wind and water erosion and forage for sites where perennial forages will be reestablished
- Reduce excess nutrients from the soil
- Improve soil microbial life and soil aggregate stability

Conditions Where Practice Applies: This practice applies to pasture and cropland where annual forages are planted as part of the grazing system forage budget. This practice does not apply to the establishment of annually planted and harvested grain, fiber, vegetable, or oilseed crops. This practice does not apply to forestland or grazed forestland.

Limitations:

- When providing or increasing forage supply, it does not need to be consecutive on the same acres. It can be rotated back to a previous applied area without being consecutive years.
  - Cropland Example: In a Corn/Soybean/Winter Wheat rotation, 810 can be applied only in the year of rotation with winter wheat.
  - Pasture Example: 810 is applied on a previously used sacrifice paddock to supply additional forage during low production.
- When applying as a smother crop to reestablish perennial forages – Needs to be applied in consecutive years until the 512 seeding is established.
- When reducing excess nutrients from the soil – Needs to be applied in consecutive years. This purpose can only be hayed.

Maintenance: Practice will be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
810-13	Annual forages mix	**Scenario Description:** Seeding crop, pasture or grazing land to multi-species mix of annual grasses, legumes, forbs or similar species. This mix will address all the planned purposes of the Annual Forages for Grazing Systems (810) standard. Plant forage immediately after harvest of a row crop, small grain, or other forage. Seeding equipment typically used is available on-site. When applicable, terminate the annual forage using an approved method prior to planting a subsequent crop per the NRCS Cover Crop Termination. **After Practice Description:** Established annual forage mix improved livestock nutrition through improved forage quality and quantity, reduced erosion and improved soil condition. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant diversity introduced to the cropping or pasture system.	Acres of Annual Forages Planted	Acres	$72.52	$87.02

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AQUATIC ORGANISM PASSAGE

Practice Code 396

Practice Units: MILE

Definition: Modification or removal of barriers that restrict or impede movement of aquatic organisms.

Purpose: Improve or provide passage for aquatic organisms.

Conditions Where Practice Applies: All aquatic habitats where barriers impede passage of aquatic organisms.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
396-1	Concrete Dam Removal	**Scenario Description:** The full or partial removal of a concrete or earthen dam which is restricting or impeding movement of aquatic organisms to restore aquatic organism passage, improvewater quality, and promote functional river ecology and geomorphology. The extent of removal (full or partial) is determined through consultations with the dam owner in consideration of prevailing regulations and site historical status. Adjacent floodplain surfaces above and below the target dam are considered in the planning process to account for shifts in streamflow and geomorphic regime. Resulting channel dimensions and profile are determined on a site-specific basis to reflect--to the fullest extent possible--pre-dam conditions. Removal is completed with an assortment of equipment, including tracked excavators outfitted with hydraulic chisels, hammers and/or buckets with 'thumbs', bull dozers, skid steers,cranes, front-end loaders, and dump trucks. Alternative demolition techniques may include the use of high explosives, diamond-chain, or similar circular saws to remove the dam in a piecewise manner. Removed materials are trucked away and disposed or recycled off-site. **After Practice Description:** A 7-foot-tall, 85-foot-long low head concrete dam is demolished, and debris is removed. The geometry and slope of the reach impacted by removal of the damare restored to pre-dam conditions to the fullest extent practicable. Aquatic organism passage and river ecology and geomorphic conditions are restored to pre-dam conditions to the fullest extent practicable. Resource Concerns are addressed within the context of the site.	Linear Feet of Low Head Dam and Abutments	Feet	$365.57	$438.68
396-2	Culvert Replacement	**Scenario Description:** A corrugated metal (galvanized steel or aluminum) pipe culvert (CMP) of any shape (round, elliptical, or squash) used where a field access road intersects with a stream crossing. The aquatic organism passage (AOP) will provide and promote stream ecological and geomorphic function. CMPs used for AOP are filled with a mixture of rock and gravel sized to emulate site stream conditions and geomorphic units in the channel. The simulated streambed material is continuous throughout the culvert barrel and blended with the intact streambed at the culvert inlet and outlet. Any associated road surface reinstallation is not included as part of this practice. If thereinstallation of a field access lane is needed, consider the planning and application of the associated road surface reinstallation through (560) Access Road. **After Practice Description:** The undersized culvert is replacedwith a CMP sized, placed, and backfilled with material determined by geomorphic analyses performed in a reference upstream reach of the crossing location. Geomorphic and ecological functions are preserved through the crossing site, enhancing AOP, water quality, and culvert longevity. In addition,because the culvert is sized to transport the streamflow, the culvert requires decreased maintenance activities over time. Landowners are able to access their property across a range offlows and are able to seek and receive emergency and post- flood recovery services.	CMP	Each	$4,279.63	$5,135.56

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BRUSH MANAGEMENT

Practice Code 314

Practice Units: ACRE

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

Purpose:

- Create the desired plant community consistent with the ecological site.
- Restore or release desired vegetative cover to protect soils, control erosion, reduce sediment, improve water quality or enhance stream flow.
- Maintain, modify, or enhance fish and wildlife habitat.
- Improve forage accessibility, quality and quantity for livestock and wildlife.
- Manage fuel loads to achieve desired conditions.

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.

Limitations: Brush cutting without additional chemical or mechanical control is not allowed. Brush management can be planned for **up to three consecutive years on the same land unit** to treat at least one of the following woody species: amur corktree, amur maple, autumn olive, black locust, callery pear, common buckthorn, exotic honeysuckles, exotic privets, goldenrain tree, Japanese barberry, Japanese dewberry (wine raspberry), jetbead shrub, kudzu, multifloral rose, Norway maple, oriental bittersweet, princesstree, Russian olive, Siberian crab apple, Siberian elm, Siberian peashrub, tree of heaven, winged burning bush, and white mulberry. The site-specific treatment methods will be clearly noted in the conservation practice implementation requirements outlining the use of mechanical, chemical, or biological control, or combination of treatment types to achieve effective control of the pervasive plant species listed.

If species listed above are not in the treatment area, only one year of treatment is allowed. When planning to control one of the brush species listed above the following sequences can be used in consecutive years:

- When **314-1 Light Brush Management** is selected, it may be used for all three years of treatment if needed.
- When **314-2 Medium Brush Management** is selected, it can only be followed with **314-1 Light Brush Management** for the following years.
- When **314-3 Heavy Brush Management** or **314-4 Very Heavy Brush Management** is selected for the first-year implementation, it can be followed with **314-2 Medium Brush Management** in the second year of implementation and **314-1 Light Brush Management** in the third year of implementation.
- When **314-64 Removal of Invasive Woody Understory, Light** is selected, it may be used for all three years of treatment if needed.
- When **314-65 Removal of Invasive Woody Understory, Medium** is selected for the first-year implementation, it can be followed with **314-64 Removal of Invasive Woody Understory, Light** for the following years.
- When **314-66 Removal of Invasive Woody Understory, Very Heavy** or **314-336 Removal of Invasive Woody, Heavy** is selected for the first-year implementation it can be followed with **314-65 Removal of Invasive Woody Understory, Medium** in the second year and **314-64 Removal of Invasive Woody Understory, Light** the third year of implementation.
- When **314-284 Linear Tree Removal for Grassland Bird Habitat** is selected, additional treatments are not allowed.
- When **314-348 Biological Brush Management Low Density** is selected, it may be used for all three years of treatment if needed.
- When **314-367 Brush Management for 1 ac. or less** is selected, it may be used for all three years of treatment if needed.

Scenario 314-367 Brush Management for 1 Ac. or less, is applicable up to a maximum of 1 acre.

Maintenance: Practice will be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
314-1	Light Brush Management	**Scenario Description:** Light brush management is used on non-cropland acres (including forestland, pasture, and wildlife areas) where less than 10% canopy cover across the treatment area is in undesirable non-herbaceous cover, and the treatment area is less than 18% slope on average. Payment is based on impacted acres only. Treatment may consist of chemical, mechanical, manual, or a combination of methods. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approved chemicals. **After Practice Description:** Undesirable non-herbaceous species are controlled with a pass with a brush hog over the treatment area followed by spot chemical treatment. The treatment area is mechanically treated early in the growing season to reduce above ground biomass. The treated plants willreadily re-sprout, and after adequate re-sprouting occurs herbicide will be applied to the new growth. This combined treatment will allow better access for the herbicide application equipment, better coverage on target plants, and less overall herbicide applied.	Acres treated	Acre	$49.45	$49.45
314-2	Medium Brush Management	**Scenario Description:** Medium brush management is used on non-cropland acres (including forestland, pasture, and wildlife areas) where 10% - 39% canopy cover across the treatment areais in undesirable non-herbaceous cover, and the treatment area is less than 18% slope on average. Payment is based on impacted acres only. Treatment may consist of chemical, mechanical, manual, or a combination of methods. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approved chemicals. **After Practice Description:** Undesirable non-herbaceous species are controlled with a pass with a brush hog over the treatment area followed by spot chemical treatment. The treatment area is mechanically treated early in the growing season to reduce above ground biomass. The treated plants willreadily resprout, and after adequate re-sprouting occurs herbicide will be applied to the new growth. This combined treatment will allow better access for the herbicide application equipment, better coverage on target plants, and less overall herbicide applied.	Acres planned	Acre	$74.09	$74.09
314-3	Heavy Brush Management	**Scenario Description:** High brush management is used on non-cropland acres (including forestland, pasture, and wildlife areas) where 40%-60% canopy cover across the treatment area is in undesirable non-herbaceous cover, or the treatment area is on land with 18% - 25% slopes on average regardless of percent cover of undesirable species. Payment is based on impacted acres only. Treatment may consist of chemical, mechanical, manual, or a combination of methods. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approved chemicals. **After Practice Description:** Undesirable non-herbaceous species are controlled with a combination of manual chain sawing, pass with a brush hog over the treatment area, and spot chemical treatment. The treatment area is mechanically treated early in the growing season to reduce above ground biomass. The treated plants will readily resprout, and after adequate re-sprouting occurs herbicide will be applied to the new growth. Thiscombined treatment will allow better access for the herbicide application equipment, better coverage on target plants, and lessoverall herbicide applied.	Acres planned	Acre	$184.76	$184.76

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
314-4	Very Heavy Brush Management	**Scenario Description:** High brush management is used on non-cropland acres (including forestland, pasture, and wildlife areas) where greater than 60% canopy cover across the treatment areais in undesirable non-herbaceous cover, or the treatment area is on land with greater than 25% slopes on average regardless of percent cover of undesirable species. Payment is based on impacted acres only. Treatment may consist of chemical, mechanical, manual, or a combination of methods. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approved chemicals. **After Practice Description:** Undesirable non-herbaceous species are controlled with a combination of manual chain sawing, pass with a brush hog over the treatment area, and spotchemical treatment. The treatment area is mechanically treated early in the growing season to reduce above ground biomass. The treated plants will readily resprout, and after adequate re- sprouting occurs herbicide will be applied to the new growth. Thiscombined treatment will allow better access for the herbicide application equipment, better coverage on target plants, and lessoverall herbicide applied.	Acres planned	Acre	$291.68	$291.68
314-64	Removal of Invasive Woody Understory, Light	**Scenario Description:** All materials, equipment and labor required to remove invasive species on woodland. Treat scattered individual invasive woody plants. Less than 1/10th of the forest understory is composed of the invasive woody plant species. Invasive woody plants are not yet interfering with understory sunlight or forest health, but these plants will impact forest health if left untreated. Cut and stump treat, stem inject (hack and squirt), or basal bark apply specific forestry herbicidesto prevent re-sprouting. Use a Current and approved Forest Management Plan for estimate of infested plants per acre that are to be removed. **After Practice Description:** The land is no longer impacted bythe invasive woody species and the overall condition of the woodland stand is improved. Additionally, the wildlife habitat is improved with the resulting increase in sunlight reaching the woodland floor.	Area of Treatment	Acre	$97.89	$97.89
314-65	Removal of Invasive Woody Understory, Medium	**Scenario Description:** All materials, equipment and labor required to remove invasive species on woodland. Between 10 and 39% of the woodland understory/midstory is compromised by woody invasive plants. The invasive woody plants are beginning to actively shade out native understory plants and forest regeneration, and/or are mature enough to start reproducing. Cut and stump treat, stem inject (hack and squirt), or basal bark apply with herbicide to prevent re-sprouting. Use aCurrent and approved Forest Management Plan for estimate of infested plants per acre that are to be removed. **After Practice Description:** The land is no longer impacted bythe invasive woody species and the overall condition of the woodland stand is improved. Additionally, the wildlife habitat is improved with the resulting increase in sunlight reaching the woodland floor.	Area of Treatment	Acre	$167.52	$167.52

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
314-80	Removal of Invasive Woody, Heavy	**Scenario Description:** All materials, equipment and labor required to remove invasive species on woodland. Between 40 and 60% of the woodland understory/midstory is compromised by invasive woody plants. The invasive woody plants are beginning to actively shade out native understory plants and forest regeneration, and/or are mature enough to start reproducing. Cut and stump treat, stem inject (hack and squirt), or basal bark apply with herbicide to prevent re-sprouting. Use aCurrent and approved Forest Management Plan for estimate of infested plants per acre that are to be removed. **After Practice Description:** The land is no longer impacted bythe invasive woody species and the overall condition of the woodland stand is improved. Additionally, the wildlife habitat is improved with the resulting increase in sunlight reaching the woodland floor.	Area of Treatment	Acre	$274.32	$274.32
314-66	Removal of Invasive Woody Understory, Very Heavy	**Scenario Description:** All materials, equipment and labor required to remove invasive species on woodland. 60% + of the woodland understory/midstory is compromised by invasive woody plants. Both parent trees/shrubs and their sprouts or seedlings are present. Most native understory plants and forest regeneration are suppressed. Cut and stump treat, stem inject (hack and squirt), or basal bark apply specific forestry herbicidesto prevent re-sprouting and suckering. This practice may also beused to mechanically shred or chip invasive woody plants with machinery like forestry mowers. Use a current and approved forest management plan for estimate of infested plants per acre that are to be removed. **After Practice Description:** The land is no longer impacted bythe invasive woody species and the overall condition of the woodland stand is improved. Additionally, the wildlife habitat is improved with the resulting increase in sunlight reaching the woodland floor.	Area of Treatment	Acre	$748.94	$748.94
314-284	Linear Tree Removal for Grassland Bird Habitat	**Scenario Description:** Scenario is to open the vista and visual ranges for Prairie Chickens and other grassland dependent birdsand reduce grassland habitat fragmentation by removing undesirable trees. Establishment of herbaceous vegetative coveron the cleared site is accomplished through associated practices such as 327 Conservation Cover. **After Practice Description:** Habitat is improved by removal of mature trees and brush. Typical size of area cleared is 1,800 ft. long by 30 ft. wide. Due to the mature trees in the area to be cleared a dozer is typically required. Removed debris is piles andburned and the cleared area is seeded to wildlife friendly vegetation through associated practice 327 Conservation Cover. If needed, associated practice 382 Fence is utilized to protect the area from livestock.	Size of area cleared	Acre	$1,386.08	$1,386.08

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
314-348	Biological Brush Management Low Density	**Scenario Description:** Management of woody plant species through the use of livestock that are closely herded to concentrate grazing on targeted shrubs. Typical areas have dense stands of woody non-herbaceous species that exceed thedesirable ecological site condition. Undesirable non-herbaceousvegetation may be present and impairing the desired ecological site condition. Targeted grazing herd is mobilized to site. Typical herd size less than 100 head. **After Practice Description:** Woody species are grazed to limit the regrowth of targeted shrubs and achieve a desirable plant community based on species composition, structure, density, andcanopy cover or height. Ecological site condition is progressing inan upward trend, affected hydrology and plant health and vigor isreturning to near normal levels. Implementation is consistent withthe Brush Management 314 plan and specifications.	Acres Treated	Acre	$687.85	$687.85
314-367	Brush Management for 1 Ac. or less	**Scenario Description:** Using hand tools and small power tools to remove or cut off invasive woody plants at or below the root collar. Typically, this scenario is for woody and non-herbaceous species that are in early phases of invasion and are degrading herbaceous plant health and vigor for the 1 acre small farm. **After Practice Description:** Woody species are removed to achieve desirable biotic conditions for herbaceous plant health and vigor. Hydrological site characteristics and plant health and vigor are improved, and plant pest pressure from invasive woody species is reduced.	Acres	Acre	$435.87	$435.87

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CLEARING AND SNAGGING

Practice Code 326

Practice Units: FEET

Definition: Removal of specified vegetation along the bank (clearing) and selective removal of snags, drifts, or other obstructions (snagging) from natural or improved streams (includes channels).

Purpose: This practice is used to accomplish one or more of the following purposes:

- Restore flow capacity and direction to prevent and/or reduce ponding and flooding
- Prevent and/or reduce excessive bank erosion
- Prevent and/or reduce sediment transported to surface water
- Prevent or reduce debris impacts to infrastructure

Conditions Where Practice Applies: Any natural or improved stream where the removal of vegetation, trees, brush, and other obstructions is needed to accomplish one or more of the listed purposes.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
326-1	Clearing and Snagging	**Scenario Description:** Removal of vegetation, logs, or other material that impedes the proper functioning along a length of stream channel or water course to restore flow capacity; preventbank erosion by eddies; reduce the formation of sediment bars; and/or minimize blockages by debris. Addresses resource concerns such as water quantity and soil erosion-streambanks. **After Practice Description:** Vegetation, logs, or other material have been removed to allow unrestricted flow in the channel andappurtenant structures. Material that poses no blockage threat isleft in place to enhance aquatic habitat. Channel bed and banks are in equilibrium with the flow.	Length of Channel	Feet	$14.10	$16.92

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COMPOSTING FACILITY

Practice Code 317

Practice Units: NUMBER

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

Purpose: To reduce the pollution potential and improve the handling characteristics of organic waste solids; and produce a soil amendment that adds organic matter and beneficial organisms, provides slow-release plant-available nutrients, and improves soil condition.

Conditions Where Practice Applies: This practice applies where:

- Organic waste material is generated by agricultural production or processing
- The facility is a component of a planned waste management system
- The facility can be constructed, operated and maintained without polluting air and/or water resources; and
- The compost can be applied to the land or marketed to the public.

Limitations: Dead animal composting will be done under Practice 316 – Animal Mortality Facility. Municipal sludge, solid waste and other non-farm wastes are not included in this standard. For applications involving animal waste management (i.e. manure) a Comprehensive Nutrient Management Plan (CNMP) is required.

Scenario 317-19 Small Farm Pad + Bins, is applicable for 75 square feet or less.
Scenario 317-56 Small-Medium Farm Pad, is applicable for greater than 75 square feet up to 3,000 square feet.

Maintenance: Practice will be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
317-1	Concrete Slab Under Wood BinDividers	**Scenario Description:** A composting facility for manure and other agricultural organic by-products designed with a concrete slab under wooden bin dividers. Composter is installed to address water quality concerns and results in a composted product that can be used in multiple ways. Payment includes materials and equipment necessary for pad and bin construction.If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Not to be used for animal mortality composting. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility. **After Practice Description:** Manure, litter and other agricultural by-products are being controlled, by the collection at the source, and stored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner. This scenario is based upon a 40' x 56' concrete slab with 5' high bin dividers, and 5 bins (configured 2 at 20'x28' and 3at 20'x18.5'). Preparation includes stripping the top 1' of soil and roll compact same back into sub-floor. The bins are constructed on a 5" concrete slab used to store and stabilize manure, litter and other agricultural by-products.	Cubic Foot of Storage	Cubic Foot	$2.13	$2.56
317-2	Concrete Slab Under ConcreteBin Dividers	**Scenario Description:** A composting facility for manure and other agricultural organic by-products designed with a concrete slab under concrete bin dividers. Composter is installed to address water quality concerns and results in a composted product that can be used in multiple ways. Payment includes materials and equipment necessary for pad and bin construction.If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Not to be used for animal mortality composting. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility. **After Practice Description:** Manure, litter and other agricultural by-products are being controlled, by the collection at the source, and stored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner. This scenario is based upon a 40' x 56' concrete slab with 5' high bin dividers, and 5 bins (configured 2 at 20'x28' and 3at 20'x18.5'). Preparation includes stripping the top 1' of soil and roll compact same back into sub-floor. The bins are constructed on a 5" concrete slab used to store and stabilize manure, litter and other agricultural by-products. Note regarding scenario for concrete walls versus wood walls: the sturdier concrete walls arenecessary in situations where a producer is managing the composting with heavy equipment that would easily damage and compromise the integrity of wooden walls.	Cubic Foot of Storage	Cubic Foot	$2.74	$3.29

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
317-4	Concrete Pad	**Scenario Description:** A composting facility for manure and other agricultural organic by-products designed with a concrete pad. Composter is installed to address water quality concerns and results in a composted product that can be used in multiple ways. Payment includes materials and equipment necessary forpad construction. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit theuse of an earthen surface. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Not to be used for animal mortality composting. All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner. This scenario consists of removing and compacting back into place the top 1' of soil to create a compacted, impervious earthen floor to act as a working area to compost organic material in a static pile, windrow, that has sufficient carbon based bulking material to allow natural aeration. Piles typically turned at least once to go into another heat cycle prior tofinal disposal, typically land application. Construct a 75'x226' concrete surface 5" thick on an improved compacted earthen surface. Include sufficient area for processing equipment access. Single piles or windrows to minimize runoff. 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. Site preparation includes topsoil removal, compaction of subsoil, and reinstalling topsoil, compacted. Note regarding scenario for concrete versus just earthen pad: concrete pads are necessary in situations such as, but not limited to, a site with soils that are permeable, karst, frequently accessed or have regulatory requirements that do not allow for an earthen surface.	Square Foot Floor Area	Square Foot	$6.46	$7.75

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
317-5	Compacted Gravel Pad, 6-inch compacted gravel	**Scenario Description:** A composting facility for manure and other agricultural organic by-products designed with a 6" compacted gravel pad. Composter is installed to address water quality concerns and results in a composted product that can be used in multiple ways. Payment includes materials and equipment necessary for pad construction. This scenario is applicable when geological, soil, climate conditions or state and local regulations prohibit the use of an earthen surface but does not require a hard-working surface such as concrete. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Not to be used for animal mortality composting. All animal mortality composting shall be done usingPractice Standard 316 - Animal Mortality Facility. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner. This scenario consists of installing a gravel pad over impervious soil to act as a working area to compost organic material in a static pile, windrow, that has sufficient carbon basedbulking material to allow natural aeration. Piles typically turned atleast once to go into another heat cycle prior to final disposal, typically land application. Construct a 75'x226' area on an improved gravel surface. Sub base material sufficiently compacted or improved. Include sufficient area for processing equipment access. Single piles or windrows to minimize runoff. Site to be located out of drainage areas, off-site water divertedand any runoff to spread out into a grassed area or vegetated treatment area as per regulations. Site preparation includes topsoil removal, compaction of subsoil, and installing 6" of compacted gravel.	Square Foot Floor Area	Square Foot	$0.79	$0.95

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
317-19	Small Farm Pad + Bins	**Scenario Description:** The typical facility size is 6 feet by 9 feet and is comprised of a two-bin system, NOT TO EXCEED 75 sq-ft. The composting facility is installed on a small, urban or organic farm to address water quality concerns, pest/rodent concerns, and disease vectors resulting from improper vegetative waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. Screening is provided to limit access by vermin. Cost may be higher per unit than traditional compost facilities due to construction access limitations. **After Practice Description:** Manure and other agricultural by-products are being controlled by collection at the source and properly stored at an environmentally suitable location, until such time that they are utilized in a proper manner, typically in accordance with a nutrient management plan. This is incorporated as part of the overall waste management system meeting the National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH) that has been developed to also account for end use of the product from the composting facility.	Square Foot Floor Area	Square Foot	$54.85	$65.82
317-56	Small-Medium Farm Pad	**Scenario Description:** The typical facility size is 24 feet by 60 feet with a concrete slab. The formed wall is 108' in length by 6.5' tall by 8" thick. NOT TO EXCEED 3,000 sq-ft. The composting facility is installed on a small-medium size, urban or organic farm to address water quality concerns, pest/rodent concerns, and disease vectors resulting from improper vegetative waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. Screening is provided to limit access by vermin. **After Practice Description:** Manure and other agricultural by-products are being controlled by collection at the source and properly stored at an environmentally suitable location, until such time that they are utilized in a proper manner, typically in accordance with a nutrient management plan. This is incorporated as part of the overall waste management system meeting the National Engineering Handbook (NEH), Part 651, Agricultural Waste Management Field Handbook (AWMFH) that has been developed to also account for end use of the product from the composting facility. This scenario consists of installing a composting structure on a concrete pad. Concrete pad is 24'x60' on a compacted gravel surface. Include sufficient area for accessing compost structure. 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.	Square Foot Floor Area	Square Foot	$13.49	$16.19

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CONSERVATION COVER

Practice Code 327

Practice Units: ACRE

Definition: Establishing and maintaining permanent vegetative cover.

Purpose: This practice is applied to support one or more of the following purposes:

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

Conditions Where Practice Applies: This practice applies on all lands needing permanent herbaceous vegetative cover.

Limitations: Seedbed preparation and weed control costs (mechanical, biological, or chemical) during the establishment period are included in the 327 scenario payment rates. Other practice scenarios for these activities (seedbed preparation and weed control) are not to be contracted with the 327 scenarios. The exception is scenario 327-55 Interseeding Native Forbs, Pollinator or Monarch Mixes, contact NRCS Area Resource Conservationist.

Scenario 327-90 Pollinator Mix-Small Footprint, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
327-1	Introduced Species	**Scenario Description:** The land is covered with permanent non-native grass vegetation resulting in reduced soil erosion andwater/sediment runoff, and the elimination of dust emissions which improves air quality significantly. Plants sown for conservation cover may provide cover for beneficial insects andwildlife. This scenario does not apply to plantings for forage production or to critical area plantings. Applies to conventional ororganic systems. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied. Theland is covered with permanent non-native grass vegetation resulting in reduced soil erosion and water/sediment runoff, and the elimination of significant dust emissions which improves air quality. Plants sown for conservation cover may provide cover forbeneficial insects and wildlife. This scenario does not apply to plantings for forage production or to critical area plantings.	Area planted	Acre	$193.80	$193.80
327-2	Native Species	**Scenario Description:** This practice applies on land to be retiredfrom agricultural production and on other lands needing permanent protective cover. This practice typically involves conversion from a clean-tilled (conventional tilled) intensive cropping system to permanent native vegetation (scenario includes native grass). The typical size of the practice is 50 acres. This practice scenario is typically used to reduce soil erosion, reduce soil quality degradation, improve water quality, develop wildlife habitat, and reduce air quality impacts. Applies toconventional or organic systems. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied. Theland is covered with permanent native grass vegetation which reduces soil erosion and water/sediment runoff and eliminates dust emissions which improves air quality. Plants sown for conservation cover may provide cover for beneficial insects and wildlife. This scenario does not apply to plantings for forage production or to critical area plantings.	Area planted	Acre	$229.06	$229.06
327-3	Orchard or Vineyard Alleyways	**Scenario Description:** This practice applies on orchards and vineyards needing permanent protective cover in the alleyways between tree and vine rows. The typical size of this practice is 20acres. This practice typically involves conversion from a clean- tilled (conventional tilled) intensive cropping system to permanentvegetation (scenario includes non-native grass and legume mix). This practice scenario is typically used to reduce soil erosion, reduce soil quality degradation, improve water quality, enhance wildlife and/or pollinator habitat, manage plant pests, and reduce air quality impacts. Typically, 60% of the surface area is conservation cover per acre. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and has beenapplied. Orchard or Vineyard area between vine/tree rows areplanted with permanent introduced grass/legume mix. Area covered has reduced soil erosion, reduced water/sediment runoff, and improved air quality as a result of the elimination ofsignificant amounts of dust emissions. Plants sown for conservation cover may provide cover for beneficial insects, pollinators, and wildlife.	Area planted	Acre	$137.64	$137.64

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
327-4	Pollinator Species	**Scenario Description:** Permanent vegetation, including a mix ofnative grasses, legumes, and forbs (mix may also include non- native species), established on any land needing permanent vegetative cover that provides habitat for pollinators. Typical practice size is variable depending on site; this scenario uses 1 ac as the typical size. In addition to providing pollinator habitat, this practice scenario may also reduce sheet, rill, and wind erosion, improve soil quality, improve water quality, and improve air quality. The practice may also provide wildlife habitat. Practice applicable on cropland, odd areas, corners, etc.Applies to conventional or organic systems. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied. Land is covered with permanent pollinator habitat including a mixof native grasses, legumes, forbs (mix may also include non-native species). This practice may also have reduced soil erosion, reduced water/sediment runoff, and improved air qualityas a result of the elimination of dust emissions. Plants sown for pollinator habitat may also provide cover for beneficial insects and wildlife. This scenario does not apply to critical area plantings.	Area planted	Acre	$682.32	$682.32
327-10	Conservation Cover for Water Quality and Wildlife, Foregone Income - Level 1 (Year 1)	**Scenario Description:** Permanent vegetation, including amix of introduced cool season grasses and legumes, established on cropped wetland area needing permanent vegetative cover that improves water quality and provides wetland wildlife habitat. Typical practice size is 2 acres. Practice applicable on cropland. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied. The permanent grass/legume mix vegetation replacing the previously cropped wetland has improvedwater quality and wetland wildlife habitat.	Area planted	Acre	$562.62	$562.62
327-22	Monarch Species Mix	**Scenario Description:** Establish permanent vegetative cover for pollinator habitat according to state specifications. Typically used for high quality nectar and pollen species. Assumes seed/plugs, equipment, and laborfor seed bed prep/planting, and weed management duringestablishment. Used for conventional or organic land on small, intensive areas that are central to specialty crop production. Not typically used for large scale plantings. Applies to conventional or organic systems. **After Practice Description:** The 327 Implementation Requirements have been developed and applied for the site. Land covered with permanent monarch habitat including a mix of milkweed species, native grasses, legumes, and forbs. Plants sown for monarch habitat mayalso provide cover for beneficial insects and wildlife.	Area planted	Acre	$851.46	$851.46

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
327-55	Interseeding Native Forbs, Pollinator or Monarch Mixes	**Scenario Description:** Enhance existing perennial vegetative cover with the interseeding of native forbs, and/or milkweeds and/or other high-quality nectar andpollen species to enhance beneficial organism habitat.Applies to conventional or organic systems. Payment includes seed, seeding and fertility for interseeding establishment. **After Practice Description:** A more diverse mix of forbs, milkweed species, native grasses, legumes, and/or forbs provides improved habitat. Payment scenario is based on running a no till drill through 1/2 of the area to enhance thecurrent perennial vegetation.	Area interceded	Acre	$227.81	$227.81
327-72	Introduced with Forgone Income	**Scenario Description:** This practice applies on conventionalor organically managed land needing permanent protective cover. This practice typically involves conversion from an intensive cropping system to permanent non-native vegetation (scenario includes non-native grass/legume mix). The typical size of the practice is 20 acres. This practice scenario is typically used to reduce soil erosion, reduce soil quality degradation, improve water quality, develop wildlife habitat, and reduce air quality impacts. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and has beenapplied. Organically managed land covered with permanent non-native grass/legume mix vegetation has reduced soil erosion, reduced water/sediment runoff, and improved air quality due to the elimination of dust emissions. Plants sown for conservation cover may provide cover for beneficial insects and wildlife. This scenario does not apply to plantings for forage production or to critical area plantings.	Area planted	Acre	$598.51	$598.51
327-73	Native Species with Forgone Income	**Scenario Description:** This practice applies on conventionalor organically managed land needing permanent protective cover. This practice typically involves conversion from an intensive cropping system to permanent native vegetation (scenario includes native grass/legume mix). The typical sizeof the practice is 50 acres. This practice scenario is typically used to reduce soil erosion, reduce soil quality degradation, improve water quality, develop wildlife habitat, and reduce airquality impacts. Applies to conventional or organic systems. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied.Managed land covered with permanent native grass/legumemix vegetation has reduced soil erosion, reduced water/sediment runoff, and improved air quality due to the elimination of dust emissions. Plants sown for conservation cover may provide cover for beneficial insects and wildlife. This scenario does not apply to plantings for forage production or to critical area plantings.	Area planted	Acre	$678.51	$678.51

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
327-74	Pollinator Species with Forgone Income	**Scenario Description:** Permanent vegetation, including a mix ofnative grasses, legumes, and forbs (mix may also include non- native species), established on land needing permanent vegetative cover that provides habitat for pollinators. Typical practice size is variable depending on site; this scenario uses 1 ac as the typical size. In addition to providing pollinator habitat, this practice scenario may also reduce sheet and rill erosion, improve soil quality, improve water quality, and improve air quality. The practice may also provide wildlife habitat. Practice applicable on cropland, odd areas, corners, etc. Applies to conventional or organic systems. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied. Managed land covered with permanent pollinator habitat including a mix of native grasses, legumes, and forbs (mix mayalso include non-native species). This practice may also reducesoil erosion, reduce water/sediment runoff, and improve air quality due to the elimination of dust emissions. Plants sown forpollinator habitat may also provide cover for beneficial insects and wildlife. This scenario does not apply to critical area plantings.	Area planted	Acre	$979.86	$979.86
327-84	Monarch SpeciesMix with Foregone Income	**Scenario Description:** Permanent vegetation, including a mix ofnative grasses, legumes, and forbs (mix may also include non- native species), established on land needing permanent vegetative cover that provides habitat for pollinators such as the Monarch butterfly. Typical practice size is variable depending on site but is most typical in smaller-scale plantings. As such, this scenario uses 1 ac as the typical size. In addition to providing pollinator habitat, this practice scenario may also reduce sheet and rill erosion, improve soil quality, improve water quality, and improve air quality. The practice may also provide wildlife habitat.Practice applicable on cropland, odd areas, corners, etc. Applies to conventional or organic systems. **After Practice Description:** The 327 Implementation Requirements have been developed for the site and applied. Managed land covered with permanent pollinator habitat established to specifically promote Monarch butterfly habitat. Vegetation includes a mix of milkweed species, native grasses,legumes, and forbs (mix may also include non-native species). This practice may also reduce soil erosion, reduce water/sediment runoff, and improve air quality due to the elimination of dust emissions. Plants sown for pollinator habitatmay also provide cover for beneficial insects and wildlife. This scenario does not apply to critical area plantings.	Area planted	Acre	$979.86	$979.86

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
327-90	Pollinator Mix-Small Footprint	**Scenario Description:** Permanent vegetation, including a mix ofgrasses, legumes and forbs established on any land needing permanent vegetative cover that provides habitat, cover, and food for pollinators. Typical size varies depending on the site feasibility for length and width. Urban sites typical size is 2000 square feet (20x100 ft). This scenario included mechanical site preparation. This practice scenario may also reduce wind and water erosion, improve soil quality, reduce water quality degradation and reduce air emissions of particulate matter or greenhouse gases. Applies to conventional and organic systems.This scenario does not apply to areas needing Critical Area Planting. **After Practice Description:** The 327 implementation requirements have been developed for the site and applied. Landis in permanent vegetative cover reducing erosion and sediment delivery to water. Pollinator habitat has successfully established providing habitat and cover for pollinators and beneficial insects.	Area of conservation Cover Installed	1,000 SquareFoot	$128.17	$128.17

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CONSERVATION CROP ROTATION

Practice Code 328

Practice Units: ACRE

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

Purpose: This practice is applied to support one or more of the following purposes:

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

Conditions Where Practice Applies: This practice applies to all cropland where at least one annually-planted crop is included in the crop rotation.

Organic Crop Production incentive is meant to offset some of the costs incurred by conversion to organic farming.

Limitations: The Conservation Crop Rotation practice may be paid annually for up to 5 consecutive years. The new crop rotation must be applied during the contract period.

Scenario 328-84 Specialty Crop Rotations-Small Scale, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice will be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
328-1	Basic Rotation Organic and Non-Organic	**Scenario Description:** In this region this practice may be part ofa conservation management system on both organic and non- organic operations to: 1) Reduce sheet, rill and wind erosion, 2) Maintain or increase soil health and organic matter content, 3) Reduce water quality degradation due to excess nutrients, 4) Improve soil moisture efficiency, 5) Reduce the concentration of salts and other chemicals from saline seeps, 6) Reduce plant pest pressures, 7) Provide feed and forage for domestic livestock, and 8) Provide food and cover habitat for wildlife, including pollinator forage, and nesting. This practice payment isprovided to the producer for the time needed to plan and implement the logistics of changing the rotation to effectively implement a conservation crop rotation on a typical 200-acre cropland farm. No foregone income. Cost represents typical situations for conventional and organic producers. **After Practice Description:** A rotation is established that provides additional high residue and/or perennial crops that may treat one or more of the following purposes: reduce sheet, rill andwind erosion, maintain or increase soil health and organic matter content, reduce water quality degradation due to excess nutrients, improve soil moisture efficiency, reduce the concentration of salts and other chemicals from saline seeps, reduce plant pest pressures, provide feed and forage for domestic livestock, or provide food and cover habitat for wildlife, including pollinator forage, and nesting.	Area planted	Acre	$10.81	$12.98
328-5	Specialty Crops Organic and Non-Organic	**Scenario Description:** In this region a rotation of organic or non-organic specialty crops (fruits and vegetable) are produced as part of a conservation management system to treat one or more of the following resource concerns: 1) Reduce sheet, rill and wind erosion, 2) Maintain or increase soil health and organicmatter content, 3) Reduce water quality degradation due to excess nutrients, 4) Improve soil moisture efficiency, 5) Reduce the concentration of salts and other chemicals from saline seeps, 6) Reduce plant pest pressures, 7) Provide feed and forage fordomestic livestock, and 8) Provide food and cover habitat for wildlife, including pollinator forage, and nesting. This practice payment is provided to acquire the technical knowledge and skills necessary to effectively implement a conservation crop rotation on a typical 50-acre specialty crop farm. No foregone income. Cost represents typical situations for organic and non-organic producers. **After Practice Description:** The rotation established adds higher residue crop(s) to the rotation that will treat one or more ofthe following resource concerns on organic and non- organic farms: 1) Reduce sheet, rill and wind erosion, 2) Maintain or increase soil health and organic matter content, 3) Reduce waterquality degradation due to excess nutrients, 4) Improve soil moisture efficiency, 5) Reduce the concentration of salts and other chemicals from saline seeps, 6) Reduce plant pest pressures, 7) Provide feed and forage for domestic livestock, and 8) Provide food and cover habitat for wildlife, including pollinatorforage, and nesting.	Area planted	Acre	$28.84	$34.61

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
328-84	Specialty Crop Rotations-Small Scale	**Scenario Description:** Scenario applies to Urban sites less than a 1/2 acre with a rotation of organic or non-organic specialty crops (fruits and vegetable) are produced as part of a conservation management system to treat one or more of the following resource concerns: 1) Reduce sheet, rill and wind erosion, 2) Maintain or increase soil health and organic matter content, 3) Reduce water quality degradation due to excess nutrients, 4) Improve soil moisture efficiency, 5) Reduce the concentration of salts and other chemicals from saline seeps, 6) Reduce plant pest pressures, 7) Provide feed and forage for domestic livestock, and 8) Provide food and cover habitat for wildlife, including pollinator forage, and nesting. This practice payment is provided to acquire the technical knowledge and skills necessary to effectively implement a conservation crop rotation on a typical urban specialty crop farm. Cost represents typical situations for organic and non-organic producers. **After Practice Description:** The rotation established adds diversity of plant material organic matter, higher residue amounts that will treat one or more of the following resource concerns on organic and non- organic farms: reduce sheet, rill and wind erosion, maintain or increase soil health and organic matter content, improve soil moisture efficiency or reduce plant pest pressure.	Area planted	1,000 Square Foot	$27.40	$32.88
328-104	Add crop - transition to organic	**Scenario Description:** Current crop rotation is conventional nonorganic and crop rotation includes at least two different crop types. Producer is transitioning to organic. New crop types will be added to the conservation crop rotation to facilitate building soil organic matter, capturing nitrogen, breaking pest cycles, or other purposes that maintain or enhance the natural resources. Payment includes labor of the supervisor/decision maker and acquisition of knowledge for new crop types. **After Practice Description:** Implementation requirements were delivered to the producer. Crop types were added to the crop rotation. Operations and management decisions for transition align with NOP requirements. Crop rotation has improved diversity improving soil resource concerns.	Acre	Acre	$74.79	$89.74

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CONSTRUCTED WETLAND

Practice Code 656

Practice Units: ACRE

Definition: An artificial wetland ecosystem with hydrophytic vegetation for biological treatment of water.

Purpose: Use this practice to accomplish one or more of the following purposes:

- Treat wastewater or contaminated runoff from agricultural processing, livestock, or aquaculture facilities.
- Improve water quality of storm water runoff, tile drainage outflow, or other waterflows.

Conditions Where Practice Applies: This standard applies where at least one of the following conditions occurs:

- Wastewater treatment is necessary for organic wastes generated by agricultural production or processing.
- Water quality improvement is necessary for agricultural storm water runoff, existing tile drainage outflow, greenhouse wastewater, or other waterflows.

A constructed wetland is applied where wetland function can be created to provide treatment of wastewater or other agricultural waterflows.

Do not use this standard in lieu of Iowa NRCS Conservation Practice Standards (CPS) Wetland Restoration (Code 657), Wetland Creation (Code 658), or Wetland Enhancement (Code 659), for which the main purpose is to restore, create, or enhance wetland functions other than wastewater treatment or water quality improvement.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
656-1	Constructed Wetland, Dense Planting	**Scenario Description:** This practice scenario includes the basicearthwork and native and/or organic wetland vegetation needed to create a constructed wetland to treat contaminated agriculturalrunoff or effluent from a drainage system high in nutrients. All other components, such as water control structures, dikes or upstream sediment basins, must be paid for under facilitating practices. Soil, water and tissue sampling are required. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrients and pathogens. **After Practice Description:** A 1 acre constructed wetland (measured by the size of the treatment pool suitable for wetland vegetation) will be constructed with an average 18" depth. Only the earthwork and wetland vegetation are considered in this scenario. Vegetation is planted at a spacing of 3 by 3 feet. Any structures or sediment basins will be designed under a separatepractice. The constructed wetland is sited near the property boundary, but still takes cropland out of production (1/2 wetland acreage). The constructed wetland treats the effluent by creating conditions at the plant/soil/water interface for biochemical nutrient removal before the effluent is transported toa waste storage facility or discharged off site if permitted by regulation.	Area of Constructed Wetland	Acre	$12,677.02	$12,677.02
656-2	Constructed Wetland, Light Planting	**Scenario Description:** This practice scenario includes the basicearthwork and native and/or organic wetland vegetation needed to create a constructed wetland to treat contaminated agriculturalrunoff or effluent from a drainage system high in nutrients. All other components, such as water control structures, dikes or upstream sediment basins, must be paid for under facilitating practices. The purpose of the practice is to address resource concerns related to water quality degradation due to excess nutrients and pathogens. **After Practice Description:** A 1 acre constructed wetland (measured by the size of the treatment pool suitable for wetland vegetation) will be constructed with an average 18" depth. Only the earthwork and wetland vegetation are considered in this scenario. Vegetation is planted at a wide spacing of 4 by 4 feet. Any structures or sediment basins will be designed under a separate practice. The constructed wetland is sited near the property boundary, but still takes cropland out of production (1/2wetland acreage). The constructed wetland treats the effluent by creating conditions at the plant/soil/water interface for biochemical nutrient removal before the effluent is transported toa waste storage facility or discharged off site if permitted by regulation.	Area of Constructed Wetland	Acre	$9,837.93	$9,837.93

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
656-12	Constructed Wetland, Earthwork only	**Scenario Description:** This practice scenario includes the basic earthwork needed to create a constructed wetland to treat storm water runoff or outflow from a subsurface drainage system high in nutrients. Hydrophytic vegetation will be established through natural regeneration. All other components, such as water control structures, dikes, vegetation or upstream sediment basins, must be paid for under facilitating practices. The purposeof the practice is to address resource concerns related to water quality degradation due to excess nutrients and pathogens. **After Practice Description:** A 1 acre constructed wetland (measured by the size of the treatment pool suitable for wetland vegetation) will be constructed with an average 18" depth. Only the earthwork is considered in this scenario. Hydrophytic vegetation will be established through natural regeneration. Anystructures, vegetation or sediment basins will be designed undera separate practice. The constructed wetland is sited near the property boundary, but still takes cropland out of production (1/2wetland acreage). The constructed wetland treats the inflow bycreating conditions at the plant/soil/water interface for biochemical nutrient removal before it is discharged off site.	Area of Constructed Wetland	Acre	$5,502.53	$5,502.53

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CONTOUR BUFFER STRIPS

Practice Code 332

Practice Units: ACRE

Definition: Narrow strips of permanent, herbaceous vegetative cover established around the hill slope, and alternated down the slope with wider cropped strips that are farmed on the contour.

Purpose: This practice is applied to support one or more of the following purposes:

- Reduce sheet and rill erosion.
- Reduce water quality degradation from the transport of sediment and other water-borne contaminants downslope.
- Improve soil moisture management through increased water infiltration.
- Reduce water quality degradation from the transport of nutrients downslope.

Conditions Where Practice Applies: This practice applies on all sloping cropland, including orchards, vineyards and nut crops. Where the width of the buffer strips will be equal to or exceed the width of the adjoining crop strips, the practice Stripcropping (code 585) applies.

Limitations: The practice is more difficult to establish on undulating to rolling topography because of the difficulty of maintaining parallel strip boundaries across the hill slope or staying within row grade limits. Contour Buffer Strips are a permanent vegetative cover not part of the normal crop rotation.

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
332-74	Native Species, Foregone Income (Organic and Non-organic)	**Scenario Description:** Narrow strips of permanent, herbaceousvegetative cover established around the hill slope and alternateddown 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. **After Practice Description:** Native grasses, legumes and forbs will be established in strips in the field to meet the Contour BufferStrips (332) criteria, resource needs, and producer objectives. Minimum widths shall be based on NRCS local design criteria specific to the purpose for installing the practice. Native speciesshall be selected that do not function as a host for diseases of afield crop and have physical characteristics necessary to controlwater erosion to tolerable levels in the cropped area of the field.	Number of acres	Acre	$620.26	$646.68
332-75	Introduced Species, Foregone Income (Organicand Non- Organic)	**Scenario Description:** Narrow strips of permanent, herbaceousvegetative cover established around the hill slope and alternateddown 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 introducedspecies. The area of the contour grass strip is taken out ofproduction. This applies to both organic and non-organic. **After Practice Description:** Introduced grasses and legumes will be established in strips in the field to meet the Contour BufferStrips (332) criteria, resource needs, and producer objectives. Minimum widths shall be based on NRCS local design criteriaspecific to the purpose for installing the practice. Introduced species shall be selected that do not function as a host for diseases of a field crop and have physical characteristics necessary to control water erosion to tolerable levels in the cropped area of the field.	Number of acres	Acre	$595.80	$617.33

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CONTOUR FARMING

Practice Code 330

Practice Units: ACRE

Definition: Aligning ridges, furrows, and roughness formed by tillage, planting and other operations at a grade near the contour to alter the velocity or the direction of water flow.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Reduce sheet and rill erosion
- Reduce sediment transport to surface waters
- Reduce excess nutrients in surface waters
- Reduce pesticide transport to surface waters
- Improve the efficiency of moisture management

Conditions Where Practice Applies: This practice applies on sloping land where crops are grown.

Limitations: N/A

Maintenance: Contour Farming will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
330-3	Contour Farming	**Scenario Description:** This scenario meets the specifications ofthe NRCS Contour Farming Standard. This scenario applies to fields greater than 5 acres. Payment reflects the extra labor and initial supervision costs in laying out and implementing contour farming. Annual erosion rates for the rotation exceeds tolerance levels. Excessive runoff leads to sedimentation of waterways. **After Practice Description:** Implementation Requirements are prepared according to 330 Contour Farming and implemented. This practice is installed on the entire field. A survey is completedby trained and certified Federal, State, local personnel or consultant to determine and 'stake' contour row arrangement. Permanent row markers are established to ensure that this practice is maintained for the life of this practice. All field operations including: disking, bedding, planting, and cultivation are performed on the contour which is near perpendicular to thefield slope. The farm manager is initially on site to ensure that equipment operator is properly following contour methods. Soil erosion rates are reduced by nearly half and may be below tolerance depending on the rotation. Likewise, sedimentation has been significantly reduced.	Acre	Acre	$8.11	$9.73

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COVER CROP

Practice 340

Practice Units: ACRE

Definition: Grasses, legumes, and forbs planted for seasonal vegetative cover

Purpose: This practice is applied to support one or more of the following purposes:

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

Conditions Where Practice Applies: All lands requiring seasonal vegetative cover for natural resource protection or improvement.

Limitations: Conservation Practice 340 Cover Crops is a management practice (One-year lifespan) and may be scheduled for up to 5 years on the same land unit.

Use the Cover Crop Scenario Selection Flowchart on the following page to determine the correct payment scenario.

For Scenario ID 340-6 Cover Crop Adaptive Management, refer to Agronomy Technical Note No. 10: Adaptive Management for Conservation Practices and Adaptive Mgt 340 Guide Sheet 2014. **All Adaptive Management proposals must be approved by Iowa NRCS State Soil Health Specialist prior to obligation.**

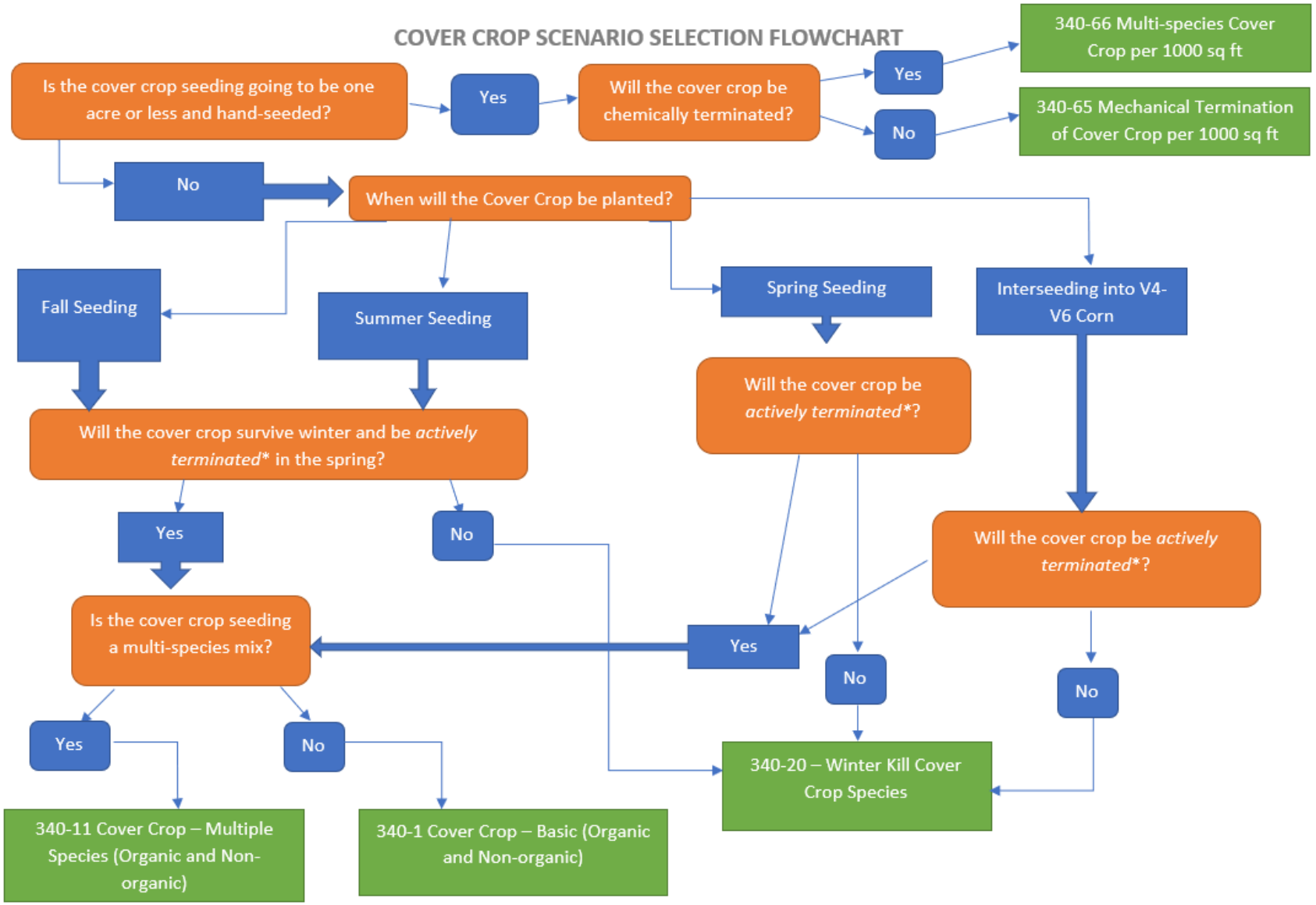
Scenario 340-47 Cover Crop - 1 acre or less, is applicable up to a maximum of 1 acre.

Scenario 340-65 Mechanical Termination of Cover Crop per 1000 square feet, is applicable up to a maximum size of 43 (1,000 square feet).

Scenario 340-66 Multi-species Cover Crop per 1000 square feet, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Cover Crop will be maintained for a lifespan of 1 year.

Payment Schedule:



* - actively terminated would mean the produce is expected to have a cost associated with killing the cover crop to plant a subsequent crop (i.e. crimping, herbicide, tillage, etc.)

** - This flowchart does not include 340-6 – Cover Crop – Adaptive Management, which needs approval from the state soil health specialist.

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
340-1	Cover Crop - Basic (Organic and Non-organic)	**Scenario Description:** 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 residueas a mulch. This scenario assumes that seed will be planted witha 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. **After Practice Description:** Implementation Requirements according to Cover Crop (340) are prepared and implemented. Within 30 days after harvest of the row crop, fields are planted with a small grain or legume cover crop (may also use forage sorghum, radishes, turnips, buckwheat, etc.), typically rye or clover. The average field size is 40 acres. The cover crop is seeded with a drill. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced. Wind erosion is reduced by standing residues. The cover crop is terminated with an approved herbicide prior to spring planting as late as feasible to maximize plant biomass production. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plantdiversity introduced to the cropping system. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.	Area planted	Acre	$61.50	$73.80
340-6	Cover Crop - Adaptive Management	**Scenario Description:** The practice scenario is for the implementation of cover crops in small replicated plots to allow the producer to learn how to manage cover crops on their operation. Scenario includes implementing replicated strip trials on a field plot to evaluate, identify and implement a particular cover crop management strategy (e.g., cover crop vs no cover crop, multiple species vs, single species, evaluate different termination methods or timings, using a legume vs no legume for nitrogen credits). This will be done following the guidance in the NRCS Technical Note 10 - Adaptive Management. **After Practice Description:** Implementation Requirements for Cover Crop (340) will be prepared along with the Adaptive Management plan for the replicated cover crop plots and implemented. Installation of this scenario will result in establishment of a cover crop replicated plots to compare to different management strategies for cover crop management following the guidance in the Agronomy Technical Note 10 - Adaptive Management. Implementation involves establishing thereplicated plots to evaluate one or more cover crop managementstrategies. The plot will consist of at least 4 replicated plots designed, laid out, managed and evaluated with the assistance of a consultant knowledgeable in cover crop management. Results are used to make cover crop management decisions to address erosion and water quality issues. Yields will be measured and statistically summarized following the proceduresin Agronomy Technical Note 10 - Adaptive Management. The yields for each plot will be adjusted to the appropriate moisture content. This would be repeated for 3 years.	Based on10 acres	Each	$2,116.67	$2,540.00

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
340-11	Cover Crop - Multiple Species (Organic and Non-organic)	**Scenario Description:** 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 plantingthe subsequent crop and terminated per the NRCS Cover Crop Termination Guidelines. **After Practice Description:** Implementation Requirements according to Cover Crop (340) are prepared and implemented. Within 30 days after the harvest of row crop, fields are planted with a multi-species (2 or more species) cover crop mix that generally includes a small grain, a legume, and may include other species such as forage sorghum, radishes, turnips, buckwheat, etc. The average field size is 40 acres. The cover crop is seeded with a drill, broadcast seeder, aerial broadcast, or other method. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced. Wind erosion is reduced by standing residues. The cover crop is terminated with an approved herbicide prior to spring planting as late as feasible to maximize plant biomass production. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plant diversity introduced to the cropping system. Cover crop residuesleft on the surface may maximize weed control by increasing allelopathic and mulching effect.	Area planted	Acre	$76.93	$92.31

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
340-20	Winter Kill Cover Crop Species	**Scenario Description:** Typically, a single species grass/legume/brassica or multiple species mix of grass/legume/brassica cover will be planted as a cover crop using appropriate methods into standing crop or immediately after harvest of a row crop and will be followed by a row crop thatwill utilize fixed nitrogen, and cover crop biomass as a mulch. This scenario reflects costs associated with aerial seeding, but any appropriate seeding method may be used. The cover crop should be allowed to generate as much biomass as possible before the crop is winter killed. This scenario assumes the covercrop species will 'winter kill', therefore no additional termination measures are included. However, appropriate termination methods should be used as needed based on the specific situation, prior to planting the subsequent crop. **After Practice Description:** Implementation requirements according to Cover Crop (340) are prepared and implemented. Within 30 days after harvest of row crop, fields are planted with asingle species or mix species cover crop, as outlined in the plan details. The average corn belt field size is 100 acres. The cover crop is seeded with a no-till drill, broadcast seeder, aerial seeding, or other method. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover by late fall, into or throughout the winter, and potentially into the early spring.Runoff and erosion are reduced, and no rills are visible on the soil surface in the spring. The cover crop is established using winter kill species which should not require termination in the spring. Over time, soil health is improved due to the additional biomass, ground cover, and plant diversity introduced to the cropping system. Wind erosion is reduced by standing residues. Cover crop residues left on the surface may maximize weed control by increasing allelopathic and mulching effect.	Area Planted	Acre	$42.27	$50.73

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
340-47	Cover Crop - 1 acre or less	**Scenario Description:** Typically, a small grain or legume will be planted as a cover crop immediately after harvest ofa crop and will be followed by a crop. This scenario assumes that seed will be planted by hand. The cover crop should be allowed to generate as much biomass as possible, without delaying planting of the following crop. The cover crop will typically be terminated by mowing or tilling prior to planting the subsequent crop. **After Practice Description:** Implementation Requirements according to Cover Crop (340) are preparedand implemented. Within 10 days after harvest of the crop,fields are planted with a small grain or legume cover crop, typically rye or clover. The average field size is 0.25 acres.The cover crop is seeded by hand. No additional fertilizer is applied with the cover crop. The cover crop provides soilcover by late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced. Wind erosion is reduced by standing residues. The cover crop is terminated with an approved herbicide prior to spring planting as late as feasible to maximize plant biomass production. Over time, soil health is improved due to the additional biomass, ground cover, soil infiltration, and plantdiversity introduced to the cropping system. Cover crop residues left on the surface may maximize weed control byincreasing allelopathic and mulching effect.	Area Planted	Acre	$405.84	$487.01

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
340-65	Mechanical Termination of Cover Crop per 1000 square feet	**Scenario Description:** Typical cover crop is more than one plantspecies, planted immediately after harvest of a crop and will be followed by a new crop. Cover crops are planted in the production bed typically 4000 square feet. Implementation is mostly hand labor or labor intensive. Cover crop is mechanically terminated in urban agricultural sites with State and local laws, ordinance and zoning restrictions on use of agrichemicals. **After Practice Description:** Implementation Requirements according to Cover Crop (340) are prepared and implemented. The cover crop is seeded by hand. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover atthe critical period when cover is needed usually late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced. Wind erosion is reduced by standing residues. The cover crop is mechanically terminated as late as feasible to maximize cover crop biomass production and meet the planting date needs of the next crop. Over time, soil health is improved due to additions of biomass, improvement of aggregatestability and infiltration/aeration.	Area of Cover Crop Installed	1,000 SquareFoot	$22.47	$26.96
340-66	Multi-species Cover Crop per 1000 square feet	**Scenario Description:** Typical cover crop is more than one plantspecies, planted immediately after harvest of a crop and will be followed by a new crop. Cover crops are planted in the production bed typically 4000 square feet. Implementation is mostly hand labor or labor intensive. Cover crop is chemically terminated in urban agricultural sites. **After Practice Description:** Implementation Requirements according to Cover Crop (340) are prepared and implemented. The cover crop is seeded by hand. No additional fertilizer is applied with the cover crop. The cover crop provides soil cover atthe critical period when cover is needed usually late fall, throughout the winter, and into the early spring. Runoff and erosion are reduced. Wind erosion is reduced by standing residues. The cover crop is chemically terminated as late as feasible to maximize cover crop biomass production and meet the planting date needs of the next crop. Over time, soil health is improved due to additions of biomass, improvement of aggregatestability and infiltration/aeration.	Area of Cover Crop Installed	1,000 SquareFoot	$47.81	$57.38

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CRITICAL AREA PLANTING

Practice Code 342

Practice Units: 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 seeding/planting methods.

Purpose:

- Stabilize areas with existing or expected high rates of soil erosion by wind or water.
- Stabilize stream and channel banks, pond and other shorelines, earthen features of structural conservation practices.
- Stabilize 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 restoration sites.
- Construction areas.
- Conservation practice construction sites.
- Areas needing stabilization before or after natural disasters such as floods, hurricanes, tornados, and wildfires.
- Eroded banks of natural channels, banks of newly constructed channels, and lake shorelines.
- Other areas degraded by human activities or natural events.

Examples of applicable areas are dams, terraces, dikes, mine spoil, levees, cuts, fills, surface-mined areas and denuded or gullied areas where vegetation is difficult to establish by usual planting methods.

Limitations: Critical Area Planting is not to be scheduled with Grassed Waterways as seeding is accounted for in Grassed Waterway Scenario Payment Rates.

Scenario 342-66 Permanent Cover, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice will be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
342-1	Native or Introduced Vegetation - Normal Tillage (Organic and Non-Organic)	**Scenario Description:** 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 withapplication. **After Practice Description:** Implementation Requirements are prepared and implemented according to the Critical Area Planting (342) standard. This typical 1.0-acre critical area is stabilized by applying fertilizer, lime and seed. Soil amendments will be incorporated at a depth of four to six inches to improve fertility and ensure establishment of permanent vegetative cover.The site will be stabilized, erosion reduced, and offsite damages reduced/eliminated.	Area seeded	Acre	$239.71	$287.66
342-4	Native or Introduced Vegetation - Moderate Grading (Organicand Non- Organic)	**Scenario Description:** 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 includea 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. **After Practice Description:** Implementation Requirements areprepared and implemented according to the Critical Area Planting (342) standard. This typical 1.0-acre critical area is stabilized by grading and shaping the small gullies with a dozerand then applying fertilizer, lime and seed. The site will be stabilized, erosion reduced, and offsite damages reduced/eliminated.	Area seeded	Acre	$612.20	$734.64
342-22	Small Area Disturbance	**Scenario Description:** Establishment of permanent vegetation on a small site 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 seed, fertilizer and lime with application. **After Practice Description:** This typical 1000 sq. ft. critical areais stabilized by applying fertilizer, lime and seed. Soil amendments will be incorporated at a depth of six inches to improve fertility and ensure establishment of permanent vegetative cover. Apply 90 lbs. of nitrogen, 90 lbs. of phosphorus, and 90 lbs. of potassium, along with an application of 2 tons of lime. Prepare a firm, weed free seedbed so that proper germination and stand establishment are ensured. Once the seedbed has been prepared, broadcast the following mixturefor a vegetative cover: Tall Fescue (40 lbs./ac), Perennial Ryegrass (25 lbs./ac), and Kentucky Blue (20 lbs./ac).	Area of Planting	1,000 SquareFoot	$6.56	$7.87

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
342-51	Gully Repair andSeeding with Native or Introduced Vegetation	**Scenario Description:** Repair and seeding of an area with gully erosion where repair requires a dozer for earthmoving to fill in and reshape the area followed by seeding. Scenario is generallyfor locations in pasture/hayland or farmsteads with watershed areas 5 acres or less; however, scenario may also be applicable to other locations. This scenario is not to be used in a location with a well-defined channel. Costs include a dozer for grading and shaping, seedbed preparation with typical tillage implements,grass/legume seed, companion crop, and fertilizer and lime. **After Practice Description:** Implementation requirements are prepared and implemented according to the Critical Area Planting (342) standard. The area is stabilized by grading and shaping the area with gully erosion with a dozer and then applying fertilizer, lime and seed. Livestock will be excluded or have limited access to the area until vegetation is established. The site will be stabilized, erosion reduced, and offsite damages reduced/eliminated.	Area repaired and seeded	Acre	$2,429.86	$2,915.83
342-66	Permanent Cover	**Scenario Description:** Establishment of permanent vegetation on a site that is void of vegetation or needs to improve the vegetation to adequately cover the existing site soil to reduce particulate matter dust emissions. Costs include seedbed prep with light tillage, seed, fertilizer and lime. Small Scale fields andurban sites have soil conditions limiting vegetation growth or sensitive areas that need protection. **After Practice Description:** The Implementation Requirement with site specific instruction is prepared for each treatment site. The establishment of permanent vegetation will stabilize the soil.Sensitive areas are protected. Particulate dust is reduced. Wind and water erosion loss is within tolerance levels (T).	Planted Area	1,000 SquareFoot	$15.44	$18.53

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DENITRIFYING BIOREACTOR

Practice Code 605

Practice Units: NUMBER

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

Purpose: This practice is used to achieve the following purpose:

- Improve water quality by reducing the concentration of nitrate nitrogen in flow from subsurface agricultural drainage systems

Conditions Where Practice Applies: This practice applies to sites where there is a need to reduce the concentration of nitrate nitrogen in the flow from subsurface drainage systems.

This practice does not apply to underground outlets from practices, such as terraces, where the drainage source is primarily from surface inlets.

Limitations: Water Control Structure (Code 587), Subsurface Drain (Code 606), and Underground Outlet (Code 620) will not be included as associated practices. These practices are included in the component costs for the Denitrifying Bioreactor scenarios.

Maintenance: Practice must be maintained for a lifespan 10 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
605-5	Denitrifying Bioreactor with liner, no soil cover	**Scenario Description:** Scenario describes a structure containing a carbon source installed to intercept subsurface drain(tile) flow or ground water and reduce the concentration of nitrate-nitrogen in subsurface agricultural drainage flow via enhanced nitrification. Woodchips serve as the carbon source necessary to the denitrification process. This bioreactor has a geotextile fabric (or polyethylene - PE) LINER between the woodchips and the surrounding soil plus the following components: woodchip filled pit, two water control structures (to allow management of the flow rate and free water elevation within thebioreactor) and piping to convey water to and from the bioreactor. Woodchips serve as the carbon source necessary tothe denitrification process. Resource concern: Water Quality Degradation - Excess nutrients in surface and ground waters. Management and maintenance of the bioreactor (including chip replenishment), as well as monitoring and reporting to demonstrate the performanceof the practice are not included in this scenario. **After Practice Description:** Bioreactor has geotextile fabric (or polyethylene - PE) LINER between the wood chips and the surrounding soil plus the following components: woodchip filled pit, two water control structures (to allow management of the flowrate and free water elevation within the bioreactor) and piping to convey water to and from the bioreactor. The approximate bioreactor excavated pit volume is 333 cubic yards (e.g. 6 feet deep, 15 feet wide and 100 feet long). Woodchips occupy 6 feet of the pit plus 10% crowned (366 cu. yd.) and will be mounded above ground level to shed precipitation. A geotextile fabric (or PE material) LINER surrounds the chips to prevent migration of soil into the pit. Water control structures should be installed usingpractice standard (587) Structure for Water Control. Two inline water control structures are in place. Upper WCS connected to the upper 6" diameter single-wall CPT manifold pipe (15' each, note that 6' HDPE dual wall is the only type available and used inthe scenario components) by 6" diameter dual wall pipe (20' each). 20' of 6" dual wall pipe connects the downstream manifoldto the lower WCS which is connected back to the main with additional 20' of 6" dual wall pipe. Flow rates are dependent uponthe availability of drainage water from the 10' drainage mainline. 40' of mainline is replaced with non-perforated 10' above and below the upper WCS. The soil excavated from the pit is spoiled onto the nearby field.	Volume of Carbon Source	Cubic Yard	$67.82	$67.82

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
605-6	Denitrifying Bioreactor, without Liner,Soil Cover	**Scenario Description:** Scenario describes a structure containing a carbon source installed to intercept subsurface drain(tile) flow or ground water and reduce the concentration of nitrate-nitrogen in subsurface agricultural drainage flow via enhanced denitrification. Woodchips serve as the carbon sourcenecessary to the denitrification process. This bioreactor has the following components: woodchip filled pit, a soil cover, two water control structures (to allow management of the flow rate and freewater elevation within the bioreactor) and piping to convey waterto and from the bioreactor. Woodchips serve as the carbon source necessary to the denitrification process. Resource concern: Water Quality Degradation - Excess nutrients in surface and ground waters. Management and maintenance of the bioreactor (including chip replenishment), as well as monitoring and reporting to demonstrate the performance of the practice are not included in this scenario. **After Practice Description:** Bioreactor has the following components: woodchip filled pit, a soil cover, two water control structures (to allow management of the flow rate and free water elevation within the bioreactor) and piping to convey water to and from the bioreactor. The approximate bioreactor excavated pit volume is 333 cubic yards (e.g. 6 feet deep, 15 feet wide and 100feet long). Woodchips occupy the lower 4 feet of the pit (222 cu. yd.) and a soil blanket over the woodchips is 2.0 ft. and will be mounded above ground level to shed precipitation. Water control structures should be installed using practice standard (587) Structure for Water Control. Two inline water control structures are in place. Upper WCS connected to the upper 6" diameter single-wall CPT manifold pipe (15' each, note that 6' HDPE dual wall is the only type available and used in the scenario components) by 6" diameter dual wall pipe (20' each). 20' of 6" dual wall pipe connects the downstream manifold to thelower WCS which is connected back to the main with additional 20' of 6" dual wall pipe. Flow rates are dependent upon the availability of drainage water from the 10' drainage mainline. 40' of mainline is replaced with non-perforated 10' above and belowthe upper WCS. The soil excavated from the pit is spoiled onto the nearby field.	Volume of Carbon Source	Cubic Yard	$77.97	$77.97

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
605-16	Denitrifying Bioreactor, with liner and soil cover	**Scenario Description:** Scenario describes a structure containing acarbon source installed to intercept subsurface drain (tile) flow or ground water and reduce the concentration of nitrate-nitrogen in subsurface agricultural drainage flow via enhanced nitrification. Woodchips serve as the carbon source necessary to the denitrification process. This bioreactor has a geotextile fabric (or polyethylene - PE) LINER between the wood chips and the surrounding soil plus the following components: woodchip filled pit, asoil cover, two water control structures (to allow management of the flow rate and free water elevation within the bioreactor) and piping toconvey water to and from the bioreactor. Woodchips serve as the carbon source necessary to the denitrification process. Resource concern: Water Quality Degradation - Excess nutrients insurface and ground waters. Management and maintenance of the bioreactor (including chip replenishment), as well as monitoring andreporting to demonstrate the performance of the practice are not included in this scenario. **After Practice Description:** Bioreactor has geotextile fabric (or polyethylene - PE) LINER between the wood chips and the surrounding soil plus the following components: woodchips occupying the lower 4 feet of the pit (222 cy) and a 2 foot soil blanketover the wood chips that will be mounded above ground level to shedprecipitation, two water control structures (to allow management of the flow rate and free water elevation within the bioreactor), and piping to convey water to and from the bioreactor. The approximate bioreactor excavated pit volume is 333 cubic yards (e.g. 6 feet deep, 15 feet wide and 100 feet long). Woodchips occupy 4 feet of the pit and a soil cover occupies the remaining 2 feet, plus 10% crowned and will be mounded above ground level to shed precipitation. A geotextile fabric (or PE material) LINER surrounds the chips to prevent migration of soil into the pit. Water control structures should be installed using practice standard (587) Structure for Water Control. Two inline water control structures are in place. Upper WCS connected to the upper 6" diameter single-wall CPT manifold pipe (15' each, note that 6' HDPE dual wall is the only type available and used in the scenario components) by 6" diameter dual wall pipe (20' each). 20' of 6" dual wall pipe connects the downstream manifold to the lower WCS which is connected back to the main with additional 20' of 6" dual wall pipe. Flow rates are dependent upon the availability of drainage water from the 10' drainage mainline. 40' of mainline is replaced with non-perforated 10' above and below the upper WCS. The soil excavated from the pit is spoiled onto the nearby field.	Volume of Carbon Source	Cubic Yard	$81.45	$81.45

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
605-17	Denitrifying Bioreactor, without liner, no soil cover	**Scenario Description:** Scenario describes a structure containing a carbon source installed to intercept subsurface drain(tile) flow or ground water and reduce the concentration of nitrate-nitrogen in subsurface agricultural drainage flow via enhanced nitrification. Woodchips serve as the carbon source necessary to the denitrification process. This bioreactor includes the following components: woodchip filled pit, two water control structures (to allow management of the flow rate and free water elevation within the bioreactor) and piping to convey water to andfrom the bioreactor. Woodchips serve as the carbon source necessary to the denitrification process. Resource concern: Water Quality Degradation - Excess nutrients in surface and ground waters. Management and maintenance of the bioreactor (including chip replenishment), as well as monitoring and reporting to demonstrate the performanceof the practice are not included in this scenario. **After Practice Description:** Bioreactor the following components: woodchip filled pit, two water control structures (to allow management of the flow rate and free water elevation within the bioreactor) and piping to convey water to and from the bioreactor. The approximate bioreactor excavated pit volume is 333 cubic yards (e.g. 6 feet deep, 15 feet wide and 100 feet long). Woodchips occupy 6 feet of the pit plus 10% crowned (366cu. yd.) and will be mounded above ground level to shed precipitation. Water control structures should be installed using practice standard (587) Structure for Water Control. Two inline water control structures are in place. Upper WCS connected to the upper 6" diameter single-wall CPT manifold pipe (15' each, note that 6' HDPE dual wall is the only type available and used inthe scenario components) by 6" diameter dual wall pipe (20' each). 20' of 6" dual wall pipe connects the downstream manifoldto the lower WCS which is connected back to the main with additional 20' of 6" dual wall pipe. Flow rates are dependent uponthe availability of drainage water from the 10' drainage mainline. 40' of mainline is replaced with non-perforated 10' above and below the upper WCS. The soil excavated from the pit is spoiled onto the nearby field.	Volume of Carbon Source	Cubic Yard	$65.70	$65.70
605-21	Denitrifying Bioreactor Recharge	**Scenario Description:** Recharge of an existing denitrifying bioreactor that was designed and installed to meet NRCS standards. Recharge is needed when the bioreactor has operatedfor its 10-year design life. The water control structure will be re- used. The wood chips will be replaced along with the distribution and collection pipe plumbing and the liner in the bioreactor chamber. Resource concern: Water Quality Degradation - Excessnutrients in surface and ground waters. Management and maintenance of the bioreactor, as well as monitoring and reporting to demonstrate the performance of the practice are not included in this scenario. **After Practice Description:** After recharge, the bioreactor is again functioning to remove nitrates from drainage water as designed. Bioreactor has new 6" corrugated plastic tubing in thebioreactor chamber, and new wood chip media. Wood chips occupy the lower 4 feet of the pit (222 cy), with a new geotextile fabric liner above the wood chips (15 feet wide by 100 feet long),and 2 feet of soil cover on top plus 10% mounded above ground level to shed precipitation. If the newly constructed soil cover willnot be cropped, revegetate using Critical Area Planting (342).	Volume of Carbon Source	Cubic Yard	$57.09	$57.09

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
605-23	Denitrifying Bioreactor with Automated Water Control Structures	**Scenario Description:** Scenario describes a structure containing a carbon source installed to intercept subsurface drain (tile) flow or ground water and reduce the concentration of nitrate-nitrogen in subsurface agricultural drainage flow via enhanced nitrification. Woodchips serve as the carbon source necessary to the denitrification process. This bioreactor has a geotextile fabric (or polyethylene - PE) LINER between the wood chips and the surrounding soil plus the following components: woodchip filled pit, two automated water control structures (to allow management of the flow rate and free water elevation within the bioreactor), and piping to convey water to and from the bioreactor. Woodchips serve as the carbon source necessary to the denitrification process. Management and maintenance of the bioreactor, as well as monitoring and reporting to demonstrate the performance of the practice are not included in this scenario. **After Practice Description:** Bioreactor has geotextile fabric (or polyethylene - PE) LINER between the wood chips and the surrounding soil plus the following components: woodchip filled pit, two automated water control structures (to allow management of the flow rate and free water elevation within the bioreactor), and piping to convey water to and from the bioreactor. The approximate bioreactor excavated pit volume is 333 cubic yards (e.g. 6 feet deep, 15 feet wide and 100 feet long). Woodchips occupy 6 feet of the pit plus 10% crowned (366 cu. yd.) and will be mounded above ground level to shed precipitation. A geotextile fabric (or PE material) LINER surrounds the chips to prevent migration of soil into the pit. Automated water control structures should be installed using practice standard (587) Structure for Water Control. Two inline automated water control structures are in place. The upper automated water control structure is connected to 20' of 6" diameter CPT, which is connected to the upstream manifold pipe (15' of 6" diameter CPT). The downstream manifold (15' of 6" diameter CPT) is connected to 20' of 6" diameter CPT to the lower automated water control structure, which is connected back to the main with additional 20' of 6" diameter CPT. Flow rates are dependent upon the availability of drainage water from the 10" drainage mainline. 40' of mainline is replaced with non-perforated 10" above and below the upper automated water control structure. The soil excavated from the pit is spoiled onto the nearby field.	Volume of Carbon Source	Cubic Yard	$83.12	$83.12

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DIKE AND LEVEE

Practice Code 356

Practice Units: FEET

Definition: A barrier used to retain water on the landscape using a wetland dike; or, a barrier used to exclude water from the landscape and protect property and infrastructure from flooding using a flood control levee.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Manage water retained on the landscape using a dike
- Reduce flood risk by excluding water from a landscape using a levee

Conditions Where Practice Applies: This practice applies where flooding puts land and property at risk of damage; or, where management of water levels is needed for activities, such as wetlands management, fish and wildlife habitat management, irrigation or drainage water management, and crop production.

Dikes and levees are separate and distinguishable. For purposes of this standard, the terms are not interchangeable. Failure of a dike will result in no damage to adjacent property or infrastructure. Levees protect adjacent property and infrastructure and have the potential to cause significant damage upon failure. In addition, levees will be subject to future Federal reporting requirements. Both levees and dikes may have State, Tribal, or local reporting requirements.

This practice does not apply to sites where the following NRCS Conservation Practice Standards (CPSs) are more appropriate:

- Dam (Code 402)
- Diversion (code 362)
- Dam, Diversion (Code 348)
- Grade Stabilization Structure (Code 410)
- Pond (Code 378)
- Terrace (Code 600)
- Water and Sediment Control Basin (Code 638)

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
356-1	Dike	**Scenario Description:** Construction a barrier of either earth or manufactured materials for the purpose of the protection of people or property from floods or to control water levels in connection with crop production; fish and wildlife management;or wetland maintenance, improvement, restoration, or construction. Embankment structure to provide adequate freeboard, allowance for settlement, and foundation and embankment stability. **After Practice Description:** Water level is controlled by a stableearthen structure installed with compacted fill material. Material haul < 1 mile. Typical earthen dike assumed 1000 lineal feet, Class II (6 ft. in height, 8 ft. top width, 2H:1V side slopes). Potential hazard to public safety, land or property mitigated; environmental benefit provided. Scenario includes component forstripping and stockpiling base of dike.	Cubic Yardsof Earthmoving	Cubic Yard	$3.35	$4.02

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DIVERSION

Practice Code 362

Practice Units: FEET

Definition: A channel usually constructed across the slope with a supporting ridge on the lower side.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Intercept surface and shallow subsurface flow to reduce runoff and erosion.
- Divert water away from sensitive areas, conservation practices, agricultural waste systems, infrastructure, and other improvements.
- Collect or direct water for storage, water spreading, water-harvesting systems, or treatment.

Conditions Where Practice Applies: This practice applies to all land uses where the soils and topography allow construction of a diversion with a suitable outlet.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
362-1	Small, <2 CY/FT	**Scenario Description:** An earthen channel constructed across long slopes with supporting ridge on lower side, to divert runoff away from farmsteads, agricultural waste systems, gullies, criticalerosion areas, construction areas or other sensitive areas. Outletmay be waterway, underground outlet, or another suitable outlet. Scenario is for diversions requiring less than 2 CY of excavation per foot of diversion. Channel may be level or gradient and ridge may be vegetated or farmed. The quantity of excavation and fill isbalanced. **After Practice Description:** Scenario assumes a typical installation of a diversion 1000 feet long installed using a dozer.Diversion is 2.5' tall with 4' wide top width and slopes 3:1. Field system meets 'T' or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize thevolume of runoff that is contaminated by agricultural waste. **Associated Practices:** Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Subsurface Drainage (606).	Length of Diversion	Foot	$3.05	$3.66
362-2	Medium, 2 - 2.9 CY/FT	**Scenario Description:** An earthen channel constructed across long slopes with supporting ridge on lower side, to divert runoff away from farmsteads, agricultural waste systems, gullies, criticalerosion areas, construction areas or other sensitive areas. Outletmay be waterway, underground outlet, or another suitable outlet. Scenario is for diversions requiring 2 CY to 2.9 CY of excavation per foot of diversion. Channel may be level or gradient and ridge may be vegetated or farmed. The quantity of excavation and fill isbalanced. **After Practice Description:** Scenario assumes a typical installation of a diversion 1000 feet long installed using a dozer.Diversion is 4' tall with 4' wide top width and slopes 3:1. Field system meets 'T' or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize thevolume of runoff that is contaminated by agricultural waste. **Associated Practices:** Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Subsurface Drainage (606).	Length of Diversion	Foot	$6.14	$7.37

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
362-3	Large, >=3 CY/FT	**Scenario Description:** An earthen channel constructed across long slopes with supporting ridge on lower side, to divert runoff away from farmsteads, agricultural waste systems, gullies, criticalerosion areas, construction areas or other sensitive areas. Outletmay be waterway, underground outlet, or another suitable outlet. Scenario is for diversions requiring greater than or equal to 3 CY of excavation per foot of diversion. Channel may be level or gradient and ridge may be vegetated or farmed. The quantity of excavation and fill is balanced. **After Practice Description:** Scenario assumes a typical installation of a diversion 1000 feet long installed using a dozer.Diversion is 5' tall with 4' wide top width and slopes 3:1. Field system meets 'T' or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize thevolume of runoff that is contaminated by agricultural waste. **Associated Practices:** Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), and Subsurface Drainage (606).	Length of Diversion	Foot	$8.20	$9.85
362-6	Concrete Curb	**Scenario Description:** A reinforced concrete (RC) curb constructed across the slope to divert runoff away from farmsteads, gullies, critical erosion areas, construction areas, agricultural waste system, other sensitive areas, or to a waste storage facility. Outlet may be a waterway, underground outlet, orother suitable outlet. Typical 1.0 ft. high, 6-inch-thick RC curb diversion is approximately 50 feet long with a 2.0 ft. wide footing and requires approximately 0.056 CY of RC per linear ft. The curb will be placed on 6' of compacted sand. Concrete diversion is necessary due to limited footprint availability. **After Practice Description:** The 1.0 ft. high, 6-inch-thick RC curb diversion is approximately 50 feet long. 'Clean' storm waterrunoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agricultural waste. Polluted water is diverted to a waste storage facility for proper storage. **Associated Practices:** Critical Area Planting (342), Grassed Waterway (412), Underground Outlet (620), Mulching (484), andWaste Storage Facility (313).	Length of concrete diversion	Foot	$31.68	$38.01

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DRAINAGE WATER MANAGEMENT

Practice Code 554

Practice Units: ACRE

Definition: The process of managing the drainage volume and water table elevation by regulating the flow from a surface or subsurface agricultural drainage system.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Reduce nutrient, pathogen, and pesticide loading from drainage systems into downstream receiving waters.
- Improve productivity, health, and vigor of plants.
- Reduce oxidation of organic matter in soils.

Conditions Where Practice Applies: This practice is applicable to agricultural lands with surface or subsurface agricultural drainage systems that can be adapted, or are partially adapted, to allow management of drainage volume and water table by changing the elevation of water level at the outlets.

This practice applies where a high natural water table exists or has existed, and the topography is relatively smooth, uniform, and flat to very gently sloping.

The practice applies to saline or sodic soil conditions, but special considerations are required. See Qadir and Oster 2003 in the References section.

This practice does not apply to the management of irrigation water supplied through a subsurface drainage system. For that purpose use Iowa NRCS Conservation Practice Standards (CPSs) Irrigation System, Surface and Subsurface (Code 443) and Irrigation Water Management (Code 449).

The practice does not apply to the seasonal inundation of fields from overland surface runoff.

Limitations: The Drainage Water Management practice may be paid annually for up to 5 consecutive years.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
554-11	Automated Drainage Water Management - Each	**Scenario Description:** This scenario is the process of managing the drainage water discharge volume and water table elevation by regulating the flow from surface and/or subsurface agricultural drainage systems utilizing automation. Typical systems consist of a field with a fairly flat slope (less than 2% and preferably less than 1%) with existing drainage tile lines and installed water control structures which are operated with automated slide gates, and telemetry data systems coupled with cloud data management. Typical affected area for an automated drainage water management structure is 10 to 20 acres. The operator, from handheld device, adjusts water control structures (gate elevation) and logs data. Educational meeting is conducted between consultant and operator(s) annually for essential knowledge transfer. **After Practice Description:** Existing drainage systems are managed utilizing telemetry and real-time data to retain moisture in the soil for plant uptake and to allow for enhanced nutrient utilization. **Associated Practices:** 606-Subsurface Drain; 607-Surface Drain, Field Ditch; 608-Surface Drain, Main or Lateral; 587-Structure for Water Control; 590-Nutrient Management.	Number of Control Structures	Each	$65.04	$78.04
554-12	Manual Drainage Water Management	**Scenario Description:** This scenario describes the management of a drainage water system in a row crop field with subsurface drainage system already installed or planned to be installed with control structures, or a surface water management system with berms or levees around the field and control structures. Drainage conditions consist of variations in drainage characteristics and surface slopes. Subsurface drainage pattern consists of secondary main lines. Implementation of DWM results in improved water quality by reducing nutrient losses from the soil through ground or surface water outside of the growing season. Management of the water table results in more ground water available for crops during the growing season while lowering the water table prior to crop planting and crop harvest to avoid causing compaction. **After Practice Description:** Typical systems consist of a 50 acre field with existing drainage tile lines and 5 installed water control structures. The operator walks the field in order to adjust water control structures (riser boards). While on site the date and adjustment information is recorded/logged. The number of yearly adjustments is based on 6 trips to a field 5 miles from headquarters. The field time to make and record each adjustment is 0.5 hours per structure (including travel time). The typical field will contain 5 water control structures. **Associated Practices:** 606-Subsurface Drain; 607-Surface Drain, Field Ditch; 608-Surface Drain, Main or Lateral; 587-Structure for Water Control; 590-Nutrient Management.	Number of Control Structures	Each	$98.19	$117.83

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EARLY SUCCESSIONAL HABITAT DEVELOPMENT / MANAGEMENT

Practice Code 647

Practice Units: ACRE

Definition: Management for early plant succession to benefit desired wildlife or natural communities.

Purpose: To increase plant community species and structural diversity, provide wildlife habitat for those species that use early successional stage vegetative habitat and provide habitat for declining species.

Conditions Where Practice Applies: On all lands that are suitable for the kinds of wildlife and plant species that are desired.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
647-2	Disking	**Scenario Description:** This practice addresses inadequate wildlife habitat for species requiring early successional habitat. This scenario provides early successional habitat by setting backsuccession and manipulating species composition by disking vegetation and exposing bare ground. The typical setting for thisscenario is at the edge of crop fields, in pastures, and in odd areas such as pivot corners. This scenario is applicable nationwide. Where the management of woody plants is required to create or maintain early successional habitat conservation practice 314 brush management should be used. Where chemical control of weeds, including invasives, is required to reduce competition for the desired plant community conservation practice 315 herbaceous weed treatment should be used. Wherethe seedbank is inadequate for natural regeneration and seedingis required, use conservation practice 327 Conservation Cover. Where the need is to create early successional habitat within or at the edge of woodland or forest use conservation practice 645 Upland Wildlife Habitat Management (edgefeathering). **After Practice Description:** The application of this scenario improves wildlife habitat for species requiring early successionalplant communities by reducing competition and creating bare ground for the establishment of early successional plants. Additionally, brood rearing habitat is improved both by the resultant food resources and the increased openness of the plantcommunity that allows chicks to negotiate the terrain and exploit those food resources.	Width and length of treated area	Acre	$124.45	$149.34

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
647-4	Mowing and Heavy Disking	**Scenario Description:** This practice addresses inadequate wildlife habitat for species requiring early successional habitat. This scenario provides early successional habitat by setting backsuccession and manipulating species composition by mowing dense vegetation and then a heavy disking (multiple passes) to expose bare ground. All mowed areas are also disked. The typical setting for this scenario is at the edge of crop fields, in pastures, idle land and in odd areas such as pivot corners. This scenario is applicable nationwide. Where the management of woody plants is required to create or maintain early successionalhabitat conservation practice 314 brush management should be used. Where chemical control of weeds, including invasives, is required to reduce competition for the desired plant community conservation practice 315 herbaceous weed treatment should beused. Where the seedbank is inadequate for natural regenerationand seeding is required 327 Conservation Cover. Where the need is to create early successional habitat within or at the edge of woodland or forest use conservation practice 645 Upland Wildlife Habitat Management (edgefeathering). **After Practice Description:** The application of this scenario improves wildlife habitat for species requiring early successionalplant communities by reducing competition and creating bare ground for the establishment of early successional plants. Additionally, brood rearing habitat is improved both by the resultant food resources and the increased openness of the plantcommunity that allows chicks to negotiate the terrain and exploit those food resources.	Width and length of treated area	Acre	$205.64	$246.77
647-17	Strip Spraying	**Scenario Description**: Inadequate wildlife habitat for a targetspecies is improved by altering plant community succession through strip spraying. Strip spraying can be used to increasestructural diversity by creating areas of shorter vegetation preferred by some wildlife species or specific life stages of wildlife species as well as through management of incoming woody plant species. The typical setting for this scenario is at the edge of crop fields,in pastures, in odd areas such as pivot corners, or other areas being managed for wildlife habitat. **After Practice Description:** A more desirable, heterogeneous plant community (composition and structure) is restored. Strip spraying has created alternating bands of early and later (untreated) successional habitat. The heterogeneity of the habitatstructure has been increased.	Width and length of treated area	Acre	$69.53	$83.44

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EMERGENCY ANIMAL MORTALITY MANAGEMENT

Practice Code 368

Practice Units: NUMBER

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

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

- reduce impacts to surface water and groundwater resources
- reduce the impact of odors
- decrease the spread of pathogens

Conditions Where Practice Applies: This standard applies to animal operations where a catastrophic event would result in the need to manage animal carcasses.

Limitations: State Office Programs and Engineering staff will be notified before planning, design, and implementation of the 368 - Emergency Animal MortalityManagement Practice.

Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
368-179	National Emergency Shallow Burial of Swine or Cattle	**Scenario Description:** This scenario consists of the disposal ofanimal carcasses by burial in a shallow trench resulting from impacts related to the National Emergency. The purpose of the practice is to address resource concerns related to water qualitydegradation due to excessive nutrients, and organics being transported into surface and groundwater resources. Air qualityimpacts due to odors will also be addressed. This scenario hasbeen written to exclude feathered animals since early research has indicated that feathered animals do not break down quickly using this method. **After Practice Description:** Emergency animal mortalities resulting from causes not related to disease are being buried in ashallow trench, that prevents non-point source pollution of excessive nutrients, and organics being transported into surface and groundwater resources. The is a new method of mortality disposal recommended by APHIS. 50 animal units (50,000 pound) of animal mortality is the maximum allowed for this method. Proper operation results in little to no odors, and protection from predators to minimize pathogen survival or spreading. An overall plan covers the disposal of animals as a result of catastrophic mortality events. This typical scenario was developed based on the disposal of livestock animal mortality by burial in an 18 inch deep by 8 foot wide trench. A 12 inch thick layer of carbon material is placed in the bottom of the trench. Thecarcass is placed in the trench and covered with 4 inches of carbon material. Then the excavated soil is placed over the entiretrench area. The scenario includes equipment time and labor to excavate the trench, place carbon layer in the trench bottom, recover and transport carcasses to the shallow burial location, place carcasses in the trench and cover with more carbon and the excavated soil. Wood chips (45 pcf) will be used as the carbon source.	Number of 1000 lbs. Animal Units	Animal Unit	$149.37	$179.24
368-195	National Emergency Composting - purchase carbon material and mobilize equipment	**Scenario Description:** This scenario consists of the disposal of animal carcasses by composting in a static windrow resulting fromimpacts related to the National Emergency. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, and organics being transported into surface and groundwater resources. Air quality impacts due to odors will also be addressed. **After Practice Description:** Emergency animal mortalities resulting from causes not related to disease are being disposed by composting in a static windrow that prevents non-point source pollution of excessive nutrients, and organics being transported intosurface and groundwater resources. Proper operation results in little to no odors, and protection from predators. An overall plan covers the disposal of animals as a result of catastrophic mortality events. This typical scenario was developed based on the disposal of 30,000 pounds of animal mortality by composting on-site. The scenario includes equipment time and labor to recover and transport carcasses to the composting location and the building and turning of the pile at the appropriate time. Composting requires5 cubic yards of carbon material per 1000 pounds of animal. Wood chips (45 pcf) will be used as the carbon source.	Number of 1000 lbs. Animal Units	Animal Unit	$413.67	$496.40

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
368-211	National Emergency Carcass Disposal Other Than Burial, Incineration, Landfill or Render	**Scenario Description:** This scenario consists of the disposal of animal carcasses by methods other than burial, incineration, landfill or rendering resulting from impacts related to the NationalEmergency. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surfaceand groundwater resources. Air quality impacts due to odors will also be addressed. **After Practice Description:** Emergency animal mortalities resulting from causes not related to disease are being disposed in a manner, other than burial, incineration, landfill or rendering, that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Proper operation results in little to no odors, and protection from predators to minimize pathogen survivalor spreading. An overall plan covers the disposal of animals as a result of catastrophic mortality events. This typical scenario was developed based on the disposal of livestock carcasses by composting on-site. The scenario assumes the grower will provide all equipment and labor and that 50% of the carbon for compostingis available on-site.	Number of 1000 lbs. Animal Units	Animal Unit	$274.54	$329.45
368-227	National Emergency Disposal At Landfill or Render	**Scenario Description:** This scenario consists of the disposal of animal mortality carcasses by landfilling or rendering resulting fromimpacts related to the National Emergency. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Air quality impacts due to odors will also be addressed. **After Practice Description:** Catastrophic Animal mortalities resulting from causes not related to disease are being disposed in a landfill or by rendering, that prevents non-point source pollution ofexcessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Proper operation results in little to no odors, and protection from predators to minimize pathogen survival or spreading. An overall plan covers disposal of animals as a result of catastrophic mortality events. This typical scenario was developed based on the disposal of 700 finisher swine carcasses at an average weight of 200 pounds each in a landfill. The scenario includes materials, equipment time and labor to recover and transport the carcasses to the landfill which is withina 1.5 hour drive of the farm.	Pounds of mortality	Pound	$0.06	$0.07

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
368-243	National Emergency In-House Composting	**Scenario Description:** This scenario consists the emergencydisposal of poultry mortality by composting in a static windrowresulting from impacts related to the National Emergency. Additional carbon-based bulking material is added to facilitate aeration and provide a proper C:N ratio. The windrow is turned at least once to go into another heat cycle prior to land application. Access is infrequent. This option may not be desirable for sites withlimited area, karst topography, and not isolated from of public view.The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Air quality impacts due to odors will also be addressed. **After Practice Description:** Animal mortality disposal is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Proper operation resultsin little to no odors, complete composting, and protection from predators to minimize pathogen survival or spreading. An overall plan covers normal and catastrophic mortality events. The typicalscenario consists of in-house composting of animal mortality. Composting requires 1.5 pounds of carbon per pound of mortality. There is some manure and bedding already on site. Wood chips (45 pcf) will be used as the additional carbon source. The composting windrow construction operation consists of 2 pieces of equipment and 2 add'l laborers: 1) stockpiling carcasses, bedding, and manure in center of house; 2) construct 2 windrow bases usingcarbon material; 3) place carcass/bedding/manure mix on bases; 4)cover with carbon material; 5) cap windrows with any remaining bedding/manure; 6) after first heat cycle remove windrow from house and reconstruct outside house for finishing. Site to be located out of drainage areas, off-site water diverted and any runoffto spread out into a grassed area.	Number of 1000 lbs Animal Units	Animal Unit	$86.69	$104.02

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
368-259	National Emergency Forced Air Incineration	**Scenario Description:** This scenario consists the emergency disposal of a large number of livestock resulting from impacts related to the National Emergency. The cause of mortality is an event not related to disease. Additional carbon-based bulking material is added to facilitate aeration and provide a proper C:N ratio. The windrow is turned at least once to go into another heat cycle prior to land application. Access is infrequent. This option may not be desirable for sites with limited area, karst topography, and not isolated from of public view. The purpose of the practice isto address resource concerns related to water quality degradation due to excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Air quality impacts due to odors will also be addressed. **After Practice Description:** Animal mortality is being done in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. An overall plan covers normal and catastrophic mortality events. This typical scenario was developed based on the forced air incineration of 50 animal units of livestock carcasses. The scenario includes equipment time and labor to recover and transport carcasses to a suitable on-site incineration location and the rental and operation of a portable forced air incinerator. Wood fuel is also added to assist with the incineration process. The forced air incineration operation consists of a tractor plus operator to collect and transport carcasses to the incineration site, a portable forced air incinerator plus operator, and 1 add'l laborer. Site to be located out of drainage areas, off-site water diverted and any runoff to spread out into a grassed area. The forced air incineration operation consists of a tractor plus operator to collect and transport carcasses to the incineration site, a portable forced air incinerator plus operator, and 1 add'l laborer. Site to be located out of drainage areas, off-site water diverted andany runoff to spread out into a grassed area.	Number of 1000 lbs Animal Units	Animal Unit	$265.95	$319.14
368-275	National EmergencyBurial	**Scenario Description:** This scenario consists of the on-site burial of animal mortalities resulting from impacts related to the National Emergency. An earthen pit is excavated to contain the mortalities, and earth cover is placed over the mortalities to provide protection from predators to minimize pathogen survival or spreading. The purpose of the practice is to address resource concerns related to water quality degradation due to excessive nutrients, organics, andpathogens being transported into surface and groundwater resources. Air quality impacts due to odors will also be addressed. **After Practice Description:** Catastrophic Animal mortalities resulting from causes not related to disease are being disposed in a manner that prevents non-point source pollution of excessive nutrients, organics, and pathogens being transported into surface and groundwater resources. Proper operation results in little to no odors, and protection from predators to minimize pathogen survivalor spreading. An overall plan covers the burial of animals as a result of catastrophic mortality events. This typical scenario was developed based on the disposal of 25 head of mature cattle located near the area where the cattle have been found. The scenario includes equipment time and labor to recover and transport carcasses to the burial location. The scenario also includes a burial trench 4' deep plus 3' additional cover over carcasses. Construct a 6' x 60' (surface dimensions) burial site withappropriate cover. Site can handle mortality for 25 mature beef cattle. On site soils can be recompacted to meet required imperviousness. Include 3' overfill or mounding excavated material to provide for settlement of the burial site and divert or minimize offsite runoff. Site to be located out of drainage areas, off-site waterdiverted and any runoff to spread out into a grassed area.	Number of 1000 lbs Animal Units	Animal Unit	$111.24	$133.49

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ENERGY EFFICIENT AGRICULTURAL OPERATION

Practice Code 374

Practice Units: NUMBER

Definition: Development and implementation of improvements to improve the energy efficiency of on-farm energy use.

Purpose: This practice may be applied as part of a conservation management system to reduce energy use.

Conditions Where Practice Applies: The practice applies to non-residential structures and energy using systems where reducing energy use is the identified goal.

Limitations: Contracts that include Agricultural Energy Management Plans or audits as required for 374 – Farmstead Energy Improvement shall have energy plans or audits sent to the Iowa NRCS Area Engineer who will forward a copy to the Iowa NRCS State Office Environmental Engineer for administrative review before certification of plans or installation of practices outlined in plans or audits. Plans must meet the technical requirements of ASABE S612 - Performing On-farm Energy Audits and CEMA 228 criteria. The Farm Energy Improvement Practices Implementation and Certification Record worksheet will be completed and signed by the participant prior to practice certification for payment. Check CEMA 228 Qualifying Individual (QI) to make sure they meet CEMA certification requirements before contracting for CEMA 228.

Energy Initiative – Conservation Practice 374 Farmstead Energy Improvement - The Conservation Practice Decommissioning job sheet must be completed to document the destruction (scrapping, etc.) of the less efficient item (examples include motors, grain dryers, etc.).

Financial Assistance for Farmstead Energy Improvement for the following scenario, 374-136 “Grain Dryer, <= 675 bushel capacity” the rated capacity of the dryer will be based on 10 points moisture removal from corn. Using the manufacturer’s chart for a full-heat drying rate and a 10-point moisture drop, if all 10 pts occurs in dryer use full rate, otherwise apply a 0.75 correction factor. Financial Assistance for this scenario is eligible to treat the existing resource concern, including up to a 25% expansion of the existing extent of the resource concern. For Fiscal Year 2018 and after, there is a $50,000 cap for financial assistance on grain dryers.

The Farm Energy Improvement Practices Implementation and Certification Record worksheet will be completed and signed by the participant prior to practice certification for payment.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-1	Ventilation - Exhaust	**Scenario Description:** Replacement of an exhaust fan with a more efficient exhaust fan. Payment includes fan, controls, wiring,associated appurtenances and labor to install. **After Practice Description:** High-efficiency ventilation system which reduces energy use. The new ventilation equipment will provide suitable air quality and reduce overall power requirements(kW) compared to the existing ventilation system as evidenced in an energy audit. **Associated practices/activities may include:** 122-AgEMP - HQ,670- Lighting System Improvement, 672- Building Envelope Improvement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energysources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy auditmeeting the requirements of ASABE S612.	Each	Each	$1,677.50	$2,013.00
374-2	Ventilation - Horizontal Air Flow/Stir Fan	**Scenario Description:** A system of fans are installed where noneexist to create a horizontal air circulation pattern and remove air stratification. The new system promotes efficient heat and moisture distribution. Payment includes fan controls, wiring, associated appurtenances and labor to install. **After Practice Description:** High-efficiency air circulation systemwhich reduces energy use. In a typical 10,000 square foot greenhouse, 10 HAF fans are needed. The new equipment will provide suitable air quality and reduce overall power requirements(kW) compared to the existing system as evidenced in an energy audit. **Associated practices/activities may include:** 122-AgEMP - HQ,670- Lighting System Improvement, 672- Building Envelope Improvement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energysources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy auditmeeting the requirements of ASABE S612.	Each	Each	$203.56	$244.27

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-3	Ventilation - Cool Cell, Evaporative Cooling System	**Scenario Description:** A cool cell evaporative cooling system isinstalled in a livestock barn to reduce total ventilation requirements in hot weather. Scenario is applicable where there is an existing, inefficient cooling system/ventilation system in place that will be replaced by the cool cell. Payment includes all materials and labor to install the evaporative cooling system. **After Practice Description:** A cool cell evaporative cooling system reduces energy use by allowing lower ventilation ratesthat will result in net energy savings. The new equipment will provide suitable air quality and reduce overall power requirements (kW) compared to the existing system as evidenced in an energy audit. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Square Foot	Square Foot	$17.11	$20.53
374-4	Refrigeration - Plate Cooler	**Scenario Description:** The installation of all stainless-steel dualpass plate cooler, type 316 stainless steel. Payment includes plate cooler and labor to install. **After Practice Description:** High-efficiency milk cooling systemwhich reduces energy use. The new milk cooling equipment will pre-cool the milk and reduce overall power requirements (kW) compared to the existing milk cooling system (where most of thecooling was accomplished in the bulk tank) as evidenced in an energy audit. **Associated practices/activities may include:** 122- AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374- Farmstead EnergyImprovement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Each	Each	$4,178.99	$5,014.79

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-5	Refrigeration - Scroll Compressor	**Scenario Description:** Install a new comparably sized scroll compressor, associated controls, wiring, and materials to retrofit an existing refrigeration system. A new condenser is not includedin this typical scenario. Payment includes compressor, controls, wiring, appurtenances and labor to install. **After Practice Description:** A more efficient scroll compressor, which will reduce energy use, is evidenced by the energy audit. Acomparably sized scroll compressor provides refrigeration capacity at a higher efficiency than a reciprocating compressor. Newer scroll compressor systems typically reduce electricity use by 15 to 25 percent compared to reciprocating compressors. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non- renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Horsepower	Horsepower	$524.23	$629.08
374-6	Refrigeration - Compressor Heat Recovery System	**Scenario Description:** Install a new comparably sized compressor heat recovery unit. The unit includes insulated storage tanks with heat exchangers added to a refrigeration system. The system utilizes the heat extracted from the fluid (e.g.milk) that passes through the hot gas refrigerant line from the refrigeration system's compressors, to pre-heat water to approximately 110 degrees F before it enters a conventional water heater. Energy savings comes from the reduced heating required in a water heater. Low ambient controls and/or condenser variable speed drives are part of the installation. The actual number of heat recovery units and their location will depend on the operating hours of the compressor and the configuration of the existing system. Payment includes all materials and appurtenances and labor to install. **After Practice Description:** A more efficient compressor heatrecovery system is installed, which will reduce energy use, is evidenced by the energy audit. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Each	Each	$4,604.16	$5,524.99

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-7	Controller - Variable Speed Drive for <=1 HP Motor	**Scenario Description:** Installation of a variable speed drive (VSD) for a =1 horsepower electric motor typically used in small dairy operations. Payment includes appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. and labor to install. Payment does not include the costof the motor. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a VSD to control electric motors. After the VSD is applied, the motor speed can be adjusted to reduce power requirements and better match varied flow or pressure requirements. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energyaudit meeting the requirements of ASABES612.	Horsepower	Horsepower	$727.20	$872.64
374-8	Controller - Variable Speed Drive for >1 to <10 HP Motor	**Scenario Description:** Installation of a variable speed drive (VSD) for a >1 to <10 horsepower electric motor. Payment includes appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. and labor toinstall. Payment does not include the cost of the motor. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a VSD to control electric motors. After the VSD is applied, the motor speed can be adjusted to reduce power requirements and better match varied flow or pressure requirements. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABES612.	Horsepower	Horsepower	$217.91	$261.49

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-9	Controller - Variable Speed Drive for 10 to <50 HP Motor	**Scenario Description:** Installation of a variable speed drive (VSD) for a >10 to <50 horsepower electric motor typically used in small dairy operations. Payment includes appurtenances, suchas hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. and labor to install. Payment does not include the cost of the motor. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a VSD to control electric motors. After the VSD is applied, the motor speed can be adjusted to reduce power requirements and better match varied flow or pressure requirements. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energyaudit meeting the requirements of ASABES612.	Horsepower	Horsepower	$154.27	$185.13
374-10	Controller - Variable Speed Drive for >= 50 HP Motor	**Scenario Description:** Installation of a variable speed drive (VSD) for a >= 50 horsepower electric motor used to drive a ventilation fan,irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. Payment includes appurtenances, such as hook-ups, control panels, wiring, control blocks, filters, switches, pads, etc. and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a VSD to control electric motors. After the VSD is applied, the motor speed canbe adjusted to reduce power requirements and better match varied flow or pressure requirements. **Associated practices/activities may include:** 122-AgEMP - HQ,670- Lighting System Improvement, 672- Building Envelope Improvement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABES612.	Horsepower	Horsepower	$81.52	$97.83

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-11	Controller - Multi-Function, Single Environmental Condition	**Scenario Description:** The typical scenario consists of a multiple function automatic control system to manage a single environmentalcondition installed on an existing manually controlled agricultural building control system. Environmental conditions are defined by thefollowing: lighting, temperature, humidity and/or air quality. The controller will control a combination of the following devices to achieve single or multiple environmental condition control: fans, lights, curtains, dampers, heaters, sprinklers (cooling), etc. Typical components may include any of the following: wiring, sensors, data logger, logic controller, communication link, software, switches, and relay. Payment includes materials and appurtenances and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of an automatic controller that helps regulates the energy consumption ofthe existing system. **Associated practices/activities may include:** 122-AgEMP - HQ,670- Lighting System Improvement, 672- Building Envelope Improvement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABES612.	Each system	Each	$1,542.55	$1,851.06
374-12	Controller - Multi-Function, Multiple Environmental Condition	**Scenario Description:** The typical scenario consists of a multiple function automatic control system to manage multiple environmental conditions installed on an existing manually controlled agricultural building control system. Environmental conditions are defined by the following: lighting, temperature, humidity and/or air quality. The controller will control a combination of the following devices to achieve single or multipleenvironmental condition control: fans, lights, curtains, dampers, heaters, sprinklers (cooling), etc. Typical components may include any of the following: wiring, sensors, data logger, logic controller, communication link, software, switches, and relay. Payment includes materials and appurtenances and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of an automatic controller that helps regulates the energy consumptionof the existing system. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead EnergyImprovement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABES612.	Each system	Each	$4,276.74	$5,132.09

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-13	Motor - <= 1 HP Electric Motor Upgrade	**Scenario Description:** Replacement of an existing electric motor with an upgraded electric motor typically used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. The upgraded electric motor will be the same size as the existing less efficientmotor it is replacing. This scenario is for motors <=1 horsepower. Payment includes motor, appurtenances and laborto install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of aNEMA premium efficiency motor. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Horsepower	Horsepower	$597.20	$716.64
374-14	Motor - > 1 to <10 HP Electric Motor Upgrade	**Scenario Description:** Replacement of an existing electric motor with an upgraded electric motor typically used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. The upgraded electric motor will be the same size as the existing less efficient motor it is replacing. This scenario is for motors ranging from >1horsepower to <10 horsepower. Payment includes motor, appurtenances and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of aNEMA premium efficiency motor. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Horsepower	Horsepower	$176.99	$212.39

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-15	Motor - 10 - <50 HP Electric Motor Upgrade	**Scenario Description:** Replacement of an existing electric motor with an upgraded electric motor typically used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. The upgraded electric motor will be the same size as the existing less efficient motor it is replacing. This scenario is for motors ranging from 10horsepower to <50 horsepower. Payment includes motor, appurtenances and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of aNEMA premium efficiency motor **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Horsepower	Horsepower	$134.08	$160.89
374-16	Motor - >= 50 HP Electric Motor Upgrade	**Scenario Description:** Replacement of an existing electric motor with an upgraded electric motor typically used to drive a ventilation fan, irrigation pumps, vacuum pump, or similar equipment involved with agricultural production. The upgraded electric motor will be the same size as the existing less efficient motor it is replacing. This scenario is for motors of 50 horsepower or greater. Payment includes motor, appurtenancesand labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of aNEMA premium efficiency motor. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Horsepower	Horsepower	$90.52	$108.62

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-17	Motor - Variable Speed Electric (Split Phase)	**Scenario Description:** Installation of a multi speed electric motor typically used to drive a ventilation fan in a livestock production house. Payment includes motor and labor to install.Control panel is not included. Refer to associated control panel scenarios as needed. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a multi speed electric motor. After the motor is installed, the motorspeed can be adjusted to reduce power requirements and better match varied flow or pressure requirements. **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABES612.	Horsepower	Horsepower	$228.22	$273.86
374-18	Heating - Radiant Systems	**Scenario Description:** Replace 'pancake' Brood Heaters in apoultry house with Radiant Tube Heaters, or similar. Replacement will require the materials and labor to remove existing heating system, re-plumb gas lines, cables and winch system to retrofit new radiant tube heaters, and miscellaneous items to complete the installation. Alternate acceptable radiant heating systems can include radiant brooders and quad radiantsystems as indicated in the energy audit. Payment includes materials and labor to install the new system. **After Practice Description:** Energy use is reduced through installation of a more efficient heater. Radiant tube heaters primarily warm objects within a direct line of sight (similar to the sun or an open fire). Air temperature is of relatively little importance for a radiant heating system to be effective. As a result, radiant systems are typically installed 5' or more above thefloor level. This height extends the distribution of the radiant heat over a larger area than is possible with pancake style heaters. A roughly 16' diameter radiant heat zone heats over twice that of a conventional pancake brooder. The typical scenario consists of the replacement of 28 brood heaters with 6 radiant tube heaters **Associated practices/activities may include:** 122-AgEMP - HQ, 670- Lighting System Improvement, 672- Building EnvelopeImprovement, and other activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Rated Heat Output	1,000 BTU/Hour	$10.79	$12.95

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-19	Heating - Building	**Scenario Description:** Replace existing low efficiency heaters with new high efficiency heaters. High-efficiency heating systemsinclude any heating unit with efficiency rating of 80%+ for fuel oil and 90%+ for natural gas and propane. Applications may be air heating/building environment and hydronic (boiler) heating for agricultural operations, including under bench, or root zone heating. An alternative to heater replacement might be the addition of climate control system and electronic temperature controls with +/- 1-degree F differential, to reduce the annual runtime. Payment includes heater and labor to install. **After Practice Description:** Higher efficiency heaters reduce energy consumption, energy costs, and GHG emissions. Thesereplacement systems can be fueled by natural gas, propane, orfuel oil. **Associated practices/activities:** 122-AgEMP - HQ 670- Lighting System Improvement, 672- Building Envelope Improvement, and other activities within 374-Farmstead EnergyImprovement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non- renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Rated Heat Output	1,000 BTU/Hour	$17.07	$20.49
374-20	Heating - Attic Heat Recovery Vents	**Scenario Description:** Install actuated inlets or automatic latching gravity inlets that draw warmer, drier air from the attic to assist with moisture and heat control when ventilation fans are being operated in poultry houses and swine barns. In certain situations, it may be necessary to also upgrade the ventilation system in addition to the vent upgrades. Other systems to transfer heat, as detailed in ASABE S612-compliant energy auditmay also be used. Payment includes materials and labor to install. **After Practice Description:** Attic vents or inlets allow dry warm air from the attic to circulate throughout the building in a 40' x 500' poultry house. By using pre-warmed air from the attic less energy is needed for heating 122-AgEMP - HQ 670- Lighting System Improvement, 672- Building Envelope Improvement, andother activities within 374-Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energyefficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABES612.	Each inlet	Each	$171.06	$205.28

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
374-67	Controller - Single Function	**Scenario Description:** The typical scenario consists of a single function controller with built in sensors for automatic on-off control that can be powered by a typical 120V electrical outlet. Controller does not typically include any communication link, datalogging or wi-fi capabilities. The controller is typically installed on an existing manually controlled agricultural system including, but not limited to, building ventilation systems. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of an automatic controller that helps regulate the energy consumptionof the existing system. **Associated practices/activities may include:** 128-AgEMP, 670 - Lighting System Improvement, 672 - Building envelope Improvement, and other activities within 374 - Farmstead EnergyImprovement. The new controller is connected to the existing system and controls when the equipment is on or off. The resource concern of Inefficient Energy Use - Equipment andFacilities will be addressed with this practice by operating the equipment only when needed and therefore saving energy.	Each controller	Each	$142.85	$171.41
374-79	Ventilation - Heat Recovery System	**Scenario Description:** Heat recovery system to recover thermalenergy from contaminated and dirty exhaust air in poultry barns. Includes all the automation, controls, and monitoring equipment resulting in a self-sufficient operating unit/system. Each system is designed to operate 4,000 square feet of poultry production space and provides 4,000 cfm of ventilation. **After Practice Description:** Exhaust heat is recovered and reused thereby reducing heating energy costs for the productionfacility. **Associated practices:** 128 Ag Energy Management Plan.	Each unit	Each	$10,020.00	$12,024.00
374-136	Grain Dryer, <= 675 bushel capacity	**Scenario Description:** A replacement continuous dryer rated for an appropriately rated bushel capacity for the operation that includes a microcomputer-based control system that adjusts the amount of time the crop remains in the dryer in order to achieve a consistent and accurate moisture content in the dried product. Alternate types of replacement dryers which reduce energy use are acceptable as evidenced by the energy audit. **After Practice Description:** Energy use is reduced through installation of a more efficient continuous dryer that uses a microcomputer-based controller to reduce over drying and total time of operation. Associated practices/activities may include: 120-Agriculture Energy Design, and other activities within 374-Energy Efficient Agricultural Operation. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Capacity of the dryer	Bushel	$220.78	$264.93

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ENERGY EFFICIENT BUILDING ENVELOPE

Practice Code 672

Practice Units: NUMBER

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

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

Conditions Where Practice Applies: This practice applies to any agricultural facility which is climate controlled at least part of the time with a completed energy analysis that complies with the guidelines for a Type 2 on-farm energy audit per the American Society of Agricultural and Biological Engineers (ASABE) S612. The audit will have at a minimum addressed the major activities of ventilation, air heating and air cooling that exists in the building.

Limitations: Contracts that include Agricultural Energy Management Plans or audits as required for 672 – Energy Efficient Building Envelope shall have energy plans or audits sent to the Iowa NRCS Area Engineer who will forward a copy to the Iowa NRCS State Office Environmental Engineer for administrative review before certification of plans or installation of practices outlined in plans or audits. Plans must meet the technical requirements of ASABE S612 - Performing On-farm Energy Audits and CEMA 228 criteria. The Farm Energy Improvement Practices Implementation and Certification Record worksheet will be completed and signed by the participant prior to practice certification for payment. Check CEMA 228 Qualifying Individual (QI) to make sure they meet CEMA certification requirements before contracting for CEMA 228.

Maintenance: Practice will be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
672-1	Building Envelope - AtticInsulation	**Scenario Description:** Install a minimum R-7 insulation in an existing attic or ceiling to reduce heat transfer. Increased insulation reduces seasonal heat loss and heat gain which reduces the respective need for heating and cooling equipmentto operate. Payment includes materials, equipment and labor toinstall. **After Practice Description:** A more effective and efficient building envelope can be created through addition of, or increased, attic insulation. The resource concern is inefficient useof energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities:** 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient LightingSystem, and 374-Farmstead Energy Improvement.	Area of Attic Insulated	Square Foot	$0.71	$0.85
672-2	Building Envelope - WallInsulation with Foam Insulation	**Scenario Description:** Enclose both sidewalls and endwalls from ceiling to floor with closed-cell polyurethane foam application (minimum 1" thickness (R-7) of 2.5 lbs./cu. ft. or higher density, (3.0 or higher density preferred) with a form of physical protective barrier on lower 2' (may be 6 lbs./cu. ft. or higher density 1/8" thick foam, or treated lumber). Installation also includes a thermal and ignition barrier intumescent coatingor equivalent per NI_210-301. Payment includes materials, equipment and labor to install. **After Practice Description:** A more effective and efficient building envelope can be created through addition of, or increased, insulation in a 40' x 400' livestock building. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities:** may include 128-Ag EnergyManagement Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Area of Wall Insulated	Square Foot	$3.16	$3.79

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
672-3	Building Envelope - Sealant	**Scenario Description:** Seal the gaps between walls, gables, ceiling, etc. in a poultry house or greenhouse. Payment includesmaterials, equipment and labor performed by a professional contractor. **After Practice Description:** A more effective and efficient building envelope can be created through interior sealing of the exterior walls at the footer plate, eaves, ridge cap, and gable ends. The sealant reduces seasonal heat loss and heat gain dueto infiltration which reduces the respective need for heating and cooling equipment to operate. The unit basis of payment in this scenario is each house based on 60' x 500' poultry house with anassumed need of sealant to seal 2400 linear feet of gap. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities**: may include 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Perimeter of heated structure	Foot	$1.39	$1.66
672-4	Building Envelope - Greenhouse Screens	**Scenario Description:** Installation of a mechanical energy screen system associated with a greenhouse consisting of a drive motor, support cables, controls, and shade material, which may be woven, knitted, or non-woven strips of aluminum fiber, polyethylene, nylon or other synthetic material. The screen provides a means to better control solar heat gain and heat transfer during night or cold weather conditions to reduce energyuse. Screens and similar devices may also be used to divide internal areas and allow for differentiated heating, ventilation, or cooling system operation to reduce energy use. Payment includes materials and labor to install. **After Practice Description:** The greenhouse is fitted with a mechanically controlled energy screen installed truss-to-truss or gutter-to-gutter, with side screens as necessary, reducing heat loss in the greenhouse. The resource concern is inefficient use ofenergy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities:** may include 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Area of Screen	Square Foot	$2.31	$2.77

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
672-5	Building Envelope - Greenhouse Unglazed Wall Insulation	**Scenario Description:** Installation of insulation in greenhouse toaddress energy loss. The insulation can be either of the celluloseor bubble type (or equivalent). The increased insulation reduces seasonal heat loss and heat gain which reduces the respective need for heating and cooling equipment to operate. Payment includes materials and labor to install. **After Practice Description:** The greenhouse is fitted with insulation installed truss-to-truss or gutter-to-gutter and/or non- glazed end walls and/or sidewalls, reducing heat loss and gain inthe greenhouse. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities** may include 128-Ag EnergyManagement Plan, 136-Ag Energy Design Plan, 670- EnergyEfficient Lighting System, and 374-Farmstead Energy Improvement.	Square Feet of Insulation	Square Foot	$0.31	$0.37
672-6	Building Envelope - Insulated Door Upgrade	**Scenario Description:** Replace an existing door with an insulated door, such as but not limited to a steel roll up door in a poultry building. Increased insulation reduces seasonal heat lossand heat gain which reduces the respective need for heating andcooling equipment to operate. Payment includes materials and labor to install. **After Practice Description:** A 20-gauge 12' x 12' rolling serviceinsulated steel door is installed as a replacement for an existing less efficient door on a poultry building. The resource concern isinefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities may include**: 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Square Foot	Square Foot	$9.06	$10.87

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
672-7	Building Envelope - Insulated Curtain Upgrade	**Scenario Description:** Replacement of an existing non- insulated curtain with a seven-layer insulated curtain with an R-value of 3 for a livestock building. The curtain's two outer layersare vinyl and polyethylene and the five inner layers are composed of insulating materials with air trapping fibers and a vapor barrier. Payment includes curtain and labor to install. Payment does not include mounting accessories because thescenario assumes the curtain is replacing a non-insulated curtain. **After Practice Description:** A 7-layer insulated curtain is installed as a replacement for an existing less efficient curtain ona livestock building. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities may include**: 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Square Foot	Square Foot	$2.13	$2.55
672-8	Building Envelope - Curtain Wall Conversion	**Scenario Description:** Converting part or all of a curtain wall to solid insulated wall by installation of an insulated metal cover in alivestock building. Payment includes materials and labor for the installation of a weather proof exterior such as, but not limited to,corrugated steel, and insulation such as, but not limited to polyurethane R-7. Payment does not include upgrade to ventilation. **After Practice Description:** An insulated metal wall is installed as a replacement for an existing less efficient curtain on a livestock building. Conversion is for a building that requires 3040sq. ft. of wall to replace the curtains. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities may include:** 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Square Foot	Square Foot	$3.66	$4.39

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
672-81	Building Envelope -Wall Insulation with Fiberglass Batt Insulation	**Scenario Description:** Enclose both sidewalls and endwallsfrom ceiling to floor with 3.5" fiberglass batts (R-11), vapor barrier, and interior plywood or OSB sheathing. Payment includes materials, equipment and labor to install. **After Practice Description:** A more effective and efficient building envelope can be created through addition of, or increased, insulation in a 40' x 400' livestock building. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities may include:** 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 670- Energy Efficient Lighting System, and 374-Farmstead Energy Improvement.	Area of wall insulated	Square Feet	$2.07	$2.48

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ENERGY EFFICIENT LIGHTING SYSTEM

Practice Code 670

Practice Units: NUMBER

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

Purpose: This practice may be applied to reduce energy use.

Conditions Where Practice Applies: This practice applies to any agricultural facility with an existing lighting system and a completed lighting assessment that complies with the guidelines for a Type 2 on-farm energy audit for the major activity of lighting per ANSI/ASABE S612.

Limitations: Contracts that include Agricultural Energy Management Plans or audits as required for 670 – Energy Efficient Lighting System shall have energy plans or audits sent to the Iowa NRCS Area Engineer who will forward a copy to the Iowa NRCS State Office Environmental Engineer for administrative review before certification of plans or installation of practices outlined in plans or audits. Plans must meet the technical requirements of ASABE S612 - Performing On-farm Energy Audits and CEMA 228 criteria. The Farm Energy Improvement Practices Implementation and Certification Record worksheet will be completed and signed by the participant prior to practice certification for payment. Check CEMA 228 Qualifying Individual (QI) to make sure they meet CEMA certification requirements before contracting for CEMA 228.

Three Payment Scenarios listed below are vague in the Scenario Name and Scenario Description. The table below provides additional guidance for these three Payment Scenario ID's:

Scenario ID	Scenario Name	Guidance
670 – 1	Lighting – Outdoor/High Bay Fixture Conversion	This can be used for outdoor fixture conversion or for indoor high bay applications such as in large machine sheds or free-stall barns.
670 – 3	Lighting- Indoor Fixture Conversion	This can be used for indoor conversion, typically in a one fixture replaced for one new fixture installed situation.
670 – 22	Lighting – Indoor Fixture Conversion, Multiple Fixture Upgrade	The multiple fixture upgrade applies when a single fixture is replaced with multiple new LED fixtures, typically in a livestock house. The scenario is based on a 1 to 5 conversion, however the way it is set up the planned contracts based on the current number of fixtures in the house to be replaced, so the scenario will work for other conversions, such as a 1 to 4 ratio. The payment is based on the number of original fixtures.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
670-1	Lighting - Outdoor or HighBay Fixture Conversion	**Scenario Description:** Installation of a lighting system consisting of an outdoor/high bay light such as, but not limited to,LED or pulse-start metal halide (PSMH) lamp with a matched ballast. Associated materials for installation of replacement fixtures are included. Appropriate disposal of existing lamps, ballasts and other materials is required. Payment includes lamp,fixtures and labor to install. **After Practice Description:** High-efficiency lighting system which reduces energy use. The new lighting equipment will provide suitable light levels and reduce overall power requirements (KW) compared to the existing lighting system asevidenced by the energy audit. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting therequirements of ASABE S612. **Associated practices/activities:** 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 672 Energy Efficient BuildingEnvelope, and 374-Farmstead Energy Improvement.	Each lamp replaced	Each	$151.28	$181.54
670-2	Lighting - LED	**Scenario Description:** To install dimmable LEDs to replace incandescent lamps on a one-for-one basis. Light fixtures do nothave to be replaced. A typical poultry house has 48 fixtures. LED requirements: minimum 6-Watt, 3700 Kelvin, dimmable, grow-out bulb; industrial grade; suitably protected from dirt accumulation. In high humidity environments or areas subject towash down, gasketed or weatherproof housings are required to prevent corrosion and premature failure. Payment includes lightbulb and labor to install. **After Practice Description:** More efficient lighting is provided byLight-Emitting Diode (LED) lamps in order to reduce energy use as evidenced by the energy audit. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612. **Associated practices/activities:** 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 672 Energy Efficient BuildingEnvelope, and 374-Farmstead Energy Improvement.	Each lamp replaced	Each	$8.87	$10.65

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
670-3	Lighting - IndoorFixture Conversion	**Scenario Description:** Installation of a lighting system consisting of a four-foot, three-lamp fixture with a single electronic ballast. The high-efficiency lighting system uses high-efficiency LED or T8 or T5 fluorescent lamps. Associated materials for installation of replacement fixtures are included. Appropriate disposal of existing lamps, ballasts and other materials is required. Payment includes lamps, ballast, fixturesand labor to install. **After Practice Description:** High-efficiency lighting system which reduces energy use. The new lighting equipment will provide suitable light levels and reduce overall power requirements (kW) compared to the existing lighting system asevidenced by the energy audit. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting therequirements of ASABE S612. **Associated practices/activities:** may include 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 672 Energy Efficient Building Envelope, and 374-Farmstead Energy Improvement.	Each fixture replaced	Each	$272.79	$327.35
670-4	Lighting - Outdoor or HighBay Bulb Replacement	**Scenario Description:** Installation of a lighting system consisting of an outdoor/high bay light such as, but not limited to,LED or pulse-start metal halide (PSMH) lamp. Light fixtures do not have to be replaced. Appropriate disposal of existing lamps, ballasts and other materials is required. Payment includes light bulb and labor to install. **After Practice Description:** High-efficiency lighting system which reduces energy use. The new lighting equipment will provide suitable light levels and reduce overall power requirements (kW) compared to the existing lighting system asevidenced by the energy audit. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting therequirements of ASABE S612. **Associated practices/activities:** may include 128-Ag Energy Management Plan, 136-Ag Energy Design Plan, 672 Energy Efficient Building Envelope, and 374-Farmstead Energy Improvement.	Each lamp replaced	Each	$100.83	$121.00

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
670-22	Lighting - IndoorFixture Conversion, Multiple Fixture Upgrade	**Scenario Description:** Installation of a lighting system consisting of multiple high efficiency LED light fixtures and lampsproviding equivalent lighting levels to the fixture being replaced. Associated materials for installation of replacement fixtures are included. Appropriate disposal of existing lamps, ballasts and other materials as required. Payment includes, lamps, fixture, wiring components, and labor to install. Payment is based on each original fixture that is replaced by multiple fixtures of upgraded LEDs. For example, if a building has 20 existing high- pressure sodium light fixtures which are replaced by 100 LED fixtures, the contract item number quantity is 20. **After Practice Description:** High-efficiency lighting system which reduces energy use. The new lighting equipment will provide suitable light levels and reduce overall power requirements (kW) compared to the existing lighting system asevidenced by the energy audit. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting therequirements of ASABE S612. **Associated practices/activities:** may include 128-Ag EnergyManagement Plan, 136-Ag Energy Design Plan, 672 Energy Efficient Building Envelope, and 374-Farmstead Energy Improvement.	Each fixture replaced	Each	$133.60	$160.32
670-37	Automatic Controller System	**Scenario Description:** The typical scenario consists of an automatic control system installed on an existing manually controlled agricultural system. Typical components may include any of the following: wiring, sensors, data logger, logic controller,communication link, software, switches, and relay. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of an automatic controller that helps regulates the energy consumptionof the existing system. Associated practices/activities may include: 122-AgEMP - HQ, and other activities within 374- Farmstead Energy Improvement. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Each lamp replaced	Each	$378.98	$454.78

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FENCE

Practice Code 382

Practice Units: FEET

Definition: A constructed barrier to contain 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: On any area where management of animal or human movement is needed.

Limitations:

Fence (382) is ineligible if the primary purpose is to separate ownership or exclude livestock from transportation networks or to exclude deer, hogs, or other wild animals from cropland.

For property line fences, the sections the applicant is responsible for maintaining according to Iowa law are eligible for EQIP financial assistance in instances listed below:

When the conversion of Cropland to Pasture, fence needed to support this system is eligible for EQIP financial assistance.

On expired or expiring Conservation Reserve Program (CRP) land to establish a grazing operation; however, the practice may not be installed until the CRP contract has expired.

Where the EQIP contract includes supporting practices that promote a change in production systems, the program contract must contain the appropriate Management practice to ensure that environmental benefits will be achieved.

Maintenance: Practice will be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
382-2	Permanent Barbed WireMulti Strand	**Scenario Description:** Scenario is for the establishment ofpermanent multi strand barbed wire fence for livestock. **After Practice Description:** Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.Fence includes posts, wire, fasteners, gates, brace posts, etc. Fence will be installed with wildlife friendly considerations. **Associated Practices:** Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical AreaPlanting, Access Control	Length of Fence	Foot	$2.34	$2.80
382-3	Permanent High Tensile Electric 2-3 Strand	**Scenario Description:** Scenario is for the installation of a permanent high tensile electric fence of either 2 or 3 strands. Fence will allow for implementation of a grazing management that allows for an adequate rest and recovery period, protectionof sensitive area, improved water quality, reduction of noxious and invasive weeds. Constructed using fencing materials ratherthan a pre-manufactured gate. **After Practice Description:** Installation of fence will allow for implementation of a rotational grazing plan that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.This scenario consists of installing a permanent high tensile electric fence with 2-3 wires with wooden post of 50' centers, battens between the post, single H brace assembles, energizer, and all appurtenances. **Associated Practices:** Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical AreaPlanting, Access Control	Length of Fence	Foot	$1.63	$1.96
382-4	Permanent High Tensile Electric Single Strand	**Scenario Description:** Scenario is for the installation of a permanent high tensile electric single strand fence. Installation offence will allow for implementation of a grazing management thatallows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds. **After Practice Description:** Installation of fence will allow for implementation of grazing management that allows for an adequate rest and recovery period, protection of sensitive area, improved water quality, reduction of noxious and invasive weeds.Fence includes posts, wire, fasteners, gates, fence charger, etc. Fence will be installed with wildlife friendly considerations. **Associated Practices:** Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical AreaPlanting, Access Control	Length of Fence	Foot	$1.15	$1.38

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
382-5	Permanent High Tensile, Minimum 4 Strand, Double H bracing	**Scenario Description:** Establishment of permanent electric or non-electric high tensile fence for livestock. Fence is designed using minimum of 4 strands and double H bracing. **After Practice Description:** This scenario consists of installing a permanent high tensile fence with a minimum of 4 wires with wooden posts, double H brace assembles as called for by site conditions, and all appurtenances. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated Practices:** Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical Area Planting, Access Control.	Length of Fence	Foot	$2.51	$3.01
382-7	Permanent Woven Wire	**Scenario Description:** Establishment of woven wire fence forlivestock. **After Practice Description:** Typical size for this scenario is 1320 feet. This scenario consists of installing a permanent wovenwire fence with wooden posts of 20' centers and single H brace assemblies. Also includes one strand barbed top wire, and all appurtenances. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated Practices:** Prescribed Grazing, Pipeline, WaterWell, Spring Development, Heavy Use Area, Pumping Plant,Watering Facility, Forage and Biomass Planting, Critical	Length of Fence	Foot	$2.70	$3.24
382-8	Temporary/ Portable Fence	**Scenario Description:** Establishment of temporary or portablefence for livestock to facilitate a more intensive grazing systemsuch as stockpiling or strip grazing. **After Practice Description:** Consists of installing a single strand polywire/polytape fence with step in/fiberglass posts on 50' centers, solar energizer, and all appurtenances. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated Practices:** Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical AreaPlanting, Access Control	Length of Fence	Foot	$0.40	$0.48

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
382-9	Safety	**Scenario Description:** A barrier (fence) implemented on an NRCS constructed waste storage system according to engineering design to exclude human access. Permanently installed fence built to (1) keep humans away from waste ponds& lagoons, or (2) to protect sensitive areas (riparian areas, wetlands, springs, etc.) from heavy livestock pressure. Heavy grade fence materials and close post spacing required. **After Practice Description:** Humans and livestock are excludedfrom the waste storage pond for safety purposes by installing a fence around a waste holding pond. The fence would typically be450 feet long with one gate and installed by a fencing contractor.Woven wire fence with one strand of barb wire on top with a gate. Improved livestock control and access to water or other sensitive areas will promote safety for livestock/humans improvehealth, vigor of sensitive species, limiting soil erosion, and condition.	Length of Fence	Foot	$6.28	$7.54
382-10	Temporary - Portable for Small Livestock	**Scenario Description:** Establishment of temporary or portablefence for small livestock to facilitate a more intensive grazing system such as stockpiling or strip grazing. **After Practice Description:** Consists of installing a prefabricated fence that has 10 horizontal twines; is 42 in. tall installed, and has plastic vertical struts every 12”, solar energizer, and all appurtenances. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated Practices:** Prescribed Grazing, Pipeline, Water Well, Spring Development, Heavy Use Area, Pumping Plant, Watering Facility, Forage and Biomass Planting, Critical AreaPlanting, Access Control	Length of Fence	Foot	$1.57	$1.88

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FIELD BORDER

Practice Code 386

Practice Units: ACRE

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

Purpose:

- Reduce erosion from wind and water and reduce excessive sediment to surface waters (soil erosion).
- Reduce sedimentation offsite and protect water quality and nutrients in surface and ground waters (water quality degradation).
- Provide food and cover for wildlife and pollinators or other beneficial organisms (inadequate habitat for fish and wildlife).
- Reduce greenhouse gases and increase carbon storage (air quality impact). Reduce emissions of particulate matter (air quality impact)

Conditions Where Practice Applies: Around the inside perimeter of fields. Its use can support or connect other buffer practices within and between fields. This practice applies to cropland and pasture fields

Limitations: Scenario 386-76 Small Scale Field Border, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
386-14	Field Border, Native Species, Forgone Income	**Scenario Description:** A strip of permanent vegetation established at the edge or around the perimeter of an agriculturalfield. Practice includes seedbed prep and planting of native species. The area of the field border is taken out of production. **After Practice Description:** The 386 Implementation Requirements have been developed and applied for the site. Thispractice when applied around a field may support and connect other buffer practices within and between fields. Native grasses, legumes and forbs will be established in the field borders to the extent needed to meet the resource needs and producer objectives. Minimum field border widths shall be based on NRCS local design criteria specific to the purpose for installing the practice. Native species shall be selected that do not function as a host fordiseases of a field crop and have physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area.	Number ofacres	Acre	$599.90	$629.99
386-16	Field Border, Pollinator, Forgone Income	**Scenario Description:** A strip of permanent vegetation established at the edge or around the perimeter of an agriculturalfield. Practice includes seedbed prep and planting of pollinator friendly herbaceous species. The area of the field border is takenout of production. **After Practice Description:** The 386 Implementation Requirements have been developed and applied for the site. Thispractice when applied around a field may support and connect other buffer practices within and between fields. Pollinator herbaceous plantings will provide species which flowerthroughout the growing season. This provides a source of nectarfor adult pollinators and a diversity of herbaceous material for immature pollinator life stages and for nesting. Minimum field border widths shall be based on NRCS local design criteria specific to the purpose for installing the practice. Species selected shall meet the pollinator habitat requirements ofthe state and be adapted to site; not function as a host for diseases of a field crop and; have physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area.	Number of acres	Acre	$851.03	$931.35

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
386-76	Small Scale Field Border	**Scenario Description:** A strip of permanent vegetation established at the edge or around the perimeter of an agriculturalfield. Practice includes seedbed prep and planting of introduced plant species. **After Practice Description:** The 386 Implementation Requirements have been developed and applied for the site. Field border widths are based on NRCS local design criteria specific to the purpose for installing the practices. Species selected shall be adapted to site and not host disease or pests ofthe adjacent field crop. Species have physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area.	planted area	1,000 Square Foot	$58.63	$70.36
386-85	Field Border, Introduced Species, Forgone Income	**Scenario Description:** A strip of permanent vegetation established at the edge or around the perimeter of an agriculturalfield. Practice includes seedbed prep and planting of introduced species. The area of the field border is taken out of production. **After Practice Description:** The 386 Implementation Requirements have been developed and applied for the site. Thispractice when applied around a field may support and connect other buffer practices within and between fields. Introduced grasses and legumes will be established for the field border to the extent needed to meet the resource needs and producer objectives. Minimum field border widths shall be based on NRCS local design criteria specific to the purpose for installing the practice. Introduced species of grasses, legumes, forbs or shrubs shall beselected that are adapted to site, will not function as a host for diseases of a field crop and have physical characteristics necessary to control wind and water erosion to tolerable levels on the field border area.	Number of acres	Acre	$540.05	$558.17

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FILTER STRIP

Practice Code 393

Practice Units: ACRE

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

Purpose:

- Reduce suspended solids and associated contaminants in runoff and excessive sediment in surface waters.
- Reduce dissolved contaminant loadings in runoff.
- Reduce suspended solids and associated contaminants in irrigation tailwater and excessive sediment in surface waters

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.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
393-14	Filter Strip, Introduced species, Forgone Income	**Scenario Description:** A strip or area of herbaceous vegetation that removes contaminants from overland flow. Practice includes seedbed prep and planting of introduced species. The area of thefilter strip is taken out of production. **After Practice Description:** The 393 Implementation Requirements are developed for the site and applied. The planned filter strip will be established and maintained per the practice plan that will meet the criteria for the planned purpose(s). The vegetation will consist of introduced species. The filter strip will have adequate width to filter the planned pollutants. The practice includes seedbed preparation, seeding, and seed. Species selected shall be able to withstand partial burial by sediment and tolerant of herbicides used on contributionarea while protecting environmentally-sensitive areas. The area of the filter strip is taken out of production.	Number of acres	Acre	$618.64	$652.48
393-15	Filter Strip, Native species, Forgone Income	**Scenario Description:** A strip or area of herbaceous vegetationthat removes contaminants from overland flow. Practice includesseedbed prep and planting of native species. The area of the filter strip is taken out of production. **After Practice Description:** The 393 Implementation Requirements are developed for the site and applied. The planned filter strip will be established and maintained per the practice plan that will meet the criteria for the planned purpose(s). The vegetation will consist of native species. The filter strip will have adequate width to filter the planned pollutants.The practice includes seedbed preparation, seeding, and seed. Species selected shall be able to withstand partial burial by sediment and tolerant of herbicides used on the contribution areawhile protecting environmentally-sensitive areas. The area of the filter strip is taken out of production.	Number of acres	Acre	$663.59	$706.42

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FIREBREAK

Practice Code 394

Practice Units: FEET

Definition: A permanent or temporary strip of bare or vegetated land planned to retard fire.

Purpose:

- Reduce the spread of wildfire.
- Contain prescribed burns.

Conditions Where Practice Applies: This practice applies on all land uses where protection from wildfire is needed or prescribed burning is applied.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
394-1	Constructed - Light Equipment	**Scenario Description:** Installation of a bare-ground firebreak ofa minimum width of 15' around a 20-acre field/farm using farm equipment (2 passes). Generally, water control devices such aswater bars are not needed due either to the lack of steep terrainor the temporary nature of the firebreak. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, and Habitat degradation. **After Practice Description:** The property is adequately protected from wildfire or can be safely prescribe burned.	Length of firebreak	Feet	$0.07	$0.08
394-4	Vegetated permanent firebreak	**Scenario Description:** Establishing a 20-foot-wide strip of permanent vegetation that will serve as a green firebreak. Scenario includes clearing the site, preparing the seedbed, seeding (typically cool season grasses and/or legumes), and applying needed soil amendments. Clearing will be achieved using chemical and/or mechanical means. Seedbed preparation and vegetation establishment will be accomplished with farm equipment. Soil amendments will be applied according to local FOTG guidance. This scenario does not include follow-up maintenance operations such as weed control. mowing, etc. Resource concerns include Wildfire hazard from excessive biomass accumulation, Soil erosion, and Excessive sediment in surface waters. **After Practice Description:** The property is adequately protected from wildfire or can be safely prescribe burned. Wildlifehabitat will also be enhanced and the potential for erosion from the firebreak is minimized.	Length of firebreak	Feet	$0.18	$0.21
394-6	Constructed - Handline	**Scenario Description:** Installation of a bare-ground firebreak ofa minimum width of 5' around a 20-acre woodland burn unit withthe dominant fuel being hardwood leaf litter. Generally, water control devices such as water bars are not needed due either to the lack of steep terrain or the temporary nature of the firebreak.The firebreak will be installed with hand tools such as broom rakes and/or leaf blowers. Resource concerns include Wildfire hazard from excessive biomass accumulation, Undesirable plant productivity and health, Inadequate plant structure and composition, and Habitat degradation. **After Practice Description:** The property can be safely prescribe burned and the potential for excessive erosion from thefirebreak is minimized.	Length of firebreak	Feet	$0.09	$0.11

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FORAGE HARVEST MANAGEMENT

Practice 511

Practice Units: ACRE

Definition: The timely cutting and removal of forages as hay, green-chop or ensilage.

Purpose:

- Optimize quantity and quality of forage at the desired levels while promoting vigorous plant regrowth
- Manage the species composition to enhance desirable species
- Reduce excess soil nutrients
- Reduce pest pressure (insects, disease, weeds, invasive plants or plant toxins)
- Improve or protect wildlife and their habitat
- Optimize soil microbial life and aggregate stability
- Reduce soil compaction

Conditions Where Practice Applies: This practice applies to all land uses where forage is machine harvested.

Limitations: Financial assistance for Prescribed Grazing and Forage Harvest Management cannot be applied on the same area in the same forage season.

The Forage Harvest Management practice may be paid annually for up to 5 consecutive years.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
511-1	Improved Forage Quality	**Scenario Description:** Improved cultural practices and recordkeeping result in better forage quality and better livestockperformance. **After Practice Description:** Forage cutting heights are raised toleave at least 3-4" stubble height for cool season grasses and 6- 8" (use a boot on the mower) for warm season grasses. Increased residual forage results in much faster plant regrowth. Forage quality tests are submitted to an accredited lab for analysis. Records of forage quality components, cutting heights,moisture content, and harvest schedule are regularly kept to track increased forage quality and improved livestock performance.	Improved Relative Feed Value	Acre	$5.07	$6.08
511-3	Perennial Crops - Delayed Mowing	**Scenario Description:** In perennial forage crops, delaying the harvest of the first cutting to promote the reproduction of ground nesting birds. The delayed harvest results in a decrease in overall forage quality (33% reduction assumed), making the forage crop less palatable and lower in relative feed value. The selected fields should be large enough to promote ground nesting birds. After young have fledged the field will be harvestedfor dry forages. Typical forage crops are half alfalfa and half grass. **After Practice Description:** Perennial crops are harvested witha delayed mowing; forage quality is compromised, however, thesurvival of ground nesting birds is promoted.	Increased grassland bird populations	Acre	$145.89	$146.91

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FOREST STAND IMPROVEMENT

Practice Code 666

Practice Units: ACRE

Definition: To manipulate species composition and stocking by cutting or killing selected trees and understory vegetation.

Purpose:

- Increase the quantity and quality of forest products by manipulating stand density and structure.
- To facilitate forest, stand regeneration.
- To improve understory aesthetics, wildlife habitat, or recreation.

Conditions Where Practice Applies: On forest land where competing vegetation hinders development and stocking of preferred species.

Limitations: A Forest Project or Practice Plan written by Iowa DNR District Forester or certified TSP is required documentation. A copy must be kept in the contract file.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
666-1	Forest Stand Improvement, Light	**Scenario Description:** All materials and labor required to manipulate species composition, stand structure and stocking onforestland. Light forest stand improvement will: Reduce basal area by 20 - 29 square feet per acre (or) Cut and/or kill 100 - 199trees per acre (or) Release 10 - 20 crop trees per acre and/or killany vines growing on crop trees by an approved method such as'cut stump' with herbicide to prevent resprouting. Use a current and approved Forest Management Plan for estimated basal areato be removed, number of trees needing to be cut and/or killed, crop trees needing to be released, and/or vines needing killed. **After Practice Description:** After adjusting the stocking to anacceptable level, stand growth, condition, and overall quality isimproved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.	Area Treated	Acre	$98.20	$117.84
666-2	Forest Stand Improvement, Medium	**Scenario Description:** All materials and labor required to manipulate species composition, stand structure and stocking onforestland. Medium forest stand improvement will: Reduce basalarea by 30-40 square feet per acre (or) Cut and/or kill 200 - 400 trees per acre (or) Release 21 - 40 crop trees per acre and kill any vines growing on crop trees by an approved method suchas 'cut stump' with herbicide to prevent resprouting. Use a current and approved Forest Management Plan for estimated basal area to be removed, number of trees needing to be cut and/or killed, crop trees needing to be released, and/or vines needing killed. **After Practice Description:** After adjusting the stocking to anacceptable level, stand growth, condition, and overall quality isimproved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.	Area Treated	Acre	$120.45	$144.54
666-3	Forest Stand Improvement, Heavy	**Scenario Description:** All materials and labor required to manipulate species composition, stand structure and stocking onforestland. Heavy forest stand improvement will: Reduce basal area by 41 or more square feet per acre (or) Cut and/or kill over 400 trees per acre (or) Release 41 or more crop trees per acre and kill any vines growing on crop trees by an approved method such as 'cut stump' with herbicide to prevent resprouting. Use a current and approved Forest Management Plan for estimated basal area to be removed, number of trees needing to be cut and/or killed, crop trees needing to be released, and/or vines needing killed. **After Practice Description:** After adjusting the stocking to anacceptable level, stand growth, condition, and overall quality isimproved. In addition, wildlife habitat is improved with the resulting increase of sunlight reaching the forest floor.	Area Treated	Acre	$152.22	$182.67

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
666-4	Temporary Forest Openings, patch clearcuts	**Scenario Description:** Creating 2 one-acre patches in over-mature and/or degraded stands using hand tools such as chainsaws. Resource concerns include: Undesirable plant productivity and health, Inadequate structure and composition,and habitat degradation. **After Practice Description:** A new, young stand of desirablespecies is established in addition, early successional wildlife habitat as well as forest type diversity are created.	Area Treated	Acre	$252.94	$303.53
666-56	Thinning for Wildlife and Forest Health	**Scenario Description:** Management to partially open a forest canopy to facilitate development of understory and midstory vegetation, and create conditions more favorable for desired wildlife species and tree health. A forester marks trees to be felled and/or treated. Treatment requires skilled labor using chainsaws and other hand tools, and chemical applications. Costs involved in any commercial harvest operation, including access and transportation costs, are not included in this scenario. Costs involved in marking trees to be treated, and supervising the treatment work, are included. Resource concerns include: - Inadequate structure and composition; - Undesirable plant productivity and health; and - Wildlife habitat degradation. **After Practice Description:** After management, stand density, structure and composition are at an acceptable level. The canopy is opened to the extent necessary to promote herbaceous growth and mid-canopy development. Air movement, and understory plant growth, condition and quality are improved. Habitat for wildlife is improved. Stand density enhances eco-site diversity, trees are healthy and less susceptible to damaging levels of insect pests and diseases.	Area Treated	Acre	$518.11	$621.74

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FOREST TRAILS AND LANDINGS

Practice Code 655

Practice Units: ACRE

Definition: A temporary or infrequently used route, path, or cleared area.

Purpose:

- Provide routes for temporary or infrequent travel by people or equipment for management activities.
- Provide periodic access for removal and collection of forest products.

Conditions Where Practice Applies: Trails and landings, including skid trails, are applicable on forest land.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
655-1	Water Bar Installation	**Scenario Description:** Rehabilitation of existing forest access trails and landings by addressing erosion and sedimentation through the installation of water bars and light shaping/grading between water bars. Typically, the trail is a single lane, existing 12-foot wide seasonal or temporary trail on a moderate slope (10%) on forestland requiring sustained erosion control measures applied by using traditional logging equipment such as a log skidder or dozer. The purpose is to hydrologically disconnect existing trail/landing system from the streams and natural drainages. This scenario applies to onlythose segments of the trail system that have resource concerns requiring rehabilitation. A typical water bar installed in this scenario ison a 75 to 80 foot spacing with a depth of about 1 foot. Some hand work (chainsaw) will be needed to allow the use of the equipment without causing damage to residual trees. The work will be supervised. No mobilization is required, as equipment and personnelare already on site. Other practices such as Stream Crossing, and Critical Area Planting, Access Road and Structure for Water Control can be adjacent/appurtenant but not part of this practice scenario. Resource concerns include: Excessive sedimentation in surfacewaters, Concentrated flow erosion, Sheet and rill erosion, and Degradation of wildlife species. **After Practice Description:** Trails and landings provide access anddo not adversely affect the resources concerns.	Number of water bars	Each	$45.92	$55.10
655-2	Shaping and Grading	**Scenario Description**: Rehabilitation of existing forest access trails and landings by addressing rutting, erosion, and sedimentation through shaping and grading and installing other widely spaced mitigating practices such as broad-based drainagedips, water bars, and water turnouts. Typically, the trail is a singlelane, existing 12-foot wide seasonal or temporary trail on a relatively flat slopes (2%) on forestland requiring sustained erosion control measures applied by using traditional logging equipment such as a log skidder or dozer. The purpose is to hydrologically disconnect the existing trail/landing system from streams and natural drainages and to establish a vegetative cover. Some hand work (chainsaw) will be needed to allow the use of the equipment. The work will be supervised. Other practices such as Stream Crossing, and Critical Area Planting. Access Road and Structure for Water Control can be adjacent/appurtenant but not part of the practice scenario. Treatments are for long-term reduction of sediment, restore fishhabitat, create fire access and to move routes off unstable slopes. Resource concerns include: Excessive sediment in surface waters, Concentrated and Sheet & rill flow erosion, Soil compaction, and Habitat degradation. **After Practice Description:** A trail system is installed that provides access to the forested tract and does not cause excessive erosion or water quality concerns.	Length of trail treated	Foot	$0.65	$0.78

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
655-3	Shaping and Grading with Vegetation Establishment	**Scenario Description:** Rehabilitation of existing forest access trails and landings by addressing rutting, erosion, and sedimentation through shaping and grading and installing other widely spaced mitigating practices such as broad-based drainage dips, water bars, and water turnouts. It also includes seedbed preparation, seeding and soil amendments determined to be needed. Typically, the trail isa single lane, existing 12-foot wide seasonal or temporary trail on a relatively flat slope (2%) on forestland requiring sustained erosion control measures applied by using traditional logging equipment suchas a log skidder or dozer. The purpose is to hydrologically disconnectthe existing trail/landing system from streams and natural drainages and to establish a vegetative cover. Some hand work (chainsaw) willbe needed to allow the use of the equipment. The work will be supervised. Other practices such as Stream Crossing, and Critical Area Planting. Access Road and Structure for Water Control can be adjacent/appurtenant but not part of the practice scenario. Treatments are for long-term reduction of sediment, restore fish habitat, create fire access and to move routes off unstable slopes. Resource concerns include: Excessive sediment in surface waters,Concentrated and Sheet & rill flow erosion, Soil compaction, and Habitat degradation. **After Practice Description:** A trail system is installed that provides access to the forested tract and does not cause excessive erosion orwater quality concerns.	Length of trail treated	Foot	$0.90	$1.08
655-62	Log Landing Shaping and Grading with Vegetation Establishment	**Scenario Description:** Rehabilitation of existing log landings by addressing rutting, erosion, and sedimentation through shaping and grading and establishing vegetative cover, including seedbed preparation, seeding and soil amendments determined to be needed.Typically, the landing is 0.5 acres on a relatively flat slope (<2%) on forestland requiring sustained erosion control measures applied by using traditional logging equipment such as a log skidder or dozer. The purpose is to hydrologically disconnect the existing trail/landingsystem from streams and natural drainages and to establish a vegetative cover. Some hand work (chainsaw) will be needed to allow the use of the equipment. The work will be supervised. Otherpractices such as Stream Crossing, and Critical Area Planting. Access Road and Structure for Water Control can be adjacent/appurtenant but not part of the practice scenario. Treatments are for long-term reduction of sediment, restore fish habitat, create fire access and to move routes off unstable slopes. Resource concerns include: Excessive sediment in surface waters,Concentrated and Sheet & rill flow erosion, Soil compaction, and Habitat degradation. **After Practice Description:** The log landings are shaped/gradedand established to permanent cover and do not cause excessive erosion or water quality concerns.	Size of landing treated	Acre	$2,531.36	$3,037.63

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GRADE STABILIZATION STRUCTURE

Practice Code 410

Practice Units: NUMBER

Definition: A structure used to control the grade in natural or constructed channels.

Purpose: To stabilize grade, reduce gully erosion, or improve water quality.

Conditions Where Practice Applies: This practice applies where channels require a structure to stabilize the grade or to control gully erosion.

Limitations: Seeding, if needed, may be contracted by using Critical Area Planting – Practice Code342.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-1	Embankment 4in-6in Pipe	**Scenario Description:** An earthen embankment dam with a principal spillway pipe (PVC or Steel) of 6 inches or less with anti- seep collars. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gullyerosion. Cost estimate is based upon a typical amount of earthfill of 5,000 cubic yards (including core trench backfill), and 100 feet of pipe 6" PVC pipe with a canopy inlet. A small, non-lined plunge pool protects the outlet channel. Disturbed areas and earthfill surfaces areprotected with permanent vegetative cover. Addresses resource concerns such as soil erosion-concentrated flowerosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as**: Fence (382), GrassedWaterway (412), will use the corresponding Standard(s) as appropriate.	Cubic Yards of Earthfill	Cubic Yard	$3.40	$4.08
410-2	Embankment 8in-12in Pipe	**Scenario Description**: An earthen embankment dam with a principalspillway pipe (PVC or Steel) of 8" to 12" with anti-seep collars. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Appliedin areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a typical amount of earthfill of 8000 cubic yards (including core trench backfill), and 100 feet of pipe10" PVC pipe with a canopy inlet. A small, non-lined plunge pool protects the outlet channel. Disturbed areas and earthfill surfaces areprotected with permanent vegetative cover. Addresses resource concerns such as soil erosion-concentrated flow erosion and water quality degradation. **After Practice Description**: Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Fence (382), GrassedWaterway (412) will use the corresponding Standard(s) as appropriate.	Cubic Yards of Earthfill	Cubic Yard	$3.55	$4.26

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-3	Embankment >12in	**Scenario Description:** An earthen embankment dam with a principal spillway pipe greater than 12 inches with anti-seep collars or sand diaphragm. Installed to stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a typical amount of earthfill of 11,000 cubic yards (including core trench backfill), 120 feet of 18" Steel pipe with a canopy inlet, and 16cubic yard sand diaphragm with outlet. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resource concerns such as soil erosion-concentrated flow erosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Fence (382), GrassedWaterway (412) will use the corresponding Standard(s) as appropriate.	Cubic Yards of Earthfill	Cubic Yard	$3.88	$4.65
410-4	Embankment TileConduit	**Scenario Description:** An earthen embankment dam with a 6" HDPE corrugated plastic tubing principal spillway conduit. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Appliedin areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a typical amount of earthfill of 3100 cubic yards (including core trench backfill), and 80 feet of 6" CPT with a plastic inlet. A small, non- lined plunge pool protects the outlet channel. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resource concerns suchas soil erosion- concentrated flow erosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Fence (382), Grassed Waterway (412), Water and Sediment Control Basin (638) will use thecorresponding Standard(s) as appropriate.	Cubic Yards of Earthfill	Cubic Yard	$2.52	$3.03

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-6	Pipe Drop, Smooth Steel or CMP, <1000 CY Earthfill	**Scenario Description:** A full flow pipe drop (i.e.: riser and barrel) gradestabilization structure designed and constructed with a sand diaphragm.This is typically an earthen dry dam structure with no permanent storage(water or sediment), however some structures may have some permanent pool / storage but do not have 35 years of sediment life. Payment rate is based upon the riser weir length (Diameter x 3.14) in feettimes the length of the pipe barrel in (feet). Installed to stabilize the gradeand control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a smooth steel or corrugated metal pipe drop structure with a 36", 12' tall riser and a 100' long 24" barrel (Riser Weir length x Barrel Length = 3ft x3.14 x 100ft = 942). Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resource concerns such as soil erosion-concentrated flow erosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm,useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), and Irrigation Canal or Lateral (320) will use the corresponding Standard(s) as appropriate.	Riser Weir Length x Barrel Length	Square Foot	$15.35	$18.42
410-7	Full Flow Straight Pipe	**Scenario Description:** A full flow straight pipe grade stabilization structure. This is typically an earthen dry dam structure with no permanent storage (water or sediment), however some structures may have some permanent pool / storage but do not have 35 years of sediment life. Payment rate is based upon the diameter of the pipe in inches times the length of the pipe in feet. Installed to stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a PVCor corrugated metal pipe, 12" in diameter, 60' long. (diameter x pipe length = 12in x 60ft = 720). Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resource concerns such as soil erosion-concentrated flow erosion and water quality degradation. **After Practice Description**: Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm,useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as**: Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), and Irrigation Canal or Lateral (320) will use the corresponding Standard(s) as appropriate.	Pipe diameter x pipe length	Diameter Inch Foot	$5.10	$6.12

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-8	Open Flow Drop Spillway	**Scenario Description:** A Straight or semicircular drop structure composed of metal or reinforced concrete used to stabilize the gradeand control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilizethe grade in channels or to control gully erosion. Cost estimate is based upon a semicircular steel toe wall structure with a drop of 3 ft. and weir length of 30 ft. (90 square feet). The unit of payment measurement is defined as weir length times drop in 'feet'. The drop (feet) is defined as the structure inlet crest elevation minus the control outlet elevation (i.e.: outlet apron elevation). Disturbed areas and earthfill surfaces are protected with permanent vegetative cover.Addresses resource concerns such as soil erosion-concentrated flowerosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain(606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Feet of Weir length times Drop Height	Square Foot	$154.08	$184.89
410-9	Rock Rip Rap Chute	**Scenario Description:** A full flow chute structure with rip rap, geotextile fabric, and earthfill/earthmoving. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilizethe grade in channels or to control gully erosion. Cost estimate is based upon typical chute designed to handle 90 cfs (20' BW, 5:1 Chute Slope, 5' Drop, 18" rock thickness). Amount of rock required is 86 CY (129 tons). Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Cost data is applicable toorganic and convention agricultural production systems. **After Practice Description**: Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain(606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Cubic Yards of rip rap installed	Cubic Yard	$80.44	$96.53

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-10	Grouted RockRip Rap Chute	**Scenario Description:** A full flow chute structure with grouted rip rap, geotextile fabric, and earthfill/earthmoving. To stabilize the gradeand control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilizethe grade in channels or to control gully erosion. Cost estimate is based upon typical amount of rock of 46 cubic yards of grouted rip rap. Typical Chute has 10' BW, 6' Drop, with 3" of Grout, 70 CFS capacity. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Cost data is applicable to organic and convention agricultural production systems. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain(606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Cubic Yards of rip rap installed	Cubic Yard	$122.15	$146.57
410-11	Gabion Chute	**Scenario Description:** A full flow chute structure with rock filled gabion baskets, geotextile fabric, and earthfill/earthmoving. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Appliedin areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon typical chute with 12' BW, 4:1 chute slope, 6' drop to handle design flow of 100 cfs. 25 CY of gabion baskets. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Cost data is applicable to organic and convention agricultural production systems. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstreamis protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain(606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Cubic Yards of gabion baskets	Cubic Yard	$303.19	$363.83

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-12	Geotextile Reinforced Vegetated Outlet	**Scenario Description:** A full flow chute structure with geotextilefabric, erosion control blanket, riprap outlet and earthfill/earthmoving. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon typical chute designed to handle 50 cfs (16' BW, 6:1 Chute Slope, 6' Drop). Amount of geotextile required is 1050 SF. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Cost data is applicable to organic and convention agricultural production systems. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased,sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetationof disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402),Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain (606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Square Ft of Geotextile lined area	Square Foot	$2.60	$3.13
410-13	Open Flow Drop Spillway-High overfall or sheet pile	**Scenario Description:** A straight drop structure used to stabilizethe grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a sheet pile structure with aweir length of 35', Weir notch height of 2' and drop of 4' with a total capacity of 335 cfs. The unit of payment measurement is defined as weir length times drop in 'feet'. The drop (feet) is defined as the structure inlet crest elevation minus the control outlet elevation (i.e.: outlet apron elevation). Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resource concerns suchas soil erosion-concentrated flow erosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased,sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetationof disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402),Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain (606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Feet of Weir length times Drop Height	Square Foot	$250.72	$300.86

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-15	Concrete Drop Structure	**Scenario Description:** A Straight or Box Drop structure composed of reinforced concrete used to stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a concrete box drop structure with a dropof 4ft and weir length of 16ft. The unit of payment measurement is cubic yards of concrete placed. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resource concerns such as soil erosion-concentratedflow erosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased,sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetationof disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402),Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain (606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Cubic Yard of Concrete	Cubic Yard	$826.14	$991.37
410-16	Concrete Block Chute	**Scenario Description:** A full flow chute structure with concrete blocks, geotextile fabric, and earthfill/earthmoving. To stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water requirestructures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon typical chute designed to handle 65 cfs (10' BW, 5' Drop). 518 Concrete blocks required. Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Cost data is applicable to organic and convention agricultural production systems. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil fromgullies no longer leaves the farm, useable farm area is increased, sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as:** Pond (378), Dam (402),Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), Subsurface Drain (606), and Underground Outlet (620) will use the corresponding Standard(s) as appropriate.	Square feet of concrete block lined area	Square Foot	$9.90	$11.88

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
410-33	Pipe Drop, Smooth Steel orCMP, >1000 CY Earthfill	**Scenario Description:** A full flow pipe drop (i.e.: riser and barrel)grade stabilization structure designed and constructed with a sand diaphragm. This is typically an earthen dry dam structure with no permanent storage (water or sediment), however some structures may have some permanent pool / storage but do not have 35 years of sediment life. Payment rate is based upon the riser weir length (Diameter x 3.14) in feet times the length of the pipe barrel in (feet). Installed to stabilize the grade and control erosion in natural or artificial channels, to prevent the formation or advancing of gullies, and to enhance environmental quality and reduce pollution hazards. Applied in areas where the concentration and flow velocity of water require structures to stabilize the grade in channels or to control gully erosion. Cost estimate is based upon a smooth steel or corrugated metal pipe drop structure with 2500 CY of earthfill, a 36', 12' tall riser and a 100' long 24' barrel (Riser Weir length x Barrel Length = 3ft x 3.14 x 100ft = 942). Disturbed areas and earthfill surfaces are protected with permanent vegetative cover. Addresses resourceconcerns such as soil erosion-concentrated flow erosion and water quality degradation. **After Practice Description:** Area is stabilized. The advancement and/or formation of gullies is stopped, soil from gullies no longer leaves the farm, useable farm area is increased,sedimentation and other pollution hazards are decreased, and water quality downstream is protected. Any needed re-vegetation of disturbed areas use Critical Area Planting (342). **Other associated practices such as;** Pond (378), Dam (402), Fence (382), Channel Bed Stabilization (584), Dike (356), Grassed Waterway (412), Structure for Water Control (587), andIrrigation Canal or Lateral (320) will use the corresponding Standard(s) as appropriate.	Riser Weir Length x Barrel Length	Square Foot	$23.14	$27.77

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GRASSED WATERWAY

Practice Code 412

Practice Units: ACRE

Definition: A shaped or graded channel that is established with suitable vegetation to convey surface water at a nonerosive velocity using a broad and shallow cross section to a stable outlet.

Purpose: This practice is used to accomplish one or more of the following purposes:

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

Conditions Where Practice Applies: This practice is applied in areas where added water conveyance capacity and vegetative protection are needed to prevent erosion and improve runoff water quality resulting from concentrated surface flow.

Limitations: Payment Scenario includes the cost for seeding and fertilizer, but not subsurface drain. Subsurface Drain – 606 if needed, must be added separately to the contract. When a Grassed Waterway Summer Construction Scenario is included in the contract, construction must occur between June 15 and October 15 of the scheduled year. The Payment Scenario for summer construction is only available on land in row crop and requires a temporary cover or cover crop. No crop is allowed to be harvested. Haying or grazing of the cover crop after October 15th is allowed. No payments can be made for any items associated with the summer construction initiative until all associated practices are installed.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
412-1	<35-foot top width	**Scenario Description:** Typical practice is 1 acre, 30' top width, 8:1 side slopes, 1.25' depth, 55% excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. This practice addresses Concentrated Flow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measuredfrom top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct theoverall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 30' top width, 8:1 side slopes, 1.25' depth. The practice is installed using a dozer. Waterway area is fertilized and seeded for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile, if needed, will be installed according to Subsurface Drain (606). Ifinlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$2,811.05	$3,283.37
412-2	35-55-foot top width	**Scenario Description:** Typical practice is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth, 50% excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. This practice addresses Concentrated Flow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measuredfrom top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct theoverall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth. The practice is installed using a dozer. Waterway area is fertilized and seeded for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile, if needed, will be installed according to Subsurface Drain (606). Ifinlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$2,935.82	$3,433.09

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
412-3	>55-foot top width	**Scenario Description:** Typical practice is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth, 50% excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. This practice addresses Concentrated Flow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measuredfrom top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth. The practice is installed using a dozer. Waterway area is fertilized and seeded for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile,if needed, will be installed according to Subsurface Drain (606). Ifinlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$3,420.43	$4,014.63
412-4	<35-foot topwidth with checks	**Scenario Description:** Typical practice is 1 acre, 30' top width, 8:1 side slopes, 1.5' depth, half excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Stone or check strips are installed every 100 feet along the length of the waterway perpendicular to waterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation isestablished. This practice addresses Concentrated Flow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to topof bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 30' top width, 8:1 side slopes, 1.5' depth. Checks are installed every 100 feet along the length of the waterway. The practice is installed using a dozer. Stone or check strips are installed with small backhoe and labor. Waterway area is fertilized and seeded for establishment of waterway vegetation. Drainage tile, if needed, will be installed according to SubsurfaceDrain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$4,331.96	$5,108.46

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
412-5	35-55-foot top width with checks	**Scenario Description:** Typical practice is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth, half excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Stone or check strips are installed every 100 feet along the length of the waterway perpendicular to waterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation isestablished. This practice addresses Concentrated Flow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to topof bank. Seeding area is 20% greater than waterway area to account fordisturbed areas. Costs include excavation and associated workto construct the overall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth. Checks are installed every 100 feet along the length of the waterway. The practice is installed using a dozer. Stone or check strips are installed with small backhoe and labor. Waterway area is fertilized and seeded for establishment of waterway vegetation. Drainage tile, if needed, will be installed according to SubsurfaceDrain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$4,652.77	$5,493.43
412-6	>55-foot top width with checks	**Scenario Description:** Typical practice is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth, half excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetationto carry surface water at a non-erosive velocity to a stable outlet. Stone or check strips are installed every 100 feet along the length ofthe waterway perpendicular to waterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. This practice addresses ConcentratedFlow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth. Checks are installed every100 feet along the length of the waterway. The practice is installed using a dozer. Stone or check strips are installed with small backhoe and labor. Waterway area is fertilized and seeded for establishment of waterway vegetation. Drainage tile, if needed, will be installed according to Subsurface Drain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$5,040.26	$5,958.43

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
412-7	<35-foot top width, crop season construction	**Scenario Description:** Typical practice is 1 acre, 30' top width, 8:1 side slopes, 1.25' depth, 55% excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetationto carry surface water at a non-erosive velocity to a stable outlet. This practice addresses Concentrated Flow Erosion (Classic Gully &Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to top of bank. Seedingarea is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season. **After Practice Description:** Installed grassed waterway is 1 acre, 30' top width, 8:1 side slopes, 1.25' depth. The practice is installed using a dozer. Waterway area is fertilized and seeded for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile, if needed, will be installed according to Subsurface Drain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$3,709.94	$4,182.26
412-8	<35-foot top width with checks, crop season construction	**Scenario Description:** Typical practice is 1 acre, 30' top width, 8:1 side slopes, 1.5' depth, half excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetationto carry surface water at a non-erosive velocity to a stable outlet. Stone or check strips are installed every 100 feet along the length of the waterway perpendicular to waterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. This practice addresses ConcentratedFlow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season. **After Practice Description:** Installed grassed waterway is 1 acre, 30' top width, 8:1 side slopes, 1.5' depth. Checks are installed every 100 feet along the length of the waterway. The practice is installed using a dozer. Stone or check strips are installed with small backhoeand labor. Waterway area is fertilized and seeded for establishment of waterway vegetation. Drainage tile, if needed, will be installed according to Subsurface Drain (606). If inlet Structures are needed with the drainage tile, then those will be installed using UndergroundOutlet (620).	Acre of Waterway	Acre	$5,230.85	$6,007.35

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
412-9	35-55-foot top width, crop season construction	**Scenario Description:** Typical practice is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth, 50% excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetationto carry surface water at a non-erosive velocity to a stable outlet. This practice addresses Concentrated Flow Erosion (Classic Gully &Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season. **After Practice Description:** Installed grassed waterway is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth. The practice is installed using a dozer. Waterway area is fertilized and seeded for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile, if needed, will beinstalled according to Subsurface Drain (606). If inlet Structures are needed with the drainage tile, then those will be installed usingUnderground Outlet (620).	Acre of Waterway	Acre	$3,834.71	$4,331.98
412-10	35-55-foot top width with checks, crop season construction	**Scenario Description:** Typical practice is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth, half excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetation to carry surface water at a non-erosive velocity to a stable outlet. Stone or check strips are installed every 100 feet along the length of the waterway perpendicular towaterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation isestablished. This practice addresses Concentrated Flow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surfacewaters. Waterway area measured from top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of thewaterway. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season. **After Practice Description:** Installed grassed waterway is 1 acre, 45' top width, 10:1 side slopes, 1.5' depth. Checks are installed every 100 feet along the length of the waterway. The practice is installed using a dozer. Stone or check strips are installed with small backhoe and labor. Waterway area is fertilized and seeded for establishment of waterway vegetation. Drainage tile, if needed, will be installed according to SubsurfaceDrain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$5,551.66	$6,392.32

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
412-11	>55-foot top width, crop season construction	**Scenario Description:** Typical practice is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth, 50% excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetationto carry surface water at a non-erosive velocity to a stable outlet. This practice addresses Concentrated Flow Erosion (Classic Gully &Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to top of bank. Seedingarea is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth. The practice is installed using a dozer. Waterway area is fertilized and seeded for establishment of waterway vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). Drainage tile, if needed, will beinstalled according to Subsurface Drain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$4,319.32	$4,913.52
412-12	35-55-foot top width with checks, crop season construction	**Scenario Description:** Typical practice is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth, half excavation. A grass waterway that is a shaped or graded channel and is established with suitable vegetationto carry surface water at a non-erosive velocity to a stable outlet. Stone or check strips are installed every 100 feet along the length of the waterway perpendicular to waterflow and are 2/3 the waterway top width to reduce maintenance and provide temporary protection until vegetation is established. This practice addresses ConcentratedFlow Erosion (Classic Gully & Ephemeral Erosion) and Excessive Sediment in surface waters. Waterway area measured from top of bank to top of bank. Seeding area is 20% greater than waterway area to account for disturbed areas. Costs include excavation and associated work to construct the overall shape and grade of the waterway. **After Practice Description:** Installed grassed waterway is 1 acre, 60' top width, 10:1 side slopes, 2.0' depth. Checks are installed every100 feet along the length of the waterway. The practice is installed using a dozer. Stone or check strips are installed with small backhoe and labor. Waterway area is fertilized and seeded for establishment of waterway vegetation. Drainage tile, if needed, will be installed according to Subsurface Drain (606). If inlet Structures are needed with the drainage tile, then those will be installed using Underground Outlet (620).	Acre of Waterway	Acre	$5,939.15	$6,857.32

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HEAVY USE AREA PROTECTION

Practice Code 561

Practice Units: SQ. FT.

Definition: Stabilization or protection of an intensively used area.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Reduce soil erosion
- Provide a stable, noneroding surface for areas frequently used by animals, people, or vehicles
- Protect or improve water quality

Conditions Where Practice Applies: This practice applies to all land uses where a frequently or intensively used area requires relocation or treatment to address one or more resource concerns.

Limitations: Follow the guidance contained in the document "000 IA ENGT Winter Feeding Station Guidance 2016" located in Section 4 (Engineering Tools folder) in the IA FOTG for applications involving winter feeding stations. A Nutrient Management Plan (NMP) is required for all winter-feeding stations (WFS) along with CPS 528 Prescribed Grazing plan. The grazing plan will include all times of the year livestock have access to the WFS.

A Comprehensive Nutrient Management Plan (CNMP) is required for situations where sufficient quantities of manure, etc. would accumulate on the heavy use area and require disposal or when it is implemented concurrently with any of the following practices (313, 317, 359, 366, 629, 632, 634, 635, 591, 520, 521, 522). Determination of these situations will be completed by the Area Engineer/Area Resource Conservationist with consultation of state office staff, as appropriate.

Scenario 561-81 Geocell and Gravel – Small Scale, is applicable up to a maximum size of 1,500 square feet.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
561-1	Concrete HUA	**Scenario Description:** Installation of a concrete heavy use padto provide a stable, non-eroding surface for areas frequently used by livestock, people or vehicles. **After Practice Description:** The stabilization of areas frequentlyand intensively used by livestock by installing a concrete surfaceto reduce soil erosion, improve water quality, air quality, and livestock health. Typical size is 3,900 square feet. The base consists of 4" of gravel. The concrete is a reinforced slab on grade with a thickness of 5". Payment incorporates site preparation through grading and shaping, concrete pad and gravel. Cost data is applicable to organic and conventional agricultural production systems.	Area of reinforced concrete	Square Foot	$6.61	$7.93
561-2	Geocell and Gravel HUA	**Scenario Description:** Installation of a geocell and gravel heavy use pad to provide a stable, non-eroding surface for areas frequently used by livestock, people or vehicles. **After Practice Description:** The stabilization of an area frequently and intensively used by people, animals or vehicles byinstalling a gravel surface with geocells to reduce soil erosion and improve livestock health. Typical size is 3900 square feet. 4" of gravel is placed into a 4" geocell 'matting material' and surfaced with a 3" layer of fines. Payment incorporates site preparation through grading and shaping, gravel (7" depth total with gravel and fines) and geoweb 'matting material'. An additional 8 hours of general labor is added to put the geocells in place. Cost data is applicable to organic and conventional agricultural production systems.	Area of rock-gravel GeoCell GeoTex	Square Foot	$2.57	$3.08
561-7	Gravel with Geotextile, Thick	**Scenario Description:** Installation of a gravel heavy use pad toprovide a stable, non-eroding surface for areas frequently used by livestock, people or vehicles. **After Practice Description:** The stabilization of areas frequentlyand intensively used by livestock by installing a gravel surface to reduce soil erosion, improve water quality, air quality, and livestock health. Typical size is 3,900 square feet. Gravel, 8" deep, is placed over light geotextile fabric and surfaced with a 3" layer of fines. Payment incorporates site preparation through grading and shaping, gravel and layer of fines and light geotextile fabric. Cost data is applicable to organic and conventional agricultural production systems.	Area of gravel	Square Foot	$1.40	$1.68
561-8	Gravel without Geotextile, Thick	**Scenario Description:** Installation of a gravel heavy use pad toprovide a stable, non-eroding surface for areas frequently used by livestock, people or vehicles. **After Practice Description:** The stabilization of areas frequentlyand intensively used by livestock by installing a gravel surface toreduce soil erosion, improve water quality, air quality, and livestock health. Typical size is 3,900 square feet. Gravel, 8" deep, is surfaced with a 3" layer of fines. Payment incorporates site preparation through grading and shaping, gravel and layer offines. Cost data is applicable to organic and conventional agricultural production systems.	Area of gravel	Square Foot	$1.31	$1.58

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
561-9	Gravel with Geotextile, Regular Thickness	**Scenario Description:** Installation of a gravel heavy use pad toprovide a stable, non-eroding surface for areas frequently used by livestock, people or vehicles. **After Practice Description:** The stabilization of areas frequentlyand intensively used by livestock by installing a gravel surface to reduce soil erosion, improve water quality, air quality, and livestock health. Typical size is 3,900 square feet. Gravel, 5" deep, is placed over light geotextile fabric and surfaced with a 2" layer of fines. Payment incorporates site preparation through grading and shaping, gravel and layer of fines and light geotextilefabric. Cost data is applicable to organic and conventional agricultural production systems.	Area of gravel	Square Foot	$1.04	$1.24
561-10	Gravel without Geotextile, Regular Thickness	**Scenario Description:** Installation of a gravel heavy use pad toprovide a stable, non-eroding surface for areas frequently used by livestock, people or vehicles. **After Practice Description:** The stabilization of areas frequentlyand intensively used by livestock by installing a gravel surface toreduce soil erosion, improve water quality, air quality, and livestock health. Typical size is 3,900 square feet. Gravel, 5" deep, is surfaced with a 2" layer of fines. Payment incorporates site preparation through grading and shaping, gravel and layer offines. Cost data is applicable to organic and conventional agricultural production systems.	Area of gravel	Square Foot	$0.95	$1.14
561-81	Geocell and Gravel - Small Scale	**Scenario Description:** Installation of a geocell and gravel heavy use area to provide a stable, non-eroding surface for areas frequented by livestock, people or vehicles. Scenario is scaled for a small sized operation, or small area installations such as on an urban or small scale farm or livestock operation where this material is suitable. This scenario should be utilized for installations where the total area of protection does not exceed 1,000 sq ft. This scenario captures the increased cost per unit for smaller scale installations due to fixed mobilization costs and/or increased labor costs in situations such as urban areas where labor costs are higher. **After Practice Description:** The area is stabilized by installing a gravel surface wth geocells to reduce soil erosion. Typical size is 500 square feet. 4' of gravel is placed into a 4' geocell 'matting material' and surfaced with a 3' layer of fines. Payment incorporates site preparation through grading and shaping, gravel (7' total depth with gravel and fines) and geoweb 'matting material', and additional labor costs associated with placing the geocells and increased labor costs in urban areas.	Area of gravel	Square Foot	$4.34	$5.21

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HEDGEROW PLANTING

Practice Code 422

Practice Units: FEET

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

Purpose: Providing at least one of the following conservation functions:

- Habitat, including food, cover, and corridors for terrestrial wildlife.
- To enhance pollen, nectar, and nesting habitat for pollinators.
- Food, cover, and shade for aquatic organisms that live in adjacent streams or watercourses.
- To provide substrate for predaceous and beneficial invertebrates as a component of integrated pest management.
- To intercept airborne particulate matter.
- To reduce chemical drift and odor movement.
- Screens and barriers to noise and dust.
- To increase carbon storage in biomass and soils.
- Living fences.
- Boundary delineation and contour guidelines

Conditions Where Practice Applies: In, across, or around fields.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
422-1	3 row hedgerow, container planting stock	**Scenario Description:** Three rows of bare-root trees, shrubs or a combination of trees and shrubs are planted for wildlife habitat (corridor), pollinator habitat, reduction of particulate matter, chemical drift, or odor movement, and boundary delineation and contour guidelines. This practice is typically applied on cropland. Trees and/or shrubs will be planted into previously established bunch grasses that produce erect stems greater than 3' in height and will persist over winter. This herbaceous component will be established according to the guidelines in 327 Conservation Cover. Payment includes materials, labor and equipment needed to machine plant thestock and foregone income for land removed from crop production where hedgerow is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitatpatches are connected by dense hedgerow vegetation. Food resources in crop fields are made available by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.	Length of hedgerow	Foot	$3.50	$4.09
422-2	1 row hedgerow, container trees planting stock	**Scenario Description:** One row of container trees planted for wildlife habitat (corridor), pollinator habitat, reduction of particulate matter, chemical drift, or odor movement, and boundary delineation and contour guidelines. This practice is typically applied on cropland.Trees and/or shrubs will be planted into previously established bunchgrasses that produce erect stems greater than 3' in height and will persist over winter. This herbaceous component will be established according to the guidelines in 327 Conservation Cover. Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed from crop production where hedgerow is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitatpatches are connected by dense hedgerow vegetation. Food resources in crop fields are made available by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.	Length of hedgerow	Foot	$1.06	$1.23

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
422-3	1 row hedgerow, container shrubsplanting stock	**Scenario Description:** One row of container shrubs planted for wildlife habitat (corridor), pollinator habitat, reduction of particulate matter, chemical drift, or odor movement, and boundary delineation and contour guidelines. This practice is typically applied on cropland.Trees and/or shrubs will be planted into previously established bunchgrasses that produce erect stems greater than 3' in height and will persist over winter. This herbaceous component will be established according to the guidelines in 327 Conservation Cover. Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed from crop production where hedgerow is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitatpatches are connected by dense hedgerow vegetation. Food resources in crop fields are made available by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.	Length of hedgerow	Foot	$2.00	$2.36
422-4	3 row hedgerow, bareroot seedling planting stock	**Scenario Description:** Three rows of bare-root trees, shrubs or a combination of trees and shrubs are planted for wildlife habitat (corridor), pollinator habitat, reduction of particulate matter, chemical drift, or odor movement, and boundary delineation and contour guidelines. This practice is typically applied on cropland. Trees and/or shrubs will be planted into previously established bunch grasses that produce erect stems greater than 3' in height and will persist over winter. This herbaceous component will be established according to the guidelines in 327 Conservation Cover. Payment includes materials, labor and equipment needed to machine plant thestock and foregone income for land removed from crop production where hedgerow is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitatpatches are connected by dense hedgerow vegetation. Food resources in crop fields are made available by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.	Length of hedgerow	Foot	$1.66	$1.89

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
422-5	1 row hedgerow, bareroot tree seedling planting stock	**Scenario Description:** One row of bare-root trees planted for wildlifehabitat (corridor), pollinator habitat, reduction of particulate matter, chemical drift, or odor movement, and boundary delineation and contour guidelines. This practice is typically applied on cropland. Trees and/or shrubs will be planted into previously established bunchgrasses that produce erect stems greater than 3' in height and will persist over winter. This herbaceous component will be established according to the guidelines in 327 Conservation Cover. Payment includes materials, labor and equipment needed to machine plant thestock and foregone income for land removed from crop production where hedgerow is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitatpatches are connected by dense hedgerow vegetation. Food resources in crop fields are made available by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.	Length of hedgerow	Foot	$0.40	$0.44
422-6	1 row hedgerow, bareroot shrub seedling plantingstock	**Scenario Description:** One row of bare-root shrubs planted for wildlife habitat (corridor), pollinator habitat, reduction of particulate matter, chemical drift, or odor movement, and boundary delineation and contour guidelines. This practice is typically applied on cropland.Trees and/or shrubs will be planted into previously established bunchgrasses that produce erect stems greater than 3' in height and will persist over winter. This herbaceous component will be established according to the guidelines in 327 Conservation Cover. Payment includes materials, labor and equipment needed to machine plant thestock and foregone income for land removed from crop production where hedgerow is installed. Site preparation is not included and must be implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Inadequate habitat for fish and wildlife is addressed for needs identified in the resource assessment. Habitatpatches are connected by dense hedgerow vegetation. Food resources in crop fields are made available by their proximity to hedgerow cover. Planting may include fruit and mast bearing species, improving food supply, depending on needs being addressed.	Length of hedgerow	Foot	$0.56	$0.64

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
422-28	Pollinator Habitat	**Scenario Description:** In addition to the traditional hedgerow purposes where pollinator habitat is an additional wildlife habitat concern this scenario addresses the resource concern of inadequate fish and wildlife habitat. It provides both physical habitat by providing areas that are not disturbed by annual tillage and supplement pollen and nector by establishing flowering Trees or shrubs. Typical installation is in or at the edge of cropland or pasture. Typical installation involves tillage to prepare the site for planting. Flowering trees and shrubs adapted for local climatic and edaphic conditions are typically planted at eight foot intervals (this will vary with species selection and density goals). A native grass adapted to the local climatic and edaphic conditions will be drilled into the site at a rate that will achieve a minimum of 20 seeds per square foot. Species adapted to local climatic and edaphic conditions will be listed in the specification for the site. There is tremendous overlap between this practice and conservation practice 380 Windbreak/Shelterbelt establishment. The main difference is that conservation practice 380 is exclusively woody plants where practice 422 provides for the use of herbaceous materials. If a fence is needed to facilitate establishment use practice 382, Fence. **After Practice Description:** Flowering plants supply pollen and nector throughout the growing season. Undisturbed areas provide nesting sites for bees and other native pollinators.	Length of hedgerow	Foot	$2.93	$3.52

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HERBACEOUS WEED TREATMENT

Practice Code 315

Practice Units: ACRE

Definition: The removal or control of herbaceous weeds including invasive, noxious, prohibited, or undesirable plants.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Enhance accessibility, quantity, and/or quality of forage and/or browse
- Restore or release native or desired plant communities for wildlife habitat
- Protect soils and control erosion
- Reduce fine fuel loads and wildfire hazard Control pervasive plant species to a desired level of treatment

Conditions Where Practice Applies: This practice applies on 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 for a land use change or by prescribed fire. Refer to NRCS Conservation Practice Standards (CPSs) Land Clearing (Code 460) or Prescribed Burning (Code 338), respectively.

Limitations: Mowing, flail chopping, or brush cutting without additional chemical or mechanical control method is not eligible for payment. Herbaceous weed treatment can be planned for **up to three consecutive years on the same land unit** to treat at least one of the following pervasive herbaceous species: bull thistle, Canada thistle, common teasel, garlic mustard, Japanese knotweed, Japanese stiltgrass (Nepalese browntop), Johnson grass, leafy spurge, musk thistle, sericea lespedeza, and wintercreeper. The site-specific treatment methods will be clearly noted in the conservation practice job sheets outlining the use of mechanical, chemical, or biological control, or combination of treatment types to achieve effective control of the pervasive plant species listed above.

When planning to treat one of the pervasive herbaceous species listed above, all payment scenarios can continue at the same or lower level in sequential years.

- **315-1 Light Spot Treatment** is lowest level.
- **315-2 Medium Spot Treatment** can only be followed by itself or **315-1 Light Spot Treatment** .
- **315-3 Blanket Treatment One Pass** is lowest level for blanket treatment. Successive years can be followed with the same scenario or either 315-1 or 315-2 (Spot Treatments)
- **315-4 Blanket Treatment Multi Pass** can be followed with itself or one of the three scenarios listed above (315-1, 315-2 or 315-3).

Scenario 315-79 Herbaceous Weed Treatment for One Acre or less (not to exceed 1 acre), is applicable up to a maximum of 1 acre.

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
315-1	Light Spot Treatment	**Scenario Description:** Light spot treatment herbaceous weed control is used on non-cropland acres (including forestland, pasture, and idle areas) where less than 10% canopy coverage across the treatment area is in undesirable herbaceous cover, or a specific area spot treatment is needed such as creating open ground under a wildlife habitat structure. Payment is based on impacted acres only. The practice entails the treatment of weedsusing small equipment (such as an ATV with sprayer) to apply chemicals, or using hand tools (such as axes, shovels, hoes, nippers) to remove or cut off herbaceous plants at or below the root collar. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approvedchemicals. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and wildlife habitat is improved.	Acres Treated	Acre	$30.69	$36.83
315-2	Medium Spot Treatments	**Scenario Description:** Medium spot treatment herbaceous species management is used on non-cropland acres (including forestland, pasture, and idle areas) where greater than 10% canopy coverage across the treatment area is in undesirable herbaceous cover, and spot treatment is preferred over blanket treatment to maintain the persistence of desirable broadleaf and legumes within the treatment area. Payment is based on impacted acres only. The practice entails the treatment of weedsusing small equipment (such as an ATV with sprayer) to apply chemicals or using applicable mechanical methods such as handtools (such as axes, shovels, hoes, nippers) to remove or cut off herbaceous plants at or below the root collar, and/or spot mowing. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approvedchemicals. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and wildlife habitat is improved.	Acres Treated	Acre	$80.56	$96.67

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
315-3	Blanket Treatment OnePass	**Scenario Description:** Blanket treatment one pass herbaceous weed control is used on non-cropland acres (including forestland,pasture, and idle areas) where a blanket treatment approach is acceptable, and the non-desirable weeds can be controlled with one treatment. Payment is based on impacted acres only. The practice entails the treatment of weeds using a blanket chemical application or mechanical brush hog operation. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approved chemicals. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and wildlife habitat is improved.	Acres Treated	Acre	$46.82	$56.18
315-4	Blanket Treatment Multi Pass	**Scenario Description:** Blanket treatment multi pass herbaceousweed control is used on non-cropland acres (including forestland,pasture, and idle areas) where a blanket treatment approach is acceptable and multiple passes or approaches are needed to control the non-desirable weeds. Payment is based on impacted acres only. The practice entails the treatment of weeds using multiple blanket chemical applications or multiple mechanical brush hog operations, or a combination of chemical and mechanical. Cost represents typical situations for conventional, organic, and transitioning to organic producers. For organic land, chemical applications must be OMRI approved chemicals. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and wildlife habitat is improved.	Acres Treated	Acre	$97.44	$116.93

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
315-5	Tree & ShrubPost-planting Weed Control	**Scenario Description:** Treatment takes place in areas where newly planted trees and/or shrubs are experiencing encroachment by grass and weed competition. Chemical treatment is needed to ensure the successful establishment of desirable woody species through the application of appropriateherbicides via directional spray to reduce residual effects on planted trees and/or shrubs. Mowing between rows during the growing season is needed to control residual weed growth. Areas to be treated tend to be small and isolated, resulting inhigh mobilization costs. Due to desirable species mixed with undesirable, caution is needed during treatment. **After Practice Description:** Desirable vegetation is releasedfrom competing vegetation. All undesirable vegetation is removed within 2 feet of desired plants.	Acres Treated	Acre	$123.32	$147.99
315-6	Aquatic Areas Weed Control	**Scenario Description:** Control of aquatic weed infestations, such as phragmites, reeds canary grass, or cattails, in wetland areas using multiple chemical applications. Due to moist soil conditions, herbicide is applied with an ATV and spot sprayer toavoid excessive disturbance to the site. Cost represents typical situations for conventional, organic, and transitioning to organicproducers. Payment is based on impacted acres only. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and wildlife habitat is improved.	Acres Treated	Acre	$335.65	$402.79
315-20	Hand and chemical	**Scenario Description:** Using hand tools, such as axes, shovels,hoes, nippers, to remove or cut off herbaceous plants at or belowthe root collar. Herbicide is applied to control re- growth of target weeds. Typical area is moderate rolling to gentle sloping, moderately deep to deep soils that have herbaceous weed species that are in the early phases of invasions. Typical unit is 10 acres. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and improved wildlife habitat.	acres planned	Acre	$104.83	$125.79

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
315-36	Chemical, Spot	**Scenario Description:** Land unit on which weed control would be beneficial in order to set back the plant community succession, improve the ecological condition, and improve forageconditions for domestic livestock or wildlife. The practice entails the eradication of vegetation by use of weed treatment, either initial or retreatment using hand-carried equipment (such as a backpack and hand-sprayer) to apply chemicals, in order to eliminate noxious weeds, promote forage productivity, and improve ecological condition. **After Practice Description:** Herbaceous weeds are removed toachieve the desirable plant community based on species composition, structure, density, and canopy cover or height. Ecological site condition is progressing in an upward trend, hydrology and plant health and vigor is returning to near normal levels, and improved wildlife habitat.	Acres Treated	Acre	$46.81	$56.17
315-57	Biological Management Low Density	**Scenario Description:** Management of herbaceous plant species through the use of livestock that are closely herded to concentrate grazing on targeted plants. Typical areas have light density stands of herbaceous species that exceed the desirable ecological site condition. Undesirable herbaceous vegetation may be present and impairing the desired ecological site condition. Targeted grazing herd is mobilized to site. Typical herdsize< 100 head. Goal is for maximum consumption of herbaceous plants. **After Practice Description:** Herbaceous species are grazed to limit the regrowth of targeted plants and achieve a desirable plantcommunity based on species composition, structure, density, andcanopy cover or height. Ecological site condition is progressing inan upward trend, affected hydrology and plant health and vigor isreturning to near normal levels.	Acres Treated	Acre	$393.65	$472.37
315-79	Herbaceous Weed Treatment for One Acre or less (not to exceed 1 acre)	**Scenario Description:** Using hand and small power tools to remove or cut off herbaceous invasive plants at or below the root collar. Typically this scenario is for herbaceous invasive species that are degrading the 1 acre small farm. **After Practice Description:** Herbaceous species are removed to achieve desirable biotic conditions and improved plant health and vigor, and/or wildlife habitat. Hydrological site characteristics are improved, and plant pest pressure from invasive herbaceous species are reduced.	Acre	Acre	$250.64	$300.77

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HIGH TUNNEL SYSTEM

Practice Code 325

Practice Units: SQ. FT.

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

Purpose: Improve plant health and vigor.

Conditions Where Practice Applies: This practice applies to land capable of producing crops. This practice applies where sun or wind intensity may damage crops, or where an extension of the growing season is needed due to climatic conditions.

Limitations: Practice is only eligible on land currently under crop production. The following are not eligible for financial assistance but are allowed at the participant's expense: electricity, heating, or ventilation (other than lifting the sides). When the sides are lifted for ventilation, a mesh screen may be used to keep insects out. The participant must purchase a manufacturer's kit and must follow the manufacturer's specifications. Practice is eligible for use with annual and perennial crops. Structure must be at least 6 feet tall and no more than 30 feet wide. The participant is allowed to leave the tunnel cover in place through the winter. It is the participant's responsibility to replace or repair the cover if it is damaged. The practice does not apply to crops not grown in the natural soil profile (i.e. tables/benches, portable pots, hydroponically, etc.). If surface water drainage issues causing erosion are present or created, practices must be installed to treat this resource concern.

Scenario 325-72 Small High Tunnel, Snow and Wind, is applicable up to a maximum size of 1,000 square feet.

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
325-72	Small High Tunnel, Snow and Wind	**Scenario Description:** Use in areas with expected snow and wind loads on sites less than 1 acre. Gothic-style (arched) manufactured frame of tubular steel (less than or equal to 20 ft x 30 ft.) covered with 4-year warrantee, 6 mil UV resistant plastic. Costs are based on purchase of manufactured kit and landowner installation of structure. Structure must be installed to manufacturer's specifications. **After Practice Description:** High Tunnel structure has been installed and the growing season has been extended for 1-4 months on average. Plant health and vigor is improved. **Associated Practices might include:** Roof Runoff Structure(588), Underground Outlet (620), Critical Area Planting (342), Mulching (484).	Area of High Tunnel Installed	Square Foot	$9.70	$11.64
325-121	High Tunnel System	**Scenario Description:** A manufactured frame of tubular steel (30 x 72 ft.) covered with 4-year 6 mil plastic. Costs are based on purchase of manufactured kit and landowner installation of structure. Structure must be installed to manufacturer's specifications. **After Practice Description:** High Tunnel structure has been installed and the growing season has been extended for 1-4 months on average. Plant health and vigor is improved. Plant health and vigor is improved and there is decreased energy use by producing food locally. **Associated Practices might include:** Roof Runoff Structure(588), Underground Outlet (620), Critical Area Planting (342), Mulching (484).	Area of Tunnel Installed	Square Foot	$5.60	$6.72

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IRRIGATION LAND LEVELING

Practice Code 464

Practice Units: ACRE

Definition: Reshaping the surface of land to be irrigated, to planned lines and grades.

Purpose: To facilitate the efficient use of water on irrigated land.

Conditions Where Practice Applies: This standard applies to the leveling of land irrigated by surface or subsurface irrigation systems. The leveling is based on a detailed engineering survey, design, and layout. This standard does not apply to Precision Land Forming (462) or Land Smoothing (466).

Limitations: In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Scenario 464-12 Small Scale Irrigation Land Leveling, is applicable up to a maximum of 20 acres.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
464-1	Irrigation Land Leveling	**Scenario Description:** Reshaping of the surface of land to be irrigated to planned grades to permit uniform and efficient application of irrigation water to the leveled land. The field is leveled such that it is uniform and drains to a specifically targetedpart of the field. **After Practice Description:** Cropland will be reshaped to provide uniform distribution of irrigation water in order to promote irrigation efficiencies. **Associated Conservation Practices:** Irrigation WaterManagement (449)	Acre	Acre	$219.63	$263.55
464-12	Small Scale Irrigation Land Leveling	**Scenario Description:** This is scenario will level a typical 10 acres of irrigated crop land surface to enhance uniform flow of surface water to improve irrigation efficiency using dirtpans/carry-all/pan-scraper equipment. The typical volume of earth moved is 100 to 500 cubic yards per acre. **After Practice Description:** Cropland will be reshaped to provide uniform distribution of irrigation water in order to promote irrigation efficiencies. **Associated Conservation Practices:** 433 - Irrigation System, Surface and Subsurface; 607 - Surface Drain, Field Ditch; 388 - Irrigation Field Ditch; 449 - Irrigation Water Management; or 587 - Structure for Water Control.	Acre	Acre	$836.16	$1,003.39

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IRRIGATION SYSTEM, MICROIRRIGATION

Practice Code 441

Practice Units: ACRE

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

Purpose: This practice is applied to achieve the following purpose:

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

Conditions Where Practice Applies: On sites where soils and topography are suitable for irrigation of crops or other desirable vegetation and an adequate supply of suitable quality water is available for the intended purpose(s).

Microirrigation is suited to virtually all agricultural crops, and residential and commercial landscape systems. Microirrigation is also suited to steep slopes where other methods would cause excessive erosion, and areas where other application devices interfere with cultural operations.

Microirrigation is suited for use in providing irrigation water in limited amounts to establish desired vegetation such as windbreaks, living snow fences, riparian forest buffers, and wildlife plantings.

This practice standard applies to systems that wet only a specific area (e.g., an individual plant or tree) and typically have design discharge rates less than 60 gal./hr. at individual application discharge points. Use NRCS Conservation Practice Standard (CPS) (442), Sprinkler System, for systems that uniformly wet the entire field and typically have design discharge rates of 60 gal./hr. or greater at individual application discharge points.

Limitations: In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Scenario 441-46 High Tunnel Surface Microirrigation per square feet, is applicable up to a maximum size of 2,880 square feet per High Tunnel.

Scenario 441-47 Small Microirrigation System, is applicable up to a maximum size of 5,000 square feet.

Scenario 441-61 Surface Tape <5 acres, is applicable for 5 acres or less.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
441-1	Trees and Shrubs Microirrigation System	**Scenario Description:** An irrigation system for trees and shrubs such as in establishing a windbreak. Water delivery to the plantsby surface lines and/or subsurface applicators. Spacing of the plants will vary, w/ delivery lines spaced 15'. Area in question is being converted from other means of less efficient irrigation. Payment includes on-ground mainline and drip tape, fittings, andappurtenances. Pump & supply line is not included in this payment and may be offered through associated practices 533 Pumping plant and 430 Irrigation Pipeline, or existing pump & supply lines will be used. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **After Practice Description:** A surface placed micro irrigation system is utilized to provide highly efficient irrigation to the trees.Typical system is for 5 rows of trees each 600 ft. in length for a total irrigated length of 3,000 feet. Water applications are reduced, and runoff eliminated. Offsite water quality is improved,and on-site water use is reduced. Resource Concerns: Insufficient Water - Inefficient use of irrigation water, Degraded Plant Condition - Undesirable plant productivity and health, Water Quality Degradation - Excessive sediment in surface waters, and Inefficient Energy Use - Equipment and facilities. **Associated Practices:** Pumping Plant (533), Irrigation WaterManagement (449), Irrigation Pipeline (430)	Per Foot	Foot	$0.39	$0.46
441-2	Specialty Crop Microirrigation System	**Scenario Description:** An irrigation system for vegetables or other specialty crops typically of small acreage (2 acre). Water delivery to the plants by surface lines and/or subsurface applicators. Spacing of the plants will vary, w/ lateral lines spaced 24". Area in question is being converted from other means of less efficient irrigation. Payment includes on-ground mainline and drip tape, fittings, and appurtenances. Surface placed drip tape will not meet the 441 practice life and will normally need replacement every year. After first installation, driptape will be replaced as operation and maintenance as required for proper operation of the system. Pump & supply line is not included in this payment and may be offered through associated practices 533 Pumping plant and 430 Irrigation Pipeline, or existing pump & supply lines will be used. Cost represents typicalsituations for conventional, organic, and transitioning to organic producers. **After Practice Description:** A surface placed micro irrigation system is utilized to provide highly efficient irrigation to a field. Water applications are reduced, and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced. Resource Concerns: Insufficient Water - Inefficient use of irrigation water, Degraded Plant Condition - Undesirable plant productivity and health, Water Quality Degradation - Excessivesediment in surface waters, and Inefficient Energy Use - Equipment and facilities. **Associated Practices:** Pumping Plant (533), Irrigation WaterManagement (449), Irrigation Pipeline (430)	Acres in System	Acre	$2,291.53	$2,749.83

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
441-3	Potted Plant or Nursery Microirrigation System	**Scenario Description:** A complete drip irrigation system for potted nursery crops, irrigating a 60' x 200' pad. Water delivery tothe plants by surface lines and double spray-pattern stakes. Delivery line spacing is 4' w/ double pots spaced along each delivery line at 3' intervals. Irrigation is for 2010 pots. Area in question is being converted from existing system of overhead irrigation. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Payment includes on-ground mainline and drip tape, fittings, and appurtenances. Pump & supply line is not included in this payment and may be offered through associated practices 533Pumping plant and 430 Irrigation Pipeline, or existing pump & supply lines will be used. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **After Practice Description:** A surface placed micro irrigation system is utilized to provide highly efficient irrigation to a field. Water applications are reduced, and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced. Resource Concerns: Insufficient Water - Inefficient use of irrigation water, Degraded Plant Condition - Undesirable plant productivity and health, Water Quality Degradation - Excessivesediment in surface waters, and Inefficient Energy Use - Equipment and facilities. **Associated Practices:** Pumping Plant (533), Irrigation WaterManagement (449), Irrigation Pipeline (430)	Sq. Ft	Square Foot	$0.26	$0.31
441-4	Seasonal High Tunnel Microirrigation System	**Scenario Description:** An irrigation system for vegetables or other specialty crops, irrigating inside of a high-tunnel poly- house typically 2,178 sq. ft. in size. Water delivery to the plants by surface lines and/or subsurface applicators. Spacing of the plants will vary, w/ delivery lines spaced 60". Area in question isbeing converted from other means of less efficient irrigation. Payment includes on-ground mainline and drip tape, fittings, andappurtenances. Pump & supply line is not included in this payment and may be offered through associated practices 533 Pumping plant and 430 Irrigation Pipeline, or existing pump & supply lines will be used. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **After Practice Description:** A micro irrigation system is utilized to provide highly efficient irrigation to crops grown in a high tunnel. Water applications are reduced, and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced. Resource Concerns: Insufficient Water - Inefficient useof irrigation water, Degraded Plant Condition - Undesirable plant productivity and health, Water Quality Degradation - Excessive sediment in surface waters, and Inefficient Energy Use - Equipment and facilities. **Associated Practices:** Pumping Plant (533), Irrigation WaterManagement (449), Irrigation Pipeline (430)	Each High Tunnel	Each	$228.48	$274.18

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
441-46	High Tunnel Surface Microirrigation, per square feet	**Scenario Description:** Surface Microirrigation system for 30' x 96' seasonal high tunnel, 24" rows with emitters on a 12" spacing. Resource Concerns: Insufficient Water - Inefficient useof irrigation water, Degraded Plant Condition - Undesirable plantproductivity and health, Water Quality Degradation - Excessive sediment in surface waters, and Inefficient Energy Use - Equipment and facilities. **After Practice Description:** A surface placed microirrigation system is utilized to provide highly efficient irrigation to an area.Water applications are reduced, and runoff eliminated. Offsite water quality is improved, and on-site water use is reduced. **Associated Practices:** 533-Pumping Plant, 449- Irrigation WaterManagement, 430 - Irrigation Pipeline, 433 - Irrigation Flow Measurement, 328-Conservation Crop Rotation, and 590 Nutrient Management.	Microirrigation area	Square Feet	$0.61	$0.73
441-47	Small Microirrigation System	**Scenario Description:** A small scale surface micro irrigation system using drip tape or similar type micro-irrigation material placed on the soil surface to irrigate vegetables or field crops. Typically applied on a 40' by 40' plot, with 24" spaced rows, andemitters on a 12" spacing. Submains break plot into several smaller zones. System includes disk filter and chemical injectionfor chemigation. Water meter is not included. **After Practice Description:** A surface placed micro irrigation system is utilized to provide highly efficient irrigation to a smallplot. Water applications are reduced, and runoff eliminated. Offsite water quality is improved, and on-site water use isreduced. **Associated Practices:** 533 - Pumping Plant, 449 - Irrigation Water Management, 430 - Irrigation Pipeline, 436 - Irrigation Reservoir, 328 - Conservation Crop Rotation, and 590 - NutrientManagement.	Microirrigation area	Square Feet	$0.93	$1.11
441-61	Surface Tape <5 acres	**Scenario Description:** A micro-irrigation system using drip tape or similar type micro-irrigation material placed on the soil surface for vegetables or field crops. Spacing of drip tape or similar type micro irrigation material is based on soil type or row alignment but will typically vary from 18” to 36”. This system typically includes a filter system, PE manifolds fittings, drip tape, etc. This practice applies to systems designed to discharge < 60 gal/hr at each individual discharge point. Does not include Pump, power source, water source. Surface placed drip tape will not meet the 441 practice life and will normally need replacement every year. After first installation drip tape will be replaced as operation and maintenance issue as required for proper operation of the system. **After Practice Description:** A surface placed microirrigation system is utilized to provide highly efficient irrigation to a field. Water applications are reduced and runoff eliminated. Offsite water quality is improved, and on site water use is reduced. Drip tape will be replaced as operation and maintenance issue as required for proper operation of the system. A typical scenario consists of a 1/2 acre irrigated field with lateral spacing of 2 feet. **Associated Practices:** 533-Pumping Plant, 449-Irrigation Water Management, 430 - Irrigation Pipeline, 610 - Salinity & Sodic Soil Management, 328-Conservation Crop Rotation, 590 Nutrient Management, and 595-Integrated Pest Management.	Acres in System	Acres	$3,641.16	$4,369.39

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IRRIGATION PIPELINE

Practice Code 430

Practice Units: FEET

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

Purpose: This practice is used to accomplish one or more of the following purposes:

- Convey water from a supply source to an irrigation system, storage pond, or reservoir
- Reduce irrigation conveyance water losses by converting from open channel to pipeline
- Reduce energy use

Conditions Where Practice Applies: This standard applies to water conveyance and distribution pipelines installed above or below ground.

This standard does not apply to multiple-outlet irrigation system components (e.g., surface gated pipes, sprinkler lines, or microirrigation tubing). Use NRCS Conservation Practice Standards (CPSs) Irrigation System, Surface and Subsurface (Code 443), Sprinkler System (Code 442), and Irrigation System, Microirrigation (Code 441) for these components.

This practice does not apply to pipelines in systems for animal watering or waste transfer. Use NRCS CPS Livestock Pipeline (Code 516) to supply animal watering facilities. Use NRCS CPS Waste Transfer (Code 634) to transfer waste material.

Limitations: In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Scenario 430-70 PVC (Iron Pipe Size), less than or equal to 4 inch, Small Scale System, is applicable up to a maximum size of 780 linear feet.

Scenario 430-88 HDPE (Iron Pipe Size and Tubing), less than or equal to 2 inch, Small Scale, is applicable up to a maximum of 500 pounds.

Scenario 430-88 Surface HDPE (Iron Pipe Size and Tubing), less than or equal to 2 inch, Small Scale, is applicable up to a maximum of 500 pounds.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
430-1	Microirrigation Pipeline	**Scenario Description:** Below ground installation of plastic pipeline installed underground between the location of the water pump and the area of irrigation to serve a micro irrigation system.Cost represents typical situations for conventional, organic, and transitioning to organic producers. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included as 10% of pipe material. Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/ordistribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducingenergy use. **Associated Practices:** Irrigation Reservoir (436), Irrigation System, Micro irrigation (441); Sprinkler System (442); IrrigationSystem, Surface & Subsurface (443), Pumping Plant (533); Irrigation System, Tailwater Recovery (447), Waste Transfer (634)	Ft of pipe	Foot	$2.92	$3.50
430-2	Pipe System <=8 in Diameter, >50ft Installation	**Scenario Description:** Below ground installation of plastic pipeline installed underground between the location of the waterpump and the area of irrigation to serve an irrigation system. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks,risers, and inline valves, and are included as 10% of pipe material. Cost of appurtenances does not include flow meters orbackflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/ordistribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducingenergy use. **Associated Practices:** Irrigation Reservoir (436), Irrigation System, Micro irrigation (441); Sprinkler System (442); IrrigationSystem, Surface & Subsurface (443), Pumping Plant (533); Irrigation System, Tailwater Recovery (447), Waste Transfer (634)	Ft of pipe	Foot	$13.13	$15.75

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
430-3	Pipe System <= 8 in Diameter, <=50 ft Installation	**Scenario Description:** Below ground installation of plastic pipeline installed underground between the location of the waterpump and the area of irrigation to serve an irrigation system. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks,risers, and inline valves, and are included as 10% of pipe material. Cost of appurtenances does not include flow meters orbackflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/ordistribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducingenergy use. **Associated Practices:** Irrigation Reservoir (436), Irrigation System, Micro irrigation (441); Sprinkler System (442); IrrigationSystem, Surface & Subsurface (443), Pumping Plant (533); Irrigation System, Tailwater Recovery (447), Waste Transfer (634)	Ft of pipe	Foot	$27.21	$32.65
430-4	Pipe System 10-12 in Diameter, >50 ft Installation	**Scenario Description:** Below ground installation of plastic pipeline installed underground between the location of the waterpump and the area of irrigation to serve an irrigation system. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks,risers, and inline valves, and are included as %10 of pipe material. Cost of appurtenances does not include flow meters orbackflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/ordistribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducingenergy use. **Associated Practices:** Irrigation Reservoir (436), Irrigation System, Micro irrigation (441); Sprinkler System (442); IrrigationSystem, Surface & Subsurface (443), Pumping Plant (533); Irrigation System, Tailwater Recovery (447), Waste Transfer (634)	Ft of pipe	Foot	$17.53	$21.04

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
430-5	Pipe System 10-12 in Diameter, <= 50ft Installation	**Scenario Description:** Below ground installation of plastic pipeline installed underground between the location of the waterpump and the area of irrigation to serve an irrigation system. Cost represents typical situations for conventional, organic, and transitioning to organic producers. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks,risers, and inline valves, and are included as 10% of pipe material. Cost of appurtenances does not include flow meters orbackflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/ordistribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducingenergy use. **Associated Practices:** Irrigation Reservoir (436), Irrigation System, Micro irrigation (441); Sprinkler System (442); IrrigationSystem, Surface & Subsurface (443), Pumping Plant (533); Irrigation System, Tailwater Recovery (447), Waste Transfer (634)	Ft of pipe	Foot	$32.24	$38.69
430-70	PVC (Iron Pipe Size), less than or equal to 4 inch, Small ScaleSystem	**Scenario Description:** Below ground installation of PVC (Iron Pipe Size) pipeline. PVC (IPS) is manufactured in sizes (nominaldiameter) from ½-inch to 36- inch; typical practice sizes range from 2-inch to 24-inch; and typical scenario size is 3-inch. Construct 260 feet of 3-inch, Class 125 (SDR-32.5), PVC pipeline with appurtenances, installed below ground with a minimum of 2 feet of ground cover. The unit is weight of pipematerial in pounds. 260 feet of 3-inch, Class 125 (SDR-32.5)PVC pipe weighs 0.730 lb/ft, or a total of 189.8 pounds. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flowmeters or backflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/ordistribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducingenergy use. **Associated Practices:** 436 - Irrigation Reservoir; 441 – IrrigationSystem, Micro irrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface &Subsurface; 447 - Irrigation and Drainage Tailwater Recovery; 533 – Pumping Plant; 634 – Waste Transfer	Length of Pipe	Linear Feet	$7.30	$8.76

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
430-88	HDPE (Iron Pipe Size and Tubing), less than or equal to 2 inch, Small Scale	**Scenario Description:** Below ground installation of HDPE (Iron Pipe Size &Tubing) pipeline. HDPE (IPS &Tubing) is manufactured in sizes (nominal diameter) from 1/2-inch to 24-inch; and typical scenario size is 1-inch. Construct 260 feet of 1-inch, Class 130 (SDR 13.5), HDPE pipeline with appurtenances, installed below ground with a minimum 2 feet of ground cover. The unit is weight of pipe material in pounds. 260 feet of 1-inch, Class 130 (SDR-13.5), HDPE weighs 0.16 lb/ft, or a total of 42 pounds. Appurtenances include: fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use. **Associated Practices:** 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface &Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer	Weight of Pipe	Pound	$48.18	$57.82
430-89	Surface HDPE (Iron Pipe Size and Tubing), less than or equal to 2 inch, Small Scale	**Scenario Description:** On-ground surface installation of HDPE (Iron Pipe Size &Tubing) pipeline. HDPE (IPS &Tubing) is manufactured in sizes (nominal diameter) from 1/2-inch to 24-inch; and typical scenario size is 1-inch. Construct 260 feet of 1-inch, Class 130 (SDR 13.5), HDPE pipeline with appurtenances. The unit is weight of pipe material in pounds. 260 feet of 1-inch, Class 130 (SDR-13.5), HDPE weighs 0.16 lb/ft, or a total of 42 pounds. Appurtenances include: fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves, and are included in the cost of pipe material (additional 10% of pipe material quantity). Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Pipeline installed to convey and/or distribute water to irrigation systems or reservoirs, minimizing non-beneficial water use, reducing soil erosion, and/or reducing energy use. **Associated Practices:** 436 - Irrigation Reservoir; 441 - Irrigation System, Microirrigation; 442 - Irrigation System, Sprinkler; 443 - Irrigation System, Surface &Subsurface; 447 - Irrigation System, Tailwater Recovery; 533 - Pumping Plant; 634 - Waste Transfer	Weight of Pipe	Pound	$8.26	$9.92

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IRRIGATION RESERVOIR

Practice Code 436

Practice Units: ACRE-FEET

Definition: An irrigation water storage structure made by constructing a dam, embankment, pit, or tank.

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

- Store water to provide a reliable irrigation water supply or regulate available irrigation flows.
- Improve water use efficiency on irrigated land.
- Provide storage for tailwater recovery and reuse.
- Provide irrigation runoff retention time to increase breakdown of chemical contaminants.
- Reduce energy use.
- Develop renewable energy systems (i.e., hydropower).

Conditions Where Practice Applies: This practice applies to irrigation water storage structures that meet one or more of the following criteria:

- The existing available water supply is insufficient to meet irrigation requirements during all or part of the irrigation season.
- Water is available for storage from surface runoff, stream flow, irrigation canals, or a subsurface source.
- A suitable site is available for construction of a storage reservoir.

This practice applies to planning and functional design of storage capacity, and inflow/outflow capacity requirements for irrigation storage reservoirs. Plan and locate storage reservoirs to serve as an integral part of an irrigation system. This practice applies to reservoirs created by embankment structures or excavated pits to store diverted surface water, groundwater, or irrigation system tailwater for later use, or reuse. The practice also applies to reservoirs created by embankment structures or excavated pits and tanks constructed of concrete, steel, or other suitable materials used to collect and regulate available irrigation water supplies to accomplish the intended purpose.

Limitations: In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Scenario 436-36 Plastic tank, less than or equal to 1,000 gallons, is applicable for 1,000 gallons or less.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
436-1	Underground Tank	**Scenario Description:** A 1,500-gallon, HDPE plastic tank, is installed below ground to store water from a reliable source forirrigation of a small area. **After Practice Description:** A 1500-gallon HDPE tank (dimensions: 111" L X 98" W X 48" H) installed 2 ft. below groundas a means to store water collected from building/surface runoff and/or irrigation tailwater recovery. Scenario describes excavation of pit, placement of tank and backfilling of material over tank including spreading of spoil.	Volume of Storage Tank	Gallon	$1.82	$2.18
436-36	Plastic tank, less than or equal to 1,000 gallons	**Scenario Description:** A 1,000 Gallon, above-ground, High Density Polyethylene plastic enclosed tank, is installed on 6" of well-compacted drain rock or a 4" thick reinforced concrete support pad, to store water from a reliable source for irrigation ofan area less than one acre. The scenario assumes the typical dimensions of the tank are 72" in diameter and 66" tall. The scenario also assumes a 96" diameter gravel base or concrete pad to extend a minimum of 12" past the base of tank for adequate foundation support. This cost estimate scenario is for cost of the tank and pad only and does not include estimate for pumps, pipe, or connecting fittings. **After Practice Description:** An above-ground plastic tank, constructed to withstand the elements, is used to accumulate, and store water between irrigation cycles for a very small irrigation system. This allows for an improved flow rate and timing of water application. Sources of water could be a well, adomestic water system, a large roof area, a water ram , or a pump drawing water from a stream.	Volume of Tank Storage	Gallon	$4.29	$5.15
436-44	Excavated Tailwater Pit	**Scenario Description:** This is an excavated pit with a control structure. It is designed to accumulate, store, deliver or regulate water for a surface irrigation system. It will have a bottom width of 20 ft and length of 1,250 feet. The side slopes will be no steeper than 1.5 H to 1 V inside and out. It will be built with approximately 20,000 cubic yards of on-site material. It will have a maximum water depth of 10 feet with 1 feet of freeboard. Volume is approximately 12 ac-ft (3,950,303 gallons). **After Practice Description:** An excavated regulating reservoir will be built on a relatively flat site and be used to accumulate and store water for timely application through an irrigation system. The water source could be a stream or an irrigation district canal.	Volume of Earth Excavated	Cubic Yards	$1.85	$2.21
436-45	Embankment Dam with On-Site Borrow	**Scenario Description:** The reservoir, created by an embankment built across a natural depression, with an 18' diameter principal spillway outlet through the embankment, is controlled by a canal-style gate. Outlet can also serve as overflow protection with a 12' diameter standpipe and tee to the 18' pipe. Any watershed runoff will be diverted around reservoir. It will be built with approximately 4,500 cubic yards of on-site material. It will be about 19.9 feet high and 200 feet long and hold approximately 1,000,000 gallons (3 acre-feet). The top of berm will be 10 feet wide and the embankment side slopes will be 2.5 H to 1 V up and down stream. **After Practice Description:** This is an embankment, installed across a natural off-stream intermittent watercourse, used to store water for subsequent irrigation. It will be used to accumulate and store water for timely and efficient application of water through an irrigation system The water source could be a well, irrigation district pipeline, and/or a pump from a stream. It is designed to deliver water by gravity to an open ditch or non-pressurized pipeline, generally in excess of 5 cfs. All earthen materials will be from on-site sources.	Volume of Compacted Earthfill	Cubic Yards	$4.19	$5.03

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IRRIGATION SYSTEM, SURFACE AND SUBSURFACE

Practice Code 443

Practice Units: ACRE

Definition: A system that delivers irrigation water by surface means, such as furrows, borders, and contour levees, or by subsurface means through water table control.

Purpose: This practice is used to accomplish one or more one or more of the following purposes:

- Efficiently convey and distribute irrigation water to the soil surface point of application without causing excessive water loss, erosion, or water quality impairment.
- Efficiently convey and distribute irrigation water to the subsurface point of application without causing excessive water loss or water quality impairment.
- Apply chemicals and/or nutrients as part of a surface irrigation system in a manner that protects water quality including downstream drinking water sources.
- Reduce energy use.

Conditions Where Practice Applies: This practice applies to areas suitable for irrigation with an adequate water supply of sufficient quantity and quality to make irrigation practical for the planned crops to be grown and application methods to be used.

For surface irrigation, site conditions must be suitable to enable target application efficiency and distribution uniformity to be achieved.

For subsurface irrigation, site conditions and water supply must be suitable to raise and maintain the water table in the crop root zone during the growing season using water control structures and buried perforated pipe or shallow ditch structures.

This standard does not apply to irrigation systems employing subsurface line-source emitters on buried drip tapes or tubing that are addressed by Iowa NRCS Conservation Practice Standard (CPS) Irrigation System, Microirrigation (Code 441).

Limitations: In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Scenario 443-17 Ebb and Flow Benches, is applicable up to a maximum size of 3,600 square feet.
Scenario 443-30 Flood Floor Irrigation, is applicable up to a maximum size of 21,780 square feet.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
443-17	Ebb and Flow Benches	**Scenario Description:** Watertight benches, that are housed within the interior of a greenhouse, are installed that re-circulates (ebb and flow) water for irrigation purposes. Typical system consists of bay with three benches 4 feet wide and 100 feet long (1200 sq ft). The bench is flooded then slowly drained to allow water to up flux of water into potted plants located on the bench. This type of drip irrigation system utilizes a buried supply manifold with automated zone control valves and a burieddrainage manifold. This permanent subsurface irrigation system will include a filter station, flow meter, backflow prevention device, automated control box or timer, both asupply and drainage manifold, sump and numerous typesof water control valves. This scenario includes all materialand labor to install the benches filter and automation system. **After Practice Description:** This highly efficient subsurface irrigation system provides irrigation water directly to the plant root zone by capillary action and recirculates excess water for reuse, eliminating applicationlosses resulting from water leaching through the pot duringirrigation or being applied to areas without pots.	Square Feet	Square Feet	$11.48	$13.78
443-30	Flood Floor Irrigation	**Scenario Description:** The scenario consists of a concrete floor and under floor water distribution system. The plants receive water from the flooded floor through the root zone. Only needed water is taken up by the soil medium. After irrigation is complete, all water is cycled to the holding tank and is reused for the next irrigation cycle. For pumps - use CPS 533 - Pumping Plant, for piping use CPS 430 - Irrigation Pipeline. Based on flood floor design. **After Practice Description:** Greenhouse irrigation water is supplied by a Flood-Floor irrigation system. Water is taken up by the soil medium. All remaining water is recycled for reuse. No water is wasted or contaminated.	Square foot of flooded area	Square Feet	$7.36	$8.83

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IRRIGATION WATER MANAGEMENT

Practice Code 449

Practice Units: ACRE

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

Purpose:

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

Conditions Where Practice Applies: This practice is applicable to all irrigated lands. An irrigation system adapted for site conditions (soil, slope, crop grown, climate, water quantity and quality, air quality, etc.) must be available and capable of efficiently applying water to meet the intended purpose(s).

Limitations: In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
449-1	IWM for row crops	**Scenario Description:** Implementation of a water management plan for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start andstop, depths of irrigation applied, duration of irrigations, and amount of rainfall). Payment applies to irrigation water management on a row crop operation. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. Atthe end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.	Irrigated Area Managed	Acre	$10.52	$12.63
449-2	IWM for microirrigation systems and specialty crops	**Scenario Description:** Implementation of a water management plan for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start andstop, depths of irrigation applied, duration of irrigations, and amount of rainfall). Payment applies to irrigation water management on a specialty crop operation, or an operation utilizing micro irrigation. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. Atthe end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.	Irrigated Area Managed	Acre	$53.94	$64.73
449-3	IWM for Seasonal High Tunnels	**Scenario Description:** Implementation of a water management plan for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start andstop, depths of irrigation applied, duration of irrigations, and amount of rainfall). Payment applies to irrigation water management in Seasonal High Tunnels. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, and irrigation timing and amounts. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined. The typical irrigated area is approximately 2,000 sq. ft. under a Seasonal High Tunnel.	Number of High Tunnels	Each	$404.58	$485.50

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
449-4	Soil Moisture Sensors	**Scenario Description:** This practice includes the installation ofsoil moisture sensors such as tensiometers, gyp blocks, capacitance sensors etc., that are installed and read to determine point in time soil moisture by depth; and the labor of using the equipment for the first year. The installation includes the purchase of soil moisture meters and sensors, installation equipment, and labor to install and utilize sensors and readingsin making IWM decisions during first year. Typical Scenario involves installation of resistance sensor blocks in an 80 acre field of irrigated cropland. Producer periodically monitors soil moisture sensors during the growing season. Meters used to read sensors may be portable. **After Practice Description:** Producer has installed four sensorsat each monitoring site to a depth of four feet with one sensor representing each foot of depth. Producer uses periodic soil moisture measurements to schedule irrigation resulting in improved irrigation water management and reduced energy use.	Number of Measuring Sites	Each	$1,227.86	$1,473.44
449-5	Soil Moisture Sensors with Data Recorder	**Scenario Description:** This practice includes the installation of electrical soil moisture sensors such as capacitance or resistance sensors that are monitored to determine soil moisture.The installation includes the purchase of soil moisture sensors, installation equipment (probe or auger), and a data logger to log continuous soil moisture data that can be downloaded to a personal computer and associated graphing software. Scenario also includes the labor associated with using the equipment for the first year. Typical Scenario involves installation of resistance sensor blocks in a 120-acre field of sprinkler irrigated cropland. Producer periodically monitors soil moisture sensors during the growing season. **After Practice Description:** Producer has installed four sensorsat each monitoring site to a depth of four feet with one sensor representing each foot of depth. Producer periodically downloads continuously recorded soil moisture measurements that are used to schedule irrigation more effectively resulting in improved irrigation water management and reduced energy use.	Number of Measuring Sites	Each	$1,676.20	$2,011.44
449-15	Advanced IWM	**Scenario Description:** A high intensity irrigation water management system for producers using a checkbook method with advanced methods of determining irrigation water applied, and estimating crop evapotranspiration, monitoring field soil moisture, or monitoring crop temperature stress. Typical methodsinclude flow measurement, daily record keeping, and use of real- time evapotranspiration estimates (such as those provided dedicated weather stations) and/or soil moisture sensors with automated data logging to monitor field soil moisture content and/or crop temperature. For this scenario, soil moisture is determined by automated soil moisture monitoring stations equipped with telemetry data. Telemetry data is automatically sent to a computer with irrigation software. Irrigator also receives real time data via mobile phone applications. Some data such as total water applied may be entered into computer software manually. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. Atthe end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.	Irrigated Area Managed	Acre	$16.43	$19.72

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
449-125	Basic IWM < 1 acre	**Scenario Description:** A low Intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). The irrigation water management system is typically located on a small-scale agricultural operation cultivated by an individual or a group of people (e.g., repurposed land, private or community-gardens). Multiple crops are grown in the same space or within the growing season on less than 1 acre. For a typical scenario, soil moisture is determined by the feel method, volumes of irrigation water are based on energy or water district bills, records are kept on paper copies, and calculations are made by hand. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.	Number	Each	$865.14	$1,038.17
449-126	Intermediate IWM < 1 acre	**Scenario Description:** A medium intensity irrigation water management system for producers using a checkbook method (crop grown, soil moisture conditions prior to irrigation, dates of irrigation start and stop, depths of irrigation applied, duration of irrigations, and amount of rainfall). The irrigation water management system is typically located on a small-scale agricultural operation cultivated by an individual or a group of people (e.g., repurposed land, private or community-gardens). Multiple crops are grown in the same space or within the growing season on less than 1 acre. For a typical scenario, soil moisture is determined by in-field moisture sensors with manual downloads. Irrigation amounts are recorded from a flow meter near the pump. Records are input manually into an irrigation scheduling computer program. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.	Number	Each	$1,153.52	$1,384.23

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
449-127	Advanced IWM < 1 acre	**Scenario Description:** A high intensity irrigation water management system for producers using a checkbook method with advanced methods of determining irrigation water applied, and estimating crop evapotranspiration, monitoring field soil moisture, or monitoring crop temperature stress. The irrigation water management system is typically located on a small-scale agricultural operation cultivated by an individual or a group of people (e.g., repurposed land, private or community-gardens). Multiple crops are grown in the same space or within the growing season on less than 1 acre. Typical methods include flow measurement, daily record keeping, and use of real-time evapotranspiration estimates (such as those provided dedicated weather stations) and/or soil moisture sensors with automated data logging to monitor field soil moisture content and/or crop temperature. For this scenario, soil moisture is determined by automated soil moisture monitoring stations equipped with telemetry data. Irrigation amounts are recorded from a flow meter near the pump. Telemetry data is automatically sent to a computer with irrigation software. Irrigator also receives real time data via mobile phone applications. Some data such as total water applied may be entered into computer software manually. **After Practice Description:** Irrigations are scheduled based on measured crop water requirements. Records are used to evaluate results of past irrigation events and influence future irrigations. The irrigator keeps records of soil moisture, crop water use, rainfall amounts and irrigation timing and amounts. At the end of the irrigation season all the data has been reviewed and evaluated. Improvements planned for the next season have been determined.	Number	Each	$1,441.91	$1,730.29

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LINED WATERWAY OR OUTLET

Practice Code 468

Practice Units: FEET

Definition: A waterway or protected outlet section having an erosion-resistant lining of concrete, stone, synthetic turf reinforcement fabrics, 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 safe conveyance of runoff from conservation practices or other flow concentrations without causing erosion or flooding.
- Prevent or stabilize existing gully erosion or scour.
- Protect and improve water quality.

Conditions Where Practice Applies: This practice applies if conditions similar to one or more of the following exist:

- Concentrated runoff, pipe flow, steep grades, wetness, prolonged base flow, seepage, or piping is such that a lining is needed to prevent erosion.
- Use by people or animals precludes vegetation as suitable cover.
- Site restrictions necessitate limited waterway or outlet widths with design velocities that require lining protection.
- Soils are highly erosive or other soil or climatic conditions preclude using vegetation only.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
468-1	Turf Reinforced Matting - Corn Belt	**Scenario Description:** Install 300' long by 15' wide by 1.5' deeptrapezoidal or parabolic shaped waterway lined with Turf Reinforced Matting (TRM). 1/2 the channel is excavated. Excess excavation is spoiled in the immediate area. TRM is installed over 100% of the width of the waterway to prevent scourand aid in waterway establishment. Cost include excavation, spoiling of excess material, and furnishing and installing TRM. Lined waterway width is measured from top of bank to top of bank. **After Practice Description:** TRM lined waterway is 300' long by15' wide by 1.5' deep. The practice is installed using a hydraulic excavator. TRM is installed by laborers. **Associated Practices:** Subsurface Drain (606), Underground Outlet (620), Structure for Water Control (587), and Critical AreaSeeding (342).	Square Foot of Waterway	Square Foot	$1.00	$1.20

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LIVESTOCK PIPELINE

Practice Code 516

Practice Units: FEET

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

Purpose: This practice is used to accomplish one or more of the following purposes:

- Convey water to points of use for livestock or wildlife
- Reduce energy use.

Conditions Where Practice Applies: This standard applies to the conveyance of water through a closed conduit, from a source of supply to a watering facility, for use by livestock or wildlife.

This practice does not apply to the use of pipelines for irrigation. Use NRCS Conservation Practice Standard (CPS) Irrigation Pipeline (Code 430) for that purpose.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
516-1	Above Ground Pipeline	**Scenario Description:** An above ground plastic pipeline is installed to convey water from a source of supply to points of usefor livestock in a prescribed grazing system or wildlife for temporary watering locations. **After Practice Description:** An above ground plastic pipeline isinstalled to convey water from a water source to point of use for temporary watering. Payment incorporates pipe and quick connect coupler and fittings. The pipeline is installed as a facilitating practice for supplying water in a managed grazing system, to reduce soil erosion, improve water quality, improve health and vigor of key forage plant species and improve or maintain animal health. The pipeline is to be protected from UV radiation damage, as well as damage from vehicles, animals, people, and fire. The landowner is responsible for repair or replacement of the pipeline as necessary under O&M during thespecified life span of the practice. Cost data is applicable to organic and conventional agricultural production systems. **Associated practices include** Fencing (382), Prescribed Grazing (528), Trails and Walkways (575), Access Control (472), Pumping Plant (533), Water Well (642), Heavy Use Area (561) and Watering Facility (614).	Foot	Foot	$1.41	$1.69
516-2	Buried Pipeline, < 2in Plastic	**Scenario Description:** Installation of a plastic pipeline, less than2" diameter, to convey water from a source of supply to points of use for livestock in a prescribed grazing system or for wildlife. Installation is by trenching, or by backhoe across a stream or other locations where installation of the pipeline by trenching isnot feasible. **After Practice Description:** A 1-1/2-inch diameter, Schedule 40PVC plastic pipeline for stock watering, 4165 ft. long is installed for supplying water in a managed grazing system, to reduce soil erosion, improve water quality, improve health and vigor of key forage plant species and improve or maintain animal health. Payment includes couplers and fittings. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated practices include** Fencing (382), Prescribed Grazing (528), Trails and Walkways (575), Access Control (472), Pumping Plant (533), Water Well (642), Heavy Use Area (561) and Watering Facility (614).	Foot	Foot	$2.19	$2.62
516-3	Buried Pipeline, 2in-3in Plastic	**Scenario Description:** Installation of a 2-3" diameter plastic pipeline to convey water from a source of supply to points of usefor livestock in a prescribed grazing system or for wildlife. Installation is by trenching, or by backhoe across a stream or other locations where installation of the pipeline by trenching isnot feasible. **After Practice Description:** A 2-1/2-inch diameter, Schedule 40PVC plastic pipeline for stock watering, 3300 ft. long is installed for supplying water in a managed grazing system, to reduce soil erosion, improve water quality, improve health and vigor of key forage plant species and improve or maintain animal health. Payment includes couplers and fittings. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated practices include** Fencing (382), Prescribed Grazing (528), Trails and Walkways (575), Access Control (472), Pumping Plant (533), Water Well (642), Heavy Use Area (561) and Watering Facility (614).	Foot	Foot	$3.27	$3.92

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
516-5	Bedded Pipeline	**Scenario Description:** Installation of a gravel-bedded plastic pipeline in locations or conditions where the gravel bedding is necessary component of pipeline installation due to shallow bedrock, excessively rocky or otherwise unfavorable soil conditions so that the pipeline is evenly supported and protected from damage throughout the length of the trench. The purpose ofthe pipeline installation is to convey water from a water supply source to points of use for livestock in a prescribed grazing system or wildlife. **After Practice Description:** 1600 feet of Schedule 40 PVC plastic pipeline (800' of 1 1/2" diameter, and 800' of 2 1/2" diameter) is installed in gravel bedding in pastureland as part of alivestock water delivery system. The pipeline is installed as a facilitating practice for supplying water in a managed grazing system, to reduce soil erosion, improve water quality, improve health and vigor of key forage plant species and improve or maintain animal health. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated practices include** Fencing (382), Prescribed Grazing (528), Trails and Walkways (575), Access Control (472), Pumping Plant (533), Water Well (642), Heavy Use Area (561) and Watering Facility (614).	Foot	Foot	$3.86	$4.63
516-6	Cased Pipeline with Boring	**Scenario Description:** Installation of a 2-3" plastic pipeline within an outer casing, bored under a road or other obstruction toconvey water from a source of supply to points of use for livestock in a prescribed grazing system or wildlife. **After Practice Description:** The typical installation consists of installing 60 feet of a 2.5-inch, Schedule 40 PVC plastic pipe witha 4-inch outer casing under a roadbed. Pipeline boring includes all pipe under roadbed and labor and equipment involved during installation of pipe. The pipeline is installed as a facilitating practice for supplying water in a managed grazing system, to reduce soil erosion, improve water quality, improve health and vigor of key forage plant species and improve or maintain animalhealth. Payment incorporates couplers and fittings. Cost represents typical situations for conventional, organic, and transitioning to organic producers. **Associated practices include** Fencing (382), Prescribed Grazing (528), Trails and Walkways (575), Access Control (472), Pumping Plant (533), Water Well (642), Heavy Use Area (561) and Watering Facility (614).	Foot	Foot	$116.15	$139.38

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LOW TUNNEL SYSTEMS

Practice Code 821

Practice Units: SQ FT

Definition: An enclosed polyethylene, polycarbonate, plastic, or fabric covered structure that is used to cover and protect crops from sun, wind, excessive rainfall, or cold, and to extend the growing season or to reduce pest pressure.

Purpose: This practice is used to accomplish one or more of the following purposes -

- Improve plant productivity and health
- Reduce plant pest pressure

Conditions Where Practice Applies: This practice applies to land capable of producing crops, where sun or wind intensity, frost, or insect pests may damage crops, or where an extension of the growing season is needed due to climatic conditions.

Use the High Tunnel System CPS (Code 325) when a tunnel height greater than four feet is needed.

Limitations: Evaluation of Interim Practice is required. See 821 IA IR Low Tunnel Systems for more information.

Scenario 821-25 Low Tunnel < 1000 square feet – Year 1, is applicable up to a maximum tunnel coverage of 1,000 square feet.

Scenario 821-27 Low Tunnel 1000-5000 square feet – Year 1, is applicable for tunnel coverage of greater than 1,000 square feet to 5,000 square feet.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
821-25	Low tunnel < 1000 square feet- Year 1	**Scenario Description:** Garden or small farm grows annual crops including vegetables and other truck crops. Rows require a tunnel or floating cover to extend the growing season (early and late) or to protect from other environmental damage. Typical tunnel floats over crop or is supported by hoop or frame above crop. Tunnel cover is less than 48 inches above the soil. Typical row ranges in size from 30 inches by 200 feet up to 400 feet in length. Producer manages seasonal conditions such as soil temperature, exposure to early or late frost, and insects of food crops. **Year 1 of implementation only**. **After Practice Description:** Row covers are applied and managed to improve plant health and productivity by controlling the micro-climate under the tunnel.	area covered by tunnel	Square Feet	$4.55	$5.46
821-26	Low tunnel management- Year 2-3	**Scenario Description:** Garden or small farm grows annual crops including vegetables and other truck crops. Rows require a tunnel or floating cover to extend the growing season (early and late) or to protect from other environmental damage. Typical tunnel floats over crop or is supported by hoop or frame above crop. Tunnel cover is less than 48 inches above the soil. Producer manages seasonal conditions such as soil temperature, exposure to early or late frost, and insects of food crops. **Year 2-3 of implementation**. **After Practice Description:** Row covers are applied and managed to improve plant health and productivity by controlling the micro-climate under the tunnel.	area of tunnel	Square Feet	$0.41	$0.49
821-27	Low tunnel 1000-5000 square feet, Year 1	**Scenario Description:** Garden or small farm grows annual crops including vegetables and other truck crops. Rows require a tunnel or floating cover to extend the growing season (early and late) or to protect from other environmental damage. Typical tunnel floats over crop or is supported by hoop or frame above crop. Tunnel cover is less than 48 inches above the soil. Typical row ranges in size from 30 inches by 500 feet up to 2000 feet in length. Producer manages seasonal conditions such as soil temperature, exposure to early or late frost, and insects of food crops. **Year 1 of implementation only.** **After Practice Description:** Row covers are applied and managed to improve plant health and productivity by controlling the micro-climate under the tunnel.	area covered by tunnel	Square Feet	$1.20	$1.45

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MULCHING

Practice Code 484

Practice Units: ACRE

Definition: Applying plant residues or other suitable materials to the land surface.

Purpose: This practice is applied to achieve the following purpose(s):

- Improve the efficiency of moisture management
- Reduce irrigation energy used in farming/ranching practices and field operations
- Improve the efficient use of irrigation water
- Prevent excessive bank erosion from streams, shorelines, or water conveyance channels
- Reduce concentrated flow erosion
- Reduce sheet, rill, and wind erosion
- Improve plant productivity and health
- Maintain or increase organic matter content
- Reduce emissions of particulate matter

Conditions Where Practice Applies: This practice applies to all lands where mulches are needed.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
484-2	Erosion Control Blanket, Vegetation Establishment	**Scenario Description:** 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 on a disturbed site around a newly constructed structural practice and is generally used with critical area planting. **After Practice Description:** The erosion control blanket is placed on concentrated flow areas and secured with groundstables. Soil erosion is minimized, and vegetative cover is established.	Area Covered by Mulch	Acre	$6,933.88	$8,320.65
484-3	Erosion Control Blanket for Endangered Species, Vegetation Establishment	**Scenario Description:** Installation of erosion control blanket on critical areas with steep slopes, grassed waterways or diversions.Blanket is typically made of straw fiber and is typically covered on both sides with biodegradable netting (Leno woven on top net). Used to help control erosion and establish vegetative cover on a disturbed site around a newly constructed structural practice, while preventing entanglement or entrapment of an endangered snake species. Installation of an ECB with this typeof netting is more labor intensive than traditional blankets. This practice is typically used with critical area planting. **After Practice Description:** The erosion control blanket is placed on concentrated flow areas and secured with groundstables. Soil erosion is minimized, and vegetative cover is established.	Area Covered by Mulch	Acre	$8,380.06	$10,056.07
484-4	Natural Material, Soil Moisture Management	**Scenario Description:** Application of straw mulch or other state approved natural material (such as wood chips, compost, or hay)to conserve soil moisture, reduce erosion, moderate soil temperature and improve soil health. Typically used to provide partial coverage (either in-row or between rows) with tree/shrub plantings, irrigated orchards or vineyards, or annual and perennial specialty crops. Mulches applied around growing plantsshall have 100 % ground cover. Thickness of the mulch shall be adequate to prevent evaporation. Payment based on total acres mulched, assuming 3-5 ft. swatch and 10-12 ft. row spacing. **After Practice Description:** Straw or other natural mulch is applied in rows by hand or by mechanized means. Soil moisture is conserved, energy use associated with irrigation is decreased,and soil health is improved.	Area Covered by Mulch	Acre	$351.31	$421.57
484-5	Synthetic Material, Soil Moisture Management	**Scenario Description:** Installation of geotextile, biodegradable plastic, polyethylene plastic, or other state approved synthetic mulch to conserve soil moisture, reduce erosion, and moderate soil temperature. Typically used in-row with tree/shrub plantings, irrigated orchards or vineyards, or annual and perennial specialtycrops. Payment based on actual area covered by mulching material. **After Practice Description:** Synthetic mulch is applied in rows with a mulch layer or by other mechanized means. Soil moistureis conserved, and energy use associated with irrigation is decreased.	Area Covered by Mulch	Acre	$1,801.71	$2,162.05

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
484-6	Tree and Shrub, Individual Treatment, Soil Moisture Management	**Scenario Description:** Weed barrier fabric or other suitable natural or synthetic mulch is installed with a new tree and shrub planting where planting material are not planted in rows, thus requiring each tree or shrub to be treated individually. Typically used to conserve soil moisture, reduce erosion, and moderate soil temperature. Rate is per tree/shrub and assumes 1 square yard of weed barrier fabric and 5 staples/tree. Typical scenario isan installation of 100 native trees and shrubs to enhance wildlife habitat. **After Practice Description:** Weed barrier fabric squares are installed with 5 sod staples each, around individual trees and shrubs. Soil moisture is conserved, and energy use associatedwith irrigation is decreased improving growth and survival of trees/shrubs.	Number of Trees Mulched	Each	$0.80	$0.96
484-7	Natural Material, Small Area	**Scenario Description:** Application of straw mulch or other state approved natural material (such as wood chips, compost, or hay) to conserve soil moisture, moderate soil temperature and improve soil health within a small area, including a High Tunnel System. This small area scenario reflects mulch areas of 0.01ac to 0.1ac in size (435.6 sq ft to 4,356 sq ft). Typical size used for calculations is 0.05ac or 2,178 sq ft. Typically used to provide 100% coverage (in-row and between rows) to suppress weeds competing with annual and perennial crops grown in small areas/high tunnel systems. Mulches applied around growing plants shall have 100% ground cover. Thickness of the mulch shall be adequate to prevent evaporation. **After Practice Description:** Straw or other natural mulch is applied in tightly spaced rows by hand. Soil moisture is conserved, energy use associated with irrigation is decreased,and soil health is improved.	Each small area	Each	$146.58	$175.89
484-8	Synthetic Material, Small Area	**Scenario Description:** Installation of geotextile, biodegradable plastic, polyethylene plastic, or other state approved synthetic mulch to conserve soil moisture, and moderate soil temperature within a small area, including a High Tunnel System. This small area scenario reflects mulch areas of 0.01ac to 0.1ac in size (435.6sqft to 4,356sqft). Typical size used for calculations is 0.05ac or 2,178sqft. Typically used in row with annual and perennial crops grown in small areas/high tunnel systems. **After Practice Description:** Synthetic mulch is applied by hand. Soil moisture is conserved and energy use associated with irrigation is decreased.	Each small area	Each	$119.89	$143.87
484-60	Natural Material -Full Coverage	**Scenario Description:** Application of straw mulch or other stateapproved natural material to reduce erosion and facilitate the establishment of vegetative cover. Mulch provides full coverage and is typically used with critical area planting. Assumes 2 tons of straw mulch per acre. **After Practice Description:** Implementation Requirements areprepared according to the 484 Mulching Standard and implemented. Straw mulch has been applied to areas needing mulch. Erosion and sedimentation is reduced, water and soil quality is protected, and vegetative cover is established.	Area Covered by Mulch	Acre	$417.26	$500.71

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NUTRIENT MANAGEMENT

Practice Code 590

Practice Units: ACRE

Definition: Manage rate, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts.

Purpose:
- Improve plant health and productivity
- Reduce excess nutrients in surface and ground water
- Reduce emissions of objectionable odors
- Reduce emissions of particulate matter (PM) and PM precursors
- Reduce emissions of greenhouse gases (GHG)
- Reduce emissions of ozone precursors
- Reduce the risk of potential pathogens from manure, biosolids, or compost application from reaching surface and ground water
- Improve or maintain soil organic matter

Conditions Where Practice Applies: This practice applies to all lands where plant nutrients and soil amendments are applied.

Limitations: Conservation Practice Standard 590 Nutrient Management, is a management practice (One-year lifespan) and may be scheduled for up to 5 consecutive years on the same land.

Precision Nutrient Application Scenario, Scenario ID 590-316: For this scenario Soil samples are on 2.5 acres or smaller grids. Phosphorus and Potassium will be applied variably according to the soil tests. Apply all recommendations from the Nutrient Management Plan including at least 2 from the list below:

- Use the Late Spring Nitrate Test to evaluate soil N or ISU PM-2026 “Sensing Nitrogen Stress in Corn” and document how the side-dress rate decision was made.
- Utilize legumes other than soybeans in rotation. The legume must be a crop, not a cover crop. Nitrogen application is reduced for the following crop.
- Use ISU CROP 3154 “End of Season Corn Stalk Nitrate Test” to evaluate Nitrogen management (source, rate, timing, and placement) and document how this information will affect future N management. (Required for adaptive management scenario)
- Apply manure at P based rates according to PM-1688.
- Apply N after July 15 on pasture or no N on Pasture.
- When applying >60# N on pasture that has <30% legume, use split application.
- Utilize a slow release N such as a polymer coated urea (ex. ESN)
- Utilize nitrapyrin with fall applied anhydrous ammonia.
- Apply manure with low disturbance method in a disturbance strip less than 6” wide, minimum of 30 inch spacing.

For Scenario ID 590-8 Adaptive Nutrient Management refer to Technical Note 7 for guidance. Following is a hotlink for this Technical Note: https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=34196.wba

Scenario 590-286 Small Scale Basic Nutrient Management is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
590-8	Adaptive NM	**Scenario Description:** 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. **After Practice Description:** Installation of this scenario will result in adopting the four R's of nutrient management following the procedures outlined in Agronomy Technical Note 7 - AdaptiveNutrient Management. Implementation involves establishing the replicated plots to evaluate one or more of the 4 R's. The plot will consist of at least 4 replicated plots designed, laid out, managed and evaluated with the assistance of a consultant or extension professional knowledgeable in nutrient management and experimental design and data collection. Results are used to make nutrient application decisions to address water quality degradation issues and nutrient use efficiencies. Yields will be measured and statistically analyzed and summarized following the procedures in Agronomy Technical Note 7. The yields for each plot will be adjusted to theappropriate moisture content.	Each	Each	$2,231.67	$2,678.01
590-286	Small Scale Basic Nutrient Management	**Scenario Description:** This scenario applies to small farms withdiversified cropping systems which will improve the current level of management in applying nutrients. Improved level of management will be such to prevent nonpoint source pollution ofsurface and ground waters. Typical size is less than 0.5 acres. **After Practice Description:** Implementation Requirements havebeen developed to manage nutrients according to the criteria found in Nutrient Management (590) Conservation Practice Standard for either organic or non-organic operations as appropriate. A nutrient budget has been developed for each fieldor management zone. Nutrients are applied according to the 4 R's. (Right rate, Right time, Right place and Right source). Records needed to complete the nutrient budget are provided which may include variety of pre-season, in-season, and post- season soil nutrient and plant tissue tests and analysis; compostor manure tests; application timing, method and rate; nutrient sources; and yield data for each field or management zone. Nutrient runoff into adjacent streams is minimized improving water quality and preventing leaching into shallow ground watersources.	Planted area	1,000 SquareFoot	$26.45	$31.74

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
590-316	Precision Nutrient Application	**Scenario Description:** The planned Precision Nutrient Application system will meet the current Nutrient Management (590) CPS General and Additional Criteria. The Application system will include soil sampling methodology for variable rate application and systems. Use of additional nutrient/soil tests including chlorophyll meters, and/or spectral analysis may be used to further refine nutrient applications. Management of nutrients is based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management (apply the right nutrient source at the right rate, time and place) including activities to reduce nutrient loss by Assessment of comprehensive, site-specific conditions within the field. Nutrient management intensity must be sufficient to address site-specific risk for nutrient loss. Payment for implementation is to defray the costs of Precision Nutrient Application system, equipment to implement the practice, implementation of the NMP and recordkeeping. Typical treatment area is 40 acres. **After Practice Description:** A Precision Nutrient Application system will be developed to meet the current Nutrient Management (590) CPS General and Additional Criteria with nutrient management intensity sufficient to address site-specific risks for nutrient loss. Development and implementation of the NM system is based on site-specific risk assessment of comprehensive, site-specific conditions for the application of nutrients for each nutrient loss pathway that can negatively impact soil, water and air quality with excess nutrient loss. The NM system utilizes the 4Rs of nutrient stewardship and SMART Nutrient Management - the right Source, right Method, right Rate, and right Timing to meet both plant productivity and natural resource conservation goals. Utilizing GIS and GPS technologies, nutrients are applied based on soil test results for each grid or management zone using automated variable rate application equipment. Records provided annually include, the current soil test reports, planned nutrient application rates for each grid or management zone (prescription maps) and/or as applied maps, source, timing, and placement of all nutrients applied, actual crop yields and/or generated yield maps.	acres treated	Acres	$61.34	$73.61

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
590-369	Nutrient Management	**Scenario Description:** The scenario describes the development and implementation of a Nutrient Management (NM) system which will meet the current Nutrient Management (590) CPS General as well as Additional Criteria and utilizes synthetic fertilizer as well as animal manure as nutrient sources for crop production. The system provides crop nutrient recommendations which accounts for the removal of nitrogen (N), phosphorus (P), and potassium (K). Management of nutrients is based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management (apply the right nutrient source at the right rate, time and place) including activities to reduce nutrient loss by Assessment of comprehensive, site-specific conditions within the field. Nutrient management intensity must be sufficient to address site-specific risk for nutrient loss. Payment is to defray the costs of implementation of the NM system and recordkeeping. Typical treatment area is 40 acres. **After Practice Description:** A Nutrient Management (NM) system is developed and implemented to meet the current Nutrient Management (590) CPS for General and Additional Criteria, with nutrient management intensity sufficient to address site-specific risks for nutrient loss. Development and implementation of the NM system is based on site-specific risk assessment of comprehensive, site-specific conditions for the application of nutrients for each nutrient loss pathway that can negatively impact soil, water and air quality with excess nutrient loss. The NM system utilizes the 4Rs of nutrient stewardship and SMART Nutrient Management - the right Source, right Method, right Rate, and right Timing to meet both plant productivity and natural resource conservation goals.	Acres	Acres	$29.25	$35.10

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
590-370	Nutrient Management - Non-Organic	**Scenario Description:** The scenario describes the development and implementation of a Nutrient Management (NM) system which will meet the current Nutrient Management (590) CPS General as well as Specific Criteria and utilizes synthetic fertilizers as sole nutrient source for crop production. The system provides crop nutrient recommendations which accounts for the removal of nitrogen (N), phosphorus (P), and potassium (K). Management of nutrients is based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management (apply the right nutrient source at the right rate, time and place) including activities to reduce nutrient loss by Assessment of comprehensive, site-specific conditions within the field. Nutrient management intensity must be sufficient to address site-specific risk for nutrient loss. Payment is to defray the costs of implementation of the NM system and recordkeeping. Typical treatment area is 40 acres. **After Practice Description:** A Nutrient Management (NM) system is developed and implemented to meet the current Nutrient Management (590) CPS for General and Additional Criteria, with nutrient management intensity sufficient to address site-specific risks for nutrient loss. Development and implementation of the NM system is based on site-specific risk assessment of comprehensive, site-specific conditions for the application of nutrients for each nutrient loss pathway that can negatively impact soil, water and air quality with excess nutrient loss. The NM system utilizes the 4Rs of nutrient stewardship and SMART Nutrient Management - the right Source, right Method, right Rate, and right Timing to meet both plant productivity and natural resource conservation goals.	Acres	Acres	$21.83	$26.20

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
590-371	Nutrient Management - Manure Incorporation	**Scenario Description:** The scenario describes the development and implementation of a Nutrient Management Plan (NMP) which will meet the current Nutrient Management (590) CPS General as well Additional Criteria and utilizes manure as a nutrient source for crop production. Manure nutrient sources will be incorporated into the soil after application. This scenario is applicable for all manure nutrient sources (manure, compost and other organic sources of nutrients). Management of nutrients is based on the 4Rs of Nutrient Stewardship & SMART Nutrient Management (apply the right nutrient source at the right rate, time and place) including activities to reduce nutrient loss by Assessment of comprehensive, site-specific conditions within the field. Nutrient management intensity must be sufficient to address site-specific risk for nutrient loss. Payment is to defray the costs of implementation of the NMP and recordkeeping. Typical treatment area is 40 acres. **After Practice Description:** A Nutrient Management Plan (NMP) is developed to meet the current Nutrient Management (590) CPS for General and Additional Criteria with nutrient management intensity sufficient to address site-specific risks for nutrient loss. Development and implementation of the NMP is based on site-specific risk assessment of comprehensive, site-specific conditions for the application of nutrients for each nutrient loss pathway that can negatively impact soil, water and air quality with excess nutrient loss. Manure applications are incorporated into the soil. The NMP utilizes the 4Rs of nutrient stewardship and SMART Nutrient Management - the right Source, right Method, right Rate, and right Timing to meet both plant productivity and natural resource conservation goals.	Acres	Acres	$43.04	$51.65

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OBSTRUCTION REMOVAL

Practice Code 500

Practice Units: ACRE

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

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

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

Limitations: This practice may only be used for the removal of feedlot fences and feedlot concrete as part of closing a feedlot associated with the installation of a new (313) Waste Storage Structure or (367) Roofs and Covers.

Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
500-1	Removal and Disposal of Concrete Slab	**Scenario Description:** Remove and disposal of concrete slabs by saw cutting, demolition, excavation or other means required for removal. Dispose of concrete slabs so that it does not impedesubsequent work or cause onsite or offsite damage. Dispose of all concrete slabs by removal to an approved location,or reuse location. Typical disposal is burial on site. Remove and dispose all concrete slabs in order to apply conservation practices or facilitate the planned land use. Concrete slab removal will address the resource concerns of theprevention or hindrance to the installation of conservation practices or present a hazard to their use and enjoyment. **After Practice Description:** The typical area will be a 1000 squarefoot of impaired land. The removal of concrete slabs will be performed by demolition, excavation or other means required for removal with the use of heavy equipment and hand labor. Dispose of all concrete slabs from the obstruction removal so that it does not impede subsequent work or cause onsite or offsite damage.Revegetate or otherwise protect from erosion disturbed areas as soon as possible. Refer to NRCS Conservation Practice Standard 342, Critical Area Planting for seedbed preparation, seeding, fertilizing, and mulching requirements. The practice is to improve siteconditions in order to apply conservation practices or facilitate better use of the landscape.	Land Area	Square Foot	$0.98	$1.18
500-2	Removal and Disposal of Fence, Feedlot	**Scenario Description:** Remove and disposal of all existing fences around a livestock feeding/waste facility by demolition, excavation or other means required for removal. Dispose of all fence materials from the site so that it does not impede subsequent work or cause onsite or offsite damage. Dispose of all materials by removal to an approved landfill, wood chipping and land distribution, or recycling center, burial at an approved location or burning. If burning is used, implement appropriate smoke management to protect public health and safety. Fence removal will address the resource concerns of the prevention orhindrance to the installation of conservation practices or presenta hazard to their use and enjoyment. **After Practice Description:** The typical feedlot fence will be 800 in linear feet. The removal of the fence will be performed with the use ofequipment and hand labor. Dispose of all debris from the fence removal so that it does not impede subsequent work or cause onsite or offsite damage. Revegetate or otherwise protect from erosion disturbed areas as soon as possible. Refer to NRCS Conservation Practice Standard 342, Critical Area Planting for seedbed preparation, seeding, fertilizing, and mulching requirements. The practice is to improve site conditions in order to apply conservation practices or facilitate better use of the landscape such as Upland Wildlife Habitat Management (645).	Length of Fence	Foot	$3.29	$3.95

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ON-FARM SECONDARY CONTAINMENT FACILITY

Practice Code 319

PRS Unit of Measurement: NUMBER

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

Purpose: To minimize the risk of accidental release of stored oil and petroleum products used in agricultural operations to support the following purposes:

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

Conditions Where Practice Applies: This practice is applicable to agricultural areas where:

- An oil and petroleum product storage facility will be used for agricultural purposes.
- Spillage of oil and petroleum products would pose a contamination threat to soil, groundwater, or surface water.

On-farm oil products include diesel fuel, gasoline, lube oil, hydraulic oil, adjuvant oil, crop oil, vegetable oil, or animal fat, as identified by U.S. EPA's Oil Spill, Prevention, Control, and Countermeasure (SPCC) regulation (40 CFR 112 Oil Pollution Prevention).

This practice does not apply to the removal of existing oil and petroleum storage tanks.

This standard does not apply to underground storage tanks.

Limitations: Iowa NRCS Area Engineer/State Office Environmental Engineer shall be contacted before planning and implementation of the 319 - On-Farm Secondary Containment Facility. Design documentation may need to be sent to other State and/or Federal authorities for approval.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
319-8	Double Wall Tank	**Scenario Description:** This practice scenario includes the replacement of an existing single wall fuel storage tank with a new double wall tank. The purpose of the practice is to address resource concerns related to water quality degradation due to the excessive release of organics into ground and surface waters or excessive sediment and turbidity in surface waters. **After Practice Description:** This scenario is based on the replacement of an existing single wall tank(s) with a new double wall tank(s). Installation of 'used' double wall tank(s) will not be allowed. A 3000-gallon horizontal or vertical antiroll tank (U/L 142-23 Secondary Containment Vessel) double walled which meets EPA regulations will be installed. Payment Schedule is based on the cost difference between a new single wall tank andnew double wall tank of the same size. The double wall tank will provide an environmentally safe facility for handling and storage of oil products stored on the farm. Any accidental spills will be contained.	Tank volume	Gallon	$2.80	$3.36
319-11	Concrete Containment Wall	**Scenario Description:** This practice scenario includes the installation of a reinforced concrete wall containment with a concrete slab around an existing storage tank. The purpose of the practice is to address resource concerns related to water quality degradation due to the excessive release of organics into ground and surface waters or excessive sediment and turbidity insurface waters. Due to topography, limited site space and/or geological conditions a fabricated structure is needed. Structure will provide an environmentally safe facility for handling and storage of these products. **After Practice Description:** This scenario is based on containment for a 4,700-gallon tank. The containment volume isdesigned for 125% of the tank volume (4,700 gallons X 125% =5,875 gallons). Structure will provide an environmentally safe facility for handling and storage of these products. Typical containment dimensions are 196 sq. ft. bottom x 6" thick slab with 6" thick x 4' tall formed sidewalls. Tanks will be moved or raised to install base materials. The fabricated containment structure will be installed in conformance with the design and specifications. The on-farm oil products stored on the farm have secondary containment of accidental release that controls the excessive release of organics, suspended sediments, and turbidity. Structure will provide an environmentally safe facility for handling and storage of these products.	Volume of concrete in the wall	Cubic Yard	$1,446.10	$1,735.32

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OPEN CHANNEL

Practice Code 582

Practice Units: FEET

Definition: An open channel is a natural or artificial channel in which water flows with a free surface.

Purpose: Construct, improve, or restore an open channel to convey water required for flood prevention, drainage, wildlife habitat protection or enhancement, or other authorized water management purpose.

Conditions Where Practice Applies: This standard applies to the construction of open channels or modifications of existing streams or ditches with drainage areas exceeding one (1) mi^2 (1.6 km^2). This standard does not apply to Natural Resources Conservation Service (NRCS) Conservation Practice Standards (CPSs) Codes 362, Diversions; 412, Grassed Waterways; 388, Irrigation Field Ditches; 607, Surface Drain, Field Ditch; or 320, Irrigation Canal or Lateral.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 15 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
582-1	Two stage ditch	**Scenario Description:** This scenario is the improvement of a channel in which water flows with a free surface. The practice isused for the restoration of a natural or artificial channel to improve nutrient (phosphorus and nitrate) reduction and ecological function by creating a floodplain bench. Installation conditions are normal which means the location is easily accessible from a main road, soils are without large rock or difficult clay to excavate, and/or other aspects are average compared to excavation work in the area. **After Practice Description:** An earthen floodplain bench is excavated above low channel flow to create floodplain flow areaand to stabilize the bottom and side slopes. Nutrients are reduced in the water through bench saturation. Erosion is no longer a resource concern. Typical construction dimensions are similar to Fig. 10-9 in Stream Restoration Design handbook with10 ft. wide bench excavated on either side of 6 ft. deep ditch. Total excavation = 5' x 10' X 2 sides = 100 cubic feet per foot. Cool season grasses are established on the bench and slope areas using 342 Critical Area Planting. Need for mulching (strawor erosion control blanket) would be accomplished through 484-Mulching as necessary. **Associated Practices:** 356-Dike, 393-Filter Strip, 484-Mulching 587-Structure for Water Control, 533-Pumping Plant, 580 Streambank and Shoreline Protection, 584 Channel Stabilization,578 Stream Crossing.	Length of channel	Foot	$9.65	$11.58

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ORGANIC MANAGEMENT

Practice Code 823

Practice Units: Acre

Definition: Managing and improving natural resources on land in and adjacent to organic production using methods which integrate cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Improve soil health
- Reduce soil erosion
- Reduce emissions of greenhouse gases (GHG)
- Reduce transport of pesticides and nutrients transported to surface water, groundwater and air
- Improve plant productivity and health
- Reduce plant pest pressure
- Enhance habitat for wildlife, pollinators, and other beneficial invertebrates

Conditions Where Practice Applies: This practice applies to all lands where organic management methods are used.

Limitations: Scenario “OM Small Scale” is applicable to 10 acres or less.

Scenarios “OM Simple Crops Only”, “OM Simple Crops and Livestock”, “OM Complex Crops Only”, “OM Complex Crops and Livestock”, is applicable to greater than 10 acres and less than 1,000 acres.

Scenario “OM Simple Crops. Large Acreage” is applicable to 1,000 acres or more.

Scenarios with Foregone Income will not be offered in Iowa.

General Guidelines on Simple versus Complex Crops

Small acre scenario is considered complex crops (see complex commodities below).

For all others with simple crops or complex crops in the scenario name:

Complex commodities include vegetables, melons, potatoes, and sweet potatoes; fruits, tree nuts, and berries; and sweet corn, popcorn, and any other “field” crops grown as vegetables.

Simple commodities include wheat, other small grains, corn for silage, soybeans, dry beans, alfalfa hay, grass hay, and any other field or row crop not included in the “complex” category above.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
823	OM Small Scale	**Scenario Description:** The typical operation is Transitioning to Organic. The typical farm size is 5 acres or less and fields may be in various stages of organic transition. Organic system include cash row crops, hay or pasture, perennial crops, cover crops and possibly livestock. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$1,738.10	$2,085.71
823	OM Simple Crops Only	**Scenario Description:** The typical operation is Transitioning to Organic. The typical field size is 40 acres and fields may be in various stages of organic transition. Crop system include cash row crops, hay or pasture, perennial crops and cover crops. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$217.74	$261.28

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
823	OM Simple Crops and Livestock	**Scenario Description:** The typical operation is Transitioning to Organic. The typical field size is 40 acres and fields may be in various stages of organic transition. Organic system include cash row crops, hay or pasture, perennial crops, cover crops and livestock. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$290.84	$349.01
823	OM Complex Crops Only	**Scenario Description:** The typical operation is Transitioning to Organic. The typical field size is 40 acres and fields may be in various stages of organic transition. Crop system include cash row crops, hay or pasture, perennial crops and cover crops. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$246.19	$295.43

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
823	OM Complex Crops and Livestock	**Scenario Description:** The typical operation is Transitioning to Organic. The typical field size is 40 acres and fields may be in various stages of organic transition. Organic system includes cash row crops, hay or pasture, perennial crops, cover crops and livestock. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$341.37	$409.64
823	OM Simple Crops, Large Acreage	**Scenario Description:** The typical operation is Transitioning to Organic. The typical operation size is 1280 acres and fields may be in various stages of organic transition. Crop system include cash row crops, hay or pasture, perennial crops and cover crops. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$74.19	$89.02

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
823	Organic Pasture/Livestock Management	**Scenario Description:** The typical operation is Transitioning to Organic. The typical pasture system size is 100 acres supporting 100 to 150 cattle or cow-calf pairs, and fields may be in various stages of organic transition. Organic system includes irrigated forage/grass. This practice may be part of a conservation management system to: 1) Improve soil health, 2) Reduce soil erosion, 3) Reduce emissions of greenhouse gases, 4) Reduce transport of pesticides and nutrients transported to surface water, groundwater and air, 5) Improve moisture management, 6) Improve plant productivity and health 7) Reduce plant pest pressure, 8) Enhance habitat for wildlife, pollinators, and other beneficial invertebrates, 9) Improve livestock feed and forage imbalance and 10) Improve or maintain quantity and/or quality of forage for grazing, browsing and productivity. Organic Management Activities with low labor costs will be implemented on a medium to large scale crop production area. In all cases at least one planned organic management activity has risk to an identified resource concern. **After Practice Description:** Planned organic management activities have been implemented to address the identified resource concern(s) and complies with the National Organic Program Requirements. Conservation and organic system actions or operations have been developed or updated with the producer and they have implemented conservation practices with organic management design to address resource concerns. Records are reviewed and evaluated. Improvements planned for the next season are determined.	Acre	Acre	$129.07	$154.88

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PASTURE AND HAY PLANTING

Practice Code 512

Practice Units: ACRE

Definition: Establishing adapted and compatible species, varieties, or cultivars of perennial herbaceous plants suitable for pasture or hay production.

Purpose:

- Improve or maintain livestock nutrition and health.
- Provide or increase forage supply during periods of low forage production.
- Reduce soil erosion.
- Improve soil and water quality.
- Improve air quality.
- Improve soil health.

Conditions Where Practice Applies: All lands suitable for the one-time establishment of perennial species for forage production that will likely persist for 5 years. This practice does not apply to the establishment of annually planted and mechanically harvested food, fiber, or oilseed crops planted on designated cropland.

Limitations: Hay planting on cropland is only eligible for financial assistance when seeding hay on a PLU where it is not part of the existing or benchmark crop rotation.

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
512-1	Interseeding Legumes and/or forbs	**Scenario Description:** Interseed legumes and/or forbs into an existing grass stand for the purpose of increasing plant diversity,soil quality and fertility, and plant health and enhancing the quality of forage. Scenario is appropriate for conventional production. Payment includes seed, seeding and fertility for interseeding establishment. **After Practice Description:** A more diverse grass stand provides improved forage quality and availability, and improvedsoil condition. Payment scenario is based on red and ladino clover interseeded into a 20-acre cool season grass stand. Inputs are based on medium to low existing fertility.	Acres of Forage and Biomass Planting	Acre	$186.52	$223.82
512-3	Introduced Grass Establishment orRenovation	**Scenario Description:** Establishing a new stand or renovating a poor stand to introduced grass, or grass with legumes and/or forbs to improve or maintain livestock/wildlife nutrition and health,extend the length of the grazing season, and provide soil cover to reduce erosion. Scenario is appropriate for conventional production. Payment includes site preparation, seed, seeding fertilizer, lime, and foregone income for loss of production during establishment/renovation. **After Practice Description:** Establish introduced grass and legume mix stand to improve livestock nutrition through improvedforage quality and availability, and improved soil condition. Payment scenario is based on converting an existing poorcondition sod to introduced grass/legume/forb mix using mechanical or chemical activities.	Acres of Forage and Biomass Planting	Acre	$286.30	$328.80
512-7	Synthetic Material, Small Area	**Scenario Description:** Establishing a new stand or renovating apoor stand to native grass, or grass with legumes and/or forbs toimprove or maintain livestock/wildlife nutrition and health, extendthe length of the grazing season, and provide soil cover to reduce erosion. Scenario is appropriate for conventional production on sites where fertilizer is needed for establishment. Payment includes site preparation, seed, seeding, fertilizer, lime and foregone income for loss of production during establishment/renovation. **After Practice Description:** Establish native grass and legumeand/or forbs mix stand to improve livestock nutrition through improved forage quality and availability, and improved soil condition. Payment scenario is based on converting an existingpoor condition sod to native grass/legume/forb mix using mechanical or chemical activities.	Acres of Forage and Biomass Planting	Acre	$408.82	$461.07

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PEST MANAGEMENT CONSERVATION SYSTEM

Practice 595

Practice Units: ACRE

Definition: A system that combines an integrated pest management (IPM) decision-making process with natural resource conservation to address pest and environmental impacts.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Reduce plant pest pressure
- Reduce injury to beneficial organisms
- Reduce transport of pesticides to surface and ground water
- Reduce emissions of particulate matter (PM) and PM precursors (chemical droplet drift)
- Reduce emissions of ozone precursors (pesticide volatilizations)

Conditions Where Practice Applies: On lands where pests are managed.

Limitations: Conservation Practice Standard 595 Pest Management Conservation System, is a management practice (One-year lifespan) and may be scheduled for up to 5 consecutive years.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule: The rate is provided for developing and implementing the components of a 595 Pest Management Plan which could include scouting for insect pests, diseases, and weeds; record keeping, training, installation of weather monitoring, equipment calibration training and spray card coverage pattern assessment.

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
595-126	Water Quality Pesticide Mitigation > 30 Point AND/OR Beneficial Insect Pesticide Mitigation - Small Farm	**Scenario Description:** The minimum amount of planned IPM mitigation techniques needed to reduce water quality pesticide- related resource concerns is > 30 mitigation index score. An IPM plan will be developed in accordance with this standard and the CPS 595 Implementation Requirement will document how specific pesticide hazards will be prevented or mitigated AND/ORimpacts to wildlife-beneficial insects including pollinators. **After Practice Description:** An IPM system with planned. Mitigation techniques (>30 points) have been implemented to meet the minimum criteria for the identified resource concerns (i.e. Water Quality - Impacts to Human Drinking Water or Fish) AND 10 points of mitigation for Wildlife (beneficial insects including pollinators) with either risk prevention (i.e. planned pesticides have no risk to the identified resource concern) or riskmitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND Agronomy Technical Note 9).	Small Farm, typically <= 5 acs	Each	$1,500.08	$1,800.09
595-130	Water Quality Pesticide Mitigation <= 30 Point AND/OR Beneficial Insect Pesticide Mitigation - Small Farm	**Scenario Description:** The minimum amount of planned IPM mitigation techniques needed to reduce water quality pesticide- related resource concerns is <= 30 mitigation index score. An IPM plan will be developed in accordance with this standard and the CPS 595 Implementation Requirement will document how specific pesticide hazards will be prevented or mitigated AND/ORimpacts to wildlife-beneficial insects including pollinators. **After Practice Description:** An IPM system with planned. Mitigation techniques (<=30 points) have been implemented to meet the minimum criteria for the identified resource concerns (i.e. Water Quality - Impacts to Human Drinking Water or Fish) AND/OR 10 points of mitigation for Wildlife (beneficial insects including pollinators) with either risk prevention (i.e. planned pesticides have no risk to the identified resource concern) or riskmitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND/OR Agronomy Technical Note 9).	Small Farm, typically <= 5 acs	Each	$901.40	$1,081.68
595-132	Water Quality Pesticide Mitigation > 30 Point AND/OR Beneficial Insect Pesticide Mitigation	**Scenario Description:** The minimum amount of planned IPM mitigation techniques needed to reduce water quality pesticide- related resource concerns is > 30 mitigation index score. An IPM plan will be developed in accordance with this standard and the CPS 595 Implementation Requirement will document how specific pesticide hazards will be prevented or mitigated AND/ORimpacts to wildlife-beneficial insects including pollinators. **After Practice Description:** An IPM system with planned. Mitigation techniques (>30 points) have been implemented to meet the minimum criteria for the identified resource concerns (i.e. Water Quality - Impacts to Human Drinking Water or Fish) AND/OR 10 points of mitigation for Wildlife (beneficial insects including pollinators) with either risk prevention (i.e. planned pesticides have no risk to the identified resource concern) or riskmitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND/OR Agronomy Technical Note 9).	Acres of Management Applied	Acres	$53.81	$64.57

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
595-134	Water Quality Pesticide Mitigation <= 30 Point AND/OR Beneficial Insect Pesticide Mitigation	**Scenario Description:** The minimum amount of planned IPM mitigation techniques needed to reduce water quality pesticide- related resource concerns is <= 30 mitigation index score. An IPM plan will be developed in accordance with this standard and the CPS 595 Implementation Requirement will document how specific pesticide hazards will be prevented or mitigated AND/ORimpacts to wildlife-beneficial insects including pollinators. **After Practice Description:** An IPM system with planned. Mitigation techniques (<=30 points) have been implemented to meet the minimum criteria for the identified resource concerns (i.e. Water Quality - Impacts to Human Drinking Water or Fish) AND/OR 10 points of mitigation for Wildlife (beneficial insects including pollinators) with either risk prevention (i.e. planned pesticides have no risk to the identified resource concern) or riskmitigation (i.e. planned pesticides have appropriate mitigation planned from Agronomy Technical Note 5 AND Agronomy Technical Note 9).	Acres of Management Applied	Acres	$30.94	$37.13
595-136	Plant health PAMS (Small Farm - each) labor only	**Scenario Description:** PAMS activities with labor costs will be implemented on a small-scale crop production area. **After Practice Description:** Planned Prevention (resistantcultivar selection, pest habitat removal, etc.), Avoidance (IWM for disease avoidance, change in rotation to avoid problem spots, etc.), and Monitoring (field scouting, etc.) activities have been implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure).	Small Farm, typically <= 5 acs	Each	$450.92	$541.10
595-138	Plant Health PAMS activities (Small Farm - each) labor and materials	**Scenario Description:** PAMS activities with labor and material costs will be implemented on a small scale cropproduction area. **After Practice Description:** Planned Prevention (Netting to exclude insect or birds, resistant cultivar selection, etc), Avoidance (IWM for disease avoidance, change in rotation to avoid problem spots, etc.), and Monitoring (Degree day monitoring, field scouting, etc.) activities havebeen implemented to help meet the minimum criteria for the identified resource concerns (i.e. Plant Pest Pressure).	Small Farm, typically <= 5 acs	Each	$3,077.86	$3,693.43

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POND

Practice Code 378

Practice Units: 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 3 feet or more above the lowest original ground along the centerline of the embankment.

Purpose: A pond stores water for livestock, fish and wildlife, recreation, fire control, erosion control, flow detention, and other uses such as improving water quality.

Conditions Where Practice Applies: This standard establishes the minimum acceptable criteria for the design and construction of low-hazard embankment ponds and all excavated 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.

Limitations: Ponds are eligible for EQIP Financial Assistance when used as a water supply for grazing system improvements. Seeding, if needed, may be contracted by using Critical Area Planting – Practice Code 342.

Maintenance: Practice will be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
378-1	Embankment, TileConduit	**Scenario Description:** A low-hazard water impoundment structure on agricultural land to maintain or improve water qualityand to provide water for livestock, fish and wildlife, recreation, firecontrol, developing renewable energy systems and other related uses. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, as designed. The resource concerns addressed include inadequate livestock water, excessive suspended sediment and turbidity in surface water, damage from sediment deposition, and reduced capacity of conveyances by sediment deposition. **After Practice Description:** The typical low hazard pond is constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using 3100 cubic yards to create an embankment. The product ofthe storage times the effective height of the dam is less than 3,000. The effective height of the dam is 35 feet or less. The principal spillway is 6" corrugated plastic tubing. The earthen auxiliary spillway will be constructed as designed. Vegetation willbe completed under critical area planting (342).	Embankment Volume	Cubic Yard	$2.52	$3.03
378-2	Embankment, 4in-6in Pipe	**Scenario Description:** A low-hazard water impoundment structure on agricultural land to maintain or improve water qualityand to provide water for livestock, fish and wildlife, recreation, firecontrol, developing renewable energy systems and other related uses. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, as designed. The resource concerns addressed include inadequate livestock water, excessive suspended sediment and turbidity in surface water, damage from sediment deposition, and reduced capacity of conveyances by sediment deposition. **After Practice Description:** The typical low hazard pond is constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using 5000 cubic yards to create an embankment. The product of the storage times the effective height of the dam is less than 3,000. The effective height of the dam is 35 feet or less. The principal spillway is installed using an approved conduit material.The earthen auxiliary spillway will be constructed as designed. Vegetation will be completed under critical area planting (342).	Embankment Volume	Cubic Yard	$3.46	$4.16

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
378-3	Embankment, 8in-12in Pipe	**Scenario Description:** A low-hazard water impoundment structure on agricultural land to maintain or improve water qualityand to provide water for livestock, fish and wildlife, recreation, firecontrol, developing renewable energy systems and other related uses. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, as designed. The resource concerns addressed include inadequate livestock water, excessive suspended sediment and turbidity in surface water, damage from sediment deposition, and reduced capacity of conveyances by sediment deposition. **After Practice Description:** The typical low hazard pond is constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using 5000 cubic yards to create an embankment. The product of the storage times the effective height of the dam is less than 3,000. The effective height of the dam is 35 feet or less. The principal spillway is installed using an approved conduit material.The earthen auxiliary spillway will be constructed as designed. Vegetation will be completed under critical area planting (342).	Embankment Volume	Cubic Yard	$3.59	$4.31
378-4	Embankment, >12in Pipe	**Scenario Description:** A low-hazard water impoundment structure on agricultural land to maintain or improve water qualityand to provide water for livestock, fish and wildlife, recreation, firecontrol, developing renewable energy systems and other related uses. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, as designed. The resource concerns addressed include inadequate livestock water, excessive suspended sediment and turbidity in surface water, damage from sediment deposition, and reduced capacity of conveyances by sediment deposition. **After Practice Description:** The typical low hazard pond is constructed by excavating the pool area, constructing the auxiliary spillway, preparing the foundation as designed, and using 11,000 cubic yards to create an embankment. The productof the storage times the effective height of the dam is less than 3,000. The effective height of the dam is 35 feet or less. The principal spillway is installed using an approved conduit material.The earthen auxiliary spillway will be constructed as designed. Vegetation will be completed under critical area planting (342).	Embankment Volume	Cubic Yard	$3.89	$4.67

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POND SEALING OR LINING, GEOMEMBRANE OR GEOSYNTHETIC CLAY LINER

Practice Code 521

Practice Units: SQ.FT.

Definition: A liner for an impoundment constructed using a geomembrane or a geosynthetic clay material.

Purpose: This practice is applied to-

- Reduce seepage losses from an impoundment for water conservation.
- Protect soil and water from contaminants.

Conditions Where Practice Applies: This practice applies where in-place natural soils have excessive seepage rates.

Limitations: A Comprehensive Nutrient Management Plan (CNMP) is required for waste containment applications. Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
521-1	Flexible Membrane - Uncovered without liner drainage or venting	**Scenario Description:** Installation of a flexible geosynthetic membrane liner, uncovered, to reduce seepage from ponds or waste storage impoundment structures. Practice implementationincludes a geotextile or soil cushion to protect the liner from subgrade damage. **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Surface area of Liner Material (including anchorage)	Square Yard	$16.51	$19.81
521-2	Flexible Membrane - Uncovered with liner drainage orventing	**Scenario Description:** Installation of a flexible geosynthetic membrane liner, uncovered, to reduce seepage from ponds or waste storage impoundment structures. Practice implementationincludes a geotextile or soil cushion to protect the liner from subgrade damage, and liner drainage or venting. **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Surface area of Liner Material (including anchorage)	Square Yard	$24.22	$29.06
521-3	Flexible Membrane - Covered withoutliner drainage or venting	**Scenario Description:** Installation of a flexible geosynthetic membrane liner to reduce seepage from ponds or waste storageimpoundment structures. Practice implementation includes 1 foot of soil cover for liner protection, and a geotextile or soil cushion to protect liner from subgrade damage. **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Surface area of Liner Material (including anchorage)	Square Yard	$17.74	$21.29
521-4	Flexible Membrane - Covered with liner drainage orventing	**Scenario Description:** Installation of a flexible geosynthetic membrane liner to reduce seepage from ponds or waste storageimpoundment structures. Practice implementation includes 1 foot of soil cover for liner protection, a geotextile or soil cushion to protect liner from subgrade damage, and liner drainage or venting. **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Surface area of Liner Material (including anchorage)	Square Yard	$25.14	$30.17

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POND SEALING OR LINING, COMPACTED SOIL TREATMENT

Practice Code 520

Practice Units: SQ. FT.

Definition: A liner for an impoundment constructed using compacted soil with or without soil amendments.

Purpose: This practice is installed to reduce seepage losses from impoundments constructed for water conservation and environmental protection.

Conditions Where Practice Applies:

This practice applies where—

- In-place natural soils have excessive seepage rates, and
- An adequate quantity and type of soil suitable for constructing a compacted soil liner without amendments is available, or
- An adequate quantity and type of soil suitable for treatment with a soil dispersant or bentonite amendment is available for an amended soil liner.

Limitations: A Comprehensive Nutrient Management Plan (CNMP) is required for waste containment applications. Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
520-18	Compacted Earth Liner with Soil Cover	**Scenario Description:** Construction of a compacted soil liner, treated with compacted clay, to reduce seepage from ponds or waste storage impoundment structures. Practice implementationincludes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and soil cover to protect the finished liner. Scenario includes a 12" compacted clay liner with 6" of soil cover covering an area 1 acre in size. Material haul < 1 mile. **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Volume of Liner Material including soil cover over liner	Cubic Yard	$7.18	$8.62
520-19	Compacted Earth Liner	**Scenario Description:** Construction of a compacted soil liner, treated with compacted clay, to reduce seepage from ponds or waste storage impoundment structures. Practice implementationincludes compaction of the soil liner under proper moisture conditions to the designed liner thickness, and soil cover to protect the finished liner. Scenario includes a 12" compacted clay liner covering an area 1 acre in size. Material haul < 1 mile. **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Volume of Liner Material	Cubic Yard	$5.45	$6.54
520-40	Soil Dispersant -Uncovered	**Scenario Description:** Construction of a compacted soil liner, treated with a soil dispersant, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes incorporation of the dispersant with the soil liner under proper moisture conditions and compaction to the designed liner thickness. Practice implementation may require filter compatibilitywith the subgrade (graded filter or geotextile). **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Volume of Liner Material	Cubic Yard	$5.12	$6.15
520-41	Soil Dispersant -Covered	**Scenario Description:** Construction of a compacted soil liner, treated with a soil dispersant, to reduce seepage from ponds or waste storage impoundment structures. Practice implementationincludes incorporation of the dispersant with the soil liner under proper moisture conditions, compaction to the designed liner thickness, and placement of soil cover over the treated liner. Practice implementation may require filter compatibility with thesubgrade (graded filter or geotextile). **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Volume of Liner Material including Soil Coverover Liner	Cubic Yard	$3.95	$4.74

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
520-42	Bentonite Treatment - Uncovered	**Scenario Description:** Construction of a compacted soil liner, treated with bentonite, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes incorporation of the bentonite with the soil under propermoisture conditions, compaction to the designed liner thickness.Practice implementation may require filter compatibility with the subgrade (graded filter or geotextile). **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Volume of Liner Material	Cubic Yard	$94.62	$113.54
520-43	Bentonite Treatment - Covered	**Scenario Description:** Construction of a compacted soil liner, treated with bentonite, to reduce seepage from ponds or waste storage impoundment structures. Practice implementation includes incorporation of the bentonite with the soil under propermoisture conditions, compaction to the designed liner thickness,and placement of soil cover over the treated liner. Practice implementation may require filter compatibility with the subgrade(graded filter or geotextile). **After Practice Description:** Water conservation and environmental protection provided by limiting seepage lossesfrom ponds or waste storage impoundments.	Volume of Liner Material (includes 1 foot of soil cover over liner)	Cubic Yard	$48.68	$58.42

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POND SEALING OR LINING - CONCRETE

Practice Code 522

Practice Units: SQ. FT.

Definition: A liner for an impoundment constructed using reinforced or nonreinforced concrete.

Purpose: To reduce seepage losses from impoundments constructed for water conservation and environmental protection.

Conditions Where Practice Applies:

- In-place natural soils have excessive seepage rates.
- Construction of a compacted soil liner is not feasible with available soils.
- Use of impoundment requires concrete both as a liner and a protective subgrade cover.

Limitations: A Comprehensive Nutrient Management Plan (CNMP) is required for waste containment applications. Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
522-3	Reinforced concrete liner	**Scenario Description:** Construction of a concrete liner to address a water quality degradation or Livestock ProductionLimitation resource concern by reducing seepage from ponds. Practice implementation includes construction of a concrete liner to the designed liner thickness. Planned management of the impoundment and lack of availability of clay material precludes the use of a compacted clay liner, soa concrete lining is planned according to CPS 522. The reinforced concrete lining will be 5 inches thick and cover the bottom and side slopes of the pit. The typical scenario is for a rectangular pit, 100 ft. x 120 ft. with 2:1 side slopes, 12 feet deep, with a 16 ft. wide access ramp (also concrete lined) ona 9:1 slope. Does not apply to waste storage structures. **After Practice Description:** Water conservation and environmental protection provided by limiting seepagelosses from ponds.	Surface area to be lined	Square Foot	$6.97	$8.36
522-6	Concrete liner, non-reinforced	**Scenario Description:** Construction of a non-reinforced concrete liner to reduce seepage losses from ponds or waste storage impoundment structures. A non-reinforced concrete liner is intended to be used where liquid tightnessis not required. Practice implementation may require filter compatibility with the subgrade (graded filter or geotextile). **After Practice Description:** Water conservation and environmental protection provided by reducing seepagelosses from ponds or waste storage impoundments.	Volume of Concrete liner	Cubic Yard	$217.28	$260.73
522-7	Concrete liner, reinforced	**Scenario Description:** Construction of a reinforced concrete liner to reduce seepage losses from ponds or waste storage impoundment structures. A reinforced concrete liner is intended to be used where liquid tightnessis required. Practice implementation may require filter compatibility with the subgrade (graded filter or geotextile). **After Practice Description:** Water conservation and environmental protection provided by reducing seepagelosses from ponds or waste storage impoundments.	Volume of Concrete liner	Cubic Yard	$426.21	$511.46

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PRESCRIBED BURNING

Practice Code 338

Practice Units: ACRE

Definition: Planned fire applied to a predetermined area.

Purpose: Use this practice to accomplish one or more of the following purposes:

- Manage undesirable vegetation to improve plant community structure and composition
- Manage pests, pathogens, and diseases to reduce plant pressure
- Reduce wildfire hazards from biomass accumulation
- Improve terrestrial habitat for wildlife and invertebrates
- Improve plant and seed production, quantity and/or quality
- Facilitate distribution of grazing and browsing animals to improve forage-animal balance
- Improve and maintain habitat for soil organisms and enhance soil health

Conditions Where Practice Applies: On all lands as appropriate.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
338-1	Grassland, > 10acres	**Scenario Description:** Applying a prescribed burn according todesigned burn plan and NRCS Prescribed Burning (338) standard and specifications in order to control undesirable species, improve wildlife habitat, improve plant productivity and/or quality, facilitate grazing distribution and maintain ecological processes. This scenario is based on a burn area consisting of herbaceous and/or low volatile woody fuel. Constructed firebreak cost is not included in cost of burn. Referto Firebreak (394) standard and cost scenarios. **After Practice Description:** Desirable plant composition is restored, plant vigor improved, and invasive species reduced.Forage production and quality for livestock and /or wildlife is improved.	Acres planned	Acre	$28.11	$33.73
338-2	Grassland, Small acreage (<=10 acres)	**Scenario Description:** Applying a prescribed burn according todesigned burn plan and NRCS Prescribed Burning (338) standard and specifications in order to control undesirable species, improve wildlife habitat, improve plant productivity and/or quality, facilitate grazing distribution and maintain ecological processes. This scenario is based on a burn area consisting of herbaceous and/or low volatile woody fuel. Constructed firebreak cost is not included in cost of burn. Referto Firebreak (394) standard and cost scenarios. **After Practice Description:** Desirable plant composition is restored, plant vigor improved, and invasive species reduced.Forage production and quality for livestock and /or wildlife is improved.	Acres planned	Acre	$42.30	$50.75
338-3	Woodland, >10acres	**Scenario Description:** Applying a prescribed burn according todesigned burn plan and NRCS Prescribed Burning (338) standard and specifications. A woodland burn can consume debris or leaf litter under controlled conditions that otherwise could burn uncontrollably and devastatingly. Prior to burning, unit may need to be treated to reduce slash height and quantities. Burn should be cool enough to not cause mortality toresidual stand but still reduce litter and debris and promote desired plant community. Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios. **After Practice Description:** Litter, debris and slash are consumed, small seedlings may be killed during active burning. Residual larger trees have little to no scorching. Post treatment fire danger is significantly reduced, and desired plant communityis promoted/restored.	Acres planned	Acre	$76.84	$92.21
338-4	Woodland, Small acreage (<=10 acres)	**Scenario Description:** Applying a prescribed burn according todesigned burn plan and NRCS Prescribed Burning (338) standard and specifications. A woodland burn can consume debris or leaf litter under controlled conditions that otherwise could burn uncontrollably and devastatingly. Prior to burning, unit may need to be treated to reduce slash height and quantities. Burn should be cool enough to not cause mortality toresidual stand but still reduce litter and debris and promote desired plant community. Constructed firebreak cost is not included in cost of burn. Refer to Firebreak (394) standard and cost scenarios. **After Practice Description:** Litter, debris and slash are consumed, small seedlings may be killed during active burning. Residual larger trees have little to no scorching. Post treatment fire danger is significantly reduced, and desired plant communityis promoted/restored.	Acres planned	Acre	$137.99	$165.58

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PRESCRIBED GRAZING

Practice Code 528

Practice Units: ACRE

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

Purpose: This practice may be applied as a part of 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
- 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
- Manage fine fuel loads to achieve desired conditions

Conditions Where Practice Applies: This practice applies to all lands where grazing and/or browsing animals are managed.

Limitations: Conservation Practice Standard 528 Prescribed Grazing, is a management practice (One-year lifespan) and may be scheduled for up to 5 consecutive years on grazed lands. An exception to this rule is annual cropland does not need to be consecutive years when crop residue and/or cover crops are not grazed. Practice payment is made only after applied according to NRCS standards and specifications, and record keeping has been turned in for the grazing season. The grazing season includes dormant season grazing.

Financial assistance for Prescribed Grazing and Forage Harvest Management cannot be applied on the same area in the same forage season.

Prescribed Grazing financial assistance is eligible on expired or expiring Conservation Reserve Program (CRP) land changing to a grazing operation; however, the practices may not be installed until the CRP contract has expired.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
528-1	Low Intensity, >7 Day Rotation Frequency	**Scenario Description:** 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 (ex: photo points, stubble height after grazing, etc.) & record keeping. Livestock graze each pasture for more than seven (7) days in rotation and adequate rest is provided for the forages. **After Practice Description:** Typical scenario is based on a grazing system consisting of a 30-animal unit cow/calf operation (including bull(s), calves and replacement females) on 80 acres. Activities include farm labor to mow or clip pastures; monitor and measure forage growth; complete record keeping; analyze plant growth and animal performance; and make decisions or other management techniques. Management techniques reduce the use of supplemental feed, control weeds, and reduce energy requirements. Prescribed grazing system is designed to protect the health and vigor of the plant communities that are in place. Livestock are managed in a way that enhances pasture conditionand function through protection of sensitive areas and efficient harvest of forage resources. Runoff, sediment and nutrient loss are reduced by improving plant density, diversity and percent cover. Grazing system success is evaluated through short term monitoring and maintaining grazing stop height requirements. Acquisition of technical knowledge needed to effectively implement prescribed grazing. Costs and activities are typical for conventional and organic producers.	Acre	Acre	$23.46	$28.16
528-2	Medium Intensity, 7-3 Days Rotation Frequency	**Scenario Description:** 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 (ex: photo points, stubble height after grazing, etc.) & record keeping. Livestock graze each pasture from three (3) to seven (7) days in rotation. Rotation is based on monitoringlivestock demand and supply. **After Practice Description:** Typical scenario is based on a grazing system consisting of a 30-animal unit cow/calf operation (including bull(s), calves and replacement females) on 80 acres. Scenario results in an increase (above the low intensity option) inlabor required to complete the following activities: farm labor to mow or clip pastures; monitor and measure forage growth; complete record keeping; analyze plant growth and animal performance; and make decisions or other management techniques. Management techniques reduce the use of supplemental feed, control weeds, and reduce energy requirements. Prescribed grazing system is designed to protect the health and vigor of the plant communities that are in place. Livestock are managed in a way that enhances pasture conditionand function through protection of sensitive areas and efficient harvest of forage resources. Runoff, sediment and nutrient loss are reduced by improving plant density, diversity and percent cover. Grazing system success is evaluated through short term monitoring and maintaining grazing stop height requirements. Acquisition of technical knowledge needed to effectively implement prescribed grazing. Costs and activities are typical forconventional and organic producers.	Acre	Acre	$34.17	$41.00

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
528-3	High Intensity, <=2 Day Rotation Frequency	**Scenario Description:** 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 (ex: photo points, stubble height after grazing, etc.) & record keeping. Livestock graze each pasture/paddock from less than three (3) days in rotation. Rotation is based on monitoring livestock demand and supply. **After Practice Description:** Typical scenario is based on a grazing system consisting of a 30-animal unit cow/calf operation (including bull(s), calves and replacement females) on 80 acres. Scenario results in an increase (above the medium intensity option) in labor required to complete the following activities: farm labor to mow or clip pastures; monitor stop grazing heights and measure forage growth; complete record keeping; analyze plant growth and animal performance; and make decisions or other management techniques. Management techniques reduce the use of supplemental feed, control weeds, and reduce energy requirements. Prescribed grazing system is designed to protect the health and vigor of the plant communities that are in place. Livestock are managed in a way that enhances pasture conditionand function through protection of sensitive areas and efficient harvest of forage resources. Runoff, sediment and nutrient loss are reduced by improving plant density, diversity and percent cover. Grazing system success is evaluated through short term monitoring and maintaining grazing stop height requirements. Acquisition of technical knowledge needed to effectively implement prescribed grazing. Costs and activities are typical forconventional and organic producers.	Acre	Acre	$49.24	$59.09
528-6	Deferment, 90 -209 days	**Scenario Description:** Defer grazing of the pasture for a minimum of 90 days to manage for any of the following purposes:invasive weed control; improve the health of the forage plants; or provide cover for wildlife species. Keep records of dates out and monitor to determine when desired objectives of deferment are met. Does not include the purpose of deferment for the establishment of forages. **After Practice Description:** Scenario describes activities completed to restrict grazing for a defined period during the normal grazing period to provide benefits for invasive weed control, improvement in the health of the forage plants or providing cover for wildlife species. Activities include moving livestock to alternate locations, sampling and analyzing pasture condition, recordkeeping. Forgone Income used represents the acreage of usable forage not utilized during the deferment periodas a proportion of the grazing season. Typical size of 80- acre pasture operation with 30 animal units where 50% of the acreage(or 40 acres) is deferred from grazing for 90 days. Costs and activities are typical for conventional and organicproducers.	Acre	Acre	$59.89	$63.30

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	ScenarioUnit	EQIP	EQIP-HU
528-7	Deferment, >=210 days	**Scenario Description:** Defer the pasture for 210 days and up toa growing season to manage for invasive weeds when necessary, to improve the health of the plants and/or provide nesting habitat for wildlife species. Keep records of dates out and monitor to determine when desired objectives of deferment are met. Does not include the purpose of deferment for the establishment of forages. **After Practice Description:** Scenario describes activities completed to restrict grazing for a defined period during the normal grazing period to provide benefits for invasive weed control, improvement in the health of the forage plants or providing cover for wildlife species. Activities include moving livestock to alternate locations, sampling and analyzing pasture condition, recordkeeping. Forgone Income used represents the acreage of usable forage not utilized during the deferment periodas a proportion of the grazing season. Typical size of 80 acre pasture operation with 30 animal units where 75% of the acreage(or 60 acres) is deferred from grazing for 210 days. Costs and activities are typical for conventional and organicproducers.	Acre	Acre	$83.44	$86.96
528-38	Cover Crop/Aftermath	**Scenario Description:** Design and implementation of a grazing system using multiple fields of cover crops or cover crops in combination with crop aftermath. Use of these crop fields will provide additional forage and relieve pressure on pastureland fields, thereby enhancing pastureland health and ecosystem function as well as optimizing efficiency and economic return through monitoring (ex: trend, composition, production, etc.), andrecord keeping. This grazing will typically occur in the fall. If the grazing occurs on cover crop that is being used as part of pollinator system, the field cannot be grazed until after the honeybees are moved from the area which is usually early September. **After Practice Description:** Prescribed grazing system is designed to protect the health and vigor of the plant communitiesthat are in place, as well as utilizing the cover crops to a level that will continue to improve the soil health of the cropland. Livestock are managed in rotation in a way that enhances soilhealth and function through proper use and distribution, and efficient harvest of forage resources. Grazing system successwill be evaluated through monitoring.	Acres of Treatment	Acre	$11.69	$14.03

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PUMPING PLANT

Practice Code 533

Practice Units: NUMBER

Definition: A facility that delivers water or wastewater at a designed pressure and flow rate.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Deliver water for improved plant condition, livestock, or wetlands
- Remove excessive subsurface or surface water
- Provide efficient use of water on irrigated land
- Transfer of livestock waste or liquid byproducts as part of a wastewater transfer system
- Reduce energy use

Conditions Where Practice Applies: This practice applies where conservation objectives require the addition of energy to-

- Pressurize and transfer water from a surface or underground source to irrigated land, wetlands, livestock watering facilities, or reservoirs.
- Transfer water for fire protection, or transfer of manure, wastewater or liquid byproducts.
- Remove surface runoff or excessive subsurface water.

The pumping plant includes one or more pumps and associated power units, plumbing, and appurtenances, and may include pressure tanks, onsite fuel or energy source, and protective structures.

For a combustion system replacement, repowering, or retrofit associated with a pumping plant (e.g., pumping plant power unit) for an air quality or energy purpose, use Iowa NRCS Conservation Practice Standard (CPS) Combustion System Improvement (Code 372).

Limitations: Contracts that include Agricultural Energy Management Plans or audits as required for 533 – Pumping Plant shall have energy plans or audits sent to the Iowa NRCS Area Engineer who will forward a copy to the Iowa NRCS State Office Environmental Engineer for administrative review before certification of plans or installation of practices outlined in plans or audits. Plans must meet the technical requirements of ASABE S612 - Performing On-farm Energy Audits and CEMA 228 criteria. The Farm Energy Improvement Practices Implementation and Certification Record worksheet will be completed and signed by the participant prior to practice certification for payment.

For applications involving animal waste management application a Comprehensive Nutrient Management Plan (CNMP) is required for the following practices only if one or more of the following practices are being implemented concurrently (313, 317, 366, 632, 634, 520, 521, 522). Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities" as appropriate.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-1	Wastewater Pump < 1 Hp	**Scenario Description:** Scenario is for the implementation of anelectric chopper screw pump of less than 1 horsepower. Implementation examples include, but are not limited to, pumpingwastewater from the source to a storage facility such as in a dairy milk parlor, or pumping supernatant from the sump of a settling basin to a level spreader device upstream of a VegetatedTreatment Area, in flat topography where gravity flow from the settling basin is not feasible. Payment includes the pump and controls, installation and concrete pad base for the pump. **After Practice Description:** Practice typically installed for transfer of wastewater to a storage facility using 3/4 HP chopper/screw pump. Dairy milk parlor wastewater is directed toa waste storage facility, or feedlot runoff is directed to a solid/liquid settling basin, and supernatant is pumped from the sump of the settling basin to a Vegetated Treatment Area. Contaminated water no longer enters the stream. Cost represents typical situations for conventional, organic, andtransitioning to organic producers.	Per Pump	Each	$1,485.15	$1,782.18
533-2	Wastewater Pump 1-5 Hp	**Scenario Description:** Scenario is for the implementation of anelectric chopper screw pump of 1-5 horsepower. Implementation examples include, but are not limited to, pumpingwastewater from the source to a storage facility such as in a dairy milk parlor, or pumping supernatant from the sump of a settling basin to a level spreader device upstream of a VegetatedTreatment Area, in flat topography where gravity flow from the settling basin is not feasible. Payment includes the pump and controls, installation and concrete pad base for the pump. **After Practice Description:** Practice typically installed for transfer of wastewater to a storage facility using 3 HP chopper/screw pump. Dairy milk parlor wastewater is directed toa waste storage facility, or feedlot runoff is directed to a solid/liquid settling basin, and supernatant is pumped from the sump of the settling basin to a Vegetated Treatment Area. Contaminated water no longer enters the stream. Cost represents typical situations for conventional, organic, andtransitioning to organic producers.	Per Pump	Each	$3,609.68	$4,331.61
533-3	Manure Pump >5Hp	**Scenario Description:** Scenario is for the implementation of an electric chopper screw pump of >5 horsepower to pump manure from the source to a storage facility. Implementation examples include, but are not limited to, situations where a dairy or swine operation is pumping manure to an above ground storage facility.Payment includes the pump and controls, installation and concrete pad. **After Practice Description:** Practice typically installed for transfer of manure to a storage facility using 10 HP chopper/screw pump. Manure is directed to a waste storage facility, or feedlot runoff is directed to a solid/liquid settling basin, and supernatant is pumped from the sump of the settling basin toa Vegetated Treatment Area. Contaminated water no longer enters the stream. Cost represents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$8,377.02	$10,052.42

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-4	Small Wastewater Fuel Driven Pump <= 50 Hp	**Scenario Description:** Scenario is for the implementation of a fuel or PTO-driven pump of <= 50 horsepower for transferring manure or wastewater. Implementation examples include, but are not limited to, pumping wastewater from a storage facility toan end use such as a field or transferring manure and wastewater from a shallow pit under a hog confinement buildingto a deep pit manure storage on the headquarters site. Payment includes all controls and appurtenances needed to mount the pump and connect the pump to the piping system. The piping system and any associated reception tank is specified under 634 - Waste Transfer. **After Practice Description:** For semi-solid or liquid waste, wastes that have been collected through a waste transfer systemare now efficiently transferred to appropriate treatment or storagefacilities or crop application. Due to topography, gravity transfer is not possible, and a properly sized pump is needed to transfer waste as part of a waste transfer system.	Per Pump	Each	$21,596.00	$25,915.20
533-5	Large Wastewater Fuel Driven Pump > 50 Hp	**Scenario Description:** Scenario is for the implementation of a fuel or PTO-driven pump of >50 horsepower for transferring manure or wastewater. Implementation examples include, but are not limited to, moving wastewater from a waste holding pondto a dragline field application system, supplying wastewater to a sprinkler irrigation system, or any other transfer of wastewater from a storage facility to an end use. Includes all controls and appurtenances needed to mount the pump and connect the pump to the piping system. The piping system and any associated reception tank is specified under 634 - Waste Transfer. **After Practice Description:** For semi-solid or liquid waste, wastes that have been collected through a waste transfer systemare now efficiently transferred to appropriate treatment or storagefacilities or crop application. Due to topography, gravity transfer is not possible, and a properly sized pump is needed to transfer waste as part of a waste transfer system.	Per Pump	Each	$40,829.84	$48,995.81
533-6	Irrigation Pump	**Scenario Description:** The practice is installed to pump irrigation water from the source to a final destination. Paymentincludes the pump and controls, installation and concrete pad. **After Practice Description:** Practice typically installed for transfer of irrigation water to a final destination using 50 HP pump. Conservation benefits of the installation are improved efficiency for the delivery of irrigation water. Cost represents typical situations for conventional, organic, and transitioning toorganic producers.	Per Pump	Each	$26,970.75	$32,364.90
533-7	Microirrigation Pump	**Scenario Description:** The practice is installed to pump irrigation water from the source to a final destination for a microirrigation system. Payment includes the pump and controls, installation and concrete pad. **After Practice Description:** Practice typically installed for transfer of irrigation water to a final destination using 1 HP pump.Conservation benefits of the installation are improved efficiency for the delivery of irrigation water. Cost represents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$2,059.60	$2,471.53

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-8	Solar Pump for Shallow Well or Spring Development	**Scenario Description:** The scenario is for the installation of a solar panel array, pump, pressure tank, and appurtenances in ashallow well or spring development for supplying water to livestock in situations where standard electric power is inaccessible. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all appurtenances. Payment does not include battery backup. **After Practice Description:** The typical scenario assumes installation of a 200-watt photovoltaic (PV) panel. The installationincludes the pump, wiring, pipeline in the well, solar panels, frame mounts, inverter, and all appurtenances. Water will be pumped to an existing storage tank at a higher elevation from which it will be used to pressurize the Livestock Pipeline (516) or Irrigation Pipeline (430). Grazing - Livestock exclusionfrom surface water will result in improved surface water qualityand reduced erosion.	Pump	Each	$2,739.73	$3,287.67
533-9	Solar Pump for Pond	**Scenario Description:** The scenario is for the installation of a solar panel array, and pump from a pond for supplying water tolivestock in situations where standard electric power is inaccessible. The installation includes the pump, wiring, drop pipe, solar panels, mounts, inverter, and all appurtenances. Payment does not include battery backup. **After Practice Description:** The typical scenario assumes installation of a 200-watt photovoltaic (PV) panel. The installationincludes the pump, wiring, solar panels, frame mounts, inverter, and all appurtenances. Water will be pumped to an existing pondat a higher elevation from which it will be used to pressurize the Livestock Pipeline (516) or Irrigation Pipeline (430). Grazing - Livestock exclusion from surface water will result in improved surface water quality and reduced erosion.	Pump	Each	$2,397.98	$2,877.58
533-10	Shallow Well Pump (<= 25 ft deep)	**Scenario Description:** The scenario is for the installation of apump and pressure tank in a shallow well (<= 25 feet deep) orcollection for supplying water to livestock. Payment includes pump, controls, pressure tank and installation. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a centrifugal pump, pressure tank, and appurtenances for a shallow draw watering system. Conservation benefits of the installation is proper grazingdistribution, which will allow a degraded site to be restored. Cost represents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$1,962.64	$2,355.16

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-11	Shallow Well Pump (<= 25ft deep) with Above Ground Pump House	**Scenario Description:** The scenario is for the installation of a pump and pressure tank in a shallow well (<=25 feet deep) or collection for supplying water to livestock. Payment includes pump, controls, pressure tank and installation. Payment also includes a pump house installed above ground for situations where there is not an existing sheltered location for the pump tobe installed. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a centrifugal pump, pressure tank, and appurtenances for a shallow draw watering system. A 5' x 4' x 5' (100 cu ft.) prefabricated concrete above ground pump house is installed above ground on an 8' x 8' x 1' gravel pad. An above ground pump house is utilized where burying is not feasible in a cost-effective manner due to shallowsoils. Conservation benefits of the installation is proper grazing distribution, which will allow a degraded site to be restored. Cost represents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$2,878.26	$3,453.92
533-12	Shallow Well Pump (<= 25 ft deep) with Buried Pump House	**Scenario Description:** The scenario is for the installation of a pump and pressure tank in a shallow well (<= 25 feet deep) or collection for supplying water to livestock. Payment includes pump, controls, pressure tank and installation. Payment also includes a buried pump house for situations where there is not an existing sheltered location for the pump to be installed. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a centrifugal pump, pressure tank, and appurtenances for a shallow draw watering system. A 160 cu ft. concrete well house is buried. A buried pump house is utilized where the ground is such that burying is not difficult, and the climate conditions warrant burying for improved protection. Conservation benefits of the installation is proper grazing distribution, which will allow a degraded site to berestored. Cost represents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$4,292.68	$5,151.21
533-13	Deep Well Pump (>25 ft deep)	**Scenario Description:** The scenario is for the installation of a pump and pressure tank in a deep well (> 25 feet) for supplyingwater to livestock. Payment includes pump, controls, pressure tank and installation. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a jet or submersible pump,pressure tank, and appurtenances for a watering system. When utilizing a pond or stream a sump will be installed and used rather than a well. Conservation benefits of the installationis proper grazing distribution, which will allow a degraded site tobe restored. Cost represents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$2,248.29	$2,697.95

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-14	Deep Well Pump (> 25ft deep) with Above Ground Pump House	**Scenario Description:** The scenario is for the installation of a pump and pressure tank in a deep well (> 25 feet) for supplyingwater to livestock. Payment includes pump, controls, pressure tank and installation. Payment also includes a pump house installed above ground for situations where there is not an existing sheltered location for the pump to be installed. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a jet or submersible pump, pressure tank, and appurtenances for a watering system. A 5' x 4' x 5' (100 cu ft.) prefabricated concrete above ground pumphouse is installed above ground on an 8' x 8' x 1' gravel pad. An above ground pump house is utilized where burying is not feasible in a cost-effective manner due to shallow soils. Conservation benefits of the installation is proper grazing distribution, which will allow a degraded site to be restored. Costrepresents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$3,163.92	$3,796.71
533-15	Deep Well Pump (> 25 ft deep) with Buried Pump House	**Scenario Description:** The scenario is for the installation of a pump and pressure tank in a deep well (> 25 feet) for supplyingwater to livestock. Payment includes pump, controls, pressure tank and installation. Payment also includes a buried pump house for situations where there is not an existing sheltered location for the pump to be installed. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a jet or submersible pump,pressure tank, and appurtenances for a watering system. A 160 cu ft. concrete well house is buried. A buried pump house isutilized where the ground is such that burying is not difficult, and the climate conditions warrant burying for improved protection. Conservation benefits of the installation is proper grazing distribution, which will allow a degraded site to be restored. Costrepresents typical situations for conventional, organic, and transitioning to organic producers.	Per Pump	Each	$4,571.47	$5,485.76
533-16	Pump with Sump	**Scenario Description:** The scenario is for the installation of apump, pressure tank, and sump that supplies a dependable water supply to livestock from a pond, stream, or spring development. **After Practice Description:** Practice typically installed for 30 animal units and consists of installing a pump, pressure tank, sump, and appurtenances for a watering system from a pond or stream or spring development. Cost represents typical situationsfor conventional, organic, and transitioning to organic producers.	Per Pump	Each	$4,334.04	$5,200.85

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-17	Milk Transfer Pump	**Scenario Description:** The typical scenario is for the installationof a 1 HP motor and transfer pump with appurtenances, used in a dairy milking system to transfer milk from the milk receiver to the bulk tank. The motor will be used in conjunction with a VSD. This practice is to be used exclusively for implementing recommendations from on-farm energy audits. Payment includespump, controls and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a more efficient motor and pump combination. A VSD will be usedwith the motor/pump combination so that the motor speed can beadjusted to reduce power requirements and better match varied flow or pressure requirements. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Per Pump	Each	$675.20	$810.24
533-18	Vacuum Pump	**Scenario Description:** The typical scenario is for the installationof a 10 HP motor and vacuum pump with appurtenances, used ina dairy milking system to transfer the milk from the animal to the milk receiver. The motor will be used in conjunction with a VSD. This practice is to be used exclusively for implementing recommendations from on-farm energy audits. Payment includespump, controls and labor to install. **After Practice Description:** An on-farm energy audit has determined that energy use can be reduced through use of a more efficient motor and pump combination. A VSD will be usedwith the motor/pump combination so that the motor speed can beadjusted to reduce power requirements and better match varied flow or pressure requirements. The resource concern is inefficient use of energy in the farm operation which increases dependence on non-renewable energy sources and can be addressed through improved energy efficiency. Any improvements are based on a Type 2 energy audit meeting the requirements of ASABE S612.	Per Pump	Each	$6,351.24	$7,621.49
533-62	Solar Pump for Deep Well	**Scenario Description:** The scenario is for the installation of a solar panel array, pump, and appurtenances in a deep well for supplying water to livestock is situations where standard electric power is inaccessible. The installation includes the pump, wiring,drop pipe, solar panels, mounts, inverter, and all appurtenances. Payment does not include battery backup. **After Practice Description:** The typical scenario assumes installation of a 500-watt photovoltaic (PV) panel. Pump TDH 200ft at 5 gallons per minute. The installation includes the pump,wiring, pipeline in the well, solar panels, frame mounts, inverter, and all appurtenances. Water will be pumped to an existing storage tank at a higher elevation from which it will be used to pressurize the Livestock Pipeline (516) or Irrigation Pipeline (430). Grazing - Livestock exclusion from surface water will resultin improved surface water quality and reduced erosion.	Pump	Each	$5,102.35	$6,122.82

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
533-63	Livestock Non-Electric Pump	**Scenario Description:** A non-electric pump (nose pump, sling pump, water ram, etc.) is located in a pasture for the purpose of providing water to cattle. For a permanent installation, it is typicalto also install Heavy Use Area Protection (561) (separate contract item) where the cattle congregate around the pump. The objective is to provide water to the cattle outside of a live stream or other natural water source thereby eliminating a significant erosion situation and while also improving water quality. The cattle thus have access to drinking water without having to enter the stream. Generally, one pump is adequate for 20 cattle. **After Practice Description:** One non-electric pump is installed with all appurtenances anchored to concrete pad with 6"x6"'x10 Gauge reinforcement wire (9 ft. x 4 ft. x 5 in) or other appropriatesecure base to supply water to cattle for improved livestock herdmanagement. Additional Heavy Use Area Protection (561) in theform of crushed rock and at least 5 feet wide, may be installed (separate contract item) surrounding the concrete pad. Improved: water quality, soil quality, grazing management, plantdiversity, and animal health.	Number of Pumps	Each	$1,115.03	$1,338.03
533-67	Windmill-Powered Pump	**Scenario Description:** A windmill is installed in order to supply areliable water source for livestock and/or wildlife. The windmill includes the tower, concrete footings, wheel blade unit, sucker rod, down pipe, gear box, pump, plumbing, and well head protection concrete pad. The typical scenario will be a windmill system with a 10-ft. diameter mill and 27-foot tower which is pumping from a 150-foot well. As a result of installing this windmill, resource concerns of inadequate stock water, plant establishment, growth, productivity, health, and vigor, and water quantity can be addressed. Resource Concerns: Insufficient stock water. **After Practice Description:** A windmill, with a wheel ranging from 6' to 16' in diameter, will be installed over a well that is located to provide a reliable source of livestock water at the rateof at least 2 gpm, to facilitate proper grazing distribution and improved plant health. To increase reliability, water is pumped into a storage tank to provide a given number of days of supply. Installation includes the footings, wellhead protection concrete pad, tower, gear box, sail, sucker rod, down hole accessories, and a short outlet pipe to a storage tank.	Diameter of Mill Wheel	Foot	$1,017.95	$1,221.54

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RAISED BEDS

Practice Code 812

Practice Units: SQ FT

Definition: Create an above ground growing environment.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Reduce exposure to concentration of salts or other chemicals in the soil that limit the desired use
- Reduce field operation-induced particulate emissions
- Increase plant health and productivity

Conditions Where Practice Applies: This practice applies to land in inhabited areas where the desired reuse is for crop production where the existing growing media is unsuitable for production.

The practice is applicable for managing the production of agricultural crops where soil conditions are degraded due to the potential of heavy metals and other contaminates that pose an environmental and/or safety risk to the producer and/or the intended crop.

This practice does not apply to roof top agriculture, container gardening or indoor vertical farming. This practice does not apply to aquaculture production of fish or seafood.

Limitations: Soil test required to identify the soil contaminant that makes the existing media unsuitable for production. See 812 IA IR Raised Beds for more information.

Scenario 812-33 Unframed Raised Bed field size < 0.10 acres, is applicable up to a maximum bed size of 100 square feet.

Scenario 812-34 Unframed Raised Bed field size < 0.5 acres, is applicable for bed sizes of greater than 100 square feet to 500 square feet.

Scenario 812-35 Framed Raised Bed Small Lot, is applicable up to a maximum bed size of 100 square feet.

Scenario 812-36 Framed Raised Bed < 500 sq. ft., is applicable for bed sizes of greater than 100 square feet to 500 square feet.

Scenario 812-37 Framed Raised Bed greater than or equal to 500 sq. ft., is applicable for bed sizes of greater than 500 square feet to 2,000 square feet.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
812-33	Unframed Raised Bed field size < 0.10 acres Contamination or Debris Sites only	**Scenario Description:** The soil at this site has characteristics that restrict the ability to grow food and fiber crops directly in the soil. The soil has heavy metal contaminants and/or buried debris from past activities on the site. The owner/operator desires to bring the site into agricultural production. Typical size of raised bed is 4ft x 16 ft and minimum 16 inches deep and less than 100 sq ft. Field size 0.10 Acres (4356 sq ft.) or less. **After Practice Description:** Raised beds or mounds are created above the existing soil. Geomembrane may be used to separate plant roots from contacting soil contaminants. Raised beds are designed to meet the owner/operator objectives for overall size.	square feet of bed	Square Feet	$3.55	$4.26
812-34	Unframed Raised Bed field size < 0.5 acres Contamination or Debris Sites only	**Scenario Description:** The soil at this site has characteristics that restrict the ability to grow food and fiber crops directly in the soil. The soil has heavy metal contaminants and/or buried debris from past activities on the site. The owner/operator desires to bring the site into agricultural production. Bed area is 100 to 500 square feet. Raised bed size and shape varies. Field size up to 0.5 acres. NOT TO BE USED FOR RIDGE TILLAGE. **After Practice Description:** Raised beds or mounds are created above the existing soil. Geomembrane may be used to separate plant roots from contacting soil contaminants. Raised beds are designed to meet the owner/operator objectives for overall size.	square feet per bed	Square Feet	$2.64	$3.17

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
812-35	Framed Raised Bed Small Lot Contamination or Debris Sites only	**Scenario Description:** The soil at this site has characteristics that restrict the ability to grow food and fiber crops directly in the soil. The soil has heavy metal contaminants and/or buried debris from past activities on the site. The owner/operator desires to bring the site into agricultural production. Typical size of raised bed 4ft x 16 ft less than or equal to 100 sq ft. Field size 0.10 Acres or less. **After Practice Description:** Raised beds or mounds are created above the existing soil. Geomembrane may be used to separate plant roots from contacting soil contaminants. Raised beds are designed to meet the owner/operator objectives for overall size.	sq ft	Square Feet	$10.80	$12.97
812-36	Framed Raised Bed < 500 sq ft Contamination or Debris Sites only	**Scenario Description:** The soil at this site has characteristics that restrict the ability to grow food and fiber crops directly in the soil. The soil has heavy metal contaminants and/or buried debris from past activities on the site. The owner/operator desires to bring the site into agricultural production. Typical size of raised bed ranges from100 square feet to 500 square feet. Field size 0.10 Acres or less. **After Practice Description:** Raised beds or mounds are created above the existing soil. Geomembrane may be used to separate plant roots from contacting soil contaminants. Raised beds are designed to meet the owner/operator objectives for overall size.	sq ft	Square Feet	$5.70	$6.84
812-37	Framed Raised Bed greater than or equal to 500 sq ft Contamination or Debris Sites only	**Scenario Description:** The soil at this site has characteristics that restrict the ability to grow food and fiber crops directly in the soil. The soil has heavy metal contaminants and/or buried debris from past activities on the site. The owner/operator desires to bring the site into agricultural production. Typical size of raised bed ranges from 500 square feet to 2000 square feet. Scenario assumes 16*50 ft bed size. **After Practice Description:** Raised beds or mounds are created above the existing soil. Geomembrane may be used to separate plant roots from contacting soil contaminants. Raised beds are designed to meet the owner/operator objectives for overall size.	sq ft	Square Feet	$3.31	$3.97

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RESIDUE AND TILLAGE MANAGEMENT, NO-TILL

Practice Code 329

Practice Units: ACRE

Definition: Limiting soil disturbance to manage the amount, orientation and distribution of crop and plant residue on the soil surface year around.

Purpose:

- Reduce sheet, rill and wind erosion and excessive sediment in surface waters.
- Reduce tillage-induced particulate emissions.
- Maintain or increase soil health and organic matter content.
- Increase plant-available moisture.
- Reduce energy use.
- Provide food and escape cover for wildlife

Conditions Where Practice Applies: This practice applies to all cropland.

These planting methods are commonly referred to as no-till, strip till, direct seed, zero till, slot till, or zone till. Approved implements are: no-till and strip-type fertilizer and manure injectors and applicators; 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.

STIR (Soil Tillage Intensity Ratio) is estimated using the Revised Universal Soil Loss Equation 2 (RUSLE2) which estimates soil loss from rill and inter-rill erosion on cropland, STIR is required to be 15 or less for the crop year (harvest to harvest).

Limitations: Conservation Practice Standard 329 Residue and Tillage Management, No-till, is a management practice (One-year lifespan) and may be scheduled for up to 5 consecutive years. This practice is payable only to producers who have not previously used the practice or have not used the practice for a full rotation on the land where they are applying for financial assistance, example: If the applicant has only No-tilled the soybean year of a corn-soybean rotation they are eligible if they will be doing the full rotation with No-till. Applicants who previously received financial assistance from any government program for applying this practice on the land applied for, are not eligible for EQIP financial assistance for No-till, unless the practice is taken to a higher level. When No-till is scheduled for more than one year, the scheduled years must run consecutively on the same land. The No-Till scenario “No-Till/Strip-Till” will be used for both organic and non-organic applications.

Maintenance: Practice will be maintained for a minimum lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
329-1	No-Till/Strip-Till	**Scenario Description:** 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 practice is used to reduce sheet and rill erosion, reduce wind erosion, improve soil quality, reduce CO2 losses from the soil, reduce energy use, increase plant available moisture and providefood and escape cover for wildlife. The no-till/strip-till system includes non-tillage types of weed control and may also include aperiod of no till fallow. System is applicable in both irrigated and non-irrigated fields of organic and non-organic operations. **After Practice Description:** The Implementation Requirements for 329 Residue Management, No Till is prepared and installed. Managing crop residue on the surface of a field (typical 100 acre)year around according to the 329-practice plan while limiting soil disturbing activities to those which place nutrients, and plant crops that meet the minimum criteria in the 329- practice standard. All crops are seeded/planted with a no-till drill or no- till/strip-till planter, which minimizes soil disturbance while establishing good seed-soil contact. All residues are to be maintained on the soil surface in a uniform distribution over the entire field and not burned or removed. Crop residues provide soil surface cover throughout the year. Runoff and erosion are reduced, and no rills are visible on the soil surface. Wind erosionis reduced by standing residues and surface cover. Over time, soil health is improved due to the additional biomass (crop residues), ground cover, and soil infiltration. Crop residues and/or cover crop residues left on the soil surface may maximize weed control by increasing allelopathic and mulching effect and provides cover for wildlife. The practice would require reducing soil disturbance and erosion and increasing biomass returned to the soil in sufficient amounts to achieve increased SCI and decreased STIR.	Area planted	Acre	$16.39	$19.66

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RESIDUE AND TILLAGE MANAGEMENT, REDUCED TILL

Practice Code 345

Practice Units: 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 and harvest crops in systems where the field surface is tilled prior to planting.

Purpose:

- Reduce sheet, rill, and wind erosion and excessive sediment in surface waters (soil erosion).
- Reduce tillage-induced particulate emissions (air quality impact).
- Improve soil health and maintain or increase organic matter content (soil quality degradation).
- Reduce energy use (inefficient energy use).

Conditions Where Practice Applies: This practice applies to all cropland.

This practice includes tillage methods commonly referred to as mulch tillage or chiseling and disking. It applies to stubble mulching on summer-fallowed land, to tillage for annually planted crops and to tillage for planting perennial crops. It also includes some planting operations, such as hoe drills, air seeders and “no-till” drills that disturb a large percentage of the soil surface during the planting operation.

Limitations: Conservation Practice Standard 345 Residue and Tillage Management, Reduced Till, is a management practice (One-year lifespan) and may be scheduled for up to 5 consecutive years. This practice is payable only to producers who have not previously used the practice for a full rotation on the land they are applying for the financial assistance, example: If the applicant has only used reduced till the soybean year of a corn- soybean rotation they are eligible if they are implementing the full rotation with Residue and Tillage Management, Reduced Till, but if the applicant had used reduced till on both corn and soybeans on the land they are applying for financial assistance they are not eligible. When Reduced Till is scheduled for more than one year, the scheduled years must run consecutively on the same land. The Payment Schedule, “Residue and Tillage Management, Reduced Till” under the Residue and Tillage Management, Reduced Till (345) is only offered in the Energy and Organic Initiatives and certain RCPP projects. Applicants who previously received financial assistance from any government program for applying this practice, are not eligible for EQIP financial assistance for Residue and Tillage Management, Reduced Till.

Maintenance: Practice will be maintained for a minimum lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
345-2	Residue and Tillage Management, Reduced Till	**Scenario Description:** Mulch-till is managing the amount, orientation and distribution of crop and other plant residue on thesoil surface year-round while limiting the soil-disturbing activities used to grow crops in systems where the entire field surface is tilled by the planter/drill or tillage tools prior to planting. 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 plantedcrops, 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 entirefield 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 thefarming 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. **After Practice Description:** The Implementation Requirements are prepared following the criteria in the 345 Residue and TillageManagement, Reduced Till conservation practice standard. Reduced till applies to all cropland and other lands where crops are planted. This scenario includes the use of a reduce till systems and high disturbance drills, such as a hoe drill, air seeder, or no-till drill that disturbs a large percentage of soil surface during the planting operation. The residue that remains on the soil surface provides soil cover during late fall, throughoutthe winter, and into the early spring. Runoff and water/wind erosion are reduced, and water quality improves. Over time, soil health is improved due to less tillage, the additional biomass, ground cover, soil infiltration, and plantdiversity in the cropping system.	Area planted	Acre	$17.01	$20.41

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RESTORATION OF RARE OR DECLINING NATURAL COMMUNITIES

Practice Code 643

Practice Units: ACRE

Definition: Restoring and managing rare and declining habitats and their associated wildlife species to conserve biodiversity

Purpose:

- To restore and manage unique or declining land or aquatic, native habitats;
- Provide habitat for rare and declining species;
- To restore, conserve, and manage native plant communities
- Increase native plant community diversity.

Note: NRCS uses the term “wildlife” to include all animals, terrestrial and aquatic.

Conditions Where Practice Applies: Sites that previously or currently support a rare or declining habitat targeted for restoration or management. Iowa habitats deemed rare and in decline for the purposes of this practice include prairie, savanna, fen, sedge and wet meadow, and forest/woodlands.

For the purposes of this standard, reconstruction refers to the restoration of native plant communities where such a community does not currently exist, or within areas that have been seeded to native vegetation but need to be enhanced to reflect a natural community. A remnant is recognized as a natural habitat with pre-settlement components and diversity still intact.

Please see the Specifications for Practice Code 643 which accompany the Standard in the FOTG.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
643-3	Rare or Declining Habitat Monitoring and Management, Medium Intensityand Complexity	**Scenario Description:** This scenario is applied to all land use types including those with wildlife as a modifier, where any resource concern is identified related to rare or declining habitats, and where medium intensity and complexity of monitoring or management will treat the identified resource concern. Two or three monitoring efforts are needed and each requiring less than 2 people and less than 8 hours per effort. Twoor three adaptive management efforts are required (such as cutting of limbs that impede monitoring efforts, replacing damaged fence markers, or other minor adaptive management activities). The adaptive mgmt. requires hand labor and the occasional use of light equipment. A crew of 2 is needed for the hand labor efforts and the crew will require less than 16 total hours of labor per mgmt. effort. Mowing of roads and trail is required to provide access for monitoring and management. **After Practice Description:** Rare or declining habitat is improved by implementation of annual adaptive managementactions of medium intensity and complexity.	Monitoring efforts and adaptive managemen t actions	Acres	$10.52	$12.62
643-26	Savanna or Prairie Restoration, Heavy	**Scenario Description:** Removing or reducing woody plant canopy and utilizing chemical treatment (except for non- sprouting woody species) to promote herbaceous growth to restore and manage savannas or prairies where the Ecological Site Description indicates a savanna or prairie. Scenario is for savanna or prairie restoration where greater than 60% canopy cover across the treatment area is in undesirable non- herbaceous cover. Payment is based on impacted acres only. This scenario is intended to restore and manage the ecological site for associated wildlife species that benefit from habitats suchas savannas or prairies. **After Practice Description:** Savanna or prairie is restored andflora and fauna that depend on that habitat flourish. **Associated practices include:** Early Successional Habitat Management/Development (647), Prescribed Burning (338) and Conservation Cover (327).	Treated acres	Acres	$236.50	$283.80
643-27	Savanna or Prairie Restoration, Medium	**Scenario Description:** Removing or reducing woody plant canopy and utilizing chemical treatment (except for non- sprouting woody species) to promote herbaceous growth to restore and manage savannas or prairies where the Ecological Site Description indicates a savanna or prairie. Scenario is for savanna or prairie restoration where 40% - 60% canopy cover across the treatment area is in undesirable non-herbaceous cover. Payment is based on impacted acres only. This scenariois intended to restore and manage the ecological site for associated wildlife species that benefit from habitats such as savannas or prairies. **After Practice Description:** Savanna or prairie is restored andflora and fauna that depend on that habitat flourish. **Associated practices include:** Early Successional Habitat Management/Development (647), Prescribed Burning (338) and Conservation Cover (327).	acres treated	Acres	$143.08	$171.69

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
643-28	Savanna or Prairie Restoration, Light	**Scenario Description:** Removing or reducing woody plant canopy and utilizing chemical treatment (except for non- sprouting woody species) to promote herbaceous growth to restore and manage savannas or prairies where the Ecological Site Description indicates a savanna or prairie. Scenario is for savanna or prairie restoration where 40% - 60% canopy cover across the treatment area is in undesirable non-herbaceous cover. Payment is based on impacted acres only. This scenariois intended to restore and manage the ecological site for associated wildlife species that benefit from habitats such as savannas or prairies. **After Practice Description:** Savanna or prairie is restored andflora and fauna that depend on that habitat flourish. **Associated practices include:** Early Successional Habitat Management/Development (647), Prescribed Burning (338) and Conservation Cover (327).	Area treated	Acres	$61.41	$73.70
643-29	Woodland Restoration, Heavy	**Scenario Description:** Removing or reducing the tree canopy and utilizing chemical treatment (except for non-sprouting woody species) to promote herbaceous growth or early woody succession to benefit wildlife habitat where the Ecological Site Description indicates a woodland. Scenario is for open woodland restoration where basal area removal is >40 square feet per acre, or >400 stems per acre. This scenario is intended to restoreand manage the ecological site for associated wildlife species that benefit from habitats such as open woodlands by felling the majority of the undesirable trees to allow installation of associated practices. **After Practice Description:** The ecological site is restored andflora and fauna that depend on open woodland habitat flourish. **Associated practices include:** Early Successional Habitat Management/Development (647), Prescribed Burning (338) and Conservation Cover (327).	Treatment area	Acres	$207.14	$248.57
643-30	Woodland Restoration, Medium	**Scenario Description:** Removing or reducing the tree canopy and utilizing chemical treatment (except for non-sprouting woody species) to promote herbaceous growth or early woody succession to benefit wildlife habitat where the Ecological Site Description indicates a woodland. Scenario is for open woodland restoration where basal area removal is 30 - 40 square feet per acre, or 200 - 400 stems per acre. This scenario is intended to restore and manage the ecological site for associated wildlife species that benefit from habitats such as open woodlands by felling the majority of the undesirable trees to allow installation of associated practices. **After Practice Description:** The woodland ecological site isrestored and flora and fauna that depend on open woodlandhabitat flourish. **Associated practices include:** Early Successional Habitat Management/Development (647), Prescribed Burning (338) and Conservation Cover (327).	Area Treated	Acres	$162.07	$194.48

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
643-31	Woodland Restoration, Light	**Scenario Description:** Removing or reducing the tree canopy and utilizing chemical treatment (except for non-sprouting woody species) to promote herbaceous growth or early woody succession to benefit wildlife habitat where the Ecological Site Description indicates a woodland. Scenario is for open woodlandrestoration where basal area removal is 20 - 29 square feet per acre, or 100 - 199 stems per acre. This scenario is intended to restore and manage the ecological site for associated wildlife species that benefit from habitats such as open woodlands by felling the majority of the undesirable trees to allow installation of associated practices. **After Practice Description:** The woodland ecological site isrestored and flora and fauna that depend on open woodlandhabitat flourish. **Associated practices include:** Early Successional Habitat Management/Development (647), Prescribed Burning (338) and Conservation Cover (327).	Area treated	Acres	$132.80	$159.36
643-75	High Species Richness on Fallow or Non-Cropland, no FI	**Scenario Description:** A resource concern has identified the need to re-establish, by planting of seed, a rare or declining plantcommunity or community of local cultural importance. This practice scenario applies to areas not recently in crop production,including fallow cropland currently supporting native or non- native vegetation needing control prior to planting. The restoration effort will consist of planting a rich and diverse mix of species native to the area and representative of the historic plant community. Seed for the desired species are not of limited supply(e.g. local genotypes), difficult to produce, or excessively difficult to harvest. Light site preparation will occur prior to planting via herbicide burndown, burning, mowing or disking. If the plant community supported difficult to control species; those species were treated previous to the planting via the implementation of CPS Brush Management (Code 314) and/or Herbaceous Weed Control (Code 315). **After Practice Description:** Desired species have beenestablished, restoring the identified rare and declining community, or community of local cultural importance.	Acres	Acres	$437.72	$525.26

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RIPARIAN FOREST BUFFER

Practice Code 391

Practice Units: ACRE

Definition: An area predominantly covered by trees and/or shrubs located adjacent to and up-gradient from a watercourse or water body.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Reduce transport of sediment to surface water, and reduce transport of pathogens, chemicals, pesticides, and nutrients to surface and ground water
- Improve the quantity and quality of terrestrial and aquatic habitat for wildlife, invertebrate species, fish, and other organisms
- Maintain or increase total carbon stored in soils and/or perennial biomass to reduce atmospheric concentrations of greenhouse gasses
- Lower elevated stream water temperatures
- Restore diversity, structure, and composition of riparian plant communities

Conditions Where Practice Applies: Apply riparian forest buffers on areas adjacent to permanent or intermittent streams, lakes, ponds, and wetlands where channels and streambanks are sufficiently stable.

Limitations: This practice is not applied to stabilize streambanks or shorelines (see Practice 580 Streambank and Shoreline Protection for this).

Maintenance: Practice will be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
391-2	Bareroot trees and shrubs	**Scenario Description:** Establish a buffer of trees and shrubs into a suitably prepared site to restore riparian plant communitiesand associated benefits. The buffer will be located adjacent to and up-gradient from a watercourse or water body and extend the minimum required width. The planting will consist of machineplanted bare-root shrubs and trees at spacings recommended in a tree/shrub planting plan. Payment includes trees, equipment and labor to plant, and foregone income for the land taken out of crop production to install the riparian buffer. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** A buffer of trees and shrubs will be established along the riparian corridor which will provide stability,filtration, shade, and desirable habitat to address the resource concerns of Soil Erosion - excessive bank erosion; Water Quality - excess sediment and organics in surface waters and elevatedtemperature; Degraded Plant Condition - inadequate structure and composition; and Inadequate Habitat for Fish and Wildlife -habitat degradation. **Additional associated practices may include:** 315 Herbaceous Weed Treatment, 660 Tree/Shrub Pruning, 484 Mulching	Area of planting	Acres	$1,222.21	$1,376.77

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RIPARIAN HERBACEOUS COVER

Practice Code 390

Practice Units: ACRE

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

Purpose: Practice is applied as part of a conservation management system to accomplish one or more of the following purposes:

- Improve and maintain water quality
- Establish and maintain habitat corridors.
- Increase water storage on floodplains
- Enhance pollen, nectar, and nesting habitat for pollinators
- Dissipate stream energy and trap sediment
- Provide or improve food and cover for fish, wildlife and livestock
- Reduce erosion and improve stability to stream banks and shorelines
- Increase net carbon storage in the biomass and soil
- Restore, improve or maintain the desired plant communities.
- Enhance stream bank protection as part of stream bank soil bioengineering practices.

Conditions Where Practice Applies:

- Areas adjacent to perennial and intermittent watercourses or water bodies where the natural plant community is dominated by herbaceous vegetation that is tolerant of periodic flooding or saturated soils. For seasonal or ephemeral watercourses and water bodies, this zone extends to the center of the channel or basin.
- Where channel and stream bank stability is adequate to support this practice.
- Where the riparian area has been altered and the potential natural plant community has changed.

Limitations: This practice is not applied to stabilize stream banks or shorelines (see Practice 580 Streambank and Shoreline Protection for this).

Maintenance: Practice will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
390-3	Native Grass	**Scenario Description:** This scenario addresses inadequate herbaceous plant community function or diversity within the specific transitional zone between terrestrial and aquatic habitats in rangeland, pasture, cropland, and forest where natural seedingmethods and/or management is unlikely to improve the plant community within a reasonable time period. This scenario applies to work not covered under NRCS Conservation Practice Forage and Biomass Planting (512), Critical Area Planting (342), Filter Strip (393), Restoration and Management of Rare and Declining Habitats (643), Streambank and Shoreline Protection (580), Vegetated Treatment Area (635), Wetland Enhancement (659), or Wetland Restoration (657). The typical setting for this scenariois usually a narrow strip between the aquatic and terrestrial habitats subject to intermittent flooding and saturated soils wherethe existing plant community has been disturbed, destroyed, or the species diversity is unable to provide proper function and/or adequate habitat. Native Grass is established by seeding. Where chemical control of undesirable vegetation, including invasive, is required to reduce competition for the desired plant community the Herbaceous Weed Control (315) practice should be used. Payment includes seedbed preparation, seed, and planting, and foregone income for land removed from production. **After Practice Description:** The riparian zone, the transitional zone between the terrestrial and aquatic habitats, is established to an adapted, diverse vegetative plant community and is under close management to insure long term survival and ecological succession. The quality and quantity of the riparian zone components are managed to support the species that depend onit for habitat as well as the functions it performs for stabilizing the streambank and/or shoreline, dissipating stream energy and trapping sediment, and improving and/or maintaining water quality. These functions include: stream temperature moderationthrough shading, recruitment of non-woody organic matter, habitat for terrestrial insects and other riparian dependent species, streambank integrity, and filtration of contaminants fromsurface run-off into the stream.	Acres of Riparian Herbaceou sCover	Acres	$581.58	$608.01

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
390-4	Pollinator	**Scenario Description:** This scenario addresses inadequate herbaceous plant community function or diversity within the specific transitional zone between terrestrial and aquatic habitats in rangeland, pasture, cropland, and forest where natural seedingmethods and/or management is unlikely to improve the plant community within a reasonable time period. This scenario appliesto work not covered under NRCS Conservation Practice Forage and Biomass Planting (512), Critical Area Planting (342), Filter Strip (393), Restoration and Management of Rare and Declining Habitats (643), Streambank and Shoreline Protection (580), Vegetated Treatment Area (635), Wetland Enhancement (659), or Wetland Restoration (657). The typical setting for this scenariois usually a narrow strip between the aquatic and terrestrial habitats subject to intermittent flooding and saturated soils wherethe existing plant community has been disturbed, destroyed, or the species diversity is unable to provide proper function and/or adequate habitat. Pollinator habitat is established by seeding. Where chemical control of undesirable vegetation, including invasive, is required to reduce competition for the desired plant community the Herbaceous Weed Control (315) practice should be used. Payment includes seedbed preparation, seed, and planting, and foregone income for land removed from production. **After Practice Description:** The riparian zone, the transitional zone between the terrestrial and aquatic habitats, is established to an adapted, diverse vegetative plant community and is under close management to insure long term survival and ecological succession. The quality and quantity of the riparian zone components are managed to support the species that depend onit for habitat as well as the functions it performs for stabilizing thestreambank and/or shoreline, dissipating stream energy and trapping sediment, and improving and/or maintaining water quality. These functions include: stream temperature moderationthrough shading, recruitment of non-woody organic matter, habitat for terrestrial insects and other riparian dependent species, streambank integrity, and filtration of contaminants fromsurface run-off into the stream.	Acres of Riparian Herbaceou sCover	Acres	$832.71	$909.36

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ROOF RUNOFF STRUCTURE

Practice Code 558

Practice Units: NUMBER

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

Purpose: This practice is applied to achieve one or more of the following purposes:

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

Conditions Where Practice Applies: Where roof runoff from precipitation needs to be:

- diverted away from a contaminated area or the foundation of a structure;
- collected and conveyed to a stable outlet or infiltration area; or
- collected and captured for other uses such as evaporative cooling systems, livestock water and irrigation

If needed, Underground Outlet – Practice 620 may be added to the contract as a separate item.

Limitations: A Comprehensive Nutrient Management Plan (CNMP) is required if one or more of the following practices are being implemented concurrently (313, 317, 366, 632, 634, 520, 521, 522).

Scenario 558-35 High Tunnel Roof Runoff Trench Drain and Storage, is applicable up to a maximum size of 500 linear feet.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
558-1	Roof Gutter, Small	**Scenario Description:** A gutter-downspout system for the side of a 30' x 70' livestock confinement building, to exclude clean water from the loafing area adjacent to the building. Roof area served by the 70' long gutter is 1,050 square feet. The gutter is a 5" K-type, with two 12' downspouts to convey the roof runoff to ground level. Underground outlets (CPS 620) are then utilized tosafely outlet the water from the downspouts. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns. **After Practice Description:** A gutter-downspout system has been installed on the side of the building adjacent to the loafingarea, routing the clean water away from the contaminated surface, and reducing the volume of contaminated runoff from the loafing area. **Associated practices include** Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Underground Outlet (620), and/or Diversion (362) to capture flowfrom downspouts and route away from contaminated areas as needed.	Linear Length of Roof to be Drained	Foot	$9.59	$11.51
558-2	Roof Gutter, Medium	**Scenario Description:** A gutter-downspout system for the side of a 70' x 140' livestock confinement building, to exclude clean water from the loafing area adjacent to the building. Roof area served by the 140' long gutter is 4,900 square feet. The gutter is a 7" K-type, with two 12' downspouts to convey the roof runoff to ground level. Underground outlets (CPS 620) are then utilized tosafely outlet the water from the downspouts. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns. **After Practice Description:** A gutter-downspout system has been installed on the side of the building adjacent to the loafingarea, routing the clean water away from the contaminated surface, and reducing the volume of contaminated runoff from the loafing area. **Associated practices include** Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561), Underground Outlet (620), and/or Diversion (362) to capture flowfrom downspouts and route away from contaminated areas as needed.	Linear Length of Roof to be Drained	Foot	$15.14	$18.16
558-3	Roof Gutter, Large	**Scenario Description:** A gutter-downspout system for the side of a 160' x 220' livestock confinement building, to exclude clean water from the loafing area adjacent to the building. Roof area served by the 220' long gutter is 17,600 square feet. The gutter is11", with two 12' downspouts to convey the roof runoff to ground level. Underground outlets (CPS 620) are then utilized to safely outlet the water from the downspouts. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns. **After Practice Description:** A gutter-downspout system has been installed on the side of the building adjacent to the loafingarea, routing the clean water away from the contaminated surface, and reducing the volume of contaminated runoff from the loafing area. **Associated practices include** Waste Storage Facility (313), CompostingFacility (317), Heavy Use Area Protection (561), Underground Outlet (620), and/or Diversion (362) to capture flow from downspouts and route away from contaminated areas as needed.	Linear Length of Roof to be Drained	Foot	$22.09	$26.50

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
558-4	Rock Trench Drain	**Scenario Description:** An aggregate-filled infiltration trench lined with geotextile, 3 ft. wide by 2 ft. deep, is placed on each side of a 40' x 100' hoop structure storing feedstock at the headquarters site of a confined livestock operation, to exclude roof runoff from contaminated lot surfaces. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns. This scenario is to be used where environmental/design considerations, (for example snow loads, or a building without proper structural support needed for gutters)dictate the use of the trench drain. May be used to prevent roof runoff from causing erosion or ponding of water adjacent to a High Tunnel, benefitting water quality, water quantity, and soil erosion. In situations where the roof runoff will not properly infiltrate the soil, a subsurface drain system will be installed using606 - Subsurface Drain. **After Practice Description:** An aggregate-filled infiltration trenchlined with geotextile is placed on each side of the hoop structure. Runoff from the roof of the structure enters the infiltration trench and drains off site to a stable outlet through a subsurface drain. The volume of contaminated water at the confinement site is reduced. **Associated practices include** Waste Storage Facility (313), CompostingFacility (317), Heavy Use Area Protection (561), High Tunnel (325), Subsurface Drain (606), and Diversion (362).	Linear Length of Roof to be Drained	Foot	$8.82	$10.59
558-12	Concrete Channel with Wall	**Scenario Description:** A roof runoff structure, consisting of a concrete wall with concrete channel installed on existing impervious surface or the ground with appropriate outlet facilities.Environmental/design considerations, for example snow loads, ora building without proper structural support needed for gutters dictate the use of an on-ground concrete wall. Used to keep roof clean water runoff uncontaminated and provide a stable outlet to ground surface. Facilitates waste management and protects the environment by minimizing clean water additions to waste systems and addresses water quality concerns. **After Practice Description:** A concrete wall with channel and outlet system servicing the portion of the building roof that would otherwise drain into a waste management system or create erosion. Concrete wall (2' high) with an adjacent 4' wide concretechannel extending the length of a 200' roof with additional length (5') for stable outlet. **Associated practices include** Waste Storage Facility (313), Composting Facility (317), Heavy Use Area Protection (561),Underground Outlet (620), and Diversion (362).	Linear Length of Roof to be Curbed	Linear Foot	$72.57	$87.09

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
558-20	Roof Gutter, 6 inches wide with runoff Storage Tank	**Scenario Description:** A roof runoff structure, consisting of gutter(s), downspout(s), and a storage tank. Used to keep roofclean water runoff uncontaminated, provide storage for on-farmuse of roof water and a stable outlet for any excess to ground surface in a way that avoids erosion. Facilitates waste management and protects environment by minimizing clean water additions to waste systems and addresses water quality concerns. **After Practice Description:** A gutter and downspouts servicingthe portion of the building roof that would otherwise drain into a waste management system or create erosion. Roof line of 200 Ln. Ft. serviced with gutter, downspouts, and appurtenances. A1,500-gallon tank is installed for storage and use of roof runoff. **Associated practices include** Waste Storage Facility (313),Composting Facility (317), Heavy Use Area Protection (561),Watering Facility (614), Underground Outlet (620), Diversion (362), and any relevant irrigation practices.	Linear Length of Roof to be Guttered	Foot	$16.22	$19.46
558-35	High Tunnel Roof Runoff Trench Drain and Storage	**Scenario Description:** NOT TO BE USED WHERE CONTAMINATED SOIL EXIST. An urban agricultural producer wishes to address a resource concern such as aneed for water or erosion around high tunnel from roof runoff and collect and store roof runoff for reuse as supplemental irrigation/water supply water. **After Practice Description:** 2' deep by 3' wide by 100' longtrench filled with clean stone w/ 4-8 inch perforated PE pipelocated on both sides of the high tunnel collect the roof runoff and divert to an underground storage tank. Trench drain typically installed at ground level under the edge of ahigh tunnel. Outlet from 'Trench Drain' conveys water to a buried storage tank. Typically installed to capture water forreuse or to stop erosion caused by concentrated roof runoff. **Associated practice:** High Tunnel	Length ofhigh tunnel	Linear Feet	$35.76	$42.91

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ROOFS and COVERS

Practice Code 367

Practice Units: NUMBER

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

Purpose: Provide a roof or cover to:

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

Conditions Where Practice Applies:

- Precipitation should be excluded from contaminated areas, such as animal feeding and management areas, facilities for waste storage, animal mortality, composting, waste transfer or waste treatment, and agrichemical handling.
- Biotreatment of emissions using a porous cover on a wastewater storage facility is needed to improve air quality, limit odors, and moderate the net effect of greenhouse gas emissions.
- A cover is needed to exclude precipitation from a wastewater storage facility. Auxiliary elements of the cover will also capture and manage biogas emissions, improve air quality, limit odors, and reduce the net effect of greenhouse gas emissions.
- Biogas capture for energy production is a component of an existing or planned waste management system. Biogas capture and utilization will also improve air quality, limit odors, and reduce the net effect of greenhouse gas emissions.

Limitations: Roofs and Covers Scenarios (Roof Structures) are not eligible for (313) Waste Storage Facilities to cover deep pits that are directly below animal housing (e.g. pits under slats). Follow the guidance contained in the document "000 IA ENGT Winter Feeding Station Guidance 2016" located in Section 4 (Engineering Tools folder) in the IA FOTG for applications involving winter feeding stations. For other applications involving animal waste management applications a Comprehensive Nutrient Management Plan (CNMP) is required when the practice is used to close open feedlots for conversion to confinement and/or when any of the following practices are being implemented concurrently (313, 317, 366, 632, 634, 520, 521, 522).

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
367-1	Roof Structure, less than 33 feetWide	**Scenario Description:** A timber or steel framed roof structure with a wood sheathing, steel 'sheet' or fabric-like roof. Scenario does not include foundation costs. Manure is stored as a liquid inbasins, tanks, and as a solid on concrete and earthen surfaces. Excess precipitation can cause premature filling of storages or cause nutrients to leach from solid manure piles leading to uncontrolled runoff as well as odor issues. **After Practice Description:** A timber or steel framed roof structure with a wood sheathing, steel 'sheet' or fabric-like roof. Roof or cover will be engineered and installed in accordance withappropriate building codes and permits. Typical size is 1000 square feet and is over an approved animal waste management facility as a component of a CNMP. It is designed to prevent precipitation to allow proper management of animal waste streams (manure or compost streams), thus mitigating the negative factors from the 'before practice implementation'. **Associated practices include** Waste Storage Facility (313),Animal Mortality Facility (316), Composting Facility (317), Obstruction Removal (500), Roof Runoff Structure (558), andWaste Treatment (629).	Roof Area	Square Foot	$12.83	$15.40
367-2	Roof Structure, 33 feet to 60 feet Wide	**Scenario Description:** A timber or steel framed roof structure with a wood sheathing, steel 'sheet' or fabric-like roof. Scenariodoes not include foundation costs. Manure is stored as a liquidin basins, tanks, and as a solid on concrete and earthen surfaces. Excess precipitation can cause premature filling of storages or cause nutrients to leach from solid manure piles leading to uncontrolled runoff as well as odor issues. **After Practice Description:** A timber or steel framed roof structure with a wood sheathing, steel 'sheet' or fabric-like roof. Engineered and installed in accordance with appropriate buildingcodes and permits. Typical size is 7,500 square feet and is overan approved animal waste management facility as a component of a CNMP. It is designed to prevent precipitation to allow propermanagement of animal waste streams (manure or compost streams), thus mitigating the negative factors from the 'before practice implementation'. **Associated practices include** Waste Storage Facility (313),Animal Mortality Facility (316), Composting Facility (317), Obstruction Removal (500), Roof Runoff Structure (558), andWaste Treatment (629).	Roof Area	Square Foot	$11.04	$13.25

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
367-3	Roof Structure, more than 60 feet Wide	**Scenario Description:** A timber or steel framed roof structure with a wood sheathing, steel 'sheet' or fabric-like roof. Scenariodoes not include foundation costs. Manure is stored as a liquidin basins, tanks, and as a solid on concrete and earthen surfaces. Excess precipitation can cause premature filling of storages or cause nutrients to leach from solid manure piles leading to uncontrolled runoff as well as odor issues. **After Practice Description:** A timber or steel framed roof structure with a wood sheathing, steel 'sheet' or fabric-like roof. Engineered and installed in accordance with appropriate buildingcodes and permits. Typical size is 24,000 square feet and is over an approved animal waste management facility as a component of a CNMP. It is designed to prevent precipitation to allow propermanagement of animal waste streams (manure or compost streams), thus mitigating the negative factors from the 'before practice implementation'. **Associated practices include** Waste Storage Facility (313),Animal Mortality Facility (316), Composting Facility (317), Obstruction Removal (500), Roof Runoff Structure (558), and Waste Treatment (629).	Roof Area	Square Foot	$12.86	$15.43
367-4	Roof structure with foundation	**Scenario Description:** A timber or steel framed roof structure with a wood sheathing or steel 'sheet' roof. Scenario includes foundation costs. Roof support is separate from associated manure storage structure, or roof structure may be used to coveran existing feed lot to eliminate runoff from rainfall events. Excess precipitation can cause premature filling of storages orcause nutrients to leach from solid manure piles leading to uncontrolled runoff as well as odor issues. **After Practice Description:** A timber or steel framed roof structure with a timber or steel 'sheet' roof and supporting foundation. Engineered and installed in accordance with appropriate building codes and permits. Typical size is 7,500 square feet and is over an approved animal waste management facility or feedlot as a component of a CNMP. It is designed to prevent precipitation to allow proper management of animal waste streams (manure or compost streams), thus mitigating thenegative factors from the 'before practice implementation'. **Associated practices include** Waste Storage Facility (313), Animal Mortality Facility (316), Composting Facility (317), Agrichemical Handling Facility (309), Obstruction Removal (500), Roof Runoff Structure (558), and Waste Treatment (629).	Roof Area	Square Foot	$12.83	$15.40
367-6	Flexible Membrane Cover	**Scenario Description:** A fabricated rigid, semi-rigid, or flexiblemembrane covering the entire surface of a waste storage or treatment facility (e.g. waste treatment lagoon or anaerobic digester) with typical size of one acre. Cover will exclude precipitation and improve air quality. **After Practice Description:** A fabricated rigid, semi-rigid, or flexible membrane over a waste storage or treatment facility. Rainfall is excluded, minimizing the volume of contaminated liquid to be stored and/or treated. Air quality in the vicinity of thefacility is improved. **Associated practices include** Waste Storage Facility (313), Waste Treatment Lagoon (359), Anaerobic Digester (366), Animal Mortality Facility (316), Composting Facility (317), RoofRunoff Structure (558), Pumping Plant (533), and Waste Treatment (629).	Surface Area of Facility Covered	Square Foot	$4.66	$5.59

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SATURATED BUFFER

Practice Code 604

Practice Units: FEET

Definition: A subsurface, perforated distribution pipe used to distribute drainage system discharge beneath a vegetated buffer along its length and discharge channel.

Purpose: Install the practice to achieve one or more of the following purposes:

- Reduce nitrate loading from subsurface drain outlets through vegetation uptake and denitrification
- Enhance or restore saturated soil conditions in riverine, lacustrine fringe, slope, or depression wetland hydrogeomorphic classes

Conditions Where Practice Applies: This practice is applicable to lands with a subsurface drainage system adaptable to discharge in a vegetated area.

Apply this practice where the soils and topography of the vegetated discharge area can maintain a raised water table without adverse effects to crops,channel banks, shorelines, or adjacent land.

This practice does not apply to underground outlet systems. This practice applies to subsurface drainage systems. If the system includes surface inlets, this practice applies only if the inlets are adequately protected to prevent entry of soil and debris capable of plugging the distribution pipes.

Do not use this practice to discharge septic system effluent or animal waste.

Limitations: Water Control Structure (Code 587), Subsurface Drain (Code 606), and Underground Outlet (Code 620) will not be included as associated practices. These practices are included in the component costs for the Saturated Buffer scenarios.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
604-2	Saturated Buffer	**Scenario Description:** Water discharging from a subsurface drainage system is dispersed along a buffer strip (often a riparianbuffer). The water flows underground through the buffer area where nutrients and sediment can be removed before the water reaches the stream. **After Practice Description:** Water from a subsurface drainagesystem is dispersed through at 400 feet of 5" HDPE single wall perforated pipe tile drain along an established vegetated buffer strip at least 30 feet from the receiving stream. Drainage pipe istrenched in at 4 feet depth. The water is detained by passing underground where the nitrogen is removed by bacteria and natural processes. **Associated Practices:** 606 - Subsurface Drain; 554 - DrainageWater Management	Length of Dispersal conduit	Foot	$11.41	$11.41
604-10	Saturated Buffer with Automated Water Control Structure	**Scenario Description:** Water discharging from a subsurface drainage system is dispersed from an automated water control structure along a buffer strip (often a riparian buffer). The water flows underground through the buffer area where nutrients and sediment can be removed before the water reaches the stream. **After Practice Description:** Water from a subsurface drainage system is dispersed from an automated water control structure through 400 feet of 5” HDPE single wall corrugated perforated pipe tile drain along an established vegetated buffer strip at least 30 feet from the receiving stream. Drainage pipe is trenched in at 4 feet depth. The water is detained by passing underground where the nitrogen is removed by bacteria and natural processes. **Associated Practices:** 606 - Subsurface Drain; 554 - DrainageWater Management	Length of Dispersal conduit	Foot	$18.19	$18.19

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SEDIMENT BASIN

Practice Code 350

Practice Units: NUMBER

Definition: A basin constructed with an engineered outlet, formed by constructing an embankment, excavating a dugout, or a combination of both.

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

Conditions Where Practice Applies: This practice applies to urban land, construction sites, agricultural land, and other disturbed lands where:

- Physical conditions or land ownership preclude treatment of a sediment source by the installation of erosion-control measures.
- Failure of the basin will not result in loss of life, damage to homes, commercial or industrial buildings, main highways or railroads; or in the use 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 35 feet or less. The effective height of the dam is the difference in elevation between the auxiliary spillway crest and the lowest point in the cross section taken along the centerline of the dam.
- The dam is classified low hazard according to section 520.21(E) of the NRCS National Engineering Manual (NEM).

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
350-2	Embankment earthen basin with no pipe	**Scenario Description:** A low hazard class earthen embankmentsediment basin in an existing drainage way on a farm for purposeof trapping sediment and preserving the capacity of reservoirs, ditches, canals, diversions, waterways and streams and to prevent undesirable deposition on bottom lands and other developed lands. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, asdesigned. Resource concerns addressed include excessive suspended sediment and turbidity in surface water, damage fromsediment deposition, and reduced capacity of conveyances by sediment deposition. Surface water causes the sediment (and potentially pesticides and nutrients) to be transported into the riparian areas and water bodies downstream. **After Practice Description:** The typical sediment basin is constructed by excavating the pool area and using the excavatedmaterial to construct the earthen embankment. The embankmentwill have a constructed auxiliary spillway and a core trench (10' wide, 3' deep, 1:1 slopes) using 1,500 cubic yards of material to create the embankment and core trench. The embankment will be designed and constructed according the Pond standard (378).The product of the storage times the effective height of the dam is less than 3,000. The effective height of the dam is 35 feet or less. The sediment storage capacity should be a minimum of 900cubic feet per acre of disturbed area. The detention storage should be a minimum of 3600 cubic feet per acre of drainage area. The earthen auxiliary spillway will be constructed as designed based on Pond standard (378). No principal spillway will be used.	Embankment volume	Cubic Yard	$3.79	$4.55
350-3	Embankment earthen basin with pipe	**Scenario Description:** A low hazard class earthen embankmentsediment basin in an existing drainage way on a farm for purposeof trapping sediment and preserving the capacity of reservoirs, ditches, canals, diversions, waterways and streams and to prevent undesirable deposition on bottom lands and other developed lands. An earthen embankment will be constructed with a principal spillway conduit and earthen auxiliary spillway, asdesigned. Resource concerns addressed include excessive suspended sediment and turbidity in surface water, damage fromsediment deposition, and reduced capacity of conveyances by sediment deposition. Surface water causes the sediment (and potentially pesticides and nutrients) to be transported into the riparian areas and water bodies downstream. **After Practice Description:** The typical sediment basin is constructed by excavating the pool area and using the excavatedmaterial to construct the earthen embankment. The embankmentwill have a constructed auxiliary spillway and a core trench (10' wide, 3' deep, 1:1 slopes) using 1,500 cubic yards of material to create the embankment and core trench. The embankment will be designed and constructed according the Pond standard (378).The product of the storage times the effective height of the dam is less than 3,000. The effective height of the dam is 35 feet or less. The sediment storage capacity should be a minimum of 900cubic feet per acre of disturbed area. The detention storage should be a minimum of 3600 cubic feet per acre of drainage area. The principal spillway is created using an approved conduit material and filter diaphragm. The earthen auxiliary spillway will be constructed as designed based on Pond standard(378).	Embankment volume	Cubic Yard	$5.68	$6.81

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SHALLOW WATER DEVELOPMENT AND MANAGEMENT

Practice Code 646

Practice Units: ACRE

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

Purpose: To provide habitat for wildlife such as shorebirds, waterfowl, wading birds, mammals, fish, reptiles, amphibians, and other species that require shallow water for at least a part of their life cycle.

Conditions Where Practice Applies: On lands where water can be impounded or regulated by diking, excavating, ditching, and/or flooding.

On floodplain areas that provide refuge habitats for native fish during high flow periods.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
646-1	Low Level Management, Natural Ponding	**Scenario Description:** This scenario addresses inadequate habitat for fish and wildlife on cropland. The resource concern is addressed by providing shallow water habitat for wildlife such as shorebirds, waterfowl, wading birds, mammals, fish, reptiles, amphibians, and other species that require shallow water for at least part of their life cycle. Sites are flooded up to a depth of 18"with an average depth of 9". Before flooding, fields are prepared by rolling residue if necessary. Water is provided by natural flooding and/or precipitation. **After Practice Description:** A single or series of shallow waterareas that are managed per standard and specification. Water levels are regulated to maintain temporary wildlife habitat. Timing and duration of flooding and de-watering is dependent on specific species requirements. Water is pumped into area to be flooded. Flooded sites vary from mudflats to water depths of 18" with an average depth of 9". The hydrologic conditions of ponding and saturation (frequency, depth, duration, timing) provides optimum seasonal habitat for waterfowl, shorebirds, and other wildlife (amphibians, reptiles, mammals, invertebrates, etc.). **Associated practices include** Structure for Water Control (587) and Dike (356) if needed. Depending on local conditions,other Conservation Practices may also be required.	Managed Area	Acres	$37.75	$39.64
646-2	High Level Management, Pumping	**Scenario Description:** This scenario addresses inadequate habitat for fish and wildlife on cropland. To facilitate practice code643, 644, 645, or 395, seasonal shallow water is provided annually for target species by purchasing of water, lifting of such water, monitoring of the water quality, response by target plant community, use by target flora or fauna. Sites are flooded up to a depth of 18" with an average depth of 9". Before flooding, fields are prepared by rolling residue if necessary. Monitoring and adaptive management accomplished of existing water control structures is accomplished to meet very specific conditions needed to address previously identified degraded plant conditions or inadequate habitat for fish and/or wildlife. This high-level management is applied to lands used for crop, pasture, hay, forests or wildlife lands where target flora and fauna have been identified as a primary concern. Loss of some level of crop, forage, hay or forest products may occur dependingon site specific conditions. **After Practice Description:** A single or series of shallow waterareas that are managed per standard and specification. Water levels are regulated to maintain temporary wildlife habitat. Timing and duration of flooding and de-watering is dependent on specific species requirements. Water is pumped into area to be flooded. Flooded sites vary from mudflats to water depths of 18" with an average depth of 9". The hydrologic conditions of ponding and saturation (frequency, depth, duration, timing) provides optimum seasonal habitat for waterfowl, shorebirds, and other wildlife (amphibians, reptiles, mammals, invertebrates, etc.). **Associated practices include** Structure for Water Control (587) and Dike (356) if needed and Pumping Plan (533) if a natural water source (i.e. precipitation for flooding) is not available. Depending on local conditions, other ConservationPractices may also be required.	Managed Area	Acres	$50.85	$55.35

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SILVOPASTURE

Practice Code 381

Practice Units: ACRE

Definition: Establishment and/or management of desired trees and forages on the same land unit.

Purpose:

- Provide forage, shade, and/or shelter for livestock.
- Improve the productivity and health of trees/shrubs and forages.
- Improve water quality.
- Reduce erosion.
- Enhance wildlife habitat.
- Improve biological diversity.
- Improve soil quality.
- Increase carbon sequestration and storage.
- Provide for beneficial organisms and pollinators.

Conditions Where Practice Applies: This practice may be applied on any area that is suitable for the desired forages, trees, and livestock.

Limitations: This practice requires the development of a CPS 528 Prescribed Grazing plan.

Maintenance: Practice will be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
381-13	Bareroot Trees and Shrubs, withTree Shelters	**Scenario Description:** Bare-root trees and/or shrubs to be planted or interplanted into an existing pasture to establish woody plants in any area where they can be grown as part of anagroforestry application establishing a combination of trees or shrubs and compatible forages on the same acreage. Payment includes bare-root seedlings and equipment and labor to plant. Foregoneincome is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees/shrubs have been planted, providing shade and wind protection to livestock and wildlife, and, in time, producing a viable wood products crop. Scenario assumes trees are planted in a 30' x 30' spacing over 10 acres.Per the conservation practice standard, livestock grazing will bedeferred until the trees reach adequate height to resist damageor use exclusion measures until the trees are established. **Additional associated practices may include:** 315 Herbaceous Weed Treatment, 660 Tree/Shrub Pruning, 484Mulching.	Each tree/shrub established	Each	$8.90	$8.90
381-14	Bareroot Trees and Shrubs	**Scenario Description:** Bare-root trees and/or shrubs to be planted or interplanted into an existing pasture to establish woody plants in any area where they can be grown as part of anagroforestry application establishing a combination of trees or shrubs and compatible forages on the same acreage. Payment includes bare-root seedlings and equipment and labor to plant. Foregoneincome is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees/shrubs have been planted, providing shade and wind protection to livestock and wildlife, and, in time, producing a viable wood products crop. Scenario assumes trees are planted in a 30' x 30' spacing over 10 acres.Per the conservation practice standard, livestock grazing will bedeferred until the trees reach adequate height to resist damageor use exclusion measures until the trees are established. **Additional associated practices may include:** 315 Herbaceous Weed Treatment, 660 Tree/Shrub Pruning, 484Mulching.	Per Tree/Shrub planted	Each	$2.75	$2.75
381-26	Container Trees and Shrubs, less than 2 gallon with tree shelters	**Scenario Description:** Container trees and/or shrubs (potted) tobe planted or interplanted into an existing pasture to establish woody plants in any area where they can be grown as part of an agroforestry application establishing a combination of trees or shrubs and compatible forages on the same acreage. Payment includes container trees/shrubs, tree shelters, and equipment and labor toplant. Foregone income is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees/shrubs have been planted, providing shade and wind protection to livestock and wildlife, and,in time, producing a viable wood products crop. Scenario assumes trees are planted in a 30' x 30' spacing over 10 acres. Per the conservation practice standard, livestock grazing will be deferred until the trees reach adequate height to resist damage oruse exclusion measures until the trees are established. **Additional associated practices may include:** 315 HerbaceousWeed Treatment, 660 Tree/Shrub Pruning, 484 Mulching.	Each tree/shrub	Each	$17.84	$17.84

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
381-27	Container Trees and Shrubs, less than 2 gallon	**Scenario Description:** Container trees and/or shrubs (potted) tobe planted or interplanted into an existing pasture to establish woody plants in any area where they can be grown as part of an agroforestry application establishing a combination of trees or shrubs and compatible forages on the same acreage. Payment includes container trees/shrubs and equipment and labor to plant. Foregone income is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees/shrubs have been planted, providing shade and wind protection to livestock and wildlife, and,in time, producing a viable wood products crop. Scenario assumes trees are planted in a 30' x 30' spacing over 10 acres. Per the conservation practice standard, livestock grazing will be deferred until the trees reach adequate height to resist damage oruse exclusion measures until the trees are established. **Additional associated practices may include:** 315 HerbaceousWeed Treatment, 660 Tree/Shrub Pruning, 484 Mulching.	Each tree/shrub	Each	$8.72	$8.72
381-29	Bareroot Trees and Shrubs with Tree Protection	**Scenario Description:** Bare-root trees and/or shrubs to be planted or interplanted into an existing pasture to establish woody plants in any area where they can be grown as part of an agroforestry application establishing a combination of trees or shrubs and compatible forages on the same acreage. Payment includes bare-root seedlingsand equipment and labor to plant plus the installation of wire cage tree shelters around each tree for protection from grazing animals. This is a standard forestry technique to improve tree/shrub survival during the establishment phase. Shelters will be monitored by the client, repaired as needed, and removed when trees are sufficiently established. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees have been planted on the site, providing shade, wind, and snow protection to livestock and wildlife,and benefitting soil, water, and carbon sequestration. Scenario assumes trees are planted in a 30' x 30' spacing over 10 acres and each tree is protected with a wire cage tree shelter covering a 4 ft diameter area around the tree, to be removed when trees are established. **Additional associated practices may include:** 315 HerbaceousWeed Treatment, 660 Tree/Shrub Pruning, 484 Mulching.	Per Tree/Shrub planted	Each	$39.09	$39.09
381-30	Container Trees and Shrubs, less than 2 gallon with Tree Protection	**Scenario Description:** Container trees and/or shrubs (potted) to be planted or interplanted into an existing pasture to establish woody plants in any area where they can be grown as part of an agroforestry application establishing a combination of trees or shrubsand compatible forages on the same acreage. Payment includes container trees/shrubs and equipment and labor to plant plus the installation of wire cage tree shelters around each tree for protection from grazing animals. This is a standard forestry technique to improve tree/shrub survival during the establishment phase. Shelterswill be monitored by the client, repaired as needed, and removed when trees are sufficiently established. Foregone income is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Trees have been planted on the site, providing shade, wind, and snow protection to livestock and wildlife,and benefitting soil, water, and carbon sequestration. Scenario assumes trees are planted in a 30' x 30' spacing over 10 acres and each tree is protected with a wire cage tree shelter covering a 4 ft diameter area around the tree, to be removed when trees are established.	Per Tree/Shrub planted	Each	$45.05	$45.05

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SOIL CARBON AMENDMENT

Practice Code 336

Practice Units: ACRE

Definition: Application of carbon-based amendments derived from plant materials or treated animal byproducts.

Purpose: Use this practice to accomplish one or more of the following purposes:

- Improve or maintain soil organic matter.
- Sequester carbon and enhance soil carbon (C) stocks.
- Improve soil aggregate stability.
- Improve habitat for soil organisms.

Conditions Where Practice Applies: This practice applies to areas of Crop, Pasture, Range, Forest, Associated Agriculture Lands, Developed Land, and Farmstead where organic carbon amendment applications will improve soil conditions.

Limitations: Eligible for financial assistance when 1 ton or more total product is planned to be applied per acre or at least 45 lbs. per 1,000 square feet on small scale applications. Banded low rates of carbon based biostimulants are not eligible for financial assistance under this standard.

Contact Iowa NRCS State or Area Soil Health Specialist at time of financial assistance application for additional guidance on CPS 336.

Scenario 336-119 Compost - Small Areas, is applicable up to a maximum size of 43 (1,000 square feet).

Scenario 336-120 Compost + Biochar - Small Areas, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
336-115	Compost - On Site	**Scenario Description:** This scenario uses compost of known origin and production methods to maintain, increase, or improve organic matter content and improve aggregate stability, habitat for soil organisms, and plant productivity and health. Compost produced in a compost facility on farm has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods. **After Practice Description:** Compost was tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the application.	area treated	Acres	$89.19	$107.03
336-116	Compost - Off Site	**Scenario Description:** This scenario uses compost from an offsite source to maintain, increase, or improve organic matter content and improve aggregate stability, habitat for soil organisms, and plant productivity and health. Compost has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods. Compost is applied at the recommended rate to treat the identified resource concerns. Typical application rate is 3 ton compost/acre. **After Practice Description:** Compost was tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the application.	Acres Treated	Acres	$203.70	$244.43
336-117	100% Biochar	**Scenario Description:** Apply 100% biochar to sequester carbon, reduce N losses, and improve other soil health related resource concerns. Biochar has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and is imported from an outside source. Biochar is applied at the recommended rate to treat the identified resource concerns. Typical application is 4 cubic yards per acre. **After Practice Description:** Biochar was applied at the recommended rate and proportion. Soil health resource concerns were treated. A follow up assessment is planned to determine the effect of the biochar application.	Acres Treated	Acres	$762.00	$914.40
336-118	Other Carbon Amendment	**Scenario Description:** This scenario is used for the application of different types of other carbon amendments, such as woodchips, bagasse, high carbon wood ash or distillation residue that are obtained at a negligible cost. The primary purpose of this scenario is to facilitate transport and application of the other carbon amendment. The carbon amendment is tested and brought on site. Addition of the carbon amendment directly improves the carbon content of the soil and improves soil health related resource concerns. **After Practice Description:** The carbon amendment was applied at the recommended rate based on the product analysis and the purpose for the application. Soil health resource concerns were treated. A follow up assessment is planned to determine the effect of the application.	Acres Treated	Acres	$707.22	$848.66

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
336-119	Compost - Small Areas	**Scenario Description:** This scenario uses compost from an offsite source to maintain, increase, or improve organic matter content and improve aggregate stability, habitat for soil organisms, and plant productivity and health. This scenario is used for situations where manual labor is typically used to apply or incorporate compost amendments. Compost has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods. Compost is applied at the recommended rate to treat the identified resource concerns. **After Practice Description:** Compost was tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the compost application.	area treated	1,000 Square Foot	$38.62	$46.35
336-120	Compost + Biochar - Small Areas	**Scenario Description:** Apply a blend of >=50% biochar and <=50% compost pr manure (by volume) to sequester carbon, reduce nitrogen loss, improve organic matter content and improve aggregate stability, habitat for soil organisms, and plant productivity and health. Biochar and compost has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and is imported from an outside source. The bland contains at least 50% biochar and is applied at the recommended rates to treat the identified resource concerns. **After Practice Description:** Compost or manure and biochar were tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the application.	area treated	1,000 Square Foot	$46.83	$56.19
336-121	40% Biochar- 60% Compost	**Scenario Description:** Apply a blend of >=40% biochar and <=60% compost or manure (by volume) to sequester carbon, reduce nitrogen loss, and improve other soil health related resource concerns. Biochar and compost has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and is imported from an outside source. The blend contains at least 40% biochar and is applied at the recommended rate to treat the identified resource concerns. **After Practice Description:** Biochar and compost or manure were tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the application.	Area	Acres	$552.46	$662.95

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
336-122	20% Biochar-80% Compost	**Scenario Description:** Apply a blend of >=20% biochar and <=80% compost or manure (by volume) to sequester carbon, reduce nitrogen loss, and improve other soil health related resource concerns. Biochar and compost or manure has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and is imported from an outside source. The blend contains at least 20% biochar and is applied at the recommended rate to treat the identified resource concerns. **After Practice Description:** Biochar and compost or manure was tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the application.	Area	Acres	$474.40	$569.28
336-123	60% Biochar-40% Compost	**Scenario Description:** Apply a blend of >=60% biochar and <=40% compost or manure (by volume) to sequester carbon, reduce nitrogen loss, and improve other soil health related resource concerns. Biochar and compost has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and is imported from an outside source. The blend contains at least 60% biochar and is applied at the recommended rate to treat the identified resource concerns. **After Practice Description:** Biochar and compost or manure were tested and applied at the recommended rate that will improve soil organic matter and organism habitat without creating unacceptable risk of N or P loss. A follow up assessment is planned to determine the effect of the application.	Area	Acres	$630.52	$756.62
336-124	80% Biochar-20% Compost	**Scenario Description:** Apply a blend of >=80% biochar and <=20% compost or manure (by volume) to sequester carbon, reduce nitrogen loss, and improve other soil health related resource concerns. Biochar and compost has been tested according to the Test Methods for the Examination of Composting and Compost (TMECC), or by other Land Grant University (LGU) recognized methods and is imported from an outside source. The blend contains at least 80% biochar and is applied at the recommended rate to treat the identified resource concerns. **After Practice Description:** An in-field assessment or a site-specific resource assessment tool or test indicates that soil health resource concerns are present and the addition of analyzed and verified biochar and compost or manure is needed to improve the condition of the soil.	Area	Acres	$708.58	$850.29

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SPRING DEVELOPMENT

Practice Code 574

Practice Units: NUMBER

Definition: Developing or development of a method to collect water from springs or seeps to provide water for a conservation need. May include cutoff trench, gravel pack, intercept tile, etc.

Purpose: To 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 agricultural use.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
574-1	Collection Structure	**Scenario Description:** Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. This scenario includes excavating and exposing the watersource at the spring/seep (typically on a hillside) and installing a water collection structure. Payment includes excavation and labor to expose the spring, concrete for collection box, lid and gravel backfill. **After Practice Description:** Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Site is excavated witha backhoe to expose the seep, a concrete collection box (3'x3'x4') is installed and gravel is backfilled between the spring source and collection box. **Associated Practices:** 516-Livestock Pipeline; 614-WateringFacility; 533 Pumping Plant	Number of Developments	Each	$1,542.05	$1,850.46
574-2	Horizontal Collection Pipe	**Scenario Description:** Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. This scenario includes excavating and exposing the watersource at the spring/seep (typically on a hillside) and installing a horizontal water collection system. The collection system is commonly composed of perforated drainage pipe placed in an excavated collection trench that runs across the slope and is piped directly to watering facilities (implemented through associated practice 614). **After Practice Description:** Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Horizontal water collection system is a 50 ft. long, 4-inch diameter HDPE perforated pipe enclosed in a sand/gravel envelope overlaid by 2ft. wide filter fabric (50 ft. long). **Associated Practices:** 516-Livestock Pipeline; 614-WateringFacility	Number of Developments	Each	$1,232.36	$1,478.83
574-3	Horizontal Pipe with Collection Box	**Scenario Description:** Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. This scenario includes excavating and exposing the watersource at the spring/seep (typically on a hillside) and installing a horizontal water collection system and a water storage structure. The collection system is commonly composed of perforated 4- inch diameter drainage pipe placed in an excavated collection trench that runs across the slope into the collection box. **After Practice Description:** Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Water is collected in a spring box (48-inch diameter x 6 ft. long CMP). Horizontal water collection system is a 50 ft. long, 4-inch diameter HDPE perforated pipe enclosed in a sand/gravel envelope overlaid by 2ft. wide filter fabric (50 ft. long). **Associated Practices:** 516-Livestock Pipeline; 614-WateringFacility; 533 Pumping Plant	Number of Developments	Each	$2,567.07	$3,080.48
574-4	Vertical Collection and Storage Pipe	**Scenario Description:** Develop a water source from a natural spring or seep to provide water for livestock and/or wildlife needs. Typically installed at the point source of a spring and provides for collection and storage of water. Payment includes the vertical excavation of the spring source, placement of verticalcollection pipe and gravel around the pipe. **After Practice Description:** Spring development system provides adequate water for the intended use. The system typically runs all year long in most zones. Water is collected in avertical 48-inch diameter x 12 ft. tall CMP. **Associated Practices:** 516-Livestock Pipeline; 614-WateringFacility; 533 Pumping Plant	Number of Developments	Each	$2,145.35	$2,574.42

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SPRINKLER SYSTEM

Practice Code 442

Practice Units: ACRE

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

Purpose: This practice is applied as part of a conservation management system to accomplish one or more of the following:

- Efficient and uniform application of water on irrigated lands
- Improve plant condition, productivity, health and vigor
- Reduce energy use
- Improve condition of soil contaminated with salts and other chemicals
- Reduce particulate matter emissions to improve air quality
- Prevent the entry of excessive nutrients, organics, and other chemicals in surface and groundwater

Conditions Where Practice Applies: This standard applies to the planning and functional design of all sprinkler system components (e.g., laterals, risers, nozzles, heads, and pressure regulators). Individual sprinkler design discharge rates covered by this standard typically have design nozzle discharge rates exceeding 1 gallon per minute and wet the entire field surface uniformly. Areas must be suitable for sprinkler water application and have a water supply of adequate quantity and quality for intended purpose(s).

This standard applies to planning and design of sprinkler application systems for

- meeting crop water demands
- application of chemicals, nutrients, and/or waste water
- dust and particulate control from:
  - confined animal pen areas
  - unpaved road
  - staging areas
  - equipment storage yards
- crop cooling, frost protection, or bloom delay
- leaching or reclamation of saline or sodic soils, or soils contaminated by other chemicals that can be controlled by leaching

This standard applies to renozzling existing sprinkler systems to reduce pressure, reduce flow rate, or increase distribution uniformity.

Limitations: This practice pertains to the planning and functional design of all sprinkler components except for special structures, such as permanently installed main and lateral pipelines or pumping plants. Other components shall meet appropriate NRCS conservation practice standards. This practice does not include mini- or micro-sprinkler systems. In order for land to be eligible for an irrigation-related practice, that land must have been irrigated in two out of the last five years. This means that irrigation must have been part of managing the cropping system to meet the needs of the plant and to maintain the yields of an irrigated crop. To ensure the practice meets the program purpose, the irrigation practice must address a resource concern related to irrigation, such as any resource concern in the Source Water Depletion Resource Concern Category. Document irrigation history.

Scenario 442-61 Small Solid Set, Above Ground Laterals, is applicable up to a maximum of 2 acres.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule: If an existing center pivot system is being retrofitted for low pressure and the participant wants to replace the existing pivot with a new pivot the scenario and payment rate for retrofitting is to be used. The payment rate for portable systems is based on the number of acres the portable system can irrigate at 1 time. When center pivot systems overlap the overlap, acres are not eligible for financial assistance.

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
442-1	Conversion to Center Pivot or Linear Move System	**Scenario Description:** A surface irrigated field is converted to a center pivot sprinkler irrigation system or a linear move irrigation system to improve efficiency and uniformity of applied irrigation water to maintain adequate soil water for the desired level of plant growth and water qualityimpairment. Payment is based on length of equipment, not length of treated area. **After Practice Description:** The existing surface irrigation system is converted to a low-pressure center pivot. Corners are converted to non- irrigated cropland. The pivot is 1300 feet in length with pressure regulators and low-pressure sprinklers on drops. The new irrigation system has a coefficient of uniformity above 85%. Irrigation water is efficiently and uniformly applied to maintain adequate soil water for the desired level of plant growth. Deep percolation and field runoff is eliminated and there are no excess nutrients, salts or pathogens delivered to the receiving waters. Irrigation induced runoff is eliminated. **Associated Practices:** Irrigation Pipeline (430), Pumping Plant (533),Irrigation Water Management (449)	Length of Center Pivot Lateral	Foot	$56.74	$68.09
442-2	Sprinkler Conversion to Low Pressure	**Scenario Description**: Center Pivot and Linear Move sprinkler systems are used in large crop fields with fairly regular field borders and flat topography. The scenario involves changing nozzles on center pivot or lateral move irrigation systems to low-pressure systems to improve efficiency of water use and reduce energy use. This scenario is intendedfor cropland areas where the objective is water conservation. Scenario includes end booms renozzled with low-pressure nozzles. **After Practice Description**: A Center Pivot or Linear Move sprinkler system with a span of 1300 linear foot is renozzled with low-pressure nozzles. The irrigation water is applied efficiently and uniformly to maintain adequate soil moisture for optimum plant growth. Runoff and deep percolation are eliminated, and the surface and ground water is nolonger degraded. The irrigation induced soil erosion caused by runoff is also eliminated. The lower pressure requirements of the sprinklers reduce the energy used by the pump. **Associated Practices:** Irrigation Pipeline (430), Pumping Plant (533),Irrigation Water Management (449)	Length of Lateral Retrofitted	Foot	$5.22	$6.27
442-3	Wheel Line System	**Scenario Description:** A 1,280-foot wheel line (also called sideroll, wheel move, or lateral-roll) with 7 foot diameter wheels and five inch diameter supply pipeline. A wheel line consists of the mover, lateral pipe, wheels, sprinklers, couplers, and connectorsto the mainline supply. **After Practice Description:** A 1,280-foot wheel line with 7 footdiameter wheels and five inch diameter supply pipeline. Sprinklers are spaced along the wheel line at 40-foot intervals and risers are spaced at 60-foot increments along the mainline. The wheel line irrigates 40 acres of cropland. The wheel line improves distribution uniformity. Irrigation application efficiency improves to 75%. Water application rates meet the consumptiveuse of the crop and matches soil intake rates in order to prevent irrigation induced erosion, runoff, and deep percolation. **Associated Practices**: Irrigation Pipeline (430), Pumping Plant(533), Irrigation Water Management (449)	Length of Wheel Line Lateral	Foot	$15.91	$19.09

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
442-4	Solid Set System	**Scenario Description:** Installation of a solid set irrigationsystem. Payment includes pipe, sprinklers, connections, appurtenances, and installation. **After Practice Description**: The system is installed on 10 acresor less. The installed solid set system has 3-4-inch pipe sizes and sprinklers set 30 - 50 ft. apart. Improved distribution uniformity and irrigation efficiency will result. **Associated Practices**: Irrigation Pipeline (430), Pumping Plant(533), Irrigation Water Management (449)	Area of Irrigation System	Acres	$4,271.42	$5,125.70
442-5	Traveling Gun System, < 2in Hose	**Scenario Description:** A portable small gun system used to apply irrigation water on small fields. A small traveling gun irrigation system isinstalled to apply water uniformly and at an acceptable application rate operated under pressure to effectively irrigate less than 5 acres. The irrigation system is installed with all necessary appurtenances. **After Practice Description**: A small traveling gun irrigation system is installed to irrigate 5 acres based on the determined spacing needs. Irrigation is applied efficiently and uniformly to maintain adequate soil water for plant growth without causing excessive water loss, erosion, orwater quality degradation. **Associated Practices**: Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449), Conservation Crop Rotation (328),Cover Crop (340), Nutrient Management (590), Waste Utilization (633), Manure Transfer (634)	Number of Traveling Gun Systems	Each	$8,253.93	$9,904.72
442-6	Traveling Gun System, 2in to 3in Hose	**Scenario Description**: A portable big gun system used to apply wastewater from animal feeding operations. This traveling big gun unit includes a sprinkler, towable cart, 1000' or more of PE hard hose, a self-propelled reel that moves the sprinkler toward the reel during operation. The reel attaches to a mainline with appropriately designed towpath width. The scenario describes an irrigation system that is typical to confined animal feeding operations. **After Practice Description:** The big gun applies animal manure in an appropriate quantity and location that eliminates both runoff of the manure and deep percolation of excess nutrients, salts, and pathogens. The big gun system is typically located on 50 acres or less of hay/pastureland, or 100 acres or less of cropland. The system includes a large irrigation gun with 1" to 1-1/2" orifice mounted onto a movable cart. 1000'or more flexible 3" PE pipe is attached to the cart on one end and a largereel on the other end. The reel serves as storage are for the pipe as the cart moves back to the reel. The reel is turned by a small engine which gradually pulls the flexible pipe and cart back to the reel/base. **Associated Practices:** Irrigation Pipeline (430), Pumping Plant (533), Irrigation Water Management (449), Conservation Crop Rotation (328),Cover Crop (340), Nutrient Management (590), Waste Utilization (633), Manure Transfer (634)	Number of Traveling Gun Systems	Each	$19,330.98	$23,197.18

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
442-7	Traveling Gun System, > 3in Hose	**Scenario Description**: A portable big gun system used to apply wastewater from animal feeding operations. This traveling big gun unit includes a sprinkler, towable cart, 1200' or more of PE hard hose, a self-propelled reel that moves the sprinkler toward the reel during operation. The reel attaches to a mainline with appropriately designed towpath width. The scenario describes an irrigation system that is typical to confined animal feeding operations. **After Practice Description**: The big gun applies animal manure in an appropriate quantity and location that eliminates both runoffof the manure and deep percolation of excess nutrients, salts, and pathogens. The big gun system is typically located on 50 acres or less of hay/pasture land, or 100 acres or less of cropland. The system includes a large irrigation gun with 1" to 1-1/2" orifice mounted onto a movable cart. 1200' or more flexible 4" PE pipe is attached to the cart on one end and a large reel on the other end. The reel serves as storage are for the pipe as thecart moves back to the reel. The reel is turned by a small enginewhich gradually pulls the flexible pipe and cart back to the reel/base. **Associated Practices**: Irrigation Pipeline (430), Pumping Plant(533), Irrigation Water Management (449), Conservation Crop Rotation (328), Cover Crop (340), Nutrient Management (590), Waste Utilization (633), Manure Transfer (634)	Number of Traveling Gun Systems	Each	$36,749.77	$44,099.72
442-8	Pod System	**Scenario Description:** A portable irrigation system consisting ofPolyethylene (PE) pipe and pods that have attached sprinklers. This scenario addresses installation of all pod style irrigation sprinkler systems. **After Practice Description:** A 10-acre irrigated pasture with a medium pressure irrigation system consisting of sprinkler pods along a PE line is installed. The pods and PE line are placed in different sections of the pasture by dragging both with a four- wheeler. The PE line is 660 feet in length and has 14 pods evenly spaced along its length. The improved distribution uniformity and irrigation efficiency reduces the inefficient use of water on irrigated land, reducing irrigation water applied and energy use. Water application rates meet the pasture vegetation consumptive use requirements. Runoff and deep percolation as a result of irrigation are eliminated, and the receiving waters are nolonger degraded. **Associated Practices:** Irrigation Pipeline (430), Pumping Plant(533), Irrigation Water Management (449)	Number of Sprinkler Pods	Each	$298.35	$358.02
442-61	Small Solid Set, Above Ground Laterals	**Scenario Description:** A permanent solid set irrigation system with buried submains and above ground laterals such as polyethylene flexible tubing. The typical system is installed on a 2-acre orchard or nursery, with plant spacing of 15 feet x 22 feet. Laterals are spaced 22 feet apart, however other spacing for this scenario apply. This system utilizes sprayers or minisprinklers at each tree or plant. This system typically includes a filter system, PE tubing laterals, PVC manifolds, and submains, valves, fittings, and emitters. System installation does not include a flowmeter, Pump, Power source, Irrigation Water Conveyance to the irrigated field, or Water source (well or reservoir). **After Practice Description:** An irrigation system is utilized to provide improved distribution uniformity and irrigation efficiency to an orchard, nursery, or vineyard. Runoff and water applications are reduced, resulting in offsite water quality improvement and on-site water use reduction. **Associated Practices:** Irrigation Pipeline (430), Pumping Plant(533), Irrigation Water Management (449)	Area in Irrigation System	Acres	$2,509.99	$3,011.99

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STORMWATER RUNOFF CONTROL

Practice Code 570

Practice Units: ACRE

Definition: Measures or systems to control the quantity and quality of stormwater runoff.

Purpose: This practice is used to accomplish one or more of the following purposes in controlling stormwater runoff:

- Minimize erosion and sedimentation during and following construction activities
- Reduce the quantity of stormwater leaving developing or developed sites
- Improve the quality of stormwater leaving developing or developed sites

Conditions Where Practice Applies: This practice applies to sites where stormwater runoff causes or may cause undesirable downstream conditions such as flooding due to increased flows, sedimentation, channel degradation, and/or degradation of surface or ground water quality if left untreated. This practice may apply both to sites undergoing development as well as remedial work on developed sites. This practice does not include runoff from areas of livestock facilities. For runoff from livestock facilities use practices such as NRCS Conservation Practice Standards (CPSs) Waste Storage Facility (Code 313) and Vegetated Treatment Area (Code 635).

Limitations: Scenario 570-13 Rain Garden greater than 750 sqft, is applicable for greater than 750 square feet.
Scenario 570-31 Rain Garden 750 sqft or less, is applicable for 750 square feet or less.

Maintenance: Practice will be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
570-1	Storm water Runoff Control	**Scenario Description:** This scenario involves installation of silt fence, straw wattles, coconut fabric mats or jute mats, and synthetic mats on the construction site as part of one conservation engineering system. The combined system shall include two or more components and will address the resource concerns related with concentrated flow erosion, excessive sediment in surface waters as well as protection of existing inletsand structures depending on the combination. This practice mayalso be used in the installation of rain gardens, permeable pavement, and/or bio swales. **After Practice Description:** When properly installed, the combination structures slow down runoff flow velocity and reducehigh velocity erosion, detain and filter the storm water runoff and provide a controlled release to the downstream areas. In seeded areas, straw wattles also enable seeds to settle and germinate, aiding the revegetation process. By filtering overland runoff and holding sediment on the slope, Straw Wattles also help to protectlakes, ponds, rivers and streams from sediment pollution. When properly installed, coconut mats slow and spread the overland water flow and provide a filtering effect. They also help to reduce sediment transport and stabilize the construction area. Silt fence are installed along the downstream perimeter of a construction site to prevent sediment transport off construction areas. A typical silt fence consists of a synthetic filter fabric stretched between a series of fence stakes, with the stakes installed on thedownstream side of the perimeter and the fabric trenched into thesoil on the upstream side and backfilled. All erosion control blankets and straw mulches will be covered under 484 - Mulching. If earthen basins are warranted for water quality improvement purposes, use Sediment Basin (350) or Dam (402) as appropriate. If seeding is warranted for water quality and erosion control purpose, use Critical Area Planting (342).	Area of construction site	Acres	$1,012.76	$1,215.32
570-13	Rain Garden, greater than 750 sqft	**Scenario Description:** Typical Size: 36' x 30' area, 4-8' deep. Additional Considerations from the practice standard that would be addressed by the practice are: Design stormwater control practices to fit into the visual landscape as well as to function for runoff control. If properly designed, stormwater control practices can be beneficial to wildlife. **After Practice Description:** Stormwater is managed to prevent erosion, reduce quantity of runoff, enhance visual impact and increase wildlife habitat and/or food.	square feet of rain garden	Square Feet	$0.92	$1.11

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
570-14	Combination, Most common Best Management Practices	**Scenario Description:** This scenario involves installation of silt fence, straw wattles, and straw bales on the construction site as part of one conservation engineering system. The combined system shall include two or more components and will address the resource concerns relatedwith concentrated flow erosion, excessive sediment in surface waters as well as protection of existing inlets and structures depending on the combination. **After Practice Description:** When properly installed, the combination structures slow down runoff flow velocity and reduce high velocity erosion, detain and filter the stormwater runoff and provide a controlled release to the downstream areas. In seeded areas, straw wattles also enable seeds to settle and germinate, aiding the revegetation process. By filtering overland runoff and holding sediment on the slope, Straw Wattles also help to protect lakes, ponds, rivers and streams from sediment pollution. By filtering overland runoff and holding sediment on the slope, straw bales can also help to protect water quality. Silt fence are installed along the downstream perimeter of a construction site to prevent sediment transport off construction areas. A typical silt fence consists of a synthetic filter fabric stretched between a series of fence stakes, with the stakes installed on the downstream side of the perimeterand the fabric trenched into the soil on the upstream side and backfilled. All erosion control blankets and straw mulches will be covered under 484-Mulching. If earthen basins are warranted for water quality improvement or retention/detention purposes, use Sediment Basin (350) or Dam (402) as appropriate. If seeding is warranted for water quality anderosion control purposes, all temporary and permanent vegetation will use Critical Area Planting (342).	Area of construction site	Acres	$911.59	$1,093.91
570-31	Rain Garden, 750 sqft or less	**Scenario Description:** Typical Size: Drainage area 3750 sqft. Garden size 20' x 30' area, 4-8' deep. Additional Considerations from the practice standard that would be addressed by the practice are: Design stormwater control practices to fit into the visual landscape as well as to function for runoff control. If properly designed, stormwater control practices can be beneficial to wildlife. **After Practice Description:** Stormwater is managed to prevent erosion, reduce quantity of runoff, enhance visual impact and increase wildlife habitat and/or food.	square feet of rain garden	Square Feet	$1.42	$1.70

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STREAM CROSSING

Practice Code 578

Practice Units: NUMBER

Definition: A stabilized area or structure constructed across a stream to provide controlled access for people, livestock, equipment or vehicles.

Purpose: This practice is applied to:

- Improve water quality by reducing sediment, nutrient, or organic loading to a stream.
- Reduce streambank and streambed erosion.

Conditions Where Practice Applies: This practice applies to all land uses where:

- An intermittent or perennial watercourse (stream) exists.
- Controlled access from one side of the stream to the other side is necessary to reduce or eliminate environmental degradation.
- Soils, geology, fluvial geomorphology, and topography are suitable for construction of a stream crossing.

Limitations: Financial assistance is not eligible for cropland access only.

Maintenance: Practice will be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
578-2	Rip Rap Crossing	**Scenario Description:** A stabilized area or structure constructedacross a stream to provide a travel way for people, livestock, equipment, or vehicles. This practice applies to all land uses where an intermittent or perennial watercourse exists, and a ford crossing is desired for livestock, people, and /or equipment. Stream bed in the channel reach containing the crossing must bevertically stable. Scenario is for stabilizing the bottom and slope of a stream channel using Rip Rap, gravel and geotextile. This scenario includes site preparation, dewatering, acquiring and installing rip rap and gravel on channel bottom and approaches. Scenario is based on a 20' wide x 50' long crossing. Use (396) Aquatic Organism Passage when the primary intent is biological concerns, not hydrologic. **After Practice Description:** Stream flow is not impeded, and a stable base exists for equipment, people and/or animals to cross. **Associated Practices:** (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal,or (584) Channel Stabilization.	Crossing dimensions	Square Foot	$4.89	$5.87
578-4	Concrete Crossing	**Scenario Description:** A stabilized area or structure constructedacross a stream to provide a travel way for people, livestock, equipment, or vehicles. This practice applies to all land uses where an intermittent or perennial watercourse exists, and a ford crossing is desired for livestock, people, and /or equipment. Stream bed in the channel reach containing the crossing must bevertically stable. Scenario is for stabilizing the bottom and slope of a stream channel using concrete. This scenario includes site preparation, dewatering, acquiring and installing gravel and concrete channel bottom and approaches. Scenario is based on a 20' wide x 50' long crossing. Use (396) Aquatic Organism Passage when the primary intent is biological concerns, not hydrologic. **After Practice Description:** Stream flow is not impeded, and a stable base exists for equipment, people and/or animals to cross. **Associated Practices:** (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal,or (584) Channel Stabilization.	Crossing dimensions	Square Foot	$9.87	$11.84
578-6	Culvert Installation	**Scenario Description:** Install a new culvert. Work includes dewatering, site preparation and removing any old crossing, acquiring and installing culvert pipe with gravel bedding and fill (compacted), and building headwalls. If a different travel surfaceis needed, refer to another appropriate standard for the surfacing. 30-inch Culvert installation with <75 cy of fill needed and < 2 yds. rock riprap for headwalls. Pipe is 40 feet long. Use (396) Aquatic Organism Passage instead, when the primary intent is biological concerns, not hydrologic. Use (587) Structurefor Water Control instead, for ditch cross culverts and other intermittent flows. **After Practice Description:** Access road and waterflow are able to cross each other in a stable manner. Stream flow is not impeded, and a stable base exists for equipment, people and/or animals to cross. **Associated Practices:** (342) Critical Area Planting, (560) Access Road, (575) Animal Trails and Walkways, (566) Recreational Trails and Walkways, (500) Obstruction Removal,or (584) Channel Stabilization.	Culvert	Diameter Inch Foot	$3.88	$4.66

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STREAMBANK AND SHORELINE PROTECTION

Practice Code 580

Practice Units: FEET

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

Purpose: This practice is used to accomplish one or more of the following purposes:

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

Conditions Where Practice Applies: This practice applies to streambanks of natural or constructed channels and shorelines of lakes, reservoirs, or estuaries susceptible to erosion. It does not apply to erosion problems on main ocean fronts, beaches, or similar areas of complexity.

Limitations: This practice does not apply to erosion problems on main lake fronts and similar areas of complexity not normally within the scope of NRCS authority or expertise. **EQIP financial assistance is not eligible for Streambank and Shoreline Protection projects on Iowa's meandering navigable streams.**

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
580-1	Bank Shaping	**Scenario Description:** Protection of streambanks consisting ofshaping banks to a stable slope and conventional plantings of vegetation to stabilize and protect against scour and erosion. Payment cost include shaping bank; a 6-foot high bank at 3(H):1(V) slope for 1000 linear feet (0.46 acres) is used for estimation purposes. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reduced in the stream. Critical Area Planting (342) is included for establishment of vegetation. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improvedaquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized. For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms withinthe stream's habitat.	Linear Feet of Streambank/ Shoreline Protected	Foot	$8.83	$10.60
580-2	Bioengineered	**Scenario Description:** Protection of streambanks consisting of a bioengineered technique comprised of non-structural measures such asearth revetments and benches with vegetative measures to stabilize and protect the streambank against scour and erosion. Soil bioengineering is a system of living plant materials used as structural components. Adapted types of woody vegetation (shrubs and trees) are initially installed in specified configurations that offer immediate soil protection and reinforcement. In addition, soil bioengineering systems create resistance to sliding or shear displacement in a streambank as they develop roots or fibrous inclusions. Environmental benefits derivedfrom woody vegetation include diverse and productive riparian habitats, shade, organic additions to the stream, cover for fish, and improvements in aesthetic value and water quality. Under certain conditions, soil bioengineering installations work well in conjunction withstructures to provide more permanent protection and healthy function, enhance aesthetics, and create a more environmentally acceptable product. Soil bioengineering systems normally use unrooted plant parts in the form of cut branches and rooted plants. For streambanks, living systems include brush mattresses, live stakes, joint plantings, vegetated geogrids, branch packing, and live fascines. Payment cost include shaping bank and willow tree planting. A 6-foot high bank at 3(H):1(V) slope for 1000 linear feet (0.46 acres) is used for estimation purposes. **After Practice Description:** The streambank is stable against furthererosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reduced in the stream. Critical Area Planting (342) is included for establishment of vegetation ifneeded. If erosion control blankets or mulching for seedbed establishment/protection are needed, use conservation practice Mulching (484). For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in thestream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow withinthe stream has been stabilized. For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Linear Feet of Streambank/ Shoreline Protected	Foot	$19.41	$23.29

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
580-3	Structural	**Scenario Description:** Protection of streambanks using rock riprap to stabilize and protect banks of streams or excavated channels against scour and erosion. Additional structural measures may also include tree revetments; log, root wad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; piling revetments with slotted fencing; jacks or jack fields; rock riprap; stream jetties; stream barbs; and gabions. Payment cost include shaping bank, critical area vegetation, geotextile, and rock rip rap; a 10-foot high bank at 2(H):1(V) slope for 500 linear feet is used for estimation purposes. The rock will be 2' thick and 10' high. The bank above the riprap will be graded to a stable slope and revegetated. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized.For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Cubic Yard of Riprap	Cubic Yard	$65.43	$78.51
580-4	Stream Barb/LPSTP-Longitudinal Peaked Stone Toe Protection-small Streams	**Scenario Description:** Protection of streambanks using longitudinal peaked stone toe protection to stabilize and protect banks of streams or excavated channels against scour and erosion. Additional structural measures may also include tree revetments; log, root wad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; pilingrevetments with slotted fencing; jacks or jack fields; rock riprap; stream jetties; stream barbs; J-Hooks and gabions. Payment cost includes rock rip rap and placement. A 4'high stone toe with 1.5:1 side slopes, 275 linear feet in length is used for estimation purposes. The bank behind the riprap will not be modified. Stream with less than 100 sq. miles drainage area. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized. For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment loadpromotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Linear foot of bank protected	Foot	$59.22	$71.07

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
580-5	Stone Toe protection with vegetation	**Scenario Description:** Protection of streambanks using riprap toe protection with grass vegetation on the upper portion of the bank to stabilize and protect banks of streams or excavated channels against scour and erosion. Additional structural measures may also include tree revetments; log, root wad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; piling revetments with slotted fencing; jacks or jack fields; rock riprap; stream jetties; stream barbs; and gabions. Payment cost includes rock rip rap and bank shaping. Typical installation consists of 4 vertical feet of riprap toe protection on a 2:1 slope, 2' thick. 4 vertical feet of bank above the rock will be shaped to a 4:1 slope,seeded to cool season vegetation and covered with coir erosion control blanket. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized.For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Linear foot of bank protected	Foot	$57.61	$69.13
580-6	Stream Barb/Bendway Weir-large stream	**Scenario Description:** Protection of streambanks using stream barbs to stabilize and protect banks of streams or excavated channels against scour and erosion. Payment cost includes rock rip rap, bank shaping, erosion controlblanket and seeding. Typical installation consists of 7 stream barbs, each 7' tall and 60' long protecting 650' of bank. Stream with 100 sq. miles or more drainage area. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized.For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Linear foot of bank protected	Foot	$96.48	$115.77

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
580-7	Weir/Riffle Small	**Scenario Description:** Protection of streambanks using a rock riffle to stabilize and protect banks of streams or excavated channels against scour and erosion by controlling down cutting. Additional structural measures may also include tree revetments;log, root wad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; piling revetments with slotted fencing; jacks or jack fields; rock riprap; and gabions. Payment cost includes rock rip rap, bank shaping, erosion control blanket and seeding. Typical installation consists of a 1' high riffle on a stream with an8' bottom width and 5' banks. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized. For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Per structure installed	Each	$3,902.79	$4,683.34
580-8	Weir/Riffle Medium	**Scenario Description:** Protection of streambanks using a rock riffle to stabilize and protect banks of streams or excavated channels against scour and erosion by controlling down cutting. Additional structural measures may also include tree revetments;log, root wad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; piling revetments with slotted fencing; jacks or jack fields; rock riprap; and gabions. Payment cost includes rock rip rap, bank shaping, erosion control blanket and seeding. Typical installation consists of a 1.5' high riffle on a stream with a20' bottom width and 6' banks. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized.For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Per structure installed	Each	$7,876.30	$9,451.56
580-9	Weir/Riffle Large	**Scenario Description:** Protection of streambanks using a rock riffle to stabilize and protect banks of streams or excavated channels against scour and erosion by controlling down cutting. Additional structural measures may also include tree revetments;log, root wad and boulder revetments; dormant post plantings; piling revetments with wire or geotextile fencing; piling revetments with slotted fencing; jacks or jack fields; rock riprap; and gabions. Payment cost includes rock rip rap, bank shaping, erosion control blanket and seeding. Typical installation consists of a 1.5' high riffle on a stream with a30' bottom width and 7' banks. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reducedin the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased in the stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized.For Inadequate Habitat for Fish and Wildlife: The reduction in the sediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Per structure installed	Each	$10,346.37	$12,415.65

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
580-23	Bankfull Bench,Wood Toe	**Scenario Description:** Protection of streambanks using toewood (large wood members with root wads) as a structural measure in conjunction with bioengineering techniques involvingvegetative measures to stabilize and protect the streambank against scour and erosion. Environmental benefits derived from woody vegetation include diverse and productive riparian habitats, shade, organic additions to the stream, cover for fish, and improvements in aesthetic value and water quality. Payment cost include protection by useof large wood members with root wads, willow cuttings and revetments, bankfull bench construction, bank shaping and riparian-corridor revegetation. **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reduced in the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased inthe stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized. For Inadequate Habitat for Fish and Wildlife: The reduction in thesediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Linear Feet of Streambank Protected	Linear Feet	$119.30	$143.16
580-25	In-Channel Boulder Structure	**Scenario Description:** Protection of streambanks using bank stabilization measures to stabilize eroding stream banks, reduce near bank stress and prevent sediment from entering streams byconstructing in-stream structures such as J-Hooks, Stream barbs, Cross Vanes or Vortex Weirs. Typical scenario: Install two J hooks on a 300 ' section of 30 square mile watershed channel, with a bankfull width of 42' and a bankfull depth of 4'. Each J hook has an arm length of 45' with a 14' hook and 14' sill. Boulders are an average dimension of 3'x3'x3' and weigh 2 tons. 47 boulders are required for one structure (47 CY). **After Practice Description:** The streambank is stable against further erosion and encourages natural sediment transport and deposition. Loss of riparian areas and sediment load is reduced in the stream. For Soil Erosion: The streambank is stable. For Water Quality Degradation: The sediment load has decreased inthe stream resulting in improved aquatic habitat. For Excess/Insufficient Water: The water conveyance capacity, storage capacity and flow within the stream has been stabilized. For Inadequate Habitat for Fish and Wildlife: The reduction in thesediment load promotes survival, growth, reproduction, and/or diversity of aquatic organisms within the stream's habitat.	Cubic Yardsof Boulders Installed	Cubic Yards	$217.21	$260.66

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STREAM HABITAT IMPROVEMENT AND MANAGEMENT

Practice Code 395

Practice Units: ACRE

Definition: Maintain, improve, or restore the physical, chemical and biological functions of a stream.

Purpose:

- Provide suitable habitat for desired aquatic species and a diverse aquatic community.
- Provide channel morphology and associated riparian characteristics important to desired aquatic species.
- Provide esthetic values and recreational opportunities associated with stream habitats such as angling and fish viewing.

Conditions Where Practice Applies: In streams with habitat deficiencies limiting survival, growth, reproduction, and/or diversity of aquatic species in relation to the streams potential.

Limitations: N/A

Maintenance: Practice will be maintained for a lifespan of 5 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
395-1	Riparian Zone Improvement, Forested	**Scenario Description:** This scenario describes fish and wildlife habitat improvement and/or management actions focused on thecommunity structure and function of forested riparian zone plant communities. The planned activity meets the 395 standard, and facilitating practice standards, especially Codes 390 and 391, utilized in combination to satisfy all requirements specific to habitats needed for the stream and riparian species for which the practice is being implemented. Implementation will improve instream and riparian habitat complexity, water quality, hiding and resting cover, and/or increased food availability for desired riparian and stream species. **After Practice Description:** Revegetation/reforestation of the riparian zone is completed, and the vegetation community is under close management to insure long-term survival and ecological succession of the plant community. The quality and quantity of the riparian zone components of the site are managedto support a diverse vegetation community suitable for the site, the species that depend on it for habitat, and the functions it performs or will eventually perform as the vegetation matures. These functions include: stream temperature moderation thru shading, recruitment of instream large wood and/or non-woody organic matter, riparian habitat for terrestrial insects and other riparian-dependent species, streambank integrity, and filtration ofcontaminants from surface run-off into the stream.	Acres	Acres	$3,493.03	$4,191.63
395-2	Instream wood placement	**Scenario Description:** This scenario involves placement of large wood (logs, root wads, log structures) into a stream channel in order to improve aquatic habitat that currently does not meet quality criteria for stream species habitat. A stream assessment (i.e. Stream Visual Assessment Protocol) should be conducted in order to document habitat components lacking for aquatic species (i.e. large wood, pools). A project design for wood placement will be based on assessment of the target stream reach characteristics and those of a suitable reference reach. These characteristics include channel geometry, channel slope, stream bottom substrate size and composition, and the geomorphic setting influencing the channel form, pattern and profile. Large wood and root wads placed into the stream will mimic genus, age, and size of mature trees found in intact, reference riparian areas in the MLRA where the project is located. Large wood/trees with root wads intact should be placedin streams to create pool habitat according to NRCS engineeringspecifications and with close review & approval of a fish habitat biologist. Boulders placed to provide ballast shall only be used if the geomorphic setting and project design demand this component. The planned activity will meet the current 395 standard, and facilitating practice standards utilized, including timing of work windows required for protected aquatic and riparian species, and protecting/restoring vegetation and substrates of/to areas impacted by heavy equipment. Implementation will result in the improvement of instream habitatcomplexity, hiding and resting cover, and/or increased food availability for fish and other stream species. Payment for implementation is to defray the costs of project implementation. Monitoring records demonstrating implementation of this scenario will address resource concerns for stream species of concern are required. **After Practice Description:** Stream habitat within the project reach is improving as a result of placing logs, root wads, and/or wood structures in the channel and/or along the stream bank. Pool habitat in the reach is improved, and hiding cover, food availability and refuge habitat for all stream species is improving.	Per Structure	Each	$440.47	$528.57

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
395-3	Instream rock placement	**Scenario Description:** This scenario describes the implementation of a stream habitat improvement and management project that places individual boulders or boulder clusters, or rock structures in or adjacent to the stream channel as habitat components. A project design for boulder placement will be based on assessment of the target stream reach characteristics and those of a suitable reference reach. These characteristics include channel geometry, channel slope, streambottom substrate size and composition, and the geomorphic setting influencing the channel form, pattern and profile. Large rocks/boulders placed in the stream channel will mimic geologic material sizes typically present in the watershed or observed in intact, reference stream reaches in the MLRA where the project is located. Boulders should be placed in streams to create pool habitat and hydraulic complexity according to NRCS engineeringspecifications and with close review & approval of a fish habitat biologist onsite during implementation of the project design. Spawning gravel placement should be placed to restore spawning area substrates potentially disturbed by rock placement. The planned activity will meet the current 395standard and facilitating practice standards utilized. Implementation will result in the improvement of instream habitatcomplexity, hiding and resting cover, spawning habitat, and/or increased food availability for fish and other stream species. Payment for implementation is to defray the costs of stream habitat assessment, and project implementation. Records demonstrating implementation of this scenario will address resource concerns for stream species of concern will be required. **After Practice Description:** Stream habitat within the project reach is improving as a result of placing boulders or constructingrock structures in the channel and/or along the stream bank. Hydraulic complexity of the habitat in the reach is increased, andhiding cover, food availability and refuge habitat for stream species is improving. Streambank vegetation is increasing and contributing to stability of the streambanks.	Per Structure	Each	$535.47	$642.56

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
395-4	Rock and wood structures	**Scenario Description:** This scenario describes the implementation of a stream habitat improvement and management project where practices are focused on instream habitat improvement with a combination of rock AND wood structures. This scenario involves placement of large wood and rock structures into a stream channel in order to improve aquatichabitat that currently does not meet quality criteria for stream species habitat. A stream assessment (i.e. Stream Visual Assessment Protocol) should be conducted in order to documenthabitat components (such as large wood, pools) are not currentlypresent in the stream or are limited for aquatic species. A project design for placement of habitat structures (boulders, boulder clusters, wood, wood structures) will be based on assessment of (a) the target stream reach characteristics and (b) those of asuitable reference reach. These characteristics include channel geometry, channel slope, stream bottom substrate size and composition, and the geomorphic setting influencing the channel form, pattern and profile. Large rocks/boulders placed in the stream channel will mimic geologic material sizes typically present in the watershed or observed in intact, reference stream reaches in the MLRA where the project is located. Rock boulder sizes should also reflect the geomorphic setting of the stream reach. Large wood placed into the stream under this scenario should be similar in species, age, and size (diameter) as trees found in the surrounding riparian area, to the extent possible. Wood, bouldersand/or boulder clusters will be placed in the stream to create poolhabitat and hydraulic complexity according to NRCS engineering specifications and with close review & approval of a fish habitat biologist onsite during the planning and implementation of the project. This scenario involves restoring one acre of stream. The planned activity will meet the current 395 standard and facilitating practice standards utilized. Implementation will result in the improvement of instream habitatcomplexity, hiding and resting cover, and/or increased food availability for fish and other stream species. Payment for implementation is to defray the costs of project implementation. Records demonstrating implementation of this scenario will address resource concerns for stream species of concern will berequired. **After Practice Description:** Stream habitat within the project reach is improving as a result of placing logs, rocks, or constructing wood and rock structures in the channel and/or along the stream bank. Pool habitat in the reach is improved, andhiding cover, food availability and refuge habitat for all stream species is improving.	Per Structure	Each	$632.04	$758.45

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
395-5	Wood with Lunkers	**Scenario Description:** This scenario involves placement of large wood (root wads) and lunkers (overhang/undercut bank structures) into a stream channel in order to improve aquatic habitat that currently does not meet quality criteria for stream species habitat. A stream assessment (i.e. Stream Visual Assessment Protocol) should be conducted in order to documenthabitat components lacking for aquatic species (i.e. large wood, pools). A project design for wood placement will be based on assessment of the target stream reach characteristics and those of a suitable reference reach. These characteristics include channel geometry, channel slope, stream bottom substrate size and composition, and the geomorphic setting influencing the channel form, pattern and profile. Large wood and root wads placed into the stream will mimic genus, age, and size of mature trees found intact, reference riparian areas in the MLRA where the project is located. Large wood/trees with root wads intact should be placed in streams to create pool habitat according to NRCS engineering specifications and with close review & approval of a fish habitat biologist. The planned activity will meetthe current 395 standard, and facilitating practice standards utilized, including timing of work windows required for protected aquatic and riparian species, and protecting/restoring vegetation and substrates of/to areas impacted by heavy equipment. Implementation will result in the improvement of instream habitat complexity, hiding and resting cover, and/or increased food availability for fish and other stream species. Payment for implementation is to defray the costs of project implementation. Monitoring records demonstrating implementation of this scenario will address resource concerns for stream species of concern are required. **After Practice Description:** Stream habitat within the project reach is improving as a result of placing a series of root wads,and/or wood structures in the channel and/or along the streambank. Pool habitat in the reach is improved, and hiding cover, food availability and refuge habitat for all stream species is improving.	Bankfull width x reach length	Acre	$6,917.77	$8,301.32

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STRIPCROPPING

Practice Code 585

Practice Units: ACRE

Definition: Growing planned rotations of erosion-resistant and erosion susceptible crops or fallow in a systematic arrangement of strips across a field.

Purpose: This practice supports one or more of the following purposes:

- Reduce sheet and rill erosion
- Reduce wind erosion
- Reduce excess nutrients in surface waters
- Reduce sediment transport to surface waters
- Reduce pesticide transport to surface waters
- Improve plant productivity and health

Conditions Where Practice Applies: This practice applies on cropland.

Limitations: This practice is unsuitable on undulating to rolling topography because of the difficulty of maintaining parallel strip boundaries across the hill slope and/or staying within in-row grade limits. This standard does not apply to situations where alternating strips are not generally equal in width or where the land is treated with Contour Buffer Strips (332).

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
585-3	Stripcropping - wind and water erosion	**Scenario Description:** This scenario describes the implementation of a strip cropping system that is designed specifically for the control of wind and water erosion or minimizing the transport of sediments or other water borne contaminants originating from runoff on cropland. The plannedstrip cropping system will meet the current 585 standard. Implementation will result in alternating strips of erosion susceptible crops with erosion resistant crops that are orientedas close to perpendicular to water flows as possible. The designed system will reduce erosion/sediment/contaminants todesired objectives. Payment for implementation is to defray thecosts of designing the system, installing the strips on the landscape appropriately, and integrating a crop rotation that includes water erosion resistant species. **After Practice Description:** A strip cropping system that includes at least two or more strips within the planning slope willbe designed to include parallel strips of approximately equal widths of water erosion resistant crop species with non-water erosion resistant crop species. Widths will be determined using current water erosion prediction technology to meet objectives. The design and implementation of a stripcropping system will minimize wind, sheet and rill erosion, protect soil quality, reduceoffsite sedimentation, and benefit offsite aquatic wildlife habitat. Erosion prediction before and after practice application will be recorded showing the design and benefits of the practice. Erosion resistant strips in rotation must be managed to maintainthe planned vegetative cover and surface roughness.	Area of strips	Acres	$1.47	$1.76

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STRUCTURE FOR WATER CONTROL

Practice Code 587

Practice Units: 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 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 to a permanent structure 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. Typical structures include 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 include checks, flashboard risers, and check dams.
- Control the division or measurement of irrigation water. Typical structures include division boxes and water measurement devices.
- Keep trash, debris or weed seeds from entering pipelines. Typical structures include trash racks and debris screens.
- Control the direction of channel flow resulting from tides and high water or backflow from flooding. Typical structures include 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 include 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 include bridges, culverts, flumes, inverted siphons, and long span pipes.
- Modify water flow to provide habitat for fish, wildlife and other aquatic animals. Typical structures include chutes, cold water release structures, and flashboard risers.
- Provide silt management in ditches or canals. Typical structures include sluice gates and sediment traps.
- Supplement a resource management system on land where organic waste or commercial fertilizer is applied.
- Create, restore, or enhance wetland hydrology.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
587-1	Inline Stoplog WCS, Surface Water Control, 6-10 in. dia. Pipe	**Scenario Description:** An Inline Water Control Structure (WCS) composed of plastic that maintains a desired water surface elevation,controls the direction or rate of flow, or conveys water to address the resource concern: Inadequate habitat for Fish and Wildlife. The water surface elevation is controlled by addition or removal of slats or'stoplogs'. This scenario is applicable to variable crest weir structureswhere the elevation is controlled at point along a pipe extending through an embankment, providing ease of access to the structure and provide better protection against beaver activity. There are commercially available models composed of plastic that are commonly used when the width of the is 24" or less. Cost estimate is based on a using a such a commercial product. The typical scenario is an inline structure with a width of 12", height of six feet, the pipe is 65' of 8" SCH 40 PVC (inlet and outlet combined). **After Practice Description:** A WCS is installed in a flow line allowing shallow water impoundments. A wetland area is enhanced, and water levels can be varied to better accommodate wildlife needs.Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Number of structures	Each	$3,033.48	$3,640.17
587-2	Inline Stoplog WCS, Surface Water Control, 12-18 in. dia. Pipe	**Scenario Description:** An Inline Water Control Structure (WCS) composed of plastic that maintains a desired water surface elevation,controls the direction or rate of flow, or conveys water to address the resource concern: Inadequate habitat for Fish and Wildlife. The water surface elevation is controlled by addition or removal of slats or'stoplogs'. This scenario is applicable to variable crest weir structureswhere the elevation is controlled at point along a pipe extending through an embankment, providing ease of access to the structure and provide better protection against beaver activity. There are commercially available models composed of plastic that are commonly used when the width of the is 24" or less. Cost estimate is based on a using a such a commercial product. The typical scenario is an inline structure with a width of 20", height of six feet, the pipe is 65' of 15" SDR35 PVC (inlet and outlet combined). **After Practice Description:** A WCS is installed in a flow line allowing shallow water impoundments. A wetland area is enhanced, and water levels can be varied to better accommodate wildlife needs.Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Number of structures	Each	$4,799.97	$5,759.96
587-3	Inline Stoplog WCS, Surface Water Control, >18 in. dia. Pipe	**Scenario Description:** An Inline Water Control Structure (WCS)composed of plastic that maintains a desired water surface elevation, controls the direction or rate of flow, or conveys water to address the resource concern: Inadequate habitat for Fish andWildlife. The water surface elevation is controlled by addition or removal of slats or 'stoplogs'. This scenario is applicable to variable crest weir structures where the elevation is controlled at point along a pipe extending through an embankment, providing ease of access to the structure and provide better protection against beaver activity. There are commercially available models composed of plastic that are commonly used when the width of the is 24" or less. Cost estimate is based on a using a such a commercial product. The typical scenario is an inline structure with a width of 31", height of six feet, the pipe is 65' of 24” used steel (inlet and outlet combined). **After Practice Description:** A WCS is installed in a flow lineallowing shallow water impoundments. A wetland area is enhanced, and water levels can be varied to better accommodate wildlife needs. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Number of structures	Each	$8,797.75	$10,557.30

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
587-4	Weir Box Inlet WCS, Surface Water Control, <=16 in. dia. Pipe.	**Scenario Description:** A structure in a water management system that conveys water, controls the direction or rate of flow,maintains a desired water surface elevation or measures water.This practice applies wherever a permanent structure is neededas an integral part of a water-control system. A fabricated weir box structure with a pipe of 16" diameter or less is placed in a levee to manage water level elevation. Payment incorporates pipe, anti-seep collar, trash guard, animal guard, flap gate and weir box structure. **After Practice Description:** A weir box structure is placed in alevee to manage water level elevation. A wetland area is enhanced, and water levels can be varied to better accommodate wildlife needs. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Number of structures	Each	$5,122.47	$6,146.97
587-5	Weir Box Inlet WCS, Surface Water Control, >16 in. dia. Pipe.	**Scenario Description:** A structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation or measures water. This practice applies wherever a permanent structure is needed as an integral part of a water-control system. A fabricated weir box structure with a pipe of greater than 16" diameter is placed ina levee to manage water level elevation. Payment incorporates pipe, anti-seep collar, trash guard, animal guard, flap gate and weir box structure. **After Practice Description:** A weir box structure is placed in alevee to manage water level elevation. A wetland area is enhanced, and water levels can be varied to better accommodate wildlife needs. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Number of structures	Each	$6,762.31	$8,114.77
587-9	Inline WCS, Subsurface Drainage Control, <=10 in.dia. Pipe	**Scenario Description:** A subsurface drainage system on a fieldwith a fairly flat slope (less than 2% and preferably less than 1%)outlets through a control structure which is operated with stoplogs. This allows the operator to keep the water in the soil profile when it is not critical to dry the soil. This retention time allows nutrients to be reduced by bacteria such that the nutrientsdo not leave with the water. A single stoplog structure may have its influence extended by buried float-activated structures which can be counted as structures also for a separate payment. **After Practice Description:** The discharge from a subsurface drainage system enters ditches or streams only when the soil profile needs to be dry. The retention time in the soil profile removes nutrients. Typical affected area for a single structure is10-20 acres. A single structure with stoplogs may have its influence extended by use of buried float-activated control structures, which may be paid for as separate structures also.	Number of structures	Each	$1,777.76	$2,133.31

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
587-10	Inline WCS, Subsurface Drainage Control, >10 in.dia. Pipe	**Scenario Description:** A subsurface drainage system on a fieldwith a fairly flat slope (less than 2% and preferably less than 1%)outlets through a control structure which is operated with stoplogs. This allows the operator to keep the water in the soil profile when it is not critical to dry the soil. This retention time allows nutrients to be reduced by bacteria such that the nutrientsdo not leave with the water. A single stoplog structure may have its influence extended by buried float-activated structures which can be counted as structures also for a separate payment. **After Practice Description:** The discharge from a subsurface drainage system enters ditches or streams only when the soil profile needs to be dry. The retention time in the soil profile removes nutrients. Typical affected area for a single structure is10-20 acres. A single structure with stoplogs may have its influence extended by use of buried float-activated control structures, which may be paid for as separate structures also.	Number of structures	Each	$2,493.78	$2,992.53
587-11	Inline WCS, Subsurface Drainage Control, float activated head pressure valve	**Scenario Description:** A subsurface drainage system on a field with a fairly flat slope (less than 2% and preferably less than 1%)outlets through an inline water level control structure which is used in conjunction with 3 float activated head pressure valves. Each float activated head pressure valve increases the zone of influence by 1'. This allows the operator to keep the water in the soil profile when it is not critical to dry the soil. This retention timeallows nutrients to be reduced by bacteria such that the nutrientsdo not leave with the water. Multiple buried float-activated structures can be used to extend the influence of a single inline water control structure. **After Practice Description:** The discharge from a subsurface drainage system enters ditches or streams only when the soil profile needs to be dry. The retention time in the soil profile removes nutrients. Typical affected area for a single structure is10-20 acres.	Number of structures	Each	$998.38	$1,198.06
587-12	Straight Pipe, Surface Water Control, <=10 in.dia. Pipe (w/o adjustable control)	**Scenario Description:** Used as an outlet for Wetland; no dropbox; straight through 10" diameter PVC pipe; pipe is backfilled with #57 stone to 1' over the top of the pipe; 12" thick layer of Type D riprap is placed at the outlet end with 6" thick of #57 stone under it. **After Practice Description:** A straight pipe (principal spillway) isinstalled through an earth embankment to create a wetland. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Feet of pipe installed	Feet	$53.63	$64.35

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
587-13	Straight Pipe, Surface Water Control, >=12 in.dia. Pipe (w/o adjustable control)	**Scenario Description:** Used as an outlet for Wetland; no dropbox; straight through 12" diameter PVC pipe; pipe is backfilled with #57 stone to 1' over the top of the pipe; 12" thick layer of Type D riprap is placed at the outlet end with 6" thick of #57 stone under it. **After Practice Description:** A straight pipe (principal spillway) isinstalled through an earth embankment to create a wetland. Any needed re-vegetation of disturbed areas use Critical Area Planting (342).	Feet of pipe installed	Feet	$63.93	$76.71
587-54	Automated DWMControl Structure	**Scenario Description:** A subsurface drainage system on a field with a fairly flat slope (less than 2% and preferably less than 1%)that outlets through a control structure which is operated with an automated slide gate. This structure configuration facilitates meeting the conservation practice standard 554 - Drainage Water Management by managing the subsurface water table year-round. This allows the operator to keep the water in the soilprofile when it is not critical to dry the soil for crop health or field operations. This retention time reduces the volume of water discharged and thereby the quantity of nutrients lost. A single automated structure may have its influence extended by buried float-activated structures to provide a greater area of control. **After Practice Description:** The water surface profile in the subsurface drainage system is managed in a manner which retains moisture in the soil for plant update and to allow for enhanced nutrient utilization. The use of automated control structures allow water levels to be monitored and adjusted remotely to allow for more active management in accordance with the drainage systems Drainage Water Management plan. Typical affected area for a single structure is 10 to 20 acres. Asingle structure with an automated slide gate may have its influence extended by use of buried float-activated control structures.	Number of structures	Number	$6,325.88	$7,591.06

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STRUCTURES FOR WILDLIFE

Practice Code 649

Practice Units: NUMBER

Definition: A structure installed to replace or modify a missing or deficient wildlife habitat component.

Purpose: To provide structures, in proper amounts, locations, and seasons to:

- enhance or sustain non-domesticated wildlife or
- modify existing structures that pose a hazard to wildlife.

Conditions Where Practice Applies: This practice applies to all lands where planting or managing vegetation fails to meet the short-term needs of the species or guild under consideration. In addition, where a State-approved wildlife habitat assessment identifies a need as listed in the 649 standard under the section, "Conditions Where Practice Applies".

Limitations: Scenario 649-2 Nesting Box, Small with pole, is applicable for smaller targeted species, such as songbirds (with or without a pole).
Scenario 649-4 is applicable for targeted raptor species.
Scenario 649-55 Nesting Box, Large, is applicable for waterfowl, such as wood ducks (with or without a pole).

Maintenance: Practice will be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
649-2	Nesting Box, Small, with pole	**Scenario Description:** Constructing a nest box and mounting ona pole. A structure is provided to support the nesting and rearing of targeted species, such as pollinators and birds. Trees, buildings or other structures are not available. These structures are designed to meet targeted species biology and lifehistory needs. **After Practice Description:** The installation nesting and rearingboxes support the life-cycle needs of targeted species, such as blue birds. Location and conditions suggest that predator guards are not needed. These structures/features enhance habitat, cover, and improve species survivability.	Number of structures with poles.	Number	$57.96	$69.56
649-4	Nesting Box or Raptor Perch, Large, with Pole	**Scenario Description:** Constructing a nest box or raptor perchon a steel pole with a predator guard where needed. A structureis provided to support the nesting and rearing of larger targeted raptor species such as barn owls or to provide needed perches or nesting structures for raptors. **After Practice Description:** The installation of pole mountednesting and rearing boxes support the life-cycle needs of targeted raptor species.	Number of structures	Each	$327.49	$392.99
649-5	Escape Ramp	**Scenario Description:** Retrofit an existing watering trough/tank with an appropriately designed and installed wildlife escape rampto reduce wildlife mortality and maintain water quality within the watering facility. **After Practice Description:** Watering facilities provide wildlife safe access. Water quality is improved within the watering facilityand wildlife mortality is reduced.	Each Ramp	Each	$67.26	$80.72
649-6	Fence Markers, Vinyl Undersill	**Scenario Description:** Existing fences are retrofitted with vinyl markers that increase wire visibility and reduce mortality due to collision for wildlife species of concern. Markers are installed approximately every 3 feet along top wire. Scenario is typically implemented along fences in potential high-risk areas (red areasin SGI Fence Collision Risk Model) or where a known problem exists. **After Practice Description:** Fence related mortality of speciesof special concern is reduced.	Feet offence marked	Feet	$0.16	$0.20
649-7	Brush Pile, Small	**Scenario Description:** Small brush piles are created to provide shrubby/woody escape cover for wildlife. Pushing or cutting of select small trees and placement in selected locations to providewildlife cover. Typical scenario of 10' x 20' area for structure covered by interlocking limbs of trees less than 12 inches in diameter. **After Practice Description:** Small brush piles provide neededescape, ground nesting and safe loafing cover for targeted wildlife species.	Brush piles	Each	$32.86	$39.43

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
649-8	Downed Tree Structure	**Scenario Description:** Downed tree structures will be created toprovide shrubby/woody escape cover for wildlife. Felling of selecttrees and placement in selected locations to provide wildlife cover. Minimum 30' x 50' area for structure covered by interlocking limbs of trees at least 12" in diameter. Payment includes tree felling and placement. **After Practice Description:** The installation of a downed tree structure enhances the overall habitat needs of quail and other small game species. These structures/features enhance habitatand improve species survivability.	Area covered by structure	Each	$249.01	$298.81
649-9	Edgefeathering, light	**Scenario Description:** Trees are cut, and brush clipped in the border along a woodland edge using a chainsaw to create densewoody cover and a transitional area between a timbered edge and the adjacent land use such as cropland, pasture, or idle lands. The edge feathering will extend at least 30' wide, measured from the outside tree trunk, and at least 50' long -- resulting in a minimum area of 1500 square foot covered by interlocking woody branches. Cut stumps will be treated with brush herbicide. Some hand placement of the cut trees is necessary. **After Practice Description:** The cut trees serve as brush smallpiles, enhancing the overall habitat needs of wildlife species requiring dense woody cover and increase survival and the population of these species.	Area covered by edgefeathering	Acre	$508.22	$609.87
649-10	Edgefeathering, heavy	**Scenario Description:** Trees are cut, and brush clipped in the border along a woodland edge using a tractor and chainsaw to create dense woody cover and a transitional area between a timbered edge and the adjacent land use such as cropland, pasture, or idle lands. The edgefeathering will extend at least 30'wide, measured from the outside tree trunk, and at least 50' long -- resulting in a minimum area of 1500 square foot covered byinterlocking woody branches. Cut stumps will be treated with brush herbicide. Some hand placement of the cut trees is necessary. **After Practice Description:** Creation of woody debris and smallpiles improves the overall habitat needs of wildlife species requiring dense woody cover and increase survival and the population of these species.	Area covered by edgefeathering	Acre	$995.45	$1,194.54
649-55	Nesting Box, Large	**Scenario Description:** A structure is provided to support the nesting and rearing of larger targeted species such as waterfowl, bats and barn owls, and is directly mounted to a tree, building or other structure. These structures are designed to meet targeted species biology and life history needs. **After Practice Description:** The installation of nesting and rearing boxes support the life-cycle needs of targeted species, such as waterfowl, bats and barn owls. Because of suitable location and conditions the nesting box can be directly mounted such as on a tree or building, thereby eliminating the need for mounting poles and predator guards. Species such as cavity dwelling birds and pollinators use this approach, but this treatment is not limited to those species. These structures/features enhance habitat, cover, and improve species survivability.	Number of structures	Each	$108.21	$129.85

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SUBSURFACE DRAIN

Practice Code 606

Practice Units: FEET

Definition: A conduit, or system of conduits, installed beneath the ground surface to manage soil water conditions.

Purpose: Use this practice to accomplish one or more of the following purposes:

- Remove or distribute soil water
- Remove salts and other contaminants from the soil profile
- Mitigate degraded plant health and vigor and undesirable plant productivity due to saturated soil, ponding, and flooding
- Mitigate degraded animal health productivity due to saturated soil, ponding, and flooding

Conditions Where Practice Applies: This practice applies to all land uses where a shallow water table exists or where a subsurface drainage system can mitigate one or more of the following adverse conditions caused by excessive soil moisture:

- Poor health, vigor, and productivity of plants
- Poor field trafficability
- Accumulation of salts in the root zone
- Health risk and livestock stress due to pests
- Adverse soil conditions around farmsteads, structures, and roadways

This practice also applies to water distribution through subsurface drain pipe for utilization or treatment.

Limitations: This practice can only be used when required in combination or supporting another conservation practice to address an identified resource concern. When Subsurface Drain (606) is associated with a grassed waterway, the tile is limited to no more than the amount needed to maintain the grassed waterway, not to exceed six-inch diameter tile. When additional tile is needed for upland drainage outlet(s), it may be installed at the participant's expense as long as all other requirements involving wetland conservation compliance are met.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
606-1	<= 5in CPP	**Scenario Description:** Description: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a trencher. Scenario describes the construction 2,000 feet of 5- inch,Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth of 5 feet. Subsurface drainage is installed as a supporting practice for a number of associated conservation practices. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, allowing for sufficient aeration to allow vegetation to establish. Gully erosion and sediment transport are minimized by established vegetation, a direct result of removing excess water from the soil profile. Plant stress dueto excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due to increased erosion control.	Length of pipe	Feet	$2.10	$2.51
606-2	6in CPP	**Scenario Description:** Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a trencher. Scenariodescribes construction of 2,000 feet of 6- inch, Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth of 5 feet. Subsurface drainage is installed as a supporting practice for a number of associated conservation practices. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, allowing for sufficient aeration to allow vegetation to establish. Gully erosion and sediment transport are minimized by established vegetation, a direct result of removing excess water from the soil profile. Plant stress dueto excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due to increased erosion control.	Length of pipe	Feet	$2.52	$3.03
606-3	8in CPP	**Scenario Description:** Description: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a trencher. Scenario describes the construction 2,000 feet of 8- inch,Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth of 5 feet. Subsurface drainage is installed as a supporting practice for a number of associated conservation practices. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, allowing for sufficient aeration to allow vegetation to establish. Gully erosion and sediment transport are minimized by established vegetation, a direct result of removing excess water from the soil profile. Plant stress dueto excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due to increased erosion control.	Length of pipe	Feet	$4.98	$5.98

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
606-4	10in CPP	**Scenario Description**: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a trencher. Scenariodescribes the construction 2,000 feet of 10- inch, Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth of 5 feet. Subsurface drainage is installed as a supporting practice for a number of associated conservation practices. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, allowing for sufficient aeration to allow vegetation to establish. Gully erosion and sediment transport are minimized by established vegetation, a direct result of removing excess water from the soil profile. Plant stress dueto excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due to increased erosion control.	Length of pipe	Feet	$6.07	$7.28
606-5	12in CPP	**Scenario Description:** Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a trencher. Scenariodescribes the construction 2,000 feet of 12- inch, Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth of 5 feet. Subsurface drainage is installed as a supporting practice for anumber of associated conservation practices. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, allowing for sufficient aeration to allow vegetation to establish. Gully erosion and sediment transport are minimized by established vegetation, a direct result of removing excess water from the soil profile. Plant stress dueto excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due to increased erosion control.	Length of pipe	Feet	$7.22	$8.66
606-6	>= 15in CPP	**Scenario Description**: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline, using a trencher. Scenariodescribes the construction 2,000 feet of 15- inch, twin-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimum depth of 5 feet. Subsurface drainage is installed as a supporting practice for anumber of associated conservation practices. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, allowing for sufficient aeration to allow vegetation to establish. Gully erosion and sediment transport are minimized by established vegetation, a direct result of removing excess water from the soil profile. Plant stress dueto excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due to increased erosion control.	Length of pipe	Feet	$11.48	$13.78

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
606-7	Enveloped Corrugated Plastic Pipe (CPP), Single-Wall, <= 6 inch	**Scenario Description:** Description: Below ground installation of perforated HDPE (Corrugated Plastic Pipe) pipeline with Sand- Gravel envelope, using a drainage trencher. Scenario includes the construction of 2,000 feet of 5-inch, Single-Wall, perforated HDPE Corrugated Plastic Pipe (CPP), installed below ground to a minimumdepth of 5 feet, and surrounded with a sand-gravel envelope. The unit is in weight of pipe material in pounds. 2,000 feet of 5-inch, Single-Wall, perforated HDPE CPP weighs 0.50 lb./ft., or a total of 1,000 pounds. The typical volume sand-gravel for 2,000 feet of 12" wide x 12" high envelope is 64 cubic yards. Subsurface drainage is installed as a supporting practice for a number of associated conservation practices including (but not limited to) perimeter drainage around a waste storage facility. **After Practice Description:** The drainage modifications result in reduced water in the upper horizons of the soil profile, preventing uplift pressures from damaging the integrity of installed structures.Excessive wetness caused by a seasonal high-water table is minimized, and drainage water quality is improved due decreasederosion.	Length of pipe	Feet	$4.16	$4.99
606-8	Secondary MainRetrofit for DWM	**Scenario Description:** An agricultural field has existing patterned tile system installed at 75-foot spacings. The field is 75 acres in size:2475' x 1320', with a single main line at the low end of the field (2475'). The laterals are installed perpendicular to the topographic contours. The field has 3.5 feet of fall in the 1/4-mile length of the laterals, so a secondary main will be needed to allow drainage watermanagement to be implemented on the higher half of the field. **After Practice Description:** A 12-inch diameter secondary mainlineis retrofitted to the drainage system, located halfway up the field andrelatively parallel to the topographic contours. This new mainline is hooked to each individual lateral and continued to a stable outlet. A Drainage Water practice must be completed along with the mainline;typically Structures for Water Control (587) installed at two-foot vertical intervals so that water can be retained in the field. This scenario also applies to systems where the secondary main is used to connect drain lines that formerly each exited separately to the ditch, with a structure that distributes the drainage water into the subsurface soil at a Saturated Buffer (604) OR a Denitrifying Bioreactor (605) might be installed at the outlet. In combination or singly, one of these practices must be installed with the secondary main.	Feet of Pipe	Feet	$6.48	$7.77

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TERRACE

Practice Code 600

Practice Units: FEET

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

Purpose: This practice may be applied as part of a resource management system to support one or both of the following:

- Reduce soil erosion
- Retain runoff for moisture conservation

Conditions Where Practice Applies: This practice applies where:

- Soil erosion by water is a problem
- There is a need to conserve water
- The soils and topography are such that terraces can be constructed and farmed with reasonable effort
- Suitable outlet can be provided
- Excess runoff is a problem

For tile in terraces use Underground Outlet Practice 620.

Limitations: When a Terrace Summer Construction Scenario is included in the contract, construction must occur between June 15 and October 15 of the scheduled year. The Payment Scenario for summer construction is only availableon land in row crop and requires a temporary cover or cover crop. No crop is allowed to be harvested. Haying or grazing of the cover crop after October 15th is allowed. No payments can be made for any items associated with the summer construction initiative until all associated practices are installed.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
600-1	Broadbase, with Topsoiling	**Scenario Description:** An earthen embankment with channel constructed across the field slope as part of a system to shortenslope lengths and reduce sheet, rill, and gully erosion in a cropped field. Scenario is for the installation of a system of broadbase terraces where channel and berm are farmed. Topsoil is stripped and stockpiled during construction. A stable outlet is provided in the form of a Grassed Waterway, other openoutlet or Underground Outlet through associated practices. Payment include all equipment and labor necessary to excavate,shape, and compact terraces, and stripping and stockpiling topsoil. **After Practice Description:** A system of broadbased terraces measuring 2,500 feet in length, 2.5 height, and 5:1 front and backslopes is installed with spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. Work is done with dozer, scraper, or road grader. The installed terrace is typically farmed.	Length of Terrace	Feet	$3.03	$3.63
600-2	Broadbase, no Topsoiling	**Scenario Description:** An earthen embankment with channel constructed across the field slope as part of a system to shortenslope lengths and reduce sheet, rill, and gully erosion in a cropped field. Scenario is for the installation of a system of broadbase terraces where channel and berm are farmed. A stable outlet is provided in the form of a Grassed Waterway, other open outlet or Underground Outlet through associated practices. Payment includes all equipment and labor necessary to excavate, shape, and compact terraces. **After Practice Description:** A system of broadbased terraces measuring 2,500 feet in length, 2.5 height, and 5:1 front and backslopes is installed with spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. Work is done with dozer, scraper, or road grader. The installed terrace is typically farmed.	Length of Terrace	Feet	$1.95	$2.34
600-3	Broadbase, with Topsoiling, Crop Season Construction	**Scenario Description:** An earthen embankment with channel constructed across the field slope as part of a system to shortenslope lengths and reduce sheet, rill, and gully erosion in a cropped field. Scenario is for the installation of a system of broadbase terraces where channel and berm are farmed. Topsoil is stripped and stockpiled during construction. A stable outlet is provided in the form of a Grassed Waterway, other openoutlet or Underground Outlet through associated practices. Payment includes all equipment and labor necessary to excavate, shape and compact terraces, stripping and stockpiling topsoil and foregone income for the loss of crop income due to construction of the practice during the crop season. **After Practice Description:** A system of broadbased terraces measuring 2,500 feet in length, 2.5 height, and 5:1 front and backslopes is installed with spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. Work is done with dozer, scraper, or road grader. The installed terrace is typically farmed.	Length of Terrace	Feet	$5.19	$5.79

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
600-10	Grassed Terrace, with Topsoiling	**Scenario Description:** An earthen embankment with channel constructed across the field slope as part of a system to shortenslope lengths and reduce sheet, rill, and gully erosion in a cropped field. Scenario is for the installation of a system of terraces where each terrace is constructed as a narrowbase terrace with 2:1 slopes, OR where each terrace is constructed with one relatively flat (5:1) slope and one steep (2:1) slope. Topsoil is stripped from the borrow area and replaced upon completion of the terrace. The steep slopes are established to permanent vegetation and the flatter slopes are farmed. A stableoutlet is provided in the form of a Grassed Waterway, other openoutlet or Underground Outlet through associated practices. Payment includes all equipment and labor necessary to excavate, shape, and compact terraces, and stripping and stockpiling topsoil. For the establishment of permanent vegetation on the terraces use associated practice Critical AreaPlanting (342). **After Practice Description:** A system of terraces measuring 2,500 feet in length is installed with the spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. Terraces are installed with either 2:1 slopes and a 4.2' height, OR with one steep (2:1) and one flat(5:1) slope and 3.2' height. Work is done with dozer, scraper, or road grader.	Length of Terrace	Feet	$2.81	$3.38
600-11	Grassed Terrace, no Topsoiling	**Scenario Description:** An earthen embankment with channel constructed across the field slope as part of a system to shorten slope lengths and reduce sheet, rill, and gully erosion in a cropped field. Scenario is for the installation of a system of terraces where each terrace is constructed as a narrowbase terrace with 2:1 slopes, OR where each terrace is constructed with one relatively flat (5:1) slope and one steep (2:1) slope. The steep slopes are established to permanent vegetation and the flatter slopes are farmed. A stable outlet is provided in the form of a Grassed Waterway, other open outlet or Underground Outletthrough associated practices. Payment includes all equipment and labor necessary to excavate, shape, and compact terraces. For the establishment of permanent vegetation on the terraces use associated practice Critical Area Planting (342). **After Practice Description:** A system of terraces measuring 2,500 feet in length is installed with the spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. Terraces are installed with either 2:1 slopes and a 4.2' height, OR with one steep (2:1) and one flat(5:1) slope and 3.2' height. Work is done with dozer, scraper, or road grader.	Length of Terrace	Feet	$1.73	$2.08

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
600-12	Grassed Terrace, with Topsoiling, CropSeason Construction	**Scenario Description:** An earthen embankment with channel constructed across the field slope as part of a system to shortenslope lengths and reduce sheet, rill, and gully erosion in a cropped field. Scenario is for the installation of a system of terraces where each terrace is constructed as a narrowbase terrace with 2:1 slopes, OR where each terrace is constructed with one relatively flat (5:1) slope and one steep (2:1) slope. Topsoil is stripped from the borrow area and replaced upon completion of the terrace. The steep slopes are established to permanent vegetation and the flatter slopes are farmed. A stableoutlet is provided in the form of a Grassed Waterway, other openoutlet or Underground Outlet through associated practices. Payment includes all equipment and labor necessary to excavate, shape and compact terraces, stripping and stockpiling topsoil, and foregone income for the loss of crop income due to construction of the practice during the crop season. For the establishment of permanent vegetation on the terraces use associated practice Critical Area Planting (342). **After Practice Description:** A system of terraces measuring 2,500 feet in length is installed with the spacing designed to intercept flow of water and shorten slope length to reduce erosion to acceptable levels. Terraces are installed with either 2:1 slopes and a 4.2' height, OR with one steep (2:1) and one flat(5:1) slope and 3.2' height. Work is done with dozer, scraper, or road grader.	Length of Terrace	Feet	$4.97	$5.53

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TRAILS AND WALKWAYS

Practice Code 575

Practice Units: FEET

Definition: A constructed path with a vegetated, earthen, gravel, paved, or other hard surface to facilitate the movement of animals, people, or off-road vehicles.

Purpose: This practice is used to accomplish one or more of the following purposes:

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

Conditions Where Practice Applies: This practice applies on all lands where management of animal, human, or off-road vehicle movement is needed. It does not apply to roads constructed for movement of equipment or vehicles. Use Iowa NRCS Conservation Practice Standard (CPS) Access Road (Code 560) for the construction of roads.

Limitations: Scenarios 575-37 Wood Chips, Walkway and 575-46 Wood Chips, Walkway small scale, are not eligible for livestock or vehicular applications.

Scenario 575-46 Wood Chips, Walkway small scale, is applicable up to a maximum of 1,500 square feet.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
575-4	Trail or Walkway, Rock/Gravel on Geotextile	**Scenario Description:** Layout and construct a trail or walkway with rock and or gravel on a geotextile fabric foundation to facilitate the movement of animals, people, or off-road vehicles toprovide 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, pedestrian or off-road vehicle access to agricultural, construction, or maintenance operations, provide trails for recreational activities or access to recreation sites and address the resource concerns of soil erosion and water quality degradation. Includes excavation, shaping, grading, rock and or gravel, geotextile, vegetation of disturbed areas, and all equipment, labor and incidental materials necessary to install thepractice. **After Practice Description:** The typical trail or walkway is an 8-foot-wide by 600-foot-long lane with a surface treatment of rock and or gravel on a geotextile fabric foundation. The trail or walkway is constructed of approved materials, with a life expectancy that meets or exceeds the planned useful life of the installation. All materials, equipment, and labor to install the trailor walkway and surfacing is included. Vegetation of adjacent disturbed areas is also included. **Associated practices include** Stream Crossing (578), Diversion(362), and Fence (382). Use Access Road (560) if the movementof vehicles or equipment is needed for purposes other than management and maintenance of the trail or walkway.	Length of trail or walkway	Feet	$7.21	$8.65

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
575-37	Wood Chips, Walkway	**Scenario Description:** Layout and construct a wood chip surface treatment on an earthen foundation walkway to facilitate the movement of animals, people, or off-road vehicles to 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, pedestrian or off-road vehicle access to agricultural, construction, or maintenance operations, provide walkways for recreational activities or access to recreation sites and address the resource concerns of soil erosion and water quality degradation. Costs include excavation, shaping, grading, wood chip surfacing, vegetation of disturbed areas, all equipment, labor and incidental materials necessary to install the practice. **After Practice Description:** The typical walkway will be a 12 foot wide 300 foot long, 3600 square foot of wood chip surface treatment on earthen foundation. All excavation, grading and shaping necessary to provide a smooth permanent travel surface for livestock or people is included. Included is wood chips of 3600 square foot for surfacing, and vegetation of 900 square foot of disturbed areas. The walkway consists of approximately 22 CY of excavation, 3600 square feet of wood chip surfacing. Stream Crossing, Code 578, will be used when the walkway crosses streams or shallow water areas. All culverts will be applied under Structure for Water Control (587). Use Access Road, Code 560 and Diversion (362) as appropriate. Fencing, Code 382, will be used when needed to control animal movement.	Area of Walkway	Square Feet	$0.74	$0.88
575-46	Wood Chips, Walkway small scale	**Scenario Description:** Layout and construct a wood chip surface treatment on an earthen foundation walkway to facilitate the movement of animals, people, or small off-road vehicles to 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, pedestrian or off-road vehicle access to agricultural, construction, or maintenance operations, provide walkways for recreational activities or access to recreation sites and address the resource concerns of soil erosion and water quality degradation. Costs include excavation, shaping, grading, wood chip surfacing, vegetation of disturbed areas, all equipment, labor and incidental materials necessary to install the practice. **After Practice Description:** The typical walkway will be a 6 foot widex100 foot longx4' thick , 600 square foot of wood chip surface treatment on earthen foundation. All excavation, grading and shaping necessary to provide a smooth permanent travel surface for livestock or people is included. Included is wood chips of 600 square foot for surfacing.	Area of Walkway	Square Feet	$1.45	$1.74

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TREE / SHRUB ESTABLISHMENT

Practice Code 612

Practice Units: ACRE

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

Purpose:

- Maintain or improve desirable plant diversity, productivity, and health by establishing woody plants
- Improve water quality by reducing excess nutrients and other pollutants in runoff and ground water
- Restore or maintain native plant communities
- Control erosion
- Create or improve habitat for desired wildlife species, beneficial organisms, or pollinator species compatible with ecological characteristics of the site
- Sequester and store carbon
- Conserve energy
- Provide livestock shelter

Conditions Where Practice Applies: Tree-shrub establishment can be applied on any site capable of growing woody plants.

Limitations: Practice is not applicable in areas with a canopy cover greater than 25% with the exception of the use of Scenario ID 612-53. These areas are considered forests. A Forest Project or Practice Plan written by the Iowa DNR Forester or certified TSP is required for the forest land use or land being converted to forest land use. Conservation Planners with appropriate JAA (Job Approval Authority) can plan on Crop, Pasture, Associated Ag Land, or Farmstead land uses if the project is 2 acres or less. A copy must be kept in the contract file.

Scenario 612-103 Tree-Shrub Establishment - Small Acreage, is applicable for operations of 20 acres or less.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
612-1	Direct Seeding	**Scenario Description:** This practice involves planting of tree and shrubs through direct seeding after the site has been prepared for seedling growth and establishment. Planting rate will be approximately 3000 seed per acre. The productivity of thesite is good and will handle a medium density planting rate. Payment includes tree seed, equipment and labor to seed, andforegone income for the land taken out of crop production. Sitepreparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Seed from native species are collected or purchased and planted at prescribed rates. 5 acres of land is established with permanent tree cover that will improvedegraded plant condition, reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Acre	$1,364.18	$1,364.18
612-2	Direct Seeding, no Foregone Income	**Scenario Description:** This practice involves planting of tree and shrubs through direct seeding after the site has been prepared for seedling growth and establishment. Planting rate will be approximately 3000 seed per acre. The productivity of thesite is good and will handle a medium density planting rate. Payment includes tree seed and equipment and labor to seed. Site preparation is implemented through associated practice 490Tree/Shrub Site Preparation. **After Practice Description:** Seed from native species are collected or purchased and planted at prescribed rates. 5 acres of land is established with permanent tree cover that will improvedegraded plant condition, reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Acre	$914.74	$914.74
612-3	Hardwood Establishment, Bareroot	**Scenario Description:** This practice involves planting of bare- root hardwood tree seedlings after the site has been prepared forseedling growth and establishment. The productivity of the site isgood and will support a planting rate of 436 trees per acre (10' x 10' spacing). Payment includes bare-root seedlings, equipment and labor to plant, and foregone income for the land taken out of cropproduction. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** The land is established with permanent tree cover that will improve degraded plant condition,reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Acre	$1,174.79	$1,174.79

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
612-5	Shrub Establishment, Bareroot	**Scenario Description:** This practice involves planting of bare- root shrub seedlings after the site has been prepared for seedlinggrowth and establishment. The productivity of the site is good and will support a planting rate of 1210 shrub per acre (6' x 6' spacing). Plantings are in either uplands or bottomlands. The site lacks ground level habitat structure and diversity for wildlife. Payment includes bare-root seedlings, equipment and labor to plant, and foregone income for the landtaken out of crop production. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** Multiple small blocks of shrubs areplanted that total 1 acre. The blocks are based on a habitat appraisal that determines the specific size and location to maximize habitat structure and diversity. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Acre	$2,559.07	$2,559.07
612-6	Conifer Establishment, Bareroot	**Scenario Description:** This practice involves planting of bare- root conifer tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site isgood and will support a planting rate of 436 trees per acre (10' x 10' spacing). Payment includes bare-root seedlings, equipment and labor to plant, and foregone income for the land taken out of cropproduction. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** The land is established with permanent tree cover that will improve degraded plant condition,reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Acre	$876.57	$876.57
612-7	Bareroot Trees and Shrubs, Each	**Scenario Description:** Bare-root trees and/or shrubs to be planted or interplanted to establish woody plants in any area where they can be grown for wildlife, erosion control, water quality improvement, carbon sequestration, forest products, andaesthetics. Payment includes bare-root seedlings and equipment and labor to plant. Foregone income is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** The land is established with permanent tree cover that will improve degraded plant condition,reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Each	$1.68	$1.68

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
612-8	Bareroot Trees and Shrubs, with Tree Shelters, Each	**Scenario Description:** Bare-root trees and/or shrubs to be planted or interplanted to establish woody plants in any area where they can be grown for wildlife, erosion control, water quality improvement, carbon sequestration, forest products, andaesthetics. Seedlings are protected from deer browsing by installing tree tube shelters. Payment includes bare-root seedlings, tree shelters, and equipment and labor to plant and install shelters. Foregone income is not included with this scenario. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** The land is established with permanent tree cover that will improve degraded plant condition,reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Each	$6.41	$6.41
612-50	Hardwood Establishment, Bareroot, Pasture Conversion	**Scenario Description:** This practice involves planting of bare- root tree seedlings after the site has been prepared for seedling growth and establishment. The productivity of the site is good and will support a planting rate of 500 trees per acre. Tree tube shelters are placed on 10% of the seedlings to reduce damage from deer browsing. Payment includes bare-root seedlings, equipment and labor to plant, and foregone income for the land taken out of grazing production. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** The land is established with permanent tree cover that will improve degraded plant condition,reduce soil erosion, establish wildlife habitat, sequester carbon and reduce invasive species presence. Establishing forest vegetation also creates corridors for wildlife movement. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Area of Treatment	Acre	$927.63	$927.63

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
612-53	Bareroot Treesand Shrubs, Hand Planting	**Scenario Description:** This practice involves hand planting of bare-root tree seedlings in an existing woodland. The productivityof the site is good and will support a planting rate of 300 trees per acre. Plantings are in either uplands or bottomlands. The sitelacks ground level habitat structure and diversity for wildlife and degraded plant condition. Payment includes bare-root seedlings, and equipment and labor to hand plant seedlings. Site preparation is implemented through associated practice 490 Tree/Shrub Site Preparation. **After Practice Description:** The land is regenerated with permanent tree cover that will improve degraded plant conditionand wildlife habitat structure and diversity. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Each Tree or Shrub	Each	$3.50	$3.50
612-103	Tree-Shrub Establishment - Small Acreage	**Scenario Description:** Seedling (potted) to be planted for conservation purposes other than reforestation. Planting will be by hand. The resource setting is an area that historically was an upland forest. Resource concerns are degraded plant condition - undesirable productivity and health, and inadequate structure and composition; inadequate habitat for fish and wildlife. **After Practice Description:** Typical treatment area can range from less than 1 acre to 5 acres; typical scenario based on 1 ac, 150 TPA. Potted/containerized hardwood seedlings are planted by hand. Post vegetation control should be evaluated and conducted, if necessary. **Additional associated practices may include:** HerbaceousWeed Treatment (315), Tree/Shrub Pruning (660), Mulching (484)	Planted Seedling	Each	$17.71	$17.71

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TREE/SHRUB SITE PREPARATION

Practice Code 490

Practice Units: ACRE

Definition: Treatment of sites to enhance the success of natural or artificial regeneration of desired trees and/or shrubs.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Modify the habitat of weeds, pests, and diseases to reduce pressure on naturally or artificially regenerated trees and shrubs
- Facilitate the establishment, survival, and growth of tree and shrub species

Conditions Where Practice Applies: On all lands suited to growing woody plants where current site conditions are not suitable for the natural or artificial establishment of desired trees and shrubs.

Limitations: A Forest Project or Practice Plan written by the Iowa DNR Forester or certified TSP is required for the forest land use or land being converted to forest land use. A copy must be kept in the contract file.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
490-1	Chemical Application	**Scenario Description:** This practice involves the use of various herbicides applied using ground-based machinery in order to remove undesirable vegetation and improve site conditions for establishing trees and/or shrubs. Typical sites include abandoned fields, pastures, rangelands, agricultural fields or forestland that was recently harvested. **After Practice Description:** Undesirable vegetation has been treated using appropriate herbicides, reducing competition for target trees and/or shrubs. Site conditions are favorable for successful establishment of trees and/or shrubs. The typical sizeof the practice is 5 acres.	Area of Treatment	Acre	$69.63	$83.56
490-2	Light Mechanical	**Scenario Description:** This practice involves the use of light/moderate machinery to clear above ground vegetation and to also rip/cut/lift underground root systems in order to improve site conditions for establishing trees and/or shrubs. Typical sites include abandoned fields, pastures, rangelands, agricultural fields or forestlands that have been harvested. **After Practice Description:** Undesirable vegetation has been removed using a bush hog to knock down stand vegetation and heavy tillage equipment is used to breakup and lift root systems, breakup plow pans (<18" deep), thus enhancing the conditions for planting and survival of trees and/or shrubs. Soil compaction has been alleviated, allowing penetration of moisture and allowing roots to grow properly. Site conditions are favorable for successful establishment of trees and/or shrubs. The typical sizeof the practice is 5 acres.	Area of Treatment	Acre	$130.85	$157.02
490-3	Light Mechanical with Chemical	**Scenario Description:** This practice involves the use of light/moderate machinery to clear above ground vegetation and to also rip/cut/lift underground root systems followed by appropriate herbicide application in order to improve site conditions for establishing trees and/or shrubs. Typical sites include small trees (<2" dbh) and brush cover on less than 60% of area that is not appropriate to the site or providing the desired condition for the landowner. Typical sites include abandoned fields, pastures, rangelands, agricultural fields or forestlands that have been harvested. **After Practice Description:** Undesirable vegetation has been removed using a bush hog to knock down stand vegetation and heavy tillage equipment is used to breakup and lift root systems, breakup plow pans (<18" deep), thus enhancing the conditions for planting and survival of trees and/or shrubs. Soil compaction has been alleviated, allowing penetration of moisture and allowing roots to grow properly. Site conditions are favorable for successful establishment of trees and/or shrubs. The typical sizeof the practice is 5 acres.	Area of Treatment	Acre	$200.48	$240.58
490-4	Heavy Mechanical with Chemical	**Scenario Description:** This practice involves the use of heavy machinery combined with appropriate herbicide application to treat an area in order to improve site conditions for establishing trees and/or shrubs. Typical sites include large trees (>2" dbh) and brush cover on 60% of area that is not appropriate to the siteor providing the desired condition for the landowner. **After Practice Description:** Undesirable vegetation has been removed using mechanical methods reducing competition for target trees and/or shrubs. Woody debris has been removed to facilitate tree/shrub planting operations. Soil compaction has been alleviated, allowing penetration of moisture and allowing roots to grow properly. Site conditions are favorable for successful establishment of trees and/or shrubs. The typical sizeis 5 acres.	Area of Treatment	Acre	$460.78	$552.93

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UNDERGROUND OUTLET

Practice Code 620

Practice Units: FEET

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

Purpose: This practice is used to accomplish one or more of the following purposes:

- Prevent concentrated flow erosion
- Manage flooding and ponding

Conditions Where Practice Applies: This practice applies where:

- Disposal of surface water is needed.
- An outlet is needed for a terrace, diversion, water and sediment control basin, or similar practices.
- Disposal of stormwater collected by roof runoff structures or similar practices is needed.
- A surface outlet is impractical because of stability problems, topography, climatic conditions, land use, or equipment traffic.

Limitations: This practice can only be used when required in combination or supporting another conservation practice to address an identified resource concern. The unit cost includes all affiliated appurtenances (inlets, outlets and fittings) installed beneath the ground to collect and/or convey drainage water.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
620-2	<= 5in DiameterPipe with Risers	**Scenario Description:** Scenario is for the Installation of a 5" orless diameter approved plastic pipe to convey storm water fromone location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. **After Practice Description:** Excessive sedimentation and soilerosion is controlled after UGO is installed in association with terraces or water and sediment control basin.	Length of Conduit	Feet	$3.44	$4.13
620-4	6in Diameter Pipe with Risers	**Scenario Description:** Scenario is for the Installation of a 6" diameter approved plastic pipe to convey storm water from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill.This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. **After Practice Description:** Excessive sedimentation and soilerosion is controlled after UGO is installed in association with terraces or water and sediment control basin.	Length of Conduit	Feet	$3.95	$4.74
620-6	8in Diameter Pipe with Risers	**Scenario Description:** Scenario is for the Installation of an 8" diameter approved plastic pipe to convey storm water from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill.This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. **After Practice Description:** Excessive sedimentation and soilerosion is controlled after UGO is installed in association with terraces or water and sediment control basin.	Length of Conduit	Feet	$6.19	$7.43
620-8	10in Diameter Pipe with Risers	**Scenario Description:** Scenario is for the Installation of a 10" diameter approved plastic pipe to convey storm water from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill.This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. **After Practice Description:** Excessive sedimentation and soilerosion is controlled after UGO is installed in association with terraces or water and sediment control basin.	Length of Conduit	Feet	$8.08	$9.70
620-10	>=12in DiameterPipe with Risers	**Scenario Description:** Scenario is for the Installation of a 12" diameter approved plastic pipe to convey storm water from one location to a suitable and stable outlet. Payment includes pipe, perforated PVC riser inlet, trench excavation, and trench backfill.This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. **After Practice Description:** Excessive sedimentation and soilerosion is controlled after UGO is installed in association with terraces or water and sediment control basin.	Length of Conduit	Feet	$10.72	$12.87

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
620-11	Blind Inlet	**Scenario Description:** Install an excavated earthen box with perforated collector tubing placed in the bottom and filled to the surface with bedding material and rock riprap to direct surface flow into a 'main line' or subsurface drain. Typically installed at the upper end of a waterway to protect the vegetation of the waterway from prolonged surface flow, thus facilitating vegetativegrowth and controlling ephemeral gully erosion. Costs include the collection pipe, excavation, and rock. This practice is often installed in conjunction with waterways or similarpractices. **After Practice Description:** Excessive sedimentation and soil erosion is controlled through the installation of the blind inlet andgrassed waterway. Vegetation is successfully established withinthe waterway.	Length of Conduit	Feet	$85.06	$102.07
620-13	Trickle Flow Collector	**Scenario Description:** Install a perforated pipe to collect surfaceflow and redirect water to a subsurface outlet. The Trickle Flow Collector consists of a rock/rip rap area bedded around the perforated pipe to trap sediment prior to outletting water. Scenario describes a 10' long by 30' wide by 1.5' deep rectangular shaped area lined with riprap. This scenario includes the installation of pipe in the bottom of the rock bedding to serve as a trickle flow collector. These typically are installed adjacent towaterway and with same flow dimensions. Half the flow channel is excavated, before excavation for riprap. Excess excavation is spoiled in the immediate area. Cost include excavation, spoiling of excess material, geotextile underlayment and installing Rock Riprap. TFC area is measured from upstream to downstream flow catchment area. **After Practice Description:** Rock lined area is 10' long by 30' wide by 1.5' deep. This armor will result in a protected surface toaddress the initial concern of erosion. Placement of the perforated pipe and rock/rip rap bedding will not only armor the surface area from erosion but will provide a filter for trapping sediment laden with nutrients and/or pesticides, to result in an improvement to water quality. Area is excavated, and rock is placed using a hydraulic excavator. Geotextile underlayment is installed by laborers.	Width of collector area (ft)	Feet	$83.98	$100.77
620-14	<=5in Diameter Pipe	**Scenario Description:** Scenario is for the Installation of a 5" orless diameter approved plastic pipe to convey storm water fromone location to a suitable and stable outlet. Payment includes pipe, trench excavation, and trench backfill. The typical use for this scenario is non-pressure underground outlet for roof runoff management and non-perforated outlet for upstream drainage installed adjacent to a wetland. **After Practice Description:** Excessive sedimentation and soil erosion is controlled, or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agriculturalwaste.	Length of Conduit	Feet	$3.15	$3.78

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
620-15	6in Diameter Pipe	**Scenario Description:** Scenario is for the Installation of a 6" diameter approved plastic pipe to convey storm water from onelocation to a suitable and stable outlet. Payment includes pipe, trench excavation, and trench backfill. The typical use for this scenario is non-pressure underground outlet for roof runoff management and non-perforated outlet for upstream drainage installed adjacent to a wetland. **After Practice Description:** Excessive sedimentation and soil erosion is controlled, or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agriculturalwaste.	Length of Conduit	Feet	$3.65	$4.38
620-16	8in Diameter Pipe	**Scenario Description:** Scenario is for the Installation of an 8" diameter approved plastic pipe to convey storm water from onelocation to a suitable and stable outlet. Payment includes pipe, trench excavation, and trench backfill. The typical use for this scenario is non-pressure underground outlet for roof runoff management and non-perforated outlet for upstream drainage installed adjacent to a wetland. **After Practice Description:** Excessive sedimentation and soil erosion is controlled, or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agriculturalwaste.	Length of Conduit	Feet	$6.10	$7.32
620-17	10in Diameter Pipe	**Scenario Description:** Scenario is for the Installation of a 10" diameter approved plastic pipe to convey storm water from onelocation to a suitable and stable outlet. Payment includes pipe, trench excavation, and trench backfill. The typical use for this scenario is non-pressure underground outlet for roof runoff management and non-perforated outlet for upstream drainage installed adjacent to a wetland. **After Practice Description:** Excessive sedimentation and soil erosion is controlled, or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agriculturalwaste.	Length of Conduit	Feet	$7.46	$8.95
620-18	>=12in DiameterPipe	**Scenario Description:** Scenario is for the Installation of a 12" diameter approved plastic pipe to convey storm water from onelocation to a suitable and stable outlet. Payment includes pipe, trench excavation, and trench backfill. The typical use for this scenario is non-pressure underground outlet for roof runoff management and non-perforated outlet for upstream drainage installed adjacent to a wetland. **After Practice Description:** Excessive sedimentation and soil erosion is controlled, or 'clean' storm water runoff is diverted away from an agricultural waste management system to minimize the volume of runoff that is contaminated by agriculturalwaste.	Length of Conduit	Feet	$8.77	$10.52
620-61	Perforated Pipe Riser	**Scenario Description:** Scenario is for the Installation of approved perforated plastic pipe riser to convey storm water fromone location to a suitable and stable outlet. Payment includes perforated PVC riser inlet, stone. This practice is often installed in conjunction with terraces, diversions, sediment control basins, waterways or similar practices. **After Practice Description:** Excessive sedimentation and soil erosion is controlled after perforated plastic pipe riser is installedin association with terraces or water and sediment control basin.	Number of Risers	Each	$350.96	$421.16

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UPLAND WILDLIFE HABITAT MANAGEMENT

Practice Code 645

Practice Units: ACRE

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

Purpose: Treating upland wildlife habitat concerns identified during the conservation planning process that enable movement, or provide shelter, cover, food in proper amounts, locations and times to sustain wild animals that inhabit uplands during a portion of their life cycle

Conditions Where Practice Applies: Land where the decision maker has identified an objective for conserving a wild animal species, guild, suite, or ecosystem.

Land within the range of targeted wildlife species and capable of supporting the desired habitat.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
645-1	Macro Topography, deep	**Scenario Description:** Establishment of a topographic feature on the landscape consisting of a small dam and pool or small excavated depression that will hold water to provide a source ofwater for wildlife, including habitat for reptiles and amphibians. Payment includes the equipment and labor associated with establishing the water feature. **After Practice Description:** This practice consists of an excavated depression to collect water for wildlife to access. Excavated depressions are typically 1000 sq ft and 3 feet deep incenter with 4:1 side slopes around edge.	Each deep macro-topography feature	Each	$978.57	$1,174.28
645-3	Habitat Monitoring and Management, Low Intensity and Complexity	**Scenario Description:** This scenario is applied to all land use types including those with wildlife as a modifier, where any resource concern is identified for wildlife, and where low intensityand complexity of monitoring or management will treat the identified resource concern. Only 1-2 monitoring efforts are needed and each requiring less than 2 people and 4 hours per effort. The adaptive management actions such as cutting of limbsthat are impeding access of birds into nest boxes, replacing damaged fence markers, cleaning of nest structures and debris around other structures requires only hand labor and less than 8 hours labor per year. **After Practice Description:** Wildlife habitat is improved by implementation of annual adaptive management actions of lowintensity and complexity.	Monitoring efforts and adaptive management actions	Acre	$3.51	$4.21
645-4	Habitat Monitoring and Management, Medium Intensityand Complexity	**Scenario Description:** This scenario is applied to all land use types including those with wildlife as a modifier, where any resource concern is identified for wildlife, and where medium intensity and complexity of monitoring or management will treat the identified resource concern. Two or three monitoring efforts are needed and each requiring less than 2 people and less than 8 hours per effort. Two or three adaptive management efforts arerequired (such as cutting of limbs that are impeding access of birds into nest boxes, replacing damaged fence markers, cleaning of nest structures and debris around other structures). The adaptive mgmt. requires hand labor and the occasional use of light equipment. A crew of 2 is needed for the hand labor efforts and the crew will require less than 16 total hours of labor per mgmt. effort. Mowing of roads and trail is required to provideaccess for monitoring and management. **After Practice Description:** Wildlife habitat is improved byimplementation of annual adaptive management actions ofmedium intensity and complexity.	Monitoring efforts and adaptive management actions	Acre	$10.52	$12.62
645-5	Habitat Monitoring and Management, High Intensity and Complexity	**Scenario Description:** This scenario is applied to all land use types including those with wildlife as a modifier, where any resource concern is identified for wildlife, and where high intensity and complexity of monitoring or management will treat the identified resource concern. Two - four monitoring efforts are needed and each requiring less than 2 people and less than 8 hours per effort. The adaptive management actions (2 - 5 efforts)such as cutting of limbs that are impeding access of birds into nest boxes, replacing damaged fence markers, cleaning of nest structures and debris around other structures requires hand laborand light equipment, requiring a 2-person crew less than 1 day per effort. **After Practice Description:** Wildlife habitat is improved by implementation of annual adaptive management actions of high intensity and complexity.	Monitoring efforts and adaptive management actions	Acre	$26.32	$31.59

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
645-6	Wildlife Habitat Enhancement w/FI	**Scenario Description:** Exclusion of livestock on 40 acres ofpastureland for the enhancement of habitat for wildlife. Monitoring to assure gates are closed and cattle remain excludedduring critical nesting period. **After Practice Description:** Livestock are excluded for wildlifehabitat enhancement for the desired wildlife species. Implementation includes the exclusion of livestock to allow for adequate deferment for sufficient regrowth and development ofthe habitat.	Acres Excluded	Acre	$21.74	$22.10
645-7	Deferred Acres	**Scenario Description:** Setting is any land use with the potential to provide habitat for species of plants and animals identified as Rare and Declining and the habitat potential is not currently being captured. The identified habitat limiting factors can be restored, enhanced or created, with the application of this practice alone, or in combination with other supporting and facilitating practices. Monitoring will be used to determine if the conservation system meets or exceeds the minimum quality criteria for the targeted wildlife. Management will be implementedbased on the findings of the habitat assessment and monitoring. Habitat management and monitoring needed to treat the resource concerns requires no training, no qualitative data assessment, no water quality monitoring and is low in complexityand intensity. Examples of prescribed monitoring include but are not limited to: photo points taken, use documentation by livestock, regeneration/breeding success, completing an annual management records log, documenting wildlife sightings, documenting location and species of invasive plants and condition of vegetative and structural treatments. The planner willspecify locations and identify the methods to the customer who will implement the monitoring and management plan. Includes foregone income. Setting is cropland that will be managed to benefit rare and declining habitats throughdeferral or seeding to permanent vegetation. **After Practice Description:** Based on the results of a State- approved upland wildlife habitat assessment process, the application of habitat management efforts and prescribed monitoring has been implemented. Crop production has been halted to allow for implementation, management, and monitoringof wildlife habitat, resulting in income foregone. With the application of this practice alone, or in combination with other supporting and facilitating practices, the inadequate habitat conditions have been addressed. Monitoring has maximized thebenefits of the needed habitat treatment efforts.	Acres Managed and Monitored	Acre	$463.86	$466.75
645-327	Establishment of seasonal forage or cover for wildlife on non-cropland	**Scenario Description:** The habitat assessment identifies the need to provide seasonal forage or cover for target wildlife species or guild. This habitat need will be met through the establishment of annual plants by planting of seed. The typical scenario is that this activity will occur onherbaceous areas, not currently in cropland. Due to existing dense vegetation, these areas will need to be mowed 2-3 weeks prior to disking (primarily disking), then followed by a light disking. Seed bed preparation will be furthered by firming the seed bed by cultipacking the site. Mixed fertilizer is required to establish planted wildlife seasonal forage or seasonal cover. **After Practice Description:** The availability of high-qualityseasonal forage, or cover condition common in annual plant communities is provided and target wildlife health and populations are increased.	Acre	Acres	$265.60	$318.72

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WASTE FACILITY CLOSURE

Practice Code 360

Practice Units: 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 to open lot operations that are closed and converted to confinement based operations (buildings).

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.

Limitations: An engineering plan meeting the statement of work requirements for 360 is required along with a nutrient management plan accounting for all of the waste materials in the facility to be closed. Comply with IA Instruction 210- 389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities" as applicable.

Maintenance: Practice will be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
360-4	Earthen Basin Closure with Sludge Removal	**Scenario Description:** Decommissioning of an earthen liquidwaste impoundment (embankment or excavated type). Payment includes the removal and spreading of accumulated sludge and the removal of contaminated soil at the soil/sludge interface, and equipment and labor required to close the impoundment in an environmentally safe manner. If present, thesynthetic liner will be removed and properly disposed of. **After Practice Description:** This scenario assumes a waste storage basin, with top dimensions of 110 ft. x 110 ft. (12,100 square feet), 8 ft. total depth with 3:1 side slopes. The 8-ft. total depth is the height of the earthen berm above the bottom of the basin for a total structural storage volume equal to 63,500 cubic feet. The volume of sludge and contaminated soil is 20% of the structural volume, 12,700 cu ft. Decommissioning of a liquid waste storage impoundment includes agitating, removing, and spreading liquid/slurry waste material, removing solid/sludge waste remaining in the bottom. All waste material shall be land applied in accordance with Nutrient Management (590). The volume of earthwork (earthfill and excavation) required to fill in the impoundment and perform final grading of the site is approximately 40% of the structural volume, 25,400. Structural removal, as necessary, may include the removal and disposal of waste transfer components and other appurtenances associatedwith closure of the facility. All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be excavated and used for levelling or manipulating the site so not to impound surface water. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Closure of the waste impoundment will address water quality degradation, air quality impacts and safetyhazards by removing and properly utilizing the waste from the impoundment. The site will also become available for another use.	Square feet of Structure	Square Feet	$0.87	$1.04
360-5	Earthen Basin Closure no Sludge Removal	**Scenario Description:** Decommissioning of an earthen liquidwaste impoundment (embankment or excavated type) where there is no accumulated sludge that needs to be removed. Payment includes equipment and labor required to close the impoundment in an environmentally safe manner. If present, thesynthetic liner will be removed and properly disposed of. **After Practice Description:** This scenario assumes a waste storage basin, with top dimensions of 110 ft. x 110 ft., 8 ft. total depth with 3:1 side slopes. The 8-ft. total depth is the height of the earthen berm above the bottom of the basin for a total structural storage volume equal to 63,500 cubic feet. The volumeof sludge and contaminated soil is such that removal is not necessary. The volume of earthwork (excavation) required to fill in the impoundment and perform final grading of the site is approximately 40% of the total structural storage volume (63,500 * 0.4 = 25,400). Earthfill is assumed to be 50% of the excavationamount. Structural removal, as necessary, may include the removal and disposal of waste transfer components and other appurtenances associated with closure of the facility. All inflow devices and associated appurtenances will be removed and properly disposed of. The embankment will be excavated and used for levelling or manipulating the site so not to impound surface water. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Closure of the waste impoundment will address water quality degradation, air quality impacts and safety hazards by removingand properly utilizing the waste from the impoundment. The sitewill also become available for another use.	Cubic feet of berm removed	Cubic Foot	$0.21	$0.25

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
360-39	Demolition of Concrete Waste Storage Structure, Total Volume of Structure Storage	**Scenario Description:** Demolition of a concrete waste storage structure. Payment includes all materials and labor to demolish the structure, remove the concrete and earth fill the site. The scenario does not include payment for removal of manure as this would be accomplished as part of normal operation and maintenance when the facility was operating. A concrete structure left full of manure creates a toxic situation that would not be in compliance with normal operation and maintenance. **After Practice Description:** This scenario assumes a concrete waste storage structure, with top dimensions of 200 ft x 60 ft with 8 ft vertical walls. The walls are 8 inches thick and the concrete floor is 5 inches thick. The total structural storage volume equals 96,000 cubic feet. The total volume of concrete to be demolished is 8,813 cubic feet ([520 ft X 8 ft) X 8in /12 in/ft] + [200 ft X 60 ft X 5in /12 in/ft]+ [520 X 2 sqft / ft footing]). The volume of earthwork (earthfill and/or excavation, final grading) required is approximately 50% of the structural volume. The concrete will be demolished and hauled off-site for recycling or disposal. Structural removal, as necessary, may include the sealing or removal and disposal of waste transfer components and other appurtenances associated with closure of the facility. All waste material shall be land applied in accordance with Nutrient Management (590). Excavated areas will be filled in. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Demolition of the concrete waste structure will address water quality degradation, air quality impacts and safety hazards by removing and properly utilizing the waste from the impoundment. The site will also become available for another use.	Total Volume of Structure Storage	Cubic Feet	$0.13	$0.16
360-41	Demolition of Concrete Waste Storage Facility, Slab Only	**Scenario Description:** Demolition of a concrete waste storage structure without walls or enclosures. Payment includes all materials and labor to demolish and remove the concrete. The scenario does not include payment for removal of manure as this would be accomplished as part of normal operation and maintenance when the facility was operating. A concrete structure left full of manure creates a toxic situation that would not be in compliance with normal operation and maintenance. **After Practice Description:** This scenario assumes a concrete waste storage slab with dimensions 70.7 ft x 70.7 ft and the concrete is 5 inches thick. The total concrete volume demolished equals 77.1 cubic yards. The volume of excavation and final grading required is approximately 50% of the structural volume, or 38.6 cu.yds. The concrete will be demolished and hauled off-site for recycling or disposal. Excavated areas will be filled in. Structural removal, as necessary, may include the sealing or removal and disposal of waste transfer components and other appurtenances associated with closure of the facility. All waste material shall be land applied in accordance with Nutrient Management (590). Excavated areas will be graded. The disturbed areas shall be vegetated in accordance with Critical Area Planting (342). Demolition of the concrete waste structure will address water quality degradation, air quality impacts and safety hazards by removing and properly utilizing the waste from the impoundment. The site will also become available for another use.	Square Feet of concrete structure	Square Feet	$0.56	$0.67

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WASTE SEPARATION FACILITY

Practice Code 632

Practice Units: 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 their associated nutrients as part of a conservation management system 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: Where solid/liquid separation will:

- Remove solids from the liquid waste stream as a primary treatment process and allow further treatment processes to be applied such as composting and anaerobic digestion, allow partly digested feed to be separated from the liquid waste stream so that it can be used as a feed supplement or for bedding
- Reduce problems associated with solids accumulation in liquid storage facilities (i.e. decrease odors in liquid storages)
- Reduce solids in stored liquids so liquids can be recycled for other uses (i.e.: flush
- Reduce solids in stored liquids to better facilitate land application of liquids using irrigation techniques
- Assist with partitioning nutrients in the waste stream to improve nutrient management

Limitations: A Comprehensive Nutrient Management Plan (CNMP) is required. Comply with IA Instruction 210- 389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
632-1	Earthen Settling Structure	**Scenario Description:** An earthen structure, such as a basin ora 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 to facilitate waste handling and to address water quality concerns. **After Practice Description:** One earthen settling basin structure(60 ft. wide by 200 ft. long by 3 ft. deep, with three screening outlet structures) constructed around or at a livestock feeding operation. Removes a portion of the solids that otherwise would leave with the runoff from an animal feeding operation. Part of an animal waste management system.	Cubic Foot of Total Storage	Cubic Foot	$0.32	$0.38
632-2	Concrete Basin	**Scenario Description:** A concrete structure, such as a basin with concrete walls and floor, used to capture and separate a portion of the solids from a liquid stream from a feedlot or confinement facility. Removes as portion of the solids to facilitatewaste handling and to address water quality concerns. **After Practice Description:** One 3' deep concrete settling basinstructure (20'x20' flat bottom with 3' walls on 2 sides, 10:1 ramps on other sides, 50'x50' overall footprint) and weeping wall/picket structure or outlet control) constructed at the outlet of an open feedlot. Removes a portion of the solids that otherwise would leave with the runoff from an animal feeding operation. Part of an animal waste management system.	Cubic Foot of Total Storage	Cubic Foot	$5.34	$6.40
632-3	Concrete SandSettling Lane	**Scenario Description:** A concrete structure, a concrete lane with curbs, used to capture and separate a portion of the solids,mainly sand, from a liquid stream from a confinement facility. Removes as portion of the solids to facilitate waste handling and to address water quality concerns. **After Practice Description:** One concrete settling lane structure (25 ft. wide by 200 ft. long by 0.5 ft. thick with 18" wallson each side.) constructed around or at a livestock feeding operation. Removes a portion of the solids (sand) that otherwise would leave with the runoff from an animal feeding operation. Part of an animal waste management system.	Square Foot of Settling Lane Footprint	Square Feet	$9.32	$11.19

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
632-4	Gravity Tank	**Scenario Description:** A concrete tank used for gravity separation of solid material in a dairy waste management system. The waste management system must utilize a 'flush' typesystem in order to convey and agitate the material. The flush system is needed to maintain high solids removal. **After Practice Description:** A concrete tank 20' x 20' x 6' with a full width ramp of 20' x 72'. For a total structure capacity of 6,720cu ft. Separator description: Dairy manure is flushed into the Gravity Tank (Pull Plug) Separator that utilizes a vertical pipe, surrounded by a baffle, that is open at the top. The vertical pipe maintains 4.5 feet of material in the tank. When the manure is flushed into the tank the level rises in the tank and slowly drains through the baffle, floating mat of fibrous material (roughage fromthe dairy manure) and the open top of the vertical pipe as the level returns to 4.5 feet. The liquid goes to a storage structure. This process is repeated each time the manure is flushed into the tank, typically 2 times per day. The floating material will form a mat on the surface of the separator, the heavy material will sink to the bottom of the separator. Eventually the floating mat and the heavy material will meet, and the tank level will not return to 4.5 feet. The basin will continue tobe used a few more weeks. This helps to dewater the separated solids. When the separator is ready to be cleaned out the vertical pipe (Pull Plug) is removed and the basin dewaters for 12to 24 hours. The solids are removed. The vertical pipe installed, and the process starts again.	Total capacity of basin	Cubic Feet	$4.86	$5.83
632-9	Mechanical Separation Facility	**Scenario Description:** A small mechanical separation facility to partition solids, liquids, and/or associated nutrients from animal waste streams. The partitioning of the previously mentioned components facilitates the protection of air and water quality, protects animal health, and improves the management of an animal waste management system. Mechanical separators may include, but are not limited to: static inclined screens, vibratory screens, rotating screens, centrifuges, screw or roller presses, orother systems. **After Practice Description:** One small mechanical separation facility (a vibratory or rotating screen) installed at livestock facilitybefore storage or treatment or after treatment, for example, after an anaerobic digester. Part of an animal waste management system.	Item	Each	$51,953.23	$62,343.88

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WASTE STORAGE FACILITY

Practice Code 313

Practice Units: NUMBER

Definition: A waste impoundment made by construction of an embankment and/or excavating a pit or dugout, or by fabricating a structure.

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

Conditions Where Practice Applies: • The storage facility is a component of a planned agricultural waste management system, • Temporary storage is needed for organic wastes generated by agricultural production or processing, • The storage facility can be constructed, operated, and maintained without polluting air or water resources, • Soils, geology, and topography are suitable for construction of the facility

The practice applies to:

- Waste storage pond facilities 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 county roads
- Fabricated structure facilities such as tanks, stacking facilities, and pond appurtenances

Waste storage facilities described in this standard are waste storage ponds, fabricated structures, and short-term storage basins.

The short-term storage basin may be used to store manure, bedding, spilled feed, runoff, etc., from open concrete lots for swine or for other livestock enterprises, where the producer's management objectives may include scraping solids from the feedlot and into the basin, utilizing a frequent hauling system, and having a manure management plan that is consistent with these objectives.

Additional considerations include situations where:

- solid settling is nearly impossible to achieve
- long term total containment is not practical
- total containment does not meet the producer's management objectives

Short term storage basins for confinement systems shall not be used except as allowed in Criteria – Stacking Facilities. A manure management plan (nutrient management or waste utilization plan) shall be developed for all systems.

Limitations: If an EQIP plan of operations includes an animal waste storage, management, or treatment facility, the participant must develop a Comprehensive Nutrient Management Plan (CNMP), prior to the design of the waste storage, management, or treatment facility. Follow the guidance contained in the document "000 IA ENGT Winter Feeding Station Guidance 2016" located in Section 4 (Engineering Tools folder) in the IA FOTG for applications involving winter feeding stations. Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities". Financial assistance for the animal waste storage, management, or treatment facility is eligible to treat the existing resource concern, and expansion of the existing extent of the resource concern.

Priority is given to treating existing resource concerns and up to 25% expansion of the existing resource concern. When a 313 Waste Storage Facility replaces an open feedlot, the open feedlot shall be closed prior to payment.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
313-1	Earthen StorageFacility	**Scenario Description:** An earthen waste impoundment constructed with cuts and fills balanced such that one half of the impoundment depth is excavated and the remainder of the storage is created with the embankment. The structure is constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste managementsystem. This practice will address soil and water quality by reducing the pollution potential for surface water and groundwater quality degradation. Payment includes materials and equipment necessary for construction of the storage structure. If a roof is to be included in the installation, refer to Practice Standard 367 - Roofs and Covers. If an earthen storageliner is to be included in the installation, refer to associated Practice Standards Pond Sealing or Lining, Compacted Soil Treatment (520), Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Layer (521), or Pond Sealing or Lining - Concrete (522). Vehicular and equipment access is addressed inHeavy Use Area Protection (561). Adequately protect liner at agitation and access points. **After Practice Description:** An earthen storage structure constructed from on-site material provides an environmentally safe facility for storing manure and other agricultural waste by- products. This facility provides the landowner a means of storingwaste until it can be utilized in a proper manner in accordance with a nutrient management plan. Typical design size: total storage volume 147,000 ft3; 150'X150'(top); 3:1 inside and outside side slopes; embankment top width = 10'; compaction ratio = 1.1; total depth = 10'; embankmentvolume = 10,430 cu yd.	Total Storage Volume	Cubic Feet	$0.14	$0.17
313-2	Earthen NaturalStorage	**Scenario Description:** An embankment is constructed in a location to utilize naturally available storage to serve as a waste impoundment structure for storing wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste management system. This practice will address soil and water quality by reducing the pollution potential for surface waterand groundwater quality degradation. Payment includes materials and equipment necessary for construction of the storage structure. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. If an earthenstorage liner is to be included in the installation refer to associated Practice Standard Pond Sealing or Lining, Compacted Soil Treatment (520), Pond Sealing or Lining, Geomembrane or Geosynthetic Clay Layer (521), or Pond Sealing or Lining - Concrete (522). Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Adequately protect liner at agitation and access points. **After Practice Description:** An earthen storage structure constructed from on-site material provides an environmentally safe facility for storing manure and other agricultural waste by- products. This facility provides the landowner a means of storingwaste until it can be utilized in a proper manner in accordance with a nutrient management plan. Typical design size: design storage volume 153,000 ft3; embankment top width = 10'; 3:1 upstream slope; 3:1 downstream slope; compaction ratio = 1.1; settlement = 10%;total depth = 10'.	Item	Each	$0.07	$0.08

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
313-6	Dry Stack Facility, EarthenFloor with Concrete Side Walls	**Scenario Description:** This scenario consists of a dry stack facility with compacted earthen floor with concrete side walls. This scenario is intended for poultry litter or similar dry product. Payment includes materials and equipment necessary for construction of the floor and walls. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). **After Practice Description:** The typical is 40' x 56' slab with walls. The earthen floor will be prepared by stripping the top 1' ofsoil and roller compacting it back into floor. Walls are 5' reinforced concrete. Walls consist of three perimeter walls (40' + 56' + 40') for a total wall length of 136 linear feet. Walls allow for greater storage volume. Volume of structure for this scenario is taken as the volume of the space formed by the walls and floor, not including any angle of repose or piling of material abovethe walls. Manure and other agricultural by- products are being controlled, by the collection at the source, and stored temporarily,at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan.	Volume of Structure	Cubic Feet	$1.30	$1.56
313-7	Dry Stack Facility, ConcreteFloor without Side Walls	**Scenario Description:** This scenario consists of a dry stack facility with reinforced concrete floor without side walls. This scenario is intended for situations where consistency of manureor geographical conditions prohibit earthen floors. Payment includes materials and equipment necessary for construction of the floor. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). **After Practice Description:** The typical is 75'x226'. The facilityfloor is 5" reinforced concrete without side walls. Manure and other agricultural by-products are being controlled, by the collection at the source, and stored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan.	Square Foot FloorArea	Square Feet	$6.49	$7.79
313-8	Dry Stack Facility, ConcreteFloor with Wood Side Walls	**Scenario Description:** This scenario consists of a dry stack facility with reinforced concrete Floor with pressure treated wood side walls. Payment includes materials and equipment necessaryfor construction of the floor and walls. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). **After Practice Description:** The typical is 40' x 56' concrete slabwith 5' high walls. The facility floor is 5" reinforced concrete with 5' pressure treated wood (2" x 8" boards) walls, 6" x 6" x 8' posts set 4' c-c with 6" concrete curbing. Walls allow for greater storagevolume. Walls consist of three perimeter walls (40' + 56' + 40') for a total wall length of 136 linear feet. Manure and other agricultural by-products are being controlled, by the collection at the source, and stored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan.	Cubic Foot Storage	Cubic Feet	$2.12	$2.55

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
313-9	Dry Stack Facility, ConcreteFloor with Concrete Side Walls	**Scenario Description:** This scenario consists of a dry stack facility with reinforced concrete floor and concrete side walls.This scenario is intended for situations where consistency of manure or geographical conditions prohibit earthen floors. Payment includes materials and equipment necessary for construction of the floor and walls. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). **After Practice Description:** The typical is 40' x 56' concrete slabwith 5' high walls. The facility floor is 5" reinforced concrete with 5' reinforced concrete walls. Walls allow for greater storage volume. Walls consist of three perimeter walls (40' + 56' + 40') for a total wall length of 136 linear feet. Volume of structure for this scenario is taken as the volume of the space formed by the walls and floor, not including any angle of repose or piling of material above the walls. Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. Note on use of concrete walls versus wood walls: different states utilize different options depending on many specific conditions which may change what is considered least cost.	Volume of Structure	Cubic Feet	$2.60	$3.12
313-10	Concrete Lid Tank, <1,000 CuFt Storage	**Scenario Description:** This scenario consists of installing a small concrete tank with a solid lid and a total storage volume of less than1,000 Cu Ft. Design volume does not include freeboard. Payment includes all materials, equipment and labor to install a concrete lid tank and gravel for drain fill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, and stored temporarily, at an environmentally suitable location, until suchtime that they are disposed of or utilized in a proper manner, typicallyin accordance with a nutrient management plan. Tank typically 5' deep x 8' wide x 9' long, with a total storage volume of 360 cubic feet. Sizing based on manure, other wastes, rainfall, lot runoff, etc. Tanks associated with open lots sized to handle design storm in tankor in combination with lot as per state regulations.	Total Storage Volume	Cubic Feet	$15.50	$18.60
313-11	Concrete Lid Tank, >=1,000 Cu Ft Storage	**Scenario Description:** This scenario consists of installing a small concrete tank with a solid lid and a total storage volume of greater than or equal to 1,000 Cu Ft. Design volume does not include freeboard. Payment includes all materials, equipment and labor to installa concrete lid tank and gravel for drain fill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, and stored temporarily, at an environmentally suitable location, until suchtime that they are disposed of or utilized in a proper manner, typicallyin accordance with a nutrient management plan. Tank typically 8' deep x 12' wide x 40' long, with a total storage volume of 3,840 cubicfeet. Sizing based on manure, other wastes, rainfall, lot runoff, etc. Tanks associated with open lots sized to handle design storm in tankor in combination with lot as per state regulations.	Total Storage Volume	Cubic Feet	$6.32	$7.58

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
313-12	Concrete Tank Open Top, <5,000 Cu Ft Storage	**Scenario Description:** This scenario consists of installing an open top concrete tank with or without a full width ramp that has a total storage volume less than 5,000 Cu Ft. Payment includesmaterials and equipment necessary for construction of the concrete tank. If a roof is to be included in the installation refer toPractice Standard 367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Tank can also be installed under an animal facility using slats. Payment includes all materials, equipment and labor to install aconcrete tank and gravel for drain fill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. Tank typically 5' deep, with a bottom area of 880 sq. ft., anda total storage volume of 4,400 cu ft. Sizing based on volume of manure, other wastes, rainfall, lot runoff, etc. as appropriate.	Total Storage Volume	Cubic Feet	$5.64	$6.76
313-13	Concrete Tank Open Top, 7,500-14,999 Cu Ft Storage	**Scenario Description:** This scenario consists of installing an open top concrete tank that has a total storage volume from 7,500 to 14,999 Cu Ft. Payment includes materials and equipment necessary for construction of the concrete tank. If a roof is to be included in the installation refer to Practice Standard367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Tank can also beinstalled under an animal facility using slats. Payment includes all materials, equipment and labor to install aconcrete tank and gravel for drain fill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. Tank typically 8' deep, with a bottom area of 1256 SF, and a total storage volume of 10,048 cubic feet. Sizing based on volume of manure, other wastes, rainfall, lot runoff, etc. as appropriate.	Total Storage Volume	Cubic Feet	$3.74	$4.49
313-18	Concrete Tank Open Top, >=110,000 Cu Ft Storage	**Scenario Description:** This scenario consists of installing an open top concrete tank that has a total storage volume of 110,000 Cu Ft or greater. Payment includes materials and equipment necessary for construction of the concrete tank. If a roof is to be included in the installation refer to Practice Standard367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Tank can also beinstalled under an animal facility using slats. Payment includes all materials, equipment and labor to install a concrete tank and gravel for drain fill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. Tank typically 8' deep with a bottom area of 21,000 SF and a total storage volume of 168,000 CF. Outside dimensions 22,200 sq. ft. (includes 3' footing and 8" wall). Sizing based on manure, other wastes, rainfall, lot runoff, etc. as appropriate. Sizing based on manure, other wastes, rainfall, lot runoff, etc. asappropriate.	Total Storage Volume	Cubic Feet	$1.36	$1.63

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
313-19	Composted Bedded Pack - Gravel Floor	**Scenario Description:** A composted bedded pack facility is constructed to store wastesas part of an agricultural waste management system. Payment includes materials and equipment necessary for construction of the floor and walls. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. **After Practice Description:** Using a bedded pack provides an environmentally safe facility for storing manure and other agricultural waste by-products. This facility provides the landowner a means of storing waste until it can be utilized in a proper manner in accordance with a nutrient management plan.Typical design: floor area 4,000 ft2, (40' X 100'); 4' concrete wallheight, 3' footing depth with a geotextile and 6" gravel layer overan earthen floor; 20' openings on each end of structure.	Square Foot Floor Area	Square Feet	$7.48	$8.98
313-21	Composted Bedded Pack, 5 inch Reinforced Concrete Floor	**Scenario Description:** A composted bedded pack facility is constructed to store wastes such as manure, wastewater, and contaminated runoff as part of an agricultural waste managementsystem. This scenario is intended for situations where consistency of manure or geological conditions prohibit the use of earthen floors. Payment includes materials and equipment necessary for construction of the floor and walls. The walls may be constructed of concrete or wood as allowed by state policies and regulations. If a roof is to be included in the installation refer to Practice Standard 367 - Roofs and Covers. **After Practice Description:** Using a bedded pack provides an environmentally safe facility for storing manure and other agricultural waste by-products. This facility provides the landowner a means of storing waste until it can be utilized in a proper manner in accordance with a nutrient management plan. Typical design: floor area 4,000 ft2, (40' X 100'); 4' concrete wall height, 3' footing depth with a 5" reinforced concrete floor; 20' openings on each end of structure. 5" reinforced concrete floor isthe minimum requirement in Iowa.	Square Foot Floor Area	Square Feet	$11.29	$13.54
313-30	Concrete Tank Open Top, 5,000-7,499 Cu Ft Storage	**Scenario Description:** This scenario consists of installing an open top concrete tank that has a total storage volume from 5,000 to 7,499 Cu Ft. Payment includes materials and equipmentnecessary for construction of the concrete tank. If a roof is to be included in the installation refer to Practice Standard 367 - Roofsand Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Tank can also be installed under an animal facility using slats. Payment includes all materials, equipment and labor to install aconcrete tank and gravel for drain fill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. Tank typically 5' deep, with a bottom area of 1200 SF, and a total storage volume of 6,000 cubic feet. Sizing based on volume of manure, other wastes, rainfall, lot runoff, etc. as appropriate.	Total Storage Volume	Cubic Feet	$5.03	$6.04

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
313-36	Concrete Tank Open Top, 50,000 - 109,999 Cu Ft Storage	**Scenario Description:** This scenario consists of installing an open top concrete tank that has a total storage volume from 50,000 to 109,999 cubic feet. Payment includes materials and equipment necessary for construction of the concrete tank. If a roof is to be included in the installation refer to Practice Standard367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Tank can also be installed under an animal facility using slats. Payment includes all materials, equipment and labor to install a concrete tank and gravel for drainfill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. This practice will address soil and water quality by reducing the pollution potential to soil, surface water and ground water. Tank typically 8 feet deep, with a bottom area of 10,000 square feet, and a storage capacity of 80,000 cubic feet. Sizing based on manure, other wastes, rainfall, lot runoff, etc. as appropriate.	Total Storage Volume	Cubic Feet	$1.62	$1.95
313-37	Concrete Tank Open Top, 15,000 - 49,999 Cu Ft Storage	**Scenario Description:** This scenario consists of installing an open top concrete tank that has a total storage volume from 15,000 to 49,999 cubic feet. Payment includes materials and equipment necessary for construction of the concrete tank. If a roof is to be included in the installation refer to Practice Standard367 - Roofs and Covers. Vehicular and equipment access is addressed in Heavy Use Area Protection (561). Tank can also be installed under an animal facility using slats. Payment includes all materials, equipment and labor to install a concrete tank and gravel for drainfill around the tank. **After Practice Description:** Manure and other agricultural by- products are being controlled, by the collection at the source, andstored temporarily, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan. Tank installed is 8 feet deep, with an interior bottom area of 3,786 square feet, and a total storage volume of 30,288 cubic feet. Outside dimensions, 4,225 square feet (includes 3 feet footing and 8-inch wall). Size based on manure, other wastes, rainfall, lot runoff, etc. as appropriate.	Total Storage Volume	Cubic Feet	$2.13	$2.55

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WASTE TRANSFER

Practice Code 634

Practice Units: NUMBER

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

Purpose: To transfer agricultural waste material associated with production, processing, and harvesting to:

- a storage facility,
- a treatment facility,
- a handling or loading area
- agricultural land for agronomic application.

Conditions Where Practice Applies: The waste transfer system is included as an element of the agricultural production area, storage/treatment facility and/or land application areas of the agricultural operation. The practice applies where it is necessary to transfer waste material generated by livestock production or agricultural product processing from:

- the generation site to the application area,
- the generation site to a storage/treatment facility,
- the storage/treatment facility to land for agronomic application.

This practice does not apply to hauling waste material with equipment or vehicles.

Limitations: For applications involving animal waste management application a Comprehensive Nutrient Management Plan (CNMP) is required. Comply with IA Instruction 210-389 - "Requirements for Subsurface Geological Investigations for Animal Waste Storage Facilities".

Not applicable for field application of manure.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
634-1	Manure Auger	**Scenario Description:** Scenario is for a manure auger associated with an agricultural production operation to transferagricultural waste product from the storage facility to manure spreading equipment for proper utilization. This auger is used when the manure consistency will not allow for pumping. Payment includes the cost of the auger and labor for the electrical hook-up. **After Practice Description:** A typical installation would be for anauger to remove manure from an animal waste storage structure and facilitate the transfer of this material to the next step of wastetreatment or utilization. This auger is for a tank less than 14' deepand is part of an animal waste management system to address water quality concerns.	Auger installed	Each	$9,720.43	$11,664.51
634-3	Concrete Channel with Wall	**Scenario Description:** Installation of a concrete channel that consists of a slab with a 2' wall on each side of the channel to enable the facility manager to direct liquid waste to a collection basin and/or waste storage facility. **After Practice Description:** Typical installation of a 12-foot-wide100' long concrete channel that consists of a 5" thick concrete slab with a wall that is 2' high, 6" thick with footing for the entire length. The purpose is to transfer liquids or manure slurry from one area to a collection basin or waste storage facility.	Bottom surface area of concrete channel	Square Feet	$14.87	$17.84
634-4	Concrete Channel with Curb	**Scenario Description:** Installation of a concrete channel that consists of a slab with a 6" curb on each side of the channel to enable the facility manager to direct liquid waste to a collection basin and/or waste storage facility. **After Practice Description:** Typical installation of a 12-foot-wide100' long concrete channel that consists of a 5" thick concrete slab with a curb each side that is 6" high for the entire length.	Bottom surface area of concrete channel	Square Feet	$8.33	$9.99
634-5	Lot Runoff Containment Wall, >1ft Tall	**Scenario Description:** Installation of a concrete wall with footingto direct manure laden lot runoff to a collection basin and/or waste storage facility. **After Practice Description:** Typical installation consists of a 2' high concrete wall with an adjacent 5' wide, 5" thick concrete slab. Typical length is 300'. The purpose is to direct lot runoff to acollection basin or waste storage facility. Wall also allows manureto be scraped to waste storage facility.	Length of Wall installed	Feet	$67.38	$80.85
634-6	Concrete Channel with push-off wall at pond and safety gate	**Scenario Description:** Installation of a concrete channel that consists of a slab with curb and footing on each side of the slabfor the entire length of the channel and push off wall to enable the facility manager to direct liquid waste to a collection basin and/or waste storage facility. The purpose is to transfer liquids or manure slurry from one area to a collection basin or waste storage facility. Includes safety gate for human and animal exclusion. **After Practice Description:** Typical installation of a 12-foot- wide 100' long concrete channel that consists of a 5" thick concrete slab with curbing on each side of the slab that is 2' high, 6" thick with footing for the entire length. The push-off ramp is a concrete cantilever structure that allows the waste tobe moved into the storage facility.	Bottom surface area of concrete channel	Square Feet	$15.66	$18.80

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
634-7	Concrete Channel with Drop Chute	**Scenario Description:** Installation of a concrete channel that consists of a slab with wall and footing on each side of the slab for the entire length of the channel, in addition to an overfall structure at the channel outlet, to enable the facility manager to direct liquid waste to a collection basin and/or waste storage facility. **After Practice Description:** Typical installation of a 12' wide x 12' long push-off platform having an 8" thick slab and 4' high sidewalls. Push-off platform slab is supported on all four sides by a 6'high wall with footer. A horizontal concrete beam is installed above the end of the platform to serve as a safety barrier for scraping equipment. Manure scraped off the end of the platform drops vertically onto a 16' wide x 6" thick concrete chute installedon the lower half of a 2:1 sideslope of a manure holding pond. The purpose is to transfer manure and runoff from a feedlot areaor livestock building to a waste storage facility.	Channel with DropChute, installed	Each	$12,299.78	$14,759.74
634-8	Manure Flush System	**Scenario Description:** Installation of a manure flush system consisting of a flushwater storage tank, flushing mechanism suchas a valve, and flush water distribution. This practice scenario is suitable only where the water or wastewater supplies are available for operating a flush system to collect the animal waste deposited on the concrete surfaces. Payment includes tank, valve and distribution pipeline, site prep and concrete to support these structures. **After Practice Description:** The design flush volume for the flush system is less than 1000 gallons. Concrete slab to support the tank and distribution pipeline is 28 ft x 12 ft. x 5" thick. with 40ft. of above ground 8" pipe is used for distribution.	Gallons of water used per flush	Gallons	$6.82	$8.18
634-9	Wastewater Recycle System for Flush System, Pipes only	**Scenario Description:** Installation of a wastewater recycle pipeline utilized with manure and wastewater flush system usingrecycled wastewater. Scenario is for the pipe system only to retrofit flush systems to utilize recycled water. Payment includes excavation, placement of bedding as needed, conveyance pipelines with valves and pipe backfill to transport water to the flush tank. **After Practice Description:** Supplemental piping is needed to install the recycled flush water as a means to collect the animal waste deposited on the concrete production surfaces. The pipedesign for the flush volume requires 300 feet of 3-inch diameterpipe for pressure flow.	Flush -pipes	Feet	$8.80	$10.57
634-10	Gravity or Low Pressure Flow Pipeline, Small	**Scenario Description:** Gravity or low-pressure flow pipeline used to transfer manure or wastewater according to the CNMP.Payment includes the pipe plus clean-out risers and fittings, trench excavation and backfill, labor and equipment for installation. Typical installation applies to soils with no special bedding requirements. **After Practice Description:** Install a 100-foot-long 8-inch diameter PVC gasket IPS pipe to transfer the manure wastewater. The transfer pipeline will deliver the manure slurryaccording to the CNMP, thereby protecting water quality resources.	Length of pipe installed	Feet	$15.26	$18.32

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
634-11	Gravity or Low Pressure Flow Pipeline, Large	**Scenario Description:** Gravity or low-pressure flow pipeline used to transfer manure or wastewater according to the CNMP. Payment includes the pipe plus clean-out risers and fittings, trench excavation and backfill, gravel bedding, labor and equipment for installation. This scenario addresses the transportof liquid waste to a waste storage or treatment facility. **After Practice Description:** Install a 100-foot-long 24-inch diameter dual wall gasket IPS pipe to transfer the manure wastewater. The transfer pipeline will deliver the manure slurryaccording to the CNMP, thereby protecting water quality resources.	Length ofpipe installed	Feet	$35.08	$42.10
634-12	Pressurized Pipeline	**Scenario Description:** Pressure flow pipeline used to transfer manure wastewater by pumping from the waste storage pond to the field where it is to be applied according to the CNMP. The pressure pipe moves the water by pumping from the intake riser location, through a buried mainline with outlet risers. Payment includes the pipe plus an inlet riser structure, clean-out risers andoutlet risers plus all other valves and fittings, trench excavation and backfill, labor and an equipment for installation. Appurtenances include: couplings, fittings, air vents, pressure relief valves, thrust blocks, risers, and inline valves. Cost of appurtenances does not include flow meters or backflow preventers. Typical installation applies to soils with no special bedding requirements. This pipeline is part of a manure transfer system for a planned waste management or comprehensive nutrient management plan. **After Practice Description:** Install a 2000-foot-long 8-inch diameter PVC gasket IPS pipe that has an SDR of 21 and is water tight under pressure flow to transfer the manure wastewater. An inlet riser and is located near the pump site ofthe waste storage pond and designed for the desired pressureand flow for the application system.	Length of pipe installed	Feet	$16.39	$19.66
634-38	Cased Pipeline with Boring	**Scenario Description:** Installation of a 6" plastic pipeline with anouter casing, bored under a road or other obstruction to convey wastewater from a storage structure to points of use. **After Practice Description:** The typical installation consists of installing 120 ft. of 6" PVC SDR 21 pipe with a 10" outer casing under a roadbed. Pipeline boring includes all pipe under roadbedand labor and equipment involved during installation of pipe. Payment incorporates couplers and fittings.	Foot	Feet	$128.93	$154.71
634-39	Lot Runoff Containment Wall, <=1ft tall	**Scenario Description:** Installation of a concrete wall with footingto direct manure laden lot runoff to a collection basin and/or waste storage facility. **After Practice Description:** Typical installation consists of a 9" high concrete wall with an adjacent 5' wide, 5" thick concrete slab. Typical length is 300'. The purpose is to direct lot runoff to acollection basin or waste storage facility. Wall also allows manureto be scraped to waste storage facility.	Length of wall installed	Feet	$57.14	$68.56

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
634-51	Wastewater catch basin, less than or equal to 1000 gal.	**Scenario Description:** Installation for a wastewater collection system that includes materials and structures to collect liquids ofa design volume less than 1000 gallons such as silage leachate,lot runoff and other contaminated liquid effluent. This may include curbs, screens, precast manholes, sumps or catch basins. The wastewater will typically be transferred from the collection basin to a waste storage facility through a gravity or low pressure flow conduit. **After Practice Description:** This practice scenario is suitable where the estimated design volume for wastewater transfer is less than 1000 gallons of contaminated liquid that may flow from silage bunkers or animal lot areas after a precipitation event. Thepractice scenario typically includes materials and installation of flat and formed concrete for curbs and/or gutters to collect liquids. With the installation of a precast manhole with lid or catch basin with grate. The cost includes excavation, placement of bedding as needed, placement of structure and backfill with construction of concrete inlet collection area.	Collection volume installed	Gallons	$8.53	$10.23
634-52	Wastewater reception pit, 1000 to 5000 gal.	**Scenario Description:** Installation for a wastewater collection system that includes materials and structures to collect liquids ofa design volume between 1000 and 5000 gallons such as silageleachate, lot runoff and other contaminated liquid effluent. This scenario includes a reinforced concrete manure reception pit for temporary storage and transfer of manure and wastewaterfor an animal operation. Reception Pit includes safety fence w/gate or solid/grated cover. The wastewater will typically be transferred from the collection basin to a waste storage facility through a gravity or low pressure flow conduit. **After Practice Description:** This practice scenario is suitable where the estimated design volume for waste collection and transfer is between 1000 and 5000 gallons of liquid waste. The practice scenario typically includes materials and installation of flat and formed concrete for curbs and gutters to collect liquid slurry waste and the installation of an 8'x12'x6' reinforced concrete reception pit formed in place that includes safety fence w/gate or solid/grated cover. The cost includes excavation, placement of subgrade as needed, forming, pouring and finishingof concrete structure and backfilling.	Collection volume installed	Gallons	$3.66	$4.40
634-53	Wastewater basin, 5000 gal. and larger	**Scenario Description**: Installation for a wastewater collection system that includes materials and structures to collect liquids of a design volume greater than 5000 gallons such as lot runoff, manure slurry and other contaminated liquid effluent. The wastewater collected in this pit is intended to be transferred to final storage within a 48 hour period. This scenario includes a reinforced concrete manure reception pit for temporary storage and transfer of manure and wastewater for an animal operation. Reception Pit includes safety fence w/gate or solid/grated cover. The wastewater will typically be transferred from the collection basin to a waste storage facility through a gravity or low pressureflow conduit. **After Practice Description:** This practice scenario is suitable where the estimated maximum design volume for wastewater collected is greater than 5000 gallons of liquid waste within 48 hours or before it is stored or treated. The practice scenario typically includes materials and installation of flat and formed concrete for curbs and gutters inlet area to collect liquid slurry waste and the installation of a 12 ft wide x 16 ft long x 6 ft deep reinforced concrete reception pit formed in place that includes safety fence w/gate or solid/grated cover. The cost includes excavation, placement of subgrade as needed, forming, pouringand finishing of concrete structure and backfilling.	Collection volume installed	Gallons	$2.77	$3.32

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WATER AND SEDIMENT CONTROL BASIN

Practice Code 638

Practice Units: NUMBER

Definition: An earth embankment or a combination ridge and channel constructed across the slope of minor drainageway.

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

- Reduce gully erosion
- Trap sediment
- Reduce and manage runoff.

Conditions Where Practice Applies: This practice applies to sites where:

- The topography is generally irregular.
- Gully erosion is a problem.
- Other conservation practices control sheet and rill erosion.
- Runoff and sediment damages land and works of improvement.
- Stable outlets are available.

Do not use this standard in place of a terrace. Use Terrace (600) or Diversion (362) where the ridge and/or channel extends beyond the detention basin or level embankment.

Limitations: When a Water & Sediment Control Basin Summer Construction Scenario is included in the contract, construction must occur between June 15 and October 15 of the scheduled year. The Payment Scenario for summer construction is only available on land in row crop and requires a temporary cover or cover crop. No crop is allowed to be harvested. Haying or grazing of the cover crop after October 15th is allowed. No payments can be made for any items associated with the summer construction initiative until all associated practices are installed.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
638-1	Base	**Scenario Description:** Typical scenario for the construction of an earthen embankment or the rebuild of an existing WASCOB. Rebuild work includes the removal of accumulated sediment fromthe pool area to restore original capacity. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Work is done with dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. Seeding not included. **After Practice Description:** Water and Sediment Control Basin is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. Ifriser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.	CY of WASCOB Embankment	Cubic Yard	$2.81	$3.37
638-2	Topsoil	**Scenario Description:** Typical scenarios for the construction of an earthen embankment or the rebuild of an existing WASCOB. Prior to constructing/reconstructing the embankment, 6 inches of topsoil is removed and stockpiled. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Costs include all equipment necessary to strip andstock pile topsoil, excavate, shape, grade and compact the Waterand Sediment Control Basin, spread and replace topsoil after construction and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Work is done with dozer, scraper, or road grader. **After Practice Description:** Water and Sediment Control Basis is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. Ifriser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.	CY of WASCOB Embankment	Cubic Yard	$3.02	$3.63

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
638-5	Base, crop seasonal construction	**Scenario Description:** Typical scenario for the construction of an earthen embankment or the rebuild of an existing WASCOB. Rebuild work includes the removal of accumulated sediment fromthe pool area to restore original capacity. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Work is done with dozer, scraper, or road grader. Costs include all equipment necessary to excavate, shape, grade and compact the Water and Sediment Control Basin and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion,trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Foregone income reflects entire construction area to account for crop loss while constructing during the growing season. **After Practice Description:** Water and Sediment Control Basin is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. Ifriser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.	CY of WASCOB Embankment	Cubic Yard	$3.45	$4.01
638-6	Topsoil, crop seasonal construction	**Scenario Description:** Typical scenarios for the construction of an earthen embankment or the rebuild of an existing WASCOB. Prior to constructing/reconstructing the embankment, 6 inches of topsoil is removed and stockpiled. Outlet is typically an underground outlet. An earthen embankment or combination ridge and channel generally constructed/rebuilt across the slope and minor watercourses to form a sediment trap and water detention basin. Topsoil is replaced following construction of the embankment. Costs include all equipment necessary to strip andstock pile topsoil, excavate, shape, grade and compact the Waterand Sediment Control Basin, spread and replace topsoil after construction and mobilization of equipment. Seeding not included. This practice is utilized to reduce watercourse and gully erosion, trap sediment, reduce and manage onsite and downstream runoff. Sheet and rill erosion will be controlled by other conservation practices. Work is done with dozer, scraper, or road grader. Foregone income reflects entire construction areato account for crop loss while constructing during the growing season. **After Practice Description:** Water and Sediment Control Basis is constructed or rebuilt by the excavation/earthfill with dozer, scraper and/or road grader. Rill and/or gully erosion is reduced. Ifriser and underground outlet are needed, then include Underground Outlet (620). Include Critical Area Planting (342) where necessary to prevent erosion following construction activities.	CY of WASCOB Embankment	Cubic Yard	$3.67	$4.27

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WATER WELL

Practice Code 642

Practice Units: NUMBER

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

Purpose: This practice is used to accomplish one or more of the following purposes:

- Address the need for adequate livestock water quality and quantity
- Provide water for terrestrial wildlife
- Provide irrigation water

Conditions Where Practice Applies: This practice applies to all types of agricultural land where the quality and quantity of underground water is appropriate for the intended purpose.

This practice does not apply to-

- Wells constructed for domestic or public water supply.
- Monitoring wells, NRCS Conservation Practice Standard (CPS) Monitoring Well (Code 353), injection wells, temporary test wells, or piezometers.
- Pumps, surface supply lines, storage facilities, and related appurtenances.

Limitations: The payment rate does not include installations such as pumping plants, pipelines, and tanks. If these components are required, they may be added to the contract separately. See practice codes 533 – Pumping Plant; 516 – Livestock Pipeline or 614 – Watering Facility.

Financial Assistance for a Water Well is only eligible for watering of livestock as part of a grazing system to treat the resource concern, Livestock Production Limitation - Inadequate Water.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
642-1	Large Diameter Drilled Well	**Scenario Description:** Typical construction is for the drilling of awell using a bucket well drill rig. These wells are large diameter drilled wells. The purpose of the practice is to provide water for livestock. An average well depth is less than 100 feet at 36" diameter. These wells are typically implemented in glacial till areas where the ground water resource has slow recharge rate, and the large diameter of the well allows for storage of water to meet the demand. **After Practice Description:** A 48 ft., 36" diameter well is installed using a bucket drill rig. The large diameter of the well allows for storage of water in glacial till areas where the groundwater recharge rate is less than demand. The well is dug and then cased with concrete. Perforated concrete casing is used as a screen around the bottom of the well. Approximately 6" of gravel is placed around the screen. Sufficient water is available for livestock.	Depth of Well	Feet	$191.44	$229.73
642-2	Shallow Drilled Well, <= 100 feet, <= 6in Dia.	**Scenario Description:** Typical construction is for the installationof a well, in areas where sufficient water is known to occur within100 feet of the ground surface, and the flow is such that a smaller diameter well is sufficient. The well shall be drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply. The purpose of the practice is to provide water for livestock. **After Practice Description:** An average well depth is 100 feet.Well casings are <= 6" in diameter. Sufficient water is availablefor livestock.	Depth of Well	Feet	$48.50	$58.20
642-3	Shallow Drilled Well, <= 100 feet, > 6in Dia.	**Scenario Description:** Typical construction is for the installationof a well, in areas where sufficient water is known to occur within100 feet of the ground surface, and the flow is such that a larger diameter well is needed. The well shall be drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply. The purpose of the practice is to provide water for livestock. **After Practice Description:** An average well depth is 100 feet. Well casings are 12" in diameter. Sufficient water is available forlivestock.	Depth of Well	Feet	$61.76	$74.11
642-4	Deep Drilled Well, > 100 Feet	**Scenario Description:** Typical construction is for the installationof a well, in areas where sufficient water is known to occur >100 feet of the ground surface. The well shall be drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply. The purpose of the practice is to provide water for livestock. **After Practice Description:** An average well depth is 300 feet. Well casings are 4-6" in diameter. Well is dug into consolidated (bedrock or firm material) where casing and lining is installed to adepth of 240 feet. The remaining depth does not need lining or screening due to the 'open hole' construction and nature of wells in this substrate. Sufficient water is available for livestock.	Depth of Well	Feet	$25.45	$30.54

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WATERING FACILITY

Practice Code 614

Practice Units: NUMBER

Definition: A watering facility stores or provides drinking water to livestock or wildlife.

Purpose: This practice is used to accomplish one or more of the following purposes:

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

Conditions Where Practice Applies: This practice applies to all land uses where there is a need for a watering facility for livestock or wildlife, where there is a source of water that is adequate in quantity and quality for the purpose, and where soils and topography are suitable for a facility.

This practice is not intended for constructed earthen embankment or excavated ponds. For ponds, refer to Iowa NRCS Conservation Practice Standard (CPS) Pond (Code 378).

Limitations: Watering facilities are only eligible for financial assistance when associated with grazing system improvements.

Maintenance: Practice must be maintained for a lifespan of 20 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
614-1	Permanent Tank, <450 gallons	**Scenario Description:** A permanent watering facility constructedof approved materials with less than 450 gallons of capacity that provides adequate quantity and quality of water for storage and or direct drinking access. All watering facilities will be constructedfrom approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materials and labor costs for installing the watering tank, float valve, wildlife escape ramp, and freeze proofhydrant. A stabilized area under and around the watering facilityis not included and must be addressed through an associated practice of Heavy Use Area Protection (561). **After Practice Description:** A permanent watering facility with acapacity of less than 450 gallons is typically installed for 30 animal units with all tank materials, tank plumbing and float valve, to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife for storage and or direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing.	Number of Watering Points	Each	$551.22	$661.47
614-2	Portable Tank	**Scenario Description:** Establishment of a portable watering facility for livestock as part of an intensively managed grazing system where the livestock are frequently moved. Payment includes the watering tank and float valve. If needed, a stabilized area under and around the watering facility is not included and must be addressed through an associated practice of Heavy Use Area Protection (561). Payment is per portable tank. **After Practice Description:** This practice is typically installed for30 animal units. It consists of a portable trough of either durable plastic, steel, or rubber that provides adequate water and accessfor the livestock. The trough includes a float for control of inflow of water. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation.	Number of Portable Tanks	Each	$185.51	$222.61
614-4	Large Permanent Tank, 450 -1000 gallons, or Fountain	**Scenario Description:** Establishment of a large permanent watering facility using materials such as a large concrete troughor fountain type waterers. Payment includes materials and laborcosts for installing the watering tank, float valve, wildlife escape ramp, and freeze proof hydrant. A stabilized area under and around the watering facility is not included and must be addressed through an associated practice of Heavy Use Area Protection (561). **After Practice Description:** This practice is typically installed for50 animal units. It consists of a necessarily large permanent concrete trough, or fountain type waterer that provides adequate water and access for the livestock.	Number of Watering Points	Each	$1,076.38	$1,291.66

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
614-5	Above Ground Storage, 1,000 - 3,000 gallons	**Scenario Description:** A permanent watering facility constructedof approved materials having 1,000 to 3,000 gallons of water storage capacity for an adequate quantity and quality of water in situations where a lower capacity water supply source such as a spring or solar pump is the only feasible water source and backup capacity is needed during peak water demand periods. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materialsand labor costs for installing the storage tank. A stabilized area under and around the watering facility is not included and must be addressed through an associated practice of Heavy Use AreaProtection (561). **After Practice Description:** A permanent watering facility with water storage capacity of 1,000 to 3,000 gallons is typically installed for 30 animal units to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife. Installation facilitates improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing.	Number of tanks	Each	$3,294.06	$3,952.87
614-6	Above Ground Storage, >3,000 gallons	**Scenario Description:** Establishment of a large permanent watering facility having 3,001 to 5,000 gallons of water storage capacity for an adequate quantity and quality of water in situations where a lower capacity water supply source such as a spring or solar pump is the only feasible water source and backup capacity is needed during peak water demand periods. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materialsand labor costs for installing the storage tank. A stabilized area under and around the watering facility is not included and must be addressed through an associated practice of Heavy Use AreaProtection (561). **After Practice Description:** A permanent watering facility with water storage capacity of 3,001 to 5,000 gallons is typically installed for 50 animal units to provide adequate water storage capacity to ensure an adequate supply and quality of water for livestock or wildlife. Installation facilitates improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing.	Number of tanks	Each	$5,275.53	$6,330.64
614-7	Underground Storage Tank	**Scenario Description:** A precast concrete tank used for storing water as part of a watering system. The storage tank will consist of 1 storage tank (2500 gal.) adequate base material and backfillaround the tank, access riser with lid, and 20 ft. of 4 inch for overflow pipe. **After Practice Description:** A permanent watering facility for livestock constructed of approved materials with a 2,500 gallons of additional storage capacity for adequate quantity and quality ofwater for storage when backup capacity is needed peakwater demand periods. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing.	Number of tanks	Each	$4,283.16	$5,139.80

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
614-8	Frost Free Waterer	**Scenario Description:** A permanent watering facility constructedof approved materials that provides adequate quantity and quality of water for direct drinking access. All watering facilities will be constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation. Payment includes materials and labor costs for installing the frost-free waterer. The stabilized area under and around the watering facility is not included and must be addressed through an associated practice of Heavy Use Area Protection (561). **After Practice Description:** A permanent watering facility is typically installed for 30 animal units with all waterer materials to provide an adequate supply and quality of water for livestock or wildlife for direct drinking access and provides improved plant productivity and health, water quality, and habitat. All watering facilities are constructed from approved durable materials that have a life expectancy that meets or exceeds the planned useful life of the installation and placed on a properly prepared foundation with required plumbing.	Number of Waterers	Each	$1,337.52	$1,605.02
614-9	Access Ramp	**Scenario Description:** The bank of the stream or pond is severely eroded and water quality is poor due to the unrestrictedaccess of livestock or wildlife. A conservation plan includes provisions for controlled access to drinking water for livestock orwildlife to provide daily water requirements, improve animal distribution to better utilize grazing resources, or provide a water source that is an alternative to a sensitive resource. **After Practice Description:** A permanent watering ramp with a level section at the base is installed to provide drinking water for livestock or wildlife. The access ramp is constructed of approvedmaterials consisting of rock and or gravel surfacing on geotextilefabric foundation, with a life expectancy that meets or exceeds the planned useful life of the installation. The watering facility includes all materials, equipment, and labor to shape the ramp and install the surfacing material.	Area of access ramp	Square Feet	$3.13	$3.76

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WELL DECOMMISSIONING

Practice Code 351

Practice Units: NUMBER

Definition: The sealing and permanent closure of an inactive, abandoned, or unusable water or monitoring well.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Protect ground water from surface water contamination
- Protect the aquifer water quality
- Restore the natural hydrogeologic conditions

Conditions Where Practice Applies: This practice applies to any cased or noncased water well or monitoring well selected for decommissioning.

This practice is intended for wells where no unidentified waste has been observed or is expected per NRCS National Engineering Manual (NEM) (Title 210), Part 503, Subpart E, “Prohibited Technical Assistance.”

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 20 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
351-1	Hand Dug	**Scenario Description:** Seal and permanently close an inactive,abandoned, or unusable hand dug or shallow water well to prevent excess nutrients in surface and groundwater and to eliminate pesticides transported to surface and ground water. Well will be cleared of all equipment and materials. Residual water column must be treated with chlorine concentration of >50 ppm or according to local, State, Tribal, or Federal regulations. **After Practice Description:** Procedures and sealing materials shall conform to ASTM D5299 and be compatible with all local, State, Tribal, and Federal requirements. Backfill shall be placed and compacted in a manner that minimizes segregation and bulking to prevent surface subsidence. Typical well is hand dug.	Length of well casing	Feet	$63.85	$76.62
351-2	Drilled >100ft	**Scenario Description:** Seal and permanently close an inactive, abandoned, or unusable water well to prevent excess nutrients insurface and groundwater and to eliminate pesticides transported to surface and ground water. Well will be cleared of all equipmentand materials. Residual water column must be treated with chlorine concentration of >50 ppm or according to local, State, Tribal, or Federal regulations. **After Practice Description:** Procedures and sealing materials shall conform to ASTM D5299 and be compatible with all local, State, Tribal, and Federal requirements. Backfill shall be placedand compacted in a manner that minimizes segregation and bulking to prevent surface subsidence. Typical length of well casing is greater than 100 feet.	Length of well casing	Feet	$6.38	$7.65
351-3	Drilled <=100 ft	**Scenario Description:** Seal and permanently close an inactive, abandoned, or unusable water well to prevent excess nutrients insurface and groundwater and to eliminate pesticides transported to surface and ground water. Well will be cleared of all equipmentand materials. Residual water column must be treated with chlorine concentration of >50 ppm or according to local, State, Tribal, or Federal regulations. **After Practice Description:** Procedures and sealing materials shall conform to ASTM D5299 and be compatible with all local, State, Tribal, and Federal requirements. Backfill shall be placedand compacted in a manner that minimizes segregation and bulking to prevent surface subsidence. Typical length of well casing is 100 feet or less.	Length of well casing	Each	$1,119.39	$1,343.27

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WETLAND CREATION

Practice Code 658

Practice Units: ACRE

Definition: The creation of a wetland on a site that was historically non-wetland.

Purpose: To establish wetland hydrology, vegetation, and wildlife habitat functions on soils capable of supporting those functions.

Conditions Where Practice Applies: This practice applies only to sites where hydric soils do not exist and the objective is to establish specific wetland functions. This practice does not apply to:

- The treatment of point and non-point sources of water pollution (Constructed Wetland – Code 656).
- The rehabilitation of a degraded wetland or the reestablishment of a former wetland so that soils, hydrology, vegetative community, and habitat are a close approximation of the original natural condition and boundary that existed prior to the modification. (Wetland Restoration – Code 657).
- The rehabilitation of a degraded wetland, the reestablishment of a former wetland, or the modification of an existing wetland, where specific wetland

Limitations: These wetlands are not intended to treat point or non-point pollutants.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
658-1	Excavated	**Scenario Description:** A wetland is created on a flat mineral upland at a location where surface runoff may be intercepted andponded by excavation. **After Practice Description:** An excavation with an average depth of 12" has created a shallow depression in a broad swale which intercepts surface runoff. The excavated material has beenspread on adjacent areas. The INADEQUATE HABITAT FOR FISH AND WILDLIFE resource concern has been addressed with the provision of seasonal open water for terrestrial, aquatic, and waterfowl species.	Acres of Wetland	Acres	$3,994.67	$3,994.67
658-2	Embankment	**Scenario Description:** A wetland is created on a flat mineral upland at a location where surface runoff may be intercepted andponded by excavation and with an embankment. Facilitating practices may include Structure for Water Control (587). **After Practice Description:** An excavation/embankment with anaverage depth of 12" has created a shallow depression in a broad swale which intercepts surface runoff. The excavated material has been spread on adjacent areas and used to compact the embankment. The INADEQUATE HABITAT FOR FISH AND WILDLIFE resource concern has been addressed with the provision of seasonal open water for terrestrial, aquatic, and waterfowl species.	Acres of Wetland	Acres	$3,671.23	$3,671.23

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WETLAND ENHANCEMENT

Practice Code 659

Practice Units: ACRE

Definition: The augmentation of wetland functions beyond the original natural conditions on a former, degraded, or naturally functioning wetland site; sometimes at the expense of other functions.

Purpose: This practice is used to accomplish the following purposes:

- To enhance hydric soil functions (changing soil hydrodynamic and/or bio-geochemical properties).
- To enhance wetland hydrology (dominant water source, hydroperiod, and hydrodynamics).
- To enhance vegetation (including the removal of undesired species, and/or seeding or planting of desired species).
- To enhance plant and animal habitats.
- Sequestration of Elements and Compounds (Water Quality).

Conditions Where Practice Applies: This practice applies to any degraded or non-degraded wetland sites with hydric soils, where the objective is to enhance selected wetland functions to conditions different than those that originally existed on the site.

This practice does not apply to:

- The treatment of point and non-point sources of water pollution (NRCS Conservation Practice Standard (CPS) Constructed Wetland (Code 656)) except for cropland and/or pastureland subsurface drainage tile outlets if Additional Criteria for Agricultural Tile Drain Outlet Treatment are met.
- The rehabilitation of a degraded wetland or the reestablishment of a former wetland so that soils, hydrology, vegetative community, and habitat are a close approximation of the original natural condition and boundary that existed prior to the modification (Wetland Restoration – Code 657).
- The creation of a wetland on a site location that was historically non-wetland. (NRCS CPS Wetland Creation (Code 658)).
- The management of fish and wildlife habitat on wetlands enhanced under this standard.

Limitations: These wetlands are not intended to treat point or non-point pollutants except for agricultural tile drain outlets.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
659-1	Mineral Flat, Tile Removal	**Scenario Description:** A Mineral Flat wetland is to be enhanced. The tract size is 40 Acres consists of surface saturated soils interspersed with shallow depressions that are not depressional class HGM wetlands. The tract is tile drained and will be rendered non-functional by excavating 50 foot lengths of tile mains and laterals in 6 separate locations. The wetland size is also 40 acres. **After Practice Description:** The drain tiles have been renderednon-functional by excavating 50-foot lengths of tile mains and laterals in 6 separate locations, and backfilling with excavated earth, which is compacted with the excavator bucket.	Number of Tile Breaks	Each	$3,199.79	$3,199.79
659-2	Riverine, Levee Removal, ditch plugs and floodplain features	**Scenario Description:** A Riverine HGM tract on a large floodplain is to be enhanced. It has been converted to agriculturalproduction by surface ditching and clearing of woody vegetation. The wetland extent is 60 acres. **After Practice Description:** The hydrology of the site is enhanced with the installation of ditch plugs, and the excavation of macrotopographic features with an average depth of 6" over 30% of the wetland area. Excavated spoil is placed adjacent to the features on the wetland and adjacent non-wetland area with a maximum depth of 24 inches. The levee has been breached atthe upstream and downstream ends of the tract reach, restoring dynamic stream flooding. The breach length is 150 feet long at both locations. Both the wetland and non-wetland areas are planted with a Bottomland Hardwood species mix. The levee breaches are armored with rock riprap.	Acres of Wetland	Acres	$1,155.89	$1,155.89
659-3	Depression, Sediment Removal and Ditch Plug	**Scenario Description:** A Depressional HGM class wetland is tobe enhanced. The wetland size is 10 acres. The site is a recharge depression, fed only from surface runoff. **After Practice Description:** The ditch has been plugged by the installation of a 50' long section of compacted clay fill, and the deposition has been removed down to the original topsoil layer. An herbaceous plant community has been seeded.	Acres of Wetland	Acres	$2,531.11	$2,531.11
659-5	Vernal Pool	**Scenario Description:** Wetland hardwood forest with sites thathave potential to be enhanced with vernal pools. This involves enhancement of hydrology of a vernal pool site that provides season shallow surface water. **After Practice Description:** Seasonal inundation of the site hasbeen enhanced on the site without significant disturbance to the native vegetation. Wildlife habitat for species that utilize vernal pools has been developed on the site.	Area of pool	Acres	$15,139.85	$15,139.85
659-32	Riverine, oxbow wetland	**Scenario Description:** Restoration of an 0.40 acre oxbow wetland to create off-channel habitat for species such as Topeka Shiner. Includes removal of post settlement alluvium down to the original soil surface, slope, and contour. Reconnection of the oxbow to the stream channel using original, natural inflow and outflow channels will include excavation of post settlement alluvium to the original soil surface, slope, and contour. **After Practice Description:** A 0.4 acre off-channel oxbow (35' bottom width, 56' topwidth, 3.5' depth, 310 feet long) is excavated to remove the post settlement alluvium down to original soil surface, slope and contour. Oxbow is reconnected to the stream channel by excavating the original inflow and outflow channels to post settlement grade, slope and contour.	area of excavation	Acres	$24,250.23	$24,250.23

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WETLAND RESTORATION

Practice Code 657

Practice Units: ACRE

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

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

- Conditions conducive to hydric soil maintenance.
- Wetland hydrology (dominant water source, hydroperiod, and hydrodynamics).
- Native hydrophytic vegetation (including the removal of undesired species, and/or seeding or planting of desired species).
- Original fish and wildlife habitats.

Conditions Where Practice Applies: This practice applies only to natural wetland sites with hydric soils which have been subject to the degradation of hydrology, vegetation, or soils.

This practice is applicable only where the natural hydrologic conditions can be approximated by actions such as modifying drainage, restoring stream/floodplain connectivity, removing diversions, dikes, and levees, and/or by using a natural or artificial water source to provide conditions similar to the original, natural conditions.

See explanations of specific practice types under Wetland Creation (658).

Limitations: These wetlands are not intended to treat point or non-point pollutants.

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
657-1	Mineral Flat, Tile Removal	**Scenario Description:** A Mineral Flat wetland is to be restored. The wetland size is 40 Acres consists of surface saturated soils interspersed with shallow depressions that are not depressional class HGM wetlands. **After Practice Description:** The drain tiles have been renderednon-functional by excavating 50-foot lengths of tile mains and laterals in 6 separate locations, and backfilling with excavated earth, which is compacted with the excavator bucket.	Acres of Wetland	Acres	$479.97	$479.97
657-2	Riverine, Levee Removal, ditch plugs and floodplain features	**Scenario Description:** A Riverine HGM tract on a large floodplain is to be restored. It has been converted to agricultural production by surface ditching and clearing of woody vegetation.The wetland extent is 60 acres. **After Practice Description:** The hydrology of the site is restoredwith the installation of ditch plugs, and the excavation of macrotopographic features with an average depth of 6" over 30%of the wetland area. Excavated spoil is placed adjacent to the features on the wetland and adjacent non-wetland area with a maximum depth of 24 inches. The levee has been breached at the upstream and downstream ends of the tract reach, restoring dynamic stream flooding. The breach length is 150 feet long at both locations. Both the wetland and non-wetland areas are planted with a Bottomland Hardwood species mix. The levee breaches are armored with rock riprap.	Acres of Wetland	Acres	$1,155.89	$1,155.89
657-3	Depression, Sediment Removal and Ditch Plug	**Scenario Description:** A Depressional HGM class wetland is to be restored. The wetland size is 10 acres. The site is a rechargedepression, fed only from surface runoff. **After Practice Description:** The ditch has been plugged by the installation of a 50' long section of compacted clay fill, and the deposition has been removed down to the original topsoil layer. An herbaceous plant community has been seeded.	Acres of Wetland	Acres	$2,531.11	$2,531.11
657-4	Riverine Channeland Floodplain Restoration	**Scenario Description:** A Riverine HGM landscape on a small stream on a low stream order riparian landscape has been partially converted to agricultural production on 10 acres of the 15-acre wetland tract. The stream channel has degraded. The reach is 1500 feet in length. **After Practice Description:** The hydrology of the site is restoredby the installation of a series of rock check structures to raise thestream water surface profile. Floodplain macrotopographic features replicating the original side channels, oxbows, and backswamps are constructed by excavation. Spoil is placed adjacent to the excavations to replicate natural depositional features. The average depth of the excavated features is 0.5 feet, and the surface area of the excavations is 25% of the tract size. The eroding stream bank is stabilized with soil bio- engineering features, and fish habitat improvement measures areinstalled in the channel. The tract is seeded to appropriate hydrophytic and upland vegetation, both woody and herbaceous.	Acres of Wetland	Acres	$1,331.54	$1,331.54

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
657-5	Vernal Pool	**Scenario Description:** Restoration of vernal pools on suitablesites within areas of hardwood forest. This involves restorationof hydrology to a vernal pool site that provides season shallowsurface water. **After Practice Description:** Seasonal inundation of the site hasbeen restored to the site without significant disturbance to the native vegetation. Wildlife habitat for species that utilize vernal pools has been restored to the site.	Area of pool	Acres	$15,139.85	$15,139.85
657-6	Riverine, oxbow wetland	**Scenario Description:** Restoration of an 0.40-acre oxbow wetland to create off-channel habitat for species such as Topeka Shiner. Includes removal of post settlement alluviumdown to the original soil surface, slope, and contour. Reconnection of the oxbow to the stream channel using original,natural inflow and outflow channels will include excavation of post settlement alluvium to the original soil surface, slope, and contour. **After Practice Description:** A 0.4 acre off-channel oxbow (35'bottom width, 56' top width, 3.5' depth, 310 feet long) is excavated to remove the post settlement alluvium down to original soil surface, slope and contour. Oxbow is reconnectedto the stream channel by excavating the original inflow and outflow channels to post settlement grade, slope and contour.	area of excavation	Acres	$24,250.23	$24,250.23
657-24	Excavation	**Scenario Description:** A Depressional or Riverine HGM class wetland is to be restored. The wetland size is 5 acres. The site is fed from surface runoff or flood flows. **After Practice Description:** The deposition has been removed down to the original topsoil layer (12" average depth). The excavated material has been spread on adjacent areas.	area of excavation	Acres	$5,525.12	$5,525.12

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WETLAND WILDLIFE HABITAT MANAGEMENT

Practice Code 644

Practice Units: ACRE

Definition: Retaining, developing or managing wetland habitat and communities for wetland wildlife.

Purpose: To maintain, develop, or improve wetland habitat for waterfowl, shorebirds, fur-bearers, reptiles and amphibians or other wetland dependent or associated flora and fauna.

Conditions Where Practice Applies: On or adjacent to wetlands, rivers, lakes and other water bodies where wetland associated wildlife habitat can be managed. This practice applies to natural wetlands and/or water bodies as well as wetlands that may have been previously restored (657), enhanced (659), and created (658).

Limitations: Use these scenarios only under Prairie Pothole Initiative: 644-9 Management and monitoring only, foregone income, 644-10 Management and Monitoring on Idled Cropland for wetland Wildlife, foregone income – Level 1 (Year 2-5), 644-11 Idling Cropland for Wetland Wildlife - Level 2, 644-12 Monitoring and Management – Level 3.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
644-2	Wetland WildlifeHabitat Monitoring and Management, Low Intensity and Complexity	**Scenario Description:** This scenario is applied to wetlands on land use types including those with wildlife as a modifier, where any resource concern is identified for wildlife, and where low intensity and complexity of monitoring or management will treat the identified resource concern. Only 1-2 monitoring efforts are needed and each requiring less than 2 people and 4 hours per effort. The adaptive management actions such as cutting of limbsthat are impeding access of birds into nest boxes, replacing damaged fence markers, cleaning of nest structures and debris around other structures requires only hand labor and less than 8 hours labor per year. **After Practice Description:** Wildlife habitat is improved by implementation of annual adaptive management actions of lowintensity and complexity.	Monitoring efforts and adaptive manageme nt actions	Acres	$3.51	$4.21
644-3	Habitat Monitoring and Management, Medium Intensityand Complexity	**Scenario Description:** This scenario is applied to wetland areaslocated on all land use types including those with wildlife as a modifier, where any resource concern is identified for wildlife, and where medium intensity and complexity of monitoring or management will treat the identified resource concern. Two or three monitoring efforts are needed and each requiring less than 2 people and less than 8 hours per effort. Two or three adaptive management efforts are required (such as cutting of limbs that are impeding access of birds into nest boxes, replacing damagedfence markers, cleaning of nest structures and debris around other structures). The adaptive mgmt. requires hand labor and the occasional use of light equipment. A crew of 2 is needed for the hand labor efforts and the crew will require less than 16 total hours of labor per mgmt. effort. Mowing of roads and trail is required to provide access for monitoring and management. **After Practice Description:** Wetland wildlife habitat is improvedby implementation of annual adaptive management actions of medium intensity and complexity.	Monitoring efforts and adaptive manageme nt actions	Acres	$10.52	$12.62

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
644-5	Development ofShallow Micro-Topographic Features with Normal Farming Equipment.	**Scenario Description:** This typical scenario is installed on non-forested wetlands, including open lands prior to tree planting. The purpose is to increase plant species richness and diversity, create micro-habitats for invertebrates, increase water infiltrationand reduce run-off. The area is plowed to loosen the soil. Then the soil is excavated with normal farming equipment (e.g. tractor and box-blade) to a depth of 2-6 inches and immediatelydeposited. This lowering and raising of a box-blade restores the original micro-topographic features (6' X 6' depressions and mounds) common to most landscapes and landforms prior to clearing, tilling, and annual mowing. Restoration of shallow but frequent micro-topographic features has been lost by the smoothing action of tillage, mowing and the original land- clearing. This scenario it typically implemented for ecosystem restoration projects such as prairie restoration and range-land restoration, and particularly on moderately well-drained soils. **After Practice Description:** Shallow micro-depressions and mounds are numerous. This varied micro-topographic featuresprovided varied moisture gradients required for high plant species richness and diversity. Wildlife habitat is improved. Water conservation is increased, increasing vegetative production. Water quality is improved as the micro depressionscapture sediments, nutrients and manure. Over time, the micro-depressions become more nutrient rich than the micro-highs, further increasing plant species richness.	hours of tractor use	Acres	$40.44	$48.53
644-7	Topographic Feature Creation, Low	**Scenario Description:** The setting is all landuses, but typically ison lands used for the production of forest products grazing and/or fish and wildlife where the slope gradient is less than two percent and soils that are not excessively drained. The State- approved habitat evaluation or appraisal found that a limiting factor for wetland wildlife is the absence of sufficient variability in microtopographic relief in the area. The construction of topographic features will provide for diverse soil hydrologic conditions needed to treat the degraded plant condition and/or inadequate habitat for wetland wildlife. Excavated spoil is spread adjacent to excavation or moved to designated locations but not compacted. This scenario is for earthwork. **After Practice Description:** As a result of the installation, the topographic relief needed to provide the varied wetland wildlifehabitat needs is provided.	Acres of constructed features	Acres	$652.75	$783.30

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
644-9	Management and monitoring only, foregone income	**Scenario Description:** Site management will include managing/monitoring the site to provide food and cover for wetland wildlife species on cropland. Annual vegetation (crops or other annual vegetation) will be allowed to establish and persist during critical nesting and brood rearing seasons and willremain standing (not harvested) until migratory species have leftthe site. The setting is on lands used for the production of crops where the slope gradient is less than two percent and soils that are not excessively drained. The State-approved habitat evaluation or appraisal found that a limiting factor for wetland wildlife is the absence of sufficient cover and food in the area. The manipulation of existing cover will be accomplished thru mechanical methods to provide a diverse vegetation mosaic within and adjacent to the existing wetland addressing inadequate habitat for wetland wildlife. Where this occurs on cropped fields, annual crops will be lost for one growing season (foregone income is included). **After Practice Description:** Agricultural crop or annual vegetation has been allowed to persist providing needed food and cover essential for identified species. Crops and annual vegetation will not be harvested during the critical seasons as identified by the habitat evaluation. As a result of the installation, adequate habitat needs have been provided.	Acres of Wetland Wildlife Cover and Food	Acres	$466.08	$469.41
644-10	Management and Monitoring on Idled Cropland for Wetland Wildlife, foregone income - Level 1 (Year 2-5)	**Scenario Description:** This scenario addresses wildlife habitat management for wetter or more water saturated portions of cropland fields which are valuable source of forage and cover for many waterfowl, shorebird and wading bird species. The cession of cropping and maintenance of hydrology will provide adequate forage and cover in areas where normal cropland production restricts the growth of cover andforage sources. Where this occurs on cropped fields, annual crops will belost for one growing season (foregone income is included). **After Practice Description:** The planning unit is adequately covered with permanent and/or annual (non-persistent) vegetation. The cession ofcropping and maintenance of hydrology provides adequate forage and cover in areas where normal cropland production restricts the growth of cover and forage sources. Monitoring assures hydrology is intact and provides wildlife water and habitat. Acres will be assessed and score 0.5 or greater as both Wetlands and Cropland on the Wildlife Habitat Evaluation Guide. Monitoring will be used to determine if the hydrology remains intact and cover is adequate and free of invasive weed species. Examples of monitoring include but are not limited to: photo points with comparisons to surrounding wetlands, use documentation by livestock, regeneration or breeding success, completing an annual management records log, documenting wildlife sightings, documenting location and species of invasive plants and condition of vegetative and structural treatments.	Area idled from crop production toincrease wetland wildlife population	Acres	$498.64	$508.48

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
644-11	Idling Cropland for Wetland Wildlife-Level 2	**Scenario Description:** This scenario addresses wildlife habitat management for wetter or more water saturated portions of cropland fields which are valuable source of forage and cover for many waterfowl, shorebird and wading bird species. The cession of cropping and maintenance of hydrology will provide adequate forage and cover in areas where normal cropland production restricts the growth of cover andforage sources. Where this occurs on cropped fields, annual crops will belost for one growing season (foregone income is included). **After Practice Description:** The planning unit is adequately covered with annual (non-persistent) vegetation. The cession of cropping and maintenance of hydrology provides adequate forage and cover in areas where normal cropland production restricts the growth of cover and forage sources. Monitoring assures hydrology is intact and provides wildlife water and habitat. Acres will be assessed and score 0.5 or greater as both Wetlands and Cropland on the Wildlife Habitat EvaluationGuide. Monitoring will be used to determine if the hydrology remains intact and cover is adequate and free of invasive weed species. Examples of monitoring include but are not limited to: photo points withcomparisons to surrounding wetlands, use documentation by livestock,regeneration or breeding success, completing an annual management records log, documenting wildlife sightings, documenting location and species of invasive plants and condition of vegetative and structural treatments.	Area idled from crop production toincrease wetland wildlife population	Acres	$504.11	$515.05
644-12	Monitoring and Management - Level 3	**Scenario Description:** This scenario applies to cropped wetlands, two acres or less in size identified on the National Wetland Inventory, with intact hydrology, currently cropped (typically in a corn-wheat-soybean rotation) and lacking adequatefood and cover for migratory water fowl during critical periods. The inadequate wildlife habitat resource concern can be addressed by allowing EXISTING annual vegetation (crops or other annual vegetation) to establish and persist during critical nesting and brood rearing seasons. Annual crops may be lost forone growing season. **After Practice Description:** Agricultural crop or annual vegetation will be allowed to persist providing food and cover essential for migratory birds. Crops and annual vegetation will not be harvested during the primary nesting season as identifiedby the habitat evaluation guide. This allows for successful nesting and brood rearing. The Wildlife Habitat Evaluation Guidedocuments an increase in planning criteria (and at a minimum meet planning criteria) for the inadequate wildlife habitat resource concern. Monitoring (with supporting photo documentation) demonstrates wildlife habitat has been improvedto levels consistent with management goals/objectives, as well as observed use of the wetland habitat by wildlife.	NWI for sizing	Acres	$358.33	$367.08

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WILDLIFE HABITAT PLANTING

Practice Code 420

Practice Units: ACRE

Definition: Establishing wildlife habitat by planting herbaceous vegetation or shrubs.

Purpose: This practice is used to accomplish one or more of the following purposes:

- Improve degraded wildlife habitat for the target wildlife species or guild
- Establish wildlife habitat that resembles the historic, desired, and reference native plant community

Conditions Where Practice Applies: This practice applies to all lands where inadequate wildlife habitat is identified as a primary resource concern and a plant community inventory or wildlife habitat evaluation indicates a benefit in altering the current vegetative conditions (species diversity, richness, structure, and pattern) by establishing herbaceous plants or shrubs. The use of annuals that persist over the life of the practice, and annuals that serve as a nurse crop to support the establishment of the persistent vegetative species are appropriate under this conservation practice.

Limitations: This practice does not apply to—

- Planting of introduced species. For such plantings, use NRCS Conservation Practice Standard (CPS), Conservation Cover (Code 327).
- Planting of trees. For such plantings, use CPS Tree/Shrub Establishment (Code 612).
- Wildlife plantings requiring repeated cultivation and planting. For such plantings, use CPSs Wetland Wildlife Habitat Management (Code 644), or Upland Wildlife Habitat Management (Code 645).
- Plantings requiring restoration of abiotic conditions, and plantings with the objective of restoring a rare or declining natural community. For such projects, use CPS Restoration of Rare or Declining Natural Communities (Code 643).
- Plantings with a principal goal of providing forage for livestock or other domesticated animals (e.g., domesticated elk, bison, and deer). For such plantings, use CPS Forage and Biomass Planting (Code 512) criteria.
- Plantings where erosion control or water quality is a primary resource concern. For such plantings, use CPSs Conservation Cover (Code 327), Windbreak/Shelterbelt Establishment and Renovation (Code 380), Critical Area Planting (Code 342), or Filter Strip (Code 393).
- Treatment of noxious woody or herbaceous vegetation when aggressive efforts are required and where success monitoring of treatment efforts is necessary. Use Brush Management (CPS 314) and Herbaceous Weed Treatment (CPS 315) when the resource concern is a degraded plant condition due to very difficult to control noxious or invasive species. Following application of CPS 314, and as needed, CPS 315 the application of CPS 420 may be determined to be needed to fully address the habitat-limiting factors.

Scenario 420-192 Very Small Acreage (<.5 ac) Planting with Seedlings, is applicable for 21,780 square feet or less.

Scenario 420-257 Interplanting with potted plants or shrubs, is applicable up to a maximum size of 1,000 square feet.

Scenario 420-270 Small Planting – Pollinator Mix, is applicable up to a maximum size of 43 (1,000 square feet).

Maintenance: Practice must be maintained for a lifespan of 5 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
420-81	Native Species	**Scenario Description:** This practice applies on land to be retired from agricultural production and on other lands being converted to permanent protective cover for wildlife benefit. Scenario is for the establishment of permanent native grasses (native grasses, native grasses and legumes, or native grasses and forbs). **After Practice Description:** The 420 Implementation Requirements have been developed for the site and applied. The land is covered with permanent native grass vegetation which provides cover and food for beneficial insects and wildlife.	Area Planted	Acres	$190.89	$229.06
420-100	Native Species with Forgone Income	**Scenario Description:** This practice applies on land to be retired from agricultural production and on other lands being converted to permanent protective cover for wildlife benefit. Scenario is for the establishment of permanent native grasses (native grasses, native grasses and legumes, or native grasses and forbs). **After Practice Description:** The 420 Implementation Requirements have been developed for the site and applied. The land is covered with permanent native grass vegetation which provides cover and food for beneficial insects and wildlife.	Area Planted	Acres	$640.33	$678.51
420-101	Pollinator Species	**Scenario Description:** This practice applies on land to be retired from agricultural production and on other lands being converted to permanent protective cover for wildlife benefit. Scenario is for the establishment of permanent pollinator habitat. **After Practice Description:** The 420 Implementation Requirements have been developed for the site and applied. The land is covered with permanent pollinator habitat vegetation which provides cover and food for beneficial insects and wildlife.	Area Planted	Acres	$442.02	$530.42
420-102	Pollinator Species with Forgone Income	**Scenario Description:** This practice applies on land to be retired from agricultural production and on other lands being converted to permanent protective cover for wildlife benefit. Scenario is for the establishment of permanent pollinator habitat. Foregone income is included in this scenario to reflect the fact that the ground had previously been in agricultural production. **After Practice Description:** The 420 Implementation Requirements have been developed for the site and applied. The land is covered with permanent pollinator habitat vegetation which provides cover and food for beneficial insects and wildlife.	Area Planted	Acres	$891.46	$979.86
420-103	Monarch Species Mix	**Scenario Description:** This practice applies on land to be retired from agricultural production and on other lands being converted to permanent protective cover for wildlife benefit. Scenario is for the establishment of permanent monarch butterfly habitat. **After Practice Description:** The 420 Implementation Requirements have been developed for the site and applied. The land is covered with permanent monarch butterfly habitat vegetation which provides cover and food for beneficial insects and wildlife.	Area Planted	Acres	$844.19	$1,013.03

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
420-104	Monarch Species Mix with Foregone Income	**Scenario Description:** This practice applies on land to be retired from agricultural production and on other lands being converted to permanent protective cover for wildlife benefit. Scenario is for the establishment of permanent monarch butterfly habitat. **After Practice Description:** The 420 Implementation Requirements have been developed for the site and applied. The land is covered with permanent monarch butterfly habitat vegetation which provides cover and food for beneficial insects and wildlife.	Area Planted	Acres	$1,293.63	$1,462.47
420-164	Interseeding Native Forbs, Pollinator or Monarch Mixes	**Scenario Description:** Enhance existing perennial vegetative cover with the interseeding of native forbs, and/or milkweeds and/or other high quality nectar and pollen species to enhance beneficial organism habitat. Payment includes seed, seeding and fertility for interseeding establishment. **After Practice Description:** A more diverse mix of forbs, milkweed species, native grasses, legumes, and/or forbs provides improved habitat. Payment scenario is based on running a no till drill through 1/2 of the area to enhance the current perennial vegetation.	area interseeded	Acres	$189.85	$227.81
420-192	Very Small Acreage (<.5 ac) Planting with Seedlings	**Scenario Description:** This scenario is applicable to very small areas (typical size is 1/4 acre) in need of wildlife habitat establishment by planting of potted plants, plugs, or similar non-seed plant materials. A wildlife habitat evaluation found the need to improve habitat by altering the current vegetative conditions (diversity, richness, structure or pattern). Potted herbaceous plants and/or shrubs are planted in 6' rows and a 4' spacing (1815 plants/acre) to facilitate access of the site with mechanical equipment (e.g., ATV, hand or riding mower) for weed control or other management after establishment. The site preparation requires treatment with broad spectrum herbicide to kill the existing vegetation. Then tillage, smoothing and firming of the soil is conducted prior to planting the plant materials. **After Practice Description:** The Wildlife Habitat Planting criteria have been successfully implemented. The site has been mechanically and chemically treated and planting has occurred. The area is adequately stocked with desired species and full coverage of permanent vegetation is expected. The vegetative cover will provide the desired habitat requirements for target wildlife.	sq ft planted	Square Feet	$0.49	$0.59

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
420-193	Specialized Habitat Requirements on Cropland with Foregone Income	**Scenario Description:** A wildlife habitat evaluation or plant community inventory indicates a potential to improve wildlife habitat by altering the current vegetation conditions (species diversity, richness, structure and pattern) and changing use (annual crop to permanent vegetation) by establishing herbaceous plants. This practice scenario applies to cropland currently in production. The inadequate wildlife habitat resource concern is met by planting a specialized and often diverse mix of seeds that is NOT readily available for purchase, in combination with minor seed bed preparation. Seed is not available from traditional agricultural vendors and requires making a special order. Cost of seed is high due to limited availability and plant materials selected are needed to meet specific habitat requirements or ecosystem functions. Weed pressure is minimal due to current and past management. Control or suppression of existing undesirable vegetation is accomplished through a single herbicide treatment. **After Practice Description:** The land is no longer in crop production. Desired species have been planted and the Wildlife Habitat Planting criteria have been successfully implemented. As a result, the site will meet or exceed planning criteria for inadequate wildlife habitat.	acres planted (per acre)	Acres	$1,385.94	$1,565.50
420-257	Interplanting with potted plants or shrubs	**Scenario Description:** Herbaceous potted plants (e.g., milkweed) or shrubs are interplanted into existing herbaceous habitat to meet a missing life-need or habitat component. The typical scenario includes treatment of broad-spectrum herbicide prior to planting on a 4.5 X 50-foot area, followed by hand planting of 12 potted plants, plugs, or seedlings at 4-foot spacings. Noxious weeds are controlled during the 1st summer by spot treatment (hand removal or herbicide). An alternative arrangement for this scenario is a block planting of a 15 X 15 area, with three rows spaced 4 feet apart. **After Practice Description:** The habitat is providing all life needs of the identified wildlife species, considering the scale of the land unit.	square feet treated and planted	Square Feet	$1.47	$1.77
420-270	Small Planting - Pollinator Mix	**Scenario Description:** Permanent vegetation, including a mix of grasses, legumes and forbs established on any land needing permanent vegetative cover that provides habitat, cover, and food for pollinators. Typical size varies depending on the site feasibility for length and width. Urban sites typical size is 2000 square feet (20x100 ft). This scenario included mechanical site preparation. **After Practice Description:** The 420 implementation requirements have been developed for the site and applied. Land is in permanent vegetative cover reducing erosion and sediment delivery to water. Pollinator habitat has successfully established providing habitat and cover for pollinators and beneficial insects.	Area planted	1,000 Square Foot	$239.16	$286.99
420-271	High Species Diversity on Cropland with Foregone Income	**Scenario Description:** A wildlife habitat evaluation or plant community inventory indicates a potential to improve wildlife habitat by altering the current vegetation conditions (species diversity, richness, structure and pattern) and changing use (annual crop to permanent vegetation) by establishing herbaceous plants. This practice scenario applies to cropland currently in production. The inadequate wildlife habitat resource concern is met by planting a moderately diverse mix of seeds that is readily available for purchase from multiple vendors in combination with minor seed bed preparation. Seed is typically not available from traditional agricultural vendors and requires making a special order or ordering online. Weed pressure is minimal due to current and past management. Control or suppression of existing undesirable vegetation is accomplished through a single herbicide treatment. **After Practice Description:** The land is no longer in crop production. Desired species have been planted and the Wildlife Habitat Planting criteria have been successfully implemented.	acres planted (per acre)	Acres	$1,052.58	$1,165.47

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WINDBREAK/SHELTERBELT ESTABLISHMENT AND RENOVATION

Practice Code 380

Practice Units: FEET

Definition: Establishing, enhancing, or renovating windbreaks, also known as shelterbelts, which are single or multiple rows of trees and/or shrubs in linear or curvilinear configurations.

Purpose: Use this practice to accomplish one or more of the following purposes:

- Reduce soil erosion from wind
- Enhance plant health and productivity by protecting plants from wind-related damage
- Manage snow distribution to improve moisture utilization by plants
- Manage snow distribution to reduce obstacles, ponding, and flooding that impacts other resources, animals, structures, and humans
- Improve moisture management by reducing transpiration and evaporation losses and improving irrigation efficiency
- Provide shelter from wind, snow, and excessive heat, to protect animals, structures, and humans
- Improve air quality by intercepting airborne particulate matter, chemicals, and odors, and/or by reducing airflow across contaminant or dust sources
- Reduce energy use in heating and cooling buildings, and in relocating snow
- Increase carbon storage in biomass and soils

Conditions Where Practice Applies: On all lands except forest land, apply this practice to establish, enhance, or renovate windbreaks where rows of woody plants are desired and suited for the intended purposes.

Apply this practice to any existing windbreaks that are no longer functioning properly for the intended purpose, or where renovation can extend the functional life of a windbreak.

Limitations: N/A

Maintenance: Practice must be maintained for a lifespan of 15 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
380-1	3 row windbreak, containerized planting stock	**Scenario Description:** Three or more rows of containerized trees, shrubs or a combination of trees and shrubs are planted for wind protection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities.Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed fromcrop production where windbreak is installed. Site preparation is not included. **After Practice Description:** A windbreak of containerized treesand shrubs is installed by hand planting trees 20 ft. apart and shrubs 6 ft. apart with 16' between rows. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening. **Additional associated practices may include:** Herbaceous WeedControl (315), Tree/Shrub Pruning (660), Mulching (484)	Length of windbreak row(s)	Feet	$4.71	$5.55
380-3	3 row windbreak, bareroot seedling planting stock	**Scenario Description:** Three or more rows of bare-root trees, shrubs or a combination of trees and shrubs are planted for windprotection, odor management, energy conservation, wildlife habitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to machine the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included. **After Practice Description:** A windbreak of bare-root trees andshrubs is installed by machine planting trees 10 ft. apart and shrubs 5 ft. apart with 16' between rows. Wind velocity suitably reduced to reduce soil erosion, energy loss or to manage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening. **Additional associated practices may include:** Herbaceous WeedControl (315), Tree/Shrub Pruning (660), Mulching (484)	Length of windbreak row(s)	Feet	$1.32	$1.48
380-9	1 row windbreak, bareroot trees	**Scenario Description:** One row of bare-root trees planted for wind protection, odor management, energy conservation, wildlifehabitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to machine the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included. **After Practice Description:** A windbreak of bare-root trees is installed by machine planting trees 10 ft. apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to managesnow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening. **Additional associated practices may include:** Herbaceous Weed Control (315), Tree/Shrub Pruning (660), Mulching (484)	Length of windbreak row(s)	Feet	$0.44	$0.49

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
380-11	1 row windbreak, bareroot shrubs	**Scenario Description:** One row of bare-root shrubs planted for wind protection, odor management, energy conservation, wildlifehabitat, air quality, snow management or to provide a visual screen. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities. Payment includes materials, labor and equipment needed to machine the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included. **After Practice Description:** A windbreak of bare-root shrubs is installed by machine planting shrubs 5 ft. apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to managesnow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening. **Additional associated practices may include:** Herbaceous Weed Control (315), Tree/Shrub Pruning (660), Mulching (484)	Length of windbreak row(s)	Feet	$0.57	$0.64
380-30	1 row windbreak, container trees, less than 2 gallons	**Scenario Description:** One row of containerized hardwood and/or conifer trees planted to address resource concerns; Inefficient Energy Use, Air Quality Impacts and/or Fish and Wildlife Habitat. This practice is typically applied on cropland at field edges, around homesteads or around confinement facilities.Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed fromcrop production where windbreak is installed. Site preparation is not included. **After Practice Description:** A windbreak of containerized trees is installed by hand planting trees 15 ft. apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or to managesnow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening. **Additional associated practices may include:** Herbaceous Weed Control (315), Tree/Shrub Pruning (660), Mulching (484)	Length of windbreak row(s)	Feet	$0.78	$0.89
380-31	1 row windbreak, container shrubs,less than 2 gallon	**Scenario Description:** One row of containerized shrubs planted to address resource concerns; Inefficient Energy Use, Air QualityImpacts and/or Fish and Wildlife Habitat. This practice is typicallyapplied on cropland at field edges, around homesteads or aroundconfinement facilities. Payment includes materials, labor and equipment needed to hand plant the stock and foregone income for land removed from crop production where windbreak is installed. Site preparation is not included. **After Practice Description:** A windbreak of containerized shrubs is installed by hand planting shrubs 6 ft. apart. Wind velocity suitably reduced to reduce soil erosion, energy loss or tomanage snow deposition. Additional wildlife food and cover, mixing of odor plumes and visual screening. **Additional associated practices may include:** Herbaceous Weed Control (315), Tree/Shrub Pruning (660), Mulching (484)	Length of windbreak row(s)	Feet	$2.07	$2.45

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
380-65	Renovation-Thinning or tree removal with Dozer (trees > 8 inches DBH) followed by hand planting	**Scenario Description:** Windbreak/shelterbelt renovation to remove and replace deteriorated, damaged, diseased, or unsuitable trees or shrubs. The treatment may include removal of entire rows, or removal of selected trees/shrubs in order to prepare for the necessary planting of replacement trees and shrubs within the footprint of an existing windbreak, to improve the health and function of the windbreak. The treatment uses mechanized equipment to remove trees and/or shrubs with average DBH >8 inches. Trees and shrubs are cleared with a Dozer. All woody debris from cutting and pruning is either scattered and crushed, piled and crushed, chipped, or removed from the treatment area. Hand planting is used to replace the trees/shrubs that were removed, improving the effectiveness and longevity of the windbreak. Various types and combinations of plant materials may be used, including bare root and/or containerized trees/shrubs, and conifer and/or deciduous species or mixtures. Windbreak width of 60' and length of 726' are used in calculations; this is equivalent to an area of 1 acre. **After Practice Description:** The integrity of 726 linear feet (one acre) of windbreak/ shelterbelt has been restored and is functioning properly to reduce wind impacts to plants, animals, humans, and structures.	Length of Renovation	Feet	$4.60	$5.53
380-66	Renovation - Thinning or tree/shrub removal with Skidsteer followed by hand planting	**Scenario Description:** Windbreak/shelterbelt renovation to remove and replace deteriorated, damaged, diseased, or unsuitable trees or shrubs. The treatment may include removal of entire rows, or removal of selected trees/shrubs in order to prepare for the necessary planting of replacement trees and shrubs within the footprint of an existing windbreak, to improve the health and function of the windbreak. The treatment uses mechanized equipment to remove trees and/or shrubs with average DBH < 8 inches. Trees and shrubs are cleared by a Skidsteer with a tree sheer or saw. All slash material from cutting and pruning is either scattered and crushed, piled and crushed, chipped, or removed from the treatment area. Hand planting is used to replace the trees/shrubs that were removed, to improve the effectiveness and longevity of the windbreak. Various types and combinations of plant materials may be used, including bare root and/or containerized trees/shrubs, and conifer and/or deciduous species or mixtures. Windbreak width of 60' and length of 726' are used in calculations; this is equivalent to an area of 1 acre. **After Practice Description:** The integrity of 726 linear feet (one acre) of windbreak/shelterbelt has been restored and is functioning properly to reduce wind impacts to plants, animals, humans, and structures.	Length of Renovation	Feet	$4.21	$5.05

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WOODY RESIDUE TREATMENT

Practice Code 384

Practice Units: ACRE

Definition: The treatment of residual woody material that is created due to management activities or natural disturbances.

Purpose: This practice is used to accomplish one or more of the following purposes-

- Reduce hazardous fuels
- Reduce the risk of harmful insects and disease
- Protect/maintain air quality by reducing risk of wildfire
- To improve access for management purposes
- Improve access to forage for livestock and wildlife
- Develop renewable energy systems
- Reduce the risk of harm to humans and livestock
- Improve the soil organic matter
- Improve the site for natural or artificial regeneration

Conditions Where Practice Applies: On all lands, except active cropland, where woody residue requires treatment.

Limitations: This practice is only eligible on forested areas that have experienced a catastrophic weather event (wind, tornado, ice storm, etc.). A Forest Project or Practice Plan written by the Iowa DNR Forester or certified TSP is required.

Maintenance: Practice must be maintained for a lifespan of 10 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
384-1	Woody residue treatment following catastrophic events	**Scenario Description:** The use of a combination of hand (chainsaw) and heavy equipment similar to those used in logging to treat slash resulting from catastrophic events such as fire, wind, severe pest outbreak, ice storm, etc. This scenario will remove/treat the larger material the size of which is consistent with the large equipment used to a depth not to exceed 24 inches in depth or moved off site. **After Practice Description:** The integrity of 726 linear feet (one acre) of windbreak/ shelterbelt has been restored and is functioning properly to reduce wind impacts to plants, animals, humans, and structures.	Acres of affected forest	Acres	$657.79	$789.35

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

AGRICULTURAL ENERGY ASSESSMENT

Practice Code 228

Practice Units: NUMBER

Definition: An assessment of the energy consuming activities and components of an agricultural operation.

Purpose: The AgEMP will provide appropriate energy savings for each major activity (including a comparison to the baseline energy use) that reduces energy use and addresses the energy management needs for the agricultural operation.

Conditions Where Practice Applies: On lands in Iowa that will benefit from the development and implementation of an Agricultural Energy Management Plan.

Limitations: Contracts that include Agricultural Energy Assessment shall have energy plans or audits sent to the Iowa NRCS Area Engineer who will forward a copy to Iowa NRCS State Office Environmental Engineer for administrative review before certification of plans or installation of practices outlined in plans or audits. Design plans must meet the technical requirements of ASABE S612 - Performing On-farm Energy Audits and criteria for a CEMA 228.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
228-3	Large size, 3 Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 3 enterprises where at least I consists of > 2500 acres of crops, > 1000 animal units, more than 6 irrigation pumps, or > 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Large operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtainedservices from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activityas cited in the NRCS Field Office Technical Guide.	Number	Number	$6,346.55	$7,615.86
228-19	Large size, 4+ Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 4 or more enterprises where at least I consists of > 2500 acres of crops, > 1000 animal units, more than 6 irrigation pumps, or > 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Large operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$7,603.90	$9,124.68

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
228-35	Large size, 2 Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 2 enterprises where at least I consists of > 2500 acres of crops, > 1000 animal units, more than 6 irrigation pumps, or > 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Large operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$5,089.21	$6,107.05
228-51	Medium size, 4+ Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 4 or more enterprises where at least I consists of 301 to 2500 acres of crops, < 301 to 1000 animal units, 3 - 6 irrigation pumps, or 20,001 to 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Medium operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$6,686.32	$8,023.58

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
228-67	Small size, 4+ Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 4 or more enterprises where 1 is not larger than < 300 acres of crops, < 300 animal units, 1 - 2 irrigation pumps, < 20,000 sq. ft. of heated greenhouse, or maple syrup processing. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Small operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$5,928.82	$7,114.59
228-83	Medium size, 3 Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 3 enterprises where at least I consists of 301 to 2500 acres of crops, < 301 to 1000 animal units, 3 - 6 irrigation pumps, or 20,001 to 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Medium operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$5,428.98	$6,514.77

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
228-99	Small size, 3 Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 3 enterprises where 1 is not larger than < 300 acres of crops, < 300 animal units, 1 - 2 irrigation pumps, < 20,000 sq. ft. of heated greenhouse, or maple syrup processing. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Small operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$4,671.48	$5,605.77
228-115	Small size, 3 Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 2 enterprises where at least I consists of 301 to 2500 acres of crops, < 301 to 1000 animal units, 3 - 6 irrigation pumps, or 20,001 to 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Medium operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$4,171.63	$5,005.96

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
228-131	Small size, 2 Enterprises	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has 2 enterprises where 1 is not larger than < 300 acres of crops, < 300 animal units, 1 - 2 irrigation pumps, < 20,000 sq. ft. of heated greenhouse, or maple syrup processing. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. Small operations are described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$3,414.13	$4,096.96
228-147	Large size, 1 Enterprise	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has either > 2500 acres of crops, > 1000 animal units, more than 6 irrigation pumps, or > 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. A large operation is described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$3,831.87	$4,598.24

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
228-163	Medium size, 1 Enterprise	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has either 301 to 2500 acres of crops, < 301 to 1000 animal units, 3 - 6 irrigation pumps, or 20,001 to 40,000 sq. ft. of heated greenhouse. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. A medium operation is described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$2,914.29	$3,497.15
228-179	Small size, 1 Enterprise	**Scenario Description:** An agricultural producer wishes to obtain an energy assessment of their agricultural operation. The operation has either < 300 acres of crops, < 300 animal units, 1 - 2 irrigation pumps, < 20,000 sq. ft. of heated greenhouse, or maple syrup processing. An enterprise is defined in the ASABE S612 Performing On-farm Energy Audits Standard. A small operation is described above. The Ag Energy CEMA is an assessment of the energy consuming activities and components of an agricultural operation and includes the requirements of a Type 2 energy audit as described in the ASABE S612 standard. An Ag Energy CEMA includes a baseline assessment of the of systems, equipment, and facilities using a typical year of energy use and recommended measures to prioritize on-farm opportunities to increase energy efficiency and reduce energy use. A Certified TSP will accomplish all work in accordance with the requirements of the CEMA 228 Agricultural Energy Assessment Activity. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop an energy assessment. The CEMA 228 criteria include a baseline assessment using a typical year of energy use, energy savings of recommended improvement measures, and information useful for prioritizing implementation of the measures. The documentation may include recommendations for associated conservation practices which address energy efficiency. The Ag Energy CEMA meets the basic quality criteria for the CEMA 228 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$2,156.79	$2,588.15

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DESIGN AND IMPLEMENTATION ACTIVITY

AGRICULTURAL ENERGY DESIGN

Practice Code 120

Practice Units: NUMBER

Definition: Plan, design, and document one or more conservation practices that address inefficient energy use.

Limitations: Before any application for DIA 120 plan is created the following must happen. First, the producer must have a completed CEMA 228 plan that has been administratively approved for the site and items being proposed for the DIA 120. Then the field office will contact the Iowa NRCS State Environmental Engineer for a meeting to determine if a DIA 120 is applicable or needed for the proposed site and items identified in the CEMA 228 plan. If allowed to proceed, contracts that include Agricultural Energy Design Plans shall have energy design sent to the Iowa NRCS Area Engineer who will forward a copy to Iowa NRCS State Environmental Engineer for administrative review before certification of plans or installation of practices outlined in plans or audits. Plans or audits must meet the technical requirements outlined in the criteria for a DIA 120.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-3	High Complexity, 6+ Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for retrofits that impose several variables in the design process. The scenarios may involve a change in service levels that cannot be evaluated ordesigned through use of simple tools or manual calculations. Four factors typically indicate a “High Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 30% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) Theretrofit requires substantive changes to two or more of the electrical, mechanical, plumbing, or structural systems. 4) Complex analysis to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a detailed simulation is required to determine systems sizing and layout.) “High Complexity” practice scenarios include but are not limited to: comprehensive lighting system redesign; radiant heating systems; convert to tunnel ventilation; or convert to bench heating. Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than five practices are contracted, then, at a minimum, “6+ Designs” shall be contracted for the Ag Energy DIA. Use this scenario if at least one design is deemed high complexity.The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$8,286.67	$9,944.00

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-19	Medium Complexity, 6+ Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through anEQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for retrofits that impose some variables in the design process. The scenarios may involve a change in service levels that can be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “Medium Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 10% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to either electrical, mechanical, plumbing, or structural systems. 4) Analysis beyond the scope of NRCS methodology to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a simplified heat transfer model to determine heating, ventilation, and cooling loads may be required if existing device capacity cannot be estimated.) “Medium Complexity” practice scenarios include but are not limited to: change of lighting fixture counts or layout; wall insulation; grain dryers; add reverse osmosis to syrupproduction; or add evaporative cooling systems (cooling cells). Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than five practices are contracted, then, at a minimum, “6+ Designs” shall be contracted for the Ag Energy DIA. If at least 1 scenario is more complex than indicated herein, use an alternate scenario for contracting. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described inthe associated NRCS Conservation Practice Statements of Work.Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$7,152.70	$8,583.24

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-35	Low Complexity,6+ Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for one-to-one device retrofits. The scenario(s)may provide for a new component to modify the operation of an existing device (e.g., timer to reduce run-time). Three factors typically indicate a “Low Complexity” system, as follows. 1) New devices maintain output (hp, Btu/hr, lux, etc.) of the old devices within a roughly 10% range. 2) New devices are installed in the same location as the old devices. 3) The retrofit does not require substantive changes to electrical, mechanical, plumbing, or structural systems. “Low Complexity” practice scenarios include but are not limited to: lamp or fixture upgrades; attic insulation; fans; or washer-extractors. Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than five practices are contracted, then, at a minimum, “6+ Designs” shall be contracted for the Ag Energy DIA. If at least 1 scenario is more complex than indicated herein, use an alternate scenario for contracting. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiencyof Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$6,018.72	$7,222.47

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-51	High Complexity,4-5 Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for retrofits that impose several variables in thedesign process. The scenarios may involve a change in service levels that cannot be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “High Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 30% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to two or more of the electrical, mechanical, plumbing, or structural systems. 4) Complex analysis to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a detailed simulation is required to determine systems sizing and layout.) “High Complexity” practice scenarios include but are not limited to: comprehensive lighting system redesign; radiant heating systems; convert to tunnel ventilation; or convert to bench heating. Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than three practices are contracted, then, at a minimum, “4-5 Designs” shall be contracted for the Ag Energy DIA. Use this scenario if at least one design is deemed high complexity. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment andFacilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$7,043.36	$8,452.04

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-67	Medium Complexity, 4-5Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for retrofits that impose some variables in the design process. The scenarios may involve a change in service levels that can be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “Medium Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 10% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to either electrical, mechanical, plumbing, or structural systems. 4) Analysisbeyond the scope of NRCS methodology to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a simplified heat transfer model to determine heating, ventilation, and cooling loads may be required if existing device capacity cannot be estimated.) “Medium Complexity” practice scenarios include but are not limited to: change of lighting fixture counts or layout; wall insulation; grain dryers; add reverse osmosis to syrup production; or add evaporative cooling systems (cooling cells). Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than three practices are contracted, then, at a minimum, “4-5 Designs” shall be contracted for the Ag Energy DIA. If at least 1 scenario is more complex than indicated herein, use an alternate scenario for contracting. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural ResourceConcern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$5,909.39	$7,091.27

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-83	Low Complexity,4-5 Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associatedscenario(s) provide for one-to-one device retrofits. The scenario(s)may provide for a new component to modify the operation of an existing device (e.g., timer to reduce run-time). Three factors typically indicate a “Low Complexity” system, as follows. 1) New devices maintain output (hp, Btu/hr, lux, etc.) of the old devices within a roughly 10% range. 2) New devices are installed in the same location as the old devices. 3) The retrofit does not require substantive changes to electrical, mechanical, plumbing, or structural systems. “Low Complexity” practice scenarios include but are not limited to: lamp or fixture upgrades; attic insulation; fans; or washer-extractors. Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than three practices are contracted, then, at a minimum, “4-5 Designs” shall be contracted for the Ag Energy DIA. If at least 1 scenario is more complex than indicated herein, use an alternate scenario for contracting. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$4,775.42	$5,730.50

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-99	High Complexity,2-3 Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for retrofits that impose several variables in thedesign process. The scenarios may involve a change in service levels that cannot be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “High Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 30% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to two or more of the electrical, mechanical, plumbing, or structural systems. 4) Complex analysis to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a detailed simulation is required to determine systems sizing and layout.) “High Complexity” practice scenarios include but are not limited to: comprehensive lighting system redesign; radiant heating systems; convert to tunnel ventilation; or convert to bench heating. Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than one practice is contracted, then, at a minimum, “2-3 Designs” shall be contracted for the Ag Energy DIA. Use this scenario if at least one design is deemed high complexity. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$5,800.05	$6,960.07

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-115	Medium Complexity, 2-3 Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associated scenario(s) provide for retrofits that impose some variables in the design process. The scenarios may involve a change in service levels that can be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “Medium Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 10% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to either electrical, mechanical, plumbing, or structural systems. 4) Analysisbeyond the scope of NRCS methodology to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a simplified heat transfer model to determine heating, ventilation, and cooling loads may be required if existing device capacity cannot be estimated.) “MediumComplexity” practice scenarios include but are not limited to: change of lighting fixture counts or layout; wall insulation; grain dryers; add reverse osmosis to syrup production; or add evaporative cooling systems (cooling cells). Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than one practice is contracted, then, at a minimum, “2-3 Designs” shall be contracted for the Ag Energy DIA. If at least 1 scenario is more complex than indicated herein, use an alternate scenario for contracting. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural ResourceConcern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$4,666.08	$5,599.30

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-131	Low Complexity, 2-3 Designs	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with multiple energy practice scenarios. Associatedscenario(s) provide for one-to-one device retrofits. The scenario(s)may provide for a new component to modify the operation of an existing device (e.g., timer to reduce run-time). Three factors typically indicate a “Low Complexity” system, as follows. 1) New devices maintain output (hp, Btu/hr, lux, etc.) of the old devices within a roughly 10% range. 2) New devices are installed in the same location as the old devices. 3) The retrofit does not require substantive changes to electrical, mechanical, plumbing, orstructural systems. “Low Complexity” practice scenarios include but are not limited to: lamp or fixture upgrades; attic insulation; fans; or washer-extractors. Each “Design” indicates that new devices or components are closely related to other devices or components even if numerous scenarios are contracted. If more than one practice is contracted, then, at a minimum, “2-3 Designs” shall be contracted for the Ag Energy DIA. If at least 1 scenario is more complex than indicated herein, use an alternate scenario for contracting. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to theassociated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$3,532.11	$4,238.53

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-147	High Complexity, 1 Design	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with at least one (1) energy practice scenario. Associated scenario(s) provide for retrofits that impose several variables in the design process. The scenarios may involve a change in service levels that cannot be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “High Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 30% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to two or more of the electrical, mechanical, plumbing, or structural systems. 4) Complex analysis to evaluate alternatives isrequired to confirm level of service and appropriate device output, placement, etc. (For example, a detailed simulation is required to determine systems sizing and layout.) “High Complexity” practice scenarios include but are not limited to: comprehensive lighting system redesign; radiant heating systems; convert to tunnel ventilation; or convert to bench heating. “One Design” indicates that each new device or component is closely related to other devices or components even if numerous scenarios are contracted. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to theassociated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$4,556.75	$5,468.10

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-163	Medium Complexity, 1 Design	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with at least one (1) energy practice scenario. Associated scenario(s) provide for retrofits that impose some variables in the design process. The scenarios may involve a change in service levels that can be evaluated or designed through use of simple tools or manual calculations. Four factors typically indicate a “Medium Complexity” system, as follows. 1) Client objectives require a change of output (hp, Btu/hr, lux, etc.) that varies more than about 10% from old devices. 2) System constraints prevent new devices from being installed in the same location as the old devices. 3) The retrofit requires substantive changes to either electrical, mechanical, plumbing, or structural systems. 4) Analysis beyond the scope of NRCS methodology to evaluate alternatives is required to confirm level of service and appropriate device output, placement, etc. (For example, a simplified heat transfer model to determine heating, ventilation, and cooling loads may be required if existing device capacity cannot be estimated.) “Medium Complexity” practice scenarios include but are not limited to: change of lighting fixture counts or layout; wall insulation; grain dryers; add reverse osmosis to syrupproduction; or add evaporative cooling systems (cooling cells). “One Design” indicates that each new device or component is closely related to other devices or components even if numerous scenarios are contracted. The Ag Energy DIA includes reviewing,and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to the associated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: EnergyEfficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$3,422.77	$4,107.33

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
120-179	Low Complexity, 1 Design	**Scenario Description:** An agricultural producer wishes to conserve energy through an EQIP contract with at least one (1) energy practice scenario. Associated scenario(s) provide for one-to-one device retrofits. Thescenario(s) may provide for a new component to modify the operation of an existing device (e.g., timer to reduce run-time). Three factors typically indicate a “Low Complexity” system, as follows. 1) New devices maintain output (hp, Btu/hr, lux, etc.) of the old devices within a roughly 10% range. 2) New devices are installed in the same location as the old devices. 3) The retrofit does not require substantive changes to electrical, mechanical, plumbing, or structural systems. “Low Complexity” practice scenarios include but are not limited to: lamp or fixture upgrades; attic insulation; fans; or washer-extractors. “One Design” indicates that each new device or component is closely related to other devices or components even if numerous scenarios are contracted. The Ag Energy DIA includes reviewing, and, when needed, revising alternatives to address energy concerns. The Ag Energy DIA documents: a) the client’s final decisions related to theassociated energy practice scenarios, b) estimated energy and greenhouse gas benefits; and c) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern: Energy Efficiency of Equipment and Facilities. **After Practice Description:** The producer has obtained servicesfrom a certified TSP to develop practice scenario designs using the Ag Energy DIA. The DIA 120 criteria include tasks needed to document the client’s decision, energy savings and design of conservation practices which address energy efficiency. The Ag Energy DIA meets the quality criteria for the DIA 120 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$2,288.80	$2,746.56

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

AQUIFER FLOW TEST

Practice Code 224

Practice Units: NUMBER

Definition: Quantitative measurements to determine water well performance.

Limitations: NA

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
224-4	Aquifer Flow Test	**Scenario Description:** The typical scenario supports the utilization of an existing or planned vertical turbine or submersible pump in an existing or planned water well for pressurizing an irrigation or stockwater system where water well flow rate is unknown. An aquifer flow test (e.g., step drawdown or constant rate) will be done to determine the flow rate from the well and select a pumping plant to match the pumping requirements of the irrigation or livestock system. Resource Concerns: Water Quality degradation - Excess nutrients in surface and ground waters; Insufficient water for livestock - Inefficient use of irrigation water; inefficient energy use. Associated Practices: 374 - Farmstead Energy Improvement; 430 - Irrigation Pipeline; 441 - Irrigation System, Micro-irrigation; 449 - Irrigation Water Management, 642 - Water Well, 516 - Livestock Pipeline **After Practice Description:** With the completion of the aquifer flow test, a known flow rate of the well will determine the correct flow rate and TDH on which a pump can be selected to support an irrigation of stockwater system.	Number	Number	$1,696.50	$2,035.80

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

CARBON SEQUESTRATION AND GREENHOUSE GAS MITIGATION ASSESSMENT

Practice Code 218

Practice Units: NUMBER

Definition: Quantitative assessment of the carbon sequestration and greenhouse gas (GHG) mitigation scenarios for an operation with a conservation plan using COMET-Farm.

Limitations: CEMA 218 may be scheduled one time to evaluate the operation as a system.

ID	Scenario Name	Enterprises*
218-3	Low Complexity	One
218-19	Medium Complexity	Two
218-35	High Complexity	Three

*Enterprise definitions align with the definitions from ASABE

ANSI/ASABE S612 JUL2009
Performing On-farm Energy Audits

Table 1 – Suggested Components within Major Activities by Farm Enterprises for Audit Assessment

Major Activity	Components	Farm Enterprises							
		Dairy	Swine	Poultry	Beef/ veal	Field crops	Fruit/ vegetables	Aquaculture	Nursery/ Greenhouse

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
218-3	Low Complexity	**Scenario Description:** An evaluation of the quantifiable carbon sequestration and greenhouse gas mitigation effects using the COMET-Farm tool. The information on the type of operation, land use, and management history iscollected initially as part of the planning process for a conservation plan focused on carbon sequestration and greenhouse gas mitigation. The carbon sequestration and greenhouse gas mitigation CEMA includes a complete COMET-Farm project designed to evaluate the current conservation plan and the baseline and historic management impacts on carbon sequestration and greenhouse gas mitigation. The COMET-Farm evaluation can occur concurrently or following a conservation plan. Low complexity would include simple systems of a singleenterprise, low number of management units, detailed available history. **After Practice Description:** Producer receives a detailed reportfrom COMET-Farm that quantifies the soil carbon sequestration and greenhouse gas mitigation effects of historic, baseline, and (scenario management) proposed conservation plan.	Number	Number	$699.52	$839.43
218-19	Medium Complexity	**Scenario Description:** An evaluation of the quantifiable carbon sequestration and greenhouse gas mitigation effects using the COMET-Farm tool. The information on the type of operation, land use, and management history iscollected initially as part of the planning process for a conservation plan focused on carbon sequestration and greenhouse gas mitigation. The carbon sequestration and greenhouse gas mitigation CEMA includes a complete COMET-Farm project designed to evaluate the current conservation plan and the baseline and historic management impacts on carbon sequestration and greenhouse gas mitigation. The COMET-Farm evaluation can occur concurrently or following a conservation plan. Medium complexity would include systems with more thanone enterprises, a moderate number of management units, complex or difficult to define history. **After Practice Description:** Producer receives a detailed COMET-Farm report that quantifies the soil carbon sequestrationand greenhouse gas mitigation effects of historic, baseline, and (scenario management) proposed conservation plan.	Number	Number	$1,049.29	$1,259.14

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
218-35	High Complexity	**Scenario Description:** An evaluation of the quantifiable carbon sequestration and greenhouse gas mitigation effects using the COMET-Farm tool. The information on the type of operation, land use, and management history iscollected initially as part of the planning process for a conservation plan focused on carbon sequestration and greenhouse gas mitigation. The carbon sequestration and greenhouse gas mitigation CEMA includes a complete COMET-Farm project designed to evaluate the current conservation plan and the baseline and historic management impacts on carbon sequestration and greenhouse gas mitigation. The COMET-Farm evaluation can occur concurrently or following a conservation plan. High complexity would include systems with multipleenterprises, high number of management units, andcomplex or incomplete management history. **After Practice Description:** Producer receives a detailedreport from COMET-Farm that quantifies the soil carbon sequestration and greenhouse gas mitigation effects of historic, baseline, and (scenario management) proposed conservation plan.	Number	Number	$1,399.05	$1,678.86

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DESIGN AND IMPLEMENTATION ACTIVITY

CNMP DESIGN AND IMPLEMENTATION ACTIVITY

Practice Code 101

Practice Units: NUMBER

Definition: A site-specific design and implementation activity plan developed for an Animal Feeding Operation (AFO) that includes components for both structural and non-structural conservation practices. This will address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-3	Design-CNMP Revision	**Scenario Description:** A Comprehensive Nutrient Management Plan (CNMP) will be revised to address changes in manure management, volume or analysis, plantsand crops, or plant and crop management or to adjust the nutrient balance on an Animal Feeding Operation (AFO). Nomodifications are required to engineered practices in the farmstead/production area. This scenario is where the services of a professional engineer are typically not required. The producer may export manure or organic products from the farm. The producer has an animal production area and land applies nutrients. **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and applicationof animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102)or Conservation Plan that addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly,within applicable NRCS standards and specifications, store,handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implement conservation practices to reduce soil erosion on land application areas to sustainable levels; land apply waste material nutrients in a manner than meets NRCS 590 Nutrient Management standard technical criteria	Number	Number	$3,655.45	$4,386.54
101-19	Design-Livestock Operations greater than 300 AU withoutLand Application and Minimal Engineering	**Scenario Description:** Animal Feeding Operation (AFO) currently greater than 300 animal units (AU). The producer exports (material transferred to another owner with written documentation of the transfer) manure or organic products from the farm. The operation has an animal production area,cropland, and applies most nutrients (manure and commercial fertilizers). No State requirement for Professional Engineer. **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and applicationof animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly,within applicable NRCS standards and specifications, store,handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implement conservation practices to reduce soil erosion on land application areas to sustainable levels; land apply waste material nutrients in a manner than meets NRCS 590 Nutrient Management standard technical criteria.	Number	Number	$3,730.13	$4,476.15

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-35	Design- Dairy less than 300 AU Land Application	**Scenario Description:** Dairy Animal Feeding Operation (AFO) currently less than 300 animal units (AU) land application. The producer may export (material transferred to another owner withwritten documentation of the transfer) modest amounts of the manure or organic products from the farm. The operation has ananimal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Job sheets and implementation requirementdocuments found in State's FOTG Section 4 Conservation practices may be used. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.	Number	Number	$8,084.48	$9,701.38
101-51	Design- Dairy greater than 300 AU and less than 700 AU with Land Application	**Scenario Description:** Dairy Animal Feeding Operation (AFO) currently greater than 300 animal units (AU) and less than 700 AUwith land application. The producer may export (material transferred to another owner with written documentation of the transfer) modest amounts of the manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Job sheets and implementation requirementdocuments found in State's FOTG Section 4 Conservation practices may be used. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.	Number	Number	$8,572.77	$10,287.33

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-67	Design- Non Dairy Operation greater than 300 AU and less than 700 AU with Land Application	**Scenario Description:** Animal Feeding Operation (AFO) currentlygreater than 300 animal units (AU) and less than 700 AU with landapplication. The producer may export (material transferred to another owner with written documentation of the transfer) modest amounts of the manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Job sheets and implementation requirementdocuments found in State's FOTG Section 4 Conservation practices may be used. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.	Number	Number	$8,089.85	$9,707.82
101-83	Design- Non Dairy Operation Less than 300 AU with Land Application	**Scenario Description:** Animal Feeding Operation (AFO) currently less than 300 animal units (AU) with land application. The producermay export (material transferred to another owner with written documentation of the transfer) modest amounts of the manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients (manure andcommercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Job sheets and implementation requirementdocuments found in State's FOTG Section 4 Conservation practices may be used. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.	Number	Number	$7,206.73	$8,648.07

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-99	Design- Non Dairy Operation greater 700 AU with Land Application	**Scenario Description:** Animal Feeding Operation (AFO) currentlygreater than 700 animal units (AU) with land application. The producer may export (material transferred to another owner with written documentation of the transfer) modest amounts of the manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Job sheets and implementation requirementdocuments found in State's FOTG Section 4 Conservation practices may be used. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.	Number	Number	$9,706.75	$11,648.09
101-115	Design- Small Livestock Operations less than 300 AU without Land Application	**Scenario Description:** Animal Feeding Operation (AFO) currentlyless than 300 animal units (AU). The producer exports (material transferred to another owner with written documentation of the transfer) the manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly, within applicable NRCS standards and specifications, store, handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implement conservation practices to reduce soil erosion on land application areas to sustainable levels;land apply waste material nutrients in a manner than meets NRCS590 Nutrient Management standard technical criteria.	Number	Number	$5,241.50	$6,289.80

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-131	Design- Livestock Operations greater than 300 AU withoutLand Application	**Scenario Description:** Animal Feeding Operation (AFO) currently greater than 300 animal units (AU). The producer exports (material transferred to another owner with written documentation of the transfer) manure or organic products from the farm. The operation has an animal production area,cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and applicationof animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Planthat addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly,within applicable NRCS standards and specifications, store,handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implementconservation practices to reduce soil erosion on land application areas to sustainable levels; land apply waste material nutrients in a manner than meets NRCS 590 Nutrient Management standard technical criteria.	Number	Number	$5,717.72	$6,861.26
101-147	Design- Small Livestock Operations greater than 300 AU with Land Application and Minimal Engineering	**Scenario Description:** Animal Feeding Operation (AFO) currently greater than 300 animal units (AU) with land application and minimal engineering. The producer exports (material transferred to another owner with written documentation of the transfer) modest amounts of manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients(manure and commercial fertilizers). State laws do not require a PE. **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and applicationof animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Planthat addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly,within applicable NRCS standards and specifications, store,handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implementconservation practices to reduce soil erosion on land application areas to sustainable levels; land apply waste material nutrients in a manner than meets NRCS 590 Nutrient Management standard technical criteria.	Number	Number	$6,582.50	$7,899.00

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-163	Design- Small Livestock Operations less than 300 AU with Land Application andMinimal Engineering	**Scenario Description:** Animal Feeding Operation (AFO) currently less than 300 animal units (AU) with land application and minimal engineering. The producer exports (material transferred to another owner with written documentation of the transfer) modest amounts of manure or organic products from the farm. The operation has an animal production area, cropland, and applies most nutrients(manure and commercial fertilizers). State laws do not require a PE. **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and applicationof animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Planthat addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly,within applicable NRCS standards and specifications, store,handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implementconservation practices to reduce soil erosion on land application areas to sustainable levels; land apply waste material nutrients in a manner than meets NRCS 590 Nutrient Management standard technical criteria.	Number	Number	$5,194.99	$6,233.99
101-179	Design- Livestock Operations less than or equal to 300 AU without Land Application andMinimal Engineering	**Scenario Description:** Animal Feeding Operation (AFO) currently less than or equal to 300 animal units (AU) with land application and minimal engineering. The producer exports (material transferred to another owner with written documentation of the transfer) modest amount of manure or organic products from the farm. The operation has an animalproduction area, cropland, and applies most nutrients (manure and commercial fertilizers). No State requirement for Professional Engineer. **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and applicationof animal waste in an environmentally safe manner. Design and implementation will meet the general and additional applicable criteria found in each conservation practice. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Planthat addresses the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes. Management and conservation practices in the CNMP document delivered to the client ensure that, if implemented, the AFO will properly,within applicable NRCS standards and specifications, store,handle, and contain manure and wastewater materials generated by the AFO; dispose of AFO mortality; implementconservation practices to reduce soil erosion on land application areas to sustainable levels; land apply waste material nutrients in a manner than meets NRCS 590 Nutrient Management standard technical criteria.	Number	Number	$5,032.23	$6,038.68

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
101-195	Design- Dairy greater than or equal to 700 AU with Land Application	**Scenario Description:** Dairy Animal Feeding Operation (AFO) currently greater than or equal to 700 animal units (AU) with land application. The producer may export (material transferred to another owner with written documentation of the transfer) modest amounts of the manure or organic products from the farm. The operation has an animal production area, cropland, and applies mostnutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a certified Technical Service Provider (TSP) to design planned conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. Design and implementation will meet the generaland additional applicable criteria found in each conservation practice. Job sheets and implementation requirement documents found in State's FOTG Section 4 Conservation practices may be used. Design all conservation practices found in Comprehensive Nutrient Management Plan (CPA 102) or Conservation Plan that address the planned practices for land application of manure and nutrients, and the handling, transfer, storage and treatment of animal wastes.	Number	Number	$9,546.67	$11,456.00

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CONSERVATION PLANNING ACTIVITY

COMPREHENSIVE NUTRIENT MANAGEMENT PLAN

Practice Code 102

Practice Units: NUMBER

Definition: A site specific conservation plan developed for an Animal Feeding Operation (AFO) that includes the following two components: (a) The production area including the animal confinement, feed and other raw materials storage areas, and the waste handling containment or storage areas, and (b) the land treatment area, including any land under control of the AFO owner or operator, whether it is owned, rented, or leased, and to which manure or process wastewater from the production area is, or might be, applied for crop and/or pasture production.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
102-349	Planning Dairy Greater than 300 AU, less than 700 AU with Land	**Scenario Description:** Dairy Animal Feeding Operation (AFO) greater than 300 but less than 700 animal units (AU) animal units (AU). The producer utilizes manure or organic products from the farm or may export. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a CNMP certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area and land application areas. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$7,220.18	$8,664.21
102-365	Planning Dairy Less than 300 AU with Land	**Scenario Description:** Dairy Animal Feeding Operation (AFO) currently is less than 300 animal units (AU). The producer utilizes manure or organic products from the farm or may export. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area and land application areas. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$6,097.96	$7,317.55

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
102-381	Planning Livestock Greater than 300 AU, No-Land	**Scenario Description:** Animal Feeding Operation (AFO) currently greater than 300 animal units (AU). The producer exports (material transferred to another owner with written documentation of the transfer) all manure or organic products from the farm. The operation has an animal production area only. **After Practice Description:** Utilize a CNMP certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and transfer of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$5,375.94	$6,451.13
102-397	Planning Livestock Less than 300 AU, No-Land	**Scenario Description:** Animal Feeding Operation (AFO) currently less than 300 animal units (AU). The producer exports (material transferred to another owner with written documentation of the transfer) all manure or organic products from the farm. The operation has an animal production area only. **After Practice Description:** Utilize a CNMP certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and transfer of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$3,931.91	$4,718.29

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
102-413	Planning Livestock Greater than 700 AU with Land	**Scenario Description:** Animal Feeding Operation (AFO) currently is greater than 700 animal units (AU). The producer utilizes manure or organic products from the farm or may export. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area and land application areas. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$8,185.63	$9,822.75
102-429	Planning Livestock Greater than 300 AU, less than 700 AU with Land	**Scenario Description:** Animal Feeding Operation (AFO) currently is greater than 300 but less than 700 animal units (AU). The producer utilizes manure or organic products from the farm or may export. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area and land application areas. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$6,741.59	$8,089.91

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
102-445	Planning Livestock Less than 300 AU with Land	**Scenario Description:** Animal Feeding Operation (AFO) currently is less than 300 animal units (AU). The producer utilizes manure or organic products from the farm or may export. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a CNMP Certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. CPA-CNMP identifies the conservation practice solutions to all identified resource concerns on the AFO production area and land application areas. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$5,008.75	$6,010.50
102-461	Planning Dairy Greater than 700 AU with Land	**Scenario Description:** Dairy Animal Feeding Operation (AFO) greater than 700 animal units (AU). The producer utilizes manure or organic products from the farm or may export. The operation has an animal production area, cropland, and applies most nutrients (manure and commercial fertilizers). **After Practice Description:** Utilize a CNMP certified Technical Service Provider (TSP) to plan conservation practices that address the handling, storage, and application of animal waste in an environmentally safe manner. CPA-CNMP describes the conservation practice solutions to all identified resource concerns on the AFO production area and land application areas. Collection, transfer, and storage of manure and wastewater systems, mortality management facilities, as well as any rainfall or runoff diversion systems will be inventoried-evaluated and planned for adequacy according to applicable NRCS conservation practice standard technical criteria. Decisions presented within the CNMP have been made to mitigate, if feasible, negative air quality impacts and improve farmland safety and security.	Number	Number	$9,064.41	$10,877.30

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CONSERVATION PLANNING ACTIVITY

CONSERVATION PLAN

Practice Code 199

Practice Units: NUMBER

Definition: A Conservation Plan addresses a limited number of resource concerns - or even a single resource concern – and consequently does not achieve a resource management system (RMS) level of treatment.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
199-19	Small Farm – less than or equal to 10 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identifyproblems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulateand evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The small farm planning scenario involves combinations of various specialty crops, small fruits, tree and vine crops, and small livestock enterprises on less than or equal to 10 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables thatmeet the requirements of the CPA 199, or (if applicable to the enterprise) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$2,483.95	$2,980.74
199-35	Low Complexity Plan, <200 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identifyproblems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulateand evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use and one agricultural enterprise covering up to less than 200 acres. **After Practice Description:** TSP has met with client and visitedthe planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet therequirements of the CPA 199, or (if applicable to the enterprise) the requirements of conservation activities CPA102 CNMP or CPA 106 Forestry Plan.	Number	Number	$3,156.25	$3,787.51
199-51	Low Complexity Plan, 200-1,000 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use and one agricultural enterprise covering 200-1,000 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, or (if applicable to the enterprise) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$4,642.37	$5,570.85

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
199-67	Low Complexity Plan, >1,000 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identifyproblems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulateand evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use and one agricultural enterprise covering more than 1,000 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables thatmeet the requirements of the CPA 199, or (if applicable to the enterprise) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$6,187.10	$7,424.51
199-83	Medium Complexity Plan, <200 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use with two agricultural enterprises, or two land uses with one agricultural enterprise (ex. farmstead and cropland used for a dairy enterprise) covering less than 200 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, or (if applicable to the enterprise) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$4,642.37	$5,570.85
199-99	Medium Complexity Plan, 200-1,000 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use with two agricultural enterprises, or two land uses with one agricultural enterprise (ex. farmstead and cropland used for a dairy enterprise) covering 200-1000 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, and/or (if applicable to the enterprises) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$6,187.10	$7,424.51

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
199-115	Medium Complexity Plan, >1,000 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use with two agricultural enterprises, or two land uses with one agricultural enterprise (ex. farmstead and cropland used for a dairy enterprise) covering more than 1,000 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, and/or (if applicable to the enterprises) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$7,539.75	$9,047.70
199-131	High Complexity Plan, <200 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use supporting three or more agricultural enterprises, two land uses supporting two or more agricultural enterprises, or three or more land uses and any number of enterprises on up to less than 200 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, and/or (if applicable to the enterprises) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$6,187.10	$7,424.51
199-147	High Complexity Plan, 200-1,000 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves three or more agricultural enterprises, two land uses supporting two or more agricultural enterprises, or three or more land uses and any number of enterprises on 200-1000 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, and/or (if applicable to the enterprises) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$7,539.75	$9,047.70

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
199-163	High Complexity Plan, >1,000 acres	**Scenario Description:** Conservation plan developed by a Technical Service Provider (TSP) for a participant enrolled in a Farm Bill program contract. The TSP completes NRCS conservation planning process, steps 1 through 7 as described in NRCS National Planning Procedures Handbook. The steps identify problems and opportunities (step 1), determine objectives (step 2), include inventory and analyze resources (steps 3 and 4), formulate and evaluate alternatives (steps 5 and 6) and document client's preferred alternative(s) (step 7). The Planning Land Unit involves one land use supporting three or more agricultural enterprises, two land uses supporting two or more agricultural enterprises, or three or more land uses and any number of enterprises on more than 1,000 acres. **After Practice Description:** TSP has met with client and visited the planning area, in order to develop at least one conservation system alternative for each planning land unit that meet the producer's objectives; and obtain the client's decision for a schedule of practices to implement. TSP provides deliverables that meet the requirements of the CPA 199, and/or (if applicable to the enterprises) the requirements of conservation activities CPA 102 CNMP or CPA 106 Forestry Plan.	Number	Number	$8,700.35	$10,440.42

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CONSERVATION PLANNING ACTIVITY

CONSERVATION PLAN SUPPORTING ORGANIC TRANSITION

Practice Code 138

Practice Units: NUMBER

Definition: A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic production systems.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
138-10	Conservation Plan Supporting Organic Transition CAP Crops and Livestock	**Scenario Description:** Agricultural operation where producer will transition from conventional to organic to meet USDA National Organic Program (NOP) requirements. Natural Resource Concern:Soil Erosion, Water Quality, Plant Condition, and other identified natural resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP to develop the Conservation Plan Supporting Organic Transition ConservationActivity Plan (CAP) The CAP criteria requires the plan to meet quality criteria for applicable resource concerns and provides for opportunities to implement a system of conservation practices which assist the producer to transition from conventional farming or ranching to an organic production system with crops and livestock. The CAP plan will include conservation practices which address related resource concerns. The CAP meets the basic quality criteria for the 138 plan as cited in the NRCS Field Office TechnicalGuide.	Number	Number	$4,827.26	$5,792.71
138-11	Conservation Plan Supporting Organic Transition CAP Crops or Livestock	**Scenario Description:** Agricultural operation where producer will transition from conventional to organic to meet USDA National Organic Program (NOP) requirements. Natural Resource Concern:Soil Erosion, Water Quality, Plant Condition, and other identified natural resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP to develop the Conservation Plan Supporting Organic Transition ConservationActivity Plan (CAP) The CAP criteria requires the plan to meet quality criteria for applicable resource concerns and provides for opportunities to implement a system of conservation practices which assist the producer to transition from conventional farming or ranching to an organic production system with crops and livestock. The CAP plan will include conservation practices which address related resource concerns. The CAP meets the basic quality criteria for the 138 plan as cited in the NRCS Field Office TechnicalGuide.	Number	Number	$4,119.26	$4,943.11
138-35	Transition to Organic- Crop, Low Complexity	**Scenario Description:** A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic production systems. At a minimum two alternatives will be developed. The first will be a no-action alternative in which current management activities are assumed to continue. The second will be an action alternative identifying a conservationpractice or a system of conservation practices and management activities to address CPA identified resource concern(s). Additional action alternatives may be developed to identify different ways of achieving client objectives. **After Practice Description:** When evaluating conservation practice effects, the short term and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns; as well as on special environmental concerns. The Organic System Plan Template supplements are completed as part of NRCS Conservation Planning Activity (CPA) 138 that helps farmers who are interested in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on their operation.	Number	Number	$4,183.62	$5,020.35

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
138-51	Transition to Organic- Crop, High Complexity	**Scenario Description:** A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic production systems. Crop production system is more complex based on site features, large acreage, specialty crops, irrigation, orchard and vineyards. At a minimum two alternatives will be developed. The first will be a no-action alternative in which current management activities are assumed to continue. The secondwill be an action alternative identifying a conservation practice or a system of conservation practices and management activities to address CPA identified resource concern(s). Additional action alternatives may be developed to identify different ways of achieving client objectives. **After Practice Description:** When evaluating conservation practice effects, the short term and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns; as well as on special environmental concerns. The Organic System Plan Template supplements are completed as part of NRCS Conservation Planning Activity (CPA) 138 that helps farmers who are interested in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on their operation.	Number	Number	$4,827.26	$5,792.71
138-67	Transition to Organic- Livestock, Low Complexity	**Scenario Description:** A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic livestock systems. At a minimum two alternatives will be developed. The first will be a no-action alternative in which current management activities are assumed to continue. The second will be an action alternative identifying a conservationpractice or a system of conservation practices and management activities to address CPA identified resource concern(s). Additional action alternatives may be developed to identify different ways of achieving client objectives. **After Practice Description:** When evaluating conservation practice effects, the short term and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns; as well as on special environmental concerns. The Organic System Plan Template supplements are completed as part of NRCS Conservation Planning Activity (CPA) 138 that helps farmers who are interested in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on their operation.	Number	Number	$4,505.44	$5,406.53

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
138-83	Transition to Organic-Livestock, High Complexity	**Scenario Description:** A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic livestock systems. System is high complexity based on conditions such as large Animal Units, multiple production locations, age segregation and similar management. At a minimum two alternatives will be developed. The first will be a no-action alternative in which current management activities are assumed to continue. The second will be an action alternative identifying a conservationpractice or a system of conservation practices and management activities to address CPA identified resource concern(s). Additional action alternatives may be developed to identify different ways of achieving client objectives. **After Practice Description:** When evaluating conservation practice effects, the short term and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns; as well as on special environmental concerns. The Organic System Plan Template supplements are completed as part of NRCS Conservation Planning Activity (CPA) 138 that helps farmers who are interested in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on their operation.	Number	Number	$6,749.88	$8,099.85
138-99	Transition to Organic-Livestock, Low Complexity	**Scenario Description:** A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic crop and livestock production systems. At a minimum two alternatives will be developed. The first will be a no-action alternative in which current management activities are assumedto continue. The second will be an action alternative identifying a conservation practice or a system of conservation practices and management activities to address CPA identified resource concern(s). Additional action alternatives may be developed to identify different ways ofachieving client objectives. **After Practice Description:** When evaluating conservation practice effects, the short term and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns; as well as on special environmental concerns. The Organic System Plan Template supplements are completed as part of NRCS Conservation Planning Activity (CPA) 138 that helps farmers who are interested in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on their operation.	Number	Number	$4,827.26	$5,792.71
138-115	Transition to Organic- Crop and Livestock, High Complexity	**Scenario Description:** A site specific conservation plan that contains planned conservation treatment activities for resource concerns resulting from the transition of conventional to organic crop and livestock productionsystems. Increased crop acreage, irrigation, specialty crops, orchards and vineyards, large AUs, age segregation management add complexity to the system. At a minimum two alternatives will be developed. The first will be ano-action alternative in which current management activities are assumed to continue. The second will be an action alternative identifying a conservation practice or a system of conservation practices and management activities to address CPA identified resource concern(s). Additional action alternatives may be developed to identify different ways ofachieving client objectives. **After Practice Description:** When evaluating conservation practice effects, the short term and long-term effect on natural resources and the applicability and effect on special environmental concerns identified in Step-3 (Resource Inventory) must be documented. Include recommendations that will avoid or mitigate any adverse effects on soil, water, air, plants, animals (including livestock, fish, and wildlife), energy, or human concerns; as well as on special environmental concerns. The Organic System Plan Template supplements are completed as part of NRCS Conservation Planning Activity (CPA) 138 that helps farmers who are interested in transitioning from conventional farming practices to organic production by addressing the natural resource concerns on their operation.	Number	Number	$7,071.69	$8,486.03

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

EDGE OF FIELD WATER QUALITY MONITORING – DATA COLLECTION & EVALUATION

Practice Code 201

Practice Units: ACRE

Definition: Water quality monitoring and evaluation under this conservation evaluation and monitoring activity (CEMA) are the actions and activities, using acceptable tools and protocols, by which a Qualified Individual will measure the effectiveness of conservation practices and systems.

The purposes of this CEMA include:

- Evaluating the effectiveness of a practice or system of practices in reducing concentrations and/or loads of targeted water quality constituents.
- Using evaluation techniques to acquire insight about existing land management and where applicable, institute change to achieve a future desired condition.
- Collecting site specific edge-of-field water quality data to calibrate, validate, and verify planning and assessment tools and predictive models and inform practice standard criteria.

Evaluation of conservation practice effectiveness through edge-of-field monitoring will lead to a better understanding of the efficacy of conservation practices intended to address water quality resource concerns. It will also assist Natural Resources Conservation Service (NRCS) and the participant in adapting and/or validating the application of conservation practices and managements.

Limitations: This practice will only be eligible in Mississippi River Basin Initiative watersheds, and National Water Quality Initiative watersheds.
National Team approval is needed prior to scheduling contact EQIP Program Coordinator.

Maintenance: Practice must be maintained for a lifespan of 1 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-56	Data Collect Surface Year 1-QAPP	**Scenario Description:** This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site with an average of 20 samples per year per station, with each sample analyzed for 6 separate parameters (2 sites x 20 samples x 6 parameters = 240 total water quality tests). The scenario requires the creation of a survey to site a monitoring station, preparation of monitoring plan and a quality assurance project plan to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installationunder Edge-of-Field Water Quality Monitoring - System Installation(202). THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installationof the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. This scenario will normally be used in year 1 ofthe contract when a monitoring plan and QAPP have been preparedprior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$24,311.66	$29,173.99
201-57	Data Collect Surface Year 1 - NO QAPP	**Scenario Description:** This practice scenario provides for the use ofan edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year for surface systems. The data will be transferred through semi-annual submittal and annual report which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will be not prepared as this is for an existing monitoring system that has been accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BENECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control andone treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation where the QAPPand monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data ofsufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$17,701.60	$21,241.92

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-58	Data Collect Surface Year 1 plus - NO QAPP	**Scenario Description:** This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year per station, with each sample analyzed for 6 separate parameters (2 sites x 20 samples x 6 parameters = 240 total water quality tests). The data will be transferred through semi-annual submittal and annual report which include some preliminary annual analysis. This scenario will normally be used in year 1 to next to the last year of monitoring of the contract when a monitoring plan and QAPP will be not prepared as this is for an existing monitoring system that has been accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation where the QAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$17,666.17	$21,199.41
201-59	Data Collect Surface Last Year	**Scenario Description:** This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site with an average of 20 samples per year per station, with each sample analyzed for 6 separate parameters (2 sites x 20 samples x 6 parameters = 240 total water quality tests). The scenariorequires the collection and analysis of edge-of-field water quality data along with a comprehensive report to statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILLBE NECESSARY. **After Practice Description:** This practice scenario after installation ofthe WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in201 to provide a comprehensive report of statistical testing of data collected to complete monitoring period.	Measuring Sites	Each	$21,163.80	$25,396.55

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-60	Data Collect Tile Year 1-QAPP	**Scenario Description:** This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for tile and subsurface drainage run-off for one control and one treatment site with an average of 40 samples per year per station, with each sample analyzed for 6 separate parameters (2 sites x 40 samples x 6 parameters = 480 total water quality tests). A subsurface system also requires the addition of a surface sampling system at the same outlet to capture overland flow with 20 samples per year, with each sample analyzed for 6separate parameters (2 sites x 20 samples x 6 parameters = 240 total water quality tests). Without the surface system then not all runoff is captured for calculating a true event mean concentration as per the 201 Standard. The scenario requires the creation of a survey to site a monitoring station, preparation of monitoring plan and a quality assurance project plan to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when amonitoring plan and QAPP have been prepared prior to installation underEdge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$49,675.26	$59,610.31
201-61	Data Collect Tile Year 1 plus - NO QAPP	**Scenario Description:** This practice scenario provides forthe design and use of an edge-of-field WQ monitoring station(s) for tile and subsurface drainage run-off for one control and one treatment site with an average of 40 samples per year per station, with each sample analyzed for 6 separate parameters (2 sites x 40 samples x 6 parameters = 480 total water quality tests). A subsurface system also requires the addition of a surface sampling system at the same outlet to capture overland flow with 20samples per year, with each sample analyzed for 6 separate parameters (2 sites x 20 samples x 6 parameters = 240 total water quality tests). Without the surface system then not all runoff is captured for calculating a trueevent mean concentration as per the 201 Standard. The data will be transferred through semi-annual submittal andannual reports, which include some preliminary annual analysis. This scenario will normally be used in year 1 to next to the last year of monitoring of the contract when a monitoring plan and QAPP will be not prepared as this is for an existing monitoring system be accepted as meetingboth Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annualreport for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared aspart of an existing monitoring system installation where theQAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$43,029.78	$51,635.73

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-63	Data CollectTile Last Year	**Scenario Description:** This practice scenario provides forthe design and use of an edge-of-field WQ monitoring station(s) for tile and subsurface drainage run-off for one control and one treatment site with an average of 40 samples per year per station, with each sample analyzed for 6 separate parameters (2 sites x 40 samples x 6 parameters = 480 total water quality tests). A subsurface system also requires the addition of a surface sampling system at the same outlet to capture overland flow with 20samples per year, with each sample analyzed for 6 separate parameters (2 sites x 20 samples x 6 parameters = 240 total water quality tests). Without the surface system then not all runoff is captured for calculating a trueevent mean concentration as per the 201 Standard. The scenario requires the collection and analysis of edge-of- field water quality data along with a comprehensive reportto statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINTCONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annualreport for one control and one treatment site. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in201 to provide a comprehensive report of statistical testingof data collected during to complete monitoring period.	Measuring Sites	Each	$46,527.40	$55,832.88
201-64	Data Collect Surface Year 1-QAPP with two treatment Sites	**Scenario Description:** This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites with an average of 20 samples per year per station, with each sample analyzed for 6 separate parameters (3 sites x 20 samples x 6 parameters = 360 total water qualitytests). The scenario requires the creation of a survey to site a monitoringstation, preparation of monitoring plan and a quality assurance project plan to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installation underEdge-of-Field Water Quality Monitoring - System Installation (202). THISIS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when amonitoring plan and QAPP have been prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$33,669.12	$40,402.95

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-65	Data Collect Surface Year 1+ less QAPP (pre-install information) withtwo treatment sites	**Scenario Description:** This practice scenario provides for the use ofan edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year for each surface system, with each sample analyzed for 6 separate parameters (3 sites x 20 samples x 6parameters = 360 total water quality tests). The data will be transferred through semi-annual submittal and annual report, which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will not be prepared as this is for an existing monitoring system be accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THENA JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installationof the WQ monitoring stations, provides for the data collection, analysis, semi-annual submittal, and annual report for one control and two treatment sites. This scenario will normally be used in year1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation wherethe QAPP and monitoring plan meets Activity 201 requirements andno major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data ofsufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$25,449.71	$30,539.66
201-67	Data Collect Surface Last Year with two treatment sites	**Scenario Description:** This practice scenario provides forthe use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites withan average of 20 samples per year per station, with each sample analyzed for 6 separate parameters (3 sites x 20 samples x 6 parameters = 360 total water quality tests). The scenario requires the collection and analysis of edge- of-field water quality data along with a comprehensive report to statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATIONIF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annualreport for one control and two treatment sites. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201 to provide a comprehensive report of statistical testingof data collected during to complete monitoring period.	Measuring Sites	Each	$30,696.15	$36,835.37

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-69	Data Collect Tile Year 1+ less QAPP (pre-install information) with two treatment sites	**Scenario Description:** This practice scenario provides forthe design and use of an edge-of-field WQ monitoring station(s) for tile and subsurface drainage run-off for one control and two treatment sites with an average of 40 samples per year per station, with each sample analyzed for 6 separate parameters (3 sites x 40 samples x 6 parameters = 720 total water quality tests). A subsurface system also requires the addition of a surface sampling system at the same outlet to capture overland flow with 20samples per year, with each sample analyzed for 6 separate parameters (3 sites x 20 samples x 6 parameters = 360 total water quality tests). Without the surface system then not all runoff is captured for calculating a true event mean concentration as per the 201 Standard. The data will be transferred through semi-annual submittal andannual reports, which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will not be prepared as this is for an existing monitoring system be accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERSFIELDS THEN A JOINT CONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annualreport for one control and two treatment sites. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared aspart of an existing monitoring system installation where theQAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.	Measuring Sites	Each	$61,745.87	$74,095.05
201-71	Data Collect Tile Last Year with two treatment sites	**Scenario Description:** This practice scenario provides forthe design and use of an edge-of-field WQ monitoring station(s) for tile and subsurface drainage run-off for one control and two treatment sites with an average of 40 samples per year per station with each sample analyzed for 6 separate parameters (3 sites x 40 samples x 6 parameters = 720 total water quality tests). A subsurface system also requires the addition of a surface sampling system at the same outlet to capture overland flow with 20samples per year with each sample analyzed for 6 separate parameters (3 sites x 20 samples x 6 parameters = 360 total water quality tests). Without the surface system then not all runoff is captured for calculating a trueevent mean concentration as per the 201 Standard. The scenario requires the collection and analysis of edge-of- field water quality data along with a comprehensive reportto statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINTCONTRACT WILL BE NECESSARY. **After Practice Description:** This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annualreport for one control and two treatment sites. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in201 to provide a comprehensive report of statistical testingof data collected during to complete monitoring period.	Measuring Sites	Each	$66,992.30	$80,390.77

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
201-213	Data Collect - Discrete Sampling, Year 1, Single Parameter	**Scenario Description:** This scenario is to be used for targeted, periodic WQ grab sampling design and implementation for evaluating and assessing conservation practice performance. This scenario provides for collection and analysis of one of the following water quality constituents: Ammonium, Nitrite plus Nitrate, Total Kjeldahl Nitrogen, Soluble Reactive P (Orthophosphate), Total Phosphorus, Suspended Sediment Concentration, or Total Suspended Solids. A monitoring plan is created by a qualified individual to achieve monitoring goals. Event-based or regularly re-occurring grab samples are acquired from the concentrated flow streams at 2 locations, typically in a before-and-after or a side-by-side sampling design and then analyzed at a laboratory. **After Practice Description:** The agricultural operation after implementing this activity will have produced and implemented a water quality monitoring plan for a single water quality constituent to evaluate and assess the performance of a conservation practice with respect to that constituent.	Measuring Sites	Each	$5,384.17	$6,461.01
201-229	Data Collect - Discrete Sampling, Single Parameter, Additional Year	**Scenario Description:** This scenario extends, by an additional year, discreet WQ grab sampling design and implementation for evaluating and assessing conservation practice performance. This scenario provides for analysis of one of the following water quality constituents: Ammonium, Nitrite plus Nitrate, Total Kjeldahl Nitrogen, Soluble Reactive P (Orthophosphate), Total Phosphorus, Suspended Sediment Concentration, or Total Suspended Solids. A monitoring plan is created by a qualified individual to achieve monitoring goals. Event-based or regularly re-occurring synoptic grab samples are acquired from the concentrated flow streams at 2 locations, typically in a before-and-after or a side-by-side sampling design and then analyzed at a laboratory. **After Practice Description:** The agricultural operation after implementing this activity will have produced and implemented a water quality monitoring plan for a single water quality constituent to evaluate and assess the performance of a conservation practice with respect to that constituent.	Measuring Sites	Each	$4,334.89	$5,201.86

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

EDGE OF FIELD WATER QUALITY MONITORING – SYSTEM INSTALLATION

Practice Code 202

Practice Units: NUMBER

Definition:

This activity:

1) Establishes criteria for the installation of a water quality monitoring system that collects data for evaluating conservation practice effectiveness of field scale model validation for on-farm adaptive management.

2) Is normally used in conjunction with Edge-of-Field Water Quality Monitoring - Data Collection and Evaluation (CEMA 201). However, after receiving approval from the NRCS National Water Quality Specialist, it may be used independently from CEMA 201.

3) Measures pollutants at the edge-of-field that are tied to a water quality constituent of concern for the associated receiving stream or water body.

Limitations: This practice will only be eligible in Mississippi River Basin Initiative watersheds, and National Water Quality Initiative watersheds. National Team approval is needed prior to scheduling contact EQIP Program Coordinator.

Maintenance: Practice must be maintained for a lifespan of 10 year.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
202-38	System Installation-Surface	**Scenario Description:** This edge-of-field water quality monitoring system is applicable to a single control or treatment site that has a field defined with surface runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The component monitoring equipment are associated with a typical system for southern latitudes where winter time heating is not required for sampling. It will allow for installation of automated sampling data collection system with protective housing to reduce potential for vandalism, battery backup for operation during periods when electricity is down or solar panels are not creating an electrical current, and a berm or other directional flow structure to guide the runoff to a sampling flume. **After Practice Description:** The agricultural operation after installing the monitoring equipment will be receiving feedback in the form of edge-of-field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes to the agricultural operation to reduce sediment and nutrient loss and/or profitability.	System installed	Each	$20,932.39	$25,118.87
202-39	System Installation-Surface Cold Climate	**Scenario Description:** This edge-of-field water quality monitoring system is applicable to a single control or treatment site that has a field defined with surface runoff that can be captured and sampled at the edgeof a field before entering a ditch or receiving water body or water course. The component monitoring equipment are associated with a typical system for northern latitudes where winter time heating is required for sampling. It will allow for installation of automated sampling data collection system with protective housing to reduce potential for vandalism, battery backup for operation during periods when electricity isdown, or solar panels are not creating an electrical current, a calf hut or other structure with heat is required over the flume to allow sampling under northern latitude winter conditions, and a berm or other directional flow structure to guide the runoff to a sampling flume. **After Practice Description:** The agricultural operation after installing themonitoring equipment will be receiving feedback in the form of edge- of- field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changesto the agricultural operation to reduce sediment and nutrient loss and/orprofitability.	System installed	Each	$21,524.94	$25,829.93

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
202-40	System Installation-Tile	**Scenario Description:** This edge-of-field water quality monitoring system is applicable to a single control or treatment site that has a field defined with tile or other subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The component monitoring equipment are associated with a typical system for southern latitudes where winter time heating is not required for sampling. It will allow for installation of automated sampling data collection system for a subsurface collection and separate surface automated sample collection system with protective housing to reduce potential for vandalism, battery backup for operation during periods when electricity is down or solar panels are not creating an electrical current, an area velocity sensor for pipe flow and estimation of submerged flow, and a berm or other directional flow structure to guide the runoff to a sampling flume. **After Practice Description:** The agricultural operation after installing the monitoring equipment will be receiving feedback in the form of edge-of-field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes to the agricultural operation to reduce sediment and nutrient loss and/or profitability.	System installed	Each	$29,394.70	$35,273.64
202-41	System Installation-Tile Cold Climate	**Scenario Description:** This edge-of-field water quality monitoring system is applicable to a single control or treatment site that has a field defined with tile or other subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The component monitoring equipment are associated with a typical system for northern latitudes where winter time heating is required for sampling. It will allow for installation of automatedsampling data collection system for a subsurface collection and separate surface automated sample collection system with protective housing to reduce potential for vandalism, battery backup for operation during periods when electricity is down or solar panels are not creating an electrical current, an area velocity sensor for pipe flow and estimation of submerged flow, a calf hut or other structure with heat is required over the flume to allow sampling under northern latitude winter conditions and a berm or other directional flow structure to guide the runoff to a samplingflume. **After Practice Description:** The agricultural operation after installing themonitoring equipment will be receiving feedback in the form of edge- of- field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changesto the agricultural operation to reduce sediment and nutrient loss and/orprofitability.	System installed	Each	$29,394.70	$35,273.64

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
202-42	System Installation-Above And Below	**Scenario Description:** This edge-of-field water quality monitoring system is applicable where a conservation practice has a pre- and post-treatment area in the same field drainage with surface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The component monitoring equipment are associated with a typical system for southern latitudes where winter time heating is not required for sampling. It will allow for installation of automated sampling data collection system with protective housing to reduce potential for vandalism, battery backup for operation during periods when electricity is down or solar panels are not creating an electrical current, and a berm or other directional flow structure to guide the runoff to a sampling flume. The actual installation will different on the subsurface flow by allowing a smaller precalibrated flume with the addition of a velocity sensor meter as in the tile alternative. **After Practice Description:** The agricultural operation after installing the monitoring equipment will be receiving feedback in the form of edge-of-field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes to the agricultural operation to reduce sediment and nutrient loss and/or profitability.	System installed	Each	$29,228.63	$35,074.36
202-43	System Installation-Above and Below cold climate	**Scenario Description:** This edge-of-field water quality monitoring system is applicable where a conservation practice has a pre- and post- treatment area in the same field drainage with surface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The component monitoring equipment are associated with a typical system fornorthern latitudes where winter time heating is required for sampling. It will allow for installation of automated sampling data collection system with protective housing to reduce potential for vandalism, battery backup for operation during periods when electricity is down, or solar panels are not creating an electrical current, a calf hut or other structure with heat is required over the flume to allow sampling under northern latitude winter conditions, and a berm or other directional flow structure to guide the runoff to a sampling flume. The actual installation will different on the subsurface flow by allowing a smaller pre-calibrated flume with the addition of a velocity sensor meter as in the tile alternative. **After Practice Description:** The agricultural operation after installing themonitoring equipment will be receiving feedback in the form of edge- of- field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changesto the agricultural operation to reduce sediment and nutrient loss and/orprofitability.	System installed	Each	$32,250.95	$38,701.15

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
202-44	System Installation-Retrofit 1	**Scenario Description:** This edge-of-field water quality monitoring system is to retrofit an existing system that is being used in associated with the 799-interim practice or comparable system. The retrofit is applicable to a single control or treatment site that has a field defined withsurface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The data represents the installation of an automated and manual backup rain gauge and back-up/solar power supply be added to existing system. **After Practice Description:** The agricultural operation after installing themonitoring equipment will be receiving feedback in the form of edge- of- field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changesto the agricultural operation to reduce sediment and nutrient loss and/orprofitability.	System installed	Each	$2,473.04	$2,967.65
202-45	System Installation-Retrofit 2	**Scenario Description:** This edge-of-field water quality monitoring system is to retrofit an existing system that is being used in associated with the 799 interim practice or comparable system. The retrofit is applicable to a single control or treatment site that has a field defined withsurface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The data represents the installation of an automated and manual backup rain gauge, back-up/solar power supply, communicationsdevice, and depth (stage) sensor to be added to existing system. **After Practice Description:** The agricultural operation after installing themonitoring equipment will be receiving feedback in the form of edge- of- field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes tothe agricultural operation to reduce sediment and nutrient loss and/or profitability.	System installed	Each	$7,151.77	$8,582.12
202-46	System Installation-Retrofit 3	**Scenario Description:** This edge-of-field water quality monitoring system is to retrofit an existing system that is being used in associated with the 799-interim practice or comparable system. The retrofit is applicable to a single control or treatment site that has a field defined withsurface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The data represents the installation of an automated and manual backup rain gauge, back-up/solar power supply, communicationsdevice, pre-calibrated flow control structure, and depth (stage) sensor to be added to existing system. **After Practice Description:** The agricultural operation after installing themonitoring equipment will be receiving feedback in the form of edge- of- field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes tothe agricultural operation to reduce sediment and nutrient loss and/or profitability.	System installed	Each	$9,732.21	$11,678.65

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
202-47	System Installation-Retrofit Above and Below 1	**Scenario Description:** This edge-of-field water quality monitoring system is to retrofit an existing above and below monitoring designed system that is being used in associated withthe 799-interim practice or comparable system. The retrofit is applicable to an above and below system that has a field definedwith surface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The data represents the installation of an automated and manual backup rain gauge and two back-up/solar power supplies be added to existing paired system. **After Practice Description:** The agricultural operation after installing the monitoring equipment will be receiving feedback inthe form of edge- of-field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes to the agricultural operation to reduce sediment and nutrient loss and/or profitability.	System installed	Each	$3,134.35	$3,761.22
202-49	System Installation-Retrofit Above 3	**Scenario Description:** This edge-of-field water quality monitoring system is to retrofit an existing above and below monitoring designed system that is being used in associated withthe 799-interim practice or comparable system. The retrofit is applicable to an above and below system that has a field defined with surface or subsurface drainage runoff that can be captured and sampled at the edge of a field before entering a ditch or receiving water body or water course. The data represents the installation of an automated and manual backup rain gauge, two back-up/solar power supplies, two communications devices, two pre-calibrated flumes, and two depth (stage) sensors to be addedto existing paired system. **After Practice Description:** The agricultural operation after installing the monitoring equipment will be receiving feedback in the form of edge-of-field runoff water quality samples. The samples will allow the operator to understand the relationship between rain/irrigation, practice choice, and nutrient inputs effecting nutrient and sediment loss for the field. Thus, providing an opportunity to make adaptive management changes to the agricultural operation to reduce sediment and nutrient loss and/orprofitability.	System installed	Each	$17,094.25	$20,513.10

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

Evaluation of Existing Waste Storage Facility Components

Practice Code 227

Practice Units: Number

Definition: An on-site investigation shall be made to determine whether or not an existing component of a waste storage facility is in good operating condition. Existing components are the manure and wastewater handling and storage structures and equipment at the facilities where the livestock are housed.

Limitations: Check CEMA 227 Qualifying Individual (QI) to make sure they meet CEMA certification requirements before contracting for CEMA 227.

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
227-3	Evaluation of Existing Components-small operation	**Scenario Description:** A Qualified Individual conducts an on-site investigation of up to 2 manure and wastewater handling and storage structures and equipment at the facilities where the livestock are housed. The investigation report will determine whether or not an existing component is in good operating condition. Typical evaluation of 1-2 storage structures, collection, may include pump. **After Practice Description:** The Qualified Individual concludes that the existing storage components are in good working order OR has identified the component needs corrective. The CEMA report contains all data and recommendations.	Per Production Site structures	Number	$2,926.56	$3,511.87
227-19	Evaluation of Existing Components-medium operation	**Scenario Description:** A Qualified Individual conducts an on-site investigation of all manure and wastewater handling and storage structures and equipment at the facilities where the livestock are housed. The investigation report will determine whether or not an existing component is in good operating condition. Typical livestock production site has 2-5 storage and collection structures and may include pump. **After Practice Description:** The Qualified Individual concludes that the existing storage components are in good working order OR has identified the component needs corrective. The CEMA report contains all data and recommendations.	Per Operation 2-5 Structures	Number	$3,458.10	$4,149.71
227-35	Evaluation of Existing Components-large operation	**Scenario Description:** A Qualified Individual conducts an on-site investigation of all manure and wastewater handling and storage structures and equipment at the facilities where the livestock are housed. The investigation report will determine whether or not an existing component is in good operating condition. Typical livestock production site has 5 or more storage and collection structures and pump(s). **After Practice Description:** The Qualified Individual concludes that the existing storage components are in good working order OR has identified the component needs corrective. The CEMA report contains all data and recommendations.	Per Operation Structures	Number	$4,469.87	$5,363.85

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

Feed and Forage Analysis

Practice Code 206

Practice Units: Number

Definition: Quantitative testing for nutrient composition of feed and forage using approved laboratory methods implemented by certified laboratories.

The purpose of feed and forage analyses is to provide information to producers and animal nutritionists for use in developing a feed management plan or grazing plan. Intent is to address nutrient management concerns, avoid overfeeding nutrients, and ensure animals are fed properly according to recommendations of the National Academies of Science, Engineering, and Medicine nutrient requirements of domestic animals series.

Limitations: N/A

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
206-3	Feed or Forage Nutrient Composition Analysis	**Scenario Description:** Testing of feed or forage for nutrient composition. Each lot (forage lot or lot of feed) should be sampled and tested separately. Testing of bale or stack forage for nutrient composition. Factors to consider when determining lot size include forage species, stage of maturity, cutting schedule, soil type, soil fertility, presence of weeds, harvest conditions, storage effects. Each lot should be sampled and tested separately. Testing of standing forage for nutrient composition. Forage can be tested to determine if it is worth cutting for hay or to determine if grazing animals require supplemental feed. Select at lease eight representative locations and clip the forage at grazing or harvest height from a one square foot area at each location. In grazing situations try and select the species being selectively grazed. Cut the samples into 2- to 3-inch pieces, combine in a bucket and mix well. Spread the sample on paper and allow it to air-dry for two days or place in a pan and dry overnight in an oven at 150 degrees F before mailing it to the laboratory. Analysis of silage (fresh or silo) for nutrient composition. Remove two to three gallons of silage from different sections of a load and save about a quart using the quartering method. Freeze the samples until all loads are sampled. Combine samples, mix thoroughly, and reduce to about one quart by quartering. The final sample should be placed in the cloth forage sample bag, and the full forage bag inserted into a plastic bag to prevent moisture loss during mailing. Remove excess air from the plastic bag before sealing. Do not insert the plastic bag inside the cloth forage bag since damage may result when it is processed by the laboratory. Freeze the sample prior to mailing and mail samples early in the week to avoid weekend delays and reduce chances of molding. Upright silos- 12 handfuls of silage as it is discharged from the silo. Horizontal silos-hand grab same as upright but access the entire surface of the open face. Analysis of dietary ration, feed, or diet for nutrient composition. **After Practice Description:** Animal diet is optimally balanced for nutrient composition and nutrients excreted or emitted by the animal are reduced.	Each	Number	$1,582.46	$1,898.95

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DESIGN AND IMPLEMENTATION ACTIVITY

FEED MANAGEMENT DESIGN

Practice Code 158

Practice Units: NUMBER

Definition: A feed management plan is a farm-specific plan developed for a client, to document control of the quantity and quality of available nutrients, feedstuffs, and/or additives fed to livestock and poultry.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
158-3	Feed Management Plan	**Scenario Description:** The owner/operator of an Animal Feeding Operation (AFO) has not received a written Feed Management Plan that addresses all resource concerns present on the facility. Various levels of management and conservation implementation has occurred in the operation. Little documentation of the methods of feed management used and practices installed exists, and the producer is not likely to developed a complete forage inventory or nutrient analysis. The producer may or may not have a conservation plan or a nutrient management plan. Nutrient management related resource concerns on the operation remain to be addressed through the development of a complete activity plan including management and conservation practices for proper quantity and quality of available nutrients, feedstuffs, and/or additives fed to livestock or poultry that may be present on the operation. Present operation and feed methodology poses risk of feeding excessive amounts of nutrients in animal manure which result in negative impacts to water quality and odor resource concerns. Negative water and airquality impacts as well as farmstead safety and security issues may remain on the AFO, and inadequate record-keeping nutrient,inspection and monitoring of the existing operation may need further improvement. **After Practice Description:** Participant has obtained services from a certified TSP for development of the Feed Management plan (CAP). The criteria requires the plan to meet quality criteria for applicable natural resource concerns and provides for opportunities to identify and implement conservation practices related to management of feed, forages, or delivery of supplements to maximize efficient feeding operations and livestock growth. The plan may serve as the basis for implementation of the primary conservation practice 592 - Feed Management. If applicable, the plan may also be developed to complement Comprehensive Nutrient Management Plans (CNMP) or to help meet requirements of NRCS practice standard590 - Nutrient Management. The plan may include recommendations for addressing associated natural resource concerns with other conservation practices.	Each	Number	$3,255.25	$3,906.30

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

FERAL SWINE DAMAGE ASSESSMENT

Practice Code 297

Practice Units: NUMBER

Definition: Feral swine damage assessment is an effort to assess, scout, and monitor feral swine to document their presence and the damage they cause to natural resources. This is to determine when feral swine populations have been reduced to a level that conservation practice standards can be implemented as part of a broader area-wide effort.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
297-17	Assessment	**Scenario Description:** 200 acre tract (all land uses) on which feral swine have negatively impacted water quality (and associated aquatic organisms), soil health and vegetative conditions onsite. Wildlife habitat has been diminished due to feral swine out-competing native species for the same resources (hard and soft mast, tubers, invertebrates), as well as negatively affecting plant regeneration and production. Some species of native wildlife onsite are at risk from predation by feral swine as well as from diseases carried and transmitted either directly or indirectly by feral swine. **After Practice Description:** As a result of feral swine surveillance (coupled with resource and inventory of baseline conditions), the nature and extent of natural resource concerns caused or exacerbated by the presence of feral swine are understood through resource assessments sufficient to inform development of a plan of action to meet quality criteria for all identified resource concerns.	Number	Number	$727.20	$872.64
297-18	Evaluation	**Scenario Description:** 200 acre tract (all land uses) on which feral swine have negatively impacted water quality (and associated aquatic organisms), soil health and vegetative conditions onsite. Wildlife habitat has been diminished due to feral swine out-competing native species for the same resources (hard and soft mast, tubers, invertebrates), as well as negatively affecting plant regeneration and production. Some species of native wildlife onsite are at risk from predation by feral swine as well as from diseases carried and transmitted either directly or indirectly by feral swine. **After Practice Description:** Sufficient data and information have been collected to evaluate resource condition relative to baseline conditions and the effectiveness of the feral swine management actions. Necessary adaptive management actions are identified and implemented. (Note: All management activities directly involving feral swine, such as trapping, euthanasia and disposal of carcasses will be the responsibility of the landowner, APHIS, or other partners. NRCS will have no role in these activities.).	Number	Number	$1,076.46	$1,291.75

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DESIGN AND IMPLEMENTATION ACTIVITY

FISH AND WILDLIFE HABITAT DESIGN

Practice Code 144

Practice Units: NUMBER

Definition: Design the conservation practices needed to address a fish or wildlife habitat resource concern.

A fish and wildlife habitat Design and implementation Activity (DIA) provides site-specific instructions to implement fish and wildlife habitat conservation practices included in a conservation plan.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
144-3	Fish & Wildlife Habitat DIA	**Scenario Description:** Various on-farm land uses. Natural Resource Concerns: Terrestrial Habitat and/or Aquatic Habitat onan agricultural operation. The Fish and Wildlife Habitat Design and Implementation Activity (DIA) addresses fish and wildlife habitat management relative to only one land use on the agricultural operation. **After Practice Description:** After EQIP contract approval, the participant has obtained services from a certified TSP for development of the Fish and Wildlife Habitat DIA. The DIA criteria require the plan to meet quality criteria for the primary fish/wildlife habitat resource concern and provides for opportunities to improve, restore, or enhance habitat that supports native and/or managed species. The DIA may includerecommendations for associated conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 144 plan as cited in the NRCS FieldOffice Technical Guide.	Number	Number	$2,454.27	$2,945.12
144-19	Fish & Wildlife Habitat DIA (2 Land Uses)	**Scenario Description:** Various on-farm land uses. Natural Resource Concerns: Terrestrial Habitat and/or Aquatic Habitat onan agricultural operation. The Fish and Wildlife Habitat Design and Implementation Activity (DIA) addresses fish and wildlife habitat management relative to two land uses on the agricultural operation of which each land use is at least 20 acres in size. **After Practice Description:** After EQIP contract approval, the participant has obtained services from a certified TSP for development of the Fish and Wildlife Habitat DIA. The DIA criteria require the plan to meet quality criteria for the primary fish/wildlife habitat resource concern and provides for opportunities to improve, restore, or enhance habitat that supports native and/or managed species. The DIA may includerecommendations for associated conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 144 plan as cited in the NRCS FieldOffice Technical Guide.	Number	Number	$2,999.66	$3,599.59
144-35	Fish & Wildlife Habitat DIA (3 orMore Land Uses)	**Scenario Description:** Various on-farm land uses. Natural Resource Concerns: Terrestrial Habitat and/or Aquatic Habitat onan agricultural operation. The Fish and Wildlife Habitat Design and Implementation Activity (DIA) addresses fish and wildlife habitat management relative to three or more land uses on the agricultural operation of which at least three of the land uses are at least 20 acres in size. **After Practice Description:** After EQIP contract approval, the participant has obtained services from a certified TSP for development of the Fish and Wildlife Habitat DIA. The DIA criteria require the plan to meet quality criteria for the primary fish/wildlife habitat resource concern and provides for opportunities to improve, restore, or enhance habitat that supports native and/or managed species. The DIA may includerecommendations for associated conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 144 plan as cited in the NRCS FieldOffice Technical Guide.	Number	Number	$3,545.05	$4,254.07

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

FOREST MANAGEMENT ASSESSMENT

Practice Code 223

Practice Units: NUMBER

Definition: An in-depth forest stand level resource inventory.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
223-3	CEMA less than or equal to 20 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 1 to 20 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a qualified individual for development of the Conservation Evaluation and Monitoring Activities (CEMA) - Forest Inventory. The CEMA criteria requires a forest inventory as a component of a forest management plan to determine current site condition and identify resource concerns. Additional CEMA criteria are detailed in the Field Office Technical Guide.	Number	Number	$634.40	$761.28
223-19	CEMA 21 to 100 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 21 to 100 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a qualified individual for development of the Conservation Evaluation and Monitoring Activities (CEMA) - Forest Inventory. The CEMA criteria requires a forest inventory as a component of a forest management plan to determine current site condition and identify resource concerns. Additional CEMA criteria are detailed in the Field Office Technical Guide.	Number	Number	$1,205.37	$1,446.44
223-35	CEMA 101 to 250 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 101 to 250 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a qualified individual for development of the Conservation Evaluation and Monitoring Activities (CEMA) - Forest Inventory. The CEMA criteria requires a forest inventory as a component of a forest management plan to determine current site condition and identify resource concerns. Additional CEMA criteria are detailed in the Field Office Technical Guide.	Number	Number	$2,283.85	$2,740.62

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
223-51	CEMA 251 to 500 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 251 to 500 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a qualified individual for development of the Conservation Evaluation and Monitoring Activities (CEMA) - Forest Inventory. The CEMA criteria requires a forest inventory as a component of a forest management plan to determine current site condition and identify resource concerns. Additional CEMA criteria are detailed in the Field Office Technical Guide.	Number	Number	$3,425.78	$4,110.94
223-67	CEMA 501 to 1000 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 501 to 1000 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a qualified individual for development of the Conservation Evaluation and Monitoring Activities (CEMA) - Forest Inventory. The CEMA criteria requires a forest inventory as a component of a forest management plan to determine current site condition and identify resource concerns. Additional CEMA criteria are detailed in the Field Office Technical Guide.	Number	Number	$4,313.94	$5,176.73
223-83	CEMA Greater Than 1000 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 1001 acres or greater in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a qualified individual for development of the Conservation Evaluation and Monitoring Activities (CEMA) - Forest Inventory. The CEMA criteria requires a forest inventory as a component of a forest management plan to determine current site condition and identify resource concerns. Additional CEMA criteria are detailed in the Field Office Technical Guide.	Number	Number	$5,773.07	$6,927.69

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DESIGN AND IMPLEMENTATION ACTIVITY

FOREST MANAGEMENT PRACTICE DESIGN

Practice Code 165

Practice Units: NUMBER

Definition: Design a single or combination of forest related conservation practices to treat one or more resource concerns. Forest management activities are site-specific forestry and/or agroforestry conservation practices as prescribed in a forest management plan.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
165-3	DIA Less Than or Equal to 20 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 1 to 20 acres in size and consists of existing uneven-aged mixed speciesstands of harvestable trees. Natural Resource Concern: Fish andWildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Design and Implementation Activities (DIA). The DIA criteria requires the design of site-specific forestry activities as a component of a forest management plan to address identified resource concerns.Additional DIA criteria are detailed in the Field Office Technical Guide.	Number	Number	$317.20	$380.64
165-19	DIA 501 to 1000 acres	**Scenario Description:** Nonindustrial Private Forest Land with aforest management plan. Typical site is approximately 501 to 1000 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern:Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Design and Implementation Activities (DIA). The DIA criteria requires the design of site-specific forestry activities as a component of a forest management plan to address identified resource concerns.Additional DIA criteria are detailed in the Field Office Technical Guide.	Number	Number	$1,205.37	$1,446.44
165-35	DIA 101 to 250 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 101 to 250acres in size and consists of existing uneven-aged mixed speciesstands of harvestable trees. Natural Resource Concern: Fish andWildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Design and Implementation Activities (DIA). The DIA criteria requires the design of site-specific forestry activities as a component of a forest management plan to address identified resource concerns.Additional DIA criteria are detailed in the Field Office Technical Guide.	Number	Number	$761.28	$913.54

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
165-51	DIA Greater Than 1000 acres	**Scenario Description:** Nonindustrial Private Forest Land with aforest management plan. Typical site is approximately 1001 acres or greater in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Design and Implementation Activities (DIA). The DIA criteria requires the design of site-specific forestry activities as a component of a forest management plan to address identified resource concerns.Additional DIA criteria are detailed in the Field Office Technical Guide.	Number	Number	$1,459.13	$1,750.95
165-67	DIA 251 to 500 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 251 to 500acres in size and consists of existing uneven-aged mixed speciesstands of harvestable trees. Natural Resource Concern: Fish andWildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Design and Implementation Activities (DIA). The DIA criteria requires the design of site-specific forestry activities as a component of a forest management plan to address identified resource concerns.Additional DIA criteria are detailed in the Field Office Technical Guide.	Number	Number	$1,015.05	$1,218.05
165-83	DIA 21 to 100 acres	**Scenario Description:** Nonindustrial Private Forest Land with a forest management plan. Typical site is approximately 21 to 100 acres in size and consists of existing uneven-aged mixed speciesstands of harvestable trees. Natural Resource Concern: Fish andWildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Design and Implementation Activities (DIA). The DIA criteria requires the design of site-specific forestry activities as a component of a forest management plan to address identified resource concerns.Additional DIA criteria are detailed in the Field Office Technical Guide.	Number	Number	$507.52	$609.03

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CONSERVATION PLANNING ACTIVITY

FOREST MANAGEMENT PLAN

Practice Code 106

Practice Units: NUMBER

Definition: A site-specific conservation plan that contains planned forest related conservation treatment activities for one or more resource concerns.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
106-38	FMP Less Than or Equal to 20 acres	**Scenario Description:** Nonindustrial Private Forest Land typically unmanaged or limited management activities. Typical site is approximately 1 to 20 acres in size and consists of existinguneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Conservation Plan Activities (CPA). The CPA criteria requires the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Forest Management CPA is not considered a Forest Harvest Plan but should complement the needs for harvest if desired by the land user. Additional CPA plan criteria is detailed in the FOTG.	Number	Number	$1,205.37	$1,446.44
106-39	FMP 21 to 100 acres	**Scenario Description:** Nonindustrial Private Forest Land typically unmanaged or limited management activities. Typical site is approximately 21 to 100 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Conservation Plan Activities (CPA). The CPA criteria requires the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Forest Management CPA is not considered a Forest Harvest Plan but should complement the needs for harvest if desired by the land user. Additional CPA plan criteria is detailed in the FOTG.	Number	Number	$1,776.33	$2,131.60
106-40	FMP 101 to 250 acres	**Scenario Description:** Nonindustrial Private Forest Land typically unmanaged or limited management activities. Typical site is approximately 101 to 250 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Conservation Plan Activities (CPA). The CPA criteria requires the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Forest Management CPA is not considered a Forest Harvest Plan but should complement the needs for harvest if desired by the land user. Additional CPA plan criteria is detailed in the FOTG.	Number	Number	$2,918.26	$3,501.91

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
106-41	FMP Greater Than 1000 acres	**Scenario Description:** Nonindustrial Private Forest Land typically unmanaged or limited management activities. Typical site is approximately 101 to 250 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Conservation Plan Activities (CPA). The CPA criteria requires the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Forest Management CPA is not considered a Forest Harvest Plan but should complement the needs for harvest if desired by the land user. Additional CPA plan criteria is detailed in the FOTG.	Number	Number	$6,851.56	$8,221.87
106-42	FMP 251 to 500 acres	**Scenario Description:** Nonindustrial Private Forest Land typically unmanaged or limited management activities. Typical site is approximately 251 to 500 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Conservation Activity Plan (CPA). The CPA requires the plan to identify approved FieldOffice Technical Guide conservation practices where needed to address identified resource concerns. The Forest Management CPA is not considered a Forest Harvest Plan but should complement the needs for harvest if desired by the land user. Additional CPA plan requirements are detailed in the FOTG.	Number	Number	$4,313.94	$5,176.73
106-43	FMP 501 to 1000 acres	**Scenario Description:** Nonindustrial Private Forest Land typically unmanaged or limited management activities. Typical site is approximately 501 to 1000 acres in size and consists of existing uneven-aged mixed species stands of harvestable trees.Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition; on Forest Land. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Forest Management Conservation Plan Activities (CPA). The CPA criteria requires the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Forest Management CPA is not considered a Forest Harvest Plan but should complement the needs for harvest if desired by the land user. Additional CPA plan criteria is detailed in the FOTG.	Number	Number	$5,265.55	$6,318.66

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DESIGN AND IMPLEMENTATION ACTIVITY

GRAZING MANAGEMENT DESIGN

Practice Code 159

Practice Units: NUMBER

Definition: Production of site-specific conservation practice implementation instructions for grazing management activities contained in a conservation plan.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
159-99	Design and Implementation Activities for Grazed Lands <100 acres	**Scenario Description:** Design and implementation activities for agricultural operation with less than 100 acres grazed land. The following natural resource concerns will be addressed: Soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Grazing Management DIA. The DIA criteria requires the design and implementation of grazing activities as a component of the CPA to address resource concerns and to meet criteria for applicable conservation practices including practices such as: Prescribed Grazing Management (528), Brush Management (314), Fencing (382), Forage Harvest Management (511), Grazing Land Mechanical Treatment (548), Herbaceous Weed Treatment (315), Pasture and Hay Planting (512), Range Planting (550), and any additional conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 159 plan as cited in the NRCS FOTG.	1	Number	$1,254.51	$1,505.41
159-115	Design and Implementation Activities for Grazed Lands 101 to 500 acres	**Scenario Description:** Design and implementation activities for an agricultural operation with 101 to 500 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Grazing Management DIA. The DIA criteria requires the design and implementation of grazing activities as a component of the CPA to address resource concerns and to meet criteria for applicable conservation practices including practices such as: Prescribed Grazing Management (528), Brush Management (314), Fencing (382), Forage Harvest Management (511), Grazing Land Mechanical Treatment (548), Herbaceous Weed Treatment (315), Pasture and Hay Planting (512), Range Planting (550), and any additional conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 159 plan as cited in the NRCS FOTG.	1	Number	$1,568.14	$1,881.77
159-131	Design and Implementation Activities for Grazed Lands 501 to 1,500 acres	**Scenario Description:** Design and implementation activities for agricultural operation with 501 to 1,500 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Grazing Management DIA. The DIA criteria requires the design and implementation of grazing activities as a component of the CPA to address resource concerns and to meet criteria for applicable conservation practices including practices such as: Prescribed Grazing Management (528), Brush Management (314), Fencing (382), Forage Harvest Management (511), Grazing Land Mechanical Treatment (548), Herbaceous Weed Treatment (315), Pasture and Hay Planting (512), Range Planting (550), and any additional conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 159 plan as cited in the NRCS FOTG.	1	Number	$1,881.77	$2,258.12

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
159-147	Design and Implementation Activities for Grazed Lands 1,501 to 5,000 acres	**Scenario Description:** Design and implementation activity for an agricultural operation with 1,501 to 5,000 acres grazed land. The following natural resource concerns will be addressed: Soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Grazing Management DIA. The DIA criteria requires the design and implementation of grazing activities as a component of the CPA to address resource concerns and to meet criteria for applicable conservation practices including practices such as: Prescribed Grazing Management (528), Brush Management (314), Fencing (382), Forage Harvest Management (511), Grazing Land Mechanical Treatment (548), Herbaceous Weed Treatment (315), Pasture and Hay Planting (512), Range Planting (550), and any additional conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 159 plan as cited in the NRCS FOTG.	1	Number	$2,195.39	$2,634.47
159-163	Design and Implementation Activities for Grazed Lands 5,001 to 10,000 acres	**Scenario Description:** Design and implementation activities for an agricultural operation with 5,001 to 10,000 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Grazing Management DIA. The DIA criteria requires the design and implementation of grazing activities as a component of the CPA to address resource concerns and to meet criteria for applicable conservation practices including practices such as: Prescribed Grazing Management (528), Brush Management (314), Fencing (382), Forage Harvest Management (511), Grazing Land Mechanical Treatment (548), Herbaceous Weed Treatment (315), Pasture and Hay Planting (512), Range Planting (550), and any additional conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 159 plan as cited in the NRCS FOTG.	1	Number	$2,509.02	$3,010.83
159-179	Design and Implementation Activities for Grazed Lands >10,000 acres	**Scenario Description:** Design and implementation activities for an agricultural operation with greater than 10,000 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Grazing Management DIA. The DIA criteria requires the design and implementation of grazing activities as a component of the CPA to address resource concerns and to meet criteria for applicable conservation practices including practices such as: Prescribed Grazing Management (528), Brush Management (314), Fencing (382), Forage Harvest Management (511), Grazing Land Mechanical Treatment (548), Herbaceous Weed Treatment (315), Pasture and Hay Planting (512), Range Planting (550), and any additional conservation practices which address other related resource concerns. The DIA meets the basic quality criteria for the 159 plan as cited in the NRCS FOTG.	1	Number	$2,822.65	$3,387.18

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CONSERVATION PLANNING ACTIVITY

GRAZING MANAGEMENT PLAN

Practice Code 110

Practice Units: NUMBER

Definition: A site-specific conservation plan that contains planned grazing related conservation treatment activities for one or more resource concerns.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
110-69	Conservation Plan for Grazed Lands 101 to 500 acres	**Scenario Description:** Site specific conservation plan for grazed lands for an agricultural operation with 101 to 500 acres grazed land. Natural Resource Concern: Soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Conservation Planning Activity (CPA) plan for grazing lands. The CPA requires the plan to meet the General Requirements (steps 1-7) of the planning process. Step 1- Identify Problems and Opportunities, Step 2- Determine Objectives, Step 3-Inventory Resources, Step 4-Analyze Resource Data, Step 5-Formulate Alternatives, Step 6-Evaluate Alternatives, and Step 7-Make Decisions (Select Preferred Alternative).	1	Number	$2,352.21	$2,822.65
110-85	Conservation Plan for Grazed Lands <100 acres.	**Scenario Description:** Site specific conservation plan for agricultural operation with less than 100 acres grazed land. The plan will address the following natural resource concerns: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Conservation Planning Activity (CPA) plan for grazing lands. The CPA requires the plan to meet the General Requirements (steps 1-7) of the planning process. Step 1- Identify Problems and Opportunities, Step 2- Determine Objectives, Step 3-Inventory Resources, Step 4-Analyze Resource Data, Step 5-Formulate Alternatives, Step 6-Evaluate Alternatives, and Step 7-Make Decisions (Select Preferred Alternative). The plan may include recommendations for associated conservation practices which address other related resource concerns. The CPA meets the basic quality criteria for the CPA 110 plan as cited in the NRCS Field Office Technical Guide.	1	Number	$1,881.77	$2,258.12
110-101	Conservation Plan for Grazed Lands 501 to 1,500 acres	**Scenario Description:** Site specific conservation plan for grazed lands for an agricultural operation with 501 to 1,500 acres of grazed land. The plan will address the following natural resource concerns: soil erosion, water quality, fish and wildlife, plant condition and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Conservation Planning Activity (CPA) plan for grazing lands. The CPA requires the plan to meet the General Requirements (steps 1-7) of the planning process. Step 1- Identify Problems and Opportunities, Step 2- Determine Objectives, Step 3-Inventory Resources, Step 4-Analyze Resource Data, Step 5-Formulate Alternatives, Step 6-Evaluate Alternatives, and Step 7-Make Decisions (Select Preferred Alternative). The plan may include recommendations for associated conservation practices which address other related resource concerns. The CPA meets the basic quality criteria for the CPA 110 plan as cited in the NRCS Field Office Technical Guide.	1	Number	$2,822.65	$3,387.18

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
110-117	Conservation Plan for Grazed Lands 1,501 to 5,000 acres	**Scenario Description:** Site specific conservation plan for grazed lands for an agricultural operation with 1,501 to 5,000 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Conservation Planning Activity (CPA) plan for grazing lands. The CPA requires the plan to meet the General Requirements (steps 1-7) of the planning process. Step 1- Identify Problems and Opportunities, Step 2- Determine Objectives, Step 3-Inventory Resources, Step 4-Analyze Resource Data, Step 5-Formulate Alternatives, Step 6-Evaluate Alternatives, and Step 7-Make Decisions (Select Preferred Alternative). The plan may include recommendations for associated conservation practices which address other related resource concerns. The CPA meets the basic quality criteria for the CPA 110 plan as cited in the NRCS Field Office Technical Guide.	1	Number	$3,293.09	$3,951.71
110-133	Conservation Plan for Grazed Lands 5,001 to 10,000 acres	**Scenario Description:** Site specific conservation plan for grazed lands for an agricultural operation with 5,001 to 10,000 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Conservation Planning Activity (CPA) plan for grazing lands. The CPA requires the plan to meet the General Requirements (steps 1-7) of the planning process. Step 1- Identify Problems and Opportunities, Step 2- Determine Objectives, Step 3-Inventory Resources, Step 4-Analyze Resource Data, Step 5-Formulate Alternatives, Step 6-Evaluate Alternatives, and Step 7-Make Decisions (Select Preferred Alternative). The plan may include recommendations for associated conservation practices which address other related resource concerns. The CPA meets the basic quality criteria for the CPA 110 plan as cited in the NRCS Field Office Technical Guide.	1	Number	$3,763.53	$4,516.24
110-149	Conservation Plan for Grazed Lands >10,000 acres	**Scenario Description:** Site specific conservation plan for grazed lands for an agricultural operation with greater than 10,000 acres grazed land. The following natural resource concerns will be addressed: soil erosion, water quality, fish and wildlife, plant condition, and all other appropriate resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Conservation Planning Activity (CPA) plan for grazing lands. The CPA requires the plan to meet the General Requirements (steps 1-7) of the planning process. Step 1- Identify Problems and Opportunities, Step 2- Determine Objectives, Step 3-Inventory Resources, Step 4-Analyze Resource Data, Step 5-Formulate Alternatives, Step 6-Evaluate Alternatives, and Step 7-Make Decisions (Select Preferred Alternative). The plan may include recommendations for associated conservation practices which address other related resource concerns. The CPA meets the basic quality criteria for the CPA 110 plan as cited in the NRCS Field Office Technical Guide.	1	Number	$4,233.98	$5,080.77

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DESIGN AND IMPLEMENTATION ACTIVITY

IMPROVED MANAGEMENT OF DRAINAGE WATER DESIGN

Practice Code 164

Practice Units: NUMBER

Definition: Design the drainage volume and water table elevation by regulating the flow from a surface or subsurface agricultural drainage system. This activity includes one or more conservation practices that manage the drainage volume and water table elevation by regulating the flow from a surface or subsurface agricultural drainage system. Implementation requirements for CPS 554 Drainage Water Management along with other supporting conservation practices are developed.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
164-3	1-2 Designs - Tile Map Available	**Scenario Description:** An agricultural producer wishes to address water quality degradation, poor plant productivity and health, and/or oxidation oforganic matter in soils on a relatively flat crop field with a patterned drainage system through an EQIP contract with at least one (1) drainage practice scenario. A map of the tile system is available. Each "Design" indicates that each new device or component is closely related to other devices or components of the drainage water management system even if numerous practices are contracted. The Drainage Water Management DIA includes reviewing, and when needed, revising alternatives to address the identified concern(s). The Drainage Water Management DIA documents: a) the client's final decisions related to the associated drainage practice scenarios; and b) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Water Quality - Excess nutrients in surface and groundwaters, Plant Condition – Plant Productivity and Health, and Soil Health - Subsidence. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenario designs using the Drainage Water Management DIA. The DIA 164 criteria include tasks needed to document the client's decisions and design of conservation practices which address water quality, plant condition, or soil health. The DrainageWater Management DIA meets the quality criteria for the DIA 164 activityas cited in the NRCS Field Office Technical Guide.	Number	Number	$5,129.43	$6,155.32
164-19	3 or More Designs - Tile Map Available	**Scenario Description:** An agricultural producer wishes to address water quality degradation, poor plant productivity and health, and/or oxidation oforganic matter in soils on a relatively flat crop field with a patterned drainage system through an EQIP contract with multiple drainage practice scenario. A map of the tile system is available. Each "Design" indicates that each new device or component is closely related to other devices or components of the drainage water management system even if numerous practices are contracted. The Drainage Water Management DIA includes reviewing, and when needed, revising alternatives to address the identified concern(s). The Drainage Water Management DIA documents: a) the client's final decisions related to the associated drainage practice scenarios; and b) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Water Quality - Excess nutrients in surface and groundwaters, Plant Condition – Plant Productivity and Health, and Soil Health - Subsidence. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenario designs using the Drainage Water Management DIA. The DIA 164 criteria include tasks needed to document the client's decisions and design of conservation practices which address water quality, plant condition, or soil health. The DrainageWater Management DIA meets the quality criteria for the DIA 164 activityas cited in the NRCS Field Office Technical Guide.	Number	Number	$8,062.81	$9,675.37

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
164-35	1-2 Designs - No Tile Map Available	**Scenario Description:** An agricultural producer wishes to address water quality degradation, poor plant productivity and health, and/or oxidation oforganic matter in soils on a relatively flat crop field with a patterned drainage system through an EQIP contract with at least one (1) drainage practice scenario. A map of the tile system is not available. Each "Design" indicates that each new device or component is closely related to other devices or components of the drainage water management system even if numerous practices are contracted. The Drainage Water Management DIA includes reviewing, and when needed, revising alternatives to address the identified concern(s). The Drainage Water Management DIA documents: a) the client's final decisions related to the associated drainage practice scenarios; and b) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Water Quality - Excess nutrients in surface and groundwaters, Plant Condition - Plant Productivity and Health, and Soil Health - Subsidence. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenario designs using the Drainage Water Management DIA. The DIA 164 criteria include tasks needed to document the client's decisions and design of conservation practices which address water quality, plant condition, or soil health. The DrainageWater Management DIA meets the quality criteria for the DIA 164 activityas cited in the NRCS Field Office Technical Guide.	Number	Number	$6,986.77	$8,384.12
164-51	3 or More Designs - No TileMap Available	**Scenario Description:** An agricultural producer wishes to address water quality degradation, poor plant productivity and health, and/or oxidation oforganic matter in soils on a relatively flat crop field with a patterned drainage system through an EQIP contract with multiple drainage practice scenario. A map of the tile system is not available. Each "Design" indicates that new devices or components are closely related to other devices or components of the drainage water management system even if numerous designs are contracted. If more than one practice is contracted, then "2-5 Designs" shall be contracted for the Drainage WaterManagement DIA. The Drainage Water Management DIA includes reviewing, and, when needed, revising alternatives to address the identified concern(s). The Drainage Water Management DIA documents: a) the client's final decisions related to the associated drainage practice scenarios; and b) design deliverables described in the associated NRCSConservation Practice Statements of Work. Natural Resource Concern(s): Water Quality - Excess nutrients in surface and groundwaters, Plant Condition - Plant Productivity and Health, and Soil Health - Subsidence. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenario designs using the Drainage Water Management DIA. The DIA 164 criteria include tasks needed to document the client's decisions and design of conservation practices which address water quality, plant condition, or soil health. The DrainageWater Management DIA meets the quality criteria for the DIA 164 activityas cited in the NRCS Field Office Technical Guide.	Number	Number	$8,782.34	$10,538.81

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

INDIGENOUS STEWARDSHIP METHODS EVALUATION

Practice Code 222

Practice Units: NUMBER

Definition: An evaluation of land uses, capabilities, and limitations with respect to Indigenous Stewardship Methods (ISM) that informs the conservation planning process.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
222-3	ISME 301 to 1,000 Acres	**Scenario Description:** The scenario involves obtaining assistance from a Qualified Individual, designated by the governing body of a Tribe or Indigenous culture, to evaluate the designated planning area, then gather knowledge about indigenous knowledge, and deliver results to the client and NRCS. The resulting information can be used to inform the conservation planning and implementation processes, meet the client's objectives by addressing one or more NRCS-recognized resource concerns using techniques that align with Tribal or Indigenous knowledge. **After Practice Description:** The client hired a QI to provide the CEMA assistance. The QI has met with client and visited the planning area, in order to develop an understanding of its capabilities, limitations, and needs within a culturally appropriate context. Indigenous knowledge about the planning area has been gathered from sources approved by a Tribe or Indigenous culture. The QI verifies with the Tribe's or Indigenous culture's governing body, that the information gathered is accurate-then provides a report, map and other supporting documentation of their ISM evaluation of the planning area to the client; and a copy is shared with NRCS. In the future, the information this CEMA provides can assists the participant and the planner refine conservation objectives; and realize opportunities to incorporate Indigenous knowledge into a conservation plan and/or conservation practice implementations.	Number	Number	$12,672.49	$15,206.99
222-19	ISME 1001 to 3,000 Acres	**Scenario Description:** The scenario involves obtaining assistance from a Qualified Individual, designated by the governing body of a Tribe or Indigenous culture, to evaluate the designated planning area, then gather knowledge about indigenous knowledge, and deliver results to the client and NRCS. The resulting information can be used to inform the conservation planning and implementation processes, meet the client's objectives by addressing one or more NRCS-recognized resource concerns using techniques that align with Tribal or Indigenous knowledge. **After Practice Description:** The client hired a QI to provide the CEMA assistance. The QI has met with client and visited the planning area, in order to develop an understanding of its capabilities, limitations, and needs within a culturally appropriate context. Indigenous knowledge about the planning area has been gathered from sources approved by a Tribe or Indigenous culture. The QI verifies with the Tribe's or Indigenous culture's governing body, that the information gathered is accurate-then provides a report, map and other supporting documentation of their ISM evaluation of the planning area to the client; and a copy is shared with NRCS. In the future, the information this CEMA provides can assists the participant and the planner refine conservation objectives; and realize opportunities to incorporate Indigenous knowledge into a conservation plan and/or conservation practice implementations.	Number	Number	$16,869.40	$20,243.28

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
222-35	ISME Less Than or Equal to 10 Acres	**Scenario Description:** The scenario involves obtaining assistance from a Qualified Individual, designated by the governing body of a Tribe or Indigenous culture, to evaluate the designated planning area, then gather knowledge about indigenous knowledge, and deliver results to the client and NRCS. The resulting information can be used to inform the conservation planning and implementation processes, meet the client's objectives by addressing one or more NRCS-recognized resource concerns using techniques that align with Tribal or Indigenous knowledge. **After Practice Description:** The client hired a QI to provide the CEMA assistance. The QI has met with client and visited the planning area, in order to develop an understanding of its capabilities, limitations, and needs within a culturally appropriate context. Indigenous knowledge about the planning area has been gathered from sources approved by a Tribe or Indigenous culture. The QI verifies with the Tribe's or Indigenous culture's governing body, that the information gathered is accurate-then provides a report, map and other supporting documentation of their ISM evaluation of the planning area to the client; and a copy is shared with NRCS. In the future, the information this CEMA provides can assists the participant and the planner refine conservation objectives; and realize opportunities to incorporate Indigenous knowledge into a conservation plan and/or conservation practice implementations.	Number	Number	$5,115.40	$6,138.48
222-51	ISME 11 to 300 Acres	**Scenario Description:** The scenario involves obtaining assistance from a Qualified Individual, designated by the governing body of a Tribe or Indigenous culture, to evaluate the designated planning area, then gather knowledge about indigenous knowledge, and deliver results to the client and NRCS. The resulting information can be used to inform the conservation planning and implementation processes, meet the client's objectives by addressing one or more NRCS-recognized resource concerns using techniques that align with Tribal or Indigenous knowledge. **After Practice Description:** The client hired a QI to provide the CEMA assistance. The QI has met with client and visited the planning area, in order to develop an understanding of its capabilities, limitations, and needs within a culturally appropriate context. Indigenous knowledge about the planning area has been gathered from sources approved by a Tribe or Indigenous culture. The QI verifies with the Tribe's or Indigenous culture's governing body, that the information gathered is accurate-then provides a report, map and other supporting documentation of their ISM evaluation of the planning area to the client; and a copy is shared with NRCS. In the future, the information this CEMA provides can assists the participant and the planner refine conservation objectives; and realize opportunities to incorporate Indigenous knowledge into a conservation plan and/or conservation practice implementations.	Number	Number	$6,822.57	$8,187.08

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DESIGN AND IMPLEMENTATION ACTIVITY

IRRIGATION WATER MANAGEMENT DESIGN

Practice Code 163

Practice Units: NUMBER

Definition: Design the volume, frequency, and application rate of irrigation water. Implementation requirements for CPS 449 Irrigation Water Management along with other supporting conservation practices are developed.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
163-3	1-2 Designs - Without Pump Test	**Scenario Description:** An agricultural producer wishes to address irrigation water use inefficiency and all other appropriate resource concerns through an EQIP contract with at least one (1) irrigation practice scenario. The pump for the irrigation system is of known performance and less than 3 years old. Each "Design" indicates that new devicesor components is closely related to other devices or components of the irrigation water management system even if numerous practices are contracted. The Irrigation Water Management DIA includes reviewing, and when needed, revising alternatives to address the identified concern(s). The Irrigation Water Management DIA documents: a) the client's final decisions related to the associated irrigation practice scenarios; and b) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Insufficient Water - Inefficient Irrigation Water Use; Water Quality Degradation - Excessive sediment in surface waters, Nutrients transported to surface and groundwater, pesticides transported to surface and groundwater, pathogens and chemicals from manure, and biosolids or compost applications transported to surface and groundwater, excess salts in surface and groundwater; Degraded Plant Condition - Undesirable plant productivity and health; Inefficient Energy Use - Equipment and facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenariodesigns using the Irrigation Water Management DIA. TheDIA 163 criteria include tasks needed to document the client's decisions and design of conservation practices which address insufficient water, water quality degradation, degraded plant condition, or inefficient energy use. The Irrigation Water Management DIA meetsthe quality criteria for the DIA 164 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$5,254.84	$6,305.81
163-19	3 or More Designs - Without Pump Test	**Scenario Description:** An agricultural producer wishes toaddress irrigation water use inefficiency and all other appropriate resource concerns through an EQIP contract with multiple irrigation practice scenario. The pump for theirrigation system is of known performance and less than 3years old. Each "Design" indicates that new devices or components is closely related to other devices or components of the irrigation water management system even if numerous practices are contracted. The Irrigation Water Management DIA includes reviewing, and, when needed, revising alternatives to address the identified concern(s). The Irrigation Water Management DIA documents: a) the client's final decisions related to the associated irrigation practice scenarios; and b) design deliverables described in the associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Insufficient Water - Inefficient Irrigation Water Use; Water Quality Degradation - Excessive sediment in surface waters, Nutrients transported to surface and groundwater, pesticides transported to surface and groundwater, pathogens and chemicals from manure, and biosolids or compost applications transported to surface and groundwater, excess salts in surface and groundwater; Degraded Plant Condition - Undesirable plant productivity and health; Inefficient Energy Use - Equipment and facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenario designs using the Drainage Water Management DIA. The DIA 164 criteria include tasks needed to document the client's decisions and design of conservation practices which address water quality, plant condition, or soil health.The Drainage Water Management DIA meets the quality criteria for the DIA 164 activity as cited in the NRCS Field Office Technical Guide.	Number	Number	$8,563.08	$10,275.69

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
163-35	1-2 Designs - With Pump Test	**Scenario Description:** An agricultural producer wishes to address irrigation water use inefficiency and all other appropriate resource concerns through an EQIP contract with multiple irrigation practice scenario through an EQIP contract with at least one (1) irrigation practice scenario. The pump for the irrigation system is of unknown performance and older than 3 years. Each "Design" indicates that new devices or components is closely related to other devices or components of the irrigation water management system even if numerous practices arecontracted. The Irrigation Water Management DIA includes reviewing, and, when needed, revising alternatives to address the identified concern(s). The Irrigation Water Management DIA documents: a) the client's final decisions related to the associated irrigation practice scenarios; and b) design deliverables described inthe associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Insufficient Water -Inefficient Irrigation Water Use; Water Quality Degradation - Excessive sediment in surface waters, Nutrients transported to surface and groundwater, pesticides transported to surface and groundwater, pathogens and chemicals from manure, and biosolids or compost applications transported to surface and groundwater, excess salts in surface and groundwater; Degraded PlantCondition - Undesirable plant productivity and health; Inefficient Energy Use - Equipment and facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenariodesigns using the Irrigation Water Management DIA. TheDIA 163 criteria include tasks needed to document the client's decisions and design of conservation practices which address insufficient water, water quality degradation, degraded plant condition, or inefficient energy use. The Irrigation Water Management DIA meetsthe quality criteria for the DIA 163 activity as cited in the NRCS FOTG.	Number	Number	$6,254.93	$7,505.92
163-51	3 or More Designs - With Pump Test	**Scenario Description:** An agricultural producer wishes to address irrigation water use inefficiency and all other appropriate resource concerns through an EQIP contract with multiple irrigation practice scenario through an EQIP contract with at least one (1) irrigation practice scenario. The pump for the irrigation system is of unknown performance and older than 3 years. Each "Design" indicates that new devices or components is closely related to other devices or components of the irrigation water management system even if numerous practices arecontracted. The Irrigation Water Management DIA includes reviewing, and, when needed, revising alternatives to address the identified concern(s). The Irrigation Water Management DIA documents: a) the client's final decisions related to the associated irrigation practice scenarios; and b) design deliverables described inthe associated NRCS Conservation Practice Statements of Work. Natural Resource Concern(s): Insufficient Water -Inefficient Irrigation Water Use; Water Quality Degradation - Excessive sediment in surface waters, Nutrients transported to surface and groundwater, pesticides transported to surface and groundwater, pathogens and chemicals from manure, and biosolids or compost applications transported to surface and groundwater, excess salts in surface and groundwater; Degraded PlantCondition - Undesirable plant productivity and health; Inefficient Energy Use - Equipment and facilities. **After Practice Description:** The producer has obtained services from a certified TSP to develop practice scenariodesigns using the Irrigation Water Management DIA. TheDIA 163 criteria include tasks needed to document the client's decisions and design of conservation practices which address insufficient water, water quality degradation, degraded plant condition, or inefficient energy use. The Irrigation Water Management DIA meetsthe quality criteria for the DIA 163 activity as cited in the NRCS FOTG.	Number	Number	$9,922.93	$11,907.51

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DESIGN AND IMPLEMENTATION ACTIVITY

NUTRIENT MANAGEMENT DESIGN AND IMPLEMENTATION ACTIVITY

Practice Code 157

Practice Units: NUMBER

Definition: Design the rate, source, placement, and timing of plant nutrients and soil amendments while reducing environmental impacts. Implementation requirements for Conservation Practice Standard (CPS) 590 Nutrient Management along with other supporting conservation practices are developed.

Nutrient management plans are documents of record, establishing how nutrients will be managed including the Rate, Source, Placement and Timing of plan nutrients for plant production while addressing identified resource concerns including the offsite movement of nutrients. These plans are prepared in collaboration with producer and/or landowner and designed to help the producer implement and maintain an effective plan for the application of nutrients from available sources.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
157-3	Design Nutrient Management forgreater than 101Acres and less than or equal to 300 Acres Fertilizer and Manure	**Scenario Description:** Various on-farm land uses where naturalor artificial amendments are applied. Natural Resource Concern:Water Quality, Soil Erosion, Water Quantity, and other associated resource concerns. Manure may be imported. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Nutrient Management conservation activity plan consistent with the criteria in DIA 157 and 590 Nutrient Management. The DIA criteria requires the plan to meet quality criteria for Soils, Water Quality and Air Quality resource concernsand other applicable resource concerns and provides for opportunities to manage nutrients for plant production and address offsite movement of nutrients. The design may include recommendations for associated conservation practices which address other related resource concerns. Meets the basic qualitycriteria for the DIA 157 as cited in the NRCS FOTG and CPS 590 Nutrient Management.	Number	Number	$5,696.69	$6,836.03
157-19	Design Nutrient Management for101 to less than300 Acres and No Manure	**Scenario Description:** Various on-farm land uses where naturalor artificial amendments are applied. Natural Resource Concern:Water Quality, Soil Erosion, Water Quantity, and other associated resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Nutrient Management conservation activity plan consistent with the criteria in DIA 157 and 590 Nutrient Management. The DIA criteria requires the plan to meet quality criteria for Soils, Water Quality and Air Quality resource concernsand other applicable resource concerns and provides for opportunities to manage nutrients for plant production and address offsite movement of nutrients. The design may include recommendations for associated conservation practices which address other related resource concerns. Meets the basic qualitycriteria for the DIA 157 as cited in the NRCS FOTG and CPS 590 Nutrient Management.	Number	Number	$3,255.25	$3,906.30
157-35	Design Nutrient Management for greater than 300 Acres and No Manure	**Scenario Description:** Various on-farm land uses where naturalor artificial amendments are applied. Natural Resource Concern:Water Quality, Soil Erosion, Water Quantity, and other associated resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Nutrient Management conservation activity plan consistent with the criteria in DIA 157 and 590 Nutrient Management. The DIA criteria requires the plan to meet quality criteria for Soils, Water Quality and Air Quality resource concernsand other applicable resource concerns and provides for opportunities to manage nutrients for plant production and address offsite movement of nutrients. The design may include recommendations for associated conservation practices which address other related resource concerns. Meets the basic qualitycriteria for the DIA 157as cited in the NRCS FOTG and CPS 590 Nutrient Management.	Number	Number	$4,069.07	$4,882.88

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
157-51	Design Nutrient Management forless than or equal to 100 Acres Fertilizer and Manure	**Scenario Description:** Various on-farm land uses where naturalor artificial amendments are applied. Natural Resource Concern:Water Quality, Soil Erosion, Water Quantity, and other associated resource concerns. Manure may be imported. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Nutrient Management conservation activity plan consistent with the criteria in DIA 157 and 590 Nutrient Management. The DIA criteria requires the plan to meet quality criteria for Soils, Water Quality and Air Quality resource concernsand other applicable resource concerns and provides for opportunities to manage nutrients for plant production and address offsite movement of nutrients. The design may include recommendations for associated conservation practices which address other related resource concerns. Meets the basic qualitycriteria for the DIA 157 as cited in the NRCS FOTG and CPS 590 Nutrient Management.	Number	Number	$4,069.07	$4,882.88
157-67	Design Nutrient Management forless than or equal to 100 Acres and No Manure	**Scenario Description:** Various on-farm land uses where naturalor artificial amendments are applied. Natural Resource Concern:Water Quality, Soil Erosion, Water Quantity, and other associated resource concerns. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Nutrient Management conservation activity plan consistent with the criteria in DIA 157 and 590 Nutrient Management. The DIA criteria requires the plan to meet quality criteria for Soils, Water Quality and Air Quality resource concernsand other applicable resource concerns and provides for opportunities to manage nutrients for plant production and address offsite movement of nutrients. The design may include recommendations for associated conservation practices which address other related resource concerns. Meets the basic qualitycriteria for the DIA 157 as cited in the NRCS FOTG and CPS 590 Nutrient Management.	Number	Number	$2,441.44	$2,929.73
157-83	Design Nutrient Management for greater than 300 Acres Fertilizer and Manure	**Scenario Description:** Various on-farm land uses where naturalor artificial amendments are applied. Natural Resource Concern:Water Quality, Soil Erosion, Water Quantity, and other associated resource concerns. Manure may be imported. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Nutrient Management conservation activity plan consistent with the criteria in DIA 157 and 590 Nutrient Management. The DIA criteria requires the plan to meet quality criteria for Soils, Water Quality and Air Quality resource concernsand other applicable resource concerns and provides for opportunities to manage nutrients for plant production and address offsite movement of nutrients. The design may include recommendations for associated conservation practices which address other related resource concerns. Meets the basic qualitycriteria for the DIA 157 as cited in the NRCS FOTG and CPS 590 Nutrient Management.	Number	Number	$6,917.41	$8,300.90

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DESIGN AND IMPLEMENTATION ACTIVITY

PEST MANAGEMENT CONSERVATION SYSTEM DESIGN

Practice Code 161

Practice Units: NUMBER

Definition: Pest Management Conservation System manages pests using a combination of conservation practices and Prevention, Avoidance, Monitoring, and Suppression (PAMS) techniques. It addresses beneficial organism, plant pressure, surface, and groundwater impacts.

Pest management plans are documents of record establishing how pests will be managed while addressing identified resource concerns including plant pest pressure, beneficial organisms, and the movement of pesticides. These plans are prepared in collaboration with producer and/or landowner and designed to help the producer implement and maintain an effective plan for the management of pests from available sources.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
161-3	High Complexity, 5+ CPS	**Scenario Description:** Agricultural operation where producer will implement high complexity conservation practices and PAMS activities as part of an overall Pest Management Conservation System. Natural resources relating to CPS 595 Pest Management Conservation System will be addressed. Will address resource concernswith 5 or more, high complexity conservation practices and/or PAMS activities. **After Practice Description:** After NRCS program contractis approved, participant will obtain services from a certifiedTSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. All practices installed according to field office technical guide requirements. PAMS activities according to IPM plan and Land Grant University guidelines. Implementation requirements, designs and specifications all complete.	Number	Number	$6,307.24	$7,568.69
161-19	High Complexity, 1-4 CPS	**Scenario Description:** Agricultural operation where producer will implement high complexity conservation practices and PAMS activities as part of an overall Pest Management Conservation System. Natural resources relating to CPS 595 Pest Management Conservation System will be addressed. Will address resource concernswith 1 - 4, high complexity conservation practices and/or PAMS activities. **After Practice Description:** After NRCS program contractis approved, participant will obtain services from a certifiedTSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. All practices installed according to field office technical guide requirements. PAMS activities according to IPM plan and Land Grant University guidelines. Implementation requirements, designs and specifications all complete.	Number	Number	$5,115.63	$6,138.76

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
161-35	Low Complexity, 5+ CPS	**Scenario Description:** Agricultural operation where producer will implement low complexity conservation practices and PAMS activities as part of an overall Pest Management Conservation System. Natural resources relating to CPS 595 Pest Management Conservation System will be addressed. Will address resource concernswith 5 or more, low complexity conservation practices. **After Practice Description:** After NRCS program contractis approved, participant will obtain services from a certifiedTSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. All practices installed according to field office technical guide requirements. PAMS activities according to IPM plan and Land Grant University guidelines. Implementation requirements, designs and specifications all complete.	Number	Number	$3,600.47	$4,320.57
161-51	Low Complexity, 1-4 CPS	**Scenario Description:** Agricultural operation where producer will implement low complexity conservation practices and PAMS activities as part of an overall Pest Management Conservation System. Natural resources relating to CPS 595 Pest Management Conservation System will be addressed. Will address resource concernswith 1 - 4, low complexity conservation practices. **After Practice Description:** After NRCS program contractis approved, participant will obtain services from a certifiedTSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to address resource concerns. All practices installed according to field office technical guide requirements. PAMS activities according to IPM plan and Land Grant University guidelines. Implementation requirements, designs and specifications all complete.	Number	Number	$2,408.86	$2,890.64

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

PFAS TESTING IN WATER OR SOIL

Practice Code 209

Practice Units: NUMBER

Definition: A Conservation Evaluation and Monitoring Activity (CEMA) is the assessment, monitoring, or recordkeeping activities required to plan, implement, or determine the effectiveness of conservation practices as described herein.

This CEMA provides testing (sample collection and laboratory analysis) to detect and quantify per- and polyfluoroalkyl substances (PFAS) in water or soil using EPA- or State-approved field sampling techniques and laboratory methods.

The purpose of this CEMA is to provide prescreening information to producers to determine if PFAS may be present in soils or water at their agricultural operation. This CEMA is not intended to determine the nature and extent of contamination applicable to a Federal or State cleanup action or provide a risk-based comparison to soil or water screening level values. As this is intended only as a prescreening step, this CEMA is intended to complement, not replace, PFAS testing offered by State agencies or EPA.

The CEMA includes the performance of work and documentation of the tasks, results, interpretations, and other activities described herein.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
209-3	PFAS Testing: Simple (Low Complexity) Sampling - Single Sample	**Scenario Description:** A single sample of water or soil is required to provide prescreening information to the landowner to determine if PFAS may be present in water or soils at their operation. In this scenario, the environmental media being sampled by the qualified individual is of low complexity: there is little temporal or spatial variation to account for in sampling, therefore no pre-sampling planning needed. This could include a single well used for stockwater or irrigation systems. The typical number of tests is 1, assuming that a landowner has a single well or a single field that can be represented by a single composite sample. **After Practice Description:** A laboratory PFAS analysis was completed, and the results were interpreted and explained to the landowner. The landowner now has pre-screening information that suggests if PFAS may be present in water (or soil) on their operation. If testing detects PFAS in water or soil at levels that exceed State or Federal screening levels, the landowner can decide to pursue non-NRCS sources for follow-up detailed PFAS assessment.	Each	Number	$936.39	$1,123.67
209-19	PFAS Testing: Simple (Low Complexity) Sampling - Multiple Samples	**Scenario Description:** Multiple samples of water or soil are needed to provide prescreening information to the landowner to determine if PFAS may be present in water or soils at their operation. In this scenario, the environmental media being sampled by the qualified individual is of low complexity. There is little temporal or spatial variation to account for in sampling, therefore no pre-sampling planning needed. This scenario could apply to small ponds or wells used for stockwater or irrigation systems, a small field, or a small number of fields of uniform soil composition. This scenario assumes that additional time is needed for each collection of multiple samples. The typical number of tests is 5, assuming that a landowner has four fields and a well and each field can be represented by a single composite sample. **After Practice Description:** A laboratory PFAS analysis was completed, and the results were interpreted and explained to the landowner. The landowner now has pre-screening information that suggests if PFAS may be present in water (or soil) on their operation. If testing detects PFAS in water or soil at levels that exceed State or Federal screening levels, the landowner can decide to pursue non-NRCS sources for follow-up detailed PFAS assessment.	Each	Number	$656.58	$787.90
209-35	PFAS Testing: Complicated (High Complexity) Sampling - Multiple Samples	**Scenario Description:** Multiple samples of water or soil are needed to provide prescreening information to the landowner to determine if PFAS may be present in water or soils at their operation. In this scenario, the environmental media being sampled is of high complexity. There is a need to account for this temporal or spatial variation in sampling. Therefore, additional time is needed to prepare and discuss a comprehensive sampling strategy to detect PFAS and the final comprehensive report with the landowner. This scenario could apply to the agricultural use of multiple sources of water (ponds, wells, and reclaimed water) for stockwater or irrigation systems or to assess multiple fields with variable soil composition. This scenario assumes that additional time is needed for each collection of multiple samples. The typical number of tests is 5, assuming that a farmer has many fields, and the producer doesn't want to test all or has large fields with highly variable soil composition. **After Practice Description:** A laboratory PFAS analysis was completed, and the results were interpreted and explained to the landowner. The landowner now has pre-screening information that suggests if PFAS may be present in water (or soil) on their operation. If testing detects PFAS in water or soil at levels that exceed State or Federal screening levels, the landowner can decide to pursue non-NRCS sources for follow-up detailed PFAS assessment.	Each	Number	$796.49	$955.79

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DESIGN AND IMPLEMENTATION ACTIVITY

POLLINATOR HABITAT DESIGN

Practice Code 148

Practice Units: NUMBER

Definition: Design the conservation practices needed to address a pollinator habitat resource concern by improving, protecting, restoring, enhancing, or expanding flower-rich habitat that supports native and/or managed pollinators.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
148-3	Pollinator Habitat Enhancement Plan CAP - No Local TSP	**Scenario Description:** Various on-farm land uses, No qualifiedTSP within 300 miles. Natural Resource Concern: Fish and Wildlife, Plant Condition, Soil Erosion, Water Quality on an agricultural operation. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Pollinator Habitat Enhancement Conservation Activity Plan (CAP). The CAP criteria requires the plan to meet quality criteria for applicable resource concerns andprovides for opportunities to improve, restore, or enhance flower-rich habitat that supports native and/or managed pollinator species. The CAP plan may include recommendations for associated conservation practices which address other related resource concerns. The CAP meets the basic quality criteria for the 146 plan as cited in the NRCS Field Office Technical Guide.	Number	Number	$4,158.62	$4,990.35
148-19	Pollinator Habitat Enhancement Plan CAP	**Scenario Description:** Various on-farm land uses. NaturalResource Concern: Fish and Wildlife, Plant Condition, Soil Erosion, Water Quality on an agricultural operation. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Pollinator Habitat Enhancement Conservation Activity Plan (CAP). The CAP criteria requires the plan to meet quality criteria for applicable resource concerns andprovides for opportunities to improve, restore, or enhance flower-rich habitat that supports native and/or managed pollinator species. The CAP plan may include recommendations for associated conservation practices which address other related resource concerns. The CAP meets the basic quality criteria for the 146 plan as cited in the NRCS Field Office Technical Guide.	Number	Number	$2,863.31	$3,435.98

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DESIGN AND IMPLEMENTATION ACTIVITY

PRESCRIBED BURNING DESIGN

Practice Code 160

Practice Units: NUMBER

Definition: This Design and Implementation Activity (DIA) provides site-specific instructions for prescribed burning and related conservation practices.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
160-3	Prescribed Burning Plan DIAless than or equal to 20 acres	**Scenario Description:** Non Industrial Private Forest Land, Pasture or Range Land typically less than or equal to 20 acres in size and is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified Technical Service Provider (TSP) for development of the Prescribed Burning DIA. The DIA criteria require the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Prescribed Burning Plan DIA is not considered a Forest Management Plan, a Reforestation Plan, a Forest Harvest Plan, or a Prescribed Grazing Plan, but should complement the needs of those plans if they exist and if desired by the decision maker. The DIA plan will fully describeall aspects of the prescribed burn including, but not limited to objectives of the burn (i.e., site preparation, wildlife habitat, etc.), site conditions (i.e., fuel load, fuel type, etc.), implementation strategies (i.e., method of ignition, number of persons required, equipment needs, etc.), tolerable weather parameters (i.e., wind direction, relative humidity, mixing height, etc.) and identification of Smoke Sensitive Areas. Additional DIA plan criteria are detailed in the FOTG and potentially state developed technical criteria.	1	Number	$951.61	$1,141.93
160-19	Prescribed Burning Plan (DIA) greater than 1,000 acres	**Scenario Description:** Non Industrial Private Forest Land, Pasture or Range Land typically greater than 1,000 acres in size and is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load. Natural Resource Concern: Fish and Wildlife;Soil Erosion; Soil Condition; Water Quality; Plant Condition. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified Technical Service Provider (TSP) for development of the Prescribed Burning Plan (DIA). The DIA criteria require the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Prescribed Burning Plan DIA is not considered a Forest Management Plan, a Reforestation Plan, a Forest Harvest Plan, or a Prescribed Grazing Plan, but should complement the needs of those plans if they exist and if desired by the decision maker. The DIA plan willfully describe all aspects of the prescribed burn including, but not limitedto objectives of the burn (i.e., site preparation, wildlife habitat, etc.), site conditions (i.e., fuel load, fuel type, etc.), implementation strategies (i.e., method of ignition, number of persons required, equipment needs, etc.), tolerable weather parameters (i.e., wind direction, relative humidity, mixing height, etc.) and identification of Smoke Sensitive Areas. Additional DIA plan criteria are detailed in the FOTGand potentially state developed technical criteria.	1	Number	$3,806.42	$4,567.71

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
160-35	Prescribed Burning Plan-DIA greater than 501 acres and less than 1,000 acres	**Scenario Description:** Non Industrial Private Forest Land, Pasture or Range Land typically greater than 501 acres and less than 1,000 acres insize and is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified Technical Service Provider (TSP) for development of the Prescribed Burning Plan DIA. The DIA criteria require the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Prescribed Burning Plan DIA is not considered a Forest Management Plan, a Reforestation Plan, a Forest Harvest Plan, or a Prescribed Grazing Plan, but should complement the needs of those plans if they exist and if desired by the decision maker. The DIA plan willfully describe all aspects of the prescribed burn including, but not limitedto objectives of the burn (i.e., site preparation, wildlife habitat, etc.), site conditions (i.e., fuel load, fuel type, etc.), implementation strategies (i.e., method of ignition, number of persons required, equipment needs, etc.), tolerable weather parameters (i.e., wind direction, relative humidity, mixing height, etc.) and identification of Smoke Sensitive Areas. Additional DIA plan criteria are detailed in the Field Office TechnicalGuide and potentially state developed technical criteria.	1	Number	$2,537.61	$3,045.14
160-51	Prescribed Burning Plan - DIA greater than 251 acres and less than 500 acres	**Scenario Description:** Non Industrial Private Forest Land, Pasture or Range Land typically greater than 251 acres and less than 500 acres insize and is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality; Plant Condition. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified Technical Service Provider (TSP) for development of the Prescribed Burning Plan or DIA. The DIA criteria require the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Prescribed Burning Plan DIA is not considered a Forest Management Plan, a Reforestation Plan, a Forest Harvest Plan, or a Prescribed Grazing Plan, but should complement the needs of those plans if they exist and if desired by the decision maker. The DIA plan willfully describe all aspects of the prescribed burn including, but not limitedto objectives of the burn (i.e., site preparation, wildlife habitat, etc.), site conditions (i.e., fuel load, fuel type, etc.), implementation strategies (i.e., method of ignition, number of persons required, equipment needs, etc.), tolerable weather parameters (i.e., wind direction, relative humidity, mixing height, etc.) and identification of Smoke Sensitive Areas. Additional DIA plan criteria are detailed in the Field Office TechnicalGuide and potentially state developed technical criteria.	1	Number	$1,903.21	$2,283.85

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
160-67	Prescribed Burning Plan (DIA) greater than 101 acres and less than 250 acres	**Scenario Description:** Non Industrial Private Forest Land, Pasture or Range Land typically greater than 101 acres in size and less than 250 acres and is dominated by fire tolerant species that are competing withundesirable vegetation and accumulating fuel load. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality;Plant Condition. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified Technical Service Provider (TSP) for development of the Prescribed Burning Plan DIA. The DIA criteria require the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Prescribed Burning Plan DIA is not considered a Forest Management Plan, a Reforestation Plan, a Forest Harvest Plan, or a Prescribed Grazing Plan, but should complement the needs of those plans if they exist and if desired by the decision maker. The DIA plan willfully describe all aspects of the prescribed burn including, but not limitedto objectives of the burn (i.e., site preparation, wildlife habitat, etc.), site conditions (i.e., fuel load, fuel type, etc.), implementation strategies (i.e., method of ignition, number of persons required, equipment needs, etc.), tolerable weather parameters (i.e., wind direction, relative humidity, mixing height, etc.) and identification of Smoke Sensitive Areas. Additional DIA plan criteria are detailed in the Field Office TechnicalGuide and potentially state developed technical criteria.	1	Number	$1,586.01	$1,903.21
160-83	Prescribed Burning Plan (DIA) greater than 21 acresand less than100 acres	**Scenario Description:** Non Industrial Private Forest Land, Pasture orRange Land typically greater than 21 acres and less than 100 acres insize and is dominated by fire tolerant species that are competing with undesirable vegetation and accumulating fuel load. Natural Resource Concern: Fish and Wildlife; Soil Erosion; Soil Condition; Water Quality;Plant Condition. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified Technical Service Provider (TSP) for development of the Prescribed Burning Plan or DIA. The DIA criteria require the plan to identify approved Field Office Technical Guide conservation practices where needed to address identified resource concerns. The Prescribed Burning Plan DIA is not considered a Forest Management Plan, a Reforestation Plan, a Forest Harvest Plan, or a Prescribed Grazing Plan, but should complement the needs of those plans if they exist and if desired by the decision maker. The DIA plan willfully describe all aspects of the prescribed burn including, but not limitedto objectives of the burn (i.e., site preparation, wildlife habitat, etc.), site conditions (i.e., fuel load, fuel type, etc.), implementation strategies (i.e., method of ignition, number of persons required, equipment needs, etc.), tolerable weather parameters (i.e., wind direction, relative humidity, mixing height, etc.) and identification of Smoke Sensitive Areas. Additional DIA plan criteria are detailed in the Field Office TechnicalGuide and potentially state developed technical criteria.	1	Number	$1,268.81	$1,522.57

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

Prescribed Grazing Conservation Evaluation and Monitoring Activity

Practice Code 219

Practice Units: Number

Definition: Monitor and evaluate the selected area in order to determine the effects of prescribed grazing management on natural resource conditions and inform conservation planning decisions.

Limitations: N/A

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
219-3	Conservation, Evaluation and Monitoring Activity less than 100 acres	**Scenario Description:** Small agricultural operation with less than 100 acres grazed land. Natural Resource Concern: soil erosion, water quality, fish and wildlife, plant condition, or appropriate resource concerns. **After Practice Description:** Producer will utilize a certified Technical Service Provider (TSP) to evaluate and monitor all grazing management practices planned in a Conservation Plan, CPA 110, Implementation Requirement (IR) and/or DIA 159. Evaluation and monitoring activities will provide all needed information to evaluate the effectiveness of the grazing management plan (CPS 528) and any associated practices. A monitoring plan will be implemented with appropriate protocols and data records that evaluate whether the grazing strategy identified in the grazing plan is resulting in a movement toward meeting goals and objectives. Specific evaluation activities will be chosen based on stated objectives and pertinent resource concerns assessments identified in the Conservation Plan, CPA, Implementation Requirement (IR) and/or DIA. Evaluation and monitoring will meet the applicable 'plans and specifications' and 'operation and maintenance' sections found in CPS 528. Other supporting and facilitating conservation practices will also be monitored and evaluated. The CEMA narrative will describe the overall methodology, decision support tools and recommended management actions to meet purposes and criteria within practice standards. Job sheets and implementation requirement documents found in State's FOTG Section IV Conservation practices may be used.	Number	Number	$784.07	$940.88
219-19	Conservation, Evaluation and Monitoring Activity between 101 and 500 acres	**Scenario Description:** Agricultural operation between 101 and 500 acres grazed land. Natural Resource Concern: soil erosion, water quality, fish and wildlife, plant condition, or appropriate resource concerns. **After Practice Description:** Producer will utilize a certified Technical Service Provider (TSP) to evaluate and monitor all grazing management practices planned in a Conservation Plan, CPA 110, Implementation Requirement (IR) and/or DIA 159. Evaluation and monitoring activities will provide all needed information to evaluate the effectiveness of the grazing management plan (CPS 528) and any associated practices. A monitoring plan will be implemented with appropriate protocols and data records that evaluate whether the grazing strategy identified in the grazing plan is resulting in a movement toward meeting goals and objectives. Specific evaluation activities will be chosen based on stated objectives and pertinent resource concerns assessments identified in the Conservation Plan, CPA, Implementation Requirement (IR) and/or DIA. Evaluation and monitoring will meet the applicable 'plans and specifications' and 'operation and maintenance' sections found in CPS 528. Other supporting and facilitating conservation practices will also be monitored and evaluated. The CEMA narrative will describe the overall methodology, decision support tools and recommended management actions to meet purposes and criteria within practice standards. Job sheets and implementation requirement documents found in State's FOTG Section IV Conservation practices may be used.	Number	Number	$1,176.10	$1,411.33
219-35	Conservation, Evaluation and Monitoring Activity between 501 and 1,500 acres	**Scenario Description:** Small agricultural operation with 501 to 1,500 acres grazed land. Natural Resource Concern: Soil erosion, water quality, fish and wildlife, plant condition, or appropriate resource concerns. **After Practice Description:** Producer will utilize a certified Technical Service Provider (TSP) to evaluate and monitor all grazing management practices planned in a Conservation Plan, CPA 110, Implementation Requirement (IR) and/or DIA 159. Evaluation and monitoring activities will provide all needed information to evaluate the effectiveness of the grazing management plan (CPS 528) and any associated practices. A monitoring plan will be implemented with appropriate protocols and data records that evaluate whether the grazing strategy identified in the grazing plan is resulting in a movement toward meeting goals and objectives. Specific evaluation activities will be chosen based on stated objectives and pertinent resource concerns assessments identified in the Conservation Plan, CPA, Implementation Requirement (IR) and/or DIA. Evaluation and monitoring will meet the applicable 'plans and specifications' and 'operation and maintenance' sections found in CPS 528. Other supporting and facilitating conservation practices will also be monitored and evaluated. The CEMA narrative will describe the overall methodology, decision support tools and recommended management actions to meet purposes and criteria within practice standards. Job sheets and implementation requirement documents found in State's FOTG Section IV Conservation practices may be used.	Number	Number	$1,960.17	$2,352.21

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
219-51	Conservation, Evaluation and Monitoring Activity between 1,501 and 5,000 acres	**Scenario Description:** Agricultural operation with 1,501 to 5,000 acres grazed land. Natural Resource Concern: Soil erosion, water quality, fish and wildlife, plant condition, or appropriate resource concerns. **After Practice Description:** Producer will utilize a certified Technical Service Provider (TSP) to evaluate and monitor all grazing management practices planned in a Conservation Plan, CPA 110, Implementation Requirement (IR) and/or DIA 159. Evaluation and monitoring activities will provide all needed information to evaluate the effectiveness of the grazing management plan (CPS 528) and any associated practices. A monitoring plan will be implemented with appropriate protocols and data records that evaluate whether the grazing strategy identified in the grazing plan is resulting in a movement toward meeting goals and objectives. Specific evaluation activities will be chosen based on stated objectives and pertinent resource concerns assessments identified in the Conservation Plan, CPA, Implementation Requirement (IR) and/or DIA. Evaluation and monitoring will meet the applicable 'plans and specifications' and 'operation and maintenance' sections found in CPS 528. Other supporting and facilitating conservation practices will also be monitored and evaluated. The CEMA narrative will describe the overall methodology, decision support tools and recommended management actions to meet purposes and criteria within practice standards. Job sheets and implementation requirement documents found in State's FOTG Section IV Conservation practices may be used.	Number	Number	$2,744.24	$3,293.09
219-67	Conservation, Evaluation and Monitoring Activity between 5,001 and 10,000 acres	**Scenario Description:** Agricultural operation with 5,001 to 10,000 acres grazed land. Natural Resource Concern: Soil erosion, water quality, fish and wildlife, plant condition, or appropriate resource concerns. **After Practice Description:** Producer will utilize a certified Technical Service Provider (TSP) to evaluate and monitor all grazing management practices planned in a Conservation Plan, CPA 110, Implementation Requirement (IR) and/or DIA 159. Evaluation and monitoring activities will provide all needed information to evaluate the effectiveness of the grazing management plan (CPS 528) and any associated practices. A monitoring plan will be implemented with appropriate protocols and data records that evaluate whether the grazing strategy identified in the grazing plan is resulting in a movement toward meeting goals and objectives. Specific evaluation activities will be chosen based on stated objectives and pertinent resource concerns assessments identified in the Conservation Plan, CPA, Implementation Requirement (IR) and/or DIA. Evaluation and monitoring will meet the applicable 'plans and specifications' and 'operation and maintenance' sections found in CPS 528. Other supporting and facilitating conservation practices will also be monitored and evaluated. The CEMA narrative will describe the overall methodology, decision support tools and recommended management actions to meet purposes and criteria within practice standards. Job sheets and implementation requirement documents found in State's FOTG Section IV Conservation practices may be used.	Number	Number	$3,528.31	$4,233.98
219-83	Conservation, Evaluation and Monitoring Activity greater than 10,000 acres	**Scenario Description:** Agricultural operation with greater than 10,000 acres grazed land. Natural Resource Concern: Soil erosion, water quality, fish and wildlife, plant condition, or appropriate resource concerns. **After Practice Description:** Producer will utilize a certified Technical Service Provider (TSP) to evaluate and monitor all grazing management practices planned in a Conservation Plan, CPA 110, Implementation Requirement (IR) and/or DIA 159. Evaluation and monitoring activities will provide all needed information to evaluate the effectiveness of the grazing management plan (CPS 528) and any associated practices. A monitoring plan will be implemented with appropriate protocols and data records that evaluate whether the grazing strategy identified in the grazing plan is resulting in a movement toward meeting goals and objectives. Specific evaluation activities will be chosen based on stated objectives and pertinent resource concerns assessments identified in the Conservation Plan, CPA, Implementation Requirement (IR) and/or DIA. Evaluation and monitoring will meet the applicable 'plans and specifications' and 'operation and maintenance' sections found in CPS 528. Other supporting and facilitating conservation practices will also be monitored and evaluated. The CEMA narrative will describe the overall methodology, decision support tools and recommended management actions to meet purposes and criteria within practice standards. Job sheets and implementation requirement documents found in State's FOTG Section IV Conservation practices may be used.	Number	Number	$4,704.42	$5,645.30

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

SITE ASSESSMENT AND SOIL TESTING FOR CONTAMINANTS ACTIVITY

Practice Code 207

Practice Units: NUMBER

Definition: An environmental assessment of the site and soil suitability for use in the cultivation of crops in urban or suburban areas.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
207-3	Site Evaluationfor Potential Contaminants	**Scenario Description:** This practice applies to urban siteswhere the desired land use is cropland. Sites may have been residential, industrial or commercial land use in the past and the risk for soil contaminants is unknown. **After Practice Description:** Site history has been researched and findings indicate a potential for the presence of contaminants. Final report provides the landowner with the level of risk and recommendation for further testing. Reports may be used in the conservation planning process to explore non-remedial conservation practices to reduce risk of contaminants entering the foodproducts.	Each Site	Number	$3,497.62	$4,197.15
207-19	Site Evaluation and Soil Testing for Contaminants	**Scenario Description:** This practice applies to urban siteswhere the desired land use is cropland. Sites may have been residential, industrial or commercial land use in the past and the risk for soil contaminants is unknown. **After Practice Description:** Site history has been researched and findings indicate a potential for the presence of contaminants. The soil has been collectedand tested for heavy metals, VOCs and PAHs. Final reports provide the landowner with the level of risk. Reports may be used in the conservation planning processto explore non-remedial conservation practices to reduce risk of contaminants entering the food products.	Each Site	Number	$10,492.87	$12,591.44
207-35	Soil Testing and Subsurface Investigation	**Scenario Description:** This practice applies to urban sites where the desired land use is cropland. Sites may have been residential, industrial or commercial land use in the past and the risk for soil contaminants is unknown. The landowner has a prior Environmental Site Assessment completed by an Environmental Professional. The ESA report recommends further subsurface investigation. OR Landowner has NRCS report from portable Xray Fluorescence screening that detected soil contaminants. **After Practice Description:** Site history has been researched and findings indicate a potential for the presence of contaminants. The soil has been collected and tested for heavy metals, VOCs and PAHs. Final reports provide the landowner with the level of risk. Reports may be used in the conservation planning process to explore non-remedial conservation practices to reduce risk of contaminants entering the food products.	Each Site	Number	$6,995.24	$8,394.29
207-51	Soil Testing for Contaminants on Low Risk Sites	**Scenario Description:** This practice applies to urban sites where the desired land use is cropland. Sites may have been residential, industrial or commercial land use in the past and the risk for soil contaminants is unknown. The landowner has a prior Environmental Site Assessment completed by an Environmental Professional. The ESA report does not require further investigation. OR Landowner has NRCS report from portable Xray Fluorescence screening that detected soil contaminants. Screening detection levels are below the State Environmental Protection Agency or equivalent agency published safety thresholds for bare soil residential use. **After Practice Description:** Site history has been researched and findings indicate a potential for the presence of contaminants. The soil has been collected and tested for heavy metals only. Soil test reports provide the landowner with the level of risk. Reports may be used in the conservation planning process to explore non-remedial conservation practices to reduce risk of contaminants entering the food products.	Area of Soil Tested	1,000 Square Feet	$143.12	$171.75

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

SOIL AND SOURCE TESTING FOR NUTRIENT MANAGEMENT

Practice Code 217

Practice Units: NUMBER

Definition: A sampling strategy for nutrient management measuring nutrient levels in soil and or nutrient source.

Limitations: Appropriate to schedule if CPS 590 is planned and applied. 217-51 can be scheduled annually for source testing if organic nutrients are in the plan. 217-3 and 217-35 should be scheduled no more than every 2 years per Iowa State University recommendations.

ID	Scenario Name	Number (means)
217-3	Soil Test Only	number of fields to be tested
217-19	Soil and Source Material Test	number represents whole farm testing (all fields, all organic sources)*
217-35	Zone or Grid Soil Test	number of fields to be tested
217-51	Manure or Compost Only	number of sources to be tested (dry, liquid / swine, beef)
217-67	Source Water Nutrient Test	number of water sources for irrigation water only

*Schedule no more than every 2 years.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
217-3	Soil Test Only	**Scenario Description:** A qualified individual will develop a nutrient testing strategy, collect soil samples and prepare for laboratory analysis; and interpret soil nutrient needs. Typical management unit is 100 acres. Includes Comprehensive Soil Testing to provide both Macro and micro soil nutrient levels. **After Practice Description:** Soil samples have been collected and analyzed. The strategy for sampling is described and a map if sampling points is provided. Qualified individual concludes nutrients are needed or notbased on soil test results. Follow up by developing a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590.	Number	Number	$685.91	$823.09
217-19	Soil and Source Material Test	**Scenario Description:** A qualified individual will develop anutrient testing strategy, collect soil samples and prepare for laboratory analysis; and interpret soil nutrient needs. Typical whole field soil sampling plus collection of samplesfor nutrient sources needing to be tested. **After Practice Description:** Soil samples have been collected and analyzed. The strategy for sampling is described and a map if sampling points is provided. Qualified individual concludes nutrients are needed or notbased on soil test results. Follow up by developing a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590.	Number	Number	$2,768.97	$3,322.76
217-35	Zone or Grid Soil Test	**Scenario Description:** A qualified individual will develop a nutrient testing strategy, collect soil samples based on a 2.5 acre grid or zone, and prepare for laboratory analysis; and interpret soil nutrient needs. Typical management unit is 100 acres. **After Practice Description:** Soil samples have been collected and analyzed. The strategy for sampling is described and a map if sampling points is provided. Qualified individual concludes nutrients are needed or notbased on soil test results. Follow up by developing a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590.	Number	Number	$1,343.78	$1,612.54

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
217-51	Manure or Compost Only	**Scenario Description:** A qualified individual will develop a nutrient testing strategy, collect manure or compost samples and prepare for laboratory analysis; and interpret crop nutrient needs. Sampling protocol for liquid manure includes agitation per LGU guidelines. Dry manure and compost sampling protocol are performed per LGU guidelines. **After Practice Description:** Manure or Compost samples have been collected and analyzed. The strategy for sampling is described. Qualified individual concludes the amount of nutrients needed for the crop based on manure or compost test results. Follow up by developing a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590.	Number	Number	$811.74	$974.09
217-67	Source Water Nutrient Test	**Scenario Description:** A qualified individual will develop a nutrient testing strategy, collect source water samples and prepare for laboratory analysis; and interpret crop nutrient needs. Typical irrigation water sampling for nutrients, may include drainage water sampling for monitoring nutrient loss or if drainage water is being reused. **After Practice Description:** Water samples have been collected and analyzed. The strategy for sampling is described. Qualified individual concludes the amount of nutrients needed for the crop based on Source Water test results. Follow up by developing a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590.	Number	Number	$603.66	$724.39
217-83	Soil Test- pH Emphasis	**Scenario Description:** Soil analysis is used as a diagnostic tool to identify fields with soil acidification problems in no-till cropping systems. One soil sample is collected every 40 acres from only the top 3 inches of soil and analyzed for both pH and buffer pH. A recommended three cores should be taken from a 4 sq ft sampling area every 40 acres and composited to provide at least 100 grams of soil for the laboratory test. Test results are georeferenced on a map and can be used to build a lime application budget for the field. **After Practice Description:** One composited soil sample is collected in a 4 sq ft area from the top 3 inches of soil every 40 acres. The sample is analyzed for pH and buffer pH. Sample results are georeferenced on a map and used to identify and diagnose soil acidification problems. Follow up by developing or updating a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590. Producers can then use this diagnostic information to apply lime to raise the soil pH. Topsoil pH and plant productivity and health are both maintained at desirable levels.	Number	Number	$190.47	$228.56

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
217-99	Small scale - Soil and Nutrient Source Test	**Scenario Description:** A qualified individual will develop a nutrient testing strategy, collect soil and nutrient source samples, prepare for laboratory analysis and interpret soil and crop nutrient needs. Typical field size is less than or equal to 0.5 acres (22000 sq ft). Includes Comprehensive Soil Testing to provide both Macro and micro soil nutrient levels. **After Practice Description:** Soil and nutrient source samples have been collected and analyzed. The strategy for sampling is described. Qualified individual concludes nutrients are needed or not based on soil test results. The amount of nutrients needed is based on Nutrient Source results. Follow up by developing a nutrient management plan with DIA 157 Nutrient Management Design and Implementation Activity or implement Nutrient Management 590.	Number	Number	$347.49	$416.99
217-115	Soil Test Only Garden Plots/Raised Beds	**Scenario Description:** A qualified individual will develop a nutrient testing strategy, collect 5 soil subsamples and combine to one representative sample, prepare for laboratory analysis, and interpret soil nutrient needs. This scenario considers costs for 5 or less raised beds. Cost includes comprehensive soil test based on expected specialty crop production. **After Practice Description:** Soil samples have been collected and analyzed. The strategy for sampling is described and a map if sampling points is provided. Qualified individual concludes nutrients are needed or not based on soil test results. A Nutrient Management Plan CPS 590 or DIA 157 may be developed after the report is complete.	Number	Number	$436.64	$523.97

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DESIGN AND IMPLEMENTATION ACTIVITY

SOIL HEALTH MANAGEMENT SYSTEM DESIGN

Practice Code 162

Practice Units: NUMBER

Definition: Develop site specific recommendations and designs for soil health related practices that address the 4 principles of soil health as identified in CPA 116 or a conservation plan.

Limitations: Contact Iowa NRCS State or Area Soil Health Specialist at time of application for additional limitations and guidance on this DIA.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
162-3	Organic Crops + Livestock, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for up to 5 Soil Health Management Units (SHMU) fororganic crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMUand can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$5,208.41	$6,250.09
162-19	Crops, 5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for more than 5 Soil Health Management Units (SHMU) for crops. A SHMU is 1 or more planning land units withsimilar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$3,743.54	$4,492.25

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
162-35	Crops + Livestock, 5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for crops and livestock. A SHMU is 1 or more planning land unitswith similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162 and facilitating soil health practices as referenced in FOTG.	Each	Number	$4,069.07	$4,882.88
162-51	Small Farm	**Scenario Description:** Evaluate soil health concerns anddevelop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil healthare compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for a small farm operation of less than 10 acres. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistentwith the criteria in DIA 162. The DIA criteria requires the plan address all 4 soil health principles. Meets the planning criteria for DIA 162 and facilitating soil health practices as referenced in FOTG.	Each	Number	$2,441.44	$2,929.73

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
162-67	Crops, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for crops. A SHMU is 1 or more planning land units withsimilar soil type, land use, and management. A SHMU and can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$3,092.49	$3,710.99
162-83	Organic Crops, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for organic crops. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU and can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$3,580.78	$4,296.93

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
162-99	Crops + Livestock, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$3,255.25	$3,906.30
162-115	Organic Crops, 5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for organic crops. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$4,882.88	$5,859.46
162-131	Organic Crops + Livestock, 5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for organic crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of the Soil Health Management Plan consistent withthe criteria in DIA 162. The DIA criteria requires the plan addressall 4 soil health principles. Meets the planning criteria for DIA 162and facilitating soil health practices as referenced in FOTG.	Each	Number	$6,510.51	$7,812.61

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CONSERVATION PLANNING ACTIVITY

SOIL HEALTH MANAGEMENT PLAN

Practice Code 116

Practice Units: NUMBER

Definition: Component of a conservation plan that identifies soil health concerns related to the physical, biological and chemical properties of the soil and identifies conservation practices for use in an adaptive soil health management plan.

Limitations: Contact Iowa NRCS State or Area Soil Health Specialist at time of application for additional limitations and guidance on this CPA.

Payment Schedule:

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
116-83	Organic Crops + Livestock, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for organic crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending onsoil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$2,188.36	$2,626.03
116-99	Organic Crops,5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for organic crops. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary insize or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$2,059.63	$2,471.56
116-115	Small Farm	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for a small farm (<10 acres). **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$1,287.27	$1,544.72

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
116-131	Organic Crops + Livestock, 5or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for organic crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$2,317.08	$2,780.50
116-147	Crops + Livestock, 5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$1,930.90	$2,317.08
116-163	Crops + Livestock, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for crops and livestock. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$1,544.72	$1,853.67

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
116-179	Organic Crops, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for organic crops. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary in size or acreage depending on soil texture, topography,and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$1,673.45	$2,008.14
116-195	Crops, 5 or more	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related to soil health are compatible. May simultaneously implement 216 Soil Health TestingCEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for 5 or more Soil Health Management Units (SHMU) for crops. A SHMU is 1 or more planning land units with similar soil type, land use, andmanagement. A SHMU can vary in size or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$1,802.18	$2,162.61
116-211	Crops, <5	**Scenario Description:** Evaluate soil health concerns and develop a transitional cropping management plan to improve overall soil health and address all 4 soil health principles. The plan includes management activities or land management practices associated with crop and forage production. The soil health management plan ensures that the purposes of crop and forage production and preservation of natural resources related tosoil health are compatible. May simultaneously implement 216 Soil Health Testing CEMA to evaluate baseline soil health and inventory basic or additional soil health indicators. The plan is developed for fewer than 5 Soil Health Management Units (SHMU) for crops. A SHMU is 1 or more planning land units with similar soil type, land use, and management. A SHMU can vary insize or acreage depending on soil texture, topography, and cropping system. **After Practice Description:** After EQIP contract approval, participant has obtained services from a certified TSP for development of a Soil Health Conservation Plan Activity (CPA). The CPA criteria requires the plan to identify approved Field OfficeTechnical Guide conservation practices where needed to address identified resource concerns.	Number	Number	$1,416.00	$1,699.19

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

SOIL HEALTH TESTING

Practice Code 216

Practice Units: NUMBER

Definition: Quantitative testing for biological, chemical, and physical characteristics of soil and constraints using approved laboratory methods.

Limitations: Contact Iowa NRCS State or Area Soil Health Specialist at time of application for additional limitations and guidance on this CEMA.

The Number (Scenario Unit) is based on each Soil Health Test with at least 5 sub samples taken and combined into one sample being sent in for analysis. Justification for number of samples needs to be documented.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
216-166	Basic Soil Health Suite	**Scenario Description:** A soil sample is collected, and laboratory soil health assessment is conducted to evaluate and/or monitor conservation practices. Laboratory tests must include 'basic package' indicators: soil organic carbon, aggregation, bioavailable nitrogen, respiration, and active carbon. One basic soil health assessment is planned for on Soil Health Management Unit (SHMU). This scenario assumes that a comprehensive chemical soil test (macronutrients + micronutrients) has been completed on the same management unit in the last 2 years. Sample collection is completed by an agricultural service provider, soil scientist, or other agriculture professional and includes time for soil sampling and submission. **After Practice Description:** A laboratory soil health test was completed and the results were interpreted (scored), explained to the producer, and used to establish benchmark conditions for soil health management practices or to evaluate the effectiveness of a conservation practice.	Polygon	Number	$134.98	$161.98
216-182	Single Indicator	**Scenario Description:** A laboratory soil health assessment for a single indictor is conducted to evaluate and/or monitor conservation practices. Laboratory tests for the single indicator may include soil organic carbon, aggregation, bioavailable nitrogen, respiration, active carbon, microbial community structure, enzyme activity or other soil health test. One basic soil health assessment is planned for on Soil Health Management Unit (SHMU). Sample collection is completed by a Qualified Individual and includes time for soil sampling and submission. **After Practice Description:** A laboratory soil health test of was completed for a single indicator and the results were interpreted and explained to the producer and used to establish benchmark conditions for soil health management practices or evaluate the effectiveness of a conservation practice.	Polygon	Number	$60.82	$72.98
216-271	Three Indicator Soil Health Measurement	**Scenario Description:** A laboratory soil health assessment to measure three soil health indicators. The indicators are soil organic carbon measured by dry combustion lab methods, carbon mineralization potential measured by 24-hour carbon dioxide from rewetting air dry soils, and aggregate stability measured by the wet sieve 10 minute change slake test. **After Practice Description:** A laboratory soil health test of was completed to measure the three soil health indicators and the results were interpreted (scored) and explained to the producer and used to establish benchmark conditions for soil health management practices or evaluate the effectiveness of a conservation practice.	Soil Health Indicator	Number	$195.92	$235.10

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

SOIL ORGANIC CARBON STOCK MONITORING

Practice Code 221

Practice Units: NUMBER

Definition:

- This activity outlines the tools and protocols to measure soil organic carbon stocks.
- Used to estimate carbon stocks and track trends when data are aggregated across many producers. Soil organic carbon storage should be measured before and after the implementation of a conservation practice, system, or activity. Evaluation and monitoring of change usually requires several years (e.g., >5 years).

Limitations: Scenario 221-35 Carbon Stock Monitoring-Intensive Data Collection and Scenario 221-67 Intensive Data Collection 12 Carbon Samples are scenarios for special projects only. The Soil Health National Discipline Lead must be contacted prior to ranking, route requests through Iowa NRCS State or Area Soil Health Specialist.

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
221-3	Carbon Stock Monitoring	**Scenario Description:** Soil is collected for organic carbon testing to evaluate and monitor the change in soil carbon stocks before and after the implementation of a conservation practice or conservation plan. An area of interest (AOI) of <20 acres is identified in a region that is relatively uniform and is representative of a larger management unit. There are no inclusions or small map units of dissimilar soils, and the topography and vegetation appear uniform. Soil samples are collected by a Qualified Individual (QI) from 4 different depths at 6 different locations within the AOI. Soil bulk density is measured before being analyzed for organic carbon by dry combustion. Payment includes time for soil sampling and sample preparation, submission to the laboratory, and interpretation/delivery of results. **After Practice Description:** Soil bulk density was measured before being analyzed for organic carbon by dry combustion. The results were interpreted and explained to the producer. Initial measurements are used to establish benchmark conditions for soil organic carbon stocks. Subsequent measurement are used to evaluate the effectiveness of a conservation practice on carbon sequestration and report the change over time.	Area of Interest Polygon	Number	$1,797.10	$2,156.52
221-35	**This scenario is for special projects only.** Carbon Stock Monitoring - Intensive Data Collection	**Scenario Description:** Soil is collected for organic carbon testing following the measurement, monitoring, reporting and verification (MMRV) protocol. PODS land use and management information is collected and documented. Soil sample collection strategy is planned in an area of interest (AOI) of <10 acres. Soil samples are collected by a Qualified Individual (QI). Up to 3 soil map units will be sectioned into 3 with e sample holes/cores. Samples are collected at 4 depths. Soil bulk density is measured before being analyzed for organic carbon by dry combustion. Payment includes time for collecting management information, developing sampling strategy, soil sampling and sample preparation, submission to the laboratory, and interpretation/delivery of results. **After Practice Description:** Land use and management information is collected. Soil bulk density was measured before being analyzed for organic carbon by dry combustion. The results were interpreted and explained to the producer. Initial measurements are used to establish benchmark conditions for soil organic carbon stocks. Subsequent measurements are used to evaluate the effectiveness of a conservation practice on carbon sequestration and report the change over time.	Area of Interest Polygon	Number	$7,478.36	$8,974.04

ID	Scenario Name	Scenario Description & After Practice Description	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
221-51	Intensive Data Collection Carbon Monitoring 9	**Scenario Description:** Soil is collected for organic carbon testing following the measurement, monitoring, reporting and verification (MMRV) protocol. PODS land use and management information is collected and documents. Soil sample collection strategy is planned in an area of interest (AOI) of <10 acres. Soil samples are collected by a Qualified Individual (QI) at 9 different locations within the AOI (3 locations in 3 different strata). Soil bulk density is measured before being analyzed for organic carbon by dry combustion. Payment includes time for collecting management information, developing sampling strategy, soil sampling and sample preparation, submission to the laboratory, and interpretation/delivery of results. **After Practice Description:** Land use and management information is collected. Soil bulk density was measured before being analyzed for organic carbon by dry combustion. The results were interpreted and explained to the producer. Initial measurements are used to establish benchmark conditions for soil organic carbon stocks. Subsequent measurement are used to evaluate the effectiveness of a conservation practice on carbon sequestration and report the change over time.	per 9 samples collected	Number	$3,451.36	$4,141.64
221-67	**This scenario is for special projects only.** Intensive Data Collection 12 Carbon Samples	**Scenario Description:** Soil is collected for organic carbon testing following the measurement, monitoring, reporting and verification (MMRV) protocol. PODS land use and management information is collected and documents. Soil sample collection strategy is planned in an area of interest (AOI) of <10 acres. Soil samples are collected by a Qualified Individual (QI) at 12 different locations within the AOI). Soil bulk density is measured before being analyzed for organic carbon by dry combustion. Payment includes time for collecting management information, developing sampling strategy, soil sampling and sample preparation, submission to the laboratory, and interpretation/delivery of results. **After Practice Description:** Land use and management information is collected. Soil bulk density was measured before being analyzed for organic carbon by dry combustion. The results were interpreted and explained to the producer. Initial measurements are used to establish benchmark conditions for soil organic carbon stocks. Subsequent measurement are used to evaluate the effectiveness of a conservation practice on carbon sequestration and report the change over time.	per 12 sample locations	Number	$4,265.70	$5,118.84

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DESIGN AND IMPLEMENTATION ACTIVITY

TRANSITION TO ORGANIC DESIGN

Practice Code 140

Practice Units: NUMBER

Definition: Design and Implementation Activity plan supporting transition to organic production that includes a combination of structural and management practices for an agricultural operation transitioning to become certified organic by USDA.

This Design and Implementation Activity (DIA) is developed for a participant to address one or more resource concerns on farms transitioning to certified organic production where related conservation activities and/or practices will be planned and implemented. The plan describes how to implement long-term goals through practices that direct farm development to provide for intended future uses.

Limitations: N/A

Payment Schedule:

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
140-3	Low Complexity 1-4 CPS	**Scenario Description:** Agricultural operation where producer will transition from conventional production to organic production. They will meet the USDA National Organic Program (NOP) requirements. All natural resourceswill be addressed: Soil, Water, Air, Plants and Animals. Will address resource concerns with 1 - 4, low complexity conservation practices. **After Practice Description:** After NRCS program contract is approved, participant will obtain services from a certified TSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to meet organic certification requirements.All practices installed according to field office technical guiderequirements. Implementation requirements, designs, and specifications all complete.	Number	Number	$3,689.51	$4,427.41
140-19	Low Complexity, 5+ CPS	**Scenario Description:** Agricultural operation where producer will transition from conventional production to organic production. They will meet the USDA National Organic Program (NOP) requirements. All natural resourceswill be addressed: Soil, Water, Air, Plants and Animals. Will address resources concerns with 5 or more conservation practices with low complexity. **After Practice Description:** After NRCS program contract is approved, participant will obtain services from a certified TSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to meet organic certification requirements.All practices installed according to field office technical guide requirements. Implementation requirements, designs, and specifications all complete.	Number	Number	$7,327.71	$8,793.25
140-35	High Complexity, 1 -4 CPS	**Scenario Description:** Agricultural operation where producer will transition from conventional production to organic production. They will meet the USDA National Organic Program (NOP) requirements. All natural resourceswill be addressed: Soil, Water, Air, Plants, and Animals. Willaddress resource concerns with 1 - 4, high complexity conservation practices. **After Practice Description:** After NRCS program contract is approved, participant will obtain services from a certified TSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to meet organic certification requirements.All practices installed according to field office technical guiderequirements. Implementation requirements, designs, and specifications all complete.	Number	Number	$9,483.19	$11,379.83
140-51	High Complexity, 5+ CPS	**Scenario Description:** Agricultural operation where producer will transition from conventional production to organic production. They will meet the USDA National Organic Program (NOP) requirements. All natural resourceswill be addressed: Soil, Water, Air, Plants and Animals. Will address resource concerns with 5 or more, high complexity conservation practices. **After Practice Description:** After NRCS program contract is approved, participant will obtain services from a certified TSP to develop the required implementation requirements and/or designs and specifications for all conservation practices required to meet organic certification requirements.All practices installed according to field office technical guiderequirements. Implementation requirements, designs, and specifications all complete.	Number	Number	$12,215.61	$14,658.73

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CONSERVATION EVALUATION AND MONITORING ACTIVITY

Waste Facility Site Suitability and Feasibility Assessment

Practice Code 226

Practice Units: Number

Definition: Soil data collection, investigation and interpretation of the properties and characteristics to determine the appropriateness of the site for a planned storage facility.

The suitability will be determined by the characteristics of the site that allow, limit, or prevent various types of storage facilities. The site characteristics that determine suitability will vary depending on the type of storage facility. Volume capacity, type of storage facility and physical size indicate it is at least feasible to install the planned storage facility at the location selected.

Limitations: Check CEMA 226 Qualifying Individual (QI) to make sure they meet CEMA certification requirements before contracting for CEMA 226.

ID	Scenario Name	Scenario Description & <u>After Practice Description</u>	Scenario Feature Measure	Scenario Unit	EQIP	EQIP-HU
226-3	Site Evaluation for Planned Storage- Non-dairy Operation	**Scenario Description:** Non-Dairy livestock operation. A Qualified Individual will conduct an onsite investigation. Soil data collection, investigation and interpretation of the properties and characteristics, results of tests and samples will be used to determine the appropriateness of the site for the storage facility. Scenario based on one proposed location for the planned storage. **After Practice Description:** An onsite investigation for soil properties and characteristics was conducted. The proposed location met the criteria to allow the type and size of the planned storage facility. The report documents all data and results.	One site evaluated	Number	$3,209.56	$3,851.47
226-19	Site Evaluation for Planned Storage- Dairy Operation	**Scenario Description:** Livestock operation is Dairy. A Qualified Individual will conduct an onsite investigation. Soil data collection, investigation and interpretation of the properties and characteristics, results of tests and samples will be used to determine the appropriateness of the site for the storage facility. Scenario based on one proposed location for the planned storage. **After Practice Description:** An onsite investigation for soil properties and characteristics was conducted. The proposed location met the criteria to allow the type and size of the planned storage facility. The report documents all data and results.	One site evaluated	Number	$3,729.69	$4,475.62